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THE JOURNAL
OF THE
ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

VOL. 66.

1905.

EXTRACT FROM THE SOCIETY'S BYE-LAWS

(Dating from the Foundation of the Society):—

“The Society will not be responsible for the accuracy of the statements or conclusions contained in the several papers in the Journal, the authors themselves being solely responsible.”

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Binding of the Volumes of the Journal.

It will be noticed that the present Volume of the Journal (Vol. 66, 1905) is issued in paper covers. Governors, Members, and others who desire to have their copies of the Journal bound in green cloth to match the Bound Volumes issued by the Society from 1901 to 1904, are requested to communicate on the subject with the Society's printers, Messrs. JAMES TRUSCOTT & SON, LTD., of Suffolk Lane, Cannon Street, London, E.C.

Messrs. TRUSCOTT & SON have contracted—(1) To bind the Volume in the green cloth cover, with gilt lettering at the back, and the Society's device in gilt at the side, at the price of 2s., including delivery of the Bound Volume; (2) To supply the green cloth lettered cases, for the use of local bookbinders, at the price of 1s. 3d. each, post free, or 1s. each, *if called for* at their Offices in Suffolk Lane.

Back Volumes of the Journal will also be bound in the same description of cover at the rate of 2s. 3d. per Volume; but the cases for the Volumes of the First and Second Series cannot be supplied separately.

All parcels and correspondence thereon should be addressed (*postage or carriage prepaid*) to Messrs. JAMES TRUSCOTT & SON, LTD.; and *not* to the Society.

To avoid confusion the Volumes of the Journal have been re-numbered from the beginning, and the following Table shows both the Old and the New Numbers of each of the Volumes which have been issued since the first appearance of the Journal in 1839:—

NEW NUMBERS	OLD NUMBERS	NEW NUMBERS	OLD NUMBERS
FIRST SERIES		SECOND SERIES—continued.	
Vol. 1. (1839-40)	Vol. I. Parts I. (i.), II. (ii.), III. (iii.), and IV. (iv.)	Vol. 39. 1878 ...	Vol. XIV. Parts I. (xxvii.) and II. (xxviii.)
" 2. 1841 ...	" II. " I. (v.) II. (vi.), & III. (vii.)	" 40. 1879 ...	" XV. " I. (xxix.) and II. (xxx.)
" 3. 1842 ...	" III. " I. (viii.), II. (ix.), & III. (x.)	" 41. 1880 ...	" XVI. " I. (xxxi.) and II. (xxxii.)
" 4. 1843 ...	" IV. " I. (xi.) and II. (xii.)	" 42. 1881 ...	" XVII. " I. (xxxiii.) and II. (xxxiv.)
" 5. 1844 ...	" V. " I. (xiii.) and II. (xiv.)	" 43. 1882 ...	" XVIII. " I. (xxxv.) and II. (xxxvi.)
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" 8. 1847 ...	" VIII. " I. (xix.) and II. (xx.)	" 46. 1885 ...	" XXI. " I. (xli.) and II. (xlii.)
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" 24. 1863 ...	" XXIV. " I. (l.) and II. (li.)	" 61. 1900 ...	" XI. " I. (41), II. (42), III. (43), and IV. (44)
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" 27. 1866 ...	" II. " I. (iii.) and II. (iv.)	" 65. 1904 ...	Issued as an Annual Bound Volume.
" 28. 1867 ...	" III. " I. (v.) and II. (vi.)	" 66. 1905 ...	Issued as an Annual Volume in paper covers.
" 29. 1868 ...	" IV. " I. (vii.) and II. (viii.)		
" 30. 1869 ...	" V. " I. (ix.) and II. (x.)		
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" 38. 1877 ...	" XIII. " I. (xxv.) and II. (xxvi.)		

(The numerals within brackets indicate the numbers as printed on the several Parts of each Series.)

JOURNAL
OF THE
ROYAL AGRICULTURAL SOCIETY
OF ENGLAND.

SIR JACOB WILSON, K.C.V.O.

Born, November 16, 1836. Died, July 11, 1905.

IT is with considerable diffidence, and with a feeling that the work might well have been entrusted to more capable hands, that I enter upon the task of writing this notice; but at the request of the Chairman of the Journal Committee, based upon his wish that the duty should be undertaken by one who resided in Sir Jacob Wilson's immediate neighbourhood, I felt that I could not decline to make at least an attempt to chronicle a few of the leading incidents relating to the life and work of one whom I have known and honoured from my earliest days.

Through the death of Sir Jacob Wilson, which took place at his residence, Chillingham Barns, Northumberland, on July 11 last, the Royal Agricultural Society has been deprived of one of its most influential supporters and firmest friends, as well as of the oldest member of its Council, with the single exception of Sir Nigel Kingscote; while the cause of agriculture generally in Great Britain has to deplore the loss of one whose labours on its behalf will not readily be forgotten.

The subject of this memoir was born at Crackenthorpe Hall, Westmorland, on November 16, 1836, and was the elder son of Mr. Joseph Wilson, who farmed extensively in that county; his mother was a daughter of Mr. Joseph Bowstead, of Beck Bank, Cumberland.

Mr. Jacob Wilson (as he then was) received his early education at Long Marton, Westmorland, under the Rev. William Shepherd; from there he went to London and

studied under Mr. Thomas Walton, the father of Mr. Walton-Wilson, of Shotley Hall, Northumberland. At the age of eighteen, Mr. Wilson proceeded to the Royal Agricultural College, Cirencester, of which, at that time, Mr. Haygarth was Principal, and in 1855, after one and a half years' course of study, he obtained a diploma in all the science subjects under examination, being one of the first two to obtain this distinction. He remained at Cirencester for a further period of six months, holding during that time the position of Honorary Farm Bailiff, the highest post of honour which it was possible for a student to obtain, and also acting as Curator of the Veterinary Department under Professor (now Sir) George Brown.

Shortly after leaving Cirencester he went to Switzerland to act on a Commission for laying out an estate in that country on the English system. This task being successfully accomplished he returned home to assist his father, who had a few years previously removed from Crackenthorpe Hall to Woodhorn Manor, a large farm near Newbiggin, on the Northumbrian coast. There Mr. Jacob Wilson devoted his talents and energy to the study of the leading principles of agricultural mechanics, and in 1857 his father's harvest was cut down by a self-delivery reaping machine. In the following year (1858) he won a first prize at a great trial of reaping machines in Northumberland.

Thirsting for still further honours, he shortly afterwards proceeded to Edinburgh and submitted himself to the examination of the Highland and Agricultural Society, in which he was successful in winning the first agricultural diploma ever awarded by that body, being the only one out of four competitors to obtain this distinction. In 1863 he gained further laurels at the hands of the Highland and Agricultural Society by winning their special prize for the best report on the subject of reaping by machinery.

In the very early days of steam cultivation Mr. Wilson recognised its possibilities, and showed his practical interest in this direction by purchasing the second pair of 10 horse-power engines that were sold by the manufacturers for agricultural purposes.

In 1855 he attended his first Royal Show at Carlisle. With one or two exceptions he was present at every Meeting held since that date. On December 5, 1860, he became a member of the Royal Agricultural Society, and from that period, in spite of his many and varied interests and his extensive private business, his life's work may be said really to have centred around his connection with this Society. In 1863 he, in conjunction with the late Mr. Clare Sewell Read, acted as Judge of Steam Cultivation at the Worcester Meeting of

the Society. At the same Show he won the first prize with his aged Shorthorn bull, "Duke of Tyne." This bull was bought as a calf by Mr. Jacob Wilson at Mr. Spraggon's sale at Nafferton, and afterwards won many prizes in addition to his "Royal" honours, being eventually sold, at a long price, to go to Scotland.

Mr. Jacob Wilson acted as Steward of Forage, and was joint Honorary Local Secretary at the Society's Newcastle Meeting in 1864; and on May 22, 1865, he was elected a member of Council, being then, and for some time later, the youngest member who had ever sat on that body. He officiated as a Judge of Implements at the Plymouth Meeting of the same year. In 1869 he was appointed Steward of Stock, and acted in that capacity at the next four Meetings, viz., Manchester, 1869; Oxford, 1870; Wolverhampton, 1871; and Cardiff, 1872.

But Mr. Wilson did not confine his attention solely to the furtherance of the interests of the Royal Agricultural Society, as in 1868 he was elected Secretary of the Northumberland Agricultural Society in succession to the late Mr. Walter Johnson, of Trench Hall. Under his able and energetic management this Society soon attained a more important position in the agricultural world than it had hitherto held, his well-known powers of organisation and strong personal influence being brought to bear upon the task of making his own county show one of the most important in the country. The success which attended his efforts may be shown by the fact that during his tenure of office the number of exhibits at the annual shows rose from 734 in 1868 to 1,672 in 1877, while the membership was almost trebled.

During this period the Northumberland Society found itself in a somewhat similar position to that of the Royal in later days, in so far as it was found that some of the towns that had hitherto periodically received the Society were no longer able to do so under its extended conditions. It was therefore decided that, in the interests of the Society, it was advisable to visit only the more important centres, and a triennial system was adopted, whereby the show was held in rotation at Alnwick, Berwick-upon-Tweed, and Newcastle-upon-Tyne. With the exception that Morpeth has been added to the list, this system is still in operation. In 1874 a new departure was decided upon by the Council of the Northumberland Agricultural Society, and it was determined after much consideration to hold a three days' show at Newcastle. The result quite justified the experiment, the show proving highly successful, both financially and as an exhibition of stock. Since that time it has been customary to hold two and three days' shows when Newcastle was the place of meeting, one day being the rule

at other towns. In 1878, owing to increasing business and other ties, Mr. Wilson found himself compelled to resign the secretaryship of the Northumberland Agricultural Society, and Mr. Henry Wallace, of Trench Hall, was appointed his successor. Both he and the succeeding secretaries, Mr. Robert Donkin and Mr. W. J. Bolam, the present holder of the office, have conducted the affairs of the Society upon the lines instituted by Mr. Wilson, and have been instrumental in keeping it in the high position to which it attained under his administration.

In 1874 Mr. Wilson married Margaret, daughter of Mr. Thomas Hedley, J.P., of Cox Lodge Hall, Newcastle-upon-Tyne, and the members of the Northumberland Agricultural Society made his marriage the occasion of presenting him with a magnificent service of silver plate to the value of 500*l.* in recognition of his many and important services to the Society.

Having adopted land agency as a profession, in 1866 Mr. Wilson was appointed by the Earl of Tankerville as agent for his extensive Chillingham estates. About the same time he undertook the management of the Barmoor estate, the property of the trustees of the late Major Sitwell. Subsequently he was appointed agent for the Marchioness of Waterford's Ford property, the Dunstan Borough Castle estate, and other properties in different parts of England. Under his enlightened direction many improvements were effected on these estates, and it was his ambition to secure the best possible class of tenants, a strong tribute to his success in this direction being the fact that for many years he did not find it necessary to advertise any farms which he had to let, having always a sufficient number of private applications of the most satisfactory description to fill any vacancies that might occur.

He also took pupils for instruction in farming and land-agency; amongst those who gained their first experience at his hands were the Lords Arthur and Lionel Cecil, afterwards so well known in connection with their stud of Clydesdale horses, while more recently the former has given much attention to the breeding of ponies in the New Forest.

In addition to other work Mr. Wilson was frequently called upon to give evidence on matters relating to valuation and arbitration, and he often acted as arbitrator and umpire in such cases. For some years, too, he was one of the official umpires for the Board of Trade. His wide experience and great practical knowledge caused him to be regarded as one of the leading agricultural authorities of the day.

At Chillingham he had the opportunity of exercising his well-known skill as a breeder of cattle, and it was mainly at

his instigation that the late Earl of Tankerville carried out an interesting series of experiments by crossing specimens of his famous herd of wild white cattle with pure-bred Shorthorns, the object being to see what result would be produced by blending the blood of the wild cattle with that of the Shorthorn.

Eventually two heifers, named respectively Wild Rose I. and Wild Blossom I., were produced, and these formed the foundations of two lines of families which have continued productive to the present day, the heifers of each succeeding generation having been mated with white Shorthorn bulls carefully selected from the Warlaby and other high-class herds. Some of the animals are now eligible for the Shorthorn Herd Book and are shapely and typical specimens of the breed. Several of them have won prizes in Shorthorn classes at local shows. One feature, however, which is worthy of notice is the fact that, although it has been proved quite possible to alter the general form and appearance of the wild animal, it is a much more difficult matter to breed out the wild temperament, and even now great care has to be exercised in the management of these cattle. The bull calves, as a rule, were steered and fattened, and showed great adaptability for laying on flesh. One was exhibited at the Smithfield Fat Stock Show in 1888 and gained R.N. & H.C., while another the following year won third prize in a large class. Both attracted great attention and were keenly competed for by butchers, who afterwards bore testimony to the excellence of the beef produced.¹

To turn once more to his connection with the Royal Agricultural Society, it was in 1875, on the retirement of Mr. (afterwards Sir) Brandreth Gibbs, that Mr. Wilson was elected to succeed him as Steward of General Arrangements, and he was subsequently appointed Honorary Director. Mr. Wilson was eminently qualified to fill this post, his powers of organisation and administration being unsurpassed, his tact and courtesy unbounded, while his strong personality and force of character gave him the art of inspiring his assistants with a measure of his own zeal, and so enabled him to bring to a successful issue many a task that would have seemed well nigh impossible to one of less sanguine temperament. He filled the office of Honorary Director with conspicuous ability for eighteen years. During that period several memorable Shows were held, notably the great International Show at Kilburn in 1879, when the ill-luck which seems to have dogged

¹ An interesting and exhaustive article on the Chillingham wild white cattle was written by Sir Jacob Wilson for *The Land Magazine*, published in January, 1899, in which he made particular allusion to these experiments in cross-breeding.

the footsteps of every Metropolitan Meeting was particularly in evidence. The Showyard covered upwards of 100 acres, and no pains had been spared to make the exhibition a record success, but unfortunately the elements proved unpropitious. Rain fell for days previously, and the ground, which was on heavy clay, became a veritable quagmire. In several cases heavy engines foundered in the deep ground and were unable to reach their stands, presenting a truly pitiable spectacle as they lay half buried in the mud throughout the week.

The first day of the Show (Monday) was fine and raised hopes which were all too soon to be dashed to the ground, as rain set in again at night and continued until the end of the week. What man could do to avert disaster was done by Mr. Wilson, ably assisted by his loyal staff, who worked day and night in their endeavour to combat the elements; but, as was only to be expected, the public declined to face the uncomfortable conditions in the requisite numbers; so that the attendance, although reaching the large total of 187,323, was not proportionate to the magnitude of the enterprise and the expenses incurred, and the Show resulted in the heaviest loss the Society has ever had to bear, the deficiency amounting to about 15,000*l.* Serious as this result was, it might have been much worse had it not been for Mr. Wilson's great energy and extraordinary powers of resource, and the members of the Royal Agricultural Society had never greater reason to be proud of their Honorary Director than on this occasion.

Probably the Show that is best remembered and that created the greatest interest during the period of Mr. Wilson's Honorary Directorship was the Windsor Meeting of 1889. In this year the Royal Agricultural Society attained its jubilee, and special efforts were made to ensure that the Meeting should be worthy of the occasion. Her Majesty Queen Victoria graciously filled the office of President for the year and showed her deep interest in the welfare of the Society not only by allowing the Show to be held in her park at Windsor, but by being herself a large exhibitor of stock, and by paying no less than three visits to the Showyard.

Mr. Wilson received a command to attend the Royal dinner party at Windsor Castle on the evening of the concluding day of the Show, and had the honour of Knighthood conferred upon him by Her Majesty, in recognition of his great services to agriculture and to the Society. Gratifying as this signal mark of his Queen's favour must have been to Sir Jacob Wilson, it was no less gratifying to his innumerable friends and to his colleagues on the Council and Executive of the "Royal," who one and all felt that never had honour been more deservedly bestowed.

At the Council meeting a few days later, the following autograph letter from the Queen was read :—

“WINDSOR CASTLE,
“July 2, 1889.

“It gave me very great pleasure to visit the Show of the Agricultural Society of which I am this year the President, and I can assure you that I was extremely gratified with this magnificent Exhibition. I must thank the Council for the care and attention they have devoted to this work which has been so successful, and I am especially anxious to convey my acknowledgements to Sir Jacob Wilson and Mr. Ernest Clarke for their exertions in organising this Show.

“VICTORIA R.I.”

Sir Jacob continued in office for three years longer, when, owing to impaired health, he found himself compelled to resign the post of Honorary Director. At the Council Meeting held on December 7, 1892, the Duke of Westminster (President) read a letter from Sir Jacob, addressed to the Secretary, containing his resignation of office, and the Duke of Richmond and Gordon expressed the feelings of the Council in the following admirable speech, which I may be allowed to reproduce here, although it appeared in the Journal at the time.¹

I am gratified at being selected by my colleagues to propose a resolution to do honour to a very old friend with whom I have been associated in a variety of capacities for a great many years. It is needless that I should say very much in praise of Sir Jacob Wilson in addressing the members of the Council of the Royal Agricultural Society, because he is well known to all, and intimately known to a great number. The services which Sir Jacob has rendered, not only to this Society, but to the public at large, on every occasion when they have needed to consult him as Honorary Director of our Country Meetings, have been invaluable. His courtesy and urbanity under all circumstances are familiar to all, and his good humour has never been known to fail. Whether under the hot burning sun of the Windsor Meeting, or among the swamps of the disastrous Show at Kilburn—when we walked about the Showyard on planks—Sir Jacob Wilson has never once lost his temper or relaxed his exertions.

When, as Lord President of the Council, I was instrumental in the introduction of the Cattle Diseases Bill, I found the very greatest assistance from the advice of Sir Jacob Wilson, as well as from my lamented friend, the late Mr. Thomas Booth; and in the deliberations of the Royal Commission on Agricultural Depression, of which I had the honour to be Chairman, no one gave more valuable assistance than Sir Jacob. I have said it is unnecessary for me to recapitulate at any great length the services which Sir Jacob Wilson has rendered to the Royal Agricultural Society, because they are so well known. But I may remind you that his first appearance at the Society's Shows was at Carlisle in 1855, thirty-seven years ago, and he has, with only one or two exceptions, been present at each subsequent Meeting to the present day. He became a member of the Royal Agricultural Society on December 5, 1860, and he was first engaged in an official capacity at our Shows as Judge of Steam Cultivators at the Worcester Meeting of 1863, now nearly thirty years back. He was elected a Member of Council on May 22, 1865, and is now the senior ordinary Member of Council. He was appointed a Steward of Stock in 1869, and acted in that capacity at the Manchester (1869), Oxford (1870), Wolverhampton (1871), and Cardiff (1872) Meetings.

¹ See Journal R.A.S.E., Vol. 53, 1892, pp. clxxxiv., cxcv.

On the retirement of Mr. Brandreth Gibbs in 1875, he was unanimously elected Steward of General Arrangements, and subsequently Honorary Director. He was Chairman of our Showyard Works Committee from 1877 to 1881, and from 1889 to the present time. He was also Chairman of the Stock Prizes Committee from 1883 to 1884, and from 1886 to 1888.

He took a prominent part in inaugurating the scheme of premiums to thoroughbred stallions, now under the charge of a Royal Commission, on which he is the member representing the Society; and he has assisted in the deliberations of this Council in a great variety of other ways. The resolutions which I have now the pleasure to propose refer only to Sir Jacob's services as Honorary Director, and it must not be supposed that the "conspicuous services rendered during eighteen years" referred to therein comprehend the whole of Sir Jacob's services to the Society. For a period very much longer than that, in fact for nearly thirty years, Sir Jacob has been helping on in one capacity or another the work of this great institution, and though he has now decided to retire from the anxious duties of Honorary Director, we may hope that he may give us for a long time to come the benefit of his help and counsel.

His Grace then formally moved the following resolutions:—

1. That this Council has received with great regret the resignation by Sir Jacob Wilson of the office of Honorary Director of the Country Meetings of the Society. The Council desires to place on record its high appreciation of conspicuous services rendered during eighteen years, which services have signally conduced to the welfare and advantage of the Society.

2. That Sir Jacob Wilson be elected a Life Governor, and that he be requested to accept from the Society a piece of plate of the value of 100 guineas, in grateful recognition of the invaluable services rendered by him.

The late Mr. Charles Howard seconded these resolutions in an eloquent speech, and they were carried by acclamation. On December 8, the President made the presentation in appropriate terms, and handed Sir Jacob Wilson a handsomely illuminated copy of the resolutions of the previous day, and asked his acceptance of an oaken chest containing a service of plate, consisting of a massive silver salver, weighing 200 oz., and a tea and coffee service. The service was of an antique George III. pattern.

Scarcely, if indeed at all inferior in importance to his services to the Royal Agricultural Society, was Sir Jacob Wilson's work in connection with the passing of the Contagious Diseases (Animals) Act, 1878. This Act gave extended powers to the Privy Council not only to stamp out contagious diseases at home, but what was still more important, to prevent their introduction from abroad. By exerting his influence in improving the character of agricultural shows he had been directly encouraging the breeding of high-class stock; but he was fully alive to the fact that it was of little use encouraging breeders to improve their stock unless they had, at the same time, some security that their flocks and herds would not be liable to be decimated at any time by imported diseases.

With his customary shrewdness he recognised that the only security for home breeders was to have all foreign cattle

slaughtered at the port of landing. To attain this end he laboured long and strenuously, and in the early seventies, after the last outbreak of cattle plague in this country, he and his great friend, Mr. T. C. Booth, of Warlaby, spared neither time nor trouble in collecting evidence and obtaining information likely to be of use to the Parliamentary Committee then about to inquire into the question. The Committee owed their appointment largely to the representations of Mr. Henry Chaplin, a statesman who for years had never ceased to work in furtherance of the cause. Mr. Booth, in the course of his evidence before the Committee, stated that the losses in his celebrated Warlaby herd from repeated outbreaks of foot-and-mouth disease alone amounted to no less than 30,000*l*. The Act of 1878 which was based upon the recommendations of the Committee, represented a great advance on previous legislation; but it did not go to the root of the question, since it only conferred upon the Privy Council a permissive power of prohibiting the landing of foreign animals.

Unfortunately Mr. Booth's most useful career was cut short by death in 1878, and he therefore did not live, like his friend and fellow worker, Mr. Wilson, to see his labours bear full fruit and to experience the culmination of his hopes.

The matter was not allowed to rest long in the state in which it was left by the Act of 1878. In 1884, through the instrumentality of the sixth Duke of Richmond and Gordon, who was then Lord President of the Privy Council, Mr. Chaplin introduced into the House of Commons a Bill which provided further safeguards against the introduction of disease from abroad, especially of foot-and-mouth disease, and made it obligatory upon the Privy Council to prohibit the landing of foreign animals from all countries unless they were satisfied that the precautions taken afforded reasonable security against the introduction of the disease. Long before this Mr. Wilson had worked incessantly in furtherance of the cause he had so thoroughly at heart, and for the two years previous to the passing of the Act of 1884—for it was eventually passed in that year, in spite of great opposition—he travelled 2,000 miles a month, interviewing witnesses, collecting evidence, and doing all that could be done to strengthen the hands of the promoters of the Bill, besides attending constantly in the lobby of the House of Commons to watch and assist its progress there. Both the Duke of Richmond, as Lord President of the Council, and Mr. Chaplin bore eloquent testimony to the invaluable services rendered by Mr. Wilson on behalf of this Bill, which was a great advance in the efforts to clear this country of the fell scourge of foot-and-mouth disease, as was that of 1878 in regard to cattle plague.

But there was still another disease to combat, and, as will be shown later on, Mr. Wilson took an important part in ridding the country of pleuro-pneumonia.

Shortly after the passing of the Act of 1884 it was felt that some public recognition was due to Mr. Wilson for the great services he had rendered to the cause of agriculture, and a meeting in the Royal Showyard at Shrewsbury on July 4, 1884, originated by a circular letter signed by the Earl of Lathom, Lord Egerton of Tatton, and Mr. S. P. Foster, of Killhow, was the means of putting this feeling into tangible form. The idea was eagerly taken up, and a large and influential committee was appointed. This committee shortly afterwards issued the following circular :—

In recognition of Mr. Jacob Wilson's services in the cause of agriculture, it is proposed to present him with a public testimonial. For twenty years he has been a most active member of the Council of the R.A.S.E., and since 1875 has been the Honorary Director (Steward of General Arrangements) of the Showyard (including the International Exhibition at Kilburn), as well as a member of the Council of the Shorthorn Society and of the Smithfield Club.

The Royal Commission of Agriculture, which sat for three years, was largely indebted to him for the untiring assistance he afforded to its labours. He also rendered signal service to the country by the part he took in furthering the passage through Parliament of the Cattle Diseases Bills of 1878 and 1884.

It is proposed to entertain him at a public dinner in London on Monday, December 8 (the first day of the Smithfield Club Show), when the testimonial will be presented.

Subscriptions were limited to twenty guineas; the list was headed by H.R.H. the Prince of Wales, and a most general and ready response ensued, upwards of 1,300 subscribers, of all ranks and of almost all nationalities, sending in their names. The dinner took place at Willis's Rooms, London, on Monday evening, December 8, 1884. The Duke of Richmond and Gordon, K.G., presided, and about 250 noblemen and gentlemen were present. The testimonial took the form of an old silver soup tureen and ladle of the time of George III. and a purse of 3,000 guineas. The following inscription was engraved upon the tureen :—

Presented
to
JACOB WILSON, ESQUIRE,
together with a purse containing
Three Thousand Guineas,
in recognition of his services in the cause of Agriculture,
at a Banquet held at Willis's Rooms,
on December 8, 1884,
HIS GRACE THE DUKE OF RICHMOND AND GORDON, K.G.,
in the Chair.

The guest of the evening sat at his Grace's right hand, and was supported by a noble and distinguished company. After the usual loyal and patriotic toasts had been honoured, the

Chairman rose to propose the toast of the evening, and was commencing his speech when the electric light in the hall went out, to the great amusement of those present. After a short time, however, it repented of its behaviour, and again burned with brilliancy, and the Duke proceeded to make the presentation in most felicitous terms. He alluded to Mr. Wilson's eminent services to agriculture in general, and to the Royal Agricultural Society in particular; and went on to say that he could never forget the great assistance which, whilst Lord President of the Council, he received from Mr. Wilson at the time of the last outbreak of cattle plague in this country; and he expressed his belief that the evidence which Mr. Wilson gave before the Parliamentary Committee, and that which he collected from others, was the occasion of making the country alive to the fact that its agriculturists suffered most severely by the introduction of foreign diseases. He also paid a tribute to the great assistance he had received from Mr. Wilson in connection with the Royal Commission on Agricultural Depression, of which he was President, and of which Mr. Wilson was a member.

At the conclusion of his eloquent speech the Duke presented the testimonial, which Mr. Jacob Wilson acknowledged in a suitable and feeling manner, in the course of his remarks touching with a masterly hand upon the principal agricultural topics of the day.

The full fruition of Mr. Jacob Wilson's labours in the direction of freeing British live stock from imported contagious diseases was realised in 1896, when the Diseases of Animals Act of that year provided that all foreign animals must be slaughtered at the port of debarkation. Sir Jacob's official position at the Board of Agriculture at this time prevented him from joining in the agitation which immediately preceded this important reform.¹

It is a marvel how, in addition to all this public work, Mr. Wilson was able to carry on his extensive private business: the fact that he found time to conduct his agencies, look after his farm, and instruct his pupils, speaks volumes for his boundless energy and capacity for work.

In 1881 he removed from Woodhorn Manor and entered upon the farm of Chillingham Barns, on Lord Tankerville's estate, and remained in the occupation thereof until his death. Mr. Wilson's early love for Shorthorns—a taste which he had inherited from his father—remained with him throughout his life, and as might have been expected from his long friendship

¹ Other references to the part taken by Mr. Jacob Wilson, with the sixth Duke of Richmond and Gordon, in the suppression of Cattle Diseases will be found in the Memoir of the Duke, *Journal R.A.S.E.*, Vol. 64, 1903, pp. 6-8.

with the Messrs. Thomas C. and John B. Booth, he had a preference for their line of blood. He had a small herd at Woodhorn Manor, and "Duke of Tyne," the Worcester Royal prize winner before alluded to, was not his only celebrity in his earlier days, as two cows, "Golden Link" and "Lady York," both made their mark in the show ring. At different times he bought females from the celebrated herds of Lord Polwarth, the late Rev. T. Staniforth, the Messrs. Angus, old Northumbrian breeders, and others. His bulls, as a rule, were obtained from Warlaby, or from herds bred on Warlaby lines, and included two fine red bulls, "Vice Regal Booth," and "Merry Christon," which left a number of first-class calves.

The herd having outgrown its accommodation, Sir Jacob Wilson arranged to include a portion of it in a sale of Shorthorns held by the Duke of Northumberland at Alnwick Park on April 25, 1894. There he sold twenty cows and heifers which commanded a ready sale and realised the satisfactory average of 42*l.* 4*s.* 2*d.*, which was the highest average made during that year. His bull, "Merry Christon," was at the same time sold for 136*l.* 10*s.* In recent years most of the young bulls have been sold to go to South America, in some cases making large prices, while the heifers have been retained in the herd.

His extensive experience and reputation as a judge of Shorthorns caused his advice to be frequently sought by those who were forming new herds or who wished to introduce fresh blood into existing ones, and he was often a large purchaser at the most important sales on behalf of his friends as well as for himself. He was a prominent bidder at the historic Aylesby sale; and at the celebrated Warlaby dispersion sale in 1895 he bought several of the choicest heifers, as well as the most promising of the bull calves, "Sir Lawrence Riby," to join the herd of Colonel North in Kent. On the death of that gentleman he secured most of these animals for his own herd and removed them to Chillingham Barns, being actuated, no doubt, by a desire to preserve and carry on in its purity of descent this fine old line of Warlaby blood. "Sir Lawrence Riby" proved an excellent and impressive sire, and left a number of high-class calves.

Reference has been previously made to Sir Jacob's more recent work in connection with the stamping out of cattle disease, and this took active form when, in April, 1888, he was selected to preside over a Departmental Committee of the Privy Council appointed to inquire into the subject of pleuropneumonia. This Committee sat for many weeks, examined witnesses from every part of the world, and arrived at certain conclusions which it is worth while enumerating here. The

points which the Committee decided to be indisputable were : (1) That pleuro-pneumonia is an imported disease and not indigenous to this country ; (2) that it is an incurable disease, and hence its treatment should be of a preventive and not of a curative nature ; (3) that the disease is communicated by contact between living animals only, and through the respiratory organs only, and not by the hands of any intermediate agent or by the dead carcass.

On the strength of these conclusions the Committee made certain recommendations, and strongly urged upon the Government the necessity of adopting firm measures in relation to this disease. Naturally, from the evidence before them, they recommended compulsory slaughter of all diseased animals and all animals in contact. Further they urged the necessity of this work being undertaken by one central local government authority, instead of, as hitherto, by various disjointed local county authorities, who adopted different systems ; and they also emphasised most strongly the necessity of compensation being paid out of the imperial exchequer, as otherwise attempts at concealment were certain to arise. The Committee found an able champion in Mr. Henry Chaplin, the first President of the newly formed Board of Agriculture. In 1890 Mr. Chaplin carried a Bill which embodied the principal recommendations of the Committee, by transferring to the Board of Agriculture all the duties previously vested in the local authorities, with power to slaughter and pay compensation out of the imperial funds for all cattle affected, or which in the opinion of the Board had been exposed to infection, quite irrespective of district or locality.

Thus Sir Jacob Wilson had the satisfaction of knowing that the cause for which he had fought for so many years was at last won, and of feeling that he had been the means of conferring an incalculable benefit upon his fellow agriculturists. It is no exaggeration to say that to him, more than to any other individual, the British farmers of to-day owe the almost complete immunity of their flocks and herds from imported diseases.

When the important post of Director of the Land Department of the Board of Agriculture, with which was coupled the position of Agricultural Adviser to the Board, became vacant, owing to the death of Sir James Caird in 1892, Mr. Chaplin offered the appointment to Sir Jacob Wilson, whose acceptance of it was most popular throughout the kingdom, since it was on all hands recognised that his wide and varied experience in all matters connected with agriculture rendered him particularly well qualified for the position. Shortly after his appointment Sir Jacob, when on a visit to Edinburgh in connection with his official duties, was entertained at a banquet

given in his honour by Mr. James Hope, of East Barns, Dunbar. The Scottish farmers on that occasion vied with their English brethren in showering congratulations upon him. This was a special token to his fitness, as before his selection had become known it was hoped that the appointment would be offered to a Scotsman. Sir Jacob Wilson filled the office most efficiently for ten years, at the end of which time he retired under the age clause.

Sir Jacob devoted considerable time to public work in his own neighbourhood. On the formation of County Councils by the Local Government Act of 1888, he was elected as member for the Chatton Division, in the County of Northumberland, and he did much useful work on the Technical Education and other Committees. He was also Ruling Councillor of the Tankerville Habitation of the Primrose League, which had its headquarters at Chatton, near his own home; and as he was a fluent and able speaker his services were in frequent demand to address meetings in connection with his own and neighbouring Habitations. In politics he was a staunch Conservative, and was more than once approached with a view to his becoming a candidate for Parliamentary honours, but—to the loss of his party—he felt that his other engagements would not permit such an encroachment on his time as this would have entailed. He was a magistrate for the County of Northumberland. In 1890 he filled the office of President of that important local body, the Newcastle Farmers' Club.

He took a prominent share in the formation of the Glendale Agricultural Society in his own district, and was invariably a large exhibitor at its shows, where specimens of his Shorthorn herd usually carried off a large proportion of the prizes. A strong advocate of pedigree in breeding, he took an active part in the establishment of the Shorthorn Society, the Clydesdale Horse and other breed Societies, and served on the Councils of several of these bodies.

To Sir Jacob belonged the chief credit of starting the Royal Agricultural Society's scheme for the award of premiums to sound thoroughbred stallions, given conditionally upon their serving a specified number of half-bred mares at low fees during the season. The scheme was first put into operation at the Society's Newcastle Meeting of 1887. In the following year the work was developed and applied to the whole of the country by the transference to this object of the money previously expended out of the Royal Bounty for "Queen's Plates," and on December 3, 1887, the Royal Commission on Horse Breeding was appointed to administer the fund under the presidency of the Duke of Portland. The first Show of Thoroughbred Stallions for the award of premiums under the

new conditions was held by the Royal Commission in conjunction with the Royal Agricultural Society at Nottingham in the spring of 1888. The Society continued to co-operate with the Royal Commission until 1892, and Sir Jacob Wilson served as the Society's representative upon the Commission from its establishment until his death.

He was a Fellow of the Surveyors' Institution, and of the Highland and Agricultural Society. In 1885 he was selected to act as a Juror at the International Exhibition held in London. In conjunction with Sir Walter Gilbey and others, he represented the Royal Agricultural Society of England at the Paris Exhibition of 1889, where also he acted as Judge of Live Stock. His services as a judge of stock were frequently called into requisition at the most important shows in the kingdom.

Sir Jacob received many favours from the Royal Family, by whom he was held in great esteem, and on more than one occasion he visited Sandringham by Royal command. His Majesty the King, then Prince of Wales, paid him the distinguished honour of being godfather to his eldest son, who was, by special permission, christened Albert Edward, after his illustrious godparent.

In private life Sir Jacob was a genial and kindly gentleman and a true friend. He had always a pleasant smile and cheery greeting for his acquaintances of whatever rank in life. He was greatly beloved by the inhabitants of Chillingham, being ever ready to take an active part in any scheme for their welfare or amusement. An ardent sportsman, he was in his earlier days very fond of hunting, and for some seasons acted as Honorary Secretary to the Morpeth Hunt, under the Mastership of Mr. J. B. Cookson. He was a keen and excellent shot, and a good fisherman; indeed latterly, when not so capable of undergoing the fatigues of other sports, this branch seemed to gain increasing place in his affections, and he spent much of his leisure with his rod by the River Till.

Perhaps he never showed to more advantage than when entertaining friends in his own house, his kindly hospitality and genial manner making him a most charming and agreeable host. It was, indeed, a pleasant experience to form one of a party at his table comprising Mr. Chandos-Pole-Gell, Mr. "Billy" Booth (to both of whom, alas! the words "the late" must be written), Mr. John Thornton, and other men of light and leading in the Shorthorn world, and to listen to the flow of conversation and fund of anecdote which fell from the lips of those congenial spirits. No less happy was Sir Jacob when, perhaps next day, he would do the honours of his herd, and conduct his visitors round the Shorthorns, which were marshalled for inspection by John Brown, his

lifelong and faithful herdsman. After ample homage had been paid to the charms of "Sister Rose," "Daughter Superior," and the other matrons of the herd, our host would, with almost equal pride, lead the way to the poultry yard where Mary Brown—wife of the above mentioned John—would show specimens of those mammoth turkeys and enormous ducks and table fowl which had been for many years so successfully associated with Lady Wilson's name at the Royal and other important shows.

Sir Jacob's work in connection with the Royal Agricultural Society did not by any means cease on his resignation of the post of Honorary Director in 1892. He still continued to be a most useful and valued Member of the Council, and took an active part in the deliberations of the various Committees, being a member of the House, Stock Prizes, Veterinary, Implement, and Showyard Works Committees. He was Chairman of the last named Committee from 1877 to 1881, and from 1889 to 1902. He acted in a similar capacity for the Stock Prizes Committee in 1883 and 1884, and from 1886 to 1888. When the question of abandoning the itinerant show system in favour of a fixed site became acute owing to the difficulty of securing suitable accommodation in the neighbourhood of populous towns, Sir Jacob was not an advocate for the selection of a ground in the neighbourhood of London, and strongly opposed the scheme for the purchase of Park Royal. Once the decision was arrived at, however, he was not the man to desert his colleagues in a crisis; on the contrary, he supported them with the utmost loyalty and threw himself as ardently as any into the endeavour to make the venture a success.

The experience of the first two years was not encouraging, and on the retirement of Mr. Percy Crutchley from the post of Honorary Director in 1904, it was recognised that the affairs of the Society were becoming critical, and that a special effort must be made to stem the tide of disaster and to turn the popular feeling in favour of Park Royal. At the urgent request of his fellow members of Council, Sir Jacob Wilson, in spite of advancing years and impaired health, nobly stepped into the breach and once more assumed the reins of management for the 1905 Show in his former position of Honorary Director. He applied himself to the task with all his old energy and skill and did not rest content till he had secured the promise of extensive entries in all classes of stock, while it goes without saying that, under his direction, the Showyard arrangements were perfect.

The result of that Show is now a matter of history—how it was at once a gigantic success and a ghastly failure. A

success in so far that it was universally admitted to be the most magnificent exhibition of live stock that had ever been brought together, and that it was on all hands acknowledged that the arrangements for the comfort of stock and for the convenience of exhibitors and visitors were perfect down to the most minute detail. A failure, because the general public of London and the neighbourhood failed to respond to the invitation held out to them, or to appreciate the attraction that was brought to their doors. Throughout the week the Honorary Director worked as few besides himself could work, being here, there, and everywhere, inspecting, supervising, and arranging the details arising from day to day. On the occasion of the King's visit he personally conducted His Majesty round the Showyard, and performed the same duty for the Prince of Wales and other distinguished visitors. It was apparent to many of his friends that he was overtaxing his physical powers, but having undertaken the task, he was determined to see it through.

Sir Jacob Wilson's many friends were gratified to find that his name appeared in the list of Birthday Honours, His Majesty the King having been pleased to confer upon him the additional dignity of Knight Commander of the Royal Victorian Order in recognition of his many services in the fulfilment of his duties as Honorary Director of the Royal Agricultural Society.

It was my privilege to meet Sir Jacob the day after his return from Park Royal, and it was then only too evident that he had suffered severely from his arduous labours in connection therewith. Still he conversed with animation on matters relating to the Show, and, while naturally disappointed with the financial results, expressed gratification at the excellence of the exhibits, and spoke gratefully of the willing assistance he had received from the officials in all departments. Moreover, he spoke hopefully regarding the future prospects of the Society, and expressed his opinion as to what "we should do next year." Alas! for him there were to be no more Royal Shows. Three days later he was seized by his fatal illness, and in three days more he breathed his last.

On Friday, July 14, 1905, his remains were laid to rest in the pretty little churchyard at Chillingham, under the shadow of the castle walls which had been so intimately connected with some of the most important events of his life. The assemblage on that mournful occasion, in numbers far beyond the capacity of the church, bore striking testimony to the esteem and regard in which Sir Jacob had been held. Representatives were present on behalf of the Royal Agricultural Society, the Board of Agriculture, the Yorkshire Agricultural Society, the Eyre

Trustees, and other bodies, while his personal friends present were gathered from all parts of the kingdom.

At the same time a Memorial Service was held at St. George's Church, Hanover Square, at which Sir Nigel Kingscote was present as representing His Majesty the King, and Sir William Carrington as representing H.R.H. the Prince of Wales. H.R.H. Prince Christian was present in person, and a large number of Sir Jacob's old friends and colleagues on the Council and Executive of the Royal Agricultural Society, who were unable to be present at Chillingham, also attended, as well as representatives of the Royal Commission on Horse Breeding, the Smithfield Club, the Shorthorn Society, the Shire Horse Society, and numerous other bodies with which Sir Jacob Wilson had been connected.

Sir Jacob has left a widow and grown-up family of two sons and two daughters to mourn his loss. The elder son holds a commission in the Army, being a captain in the Northumberland Fusiliers, and is attached to the Egyptian Army; while the younger is following in his father's footsteps, having gained his diploma at Cirencester, and being now agent for Mrs. Burrell, at Carham Hall, Northumberland. The daughters are both married, the elder to Mr. J. C. Fenwick, only son of Dr. Fenwick, of Longframlington, Northumberland. Mr. Fenwick is Master of the Glendale Foxhounds. The younger daughter was recently married to Mr. D. L. Selby-Bigge, of Howick Grange, Northumberland.

On September 15, 1905, the Shorthorns which Sir Jacob had loved so well were dispersed by Mr. John Thornton, in the presence of a large company, many being anxious to secure a memento of an old friend. Two of the most promising heifer calves were purchased on behalf of His Majesty at 110 guineas and 76 guineas respectively. The total sum realised for thirty-one cows and heifers, including calves, was 1,025*l.* 17*s.*

Thus ended the last scene in connection with the career of one who gave his best services for the good of his fellow men, and whose end was hastened by his devotion to duty. It only remains to be added that shortly after Sir Jacob's death, Sir Dighton Probyn, by command of His Majesty the King, forwarded to Lady Wilson the Insignia of the Knight Commandership of the Royal Victorian Order, which had been recently conferred upon Sir Jacob, accompanied by a letter in which was expressed His Majesty's deepest regret at the death of Sir Jacob, and a request that the Insignia might be retained as an heirloom in the family.

G. G. REA.

Middleton, Wooler,
Northumberland.

THE EAST ANGLIAN TIMBER WILLOW.

ALTHOUGH all authorities differ as to the proper classification of the different timber willows, botanists now seem to agree that there are only two species grown in this country for timber: the *Salix alba* and the *Salix fragilis*, each with sub-varieties and with hybrid forms. The willow has always been called a critical genus, and according to Loudon has been a stumbling-block from the time of Linnæus. The Germans have tabulated about 400 sub-varieties and hybrids, and there is no reason why this number should not be indefinitely augmented. The London Catalogue (*Ordine* E. F. Linton) has ninety-three varieties.

BOTANICAL VARIATIONS.

The varieties are determined by the buds, stipules, catkins, &c., and these are sometimes very inconstant, and thus very difficult to recognise. To some extent the difficulty is also due to the fact that leaves on the shoots of young sets and pollards are different from those on the maturer tree. Not only do the leaves of the same tree differ in appearance at various periods of the year, but exposure to wind and light makes an appreciable difference in their colour. There seems also no doubt that the soil in which a willow is planted has a very great influence not only on the size and colour of its leaves, but also upon the colour and quality of its timber and bark.

The older practical writers, in dealing with these two timber willows, do not give a very close description of their characteristics, confining themselves chiefly to general advice as to how to plant and maintain. No mention whatever is made by them as to the appearance of the winter buds, but Lord Avebury in his *Buds and Stipules*, 1899, page 112, says:—

“The winter buds of the white willow (*Salix alba*) are all axillary. The buds are oblong, obtuse, or sub-acute, compressed antero-posteriorly, but tumid on the anterior face, thickened on the edges, and have a thickened suture along the middle of the posterior aspect. The cup-like scale seems to consist of two leaves united; these thickened edges and the strong slightly branched nerve usually seen on the inner face of these thickened edges tend to support this view, but no suture is discernible on the anterior face. The ovary of the *Salix alba* is sessile, that is, the seed pod is attached closely to the stem of the catkin; in the *fragilis* it is attached by a comparatively long pedicel or stalk, and in the *viridis* by a shorter pedicel.”

James Brown describes the *Salix alba* thus: “Leaves elliptic lanceolate, acute serrated, permanently silky on both sides; the lower serratures glandular, stamens hairy, stigmas

deeply cloven." William Scaling (1872) describes it: "With silvery tinted foliage, looking like a huge feather spangled with silver." P. J. Selby (1842) says: "Both sides covered with adpressed silky hairs giving the foliage a whitish appearance; the finest of the tree willows." G. Nicholson (*Gardening Dictionary*, Vol. III., 1887, page 344) says: "Leaves narrowly lanceolate, long-acuminate, silky on both sides, glandular serrate; petioles eglandular, twigs silky."

Brown describes the *Salix fragilis* thus: "Leaves ovate lanceolate, pointed serrated throughout, very smooth. Foot stalks glandular, ovary ovate, nearly sessile. Male flowers with an abortive ovary"; but he adds: "The leaves are slightly downy when young—like the white willow." He thinks that it is apt to become stag-headed, and that it is known as the redwood willow in Scotland owing to the colour of the timber when cut up. Scaling says that "this is the only tree that should be employed for timber purposes." Loudon, in his "*Arboretum et Fruticetum*" (2nd Edition, Vol. III., page 1460), writes that "the redwood willow or stag's-head osier (*S. fragilis*), according to Mathew, produces timber superior to that of *S. alba* or of any other tree willow"; and he adds that "the wood, when dry, is easily known from that of all other willows by its being of a salmon colour," and that the white sap wood, when dry, also becomes the same colour.

But it seems at the present time that the willow trees in East Anglia are either *Salix fragilis*, which has been called *S. Russelliana* by Sir. J. E. Smith, or the hybrid named *S. viridis*, which has for its parents *S. fragilis* and *S. alba*. The typical form of *S. alba* is not found here.

The *S. Russelliana*, which is described by Selby (1842) as resembling the *S. fragilis*, "but later and more airy in appearance," is now regarded by botanists as the same as the *S. fragilis* Linn. It is known by buyers of timber as the "open bark," and it has a greener and larger leaf, without any of the adpressed hairs or silvery under-leaf. This was supposed to have been produced by the Duke of Bedford in his Woburn Nurseries a century ago, and hence its name. Dr. F. Buchanan White, after giving the characteristics of the typical *viridis*, observes that "the hybrid, as met with, more frequently shows a departure from these towards *fragilis* or *alba*, till it is almost impossible to separate it from one or other of these species."

As far as I have been able to ascertain, the quantity of *S. fragilis* to be found in the Eastern Counties is very much less than that of the *S. viridis*; but it must be remembered that only about twenty years ago practically no willows had been planted in England for timber purposes, an apparently sufficient supply having been found in isolated trees grown from stumps

and sets put in by farmers for fencing or other ordinary purposes. In other parts of England on the contrary the *S. fragilis* is almost universal.

The Rev. E. F. Linton, of Edmondsham, Salisbury, a careful and critical botanist who has devoted much attention to the willows, and who has been good enough to interest himself in this matter, describes a large number of my East Anglian samples as *Salix viridis* with a strong leaning towards *S. alba* and some signs of *fragilis*, or with an equal proportion of *Salix alba* and *Salix fragilis*. He looks upon the *Salix viridis* as a very variable hybrid, and he agrees "that the pure *Salix alba* type is very rare in Britain, almost all our white willow falling under the variety *cærulea*, which is however a very slight variety, with leaves less silky and may be just the set of a cooler climate."

This *Salix viridis* seems to be the hybrid plant which is now called, apparently wrongly, the Huntingdon or white willow, used by cricket bat makers and called by them the "close bark," or "right sort." This willow in its leaf resembles the *Salix alba* in shape, but is of an olive-green, and like the variety *cærulea*, but with shorter adpressed hairs. Where it differs most distinctly from the *Salix alba* as grown at Kew and at the Cambridge Botanical Gardens is that the winter shoots are of a bronze-red instead of a green colour. This is sometimes held to represent the difference of sex. The tree is in the Eastern Counties generally called the red willow, owing to these red shoots and to the red colour of the heart wood, and considerable confusion has resulted from this mistake.

It certainly seems strange that the twigs of a specifically defined tree should vary in colour to so great an extent, and Loudon, who seems to have searched for facts rather than transcribe the books of others, writes at some length as to the influence of sex upon the colour of the willow. Referring to the East Anglian willow, he wrote (*Arboretum*, Vol. III., page 1524) :—

In the parish of Waterbeach, Cambridgeshire, there are numerous trees of *S. alba*, the vigorous shoots and branches of which, and especially those of pollard trees, have red bark, which, when the trees are leafless in winter, are very conspicuous. This appears to be the upland, or red-twigged willow of Pontey¹; but it may possibly be only a variation of the species, or the female.

He also (page 1523) quoted an observation of Sir J. E. Smith as follows :—

The late Mr. Crowe, who found the female plant wild in Suffolk, was of opinion that this might be taken for *S. alba* in many parts of England, the real one not being known in some of the Northern Counties. He had for many

¹ William Pontey, ornamental gardener, &c., to successive Dukes of Bedford; author of *The Forest Pruner* (1805) and *The Profitable Planter* (1809). He wrote on the red-twigged willow in *The Forest Pruner* (page 79).

years paid great attention to this tree, as have Mr. Rigby at Framlingham and Mr. Browne at Hetherset, Norfolk. . . . The foliage is distinguished by its great luxuriance, more azure hue, and the almost entire want of the hairs from the under side of the adult leaves. Mr. Crowe thought the stipules might afford distinctions, but we find them too variable.¹ (*Smith in Rees's Cyclo.*, Vol. xxxi., No. 140).

Mr. Linton has examined some dozen plants submitted to him from the East Anglian counties of Essex, Norfolk, Suffolk, Cambridge, and Huntingdon, all having the silky under-leaf, and the upper-leaf a varying grey-green; and these he describes as *virides*, *i.e.*, a hybrid between *Salix alba* and *Salix fragilis*, but showing more of the characteristics of the former than the latter species. He will not allow that sex is in any way the cause of variation in the colour of the winter shoots, and he says:—

“I think it lies deeper. *Salix alba* is often greenish, but some forms are yellow and some are red. *Salix fragilis* usually reddens more or less as it matures. Hybrids vary between the types irregularly, having the characters of one or the other parents mixed by no apparent rule; so the hybrid varies between the greenness of one parent and the redness of the other: with two red-twigged parents the colour would be intensified. This is, I expect, the rationale of the variation in the twigs of *Salix viridis*.”

This view is, I think, borne out here at Ryston, since among some 50,000 trees, apparently all red-twigged *Salix viridis*, both the sexes are found, though the female much predominates. Where I have a few plants of *alba* from Kew growing side by side with those of *viridis*, the latter have three times the growth and vitality of the former.

A few bat makers with, I fear, interested motives, have found fault with the East Anglian *Salix viridis*, but the great majority insist that this is their “close-bark” willow, and that it is practically unobtainable elsewhere.

In conclusion of this part of the subject we consider that the East Anglian timber willow, or close bark, is the hybrid plant, *Salix viridis*, but much more approaching *S. alba* than *S. fragilis*. The leaves are indistinguishable from the variety *cærulea*, and it is no doubt the same as that described by Loudon as the red-twigged willow of Pontey.

CHARACTERISTICS OF FELLED WILLOW TIMBER.

The timber of the East Anglian willow varies very much with the soil in which it grows. The sap wood is of course white, and in the most suitable soils the heart wood turns red very slowly, so that the timber of a growing tree could be almost described as white. The same species, if in a less

¹ The reader who desires to follow further the views of numerous authorities on the botanical anomalies of the East Anglian willow and the alleged influence of sex upon the colour of the tree is referred to Loudon's *Arboretum et Fruticetum Britannicum*, 2nd Ed., Vol. III., chap. ciii., especially pp. 1454 and 1455.

suitable soil, would differ, the sap wood hardening and reddening sooner; and in quite unsuitable soils, the heart would turn a much deeper red, and the next change—that of decay—would soon ensue.

Cricketers are rather divided in their opinion as to the colour desirable in the cricket bat, some preferring the salmon colour and others the white. At the present moment the white bat has the preference and commands a better price. The salmon coloured bats, being made from the heart wood, are probably heavier and therefore in this respect inferior. The makers occasionally buy the *Salix fragilis*, or open bark, and they are sometimes inconsistent enough, while condemning this class of tree, to say that some of the open bark bats are better than those made from *Salix viridis*, or close bark. But it seems that as a rule the open bark does not dry so readily as the close bark, and the bats are therefore heavier and of less value.

All timber is bought for durability, and therefore practically the heart wood only is paid for—the sap wood becoming comparatively soon riddled by the wood-boring beetles (called wood worms)—and it is considerably heavier than the sap wood. In the willow alone the contrary is the case, since the question of durability scarcely arises, and the sap wood makes a lighter bat. It may be hoped that this theory is correct and that fashion will follow necessity, since the timber of the future must come from immature trees with a large proportion of sap.

Trees grown in hedge-rows, being more in the open air and sunshine, are preferred to those grown in a wood, the timber being said to be tougher; but at the same time this class of timber must be more disfigured by knots and stains from side shoots. The hedge-row trees grow more rapidly, and come sooner into the market, but owing to the knots and the more spreading branches only the lower part of the tree is saleable.

Timber is frequently found to be “stainy,” that is, disfigured by dark-grey, cloudy, or mottled brown stains horizontally smeared across the grain. Some authorities believe this to be due to the class of trees, some to the nature of the soil; but the prevalent opinion is that the “weather” gets into the timber by small fissures (possibly by late pruning), in holes made by insects, or by bruises, and it is possible also that the tannin of the bark may enter the tree with the external moisture. Some bat makers say that these “stainy” marks spoil the sale of bats, others maintain that it shows a tougher quality of timber; but this view may be expressed from the same incentive as that which actuated the tailless fox in the well-known fable.

Another fault, due apparently to soil—probably an absence of lime—is the appearance of small narrow pith marks, generally half an inch long and a sixteenth of an inch wide, lying between the annual rings. This is not so detrimental. The greatest detriment is of course that of dead knots or a twisted grain of wood. Injury may also be done to the sap wood by the rubbing off of the bark during the felling of the trees.

Most of the remaining trees in England are pollards. There are a great number on the banks of the East Anglian rivers, generally planted by River Commissioners and others for the purposes of broach wood for banks preservation and agricultural purposes. These trees are of no use for timber, since it appears that the constant cutting of the tops so weakens the trees that the heart wood is drained and exhausted and the trunks become rotten and hollow at a very early age.

It is evident that the repeated effort of the tree to replace its branches after each successive pollarding exhausts and destroys the heart wood ; but it might be that a tree pollarded, say twice, and then allowed to produce one stem, would grow a lighter and yet durable heart wood, and be thus more suitable for cricket bats.

The bark of the *S. alba* and *S. viridis* is dark grey in colour and “close” in appearance, and bat makers accept them as the “right sort” ; but they do not sufficiently consider that this appearance is often due to shelter and soil, and does not denote the variety with accuracy. The bark being close shows a healthy and rapidly growing tree, and thus straight grained, which is obviously most important.

Buyers judge also by the shape of the branches, a healthy tree having them more upright, and the general appearance being that of a cone. This, however, does not denote the variety, but only that better timber exists in such trees than in stag-headed specimens that have got into a bad soil.

BUYING AND CUTTING SETS.

As to planting for timber purposes Loudon quotes Gorrie (1825), who says that he found shoots from 6 ft. to 8 ft. long, and 2 in. in diameter succeed better than rooted plants ; and Scaling (1872) says :—“ It must be borne in mind that all willows grow more vigorously from cuttings than from rooted plants.” But Mr. Underwood, of Fornham St. Martin, Bury St. Edmunds, who gives considerable attention to the planting of willows, writes :—

“ Using sets for planting I had hoped was only a relic of the past and it involves a loss of time. Willow plants with nicely formed roots flourish at once where there has been no opportunity to prepare the soil well beforehand.”

It seems, therefore, desirable, where there is no ground game, to put in young nursery plants in trenched and open ground, taking care that they are not injured in the first two years by wild hops, bind weed (*convolvulus*), or other climbing weeds, which would quickly bend them down and smother them.

This plan must, however, for many reasons be by far the most expensive, and no doubt at present the 3 in. by 20 ft. sets is the favourite method. The sets can be easily obtained, owing to the number of pollards and the small value of the top for firewood or other purposes. The better plan is to buy at so much per tree, the purchaser to cut in a workmanlike manner, cutting upwards so as not to split the stump, and to leave the "brash" on the ground to the seller for "kindling," the seller to deliver the sets at a place named by the purchaser.

The sets should be selected and purchased during the summer, since it is at this time that their variety and quality can be determined, and should be of about four or more years' growth. They should be trimmed closely for four-fifths of their length, and tied up in half scores and placed in a ditch or pond. Sets may be kept in water for a month or more; but it is not desirable to allow the rootlets to become more than half an inch in length. The better time to cut them is in the early spring, which allows of the above process. If the set is cut in the winter it lacks moisture and vitality, and the ground is frequently hard and cold; but the sets when soaking imbibe a large quantity of water, which supplies the sap for the earlier shoots.

Sets cut from the tops of young trees are of good quality, but from the nature of their growth, they are not so apt to be straight as those from pollards, and this is a very important requirement. It is, however, most undesirable to cut sets from the tops of old trees; they are seldom straight and require much trimming. They are also of a very brittle and sapless nature, and the chance of their growing well is comparatively small.

If it was advisable to obtain plants from a large tree that seemed of a very desirable quality, this would be best secured by small cuttings of, say, twelve inches long, which should be planted in carefully selected soil. The new shoots would then start from the ground, and, after pruning the smaller ones, the leading shoots would form a plant of entirely new wood.

A writer in *The Gentleman's Magazine*, in 1758, suggested the planting of sets a year old and the size of a man's thumb, in rich marshy land, at the distance of two feet every way. When they have stood seven years, he added, they should be

thinned, leaving five feet square to each tree ; and, at the end of forty years, an acre so planted would be worth 1,500*l.* This plan has some merits, but four years should be sufficient before thinning, as the plants should then be about sixteen feet high.

PLANTING.

We have agreed that in order to obtain a willow tree the best plan is to plant a 20-ft. set, but there may be various conditions which may make some difference in our decision. For nursery purposes, sets 4 in. in and 1 in. out of the ground may be sufficient. Should it be desired to plant a piece of clean arable land, sets 4 ft. out of the ground and 1½ ft. underground would be sufficient. If the ground is already covered with rank undergrowth, 20-ft. sets would be desirable, and these should be planted not more than 3 yards apart so as sooner to form an overhead canopy which would kill the undergrowth and thus allow the roots more food. After thinning out, the trees (or their tops only) can be planted again elsewhere.

The distance we should place our sets apart may be defined as half to one-third the length of the set. The further apart, the greater labour in rubbing off the incipient shoots in the first two years ; the closer together, the less air to encourage their growth. As soon as the overhead canopy is formed, the trees can be drawn up to the height desired, and then thinned, and the thinning continued till the trees are increasing satisfactorily in girth.

The depth the sets should be planted depends upon the tenacity of the soil, since if the set is not stamped round and firmly planted, the wind will cause it to sway round and break off the young rootlets, which are too feeble to hold it upright. The depth also depends on the nature of the soil ; should the subsoil be good, the sets should be so deep as to allow the roots to reach it easily.

It must be remembered that each set has so much vitality on being planted, and we must obtain as much as we can by choosing pollard sets and steeping them before planting. Such sets may be thin and tall, but if the vitality is less, the sets must be shorter and thicker to ensure enough sap to keep them alive the first year. When the vitality is deficient, it is clearly seen by the death of the top ; the sap rising up only part of the way, as seen by the side shoots ; or in some cases the tree entirely dies above ground and shoots up from the ground level. There seems to be no limit as to the thickness of a set, which may be as thick as a gate post, and thus have the more vitality, providing its length out of the ground is proportionately reduced.

If we determine to plant small plants from the nursery instead of sets, it is necessary that the land should first be cleaned. The plants should then be planted closely rather than sparsely. The distance must be regulated by the size of the plant, and by various other circumstances which we will not deal with at present; but it is absolutely necessary that they should be protected from the ravages of ground game by the erection of wire netting around the plantation. If the plants are covered with a preparation of tar—say three feet from the ground—it would be a more expensive process, and probably in so very young a plant the tar would be somewhat detrimental to its growth.

In planting sets, which we think is the most desirable plan, there may be said to be two processes. The first and simplest is to point the set slightly and force it into the ground a distance of perhaps one-sixth of its length. This no doubt can be done where the soil is extremely moist and soft, and it does not appear that under these circumstances there is any tendency to peel back the bark in so doing; but where these very favourable conditions do not exist, it is wiser to dig down a narrow hole of some eight inches in diameter with the common “drain” or “trenching” tool.

The following plan might then be adopted. A gang of four men, one with a short trenching tool to dig the first fourteen inches of soil, to be followed by number two who will dig the hole still deeper with a narrower tool to the distance of 2 ft. or $2\frac{1}{2}$ ft. He in his turn will be followed by number three to hold the set upright while four fills in the loose soil and stamps it down. If this be carefully done the soil around the tree will be sufficiently loose, and will be liable to give the new roots a better chance of growth. This is the better, though more expensive system, since the subsoil, never having been previously broken up, is comparatively hard, and it is much more difficult for the tender rootlets to penetrate.

In addition to this, if the plants are soaked as has been advised before planting, no injury will be done to the small roots, which are by this time probably extending some quarter to half an inch in a lateral direction.

If it is not possible to protect the sets by wire fencing or otherwise, it may be necessary that they should be preserved from horses or ground game. Some foresters assert that tar is detrimental, and that cow dung only adheres for a very short time; but they suggest no alternative. I find that tar, mixed with coarse unrefined mineral oil in equal quantities, lasts well. It does not penetrate the bark, the pores of which are wet with sap, and does apparently no injury whatsoever.

THE SOIL.

In deciding whether it is desirable to plant willows for bat making, I presume that in future the set will be used, although, as before stated, there are some advocates in favour of small plants, amongst whom, of course, nurserymen are obviously included; but, since the set is certainly much cheaper than the plant, it is clear that for this reason alone it must be preferred.

The best ground in which to put sets is undoubtedly by the side of a flowing river, because it is generally held that the roots must have access to water, and that this water must be moving and not stagnant. If the water be stagnant it is as bad for the tree as the flowing water is good, and it may be taken that a tree planted in stagnant water will have but a very short life. By stagnant water I mean water that is absolutely stagnant. A great deal of land, which apparently contains stagnant water, does really contain water which is slowly percolating—it may be at the rate of a few feet a day only; but this comes under my definition of flowing water.

The great difficulty that arises in planting sets by the side of a stream is that these streams are almost invariably surrounded by grass lands, and these grass lands are almost as invariably fed with stock. This entails, for something like fifteen years, the provision of efficient protection, which makes planting under such conditions almost prohibitive. If trees are to be so protected, it is not necessary to place a pound some three or four feet from the tree, which makes the cost not less than 5s. per tree; but it is quite possible to place, say, some three or four rough battens with the bark on, and fasten them by means of barbed wire coiled round and nailed with small staples. These pounds can be constructed at about 1s. each, or less.

The principle that should guide persons in deciding what soil to select, should be the necessity of the soil being loose, so that the delicate roots can rapidly make their way; for it is obvious that in soils of a clayey nature, even if of good quality for growing ordinary crops, the passage of the willow roots is much more difficult. It is only when clay is in a condition known as soft clay that the willow roots can make their way.

All old authorities agree that the worst form of soil is gravel, and this is probably because of its hungry and almost invariably dry nature. We therefore find that the silt which is almost inevitably found on river banks, and in valleys which have probably to a great extent been formed by alluvial deposit, is the best soil for the plant; and it is obvious that, if in addition to this there is a deposit of decayed matter, the growth of the tree will be materially assisted.

This condition of things exists on the sides of Norfolk rivers, and to an extraordinary extent in the Fen Country, deposits of twelve to fifteen feet being found in certain places. A tree planted, however, in pure peat would make but slow growth, and would not have enough vitality to arrest the attacks of the Giant *Sirex* caterpillar. When the trees get into soft clay, silt, or sand, they prosper greatly; but it seems that any trees which have too great a proportion of peat do not arrive at the same condition of health, have a very much shorter life, and are at no time likely to produce the best quality of bats, or, in fact, good timber for any other purpose.

It is obvious that it will always pay to plant in a better rather than in an inferior soil; and although this is the case with all plants, it is believed that it is still more important with the willow for bat making than with other trees.

The greater rapidity of growth causes the timber to be formed of larger cells, and these must in theory, if not in practice, produce a lighter bat than one that is composed of smaller cells; and as lightness is one of the most important characteristics it would naturally increase the value of the timber.

CULTIVATION.

At first sight it might be thought that sets should be planted in the autumn, as is the rule in planting ordinary trees; but although the tree may hold its vitality through the winter, it does not appear that the willow set does this, and therefore it is better not to cut off the sets till after the frosts have gone. They should then be placed in water for a month or so to allow them to drink their fill and to produce short shoots.

After they have been planted for two or three weeks it is desirable to send a woodman to stamp round the sets, especially if they are in an exposed position, since the effect of the wind is to loosen the surrounding soil and allow them to move to leeward. This is far more detrimental to sets than to ordinary trees, since the movement of the tree would not so much affect long roots spread in a lateral direction; whereas in the case of the willow, which starts its natural life by small roots all down the stem, movement must inevitably break them off or otherwise injure them.

All long willow sets will throw out side shoots when first planted, and these must be rubbed off twice in the first year when about six inches long, or at any rate before the shoots become so tough that, in rubbing, a portion of the bark of the stem is torn. This ensures a clean trunk, and prevents any knots which would otherwise disfigure the timber when brought into use.

Only a slight amount of rubbing may be required the second and third year, but this will depend upon various circumstances. It may be done with the hand, the strongest hedging gloves being worn, and sometimes supplemented by a bit-burnisher if there are a great many trees to be done.

After the sets have been planted for three or four years, further pruning will be required if the stem is to be kept clean for the twenty-five feet which is considered to be the length of lower stem fit for use as bat wood. This can be partly done by means of a common razor fixed at an angle of 45° to a light pole, which is pressed upwards under the shoot and as close to the stem as possible. This is sufficient for shoots up to the size of a cedar pencil, but afterwards a saw must be used, attached to a pole or otherwise; but it must be remembered that a saw leaves a rough surface, which is more difficult to heal over than a clean razor cut.

It is finally necessary to use a ladder for the upper branches, and this is not very easy against a slender tree in moist ground. It is desirable, therefore, to have ladders made from 6 ft. to 18 ft. long, of which the spokes may be nailed and not morticed, and to obtain lightness for carriage by hand the spokes may be placed somewhat further apart than is usual. The essential thing is that they should be some 24 in. to 30 in. wide at the bottom to ensure stability in soft ground, greater confidence to the pruner, and the performance of a greater amount of work. The top of the ladder should be flat to allow good holding to the feet, and the centre portion should be rounded out about six inches to fit the smaller stem of the tree and prevent the ladder slipping aside. This should be bound round with coarse canvas or other material to prevent injury to the bark.

In many plantations the rubbing of the side shoots is carried out to the fullest extent, leaving a very small proportion of branches at the extreme tip of the set; but experience does not enable me to speak with certainty as to the wisdom of this. On this subject the forester differs from the bat maker; the latter, considering the lower twenty feet of the trunk from which he makes the best bats as all important, advocates the utmost shoot rubbing; but the forester, who looks upon the set as the future tree and adopts the rules that are common to all trees, declares that there must be a much larger proportion of top than the bat maker advocates. He asserts that as the raw sap is drawn up into the tree it promotes leaves which in their turn "elaborate" it. The sap then returns downwards in the autumn to the cambium cells, depositing the alburnum to form the annual ring, and he says that if the leaves are insufficient, the deposit of alburnum or sap wood must be less, and the growth of the tree diminished

in the same proportion. The bat maker retorts that he knows nothing about "elaborated" sap, but that he sees the crude sap producing side shoots in the early spring, and as he wants clean timber he objects to their presence and destroys them. It would seem therefore that if 20-ft. sets are used it might be well to rub the lower eight feet the first two years, and then after the tree has gained its initial strength to trim the higher eight feet.

These remarks apply to sets which are put in about half the distance of their own height; but in some places I have seen plantations where the sets have been considerably closer, and in this case possibly they need but little initial rubbing. The overhead canopy has been so quickly formed that no further side shoots have been produced. The system has its merits, and must produce a very clean trunk, but the trees must be thinned at an early stage. This can be done without loss by making use of the sets either by re-planting them as single sets or by cutting them up into short lengths and planting them. If this process is continued it may show a saving of expense in rubbing, but possibly an increased expense in subsequent re-planting; it is clear that after a certain time, unless the trees are thinned, the size of their annual rings must become less, and consequently the growth of the trees will be slower. The forester should therefore watch his trees, and should he find that they do not increase reasonably in diameter, he must harden his heart and thin to such an extent that his remaining trees will make their proper growth; for if once checked it is a question whether the full growth is afterwards maintained. To what extent this must be continued must be decided by the progress of the trees and by the market price of timber. The now almost complete absence of large willow timber shows us that the tree coming into the market will during the next two or three years be of a small description, and the owner will have to decide whether he should take a higher price for his small trees or allow them to increase in growth to be sold at a lower price per foot in the future.

It may be that the best form of plantation is a narrow belt, say forty feet wide, by which the advantages of both the overhead canopy in early life and the subsequent increase in girth may be obtained.

SELLING.

We may assume that the tree first becomes saleable when it is 15 in. in diameter at 6 ft. from the ground. Taking the sapling as having some 15 ft. of clean growth, the average diameter would work out at 12 in. Under these circumstances bats could be cut from the entire length, and if the wood has been grown for the purpose there should

be no waste. This of course would be taken into consideration in the price offered.

The wiser plan is to sell the trees to the merchant or bat maker, to be felled by the grower, the price agreed to be per cubic foot. The merchant is a far better judge of the quantity of timber in a tree of any size, and the grower has no chance of success in measuring his wits against him.

When the trees are measured up, a bat maker would send down his special men to cut up into lengths and then into "clefts." The bat maker requires no part of the tree but the stem; the top part, therefore, should remain the property of the grower, which he can dispose of only as firewood. It is possible that some of the upper branches of small trees may be serviceable for fresh sets, but, as before stated, this is not a very desirable course.

FELLING.

In the willow tree, as in all other trees, the elaborated sap descends in the early autumn, and it is after this time that all trees should be felled. If by some means a contract for felling were delayed till the late winter or early spring, it would be desirable to ring the trees on the ground-level through both bark and sap wood, in order to check the rising of the sap into the tree. This can easily be done, a deep and narrow nick cut round being amply sufficient.

In felling the trees it is desirable that great care should be exercised, since it appears that a bruise of the bark, even at that time, affects the colour of the wood, leaving stains and disfigurements. It is also desirable that the merchant should be able to examine for himself the nature of the timber if the trees are felled before sale.

It is therefore better to cut down to the roots as far as the trunk extends and then saw off with a cross cut saw. There is no object in dealing with the trees as with oak trees; that is, felling by cutting the roots only, leaving the "tod ends" on the trees. The "tod ends" are left in oak trees because it is desirable that these trees should remain on the ground—possibly for a year—to season, and are thus prevented from splitting by the action of the sun; but this is not the case with the willow, which should be cut up immediately and seasoned in the form of "clefts."

CUTTING, SEASONING, AND MANUFACTURING.

If willow trees are sold to a bat maker, they are cross cut into lengths of twenty-eight inches, and these in turn are split up into clefts. These clefts are split up along the radii so that the annual rings run from the front to the back of the bat.

If the bats were so cut that the rings were in the other direction, the wood would fleck off very soon after the bat was brought into use.

The process requires great skill, especially if the wood is faulty; sometimes it requires clefts weighing 10 lb. when full of sap to produce one bat which would approximately weigh $2\frac{1}{2}$ lb., and this is necessary to avoid knots and shakes which render the bat comparatively valueless.

The best clefts come from the lower part of the tree, which is far tougher in all varieties than the upper portion. There is no reason why the bat should not include the outer sap wood, although this would be considered useless for furniture or machinery, or any other purpose for which durability is required. The clefts can be left on the ground to be seasoned, but are more generally taken direct to the factory and stored there. They become ready for use at the end of about six months, but the better manufacturers prefer a twelve months' seasoning. They should be stacked of course in such a manner that the air passes freely between them.

At the end of six or twelve months the bat is shaped by means of a tool much of the same nature as a spokeshave. It is then subjected to hydraulic pressure, and it is here that the value of good timber shows itself, since the *S. fragilis* or open bark is unable to stand as much pressure as the close bark. The handles are then added and the face of the bat is oiled. This, in conjunction with more seasoning, endurates the face of the bat. The whole of this process of manufacture, which hardly comes within the scope of my paper, is given in an interesting pamphlet written by Mr. G. G. Bussey, the owner of the well-known sports manufactory at Peckham.

THE FUTURE OF WILLOW TIMBER IN ENGLAND.

It has been found very difficult to ascertain the truth as to the value of the East Anglian willows. I was at first informed that these willows were undesirable, but was comforted by the opinion of other experts who asserted that there were no willows of any value grown outside England and very few in England except in the Eastern Counties.

I was congratulating a very large owner of willow trees last year on this second opinion, but shortly afterwards he sent me a cutting from an English paper in which an advertisement, apparently from Holland, offered many thousand feet of willow described as English *Salix alba* at the low price of 1s. per foot. This seemed disappointing, but on careful investigation it appeared that this advertisement was a bogus one: the address could not be traced nor any evidence obtained of this extraordinarily cheap timber. The

presumption is that the advertisement had been inserted by interested parties for the purpose of deceiving owners as to the now rapidly rising price of their property.

The demand for this timber is quickly increasing. An article in the Royal Kew Gardens Bulletin (No. 105, September, 1895) stated that the supply was then falling off and that several inquiries had been made. For instance, Mr. A. Dye, a cricket bat maker of Sydney, New South Wales, had written :—

“I have experienced great difficulty in obtaining the particular kind of willow required in my business, *viz.*, *Salix alba*. I have repeatedly ordered white willow from various firms in England, and have never yet received the right stuff. I now feel certain they do not know where to obtain it.”

A firm of timber merchants in the City also wrote that they found that the demand for white willow was so great that there was considerable difficulty in procuring any.

There is no doubt that in East Anglia, and probably the whole of England, all large trees have now been sold, except those kept by landowners for ornamental purposes. It has been the custom for some years past for all bat makers to send out, yearly, agents to hunt the country and pay approximately 5s. per foot for any good trees they can find. This deficiency of supply was only recognised by landowners some fifteen years since, and a considerable number of trees have been planted since that date; but as most of these trees would scarcely be saleable for some ten years or so, the price will probably rise very considerably. Bat makers have, indeed, imported willow timber from Holland, Canada, and elsewhere; but they seem to have quite decided that it is valueless for their purpose.

It is said that the failure of the willow in Australia is due to climate; the extremes of cold and heat, especially the latter, make the timber so dry and deficient in toughness as to be unsaleable for cricket bats. But this would not account for the failure of the tree in Holland, where the climate is like our own and the soil apparently well adapted to it.

It seems clear, therefore, that for the next ten years or so, at any rate, the planting of the *Salix viridis*, or perhaps the true *alba*, if such could be found, would produce a good rental; but it must be remembered that although the demand for cricket bats is very great, and is increasing, it is quite possible that the price, after rising to 10s. per foot, may drop to 2s., or even to the unremunerative price of white poplar.

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CONTINUOUS CORN GROWING IN ITS PRACTICAL AND CHEMICAL ASPECTS.

IN the days of high prices for corn attention was naturally turned to the question as to how far it would be possible to abandon the ordinary rotation system of farming and to substitute the growing of corn year after year. When, in 1861, the late Mr. John Prout, fresh from farming in Canada, came into possession of Blount's Farm, Sawbridgeworth, Herts., corn growing was essentially a paying concern. The world-famed experiments of Lawes and Gilbert, carried out continuously from 1843, had thrown much light on the requirements of corn crops and had shown that, if regard be had to these requirements, their growth year after year on the same land, and by the use of artificial manures alone, was a possibility. What, however, was needed was that some one should take up the work from the side of practical farming and demonstrate whether it was possible to carry out such a system and to make it pay. If this were feasible it was evident that a wide area of strong land eminently suitable for wheat growing could be remuneratively cultivated. This was the work which the late Mr. Prout set himself to do.

Two main problems presented themselves at the outset. First, Were there any practical difficulties in the way as regards the cultivation of the land? Could it be kept clean and in good tilth? Secondly, Was it likely that the soil under such cultivation would become gradually deteriorated, so that its fertility could not be maintained and that it could no longer continue to produce profitable crops?

Other considerations had to be taken into account, such as the likelihood of corn prices remaining as they were, and the particular conditions under which such a system could be carried on; but the two problems named above were those of primary importance in deciding as to the adoption of the system. It is to these that attention will be chiefly directed in the present article.

A system, essentially good in principle, may, through a change in circumstances or a fall in prices, fail of general adoption; but it is eminently desirable to set at rest the question as to whether such a system is feasible; so that when circumstances favour its adoption the knowledge may be available as to how and when it can be carried out.

The late Mr. Prout, besides having had large farming experience in Cornwall and Canada, was a diligent follower of, and firm believer in, the teachings of chemical science as applied to agriculture. He took a great interest in the work of Lawes and Gilbert at Rothamsted, and soon came into close association with the late Dr. Augustus Voelcker, by whose advice he was mainly guided in the carrying out of his inquiry. Lawes and Gilbert had already shown that, if the requirements of farm crops were studied in relation to the soil on which they were grown, it was quite possible to maintain their growth on the same land year after year without apparent deterioration; that it was unnecessary, therefore, to be tied to the following of a rotation; or even to depend upon the supply of farmyard manure, as fertility could be maintained by the judicious use of artificial manures. The work of these investigators on the heavy clay soil of Rothamsted was at a later date (1876) followed up on a different kind of soil—a light sandy loam—at the Society's Woburn Experimental Farm, under the late Dr. Voelcker, and, practically, with the same general conclusions. Mr. Prout was thus fully aware of what was engaging the attention of agricultural chemists; and, in embarking on his undertaking, he was not slow to avail himself of the assistance he might derive from their researches.

Briefly put, the problem which Mr. Prout set himself to solve was whether on a clay farm such as his it was possible to grow corn year after year, and to dispense with rotations and the keeping of stock. If this could be done, the high prices then ruling for corn seemed to warrant a profitable return and the abandonment of much that made farming a complex and uncertain undertaking.

Samples of the soils on the farm were taken and analysed by Dr. Voelcker with results that justified the belief that Mr. Prout's system could be safely adopted: and so the work was begun. The analytical results will be described in detail later. It is sufficient for the moment to say that Mr. Prout's enterprise has supplied the best example, in modern farming experience, of the wisdom of combining practice with science, and has abundantly justified the conclusions based on chemical science as to the possibility of supplying the needs of a long series of corn crops grown year after year on the same

land. Inevitable fluctuations in prices of produce and in the conditions of agriculture have, it is true, affected prejudicially the financial outcome of the experiment; but, though these changes have caused the system to be regarded less favourably than seemed likely at the outset, and as being less capable of wider application, this in no way detracts from the importance of the splendid instance which is afforded of the verification in actual practice of scientific truths regarding agriculture.

In the year 1881 the late Mr. Prout published a book entitled *Profitable Clay Farming under a Just System of Tenant Right*, and this contained an account of the inception and progress of the undertaking up to that year, as well as a separate report by the late Dr. Voelcker of the scientific observations and results obtained. It seems now fitting that it should devolve on the son of the practical founder of the system and on the son of the scientist associated originally with the work, that they should jointly continue the history of the farm and deal with its results from that time to the present day, more particularly letting the agricultural reader know something as to how the matter stands in regard to the two main questions: (a) Whether the system "pays"; (b) whether the land has undergone deterioration.

For the earlier history and details of the undertaking it is sufficient to refer to Mr. Prout's book published in 1881, and it is only necessary now to recapitulate the leading features of the plan pursued.

PRACTICAL ASPECTS.

Blount's Farm is situated about thirty miles from London, near Sawbridgeworth, Herts., and is 450 acres in extent, the land being a cold heavy clay. The average rainfall is about 26 in. per annum. The late Mr. Prout purchased it in 1861, paying 35*l.* per acre for it. His first work, on deciding to attempt continuous corn growing, was to drain the land thoroughly, to remove hedges (cattle being no longer needed); to level the land; and to make firm roads on which carting could be conveniently done and also steam cultivation be carried out. By the purchase of the land he obtained freedom of action in regard to the cropping, and liberty to improve the farm in the way he thought best. What the actual cost of the land was, what the outlay on drainage and other initial improvements, on what terms the farm was paid for, are points with which we have nothing to do here; though it may be as well to point out that the farm was bought at a time when land was very dear, and that a very different figure would rule if similar land were purchased now. Our present concern is to take the land as it was when it came into cultivation, and to

compare it with what it is now, and in respect of the crops which it has borne from 1861 to the present day; also to see whether the system of continuous corn growing has, on the whole, "paid," and whether the land has been impoverished or the reverse.

At the same time it is impossible to disregard certain features peculiar to the farm which have exercised an important bearing on the results, and which have to be taken into consideration when judging of the possible extension of the system elsewhere. Chief among these has been the fact that, though three miles from Sawbridgeworth station (G.E.R.), the farm is yet within reach of the London market. Consequently there exists a ready sale for corn, straw, and hay. In the earlier periods it was Mr. Prout's practice to sell by auction the crops as they stood in the field, and the purchasers reaped and took them away. Later on, when the "bad times" came, this could no longer be done, and since 1880 the crops have had to be harvested in the usual way, the corn threshed out and sold, and the straw put up in stacks, where however it has always obtained a ready sale by auction to London and other dealers.

An auction sale of hay and straw is held every year in the spring, and it is open to any one to note the prices then paid and so to check Mr. Prout's estimates in regard to the produce he obtains and what it brings him in. Similarly, the corn is sold at current market rates, and if the produce be put at the market price of the time, a fair estimate may be obtained of the money return. Against these would be set the items of seed, manure, labour, harvesting, &c., together with rent, rates, &c., and a balance may be accordingly struck. In respect of these items the present Mr. Prout, as his father before him, has been always perfectly open, and if any one should ask, "Does the system pay?" the best answer, one of the present writers thinks, is supplied in the fact that, though Mr. Prout, sen., has been dead over ten years his son still continues the same system, while those who know his circumstances, know too that he would have abundant ground for giving it up if it no longer "paid" him. He might very well say that he had given it a sufficient trial and had demonstrated that it could, under favourable circumstances, be quite well pursued. But, on the contrary, he goes further, and asserts that even under latter-day conditions, all of them so prejudicial to corn growing, he can still, taking one year with another, make it "pay," while his land, too, has suffered no depreciation.

Mention has been made of the preliminary steps taken by the late Mr. Prout to get the land into order. Something may now be said of prominent features in the cultivation, which

have, undoubtedly, had a great deal to do with the success of the system. We may then refer to certain modifications which have been made from time to time. Chief among the former has been the adoption of steam cultivation, together with the perfect draining of the land, without which, there is little doubt, soil of this class could not have been got into and kept in the state of tilth in which it now is. It is hardly an exaggeration to say that no sooner is a crop off a field than the steam plough is in. Because of the capital roads, and the workable and regular size and shape of the fields, Mr. Prout is able to command the first hire of the steam tackle, and the work goes on steadily till finished and at less cost than would be the case had awkward fields and bad roads to be negotiated. As many as fifteen acres a day can in this way be ploughed to a depth of five or six inches. In earlier times Mr. Prout had his own steam tackle, but it is now found cheaper to hire, the present cost being 13s. per acre. Regarded from the chemical point of view, it is clear that the constant stirring of the land not only brings it into a friable and easily worked condition, but also allows of the free percolation of moisture and circulation of air in the soil, whereby the dormant constituents are liberated and go to supply food to the plant. The perfect drainage established further prevents any stagnation of water in the land.

The keeping down of weeds is another essential, and no one going over Mr. Prout's farm can help being struck with the proof of good cultivation in this respect. Such a soil as that of Blount's Farm would, were this essential neglected, soon lend itself to the inroad of weeds, and especially would this be the case under a system of continuous corn growing. In the case of wheat, horse hoeing is done once, and hand hoeing subsequently. Even as it is, it is found impossible, as a practical matter, to prolong the growing of corn crops indefinitely without an occasional break. On the Rothamsted and Woburn Experimental Farms, both wheat and barley have been grown (at the former for sixty and at the latter for twenty-nine years) without a break; but this has only been accomplished by an expenditure in weeding and in cultivation which would not be justified under the conditions of ordinary farming. So Mr. Prout finds it well, after some six or seven crops of corn have been taken in succession, to interpose trifolium or, more generally, red clover, and then break this up. The money return from the sale of clover-hay, in consequence of being within reach of the London markets, has been so good as amply to justify the departure; but, beyond this, the practice would, in the light of recent investigations into the ways in which clover derives its nitrogen from the atmosphere, seem to

possess further marked advantages, inasmuch as the clover root enriches the soil in nitrogen, and, by its decay, when the ley is broken up, supplies food to the succeeding corn crop.

It is not, however, after every sixth or seventh corn crop that Mr. Prout takes clover; he is guided entirely by the condition of the land. As soon as this shows signs of getting foul, clover is taken, or beans are sown, and occasionally sainfoin; or, if necessary, a bare fallow and summer cleaning intervene. Nor does Mr. Prout bind himself as to the number or kind of cereal crops which he takes in succession; here again he is guided by the condition of the land and by the tendency of the market, as to whether he follows wheat by wheat, or wheat by barley or by oats. Clover is not taken on the same land more than once in eight years. Oats are grown for the horses, but not to any large extent, while roots have never formed any part in the farming; no bullocks or sheep are kept on the farm, and no farmyard manure is used for the general crops; the only live stock kept are the eleven working horses, and a few pigs, and what manure they make is used for a solitary patch of mangel near the stackyard.

Resort for manuring has, therefore, to be had entirely to artificial manures, of which Mr. Prout is a liberal, though economical user. The original recommendations given to Mr. Prout, sen., by the late Dr. Voelcker have been but little departed from, though, as the price of corn fell, economy was studied in the substitution of mineral superphosphate for dissolved bones; also Peruvian guano, which at first was largely employed, mainly for barley, has been somewhat reduced, and nitrate of soda more freely used. Potash salts have never been specially applied, nor has the lack of potash been felt as yet in a soil of this clayey nature. Mr. Prout has at various times tried nitrate of soda and sulphate of ammonia in comparison with one another, and the results have been mostly in favour of the use of nitrate.

The general manuring at present employed is, per acre :—

(a) For wheat :—

4 cwt. mineral superphosphate	cost, say	£	s.	d.
1½ cwt. nitrate of soda	„ „	0	10	0
		0	15	0
Total cost per acre, say		£1	5	0

(b) For barley :—

3 cwt. mineral superphosphate	cost, say	£	s.	d.
1½ cwt. nitrate of soda	„ „	0	7	6
		0	15	0
Total cost per acre, say		£1	2	6

Previous to 1902 a general manuring employed for wheat and barley was per acre :—

	£	s.	d.
3 cwt. mineral superphosphate at 2 <i>s.</i> 7 <i>d.</i> cost	0	7	9
1 cwt. raw Peruvian guano at 4 <i>s.</i> 9 <i>d.</i> „	0	4	9
1½ cwt. nitrate of soda at 9 <i>s.</i> 6 <i>d.</i> „	0	14	3
Total cost per acre	£1	6	9

The superphosphate is applied in January for wheat, and for the barley crop at the time of sowing, nitrate of soda being always put on as a top-dressing in one dose in spring. No manure is applied to the clover; and after a clover crop wheat, without further manure, is always taken, and no manure is again put on till the second corn crop goes in. Mr. Prout charges himself, in his calculations, with a rent of 25*s.* per acre, though he maintains that land of this class would not at the present time fetch more than 20*s.* per acre, and, possibly, only 15*s.* per acre. The higher figure is, however, taken to allow for earlier outlay in draining and for other improvements of the land.

The cost of cultivation for wheat Mr. Prout puts as follows :—

	Per acre		
	£	s.	d.
Steam ploughing, 10 <i>s.</i> ; coals, 2 <i>s.</i> ; man and horse, 1 <i>s.</i>	0	13	0
Dragging and harrowing—four times	0	4	0
Drilling	0	2	6
Sowing artificial manures	0	1	6
Rolling	0	1	6
Hoeing	0	4	6
Harvesting and thatching	0	16	0
Threshing	0	8	0
Marketing	0	5	0
Seed	0	6	6
Artificial manures	1	5	0
Rent	1	5	0
Tithe, rates, and taxes	0	7	6
Interest on capital	0	8	0
Total cost per acre	£6	8	0

Having dealt with the outgoings, we may now turn to the receipts, and of these the present and former owner have kept accurate accounts throughout. They are based not, as is too often the case, on mere estimates of the crops in the field, but on actual returns of corn and straw and hay produced and sold. Further, it has been generally acknowledged by the many persons who from year to year have visited the farm that Mr. Prout in no way over-estimates his crops. There is but one voice as to the excellence of the crops and the admirable cultivation of the land; while those who make it a practice to

inspect the farm in different seasons are unanimous in their opinion that the land shows no failing whatever in its crop-producing power.

As already stated, Mr. Prout maintains that though corn growing at the time his father began the system was admittedly a paying concern, yet even at the present reduced prices wheat can be grown at a profit. The solution is found, he holds, in an increased production; for if, taking an average of 28 bushels per acre of wheat for ordinary good land, this can, by thorough cultivation and the judicious use of artificial manures, be raised to 36 bushels per acre, the difficulty is solved. It is true that this may not hold good everywhere, but where, as in Mr. Prout's case, the straw can be readily sold and so become an important item in the transaction, Mr. Prout's contention would certainly appear to be borne out.

The average price of wheat for the last twenty-five years has been 31s. 9d. per quarter, according to the official published returns. The records of Mr. Prout's farm show that, on the average, over this whole period he has grown 35 bushels per acre of wheat. These have given 2 loads per acre of straw, the average selling price of which has been 25s. per load in the stack. Hence we have:—

Produce per acre:—	£	s.	d.
35 bushels wheat at 31s. 9d. per quarter	6	18	10
2 loads straw at 25s.	2	10	0
		<hr style="width: 50%; margin: 0 auto;"/>	
		9	8 10
To set against cost of cultivation per acre (as given earlier)	6	8	0
		<hr style="width: 50%; margin: 0 auto;"/>	
Net profit per acre	£3	0	10
		<hr style="width: 50%; margin: 0 auto;"/>	

An estimate based, as this is, on actual returns, clearly allows of a substantial margin for fluctuation of season, occasionally damaged crops, selling at unfavourable times, and so on, and it must be granted that it goes very far in proving Mr. Prout's contention to be a sound one. At the same time it shows only too clearly how the balance may be turned by the item of straw sold; hence the conclusion can only be a fair one when taken in reference to the conditions which hold good in Mr. Prout's case, and must not be applied generally without this reserve and where similar facilities do not prevail.

The case similarly stated as regards barley stands, according to Mr. Prout, as follows. The average produce at Blount's Farm for the last twenty-five years (1880-1904) has been 39 bushels per acre, and the average price of barley over this period was 27s. per quarter. This gives:—

Produce per acre:—	£	s.	d.
39 bushels barley at 27s. per quarter	6	11	7
1½ loads straw at 15s.	1	2	6
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	
		7	14
		1	
To set against cost of cultivation per acre (as before)	6	8	0
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	
Net profit per acre	£1	6	1
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	

This would make out barley to be a less profitable crop for Mr. Prout to grow than wheat, and undoubtedly the land is much better suited for wheat than for barley; it is essentially wheat and bean land.

Oats are even less profitable to grow. As already stated, they only occasionally form part of the system, and the records concerning them have not been kept throughout.

Mr. Prout states the case thus:—

Produce per acre:—	£	s.	d.
6½ quarters oats at 17s. per quarter	5	10	6
1¾ loads straw at 20s.	1	15	0
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	
		7	5
		6	
To set against cost of cultivation (as before) per acre	6	8	0
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	
Net profit per acre	£0	17	6
		<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	

From thirty to forty acres of the farm are now sown every year with red clover, and this is cut for hay. It is hard to say what the average gain from this has been, for seasons are so variable and prices so fluctuating. Sometimes, indeed, the clover has failed altogether; at other times it has brought in a large and profitable return. It is also recognised as the best preparation for wheat.

So far Mr. Prout's general estimate, based on the average obtained over a series of twenty-five years, has been taken; but though nothing can be said against this as being the real test in his case whether he has, taking one season with another, made a profit or not, yet the student of the system will want to have more particulars given him, to know more about the fluctuations from year to year, to ascertain how the later years of the quarter-century period compare with the earlier ones, and so forth. An average of good years with bad ones, and of high prices with low ones, will tell Mr. Prout whether he has made money or lost it; but there are those who will want more particularly to know whether, at the present time, the system is a paying one. Accordingly the following particulars are set out from the actual records that have been kept:—

CROP RETURNS.

(For years previous to 1880, see "Profitable Clay Farming.")

YEAR	WHEAT				BARLEY			
	Produce per acre of corn		Official price of corn		Produce per acre of corn		Official price of corn	
	Qr.	bush.	Per quarter s. d.		Qr.	bush.	Per quarter s. d.	
1880	3	2	44	4	5	6	33	1
1881	4	4	45	4	5	4	31	11
1882	5	0	45	1	5	0	31	2
1883	4	3	41	7	6	0	31	10
1884	5	3	35	8	6	2	30	8
1885	5	2	32	10	5	6	30	1
1886	4	5	31	0	5	2	26	7
1887	5	6	32	6	4	2	25	4
1888	4	4	31	10	4	7	27	10
1889	3	6	29	0	4	1	25	10
1890	4	0	31	9	5	1	28	8
1891	4	2	37	1	4	1	28	2
1892	3	1	30	4	5	4	26	2
1893	4	0	26	4	3	0	25	6
1894	4	5	22	10	5	3	24	4
1895	4	4	23	1	5	0	21	11
1896	5	4	26	2	5	0	23	11
1897	4	2	30	2	5	0	23	6
1898	4	1	34	0	5	0	27	2
1899	4	6	25	8	4	2	25	7
1900	4	0	26	11	4	0	25	9
1901	5	2	26	9	4	6	25	3
1902	4	2	28	0	4	5	25	8
1903	3	4	26	9	5	0	22	8
1904	3	1	30	0	3	3	28	0
	109	5	795	0	121	7	676	7
Average for 25 years . . .		35	31	9		39	27	0

Manures.

During these twenty-five years (1880-1904) the expenditure on manures has been :—

Year	£	Year	£	Year	£
1880	860	1889	611	1898	345
1881	930	1890	598	1899	356
1882	971	1891	493	1900	356
1883	757	1892	458	1901	376
1884	490	1893	429	1902	376
1885	716	1894	330	1903	346
1886	610	1895	335	1904	370
1887	758	1896	436		
1888	526	1897	423		
				Total	£13,256
Average per annum					£530 0 0
Average per acre over the whole farm					1 3 6

Labour.

The manual labour on the farm during the twenty-five years (1880-1904) has averaged 777*l.* per annum, or 1*l.* 14*s.* 6*d.* per acre.

A closer examination of the foregoing figures will bring out several points of interest. In the first place it is noticeable that there has been no practical diminution in the production of wheat or barley. An occasional bad season for wheat, like 1880, 1892, or, more recently, 1903 and 1904, will reduce the yield, but in an average year over 32 bushels of wheat and over 37 bushels of barley may still be reckoned upon. On the other hand, prices, more especially for wheat, have undergone very marked changes. The lowest price for wheat was in 1894, the year of Mr. Prout, sen's., death, when it was only 22s. 10*d.* per quarter. The high prices of 1880-1883 have not been again reached, but the price of wheat in 1904 was little below what it was eighteen years previously. With barley the fluctuations have not been so marked, and the 28s. per quarter that ruled in 1904 is only about 2s. a quarter less than was the case twenty years before. Taking the last eight years (1897-1904) the average prices have been per quarter, for wheat 28s. 6*d.*, for barley 25s. 5*d.*, these not being greatly below the average prices for the whole series of twenty-five years.

To put, however, what will be admittedly the worst side of the case, we will take the last five years, 1900-1904. These include the bad years 1903 and 1904, when less than 30 bushels per acre of wheat were grown, and the three years 1900, 1901, and 1903, when the price of wheat was below 27s. per quarter. In 1904, moreover, only 27 bushels of barley per acre were grown, and the prices went as low as 22s. 8*d.* per quarter in 1903. We obtain the following conclusions :—

(a) Wheat—average of five years, 1900-1904 :—

Average produce per acre (corn)	32 bushels.			
Average price per quarter	27s. 8 <i>d.</i>			
		£	s.	d.
32 bushels wheat at 27s. 8 <i>d.</i> per quarter		5	10	8
Straw (proportionately reduced, see page 42), say		2	5	8
		7 16 4		
Deduct cost of cultivation per acre		6	8	0
		£1 8 4		

(b) Barley—average of five years, 1900-1904 :—

Average produce per acre (corn)	35 bushels.			
Average price per quarter	25s. 6 <i>d.</i>			
		£	s.	d.
35 bushels barley at 25s. 6 <i>d.</i> per quarter		5	11	7
Straw (proportionately reduced, see page 43), say		1	0	2
		6 11 9		
Deduct cost of cultivation per acre		6	8	0
		£0 3 9		

Accordingly taking even the worst view of the case, and at a time when both yield per acre and prices were considerably below the average, it will be seen that wheat and barley both continued to yield a profit; barley, it is true, only just paid its way, but wheat gave a fair return. As before, it must be remembered of course that the result was only attained by the help of the sale of the straw.

It is evident, however, that so long as Mr. Prout can continue to grow anything over 32 bushels of wheat and 35 bushels of barley, and that prices do not fall below 28s. for wheat and 26s. for barley, he may expect to pay his way comfortably; while anything above this, either in respect of increased yield or enhanced prices will yield him a good profit.

In this way we have, we think, been able approximately to fix the limits of profitable working of the system of continuous corn growing under such circumstances as obtain at a farm like Mr. Prout's.

It will be observed, on reference to the Table giving the expenditure on manures (page 44), that the cost has been materially reduced in the years since 1890. This gives an additional reason for basing calculations on the later years, and not merely, as was done in Mr. Prout's general summary, on the average of the whole twenty-five years. In the earlier years of the series it is clear that the cost of manuring considerably exceeded the 1*l.* 5*s.* per acre set out on pages 40 and 41, and adopted in the subsequent calculations.

CHEMICAL ASPECTS.

The soil of Blount's Farm is described generally as being a mixed one of clay and strong loam on a subsoil of drift clay and cretaceous gravel, and, geologically considered, it belongs to the lower division of the Eocene formation and bordering on the chalk. The soil is, however, by no means uniform over the whole farm, and considerable variations will be found even in one and the same field. There are some variations in colour, but the chief differences occur in respect of the depth of the clay subsoil and the nearness of the chalk to the surface, this causing differences in the amount of chalk and in the proportions in which flint stones are found in the first foot or so of the soil. Agriculturally considered, the soil is one essentially adapted for wheat growing, as also for beans; but it is of too heavy a character to grow a high-class barley.

Samples of the soil of three different fields—Broadfield, Blackacre, and White Moor—were taken in 1865 and submitted to chemical analysis by the late Dr. Voelcker. In 1877, twelve years later, the soils of these same three fields were again

sampled and analysed. The results of the analyses, and the conclusions based upon them, are set out in Dr. Voelcker's very complete report, contained in pp. 37-57 of *Profitable Clay Farming*. It is sufficient to say here that the general conclusion come to was that though corn crops had been grown continuously on the land during the interval of twelve years, the soil showed no signs of being exhausted; and Dr. Voelcker gave it as his opinion that, assuming that the artificial manuring, as suggested by him, were kept up, the capabilities of the soil would allow of the practically indefinite continuation of the system of corn growing without any exhaustion of fertility, the immediate requirements of the plant being amply provided for by the artificial manures applied yearly; also that it would be unnecessary to employ farmyard manure as long as Mr. Prout continued to carry out the thorough cultivation which he was practising. Dr. Voelcker in his report made careful and exhaustive calculations of the constituents and their amounts which the crops of wheat and barley would respectively remove, and of how these requirements would be met by the artificial manures and by the plant food which might be expected to be, under cultivation, gradually liberated from the soil. He summed up his conclusions as follows (page 57) :—

“ No fear whatever need be entertained that, under this system of cultivation and manuring, the land will be impoverished. . . . I can see no reason why, with this system of manuring, and an occasional dead summer fallow, in order to give a thorough cleaning to the land, Mr. Prout should not be able to grow wheat or barley profitably for an indefinite number of years without injury to his land.”

These words, written in 1880, have now (1905) received ample justification, for twenty-five years later we still find the son pursuing the system initiated under scientific advice by the father, and ready moreover, as has been shown, to maintain that the system is one that can be profitably carried out despite the agricultural changes that have taken place in the meantime.

It was suggested by one of us that, a period of twenty-five years having elapsed since the late Dr. Voelcker analysed the soils of Blount's Farm and reported on them, it would be well to take samples again, and by analysing them, ascertain whether up to this date any deterioration had taken place. This was accordingly done, and fresh samples of the soils of the three original fields, taken on September 26, 1903, were analysed by the present Dr. Voelcker.

It is unfortunate that no records were kept of the actual spots at which the respective samples of 1865 and 1877 were taken. It was sought to obtain information on this point

from foremen and others who had worked on the farm, but nothing very definite could be ascertained either as to the number of samples, the manner in which they were taken up, or the spots at which they were collected. The natural variations in the soils, to which reference has been made, complicate the matter still further, cause the appearance of discrepancies which are brought out in a comparison of the earlier and later analyses, and prevent this comparison from being as accurate a one in all respects as might otherwise have been the case.

The fresh samples of soil were taken from the three fields—Broadfield, Blackacre, and White Moor. In each field an area was selected where, so far as could be ascertained, the earlier samples of 1865 and 1877 had been taken, and from this two different samples were taken in the case of Broadfield and Blackacre, and three samples in that of White Moor. The samples were blocks of soil, of surface measurement, 6 in. by 6 in., taken to a depth of 9 in. In addition, in Broadfield and White Moor, a number of borings of soil were taken with a sampling-iron or auger, and these were separately examined afterwards. After the samples had been taken, as described, it was evident, on comparing them, that considerable variations existed, and that the real difficulty in forming a conclusion as to deterioration of the soil would consist in the obtaining of samples which were fairly comparable with the similar samples taken at the earlier dates. It was impossible, as explained, to do more than get samples which represented as nearly as possible the present condition of the soil of each field.

The soil of Broadfield was lighter in colour than the others; it was more of a clay loam than a clay, and had a few small flints together with pieces of chalk. The Blackacre soil was of darker colour, and the chalk in it was more finely divided and better distributed than in Broadfield soil. The three samples taken from White Moor showed some differences between themselves: one being a much stiffer and deeper clay than the other two; a second was a yellower clay, but shallower and without any chalk stones; while the third was a more loamy clay with abundance of chalk stones. The respective samples from each separate field were mixed together to form an average sample for that field. The borings taken with the auger were similarly mixed to make up average samples. The various samples, after preparation and air drying, were then analysed, and their respective compositions are set out in the Table on page 49, side by side with the corresponding analyses of 1877.

Taking Broadfield first, the main point brought out in comparing the composition of the soil in 1877 with that in 1903, is

(Soils dried at 212° F.)

	Broadfield		Blackacre		White Moor	
	1877	1903	1877	1903	1877	1903
	¹ Organic matter and water of combination	5.03	4.68	6.34	4.61	4.20	4.80
Oxide of Iron	5.20	4.14	5.31	3.48	3.66	3.95
Alumina	3.40	5.71	4.56	6.79	4.10	5.70
Lime	1.36	1.70	3.31	1.50	.67	2.13
Magnesia . . . . .	.40	.53	.43	.53	.27	.70
Potash . . . . .	.37	.61	.47	.72	.32	.54
Soda . . . . .	.12	.20	.18	.45	.03	.32
Phosphoric acid . . . . .	.14	.18	.20	.19	.14	.18
Carbonic acid . . . . .	.88	.65	1.64	.52	.38	.75
Sulphuric acid . . . . .	.06	.04	.11	.06	.06	.06
Insoluble silicates and sand	83.04	81.56	77.45	81.15	86.17	80.87
	100.00	100.00	100.00	100.00	100.00	100.00
¹ Containing nitrogen . . . . .	.170	.163	.107	.172	.141	.170 _{1/2}

that in respect of the essential constituents, phosphoric acid and potash, there has been no loss, but rather a gain, as the result of the continuous cultivation and cropping, aided by manuring. The soil is also practically as well supplied with nitrogen as it was twenty years ago, and there is an abundance of lime. The soil in its present condition, and taken by itself, would be considered as one well supplied with the essential ingredients of fertility, and it is clear that when considered in relation to its composition in 1877 there is no evidence of its having suffered any deterioration. The item of lime is sure to be a variable one; for, owing to the uneven distribution of the chalk, one sample of soil will contain more chalk than another: indeed, this was observed when taking two samples from the same ground. Therefore, no great importance can be attached to this; the main thing is to know that there is a sufficiency of lime present for the plant's needs, and this is the case in all the samples taken in 1903. Included with the organic matter is "water of combination," and this will vary to some extent according as there is more or less clay in a particular sample. Comparing the results of 1877 and 1903 in the broad sense, it must be concluded that the soil of Broadfield is quite as well, or even better supplied now in elements of fertility than it was in 1877, and hence that it has not undergone deterioration.

Practically the same result is brought out in the cases of Blackacre and White Moor. In Blackacre the lime is again variable, but there is the same increase in potash that was noted in Broadfield, while phosphoric acid remains to all intents the same, and nitrogen has increased in amount. In White Moor the variation in lime is in the opposite direction to that in Blackacre; an increase is shown in potash and a slight gain in phosphoric acid, while the soil is also richer in nitrogen than it was.

It is more than probable that the decided increase in potash shown in all three soils is the result of the continued thorough cultivation of the soil, aided by good drainage, the more dormant elements of the clay being gradually brought into action. Special manuring with potash salts is, therefore, not called for. It is noticeable, too, that both soda and magnesia have increased in amount. That there is no marked increase in phosphoric acid would seem to indicate the necessity for the continued use of phosphatic manures, though the present employment of mineral superphosphate (when, as here, there is sufficient lime in the soil) would appear to be quite justified. None of the soils is really rich in nitrogen, and the supply of this is a necessity in the case of corn crops. This was clearly demonstrated in 1905, when, on a small strip of

land then in barley, Mr. Prout omitted the usual application of nitrate of soda ; its absence was at once told in a much diminished crop. The variations shown in carbonic acid are, of course, associated with the variations in the amount of chalk (carbonate of lime) in different samples. No doubt this depends much upon the cultivation, the constant stirring of the land causing varying amounts of chalk to become mingled with the top soil. One other feature calls for remark, and that is, that there would seem to be some diminution going on in the amount of vegetable matter in the soil. This is what one would naturally expect in a soil thus used continually for corn growing, with no farmyard manure applied, but only artificials. Yet the amounts still present and supplied by the decaying stubble seem to be sufficient.

As stated, none of the soils exhibit at the present time any lack of fertility, while an examination of their physical condition shows them to have improved in this respect.

It may, therefore, be asserted, from the chemical side as well as the practical, that the system of continuous corn growing, as pursued by Mr. Prout, has brought about neither deterioration of the soil nor lessening of its productive power ; and, further, that it is a system which, under certain circumstances, may be profitably adopted at the present day.

Sawbridgeworth, Herts.

W. A. PROUT.

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J. AUGUSTUS VOELCKER.

THE SOCIETY'S SHOW OF 1905.

OWING to the heavy financial deficits resulting from the two Shows held at Park Royal in 1903 and 1904, the Society was confronted with a serious problem as to the course to be taken in regard to the holding of a Show for 1905. The experience of the two previous years pointed indubitably to a third financial failure if the Show were again held at Park Royal. On the other hand, the organisation of a Show in the provinces was out of the question in the time at disposal, and thus the Society was faced with the alternatives of a Show at Park Royal with the certainty of loss or the abandonment altogether of a Show in 1905.

After conferences with the exhibitors of implements and live stock, and with representatives of the Breed Societies, the first of these alternatives was chosen; and it was decided to hold the Show at Park Royal in 1905, subject to the raising of a Guarantee Fund sufficient to ensure that the loss anticipated should not fall upon the Society's general funds. By the end of the year a sum of about 6,000*l.* had been subscribed towards the expenses, and on January 11, 1905, the Council definitely resolved to proceed with the Show.¹

With a view to meet the convenience of exhibitors and to reduce expenditure, it was decided to curtail the usual duration of the Show by one day, and the date was accordingly fixed for the four days, June 27-30.

EVENTS OF THE SHOW WEEK.

For the first two days of the Show the weather was fine; but wet and uncomfortable atmospheric conditions prevailed on the last two days. Tuesday, June 27, was devoted to the judging of the live stock, and in the afternoon of that day the Show was honoured with a visit from H.R.H. The Prince of Wales. On the afternoon of Wednesday, June 28, Their Majesties The King and Queen, accompanied by the Princess Victoria, were present, and graciously evinced a lively interest in the various departments of the Show. H.R.H. Prince Christian was also present. On the Thursday, the Society had the pleasure of welcoming in the Showyard the accredited representatives of two great friendly nations—the Hon. White-law Reid, Ambassador from the United States, and the Prince and Princess Arisugawa of Japan. At the Council meeting held

¹ For reports on the discussions in Council on the question of holding the Show of 1905, see *Journal R.A.S.E.*, Vol. 65, 1904, pp. liv., lvii., lxxii., and p. xxxiii. of the present Volume. For list of donations to the Guarantee Fund, see Appendix, p. xxiv.

on the same day, Prince Arisugawa and Mr. Reid were elected Honorary Members of the Society, as a special compliment in recognition of their active interest in the progress of Agriculture. On Friday, the distinguished visitors from abroad included the Prince and Princess Blucher von Wahlstaat and Sir William Mulock, Postmaster-General of Canada.

On Wednesday, June 28, the customary General Meeting of Governors and Members of the Society was held in the large Tent. The Chair was occupied by the President (Lord Middleton), who was well supported on the platform by Members of the Council, and in the tent by a good gathering of the Members generally.

The mornings of each day were devoted to the usual parades of cattle and heavy horses, whilst each afternoon the light horses were paraded and horse-jumping competitions took place in the Large Ring. Musical selections were given daily by the Band of the Royal Horse Guards.

ATTENDANCE OF THE PUBLIC.

Doubtless the adverse weather on the two final days of the Show caused the attendance to be worse than it otherwise would have been; but the fact remains that the Show, magnificent as it was from the agricultural point of view, again failed to attract visitors in paying numbers from the provinces; and the London public, as a whole, sustained their reputation for agricultural apathy.

An experiment was tried of charging only 2s. 6d. instead of 5s. on the opening day of the Show; but this had no appreciable effect in increasing the attendance on that day. The prices of admission on the other days were: Wednesday, 2s. 6d.; Thursday, 2s. 6d. up to 3 p.m., 1s. afterwards; Friday, 1s.

The following are statements of (1) the number of admissions by payment at different times of each day for the Show of 1905, and (2) the total daily admissions for each of the three Park Royal Shows:—

(1) Admissions by Payment at Park Royal, 1905.

Day of Show	11 a.m.	1 p.m.	3 p.m.	5 p.m.	Day's total
Tuesday (2s. 6d.)	572	1,673	2,299	2,721	2,770
Wednesday (2s. 6d.)	1,307	3,834	6,091	7,462	7,684
Thursday (2s. 6d. ; after 3 p.m., 1s.)	984	2,814	3,457	7,160	7,754
Friday (1s.)	739	2,297	4,308	5,402	5,770
Total	—	—	—	—	23,978

(2) Total Admissions for the three Park Royal Shows.

Day of Show	1903	1904	1905
Tuesday	2,685	2,011	2,770
Wednesday	12,057	9,375	7,684
Thursday	11,403	10,912	7,754
Friday	20,569	14,175	5,770
Saturday	18,299	16,457	—
Totals	65,013	52,930	23,978

As will be seen from the Statement of Accounts printed in the Appendix, the expenses of the Show exceeded the receipts to the extent of 7.279*l.* 17*s.* 11*d.* Of this sum 7,038*l.* 12*s.* was covered by the amount received in respect of the Guarantee Fund, and the balance of 241*l.* 5*s.* 11*d.* was defrayed from the Society's ordinary funds.

PRIZE SHEET AND REGULATIONS.

It will be remembered that in 1904 the Finance Committee limited the prize sheet to a sum of 5,000*l.*, exclusive of the Champion and other special prizes offered by the Breed Societies. It was at first proposed that the prize sheet for the Show of 1905 should be on similar lines, but early in the year Sir Walter Gilbey offered, on behalf of himself and friends, to supplement the prizes to the extent of 1,000*l.*, provided that the prize sheet for 1905 were based upon that of 1903 instead of that of 1904. This offer the Council decided to accept, and as a result the amount offered in prizes at the Show of 1905 reached the total of 7,910*l.*, of which 1,329*l.* was contributed by the Breed Societies. The corresponding figures for the Show of 1903 were 7,975*l.* and 1,313*l.*, and for 1904, 6,112*l.* and 1,165*l.*

The handsome amount thus placed at their disposal enabled the Stock Prizes Committee to provide a thoroughly satisfactory and comprehensive schedule, embracing all descriptions of British live stock, and to increase the amounts of the prizes in the various classes which had necessarily been reduced in 1904. The classes which were cancelled in 1904 owing to insufficient entries were restored. Special Milk-yield prizes, and Milk-yield prizes for the milch cows in each of the classes for the Dairy breeds of cattle, were important novel features.

Champion and supplementary prizes were contributed by the following thirty-four Societies :—

Horses.—Hunters' Improvement, Hackney Horse, Shetland Pony Stud Book, Polo and Riding Pony, Shire Horse, Clydesdale Horse, and Suffolk Horse Societies.

Cattle.—Shorthorn Society, Lincolnshire Red Short-horn Association, Hereford Herd Book, Devon Cattle Breeders', Sussex Herd Book, Red Polled,

Polled Cattle Societies, English Aberdeen Angus Cattle Association, Galloway Cattle, Ayrshire Cattle Herd Book, Royal Jersey Agricultural, Longhorn Cattle, English Kerry and Dexter Cattle, and English Jersey Cattle Societies.

Sheep.—Oxford Down Sheep Breeders', Shropshire Sheep Breeders' Associations, Southdown Sheep Society, Hampshire Down Sheep Breeders' Association, Suffolk Sheep Society, Lincoln Long Wool, Kent or Romney Marsh, Dorset Horn, and Ryeland Sheep Breeders' Associations.

Pigs.—National Pig Breeders' Association, British Berkshire and Large Black Pig Societies.

Poultry.—Sussex Poultry Club.

SALES OF LIVE STOCK IN SHOWYARD.

The sales of live stock effected in the Showyard at Park Royal, both at public auction and by private treaty, may be considered as one of the most satisfactory features of the Show. The auction sales took place on the Thursday, and the bidding was especially brisk for the cattle and sheep. A good contingent of foreign buyers was present. Cattle realised a total of 6,117*l.* 6*s.*, nearly the whole of this sum being paid for Shorthorns, of which sixty head were sold at an average price of over 100*l.* each. The top price was given by Mr. F. Miller, an Argentine buyer, for Mr. J. D. Willis's two-year-old short-horn bull, *Daynton Brave Archer*. This animal, which took the first prize in its class, realised 1,000 guineas.

The auction sales of sheep were also excellent, especially those of Shropshires. For this breed the prizes included a special selling class, in which four prizes of 20*l.*, 15*l.*, 10*l.*, and 5*l.* were offered for shearing rams, on condition that all the exhibits were put up for sale by auction without any further reserve than entering them at 15 guineas. In this class the first prize ram was sold for export to Argentina at 51*l.*

A statement is given below of the amounts realised for horses, cattle, sheep, and pigs at each of the auction sales for the three Park Royal Shows :—

	1903			1904			1905		
	£	s.	d.	£	s.	d.	£	s.	d.
Horses	564	18	0	724	10	0	327	12	0
Cattle	2,377	14	6	3,517	10	0	6,117	6	0
Sheep	48	6	0	421	1	0	1,316	13	6
Pigs	281	13	6	412	18	3	424	9	3
Total	3,272	12	0	5,075	19	3	8,186	0	9

Excellent prices were given for sheep in the sales by private treaty, and the sums stated to have been paid for the first prize Lincoln yearling ram (1,000 guineas) and the first prize pen of five Lincoln yearling sheep (1,500*l.*) constitute records that deserve mention.

DESCRIPTION OF EXHIBITS.

The detailed description of the various exhibits is, as usual, based mainly upon the official reports of the Judges. The following is a tabular statement of the amount of prizes and number of classes and entries for horses, cattle, sheep, and pigs at each of the three Park Royal Shows :—

	Amount of Prizes			Number of Classes			Number of Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Horses	2,015	1,471	2,091	67	63	67	475	437	420
Cattle	2,904	1,973	2,947	90	84	95	944	867	898
Sheep	1,591	1,426	1,647	77	76	79	571	525	591
Pigs	495	391	492	24	20	22	222	227	252
Total	7,005	5,261	7,177	258	243	263	2,212	2,056	2,161

HORSES.

It cannot be said that in this department exhibitors responded at all adequately to the increased prize list, as, although the prizes for horses amounted to 2,091*l.*, as compared with 2,015*l.* in 1903, the total entries were only 420, or fifty-five less than in 1903. In the light horse section

Amount of Prizes and Number of Classes and Entries for Horses, 1903, 1904, 1905.

Description	Amount of Prizes			Number of Classes			Number of Entries.		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Hunters	261	221	246	8	8	7	54	46	47
Cleveland Bays and Coach Horses.	93 } 90 }	70	{ 90 { 90	3 } 3 }	3	{ 3 { 3	12 } 13 }	28	{ 12 { 12
Hackneys	200	161	200	6	6	6	31	36	45
Ponies	90	60	130	3	3	5	8	12	15
Shetland Ponies	92	66	91	3	4	3	25	26	21
Mountain and Moorland Ponies	61	—	60	2	—	2	8	—	12
Polo Ponies	175	156	155	7	7	6	56	63	36
Harness Horses.	190	151	185	6	7	6	32	44	39
Four-in-hand Teams	35	35	30	1	1	1	6	6	5
Trotting Horses	18	20	36	1	1	2	7	3	4
Hackney Carriage	54	—	—	3	—	—	41	—	—
Shires	240	201	270	7	7	8	101	87	92
Clydesdales	200	140	230	6	6	7	19	23	27
Suffolks	180	150	278	6	8	8	38	44	53
Draught	36	40	—	2	2	—	24	19	—
Total	2,015	1,471	2,091	67	63	67	475	437	420

Hunters led with forty-seven entries, Hackneys being next with forty-five entries ; and Shires and Suffolks, with ninety-two and fifty-three entries, well represented the English heavy breeds.

Hunters.—Mr. T. H. Hutchinson, who judged Classes 1 to 4, reports that the mares with foals at foot (Class 1) were exceedingly good. The first three mares showed high quality with true action. If well mated they look like breeding some galloping hunters. The two- and three-year-old fillies (Classes 2 and 3) were few in number, but of average merit. Class 4 contained seven yearling fillies. The first prize winner is well-developed and looks like making a valuable up-to-weight mare.

The remaining three classes were judged by Mr. J. M. Richardson, who reported that the six entries in Class 4A, for mares or geldings foaled in 1901, were all of merit, and that the first prize mare was an exceptionally fine one. The next, for heavy weight mares or geldings (Class 5), were all animals of good hunter stamp ; and the light weights (Class 6) were full of quality, though only four of the six entries were present.

The Hunters' Improvement Society offered two Gold Medals—one for the best Hunter Mare in Classes 1, 4A, 5, and 6 ; and the other for the best Hunter Filly in Classes 2, 3, and 4. Messrs. W. & J. A. Cheney gained one of these medals for their four-year-old mare, *Casual* ; and the other was awarded to the President (Lord Middleton) for his three-year-old chestnut filly, *Mercy*.

Cleveland Bays.—The Judge reported that the quality of the exhibits was excellent. The stallions (Class 7) made a very good class of young horses, with nice quality and action. The mares (Class 8) were also good, the first and second prize animals being typical specimens.

Coach Horses.—Class 10 made a useful one of five stallions, the first of fine quality, and the second running him close with a little more bone. The three mares in Class 11 were of almost equal merit. Class 12 was also a small one of three fillies. The first was a fine type of Coaching mare, with the best of legs and feet ; the second was a useful mare, but not of such level make.

Hackneys.—Mr. Robert Whitworth reported that the whole exhibit was very satisfactory. Not one of the animals was rejected by the Veterinary Inspector. Class 13, for three-year-old stallions, was a very good one. The leading winner, *Evanthius*, exhibited by Mr. R. P. Evans, also gained the Male Championship. The two-year-old class (14) filled well, and the winner is a beautiful horse, full of quality. The

yearlings (Class 15) made a small entry; but the first prize winner was Reserve Champion. Class 16, for brood mares, attracted only four entries, of which one was absent. The well-known *Rosadora*, exhibited by Mr. W. B. Tubbs, won easily, and was afterwards awarded the Female Championship. The three-year-old fillies (Class 17) were probably the best class of Hackneys in the Show. The winner, *Mitre*, is a beautifully shaped mare of good colour and bone, and a good mover. Of the two-year-old fillies (Class 18), the first and second are good mares, with plenty of bone, quality, and action.

Ponies.—Although few in number these were well up to the average as regards type, quality, and movement. In Class 19, for stallions above 12 hands 2 inches, and not above 14 hands, the first prize went to a pony “full of quality, with beautiful limbs, and that goes with great dash.” The first prize pony in Class 20, for stallions not above 12 hands 2 inches, is “a fine mover, with good limbs, but a trifle long in the back.” The first prize mare in Class 21 is of “proper breeding type, full of quality, and with good limbs.” The winner in Class 22 is also highly praised as a pony with “nice short back, good free hand, and a fine goer.” The first prize mare in Class 23 the Judge describes as “the best he has seen for years.”

Shetland Ponies.—Mr. J. M. Martin reported that this section was highly satisfactory as regards quality, the leading studs of the country being represented by the best individual specimens. The five stallions were all considered worthy of notice, and the three gaining prizes are very high-class ponies. The first prize pony, *Haldor*, exhibited by the Ladies E. and D. Hope, gained the Champion Silver Medal offered by the Shetland Pony Stud Book Society. The mares (Class 25) were more numerous, and the quality was relatively good. The first five animals in this class, placed in order of merit, were typical specimens of the best variety of the breed.

Mountain and Moorland Ponies.—The Judge states that though the section included many high-class ponies, it appeared doubtful to him whether some of them could be regarded as *bonâ fide* specimens of true Mountain or Moorland breeds, though they were possibly bred on land of that description. The first and second prize stallions (Class 27) were ponies of “great and similar quality, with good action and with heads, necks, and quarters suggestive of Arabian ancestry.” The first prize mare (Class 28) was one of “excellent old-fashioned sort, of good size, up to weight, and with smart useful action.”

Polo and Riding Ponies.—The Radnorshire Company's *Gownboy* repeated its success of 1903, by winning the Male Championship. The animal is a thoroughbred, with all the best points of a polo pony stallion, combining a strong back

with the best of feet and legs. The brood mares (Class 31) were headed by Mr. John Barker's *Sapphire*, a really good mare, up to weight and with a nice foal. The Female Championship went to this exhibit. Class 33, for three-year-old geldings or fillies, was a strong one, the first prize going to Mr. Barker's *Marquis*, a bay gelding, "up to weight, with good limbs, nice substance and quality." Classes 34 and 35, for two-year-olds and yearlings, contained good and promising animals.

Harness Horses and Ponies.—A series of daily competitions was arranged for Harness horses and ponies. The classes consisted of mares or geldings driven in single and in double harness. There were also classes for tandems, and four-in-hand teams, in addition to trotting competitions against time. On the Tuesday of the Show week the competition was between three classes for animals of different heights, of any age, driven in single harness. In addition to the class prizes, a Silver Cup, value twenty-five guineas, was offered by members of the Stock Exchange, for the best mare or gelding in Classes 36 to 38; and a Gold Medal was also offered by the Hackney Horse Society for the best mare or gelding, the produce of a registered Hackney stallion. Both of these Championship awards were gained by Mrs. Hartley Batt, with *Heathfield Squire*, a notable prize winner at previous Shows.

The Double Harness competition was held on the Wednesday. Mr. John Kerr, M.P., gained the first prize in Class 39 for a pair of mares or geldings, with *Advertisement* and *Paddock Wildfire*; and this exhibit also gained the Silver Cup, value twenty-five guineas, offered by members of the Stock Exchange for the best pair of mares or geldings exhibited in Classes 39 and 40.

On Thursday, a class was provided for tandems, consisting of mares or geldings, of any height; and the prizes were gained by Miss Ella S. Ross, Mr. John Kerr, M.P., and Mr. W. S. Cunard. A four-in-hand competition, for mares or geldings shown in harness with coach, was also held on this day, the first prize being awarded to Mr. Walter Winans for a team of roans. Only one entry appeared in the trotting competition (Class 43), for mares or geldings of any age or height, bred in the United Kingdom, and driven in a buggy or sulky against time, and Mr. W. Sampson's *Solomon* was awarded the first prize.

On Friday, prizes were offered in Class 44 for a trotting mare or gelding, of any age or height, driven in a buggy or sulky against time. Mr. Louis W. Winans was the only exhibitor, and the prizes were gained by his three geldings *Prince Alert*, *Charlie B.*, and *Tom Nolan*.

Horse Jumping Competitions.—These were held after the afternoon parades on the Wednesday, Thursday, and Friday of the Show. Prizes amounting to 138*l.* were offered in four classes, in addition to which the entry fees were divided between the first, second, and third prize winners.

Shires.—The yearlings and two-year-olds were especially good, both in numbers and quality. Lord Rothschild gained the Male Championship with a three-year-old stallion, *Delamere Chorister*; and the same exhibitor's two-year-old stallion, *Childwick Champion*, was Reserve. The Female Championship fell to Sir Albert Muntz, M.P., for *Dunsmore Fuchsia*; and Mr. John Bradley's *Halstead Duchess 3rd.* was Reserve Number.

Clydesdales.—Though the classes were small, the quality in every case was excellent. Both the Male Championship honours were taken by Messrs. A. & W. Montgomery, with *Baron Fyvie* and the first prize yearling in Class 55. These exhibitors have now accomplished the unique achievement of gaining both the Male Championship honours at each of the three Park Royal Shows, and on every occasion since the Championship was first offered by the Clydesdale Horse Society. Both the Female Championship honours were gained by Mr. J. E. Kerr, with *Lady Garnet* and *Ambrosine* respectively.

Suffolks.—Class 60, for stallions foaled in or before 1901, was easily headed by Mr. Kenneth M. Clark's *Sudbourne Count*, which, "if a size bigger, would be a perfect horse." The same exhibitor also won the first prize for brood mares, in Class 64, with *Sudbourne Arabelle* and her foal. The two classes for fillies were very good ones, and the first prize in each case was gained by Sir Cuthbert Quilter. There were several grand geldings in Class 67, suitable for heavy town work. For the first time a Championship prize was provided for this breed by the Suffolk Horse Society, the prize being a Challenge Cup, value fifty guineas, for the best Suffolk Stallion exhibited in Classes 60 to 63, the Cup to become the absolute property of an exhibitor winning it three times. The Cup was gained this year by Mr. Alfred J. Smith, with his three-year-old stallion, *Rendlesham Sorcerer*, and a portrait of this animal is given opposite.

CATTLE.

The great feature of the cattle section, if not of the whole Show, was the magnificent collection of Shorthorns. The total of 262 constitutes the largest entry of this breed ever recorded at a "Royal" Show, exceeding by 40 the Windsor record of 222 entries in 1889.



SUFFOLK STALLION, "RENDELSHAM SORCERER." 3077.

Winner of Challenge Cup for best Suffolk Stallion, Park Royal, 1905. Exhibited by Mr. ALFRED J. SMITH.

*Amount of Prizes and Number of Classes and Entries for
Cattle, 1903, 1904, 1905.*

Description	Amount of Prizes			Number of Classes			Number of Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Shorthorn	345	325	433	7	9	10	131	193	262
Lincolnshire Red	140	120	158	6	6	7	27	28	23
Hereford	201	141	201	6	6	6	70	88	58
Devon	201	141	201	6	6	6	45	40	32
South Devon	60	40	78	2	2	3	9	4	8
Sussex	201	141	180	6	6	6	38	33	34
Welsh	140	80	120	4	4	4	26	22	21
Red Polled	200	140	203	6	6	7	55	55	64
Aberdeen Angus	215	101	200	6	4	6	47	29	47
Galloway	120	80	130	4	4	4	28	31	16
Highland	60	40	60	2	2	2	—	5	7
Ayrshire	105	40	98	5	2	4	17	7	21
Jersey	210	140	209	7	7	7	186	152	128
Guernsey	230	120	198	7	6	7	89	60	57
Longhorn	90	70	108	4	4	5	18	18	18
Kerry	122	76	114	4	3	4	34	31	30
Dexter	122	76	114	4	3	4	66	42	52
Dairy Cows	70	40	—	2	2	—	21	3	—
Butter Tests	72	62	107	2	2	2	37	26	17
Special Milk Yields	—	—	35	—	—	1	—	—	3
Total	2,904	1,973	2,947	90	84	95	944	867	898

Shorthorns.—There were ten classes, the prizes in three of which were provided by the Shorthorn Society, who also offered the usual Champion prizes and prizes for the breeders of the first prize animals in Classes 68 to 76.

Class 68, for three and four-year-old bulls, contained twenty-four entries, and produced the Champion in Mr. Robert Taylor's *Royal Emblem*, "a remarkably robust, level, and heavy-fleshed animal." The second prize winner in this class, Mr. A. J. Marshall's *Roan Conqueror*, was also Reserve Number for the Championship. Class 69 had forty-five entries, and was as a whole the best class of bulls, comprising a large number of animals of considerable merit. The first prize animal, Mr. J. Deane Willis's *Daynton Brave Archer*, is an "uncommonly level beast, very stylish, walks well, and full of character." This animal was sold for export to Argentina at the price of 1,000 guineas.

Class 70 attracted sixty entries, but fifteen were absent, and the majority of the animals present were of an inferior character. The first prize animal, Lord Polwarth's *British Renown*, was a "thick, short-legged one, with a good masculine head, showing good breeding and good flesh." The second prize animal, Mr. Willis's *Orphan Chief*, is "a very promising beast, but wants time to develop."

The Female Classes were well filled, and the Judge reports that the Society is to be very highly congratulated on the

exceptional merit of the exhibits, especially in the Dairy Shorthorn classes and the young Heifer classes. Considering the great number of entries, it was surprising to see so few that could hardly be expected at a "Royal" Show. The Female Championship was gained by Mr. F. Miller, with *Lady Amy 7th*, His Majesty the King's *Receptim* being Reserve Number.

Lincolnshire Red Short-horns.—Class 78 contained three bulls, all of real merit. The two-year-old and yearling bulls (Classes 79 and 80) were not up to the usual merit. Class 81 consisted of really good cows, showing great milking qualities. The heifers (Classes 82 and 83) were short in numbers and were not good.

Herefords.—Class 85 contained only two exhibits, but one of these was His Majesty The King's fine bull, *Fire King*, for the third year in succession Male Champion. The two-year-old bulls (Class 86) produced the Reserve Champion, Mr. A. P. Turner's *Marquis*. The yearlings (Class 87) were representative, and some of them gave promise of winning greater honours. Amongst the Female Classes, the cows (Class 88) were the best, containing both the Champion and the Reserve Champion. The first was Sir C. H. Rouse Boughton's *Lady Betty*, an animal that retains its form well, though nine years old, and the Reserve was Mr. T. R. Thompson's *Bonnie Mary*. The two-year-old heifers (Class 89) were a useful lot, much on a par with the corresponding class of bulls. The yearlings (Class 90) had an easy winner in Mr. C. T. Pulley's *Ashleaf 3rd*, and there were other fair exhibits in the class.

Devons.—The Judge reports that the exhibition was a very creditable one and a distinct advance on some previous years. Mr. J. C. Williams gained the Male Championship with *Drosera*, a bull that occupied the same position in 1904 and that obtained the Reserve Championship in 1903. The female animals were more in number and were of good type. The yearling heifers (Class 96) were all commended.

South Devons.—The two bulls (Class 97) were both of such good type and quality that the Judge had difficulty in settling the award; the second prize was awarded under regulation 32 upon his strong recommendation. The winning animals in the cow and heifer class (98) were good representatives of the breed.

Sussex.—Only two bulls were shown in Class 100, but both were of great merit and received the first and second prizes. Upon the whole the exhibition was good and up to the usual standard.

Welsh.—All four bulls in Class 106 received notice, the first prize going to Mr. John Scourfield, for *Lloffwr*, "a very even bull." Class 107 had seven entries, and the Judge praises highly the first prize bull, Mr. John Owen's *Derw*

Boy. The other animals were a "very fair lot." The cows and heifers in Class 108 were headed by two very good animals exhibited by Mr. R. M. Greaves (first prize) and the University College of North Wales (second prize). The College also took the first prize in Class 109, with a big heifer "full of quality, but rather low in the back."

Red Polled.—The classes upon the whole were well filled and contained animals of great merit, especially in the female section. Both the Male Championship honours fell to animals in Class 110, for bulls calved in 1901 or 1902, the first prize bull, Mr. John Hammond's *Davyson 244th* being Champion, and the second prize bull, Lord Amherst of Hackney's *Recruit*, Reserve Number. The former was Reserve Champion in 1904. No Female Championship was this year provided for the Red Polled breed.

Aberdeen Angus.—The Judge reported that the exhibits in all the classes were most creditable representatives of the breed. The old bulls (Class 117) were of high-class character. The first prize winner, Mr. R. W. Hudson's *Danesfield Jester* was awarded the Champion Gold Medal offered by the Polled Cattle Society for the best Aberdeen Angus exhibited. The two-year-old and yearling bulls (Classes 118 and 119) were really good useful specimens. The cows (Class 120), although not numerous, were of a high class. The first prize winner, Mrs. Macpherson's *Corskie 4th of Wyrley*, a nine-year-old cow, carried her age wonderfully. She has great depth of body, with smoothness of flesh. The first prize two-year-old heifer (Class 121) was Mr. C. E. Hunter's *Ruritania*, a beautiful specimen, to which was awarded the Gold Medal offered by the English Aberdeen Angus Cattle Association for the best animal of the opposite sex to that receiving the Gold Medal of the Polled Cattle Society. This animal was also placed as reserve for the Champion Gold Medal. The yearling heifers (Class 122) formed the largest class, and were a very good level lot.

Galloways.—Each of the four classes contained animals of excellent breed distinction. The cows were of great merit, and could be shown creditably in any company. The first prize animal in the older bull class (Class 123), Mr. John Cunningham's *Chancellor of Ballybole*, was only two years old, but "has many excellent points which will, no doubt, develop to his advantage as he gets older." The younger bulls (Class 124) were not so good a class as the older ones. The Champion prize, for the best Galloway animal exhibited, was gained by Sir Robert Jardine with *Alice 2nd of Castlemilk*, Mr. Cunningham's *Doris of Kilquhanity* being Reserve Number.

Highland.—The bulls were particularly good, and each of them was worthy of first-rate honours. The cows were also excellent, but not quite to such a marked extent as the bulls.

Ayrshires.—Class 130, for cows and heifers, was the best filled, with 11 entries. In Classes 129 and 131, although the entries did not exceed five in each class, the animals exhibited were excellent, and a third prize was given in each case.

Jerseys.—The Judge of the male classes reports that the bulls were rather disappointing, although there were individual specimens of the highest merit. In Class 133, for aged bulls, the first prize was taken by Captain Gisborne's *Glorious Lad*, "a beautiful bull, level, rich, full of quality, and with great promise as a sire of heifers." In Class 134, the first prize bull, Mr. T. Butt Miller's *Cricketer*, is a "splendidly deep specimen with much quality, a good head and touch and fine bone; his only apparent defect was a slight throatiness." In Class 135, for yearlings, Mrs. McIntosh took first prize with *Jolly Jim*, "a very nice young bull, full of quality, with a beautiful top line."

Class 136 contained some remarkably fine cows, but also a good many of no particular merit in the show ring. The first prize cow, *Lottie*, exhibited by Mr. A. Miller-Hallett, was "a very fine type of Jersey in every way, showing as well when she was milked out as when stocked." Lord Rothschild's *Daystar*, was also "a remarkably fine cow, not quite so good in her forebag as the first." The third prize, the same exhibitor's *Syren 3rd*, was "a grand dairy cow on rather bigger lines." The first two prizes in Class 137, for heifers in-milk, were also awarded to Lord Rothschild, the first animal "showing fine symmetry and promise," the second "perhaps a trifle too fine if anything, but having a good udder, and being quite a dairy heifer." The yearlings (Class 138) were good and even in character, and the competition between the first four or five animals was very close.

Guernseys.—Taken all round, the show of Guernsey cattle was a very good one; but, reports the Judge, the scarcity of young females with milk vessels of the correct type appears to prove that breeders do not use enough care in the selection of sires. There were only two bulls in Class 140, "neither of which was quite in the first class." The two-year-old bulls (Class 141) made a better show, and contained many animals of great merit. The first and second prize yearling bulls (Class 142) "are level-topped youngsters of great promise." The cows (Class 143) were excellent, and the first prize cow, Mr. E. A. Hambro's *Queen of Roses*, one of the best ever seen in an English showyard. The two-year-old heifers (Class 144) were disappointing, and did not contain any animal of outstanding merit.

Longhorns.—Class 147 contained useful animals, but nothing special. In Class 148, for yearlings, the first prize bull “looks like growing into a good animal.” Class 149, for cows or heifers, included some good specimens of the breed, and the first prize heifer in Class 150 “should grow into a good animal.”

Kerries and Dexters.—The Judge remarks that he has never seen a better lot of the Kerry and Dexter breeds or better brought out. The Challenge Cup for the best Kerry animal was gained by the Duchess of Newcastle with a heifer, *Hardwick Flora*, the Reserve being the same exhibitor’s *La Mancha Gordon*, which gained the Cup in 1904. The Challenge Cup for the best Dexter animal exhibited was awarded to Mr. Godfrey Chetwynd for his bull, *Don Gentian*, and the Reserve Number fell to the Duchess of Devonshire, for *Compton Dot*.

Butter and Milk-yield Tests.—These are the subject of a special report by the Steward (see page 93).

SHEEP.

Sheep showed a satisfactory increase in the numbers exhibited, the entries totalling 591, as against 525 in 1904 and 571 in 1903. The Southdowns were again the most numerous, with 104 entries.

Amount of Prizes, and Number of Classes and Entries for Sheep, 1903, 1904, 1905.

Description	Amount of Prizes			Number of Classes			Number of Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Oxford Down	88	80	88	4	4	4	38	34	45
Shropshire	125	102	172	6	5	7	62	56	79
Southdown	111 10s.	102	131	5	5	6	90	97	104
Hampshire Down	105	97	105	5	5	5	61	66	58
Suffolk	120	108	120	6	6	6	46	39	32
Lincoln	155	135	143	7	7	7	42	44	46
Leicester	80	72	80	4	4	4	18	20	23
Cotswold	80	72	80	4	4	4	20	—	12
Border Leicester	80	72	80	4	4	4	13	—	13
Kent or Romney Marsh	100	90	100	5	5	5	51	49	52
Wensleydale	80	72	80	4	4	4	25	18	21
Dorset Horn	90 10s.	82	90	4	4	4	24	25	27
Devon Long-wool	40	36	40	2	2	2	6	7	8
Dartmoor	40	36	40	2	2	2	9	6	6
Exmoor	40	36	40	2	2	2	6	6	6
Cheviot	40	36	40	2	2	2	9	9	10
Black-faced Mountain	40	36	40	2	2	2	8	9	8
Lonk	40	36	40	2	2	2	6	11	6
Herdwick	40	36	40	2	2	2	9	6	7
Welsh Mountain	40	36	40	2	2	2	15	11	11
Ryeland	56	54	58	3	3	3	13	12	17
Total	1,591	1,426	1,647	77	76	79	571	525	591

Oxford Downs.—These made a good display, quite up to the average. The prize shearling rams (Class 163) were good useful sheep, headed by a “grand stylish sheep of good character, but rather weak in his legs of mutton.” With one or two exceptions, the ram lambs (Class 165) were much above the average, especially the prize winners. The shearling ewes (Class 164) were good throughout, all the pens being noticed. The ewe lambs (Class 165) were also an uniform lot well shown.

Shropshires.—This breed was well represented, and the Judge made the following remarks on the various classes:—

CLASS 166 (Two-shear rams).—This is a small class, with only four rams shown. The first prize winner (No. 1317) is one of great merit, full of quality, with the best of flesh and wool, perhaps rather on the small side, but looks a sire all over. The second prize (No. 1318) is a fine lengthy animal, and should be a good sire, having great size with a fine masculine head and carriage. The Reserve Number ram (No. 1316) is also one of length and scale, but rather bare on the back.

CLASS 167 (Shearling rams).—This is a small class for the breed, but contains some grand specimens, although perhaps on the whole it may be called rather in and out. The first prize (No. 1343) went to a grand ram, quite one of the best, with immense scale, and still of beautiful quality, with a noble head and carrying himself grandly.

CLASS 168 (Pens of five shearling rams).—This is the best of the Shropshire classes and contains several pens of great merit. The first prize pen (No. 1348) are a fine lot, with good flesh and beautiful quality. The second prize lot (No. 1358), are strong masculine rams, which look like making good sires.

CLASS 169 (Special auction shearling rams) is practically made up of sheep drawn from the two previous classes and calls for no further comment.

CLASS 171 (Shearling ewes).—This is a small class, but of excellent quality, the leading pens especially being beautifully matched, with wonderfully good wool and flesh.

CLASSES 170 and 172 (Ram lambs and ewe lambs).—Both of these classes are very good, containing several pens of exceptional merit.

Southdowns.—There was again an excellent show of Southdown sheep. The two-shear rams (Class 173) were a very strong collection, including many excellent sheep. The shearling rams (Class 174) were also a strong lot, the first prize winner (No. 1414) being selected for his level good flesh; his skin and fleece are also excellent. The pens of three shearling rams of the same flock (Class 175) brought forth a strong entry of twelve, the first prize pen (No. 1441) being remarkably well matched. Several pens showed great care in selection. The Judge is of opinion that this class is a step in the right direction to promote and fix a type, which is much needed at the present time amongst Southdown breeders. The pens of ram lambs (Class 176) contained some very forward, well-grown animals. The first prize pen (No. 1462) were well matched, though they were not so full of flesh as the second, which had one weak lamb. The shearling ewes (Class 177) were good, and there was little to choose between the first three pens. The ewe lambs (Class 178) were also a good lot, and, as in the case of the

ram lambs, they were selected as the best-matched pen, though they had not so much flesh as the second prize pen.

Both Male and Female Championships were gained by H.M. The King. The Reserve Numbers for the Championships went to the Duke of Northumberland for the first prize two-shear ram, No. 1409, and Mr. Edwin Ellis for the second prize pen of shearling ewes, No. 1477.

Hampshire Downs.—The two-shear rams (Class 179) had five entries, and the first prize went to Mr. Cary Coles for a “wonderfully straight ram with beautiful character and good wool.” The shearling rams (Class 180) numbered eighteen, and Mr. James Flower obtained the first prize with a very fine specimen. The remaining entries made a fine show. In Class 181, for pens of ram lambs, Mr. Flower again secured the first place with wonderfully fine matching exhibits, not so heavy in flesh as some, but carrying the finest character of the breed, the remaining entries completing a very grand class. The first and second prize shearling ewes (Class 182), exhibits of grand type and character, came from Chilmark. The ewe lambs (Class 183) were the best class of the section, the first pen being of rare type and flesh, the second of great size and strength, with good fleece; and the third a fine pen, but not so even as the first and second.

Suffolks.—The Judge reports that although the entries were not numerous there were some very good typical sheep of the breed, the three prize pens of ewe lambs (Class 189) being the best. He considers it a pity that the shearling ewes (Class 188) were so fat.

Lincolns.—The prize animals in all the classes were good and typical of the breed. Mr. Tom Casswell easily secured the Champion Gold Medal for his two-shear ram, No. 1589; and the Reserve Championship fell to Messrs. R. & W. Wright for No. 1610, a shearling ram that should make a valuable sire.

Leicesters.—The first prize shearling ram (Class 197) was “altogether a good sheep, firm in his mutton, with a beautiful fleece.” The ram lambs (Class 198) made a good class, the first prize pen being true to type, with even fleeces. The shearling ewes (Class 199) were all good. The first prize pen were “big sheep, with good flesh and capital skins.” The ewe lambs were also good (Class 200), the first and second prize pens being of very nearly equal merit.

Cotswolds.—This breed was not represented in 1904, and the entries in 1905 only numbered twelve in the four classes; but the exhibits sent were good.

Border Leicesters.—These also made a small display of thirteen entries in four classes. The quality was, however, good, and the two pens of lambs (Class 208) were especially fine.

Kent or Romney Marsh.—The show of this breed was excellent. Class 209 contained nine good sheep, the first and second prize rams being of typical character, with good bone and wool. Fourteen exceptionally good tegs were exhibited in Class 210. All were well shown, the wool being more even than usual and free from the coarseness that sometimes occurs in the breech wool of these sheep. Classes 211 and 212, for ram lambs and shearling ewes, were very good throughout. The ewe lambs (Class 213) included two or three weak pens, but the rest were good, though not quite up to the merit of the ram lambs. The wool was very even all round.

Wensleydales.—The shearling rams (Class 214) were good and true to type, the first prize going to No. 1736, "an even-made sheep of good length, with good wool and quality." The first prize ram lambs (Class 215) were "very nice in their wool and were of good quality." The shearling ewes (Class 216) were of exceptional merit, "with good frames, good wool, and blue in their heads." The first prize ewe lambs (Class 217) were of nice quality.

Dorset Horns.—The competition for the prizes was close and keen, all the animals being good specimens of the breed.

Devon Long Wools.—The sheep exhibited were of high merit. All the prizes except one were gained by Mr. Frederick White.

Dartmoor and Exmoor.—The exhibits were few in number, but were of good quality.

Cheviots.—The exhibitors were the Messrs. Jacob & John Robson. The Judge reports that since he last judged, some years ago, the breed has very much improved. The sheep are bigger, show more early maturity, and have a good dense fleece, capable of affording protection in severe weather.

Black-faced Mountain.—Prizes were given to each of the three exhibitors, Mr. John Dargue, Mr. John Robson, and Mr. John Robson, jun.

Lonks.—The first prize ram, shown by Mr. David Hague, is described as one of the best specimens of the breed that the Judge had seen for a long time. The other exhibits were good, both in wool and mutton.

Herdwicks.—All the prize animals showed good breeding. The first prize ram is described as a "fine useful sheep, with strong good coat, and strong limbs, but a little slender in the nose." The second prize ram had a "remarkably fine head, bearing fairly good marks, but was not well made, and his rather open coat rendered him less suitable for protection against the winter storms to which the breed is subject."

Welsh Mountain.—The rams are described as a very good class, the first three prize winners being of special excellence.

The first prize ewes, exhibited by Mr. J. Marshall Dugdale, were described as the best the Judge had ever seen shown.

Ryeland.—The animals exhibited had a good proportion of lean to fat meat. In Class 238, for rams, two-shear and upwards, there were “three very strong sheep, of good quality.” Of the shearling rams (Class 239), the first and second prize winners “were exceptionally good, with a good quality of wool, and of a type likely to get stock of a very saleable character.” The shearling ewes (Class 240) were “very good, both as regards mutton and wool.”

PIGS.

The increased demand for well-bred British pigs was probably reflected in the exhibits for the Show, the entries numbering 252, as against 227 last year, and 222 in 1903. The Large White, Middle White, Berkshire, Tamworth, and Large Black breeds each had four classes. This year the classes for Small White pigs were restored to the prize sheet; but only four entries were made for the two classes. Champion prizes were again provided by the National Pig Breeders' Association, the British Berkshire Society, and the Large Black Pig Society.

Amount of Prizes, and Number of Classes and Entries for Pigs, 1903, 1904, and 1905.

Description	Amount of Prizes			Number of Classes			Number of Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Large White	80	78	85	4	4	4	55	48	59
Middle White	80	77	85	4	4	4	24	26	34
Small White	80	—	40	4	—	2	14	—	4
Berkshire	85	77	85	4	4	4	62	73	76
Tamworth	80	77	86	4	4	4	27	27	23
Large Black	90	82	111	4	4	4	40	53	56
Total	495	391	492	24	20	22	222	227	252

White Pigs.—The Large White section was on the whole a good one. The first prize boar in Class 241 was “easily first.” The first three prize winners in Class 242, pens of three boar pigs, farrowed in 1905, were of “very fine merit, and it was a difficult task to decide upon their respective positions.” The remaining pens of young boars in this class “contained each an entry approaching the Middle breed type.” Class 243, for breeding sows, contained fourteen exhibits; but all the prize winners were subsequently disqualified through

non-compliance with the regulation as to farrowing before September 1, 1905. The first prize winner in this class was awarded the Championship in the Showyard; but owing to the disqualifications the first prize winner in Class 241, which was Reserve Number, succeeded to this honour. Class 244 "contained several good pens of well-grown sow pigs, the winning exhibits being very closely followed by the non-prize winners."

The Middle Whites as a whole made a very nice show. The class (245) for boars, farrowed in 1903 or 1904, was headed by Sir Gilbert Greenall's exhibit (No. 1922), which also secured the Champion Gold Medal. The remaining classes were very good, the young sows (Class 248) "containing a lot of nice level pigs, displaying fine quality and substance."

The two entries sent by the Hon. D. P. Bouverie in each of the Small White classes quite merited the prizes given.

Berkshires.—Class 251, for boars, was well filled with many animals of considerable merit. The first prize was won by Mr. J. Jefferson with No. 1970, which also obtained the Champion prize offered by the British Berkshire Society. Class 252 was well filled with some promising young boar pigs. The winning pens contained some "well-marked fine quality exhibits, although too many of them showed more white spots than the British Berkshire Society care to recognise." Class 253 contained "many very first-class sows, which ran the prize winners very close." Some good specimens were exhibited amongst the pens of sow pigs (Class 254), the animals being "well marked and of excellent coat and quality. Yet in this class, as well as in the other, a little judicious weeding was needed to keep the points of the Berkshire breed as pure as possible."

Tamworths.—The boar class (255) included some fine pigs; but their condition, including that of even the winners, was disappointing. The first and second prize pens of boars, farrowed in 1905 (Class 256), were in "excellent condition, good in colour, and well matched, and followed one another very closely." The Champion and first prize sow in Class 257, exhibited by Mr. E. J. Morant, is of an "improved type, long and deep in body, on short legs, with a good coat of the correct colour and of fine quality. The second and third prize winners were also worthy of mention, being very good specimens of the breed." The same remarks apply to the young sows (Class 258).

Large Black.—All four classes were well filled. The Silver Challenge Cup of the Large Black Pig Society, for the best sow in Class 261, was awarded to Mr. C. F. Marriner for No. 2089, and the same exhibitor also carried off the Male Championship

with the first prize boar in Class 259. The Judge remarked that "the entries generally showed some little diversity of type, but with few exceptions were of high merit throughout."

POULTRY, INCLUDING DUCKS, GEESE, AND TURKEYS.

The classification followed closely that of 1904, but the value of the prizes offered was increased. Instead of first, second, and third prizes of 20s., 10s., and 5s., the amounts were 30s., 15s., and 10s., with 2*l.*, 1*l.*, and 10s. in the case of geese and turkeys. The consequence was a larger number of entries, which reached a total of 870, as compared with 603 in 1904, 763 in 1903, and 964, the record entry at Birmingham, in 1898.

The following statement shows the distribution of the prizes, classes, and entries, between the various descriptions of poultry for the three Park Royal Shows of 1903, 1904, and 1905:—

Prizes, Classes, and Entries of Poultry, 1903, 1904, and 1905.

Description	Prizes			Classes			Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
<i>Fowls—</i>	£ s.	£ s.	£ s.	No.	No.	No.	No.	No.	No.
Game	22 0	14 0	22 0	8	8	8	105	41	78
Dorking	27 10	17 10	27 10	10	10	10	90	69	64
Sussex (including Medals)	—	24 0	19 10	—	12	6	—	48	59
Brahma and Cochin	16 10	10 10	16 10	6	6	6	53	19	54
Langshan	11 0	3 10	5 10	4	2	2	15	4	14
Plymouth Rock	11 0	7 0	11 0	4	4	4	53	33	50
Wyandotte	27 10	17 10	27 10	10	10	10	87	64	95
Orpington	22 0	14 0	22 0	8	8	8	121	113	130
French	5 10	10 10	16 10	2	6	6	13	4	28
Minorca	11 0	7 0	11 0	4	4	4	32	18	20
Leghorn	16 10	10 10	16 10	6	6	6	33	14	37
Ancona	—	3 10	5 10	—	2	2	—	—	27
Andalusian	5 10	3 10	5 10	2	2	2	15	3	10
Hamburgh	11 0	—	—	4	—	—	14	—	—
Any other breed	5 10	7 0	11 0	2	4	4	16	6	25
Table Fowls	11 0	7 0	11 0	4	4	4	27	33	36
<i>Ducks—</i>									
Aylesbury	11 0	7 0	11 0	4	4	4	19	14	15
Rouen	5 10	3 10	5 10	2	2	2	14	12	16
Pekin	5 10	3 10	5 10	2	2	2	10	—	6
Cayuga	—	3 10	5 10	—	2	2	—	10	10
Indian Runner	—	3 10	5 10	—	2	2	—	12	10
Any breed	2 15	1 15	2 15	1	1	1	8	3	2
<i>Geese</i>	14 0	12 0	14 0	4	4	4	16	16	19
<i>Turkeys</i>	7 0	6 0	7 0	2	2	2	22	17	10
<i>Eggs</i>	—	3 10	5 10	—	2	2	—	20	14
<i>Breeding Pens</i>	—	24 0	28 0	—	8	8	—	30	41
Totals	249 5	225 5	318 15	89	117	111	763	603	870

Four Judges were appointed to deal with the numerous entries. Mr. Edward Brown judged the Game fowls, Minorcas, Leghorns, and Table fowls; Mr. Arthur C. Major the Dorking, Sussex, and French breeds; Mr. John Wharton the Brahmas, Cochins, Langshans, Plymouth Rocks, Wyandottes, Orpingtons,

Anconas, Andalusians, and the classes for any other recognised breeds; and Mr. Henry Kendrick the ducks, geese, and turkeys. The following remarks are taken from their reports.

Fowls.—The *Old English Game* classes were very good in quality and made a representative display. In the old bird class (263) the first prize (No. 2118) was a long-bodied bird, exceedingly good in shape, with nice head and legs. The second prize (No. 2129) was awarded to a somewhat slight bodied, but fine-boned Black Red. The third (No. 2119) was also a Black Red, with neat head and legs, and very compact. In the hen classes the build and bone of most of the birds were very good, although they were a little out of form on account of the season. Amongst the young birds, Black Reds took the first and second prizes, and these were fairly well grown, but the breed is not rapid in attaining maturity. The first prize pullet was a very fine Black Red, exceedingly good in body, with nice legs and feet. The *Indian Game* were very good classes, and this valuable breed well repays the attention which it has constantly received from the Society. There was somewhat of a tendency to heaviness in bone, which means slower growth, but most of the winners were very typical in shape of body. The young birds were well forward and of exceedingly good shape.

Dorkings made an attractive display. The first prize dark Dorking cock (No. 2195) was without doubt the best of his variety; he has enormous size, is full of quality, and stands on the best of legs and feet. The Dark Dorking hens were also good. The Silver Greys, though not so numerous, made a good show. The chicken classes were well filled with promising birds, well grown for the time of year. *Sussex* fowls were a great improvement on 1904; exhibitors seem to be breeding to a more fixed type, and the variety should prove useful to farmers. The classes were excellent and contained many good birds, Reds and Speckles being most numerous. *Brahmas* made two very good classes for cocks and hens. *Cochins* were also of good quality. Excepting the winners, the classes for Cochin and Brahma cockerels were poor; the pullet class was much better. *Langshans* were not numerous, but the quality of the exhibits was good. *Plymouth Rocks* were represented by four excellent classes. The *Wyandottes* were a fine collection; the Partridge bird in Class 308 is the best hen the Judge has ever seen. The *Orpington* classes were well filled with excellent exhibits. *Faverolles* and *French* breeds did not produce very large classes, but the quality of the exhibits was very high.

Minorcas were not nearly so good as on previous occasions, and with this breed and also with Leghorns there is a tendency

to excessive development of comb with coarseness of texture, and to length of leg, which are antagonistic to the true qualities of the breed. The Judge endeavoured to avoid the birds which showed these faults. With the exception of these defects the quality of the old bird classes was good, but the young birds were somewhat disappointing. *Leghorns* showed an improvement, but here also the Judge felt it right to leave out those specimens which were excessively developed in size and such as were coarse in comb. Large birds are not wanted for laying purposes, and the economic qualities of the breed were regarded as of the greatest importance.

Anconas made two nice classes, the winning birds standing out well. *Andalusians* were very poor. The four classes for "*Any Other Recognised Breeds*" (except Bantams) contained several fine birds. The first prize bird in Class 337 was a beautiful Silver Spangled Hamburgh; the first prize hen in Class 338 was a good Spanish. The chickens (Classes 339 and 340) were very poor. The *Table Fowls* were divided into two classes for pure and two for cross-bred birds, shown alive in pairs. In both divisions the classes were very good indeed. In Class 341, for pure-bred cockerels, the first prize went to Silver Grey Dorkings, the second to Buff Orpingtons, and the third to Dark Dorkings. In Class 342, for pure-bred pullets, the first and third prizes were gained by Silver Grey Dorkings, and the second prize by Speckled Sussex. Of the cross breeds, all the cockerel prizes for the Indian and Dorking cross were excellent. The first and second prize pullets were Indian Game and Dorkings; and the third prize birds were Buff Orpington and Red Sussex.

Ducks.—Of *Aylesburys* there were only two drakes, but these were fine birds; the ducks were a better class, and the first prize bird was a very fine one. The young birds had only two entries in each class, and were rather disappointing. The first prize birds in the two *Rouen* classes were good ones; the ducks were rather out of feather. The *Pekin* variety had three entries in each class. The first drake was a fine bird; the ducks were not so fine. The *Cayuga* variety consisted of two good classes of fine birds, the first prize drake being exceptionally fine and large. The *Indian Runner* prize drakes were all good, and the first prize duck was a good bird. Class 357, for pairs of ducklings of any breed or cross breed (except *Aylesburys*), had only two entries, the first prize being awarded to good young *Rouen* ducks, and the other pair, two fine cross-bred birds, receiving R.N. & H.C.

Geese.—Two good classes of *Embsen* geese were shown, and the first prize gander was a fine bird. Some of the birds

were in moult. The two classes of *Toulouse* geese were fine birds and well shown.

Turkeys.—The first and second prize cocks were very large birds, well shown, and in good feather. The hens were all Bronze, the first a good large bird.

Eggs.—Prizes were offered in two classes for new-laid hens' eggs of white shells and brown or tinted shells, each exhibit consisting of a case of five dozen eggs. There were six entries of the former and eight of the latter. The Judge reported as follows :—

The exhibits displayed on the whole much merit. The points of cleanliness, absence of traces of handling, uniformity of size and shape, and evenness of colour were generally most praiseworthy and an improvement on last season. The prevailing fault was a lack of absolute freshness in some individual specimens, the producers not fully realising the importance of gathering eggs more frequently in summer and keeping them in a situation where evaporation (with its concomitant, deterioration) is at a minimum.

Breeding Pens.—Prizes were offered for breeding pens, each consisting of one cock or cockerel, and four hens or pullets, in six classes, for Indian Game, Dorkings, Plymouth Rocks or Wyandottes, Orpingtons, Minorcas or Leghorns, and "Any Other Variety"; also for one drake and four ducks, in two classes—one for white and one for coloured ducks of any variety. These classes proved a great attraction, and contained some capital specimens.

FARM AND DAIRY PRODUCE.

The entries of farm and dairy produce totalled 493, as against 544 in 1904 and 597 in 1903. The diminution is, however, accounted for by the omission in 1905 of the classes for corn and hops, and by the re-arrangement of the classes for honey. As will be seen from the following Table giving the prizes, classes, and entries at each of the three Park Royal Shows, the entries of butter, cheese, cider and perry, and wool show increases over 1904, the entries of hives and honey alone being less than in 1904 :—

Prizes, Classes, and Entries of Farm and Dairy Produce, 1903, 1904, and 1905.

Produce	Prizes			Classes			Entries		
	1903	1904	1905	1903	1904	1905	1903	1904	1905
	£	£	£	No.	No.	No.	No.	No.	No.
Butter	71	41	41	5	4	4	154	92	112
Cheese	90	78	80	8	16	7	90	58	69
Cider and Perry	40	40	40	4	4	4	79	65	75
Corn	42	42	—	7	7	—	19	23	—
Wool	48	48	54	8	8	9	37	51	68
Hops	48	48	—	6	6	—	15	11	—
Hives and Honey	70	53	45	50	37	23	203	244	169
Total	409	350	260	88	82	47	597	544	493

Butter.—The four classes were judged by Professor H. J. Drummond, of the Kilmarnock Dairy School. He reported that the quality of the butter was somewhat irregular, and that a good number of the samples were more or less out of condition, being faulty in flavour and greasy in texture, attributable to some extent to the extremely hot weather.

Class 374, for butter delivered on or before May 13, contained seven entries. They proved to be very faulty, particularly as regards flavour, most of the samples being strong and “off,” no doubt caused by being over kept. The Judge suggests the discontinuance of this class, as not being likely to serve any good purpose, owing to the public demand for a fresh or mild-cured butter. The different samples in Class 375, for boxes of 2-lb. rolls, made with not more than 1 per cent. of salt, were of average quality; the prize lots were of quite outstanding merit, being fine in flavour, close in texture, with a bright clear colour. Seven of the eleven entries in this class came from Irish Co-operative Dairy Societies, and the prizes were all taken by Irish exhibitors.

Class 376, for fresh butter slightly salted, contained fifty-seven entries. The exhibits were somewhat irregular, many being strong in flavour and streaky in colour. In many cases the faulty flavour is caused by mismanagement in the ripening of the cream; the streaky colour is often the result of mixing cream of different ages a short time before churning. The prize lots in this class were exceedingly good, and in every way worthy of the positions assigned. Class 377, for slightly salted butter made from milk drawn from other than Channel Islands cows, produced thirty-seven entries. The Judge found the exhibits in this class more regular in quality than in the preceding ones. Several samples were more or less faulty in flavour; otherwise the different lots were very creditable. The prize samples were quite outstanding in flavour, texture, and colour, and the parcels were very neat and attractive. The principal fault throughout the butter section was, concludes the Judge, in the flavour. He is of opinion that, if more careful attention were given by the makers to the ripening of the cream, great improvement might be made along this line.

Cheese.—This section was divided into seven classes, consisting of the Cheddar, Cheshire, Stilton, Wensleydale, Double Gloucester, Wiltshire, and Cheddar Truckle descriptions, all of 1905 make. The Cheddar cheeses (Classes 378 and 384) were the largest in the section, with twenty-two and fifteen entries respectively. The Judge reports that in texture, colour, and closeness of make the cheese shown in these classes was better than he had seen for some time, and showed

decided improvement. The Cheshire cheese (Class 379) was, he reports, undoubtedly the best; the first prize was awarded to Mr. Thomas Nunnerley for "an exceptionally fine lot showing wonderful quality and cleanness of flavour." The Stiltons (Class 380) were a fair all-round sample. The Wensleydale, Double Gloucester, and Wiltshire exhibits were small classes of fair merit.

Cider and Perry.—This section was again well represented by seventy-five entries in the four classes. The Judge (Mr. J. H. Wootton) reports that the quality of the exhibits was on the whole very good, and showed a decided improvement upon past years. There was an entire absence of the manufactured drinks which a few years ago were shown as cider. The following are the Judge's remarks on the separate classes:—

CLASS 385 (Cider in Cask, made in autumn of 1904 : 19 entries).—With the exception of one or two badly fermented samples, a good class. Very little to choose between the first six.

CLASS 386 (Cider in Bottle, made in autumn of 1904 : 30 entries).—An excellent class. Many samples of fine fruity flavour, aroma, and brilliancy, which should develop into first-class cider. Two samples were badly fermented, and bottled too early. Three others were somewhat flat, as if only recently bottled.

CLASS 387 (Cider in Bottle, made in any year before 1904 : 14 entries).—A few good samples were shown. Others were of poor quality, and the whole class rather below the average for old cider.

CLASS 388 (Perry : 12 entries).—A somewhat poor class. Some samples were badly fermented, and others much too sweet. The first prize was a fair sample of a dry perry.

The samples were analysed by Dr. Voelcker, and the following are the results which relate to the samples that gained prizes or commendation:—

CLASS 385.

No.	Specific gravity	Total solids	Alcohol	Acidity	Award
		per cent.	per cent.	per cent.	
3168	1.0309	8.74	2.91	.383	1st Prize
3182	1.0242	7.66	4.39	.430	2nd Prize
3167	1.0271	8.07	3.67	.567	3rd Prize
3179	1.0307	8.61	3.20	.665	R. N. & H. C.
3169	1.0337	9.19	2.57	.420	Com.

CLASS 386.

3211	1.0221	6.86	4.08	.239	1st Prize
3210	1.0270	7.76	3.08	.226	2nd Prize
3209	1.0314	9.18	3.02	.498	3rd Prize
3186	1.0308	8.93	3.49	.579	R. N. & H. C.
3193	1.0314	8.72	2.91	.680	H. C.
3187	1.0280	8.08	3.37	.637	Com.

CLASS 387.

No.	Specific gravity	Total solids	Alcohol	Acidity	Award
		per cent.	per cent.	per cent.	
3215	1·0270	7·94	3·20	·403	1st Prize
3216	1·0322	9·11	2·74	·378	2nd Prize
3214	1·0304	8·39	2·28	·423	3rd Prize
3225	1·0479	12·48	1·73	·756	R. N. & H. C.
3224	1·0331	8·82	1·67	·428	Com.

CLASS 388.

3228	1·0292	8·56	3·37	·592	1st Prize
3235	1·0344	9·53	2·97	·680	2nd Prize
3238	1·0322	8·27	2·11	·718	3rd Prize

Wool.—The exhibits as a whole were good, sound, and well got up. Classes 389 and 390, for Leicester and Lincoln Wool, were of special excellence; the other classes were fairly representative.

Honey, Hives, and Bee Appliances.—Instead of dividing the country into six groups with four classes in each group as in 1904, the classes for honey were re-arranged into two sections—one for the northern half of Great Britain (also embracing Ireland and the Isle of Man) and the other for the southern half. Each section had four classes. The effect of this condensation was to reduce the total number of classes from thirty-seven to twenty-three, the total entries being 169 as against 244 in 1904.

The following report on the honey classes was presented by the Judges (Mr. A. G. Pugh and Dr. T. S. Elliot):—

The classes for Northern beekeepers were but sparsely filled, and the honey generally in this section was only of moderate quality, though the prize exhibits of Light-coloured Run honey were very good.

Competition for Southern beekeepers was very much keener, and some excellent comb and extracted honey was shown. So uniform were the exhibits in Class 409 (Light-coloured Run honey) that some difficulty was experienced by the Judges in making the awards.

Granulated honey in both groups was poor in quality, and several exhibits were quite unfit for exhibition, being badly fermented.

Heather honey produced only a small class, whilst only two exhibitors sent shallow frames, and these were not of a high standard.

Several very good trophies were exhibited, the first prize display being very uniform in quality and including a number of well-filled sections.

The appliances, which were judged by Mr. W. B. Carr and Mr. W. F. Reid, were numerous and of excellent quality. The following is an extract from the Judges' report:—

In the inventions class were several novelties which, although they carried out the object desired by the inventors, could not be considered of practical utility.

There is a considerable difference in the width of the sections imported into this country, and unless uniformity in this respect can be secured by our

appliance dealers, all inventions in connection with section racks must lose much of their utility.

The same remark must apply to the thickness of the top bar in the standard frames ; the original dimensions fixed by the British Bee-keepers' Association are not adhered to by some hive makers. Whatever alterations may be desirable in the standard frame as now generally accepted, we think no change should be made without general consent.

Among the novelties of real value, we may mention a new system of queen rearing, which we think will materially facilitate that important operation in this country.

A useful appliance was also shown, which may be considered a *multum in parvo* to the bee-keeper who is the fortunate possessor of many hives. It will much facilitate the operations of uncapping and straining in the production of extracted honey.

HORSE-SHOEING COMPETITION.

Instead of two classes for light and heavy horses as in previous years, it was decided to offer prizes amounting to 16*l.* in one class for light horses, the conditions in other respects being as usual. Sixty-two competitors entered, of whom forty-seven were Registered Shoeing Smiths. The Judges (Mr. F. W. Wragg, F.R.C.V.S., and Mr. John Thirtle, R.S.S.) reported that the work of the competitors was on the whole good, the prize winners especially reaching a high standard of workmanship. The contest for the prizes was indeed so keen that only six points separated the first and sixth prize winners, and the commended competitors were close up. The Freedom of the Worshipful Company of Farriers was awarded by the Company to the first prize winner, and three competitors were examined and passed for admission as Registered Shoeing Smiths.

OTHER DEPARTMENTS OF THE SHOW.

As the Implement Department is the subject of a separate report by Mr. Bayntun Hippisley, one of the Judges of Miscellaneous Implements (see page 80), nothing need be written here as to the quality of the implements exhibited ; but the following comparative statement as to the implement shedding allotted at each of the three Park Royal Shows may be recorded :—

Implement Shedding at Park Royal, 1903, 1904, and 1905.

Description of Shedding	1903	1904	1905
	Feet	Feet	Feet
Ordinary	9,360	7,630	6,590
Machinery-in-motion	2,670	2,060	1,750
Special shedding (Including Seeds, Models, &c.)	2,555	2,032	1,629
Total (exclusive of open ground) .	14,585	11,722	9,969
No. of Stands	456	350	289
No. of Exhibits	5,524	4,419	3,845

The dairying branch of agriculture received special attention. Not only were the Butter and Milk Tests repeated on the same lines as before, but the institution of Milk-yield classes for dairy breeds, to which reference has already been made, marks an important development. Dairying interests were also brought more prominently before the public by "object lessons" given in the dairy. The whole department is the subject of a special report by Mr. Ernest Mathews, the Steward of Dairying (see page 93).

An Agricultural Education and Forestry Exhibition was again organised, and is reported upon by Mr. Bowen-Jones (Agricultural Education, page 112) and Professor Fisher (Forestry, page 123). This year the Royal Meteorological Society organised an exceedingly interesting and instructive exhibition illustrating meteorological phenomena from the agricultural point of view (see page 119).

It is impossible to close this report without reference to an event which must tinge with regret the memories of all officially connected with the Society. By universal consent the Society's Show of 1905 will be remembered as one of the finest agricultural exhibitions ever organised, whether as regards completeness of representation, excellence of exhibits, or perfection of general arrangements. Alas! it will be remembered also for the last appearance in the Showyard of the genial presence of the late Sir Jacob Wilson, who, in spite of advanced years and impaired vigour, fulfilled so successfully the arduous duties of Honorary Director.

ERNEST H. GODFREY.

13 Hanover Square, W.

MISCELLANEOUS IMPLEMENTS EXHIBITED AT PARK ROYAL, 1905.

THERE was a slight falling off in the exhibits in the Implement Yard this year, the number being 3,845 as against 4,419 in 1904. The Miscellaneous Implements entered for the Society's Silver Medals also showed a decrease as compared with the number entered the previous year, the figures being 54 as against 66 in 1904. With regard to the character of the exhibits entered, I may quote the words of a brother judge of former years: "It is disappointing to have to say that the novelties were few and unimportant."

With the able assistance of my co-Judge, Mr. J. G. Mair-Rumley, I diligently searched among the entries for something really new that would comply with the Society's regulations as to Silver Medals. The result of our search was the award of Silver Medals to Articles 89 and 385. Subsequently to the Show, after a practical trial of the new Milking Machine entered by Messrs. J. & R. Wallace, the Council, upon our recommendation, awarded a Silver Medal to this implement also. The following are the particulars of the awards:—

AWARDS OF SILVER MEDALS.

No in Catalogue	Exhibitors	Nature of Award
89	BLACKSTONE & Co., LTD., Stamford.	Expanding Horse Rake.
385	BAMFORD & SONS, Leighton Iron Works, Uttoxeter.	Dust Extractor for Chaff Cutter.
2558	J. & R. WALLACE, Castle Douglas, N.B.	Milking Machine.

Article 89.—*Messrs. Blackstone & Co., Ltd.*, Rutland Works, Stamford. "Horse Rake, Self-acting and Expanding." Price 12*l.*—The tine beam is of light angle steel carrying round spring steel tines. This beam is in three lengths, the central part being arranged to turn out of position to allow the outer portions with their tines to pass beneath them for travelling, the axle being telescopic.

The term "expanding" is quite sufficient to recommend this rake to farmers who have often to travel on narrow lanes and pass through narrow gates to get to their work. Few things are more exasperating than to meet the usual wide horse rake in a narrow lane.

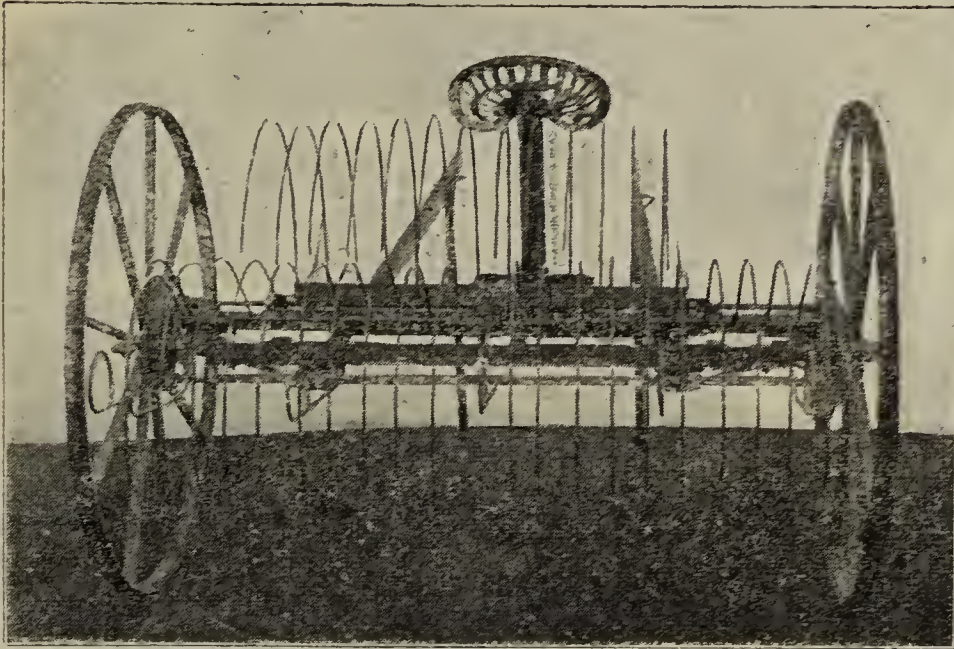


FIG. 1.—Self-acting and Expanding Horse Rake (Article 89).

Article 385.—*Messrs. Bamford & Sons*, Leighton Iron Works, Uttoxeter. "Chaff Cutter B 11, with three knives, patent safety self-feeder, cover over fly-wheel, and improved aspirator and cyclone dust collector." Price, complete, 38*l.* 10*s.*—The special novelty in this exhibit (Fig. 2) was the "cyclone dust collector," and it was extraordinary how much dust was separated from what appeared to be quite clean hay and straw. The suction draught was set up by a fan, and was sufficient to remove the dust without bringing over the chaff.

Article 2558.—*Messrs. J. & R. Wallace*, Castle Douglas, N.B. "Milking Machine." Price 10*l.*—This machine is operated on the principle of a vacuum pump, as in the case of other milking machines exhibited at the Society's Shows since the first appearance of the Murchland machine at Doncaster, in 1891¹; but its novelty lies in the use of atmospheric motors suspended beneath the cow and worked in conjunction with double-walled cups (Fig. 3). The various parts consist of a collapsible rubber sleeve or tube of triangular shape, which without effort is pushed into an aluminium case, the one end

¹ For previous references to milking machines exhibited at the Society's Shows, see *Journal R.A.S.E.*, Vol. 51, 1890, pp. 645-652; Vol. 52, 1891, pp. 525, 854-857; Vol. 53, 1892, pp. 549, 550; Vol. 56, 1895, pp. 460-464; Vol. 57, 1896, page 196; Vol. 58, 1897, page 135; Vol. 61, 1900, pp. 466-471, *Contents*, page vii.

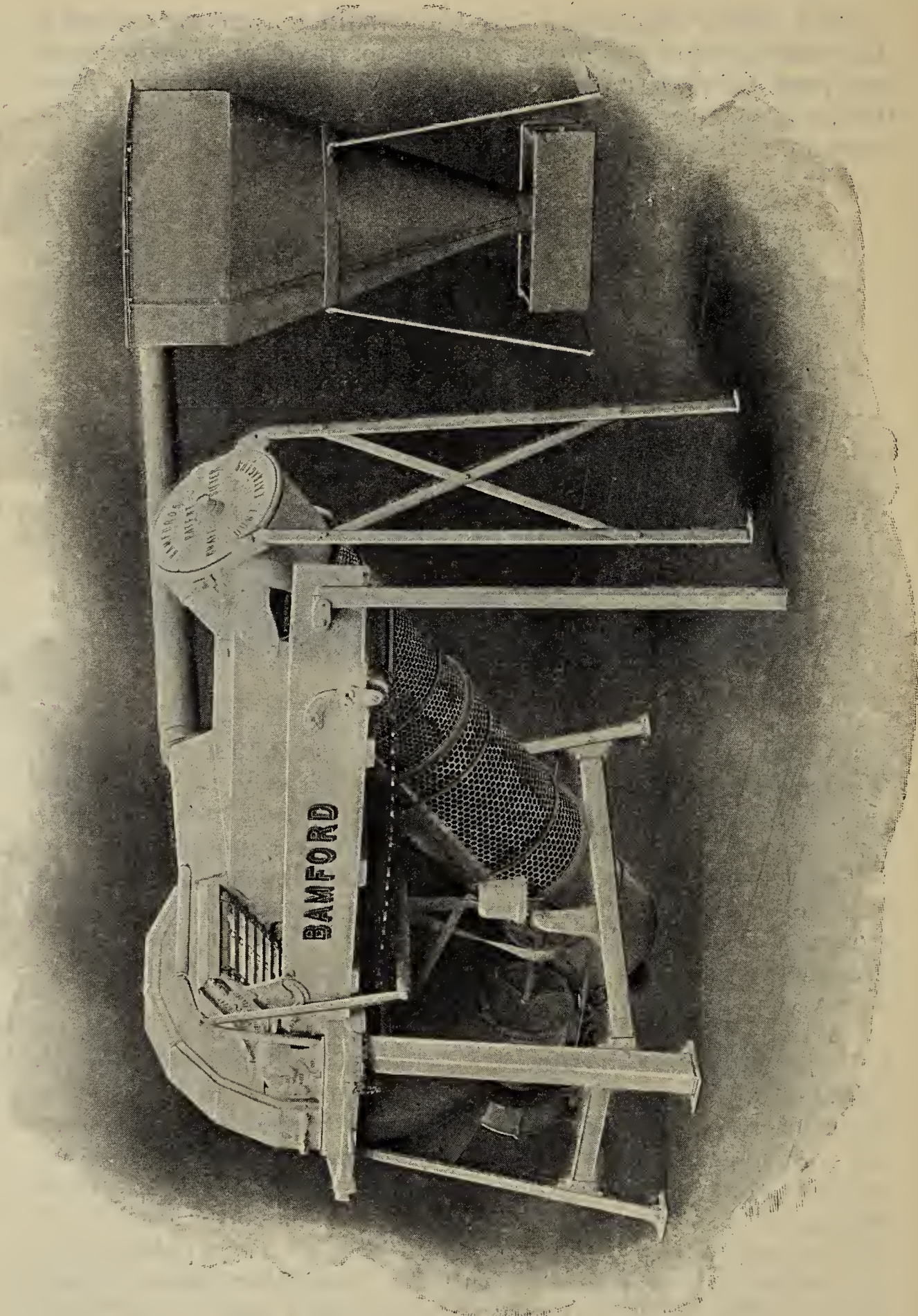


FIG 2.—Chaff Cutter with Cyclone Dust Collector (Article 385).

becoming air tight by this act. Into the other end is pushed an aluminium plug, on which is mounted the atmospheric motor. In operation, a constant vacuum is maintained in the interior of the cup. The atmosphere seeking admission

operates the motor, which in turn first admits the air between the rubber cup and the outer casing, thus effecting an active emphatic pressure on the teat, and secondly causes a withdrawal of this pressure by coupling the space into which the air has been admitted to the interior of the cup. The pressing and relaxing action can be regulated to any required speed.

The exhibitors state that the motors, which are furnished with cup leathers like an ordinary air or water pump, will last for years, and that the wearing parts are renewable at a small cost. They also claim that the effective intermittent pressure exerted allows of the natural circulation of the blood in the

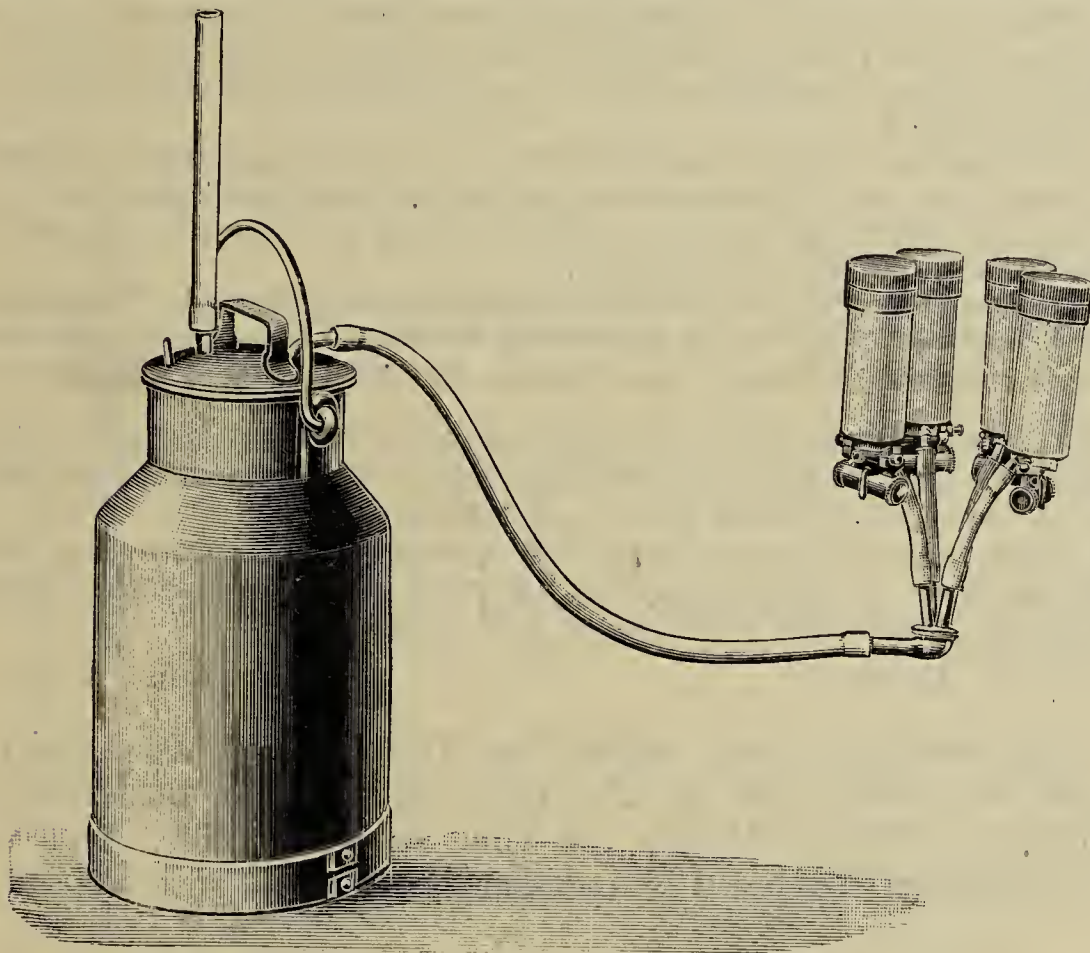


FIG. 3.—The Wallace Patent Milking Machine (Article 2558).

teat whilst suspended in a vacuum, and that thus the cows do not experience the uncomfortable sensation which would otherwise cause them to withhold their milk.

A really good milking machine would prove a great boon to the large dairy farmer who, in these days, finds great difficulty in procuring good milkers by hand. The following are the essential points that should be observed in the construction of milking machines: ease of cleaning; efficiency; power to strip; non-injuriousness to the cow; simplicity of construction, either for the process of milking or for obtaining the vacuum; cheapness.

We arrived at the conclusion that in the short time at our disposal it was impossible adequately to test the machine in

the Showyard, and we therefore recommended that there should be such an impartial trial as would give information as to the efficiency of the machine and its effect on the cow. This recommendation was adopted by the Council, and arrangements were made for the practical trial of the machine by Mr. Edric Druce, Principal of the Bedfordshire County Agricultural Institute, Ridgmont.

The following was Mr. Druce's report after a trial which lasted for two months :—

I have had the machine working for two months and have used it upon some ten or twelve cows. I beg to state that—

1. There is no difficulty in getting the cows to take to the machine. After the second or third time of using the cows stand perfectly quiet during the whole of the time occupied in milking ; thus the attendant is able to look after four sets at once.

2. The cows are milked absolutely dry ; no "strippings" can be obtained. The quantity of milk given is as much as, and in some cases more than, when the cows are milked by hand. The time occupied in milking is the same as that which a skilled milker would take.

3. The machine is simple in its structure, and is easily cleaned. The manipulation is very readily learnt ; in fact during the second half of the time I have had it, it has been worked by an ordinary stockman without any assistance from me.

4. The only fault I can find with the machine is that the size of the cups is too small for some of the cows with large teats. This defect, however, could easily be remedied by making the cups of different sizes.

5. I can give no figures as to the cost of running, as I used a small petrol engine especially to work the machine ; whereas on a large farm the ordinary fixed engine or horse-gear would do the work equally well.

November 13, 1905.

EDRIC DRUCE.

Upon receipt of this report, the Judges, with the approval of the Stewards and of the Council, had no hesitation in awarding a Silver Medal for the machine. The fact that no "stripping" by hand is necessary is of great importance.

OTHER "NEW IMPLEMENTS."

Taking the remainder of the exhibits in the "New Implement" class in the order of the catalogue, I have selected a few that seemed to the Judges to be deserving of mention in this Report.

Article 123.—*Messrs. Selig, Sonnenthal & Co.*, 85 Queen Victoria Street, London, E.C. "Bending Tool."—This was a simple little tool, on the lever and fulcrum system, for bending by hand cold copper and brass tubing. It should prove to be of special use to the motor engineer, as it enables him to make the most perfect bends with great accuracy of sweep, without in the least crippling the pipe. Of course it must be understood that the tubes must be loaded with lead, rosin, or some such material, before bending.

Article 199.—*Mann's Patent Steam Cart and Wagon Co., Ltd.*, Pepper Road Works, Hunslet, Leeds. "Wheel for winter use for self-propelled road engines, agricultural and otherwise; with wood block rims held in place by adjustable steel side plates which can be moved inwards towards wheel centre as wood blocks wear away."

To prevent a power-driven lorry from skidding on either ice or thick mud is the earnest desire of all users of that type of vehicle, and we were very sorry that the exhibitors could not show us a wheel that had been in use for a few thousand miles, as this would have better enabled us to judge of the wearing qualities of the wood blocks.

Article 210.—*Messrs. T. G. Slipper & Co.*, Brundall, Norwich. "Petrol Engine, 'Eli,' 3 H.P."—This engine was fully described in last year's Report (see pp. 196 and 197 of Vol. 65 of the Journal). The novelty consisted of a particularly ingenious ignition device, the method being to advance the spark, as the speed increased, by means of a centrifugal governor on the crankshaft. This arrangement was so timed that the point of ignition could never be advanced beyond dead centres when the engine was being turned slowly for starting purposes, thus entirely avoiding the chance of a back fire.

Article 224.—*Messrs. E. H. Bentall & Co.*, Heybridge, Maldon, Essex. "Chaff Cutter; Patent Bentall 'Unbreakable.'"—This was a chaff cutter designed in such a manner that the bottom mouthpiece should drop out in the event of a hard foreign substance passing through the feed rolls to the knives. This was accomplished by securing the bottom mouthpiece in place by small cast-iron blocks. The blocks were constructed of iron of a very brittle nature, and of such a cross section that they would break on the knives coming in contact with any substance sufficiently hard to damage them materially.

Article 917.—*Messrs. Burmeister & Wain, Ltd.*, 12 Coleman Street, London, E.C. "Milk Can, 9 gallons, made entirely in one piece, with T-shaped bottom hoop, with side handles and lid, also made in one piece."

These milk cans, owing to their being constructed from one piece of steel, are extremely strong, but from their small capacity are more fitted for the retail milk vendor of the town than the farmer who sends his milk there by train or otherwise in large churns, such as we see in the West of England.

Articles 1254, 1255, and 1256.—*Dairy Supply Company, Ltd.*, 28 Museum Street, London, W.C. The Dairy Supply Company exhibited three implements which they claimed to be novel, viz., an Alkaline Milk Tester, a Rotary Milk Strainer, and a Butter Churn and Worker combined. These exhibits are

more fitted for the large creamery than for the farmer or estate dairy. They are capable of dealing with very large quantities of milk with a minimum of trouble and delay.

Article 1560.—*Messrs. J. L. Larkworthy & Co.*, Lowesmoor Iron Works, Worcester. “Circular Revolving Harrow, Lees’ Patent, to cover 7 feet.” Price 4*l.* 10*s.*—This harrow was of circular form, in shape something like a cart wheel laid horizontally with tines on the underside of its spokes. The power for draught purposes was applied to a centre spindle, and fixed on this spindle at right angles to it and to the line of draught was an arm carrying a weight. The speed at which the harrow turned was regulated by the radial adjustment of this weight. On being pulled forward by its centre, the harrow naturally tended to turn about the point of greatest resistance to the forward motion, which point was determined by the position of the arm and weight. Of course the natural tendency was to work the ground a little deeper on one side than the other.

Article 1650.—*Mr. T. M. Jarmain*, Haseley Iron Works, Wallingford. “Swath Turner ‘Fore and Aft.’” The general mechanism of this implement was much on the same lines as last year, the difference being that it was arranged with one drum in front and one drum in rear of the axle. It is claimed that this arrangement reduces the draft by 25 per cent., and allows the machine to be made narrow enough to pass through a seven-foot gateway, at the same time giving unlimited clearance to the crop.

Article 1718.—*Messrs. Barford & Perkins*, Queen Street Iron Works, Peterborough. “New Patent Water Ballast Motor Roller.” Price 155*l.*—This fine powerful roller (Fig. 4) was propelled by a petrol engine, with magneto ignition, and had a single-chain drive on the off side from the counter shaft, which was suitably geared down from the engine crank shaft. We considered it a most useful machine on carriage drives and cricket grounds.

Article 2489.—*Messrs. John Searby & Co., Ltd.*, Bridge Foundry, Rotherham, Yorks. “Patent Combined Plough and Potato Planter, for planting and covering in one operation.” Price 16*l.*—The necessary change wheels were provided to plant the seed potatoes at any interval from twelve inches to eighteen inches, advancing by one inch. The frame was so constructed as to be capable of planting any width of row, and the machine was double breasted and adjustable for deep or shallow covering. At an extra cost of 10*s.*, the machine could be fitted with a single-breasted plough instead of ridger, enabling the operator to turn the whole ridge over or to plough on level ground. A novel point about this planter was the

wheel in front, which pressed down the larger clods of earth to prevent the seed potatoes from rolling out of line.

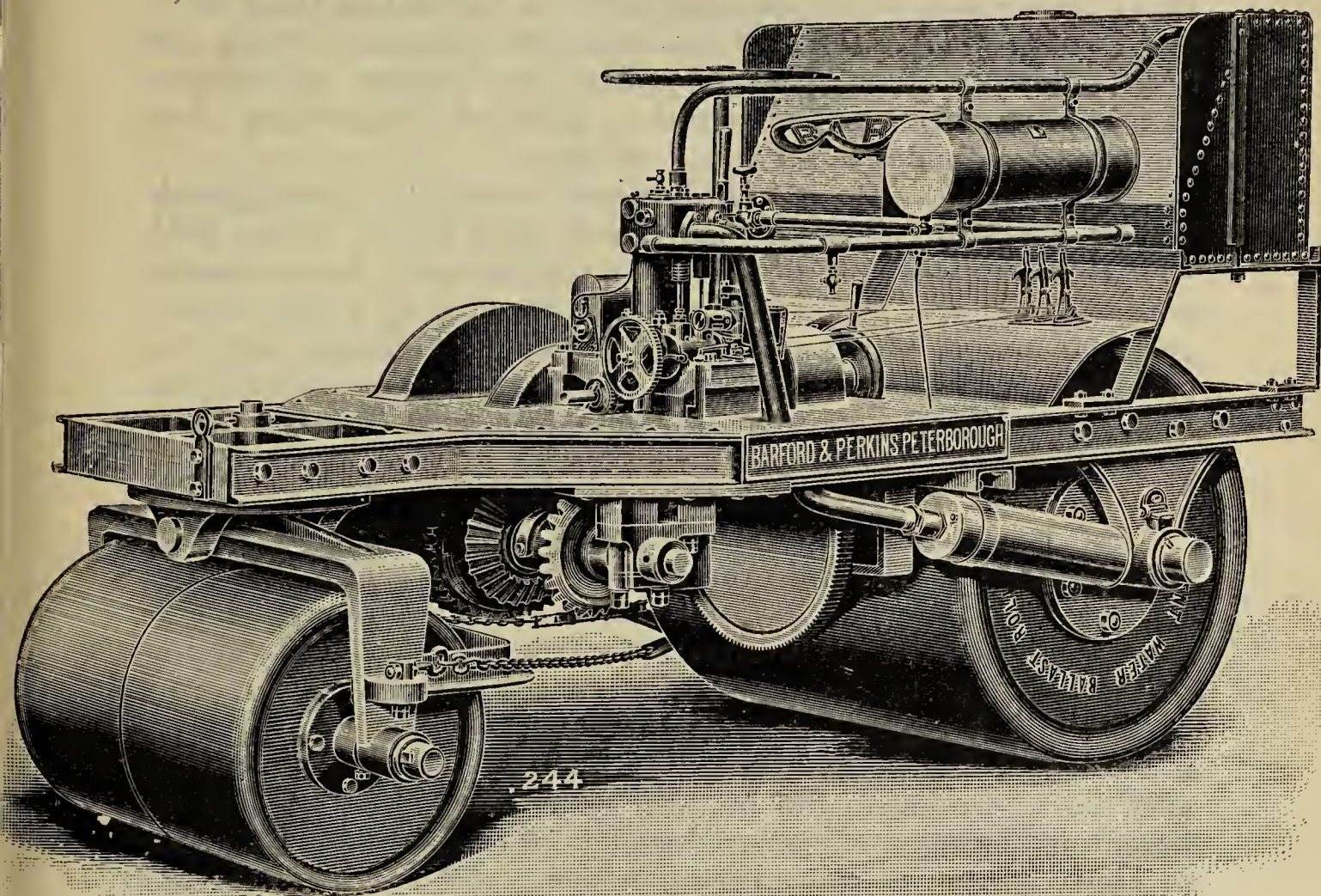


FIG. 4.—Water Ballast Motor Roller (Article 1718).

Article 3070.—*Messrs. Edward Spencer & Co.*, Saracen's Head Yard, 5 Aldgate, London, E. "Egg Box to contain one dozen eggs. Maguire's Patent, for parcel post, taking all sizes of eggs." Price 8*d.*—This was an ingenious plan for holding the eggs, which were slung in hammocks formed of a material like linen, strained from end to end inside the box and passed through partitions running across from side to side. The strain on the ends of the box necessitates a somewhat heavy construction. The weight of one box to carry a dozen eggs was 1 lb. 5 oz. empty, and putting the weight of twelve eggs at 1 lb. 8 oz., the total weight reaches 2 lb. 13 oz. The great weight of the box was its chief drawback.

Article 3552.—*The Ivel Agricultural Motors, Ltd.*, 45 Great Marlborough Street, London, W.—The novelty in this exhibit was the "Ivel Patent Carburettor," with which either ordinary paraffin or petrol could be used. This is of course an advantage both in cost of running and ease of procuring fuel. We saw the tractor at work using paraffin, and the result was good and economical.

Articles 3566 and 3567.—*Messrs. Ruston, Proctor & Co., Ltd.*, Sheaf Iron Works, Lincoln. Article 3566, “A Self-feeder, Band Cutter and Conveyor, attached to a Threshing Machine”; and Article 3567, “A Safety Appliance in connection with the Self-feeder and Band Cutter.”—The band cutter is liable to damage the straw and so render it unfitted for trussing; but the safety appliance is a distinct advance.

Article 3656.—*Messrs. H. P. Saunderson & Co., Ltd.*, Elstow Works, Bedford. “Motor ‘Universal,’ 25 B.H.P.” Price 300*l.*—This motor was complete on two compensated front wheels, both steering and propelling, and was fitted with a three-speed gear. It may be attached to a motor digger, to binders, mowers, ploughs, wagons, or to any farm implement; to its special two-wheeled motor plough, when all four travelling wheels propel; or to its “body,” making a 4-ton lorry. It may also be used for threshing, hauling, and general work.

We gave a trial to this machine by ploughing a piece of land situated just outside the Showyard. The plough was so attached to the rear of the tractor that the operator was able to raise it out of work while turning on the headland, thus saving the time wasted by tractors which tow the plough. The tractor in question, being a four-wheeled one, made its turn by what is known at sea by the term “filling and backing,” a simple and quick process in the modern gear-driven tractor. By an ingenious arrangement of universal joints the operator was able to apply power to the steering wheels, and he demonstrated to us the advantage of the extra grip he was able to get of the ground for propelling purposes. When the chain to the auxiliary driving wheel broke, owing to faulty construction, the tractor was helpless. On another occasion it was demonstrated to us that the tractor was unable to surmount an obstacle, consisting of a heavy railway sleeper, when the power was applied to the two rear wheels only; but the instant that the same power was distributed amongst all four wheels by throwing the leading wheels into gear, the tractor climbed easily over the obstruction from a standing start, with the leading wheels touching the sleeper.

MISCELLANEOUS IMPLEMENTS.

The Judges, as usual, visited each stand in the implement yard, and put the time-honoured question, “Do you wish to call the attention of the Judges to anything new this year?” In the majority of cases we received the cheering reply that trade was brisk and that the manufacturers had no time for experiments. I mention, however, one or two implements that seemed to us to be of rather more than ordinary interest.

Stand No. 226.—*Messrs. E. R. & F. Turner, Ltd.*, St. Peter's and Grey Friars Works, Ipswich. We discovered here a machine called "The Pump-Electrifier," invented by Mr. James N. Alsop. The object of this machine was to remove electrically the oil or fatty matter contained in flour, which gives it a bad colour, or in a word to bleach the flour. The inventors state that not only is the flour bleached, but that it is improved in many ways. Perhaps I cannot do better than give a few of the advantages claimed for the machine by the inventors :—

1. A stronger flour.
2. A larger loaf of bread.
3. From 7 per cent. to 10 per cent. more bread in weight.
4. A better flour for baking.
5. From 20 per cent. to 40 per cent. more of higher grade flour than is possible at present.
6. Any degree of whiteness without loss of bloom.
7. Sterilisation of the flour.
8. A loaf that will keep fresh twice as long as one made from flour not treated.
9. A sweeter flour, a sweeter loaf.
10. A better loaf texture.

It is claimed that the miller obtains an increase in the percentage of high grade flour, and so is able to use a cheaper grain, at the same time securing a higher standard. On reference to the illustration (Fig 5) the principal parts of the "Pump-Electrifier," will be seen as follows :—

- A, A, Electrifier tubes in which is produced the electric flame.
- B, Pump to draw the pure air through the electrifier tubes and then force it into the piping leading to the agitators, through which the flour continually passes.
- C, C, Short connecting tubes leading from the electrifier tubes to the pump.
- D, D, Wires carrying the electric current.
- E, E, Rods actuating the electrodes which produce the electric flame.
- F, $1\frac{3}{4}$ -in. shaft on which any desired size of pulley can be affixed for operating the pump.
- G, Piston rod of the pump.
- H, H, Air inlets.

The operation of the Alsop process consists in the suction by the double-acting pump (B), of a current of pure air alternately through the inlets (H, H), and into the electric flames formed within the electrifier tubes (A, A). This air, after passing through the flame, is immediately drawn down the tubes (C, C), through the valves into the pump (B), from which it is ejected into the piping through connecting tubes and valves at the back of the pump, not shown in the illustration. The air is then conducted any distance through the piping to the agitator, where it is brought in contact with the flour. In the tubes (A, A), the electric flames are produced alternately, so that they occur during each influx of air. To produce the flame the top electrodes

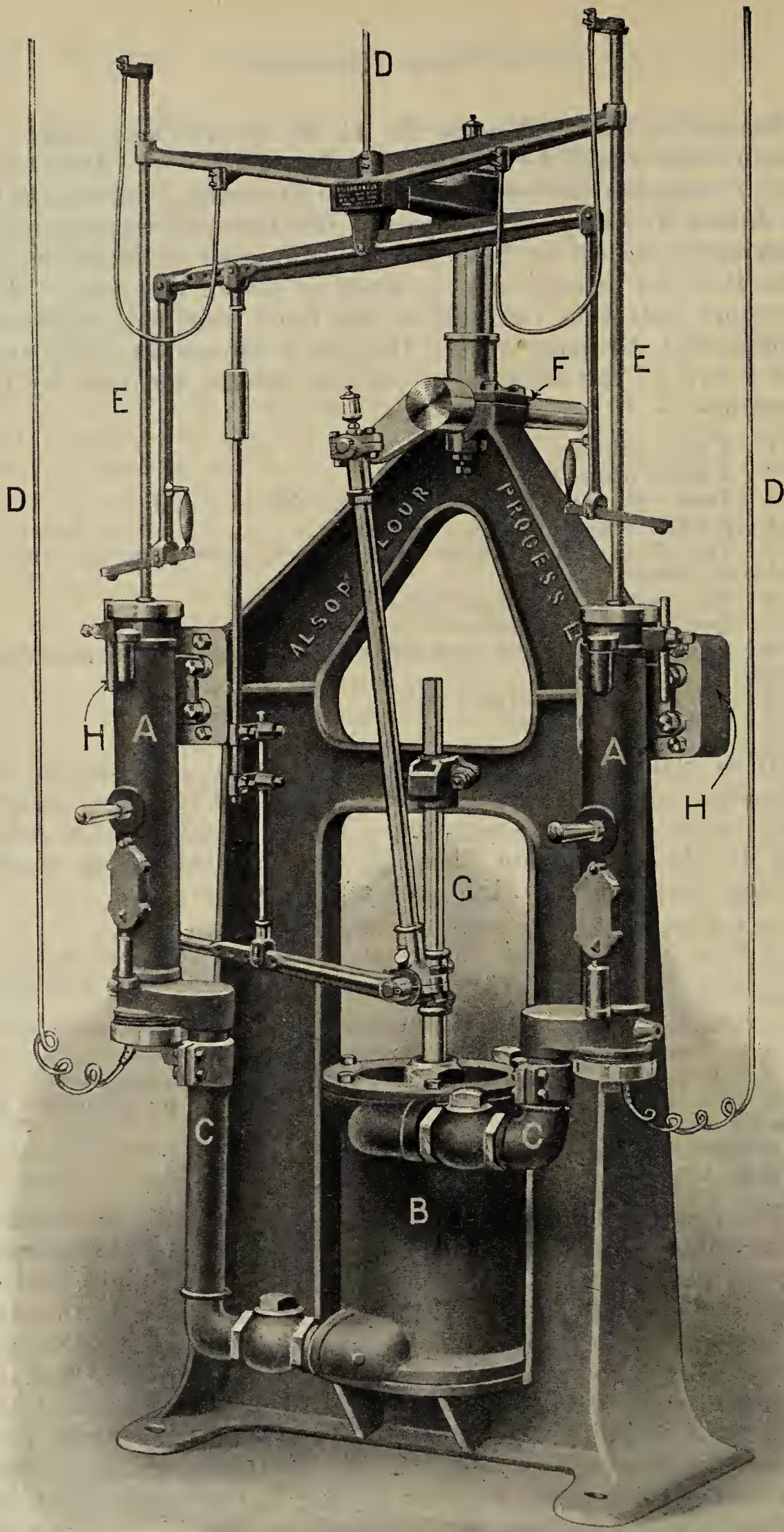


FIG. 5.—The Pump-Electrifier (Stand No. 226).

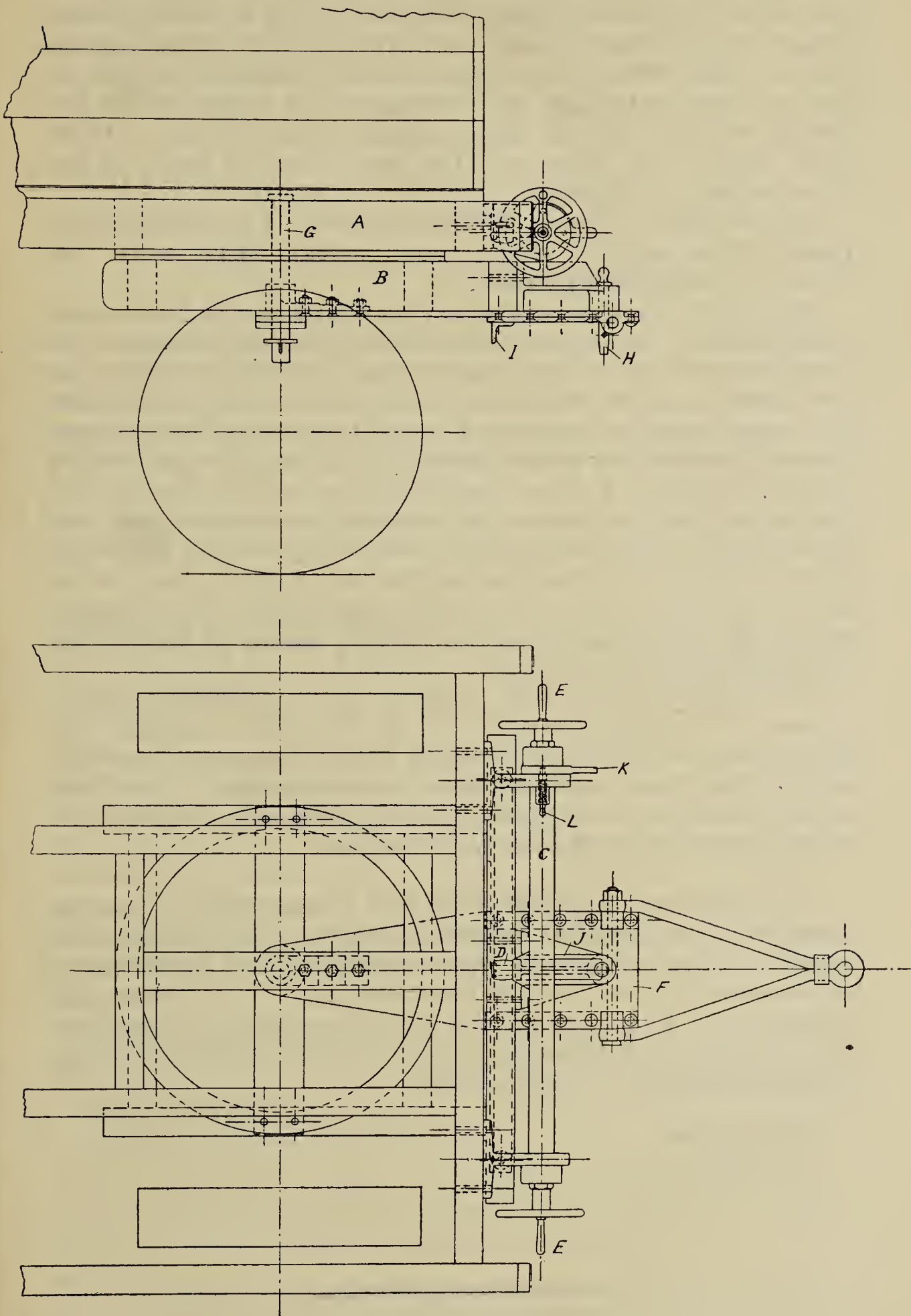


FIG. 6.—Trolley fitted with Patent Backing Gear (Article 3546).

are automatically brought down to touch the lower ones, and then drawn upwards or apart, the result being an electric flame between the electrode ends from three to eight inches long, as desired. The flame or arc is produced by breaking the circuit from a dynamo through an inductance, the length of the arc varying with the amount of inductance in the circuit. A point which struck me most was the short time it took for the induction coil to "build."

Article 3546.—*Messrs. Wallis & Stevens, Ltd.*, Basingstoke, Hants.—This exhibit was a 5-ton trolley fitted with the "Wallis" Patent Backing Gear.

On reference to the drawing (Fig 6), (A) is the framework of the trolley; (B) is the framework of the forecarriage; (C) is the steering pipe which has a screw revolving inside it to move the runner (D) from side to side by means of the handles (E); a drawplate (F) is attached to the forecarriage pin (G), and is held in position by means of the pin (H), and is supported by the angle bar (I). To steer the trolley backwards, the pin (H) is taken out and the runner (D) is turned round to engage into the casting (J) by means of the handle (K), the pin (L) being pulled outwards to allow the handle and pipe to turn in its bearings. When this has been done the trolley can be pushed back by the drawplate (F) and steered by means of the handles (E) actuating the runner (D).

The simplicity of this backing gear is therefore quite apparent. By simply taking out the pin (H), releasing the pin (L), and turning the handle (E) round a quarter of a circle, the drawbar plate is released and the steering gear is put into action; also by reversing these movements the forecarriage and the steering gear are thrown out of action.

In concluding this short Report, I should like to take the opportunity, on behalf of my colleague, Mr. Mair-Rumley, and myself, of recording our best thanks to the Stewards of Implements, Mr. R. Neville Grenville, Mr. W. A. Prout, and Captain W. S. B. Levett, for the valuable assistance they gave us on our tour of inspection; also to Mr. F. S. Courtney, our adviser as to points of engineering.

BAYNTUN HIPPISEY.

Ston Easton Park,
Nr. Bath.

DAIRYING AT PARK ROYAL, 1905.

I. BUTTER TESTS (CLASS 160, A & B).

THE cows competing in the butter-test class at the Society's Show of 1905 exceeded in number those of the two previous years, which may be accounted for in two ways: firstly, the amount of prize money offered was more liberal than on any previous occasion; and secondly, the milk-yield prizes, which were given for the first time in 1905, enabled cows to have a double chance of winning a prize, as they could be entered for both competitions on payment of a small extra fee.

The prizes were awarded on the same scale of points as at previous Shows, and the practice adopted in milking out the cattle and making the butter was exactly the same as before, full particulars being given in Table I. on pp. 94 and 95.

The animals were divided into two classes, for cows over and under 900 lb. live weight, and the prizes offered were as follows: First prize, 15*l.*; second prize, 10*l.*; third prize, 5*l.*, in each class. Gold, Silver, and Bronze Medals for the three Jersey cows in the two classes, irrespective of weight, which gained the greatest number of points, and three Special Prizes of 20*l.*, 10*l.*, and 5*l.* for the three cows of any breed, irrespective of weight, which gained the greatest number of points in the whole competition.

Highly Commended Cards and Certificates of Merit were also offered for (*a*) cows under five years old obtaining 28 points, or in the case of Jerseys 30 points; and (*b*) for cows five years old and over obtaining 32 points, or in the case of Jerseys 35 points. The cows were weighed and divided into their respective classes on Monday, June 26, and were stripped out for the trials on Tuesday evening, the milk of the next twenty-four hours being taken for the test.

The number of cows and the breeds represented were as follows: 5 Shorthorns, 1 Lincolnshire Red Short-horn, 2 South Devons, 2 Red Polled, 21 Jerseys, and 4 Guernseys.

TABLE I.—RESULTS OF BUTTER TESTS AT PARK ROYAL, JUNE 28, 1905.

CLASS 160A.—COWS OF ANY AGE, BREED, OR CROSS, EXCEEDING 900 LB. LIVE WEIGHT. 20 ENTRIES.

No. in Catalogue	Exhibitor	Name of cow	Breed	Live weight	Date of birth	Date of last calf	No. of days in milk	Milk yield in 48 hours	Butter yield	Ratio, viz., lb. milk to lb. butter	Colour and quality of butter		No. of points for butter	No. of points for lactation	Total No. of points	Awards	CHURNING TABLE					
											Colour	Quality					Began	Finished	Duration	Dairy	Cream and Buttermilk	Temperature
1262	Dr. H. Watney	Guénon's Lady	Jersey	1120	Mar. 20, '99	1905 March 24	96	42 0	2 12 $\frac{3}{4}$	15'01	Fair	Very Good	44'75	5'60	50'35	1st prize, 15l., S.M., ² & 2nd, S.P., 10l. ⁴	2 58	3 20	22	66	52	54
1258	A. Miller-Hallett	Salvadora	Jersey	952	Mar. 18, '99	Jan. 27	152	36 14	2 7	15'12	Fair	Good	39'00	11'20	50'20	2nd prize, 10l., B.M., ³ & 3rd, S.P., 5l. ⁴	2 32	3 15	43	66	52	59
1266 1039	Dr. H. Watney Lord Rothschild	Violette Syren 3rd	Jersey Jersey	924 1008	1897 April 26, '96	March 26 March 9	94 111	47 0 41 8	2 12 2 5	17'08 17'94	Good Fair	Very Good Very Good	44'00 37'00	5'40 7'10	49'40 44'10	3rd prize, 5l., R.N. & Cert. of Merit.	3 5 11 35	3 50 12 16	45 41	66 66	52 52	57 57
754 1120 1254 1259 1040	T. R. C. Cundy Sir H. Lennard, Bt. J. Evens Lord Rothschild J. H. Smith-Barry	Alice Lady 77th Chance 4th Royal Heiress Leyland's Gift	S. Devon Guernsey Shorthorn Shorthorn Jersey	1218 1022 1239 1323 910	Sept. 20, '99 Nov. 24, '98 1899 Sept. 1, '96 Mar. 30, '97	Jan. 23 March 27 Jan. 31 Feb. 26 Jan. 22	156 93 148 122 157	42 12 39 10 52 12 43 10 41 0	1 9 $\frac{1}{2}$ 1 13 $\frac{1}{4}$ 1 10 1 8 $\frac{3}{4}$ 1 11 $\frac{1}{4}$	26'82 20'28 32'46 28'20 24'07	Pale Excellent Pale Pale Excellent	Fair Fair Good Fair Good	25'50 31'25 26'00 24'75 27'25	11'60 5'30 10'80 8'20 11'70	37'10 36'55 36'80 32'95 38'95	H. C. H. C. H. C. H. C. H. C. & Cert. of Merit.	9 43 12 36 1 2 2 55 11 48	10 38 1 26 1 55 3 25 12 14	55 50 53 30 26	63 67 66 66 66	52 52 52 52 52	58 57 56 56 55
1264	Dr. H. Watney	Primrose Day	Jersey	924	April 19, '94	Feb. 24	124	32 4	1 11 $\frac{1}{2}$	18'76	Fair	Fair	27'50	8'40	35'90	H. C. & Cert. of Merit.	2 22	2 47	25	66	52	55
1265	Dr. H. Watney	Red Maple	Jersey	1050	July 14, '96	April 21	68	50 0	2 4	22'22	Fair	Good	36'00	2'80	38'80	H. C. & Cert. of Merit.	3 7	3 37	30	66	52	55
614 615 752 838 841 1037 1116 1251 1255	R. W. Hobbs R. W. Hobbs B. Butland Lord Amherst Sir W. Corbet, Bt. Lord Rothschild F. Hargreaves Hope Brooke J. Evens	Betty 7th Snowdrop 30th Good Luck Nellie 6th Linda 3rd Daystar Merion Dairymaid Great Tew Dairymaid 5th	Shorthorn Shorthorn S. Devon Red Polled Red Polled Jersey Guernsey Shorthorn L'uc'n Red Short-horn	1386 1470 1694 1692 987 966 1190 1624	April 8, '98 July 28, '98 July 24, '00 May 29, '00 April 20, '98 Feb. 13, '97 Unknown March, 1899	March 27 June 1 April 26 May 12 March 3 March 29 May 15 Jan. 6 May 12	93 27 63 47 117 91 44 173 47	41 4 44 6 38 6 44 0 43 12 40 6 35 0 22 12 52 12	1 2 $\frac{1}{2}$ 1 8 0 9 $\frac{3}{4}$ 0 14 1 13 $\frac{3}{4}$ 1 7 $\frac{1}{2}$ 0 9 1 6 $\frac{3}{4}$	35'66 29'58 62'96 50'28 39'42 21'71 23'82 40'44 37'08	Good Fair Fair Fair Fair Good Good Fair Fair	Fair Fair Fair Fair Fair Good Good Fair Fair	18'50 24'00 9'75 14'00 17'75 29'75 23'50 9'00 22'75	5'30 nil. 2'30 7'70 5'10 12'00 -70	23'80 24'00 12'05 14'70 25'45 34'85 23'90 21'00 23'45	— — — — — — — — —	9 35 9 41 9 36 9 52 9 48 11 28 12 15 12 21 1 10	10 26 10 20 11 50 10 35 10 24 11 48 12 30 1 4 2 0	51 39 134 43 36 20 15 43 50	62 63 62 63 63 66 67 67 66	52 52 52 52 52 52 52 52 52	56 57 65 56 56 56 57 58 58

¹ The "Butter Ratio" represents the number of lb. of milk required to make 1 lb. of butter. Ten lb. of milk are reckoned as equal to an imperial gallon.
² Silver Medal, ³ Bronze Medal, ⁴ Special Prize of the English Jersey Cattle Society.

TABLE I.—RESULTS OF BUTTER TESTS AT PARK ROYAL, JUNE 28, 1905—(continued).

CLASS 160 B.—COWS OF ANY AGE, BREED, OR CROSS NOT EXCEEDING 900 LB. LIVE WEIGHT. 15 ENTRIES.

No. in Catalogue	Exhibitor	Name of cow	Breed	Live weight	Date of birth	Date of last calf	No. of days in milk	Milk yield in 48 hours	Butter yield	Ratio, viz., lb. milk to lb. butter	Colour and quality of butter		No. of points for butter	No. of points for lactation	Total No. of points	Awards	CHURNING TABLE					
											Colour	Quality					Began	Finished	Duration	Temperature		
																				Dairy	Cream and Churn	Buttermilk
1252	Lady de Rothschild	Lady Dora	Jersey	Lb. 861	1899	1905 Jan. 16	163	Lb. oz. 47 14	Lb. oz. 2 84	19'03	Fair	Good	40'25	12'00	52'25	1st prize, 15l., G.M. ² & S.P., 20l. ³	12 52	1 30	38	66	52	56
1267	Dr. H. Watney	Wild Teasel 2nd	Jersey	896	Oct. 27, '99	Jan. 18	161	41 8	2 5½	17'70	Excellent	Very Good	37'50	12'00	49'50	2nd prize, 10l.	—	—	—	—	—	—
1026	The Bishop of Ipswich	Oxford Dewdrop	Jersey	861	Mar. 28, '97	Apr. 10	79	51 2	2 7¼	20'57	Fair	Very Good	39'75	3'90	43'65	3rd prize, 5l.	10 45	11 30	45	65	57	
1025	The Bishop of Ipswich	Lady Teasel	Jersey	886	Jan. 4, '97	Apr. 16	73	52 12	2 5½	23'04	Good	Good	37'50	3'30	40'80	R.N. & Cert. of Merit	9 56	10 26	30	63	55	
1030	Mrs. McIntosh	Virginian Beauty	Jersey	847	Sept. 18, '00	Jan. 8	171	39 10	1 8	26'41	Fair	Good	24'00	12'00	36'00	H.C. & Cert. of Merit	10 59	12 0	61	66	52	
1034	C. and M. Palmer	May	Jersey	826	Mar. 29, '97	Jan. 23	156	28 4	1 10	17'76	Good	Good	26'00	11'60	37'60	H.C. & Cert. of Merit	10 30	11 1	31	64	52	
1035	C. and M. Palmer	Sugar Maple	Jersey	791	Feb. 10, '98	Mar. 7	113	32 2	1 12¼	18'19	Excellent	Fair	28'25	7'30	35'55	H.C. & Cert. of Merit	11 8	11 29	21	66	52	
1041	Capt. Smith-Neill	Geraldine	Jersey	861	Oct. 19, '00	Mar. 4	116	47 0	1 15½	24'06	Good	Good	31'50	7'60	39 10	H.C. & Cert. of Merit	11 47	12 8	21	66	52	
1042	Capt. Smith-Neill	Viola's Beauty	Jersey	896	Aug. 12, '95	Jan. 24	155	27 8	1 7½	18'72	Good	Very Good	23'50	11'50	35'00	H.C. & Cert. of Merit	12 5	12 32	27	67	52	
1253	Lady de Rothschild	Witch	Jersey	826	April 11, '99	Mar. 22	98	42 6	1 15¾	21'35	Good	Good	31'75	5'80	37'55	H.C. & Cert. of Merit	12 56	1 11	15	66	52	
1257	T. Butt Miller	Breeze	Jersey	847	Mar. 25, '98	Mar. 2	118	31 6	1 15¾	15'81	Fair	Good	31'75	7'80	39'55	H.C. & Cert. of Merit	2 25	3 0	35	66	52	
1261	J. H. Smith-Barry	Nimble	Jersey	840	Feb. 22, '01	Mar. 27	93	31 2	1 15¾	15'68	Fair	Good	31'75	5'30	37'05	H.C. & Cert. of Merit	2 23	2 48	25	66	52	
1036	C. and M. Palmer	Sweep	Jersey	819	Jan. 24, '96	Mar. 10	110	24 0	1 4¼	19'20	Excellent	Good	20'25	7'00	27'25	—	11 20	11 44	24	66	52	
1123	H. M. Ozanne	Lady Roberts	Guernsey	875	Feb. 5, '95	Apr. 21	68	45 8	1 11	26'96	Excellent	Very Good	27'00	2'80	29'80	—	12 30	12 57	27	67	52	
1124	H. M. Ozanne	Noble Lady	Guernsey	840	July 6, '94	June 11	17	33 4	0 15¼	34'88	Excellent	Fair	15'25	nil	15'25	—	12 27	12 46	19	67	52	

¹The "Butter Ratio" represents the number of lb. of milk required to make 1 lb. of butter. Ten lb. of milk are reckoned as equal to an imperial gallon.

² Gold Medal, ³ Special Prize of the English Jersey Cattle Society.

Table II. gives the result of the competition so far as the prize-winners are concerned :—

TABLE II.—*Result of Butter-test Competition (Class 160).*

CLASS 160A.—COWS EXCEEDING 900 LB. LIVE WEIGHT.

Name of exhibitor	Name of cow	Breed	Live weight	Days in milk	Milk	Butter	Ratio	Points	Result
			Lb.		Lb. oz.	Lb. oz.	Lb.		
Dr. Watney . . .	Guénon's Lady . .	Jersey	1120	96	42 0	2 12 $\frac{3}{4}$	15·01	50·35	1st Prize
A. Miller-Hallett . .	Salvadora . . .	Jersey	952	152	36 14	2 7	15·12	50·20	2nd Prize
Dr. Watney . . .	Violette . . .	Jersey	924	94	47 0	2 12	17·08	49·40	3rd Prize

CLASS 160B.—COWS 900 LB. LIVE WEIGHT AND UNDER.

Name of exhibitor	Name of cow	Breed	Live weight	Days in milk	Milk	Butter	Ratio	Points	Result
			Lb.		Lb. oz.	Lb. oz.	Lb.		
Lady de Rothschild . .	Lady Dora . . .	Jersey	861	163	47 14	2 8 $\frac{1}{4}$	19·03	52·25	1st Prize
Dr. Watney . . .	Wild Teasel 2nd . .	Jersey	896	161	41 8	2 5 $\frac{1}{2}$	17·70	49·50	2nd Prize
Bishop of Ipswich . .	Oxford Dewdrop . .	Jersey	861	79	51 2	2 7 $\frac{3}{4}$	20·57	43·65	3rd Prize

The three Special Prizes of 20*l.*, 10*l.*, and 5*l.*, and the Gold, Silver, and Bronze Medals given by the English Jersey Cattle Society, were awarded to :—(1) Lady de Rothschild, for *Lady Dora* (see portrait of this animal opposite); (2) to Dr. H. Watney, for *Guénon's Lady*; and (3) to Mr. Miller-Hallett, for *Salvadora*.

Highly Commended Cards and Certificates of Merit were given to 17 cows besides the prize-winners; so that out of the 35 animals tested no less than 23 reached the standard necessary to win a prize, a result which must be considered satisfactory.

In trials of this description most useful information is supplied by the averages of the various breeds competing. No apology is therefore necessary for the insertion of Table III. :—

TABLE III.—*Averages of Cattle Tested.*

No. of cows competing	Breed	Days in milk	Milk	Butter	Ratio	Points
			Lb. oz.	Lb. oz.	Lb.	
5	Shorthorns . . .	113	40 15 $\frac{1}{5}$	1 4 $\frac{9}{20}$	32·03	27·71
1	Lincolns. Red do. . .	47	52 12	1 6 $\frac{3}{4}$	37·08	23·45
2	South Devons . . .	109	40 9	1 1 $\frac{5}{8}$	36·11	24·57
2	Red Polled . . .	82	43 14	0 15 $\frac{7}{8}$	44·22	20·07
21	Jerseys . . .	119	39 7 $\frac{1}{21}$	2 0 $\frac{17}{21}$	19·23	40·63
4	Guernseys . . .	55	38 5 $\frac{1}{2}$	1 8 $\frac{1}{4}$	25·29	26·37

It is but fair to mention that one of the two South Devon cows tested gave milk showing an average of only 1·67 fat on the two milkings. The average therefore of the South Devons, although set out, does not accurately represent the usual quality of the milk of that breed.



JERSEY COW, "LADY DORA."

Winner of Gold Medal and Special Prize in Class for Butter Tests, Park Royal, 1905. Exhibited by LADY DE ROTHSCHILD.

In the cases of one Shorthorn, one Guernsey, and the two Red Polled cows, the non-churnability of the milks was patent; but as the prizes were awarded on one churning only, I did not churn these buttermilks to see what was left in them. This non-churnability of milk seems to be rather prevalent with the Red Polled breed; but as I have not had an opportunity of examining that milk under the microscope, I cannot say for certain that the milk from that breed contains a large proportion of small and irregular-sized fat globules, although I am of opinion that such is the case.

In the milking trials samples of milk were taken for analysis by Dr. Voelcker. I have taken the average percentage of fat for each breed, multiplied the weight of milk by the butter fat, and added 10 per cent. for moisture.

The results are shown as follows:—

Amount of Butter calculated from Analysis.

	Lb.	oz.					Lb.	oz.	
Shorthorns	1	5 $\frac{1}{4}$	+	10 per cent.	for moisture	=	say 1	7 $\frac{1}{4}$	butter
Lincolns. Red	1	4 $\frac{3}{4}$	+	"	"	"	"	1	6 $\frac{3}{4}$
South Devons	1	0 $\frac{3}{4}$	+	"	"	"	"	1	1 $\frac{1}{4}$
Red Polled	1	6	+	"	"	"	"	1	8 $\frac{1}{4}$
Jerseys	1	14	+	"	"	"	"	2	1
Guernseys.	1	8 $\frac{1}{2}$	+	"	"	"	"	1	11

Comparison between Calculated and Actual Makes.

	Calculated make		Actual make	
	Lb.	oz.	Lb.	oz.
Shorthorns	1	7 $\frac{1}{4}$	1	4 $\frac{9}{20}$
Lincolns. Red	1	6 $\frac{3}{4}$	1	6 $\frac{3}{4}$
South Devons	1	1 $\frac{1}{4}$	1	1 $\frac{5}{8}$
Red Polled	1	8 $\frac{1}{4}$	0	15 $\frac{7}{8}$
Jerseys	2	1	2	0 $\frac{17}{21}$
Guernseys	1	11	1	8 $\frac{1}{4}$

The non-churnability cases mentioned above may help to explain the discrepancies.

II. MILK-YIELD TESTS.

The milk-yield prizes which were offered by the Society at the Show at Park Royal in 1905 were in advance of all previous competitions of this description, in that separate prizes were given to ten breeds which rank as dairy cattle, thus avoiding competition between breeds, while as a condition precedent every animal entered for these prizes had first to be judged in the inspection class of its respective breed.

Under these conditions purity of pedigree became a *sine quâ non*, and the need of the combination of form with utility was accentuated.

Special open prizes were also offered in Class 161 through the English Jersey Cattle Society, not only for those cattle

TABLE IV.—MILK-YIELD CLASSES AT PARK ROYAL, 1905.

No. in Catalogue	Exhibitor	Name of cow	Date of birth	Date of last calf	No. of days in milk	Total milk yield in 24 hours	Fat per cent- age	Points			Awards	
								Milk	Fat per cent- by 4	Lac- a- tion		Total
<i>Class 77.</i>												
1503	C. R. W. Adeane	Beryl	Feb. 27, 1900	1905.	70	Lb. oz.	4.15	40.50	16.60	3.00	60.10	H.C. & H.C.S.C. ²
1606	C. R. W. Adeane	Lucretia	Dec. 31, 1900	Apr. 19	40	8	3.40	26.75	13.60	1.70	42.05	
1607	C. R. W. Adeane	Oxford Ada	Sept. 12, 1900	May 2	35	0	3.50	53.00	14.00	Nil	67.00	R.N. & H.C., & H.C.S.C.
609	D. Arkell	Frost 78th	July 2, 1898	Jan. 5	174	4	4.87	25.25	19.48	12.00	56.73	H.C.
1613	J. T. Hobbs	Orange Blossom 13th	Sept. 27, 1894	Apr. 2	87	4	3.82	52.25	15.28	4.70	72.23	2nd Prize 5L., & H.C.S.C.
1614	R. W. Hobbs	B-tty 7th	Apr. 8, 1896	Mar. 27	93	4	3.03	41.25	12.12	5.30	58.67	H.C. & H.C.S.C.
1615	R. W. Hobbs	Snowdrop 30th	July 28, 1898	June 1	27	4	3.37	44.37	13.48	Nil	57.85	H.C. & H.C.S.C.
616	A. B. & W. G. Little	Circe's Daisy	Apr. 3, 1894	Apr. 29	60	8	3.97	38.50	15.88	2.00	56.38	H.C.
618	Lord Rothschild	Dolly Dowke 6th	June 12, 1895	Feb. 9	139	6	2.85	29.37	11.40	9.90	50.67	Deficient in fat.
1619	Lord Rothschild	Moppy Gem 5th	Apr. 10, 1897	Apr. 29	60	8	2.95	52.50	11.80	2.00	66.30	Deficient in fat.
1620	Lord Rothschild	Tulip Leaf	Feb. 10, 1896	Feb. 20	128	4	2.57	42.25	10.28	8.80	61.33	Deficient in fat.
621	C. A. Scott-Murray.	Lady Millicent Waterloo	Feb. 28, 1899	May 21	38	2	3.35	54.12	13.40	Nil	67.52	3rd Prize, 3L.
1624	G. Taylor	Melody	July 10, 1895	June 20	8	8	3.55	59.50	14.20	Nil	73.70	1st Prize, 10L., & 3rd Prize, S.C., 5L.
626	C. E. Wodehouse	Clematis 2nd	Feb. 20, 1896	Apr. 7	82	2	3.15	45.12	12.60	4.20	61.92	H.C.
627	C. E. Wodehouse	Lady Rae 3rd	Apr. 15, 1899	Apr. 22	67	10	2.95	27.62	11.80	2.70	42.12	Deficient in fat.
<i>Class 84.</i>												
1645	J. Evens	Burton Primrose 2nd	Apr. 19, 1899	Mar. 25	95	4	3.57	53.25	14.28	5.50	73.03	1st Prize, 10L., & R.N.S.C.
646	J. Evens	Burton Rose 4th	Aug. 11, 1900	June 3	25	4	2.45	35.25	9.80	Nil	45.05	Deficient in fat.
647	J. Evens	Saltfleet Favourite	Mar. 10, 1901	Mar. 25	95	6	3.10	43.37	12.40	5.50	61.27	2nd Prize, 5L.
648	T. B. Freshney	Ruby 12th	May 20, 1902	May 27	32	2	4.25	22.12	17.00	Nil	39.12	
<i>Class 99.</i>												
1752	B. Butland	Good Luck.	July 24, 1900	Apr. 26	63	6	1.67	38.37	6.68	2.30	47.35	Deficient in fat.
1754	T. R. C. Cundy	Alice	Sept. 20, 1899	Jan. 23	156	12	3.52	42.75	14.08	11.60	68.43	1st Prize, 10L., & H.C.S.C.
<i>Class 116.</i>												
838	Lord Amherst of Hackney	Nellie 6th	May 29, 1900	May 12	47	0	2.90	44.00	11.60	.70	56.30	Deficient in fat.
840	Sir W. Corbet, Bt.	Desiree of Johnstown	Dec. 26, 1900	Sept. 18, 1904	283	4	4.47	24.25	17.88	12.00	54.13	H.C.
1841	Sir W. Corbet, Bt.	Linda 3rd	Apr. 20, 1898	Mar. 3, 1905	117	12	2.75	43.75	11.00	7.70	62.45	Deficient in fat.
845	J. Hammond	Davy 204th.	Jan. 22, 1900	Oct. 11, 1904	260	12	4.30	26.75	17.20	12.00	55.95	R.N. & H.C.
<i>Class 130.</i>												
1846	Earl of Radnor	Ashlyns Rose 2nd	May 2, 1898	Mar. 31	89	12	3.52	43.75	14.08	4.90	62.73	3rd Prize, 3L., & H.C.S.C.
847	Lord Rothschild	Clarissa	Dec. 1, 1898	Feb. 9	139	4	3.47	49.25	13.88	9.90	73.03	1st Prize, 10L.
848	Lord Rothschild	Jenny Jones	Sept. 3, 1893	Feb. 22	126	41	2.75	41.75	11.00	8.60	61.35	Deficient in fat.
849	Lord Rothschild	Rustic.	Sept. 28, 1900	June 1	27	4	3.10	51.25	12.40	Nil	63.65	2nd Prize, 5L.
<i>Class 130.</i>												
954	Lieut.-Col. Fergusson-Buchanan	Auchentorlie Susy 2nd	Apr. 24, 1900	June 13	15	12	4.37	47.75	17.48	Nil	65.23	1st Prize, 10L.
956	A. Mitchell	Gracie	Mar. 4, 1900	Feb. 20	128	4	3.65	26.25	14.60	8.80	49.65	
957	Capt. Smith-Neill	Hillhouse Blossom 4th	Apr. 11, 1901	Apr. 27	62	12	3.87	32.75	15.48	2.20	50.43	2nd Prize, 5L.
958	Capt. Smith-Neill	Horny Kate 5th of Outmains	Mar. 6, 1896	May 23	36	0	3.02	18.00	12.08	Nil	30.08	
959	R. Wilson	Harvey 6th of Manswrae	Dec. 3, 1898	June 22	6	8	4.15	35.50	16.60	Nil	52.10	
960	R. Wilson	Manswrae Primrose	June 4, 1901	May 11	48	10	3.85	29.62	15.40	.80	45.82	

¹ These animals were also entered for the Special Milk-yield Competition (Class 161), see Table V., page 101. ² S.C. = Special Class.

TABLE IV.—MILK-YIELD CLASSES AT PARK ROYAL, 1905.—*continued.*

No. in Catalogue	Exhibitor	Name of cow	Date of birth	Date of last calf	No. of days in milk	Total milk yield in 24 hours	Fat per cent. age	Points			Awards	
								Milk	Fat per cent. by 4	Lactation		Total
<i>Jerseys</i>												
Class 139				1905.	Lb. oz.							
11025	Bishop of Ipswich.	Lady Teasel	Jan. 4, 1897	Apr. 16	73	52	4.20	52.75	16.80	3.30	72.85	1st Prize, 10l., & H.C.S.C. ²
11026	Bishop of Ipswich.	Oxford Dewdrop	Mar. 28, 1897	Apr. 10	79	51	4.45	51.12	17.80	3.90	72.82	2nd Prize, 5l., & H.C.S.C.
1030	Mrs. McIntosh	Virginian Beauty	Sept. 18, 1900	Jan. 8	39	10	3.40	39.62	13.60	12.00	65.22	H.C.
11033	A. Miller-Hallett	Lottie	Apr. 27, 1896	Apr. 11	78	36	5.60	36.75	22.40	3.80	62.95	H.C. & H.C.S.C.
11034	C. & M. Palmer	May	Mar. 29, 1897	Jan. 23	156	28	5.02	28.87	20.08	11.60	60.55	H.C. & H.C.S.C.
11035	C. & M. Palmer	Sugar Maple	Feb. 10, 1898	Mar. 7	113	32	4.92	32.12	19.68	7.30	59.10	H.C. & H.C.S.C.
11036	C. & M. Palmer	Sweep	Jan. 24, 1896	Mar. 10	110	24	4.65	24.00	18.60	7.00	49.60	—
1037	Lord Rothschild	Daystar	Feb. 13, 1897	Mar. 29	91	40	4.50	40.37	18.00	5.10	63.47	H.C.
1039	Lord Rothschild	Syren 3rd	Apr. 26, 1896	Mar. 9	111	41	5.10	41.50	20.40	7.10	69.00	R.N. & H.C.
1040	J. H. Smith-Barry	Leyland's Gift	Mar. 30, 1897	Jan. 22	157	41	3.95	41.00	15.80	11.70	68.50	H.C.
11041	Capt. Smith-Neill	Geraldine	Oct. 19, 1900	Mar. 4	116	47	3.77	47.00	15.08	7.60	69.68	3rd Prize, 3l., & H.C.S.C.
11042	Capt. Smith-Neill	Viola's Beauty	Aug. 12, 1895	Jan. 24	155	27	4.75	27.50	19.00	11.50	58.00	H.C. & H.C.S.C.
1043	Lady Smyth	Lily's Fancy	May 24, 1902	Apr. 19	70	30	4.02	30.00	16.08	3.00	49.08	H.C.
<i>Guernseys</i>												
Class 146												
1112	E. A. Hambro.	Express	Mar. 26, 1905	May 31	28	41	4.60	41.50	18.40	Nil	59.90	R.N. & H.C.
1113	E. A. Hambro.	Golden Cherry	Aug. 3, 1897	June 5	25	32	4.35	32.87	17.40	Nil	50.27	H.C.
1114	E. A. Hambro.	Queen of Roses.	Sept. 3, 1898	May 15	44	45	3.65	45.75	14.60	.40	60.75	2nd Prize, 5l.
11116	F. Hargreaves	Merton Dairy Maid	April, 1896	May 15	44	35	3.90	35.00	15.60	.40	51.00	H.C. & H.C.S.C.
1117	F. Hargreaves	Polly of La Croix 3rd	Mar. 30, 1896	Apr. 16	73	31	3.57	31.12	14.28	3.30	48.70	—
1120	Sir H. Lennard, Bt.	Lady 77th	Nov. 24, 1898	Mar. 27	93	39	5.00	39.62	20.00	5.30	64.92	1st Prize, 10l.
1123	H. M. Ozanne.	Lady Roberts	Feb. 5, 1895	Apr. 21	68	45	3.02	45.50	12.08	2.80	60.38	3rd Prize, 3l.
1124	H. M. Ozanne.	Noble Lady	July 6, 1894	June 11	17	33	3.97	33.25	15.88	Nil	49.13	—
1125	H. F. Plumpton	Muriel 12th.	Apr. 16, 1901	May 2	57	36	4.35	36.75	17.40	1.70	55.85	H.C.
<i>Longhorns</i>												
Class 151												
1160	The Hon. E. A. FitzRoy, M.P.	Rosebud	Feb. 17, 1901	May 23	36	33	3.70	33.75	14.80	Nil	48.55	—
1162	W. H. Sale	Miriam	Feb. 2, 1897	May 18	41	35	4.65	35.50	18.60	.10	54.20	—
<i>Kerries</i>												
Class 155												
1176	C. J. Cory.	Attingham Pet	Dec. 8, 1896	Apr. 12	77	31	3.67	31.25	14.68	3.70	49.63	H.C.
1177	C. J. Cory.	La Mancha Turtle Dove.	1898	May 18	41	43	3.85	43.50	15.40	.10	59.00	R.N. & H.C.
1178	C. J. Cory.	Patricia an Ceathramhadh	Apr. 13, 1896	Mar. 15	105	25	3.87	25.50	15.48	6.50	47.48	H.C.
1179	Muriel, Countess de la Warr	Buckhurst Cactus Dahlia	Feb. 28, 1901	Mar. 27	93	18	5.40	18.87	21.60	5.30	45.77	H.C.
1181	Muriel, Countess de la Warr	La Mancha Vesta	1894	Apr. 2	87	40	4.15	40.00	16.60	4.70	61.30	2nd Prize, 5l.
1182	Lady Greenall	Maple 4th of Carton	Mar. 8, 1899	Apr. 17	72	40	4.35	40.00	17.40	3.20	60.60	3rd Prize, 3l.
1183	Lady Greenall	Walton Joyous	Apr. 10, 1902	May 7	52	45	4.17	45.00	16.68	1.20	62.88	1st Prize, 10l.
1188	D. M. Rattray	Gort Beauty	1901	Apr. 30	59	24	4.50	24.75	18.00	1.90	44.65	H.C.
1189	R. T. Robertson	La Mancha Mary Ann	1900	Apr. 15	74	20	3.95	20.37	15.80	3.40	39.57	—
<i>Dexters</i>												
Class 159												
1216	B. de Bertodano	Cowbridge Lorna	1900	Apr. 22	67	35	3.65	35.25	14.60	2.70	52.55	3rd Prize, 3l.
1218	Duchess of Devonshire	Compton Dorcas	1899	Mar. 21	99	34	3.90	34.00	15.60	5.90	55.50	2nd Prize, 5l.
1219	Duchess of Devonshire	Compton Dot	1897	May 6	53	43	3.47	43.00	13.88	1.30	58.18	1st Prize, 10l.
1221	H. M. Gibbs	Barrow Begum.	1900	Apr. 21	68	28	3.07	28.25	12.28	2.80	43.33	H.C.
1222	H. M. Gibbs	Barrow Gunga	1901	June 4	24	33	3.85	33.37	15.40	Nil	48.77	R.N. & H.C.
1223	H. M. Gibbs	Barrow Pansy	1902	May 29	30	27	3.60	27.62	14.40	Nil	42.02	H.C.
1226	R. T. Robertson	La Mancha Noble Lassie	1899	Apr. 28	61	26	4.07	26.75	16.28	2.10	45.13	H.C.
1228	R. T. Robertson	La Mancha Wee Wee	1899	May 14	45	17	3.02	17.25	12.08	.50	29.83	—

¹ These animals were also entered for the Special Milk-yield Competition (Class 161), see Table V., page 101.

² S.C. = Special Class.

which had competed in the breed milk-yield classes, but also (upon payment of a small extra fee) for cows of any age, breed, or cross; so that animals which were not qualified or had not entered in the inspection classes were equally afforded an opportunity of demonstrating their usefulness.

The prizes in these classes were awarded on the following scale of points: 1 point for every 1 lb. of milk; 1 point for every completed ten days since calving, deducting the first forty days. Maximum points for lactation, 12. Four points for every 1 per cent. of fat shown on the average of the two milkings; but disqualification in the case of any cow whose milk showed less than 3 per cent. on the average of the two milkings. Fractions of pounds of milk, percentages of fat, and incomplete periods of less than ten days were worked out in decimals and added to the total points.

In order to prevent prizes going to animals unworthy of them in consequence of too poor a yield of milk, no prizes or commendations were awarded for cattle which did not obtain the following points:—

	Cows above 5 years of age	Cows and Heifers under 5 years of age
Shorthorn, Lincolnshire Red Short-horn, } South Devon, Red-Polled, Ayrshire, } or Longhorn	55	50
Jersey or Guernsey	50	45
Kerry or Dexter	40	35

In cases of equality of points the prize was awarded for the cow which had been the longest time in milk. Highly Commended Cards were awarded for all animals, other than the winners of the prizes, which obtained the points mentioned above.

As the prize list was a liberal one the entries were good, the number of animals competing being ninety, which include those entered in the special class.

The cattle were milked out on Tuesday evening, June 27, the milk of Wednesday being taken for the trials. All the milks on Wednesday (both morning and evening), after being weighed, were sampled and analysed by Dr. Voelcker.

Table IV., on pp. 98 and 99, gives the complete results of the competition in the milk-yield classes of the various dairy breeds.

Table V., on page 101, gives the complete results of the special milk-yield competition in Class 161, for cows of any age, breed, or cross.

As more general information is obtainable from average than from particular yields, the averages of all the different breeds that were entered for the open and special milk-yield

TABLE V.—CLASS 161.—SPECIAL MILK-YIELD CLASS FOR COWS OF ANY AGE, BREED,
OR CROSS.

No. in Catalogue	Exhibitor	Name of cow	Breed	Date of birth	Date of last calf.	No. of days in milk	Total milk yield in 24 hours	Fat percentage	Points			Awards	
									Milk	Fat per cent. by 4	Lactation		Total
1185	Duchess of Newcastle.	Hardwick Flora.	Kerry.	Apr. 23, 1898	1905. Apr. 18	71	Lb oz 29 0	3.80	29.00	15.20	3.10	47.30	H.C.
1186	Duchess of Newcastle.	Hardwick Pearl.	Kerry.	May 10, 1902	May 21	38	27 0	4.67	27.00	18.68	Nil.	45.68	H.C.
1251	Hope Brooke.	Great Tew.	Shorthorn.	Unknown	Jan. 6	173	22 12	2.35	22.75	9.40	12.00	44.15	Deficient in fat.
1252	Lady de Rothschild.	Lady Dora.	Jersey.	1899	Jan. 16	163	47 14	4.87	47.87	19.48	12.00	79.35	1st Prize, 201.
1253	Lady de Rothschild.	Witch.	Jersey.	Apr. 11, 1899	Mar. 22	98	42 6	4.67	42.37	18.68	5.80	66.85	H.C.
1254	J. Evens.	Chance 4th.	Shorthorn.	1899	Jan. 31	148	52 12	2.80	52.75	11.20	10.80	74.75	Deficient in a
1255	J. Evens.	Dairymaid 15th.	Lincoln Red	March, 1899	May 12	47	52 12	2.52	52.75	10.08	.70	63.53	Deficient in at.
1258	A. Miller-Hallett.	Salvadora.	Jersey.	Mar. 18, 1899	Jan. 27	152	36 14	5.90	36.87	23.60	11.20	71.67	H.C.
1259	Lord Rothschild.	Royal Heiress.	Shorthorn.	Sept. 1, 1896	Feb. 26	122	43 10	3.37	43.62	13.48	8.20	65.30	H.C.
1262	Dr. H. Watney.	Guénon's Lady.	Jersey.	Mar. 20, 1899	Mar. 24	96	42 0	5.87	42.00	23.48	5.60	71.08	H.C.
1264	Dr. H. Watney.	Primrose Day.	Jersey.	Apr. 19, 1894	Feb. 24	124	32 4	4.75	32.25	19.00	8.40	59.65	H.C.
1265	Dr. H. Watney.	Red Maple.	Jersey.	July 14, 1896	Apr. 21	68	50 0	4.27	50.00	17.08	2.80	69.88	H.C.
1266	Dr. H. Watney.	Violette.	Jersey.	1897	Mar. 26	94	47 0	5.15	47.00	20.60	5.40	73.00	H.C.
1267	Dr. H. Watney.	Wild Teasel 2nd.	Jersey.	Oct. 27, 1899	Jan. 18	161	41 8	5.42	41.50	21.68	12.00	75.18	2nd Prize, 101.

Animals entered in the Milk-yield Classes of the various Dairy Breeds were also eligible for entry in Class 161. For the awards to such animals, see Table IV, on pp. 98 and 99.

The 3rd prize in Class 161 was awarded to No. 624 in Class 77, see Table IV., page 98.

prizes have been worked out, and are given in Table VI. as follows :—

TABLE VI.—*Averages of all Breeds in the Milk-yield and Special Milk-yield Classes.*

No. of cows competing	Breed	Days in milk	Milk	Fat	Points			
					Milk	Fat	Lactation	Total
18	Shorthorns . . .	87	Lb. oz. 41 12	3·338	41·75	13·35	4·70	59·80
5	Lincolnshire Red Short-horns . . .	59	41 5 $\frac{3}{5}$	3·178	41·34	12·71	1·90	55·95
2	South Devons . . .	109	40 9	2·595	40·56	10·38	6·90	57·84
8	Red Polled . . .	136	40 9 $\frac{1}{2}$	3·407	40·59	13·62	9·60	63·81
5	Ayrshires . . .	49	31 10 $\frac{1}{3}$	3·818	31·64	15·27	·90	47·81
21	Jerseys . . .	116	39 10 $\frac{2}{7}$	4·725	39·63	18·90	7·60	66·13
9	Guernseys . . .	49	37 14 $\frac{8}{9}$	4·045	37·88	16·18	·90	54·96
2	Longhorns . . .	38	34 10	4·175	34·62	16·70	Nil	51·32
11	Kerries . . .	70	31 6 $\frac{2}{11}$	4·216	31·38	16·86	3·00	51·24
8	Dexters . . .	56	30 11	3·578	30·68	14·31	1·60	46·59

I must again refer to the milk of one of the two South Devon cows as being of very poor quality, her average fat percentage only reaching 1·67; so that in this particular the average of the South Devon cows cannot be considered as representing the usual quality of milk of that breed. With that exception it is interesting to note that the cows of all the breeds gave milk that was well over the requirements of the Board of Agriculture.

Taking the breeds in order of merit it will be seen that the Jerseys head the list, which may be accounted for in two ways: (1) the richness of milk and the long period of lactation peculiar to that breed give it a great advantage over others; and (2)

TABLE VII.—*Average Points, and Points of Best Cow of each Breed.*

Breed	Average points	Points of best cow
Jersey	66·13	79·35
Red Polled	63·81	73·03
Shorthorn	59·80	73·70
South Devon	57·84	68·43
Lincolnshire Red Short-horn	55·95	73·03
Guernsey	54·96	64·92
Longhorn	51·32	54·20
Kerry	51·24	62·88
Ayrshire	47·81	65·23
Dexter	46·59	58·18

TABLE VIII.—Awards in Inspection and Milk-yield Classes for animals shown in both classes.

Shorthorns.

No. in Catalogue	Inspection Class	Milk-yield Class	No. in Catalogue	Inspection Class	Milk-yield Class
503	Nil	H.C.	618	Nil	Disqualified
606	R.N. & H.C.	Nil	619	Nil	Disqualified
607	Nil	R.N. & H.C.	620	2nd Prize	Disqualified
609	Nil	H.C.	621	Nil	3rd Prize
613	1st Prize	2nd Prize	624	H.C.	1st Prize
614	3rd Prize	H.C.	626	Com.	H.C.
615	Nil	H.C.	627	Nil	Disqualified
616	Nil	H.C.			

Lincolnshire Red Short-horns.

645	H.C.	1st Prize	647	1st Prize	2nd Prize
646	Nil	Disqualified	648	2nd Prize	Nil

South Devon.

752	Nil	Disqualified	754	Nil	1st Prize
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Red-Polled.

838	Com.	Disqualified	846	Nil	3rd Prize
840	H.C.	H.C.	847	Nil	1st Prize
841	Nil	Disqualified	848	Nil	Disqualified
845	2nd Prize	R.N. & H.C.	849	Nil	2nd Prize

Ayrshires.

954	R.N. & H.C.	1st Prize	958	Nil	Nil
956	Nil	Nil	959	Com.	Nil
957	Nil	2nd Prize	960	Nil	Nil

Jerseys.

1025	Nil	1st Prize	1037	2nd Prize	H.C.
1026	H.C.	2nd Prize	1039	3rd Prize	R.N. & H.C.
1030	Nil	H.C.	1040	Nil	H.C.
1033	1st Prize	H.C.	1041	Nil	3rd Prize
1034	Nil	H.C.	1042	Nil	H.C.
1035	Nil	H.C.	1043	Nil	H.C.
1036	Nil	Nil			

Guernseys.

1112	H.C.	R.N. & H.C.	1120	Nil	1st Prize
1113	R.N. & H.C.	H.C.	1123	2nd Prize	3rd Prize
1114	1st Prize	2nd Prize	1124	H.C.	Nil
1116	Nil	H.C.	1125	Com.	H.C.
1117	Nil	Nil			

Longhorns.

1160	H.C.	Nil	1162	Com.	Nil
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Kerries.

1176	R.N. & H.C.	H.C.	1182	Nil	3rd Prize
1177	Com.	R.N. & H.C.	1183	Nil	1st Prize
1178	2nd Prize	H.C.	1188	Nil	H.C.
1179	Nil	H.C.	1189	3rd Prize	Nil
1181	H.C.	2nd Prize			

Dexters.

1216	3rd Prize	3rd Prize	1222	2nd Prize	R.N. & H.C.
1218	R.N. & H.C.	2nd Prize	1223	Nil	H.C.
1219	1st Prize	1st Prize	1226	Nil	H.C.
1221	H.C.	H.C.	1228	Nil	Nil

the exhibitors of the other cattle have not had the same opportunities of showing—and therefore of acquiring experience—as the Jersey breeders in competitions of this description.

Table VII., on page 102, gives the average points of all the cattle (including those entered in the special milk-yield class) in order of merit, and also the highest points gained by the best animal of each breed.

To compare the awards in the inspection classes with the awards in the milk-yield classes would not be fair to the Inspection Judges, without calling attention to the fact that not all the animals were shown in both classes; but the comparison is given in Table VIII., on page 103, for what it may be worth.

III.—EXPERIMENTS IN THE DAIRY.

At no previous Show of the Royal Agricultural Society, nor indeed do I believe at any other show, has a Steward of Dairying had such opportunities as were afforded him at Park Royal in 1905.

There being no butter-making competitions, the well-equipped dairy of the Society was given up entirely to him, and with it an excellent staff of assistants; moreover, the milk from ninety picked cows, representing ten different dairy breeds of cattle, was placed at his disposal.

In addition to this the whole of the milk produced in the yard came to the dairy; so that it was possible to obtain samples of milk from breeds other than those entered in the milk-yield classes.

It has been said that a show ground is not an ideal place for carrying out experiments with milk; but I do not think it would be possible to collect together in any other place so many different representative breeds as were at Park Royal. It must therefore be the duty of those in charge to make the most they can of the opportunities offered, even though the results may not be quite so convincing as those arrived at under more favourable conditions.

The work proposed to be done in the dairy was announced in the official programme, and included experiments with the milks and creams of the various breeds, their suitability or the reverse for butter-making, the effect of food on the quality of milk, and the difference between good and bad churning, and the working, making-up, and packing of butter. All these experiments, described as "Object Lessons," were designed to illustrate in public some of the peculiarities of milk and the mistakes too frequently made in dairy practice.

In the first place, I propose to deal with the experiments made with the milks of the various breeds of cattle, and,

secondly, with the practical work of the dairy ; but before doing this the description of a few details is necessary.

The milk from every cow in the Showyard was brought by the herdsman to the dairy, where it was weighed and paid for, the name of the owner and the number of the cow being taken. It was thus possible to keep every single lot of milk separate ; and this was done, churns and buckets being carefully labelled with the names of the various breeds of cattle ; as each lot of milk came in it was poured into its proper receptacle.

On Tuesday afternoon, the cows were milked out clean at 5 and 5.30 p.m. for the milking trials, the whole of Wednesday's milk being kept for that purpose ; on the other days the cows were milked by the herdsman at times varying from 7 to 8 a.m., and from 5 to 6 p.m. ; so that the morning milk may be said to have been the secretion of fourteen hours and the evening milk of ten hours or thereabouts.

The milk of Tuesday afternoon would naturally show a high percentage of fat in all cases, except where the cows were entered only in the butter-test classes, as the animals having been judged in the inspection classes were not milked out until late on the Tuesday morning ; the milk of Tuesday evening was therefore the secretion of only a few hours.

These remarks are necessary to explain the following experiment.

EXPERIMENT NO. 1.

Butter made from Milks of different periods of Secretion.

Three gallons of the milk of each of the ten different herds of cattle entered in the milk-yield classes were set aside on Tuesday evening ; they were separated the following morning

TABLE IX.

Breed	Milk	Butter	Butter ratio	Estimated value	
				Milk	Butter
	Lb.	Lb. oz.	Lb.	s. d.	s. d.
Shorthorn	30	1 3 $\frac{1}{4}$	24.93	2 0	1 2 $\frac{1}{2}$
Lincolns. Red	30	1 3 $\frac{3}{4}$	24.30	2 0	1 2 $\frac{3}{4}$
Red Polled	30	1 0 $\frac{1}{4}$	29.53	2 0	1 0 $\frac{1}{4}$
South Devon	30	1 6 $\frac{1}{4}$	21.57	2 0	1 4 $\frac{3}{4}$
Longhorn	30	1 4	24.00	2 0	1 3
Ayrshire	30	0 15 $\frac{3}{4}$	30.47	2 0	0 11 $\frac{3}{4}$
Jersey	30	1 9 $\frac{3}{4}$	19.20	2 0	1 7
Guernsey	30	1 4 $\frac{3}{4}$	23.13	2 0	1 3 $\frac{1}{2}$
Kerry	30	1 4 $\frac{1}{2}$	23.41	2 0	1 3 $\frac{1}{4}$
Dexter	30	1 0 $\frac{3}{4}$	28.65	2 0	1 0 $\frac{1}{2}$

NOTE.—10 lb. is taken as equal to one gallon. The value of the butter is worked out as nearly as possible to the money value, avoiding fractions less than $\frac{1}{4}d.$

(the separator being washed out between each lot), and the creams were all churned at the same temperature, viz., 54° F.

The results are shown in Table IX., where, for the sake of emphasising the value of the experiment, I have priced the milk at 8*d.* per gallon, and the butter at 1*s.* per lb. It should be explained that the term "Butter Ratio" represents the number of pounds of milk required to make 1 lb. of butter.

As previously stated, the milks used in this experiment were the secretion of a few hours. The experiment was repeated on Friday morning, the milk in that case being the secretion of about fourteen hours. The milk on the Friday

TABLE X.

Breed	Milk	Butter	Butter ratio	Estimated value			
				Milk		Butter	
				s.	d.	s.	d.
Shorthorn	Lb. 30	Lb. oz. 0 11 $\frac{1}{4}$	Lb. 42·66	2	0	0	8 $\frac{1}{2}$
Lincolns. Red	30	0 13 $\frac{1}{2}$	35·55	2	0	0	10
Red Polled	30	0 13 $\frac{1}{4}$	36·22	2	0	0	10
South Devon.	30	1 3	25·26	2	0	1	2 $\frac{1}{4}$
Longhorn	30	1 1 $\frac{1}{4}$	27·82	2	0	1	1
Ayrshire	30	0 15 $\frac{1}{2}$	30·96	2	0	0	11 $\frac{1}{2}$
Jersey	30	1 3	25·26	2	0	1	2 $\frac{1}{4}$
Guernsey	30	1 0 $\frac{3}{4}$	28·65	2	0	1	0 $\frac{1}{2}$
Kerry	30	0 14 $\frac{3}{4}$	32·52	2	0	0	11
Dexter	30	0 13 $\frac{3}{4}$	34·90	2	0	0	10 $\frac{1}{2}$

morning was separated at once, and churning took place almost immediately, so that the cream was quite fresh. This will assist in accounting for the great differences between the two churnings as shown by Table X., compared with Table IX.

TABLE XI.

Breed	Evening milk			Morning milk		
	Ratio	Value		Ratio	Value	
	Lb.	s.	d.	Lb.	s.	d.
Shorthorn	24·93	1	2 $\frac{1}{2}$	42·66	0	8 $\frac{1}{2}$
Lincolns. Red	24·30	1	2 $\frac{3}{4}$	35·55	0	10
Red Polled	29·53	1	0 $\frac{1}{4}$	36·22	0	10
South Devon.	21·57	1	4 $\frac{3}{4}$	25·26	1	2 $\frac{1}{4}$
Longhorn	24·00	1	3	27·82	1	1
Ayrshire	30·47	0	11 $\frac{3}{4}$	30·96	0	11 $\frac{1}{2}$
Jersey	19·20	1	7	25·26	1	2 $\frac{1}{4}$
Guernsey	23·13	1	3 $\frac{1}{2}$	28·65	1	0 $\frac{1}{2}$
Kerry	23·41	1	3 $\frac{1}{4}$	32·52	0	11
Dexter	28·65	1	0 $\frac{1}{2}$	34·90	0	10 $\frac{1}{2}$

Thus Tables IX. and X. illustrate the difference between milks, the secretion of a short and a longer period, accentuated in the case of the morning milks by the fact that the creams churned were what is known as "sweet"; *i.e.*, not ripened.

The comparison of the ratios and the value of the butter made at each churning, as shown in Table XI., puts these differences in a clearer light.

The experiment further brings into prominence the futility of making butter out of poor milk; that is, of course, assuming that the milk can be disposed of at 8*d.* per gallon. Conversely it shows that to make a fair profit out of butter, the milk must be rich in fat and the butter made of so good a quality that a considerably higher price than 1*s.* per lb. can be obtained for it.

EXPERIMENT NO. 2.

Commercial Value of different Creams for Butter Making.

The object of this experiment was to ascertain the commercial value of the different creams for butter making. To arrive at this value, three pints of cream from the following breeds of cattle were churned and made into butter, the butter being priced at 1*s.* per lb., and the value of the cream per pint being obtained by dividing the amount at which the butter was priced by three. The creams used were taken from the milks after deducting the three gallons used in the last experiment; but unfortunately there was not sufficient cream in the case of the South Devons and Longhorns to complete the experiment. All the milks were separated at the same temperature, and the creams were churned at 54° F. Table XII. gives the results.

TABLE XII.

Breed	Cream	Butter	Estimated value		
			Butter at 1 <i>s.</i> per lb.		Cream per pint
	Pints	Lb. oz.	<i>s.</i>	<i>d.</i>	<i>d.</i>
Shorthorn	3	0 13 $\frac{1}{4}$	0	10	3 $\frac{1}{4}$
Lincolns. Red.	3	1 5 $\frac{1}{4}$	1	4	5 $\frac{1}{4}$
Red Polled	3	1 3 $\frac{3}{4}$	1	2 $\frac{3}{4}$	5
Ayrshire	3	0 12 $\frac{1}{4}$	0	9 $\frac{1}{4}$	3
Jersey	3	2 2 $\frac{1}{4}$	2	2 $\frac{3}{4}$	9
Guernsey.	3	2 1 $\frac{1}{2}$	2	1	8 $\frac{1}{4}$
Kerry	3	1 10 $\frac{1}{4}$	1	7 $\frac{1}{2}$	7 $\frac{1}{4}$
Dexter	3	1 2	1	1 $\frac{1}{2}$	4 $\frac{1}{2}$

EXPERIMENT NO. 3.

Effect of Breed and Feeding on Quality of Butter.

The object of this experiment was to demonstrate the effect of breed and feeding on the quality of butter. I obtained

two samples of milk: one from certain cows which were not entered in the milk-yield classes and were being fed on food not conducive to improve the quality of milk; the other from certain cows entered in the butter-test classes only, and so likely to be carefully and properly fed. The milks and creams were treated exactly alike, and the dairy work in both cases was done as well as possible.

The butter made from the butter-test cows' milk was excellent in every way, good in colour, flavour, texture, and grain; while the other was white, soft, greasy, and poor in flavour, the difference in value between the two samples being estimated at 50 per cent. Had colouring material been added to the poor sample, the appearance of the butter would have been improved; and, in my opinion, the selling value would have advanced 25 per cent.

EXPERIMENT NO. 4.

Comparison between purchased Butter and Butter made in Showyard.

For this experiment five different lots of butter were purchased on the first day of the Show from some of the best shops in London. These were brought to the dairy and made up into pound lumps, each sample being numbered.

Two lots of butter were made up in the dairy that morning: one from cream separated from the Jersey milk that was brought in on the previous evening; the other from cream sent up specially from a private dairy.

The seven lots of butter were then judged by Professor Drummond of the Dairy School, Kilmarnock, the Judge of the butter exhibited in the Produce Department. His report is given in Table XIII. on page 109.

The remarks on the colour of the foreign butters apparently indicate that in most cases colouring material was used.

In the previous experiment I intimated that the addition of colouring material would have sensibly improved the appearance, and therefore the selling value, of the inferior sample, although the quality of the butter in other respects would not have been altered. I again draw attention to this point in connection with this experiment, as I am satisfied that if the colouring of butter were prohibited, the coloured butters would not command so high a price as they do, and as in other respects the butters would be the same, the consumer would get the benefit of the lower price.

The remaining experiments which took the form of "Object Lessons" (being carried out in view of the public), were intended to illustrate some of the mistakes still too frequent in many dairies.

TABLE XIII.

No.	Description	Cost	Colour	Texture and grain	Flavour	Order of merit
1	Danish	Per lb. s. d. 1 6	Slightly cloudy	Open and greasy, with considerable water	Fair	5th
2	Brittany	1 8	Fair, rather dull	Fair	Fair	2nd
3	Italian	1 4	Dull and light	Greasy, slightly open	Faulty (strong)	6th
4	French Roll	1 6	Dull	Close, greasy, rather overworked	Fairly good (thin)	4th
5	Brittany	1 4	Bright and clear	Open (water), grain very good	Strong (oily)	7th
6	Jersey—from private dairy	—	Bright	Close, fair, and rather greasy	Fair (plain and undecided)	3rd
7	Jersey—from cattle in Showyard	—	Bright	Fine	Fine	1st

EXPERIMENT NO. 5.

Churning at different Temperatures.

Two lots of cream, each weighing 10 lb., were taken from the same bulk of cream and were churned at 52° F. and 62° F., respectively, the temperature of the dairy registering 75° F. The lot churned at 52° F. yielded 3 lb. 4 oz. butter, that at 62° F. yielded 2 lb. 8½ oz. butter. The butter-milk of the 62° F. lot was kept for a few hours, hand skimmed, cooled down, and churned, yielding 6¼ oz. of butter. Had there been sufficient butter-milk to enable the separator to be used, the probability is that the full deficit would have been forthcoming. The difference in the weight of butter amounted to 11½ oz. in one gallon (*i.e.*, 10 lb.) of cream. Assuming that four gallons of cream were churned (not an unreasonable quantity) the loss would have been 2 lb. 14 oz., which, if valued at 1s. per lb., would amount to 2s. 10½*d.*

This experiment shows the value of churning at a low temperature, particularly during the summer months. Where ice cannot be obtained, early rising and churning in the cool hours of the morning will often obviate this difficulty.

EXPERIMENT NO. 6.

Losses due to Want of Skill and Care in Churning.

Two lots of cream were taken, as in the last experiment, from the bulk. The first was churned at a low temperature and in every respect properly; the second at a higher temperature, the thermometer not being used, and carelessly, no notice being taken of it until the butter came in lumps—in short, it was overchurned.

The two lots were then worked and taken out of the churn. The first lot being in good grain was passed through the Delaiteuse and made up as well as possible. The second lot could not be worked in the Delaiteuse, and was only worked in the butter-worker, which, to carry out the experiment in its entirety, was not too well done.

The first lot of butter was excellent in every way. The second lot was soft, greasy, and bad in grain and texture. The difference in the selling value might vary from 2*d.* to 3*d.* per lb.

EXPERIMENT NO. 7.

Losses due to Want of Skill in Working of Butter.

Four lots of butter, all of which had been well churned in one churning and were consequently good in grain, after being washed, were worked as follows:—

No. 1. Dried in the Delaiteuse and then worked and made up as well as a skilled dairymaid could do the work.

No. 2. Overworked in the butter-worker only.

No. 3. Underworked.

No. 4. Worked in a bowl by hand.

This experiment, which was followed with great interest by the spectators, showed very clearly the difference between the four lots of butter. The estimated value between Lot No. 1 and Lots Nos. 2 and 3 may be put down at 2*d.* to 3*d.* per lb., while the difference between No. 1 and No. 4 was estimated at 6*d.* per lb.

EXPERIMENT NO. 8.

Depreciation in Selling Value of Butter carelessly packed.

Four lots of butter of 3 lb. each (*i.e.*, 12 lb. in all), all equally well made, were packed as follows: two lots in baskets for sale in a country market; two lots in boxes for transit by post or rail. The samples for the market were packed in the one case as neatly and as well as possible; the other carelessly, with cabbage leaves in place of butter muslin, as is still too often seen. The difference in the selling value, although the butter was exactly the same in quality, may be put down at 2*d.* per lb.

The lots packed for post or rail were packed on the same lines. In the one case the pounds were neatly shaped to suit the boxes, the butter paper being cut to the right size before being used; while in the other case the pounds were put up carelessly and without allowing for the shape of the box. In this case price would not vary so much, but at least 1*d.* per lb. extra might be obtained for that packed neatly.

It may be thought that bad packing such as last described would be very uncommon; but many of the lots sent for competition in the butter classes in the produce tent, which was under my charge, were packed as badly as the bad lot packed in the dairy.

This concluded the programme of the dairy work so far as it related to butter.

EXPERIMENT NO. 9.

Difference between well-made and ill-made Soft Cheeses, &c.

On the last day of the Show samples were exhibited of cream and Gervais cheeses, showing the difference between bad and good work as follows:—

Four samples of each, as well made as possible.

Four samples of lots of each kind, tainted through being kept in an unsuitable place.

Four samples of cream cheese made from over-ripe cream.

Four samples from good cream, but badly moulded.

Six samples of badly moulded Gervais cheese.

Six samples of over-ripe Gervais made from sour cream.

It was also pointed out that cream and Gervais cheese bring a better return than butter, as seven cream cheeses, selling at 6*d.* each can be made from a quart of cream; while the same quantity of cream will only produce 1 lb. to 1¼ lb. of butter. The proportion of milk and cream required to make Gervais cheese was also given at two-thirds new milk, one-third cream (sweet).

In carrying out these experiments in the Dairy, I received the greatest assistance from Mr. William Sanday, Mr. Egerton Gilbert, Miss Jenkins (Dairy Instructress to the Staffordshire County Council), Miss Kirk (Dairy Instructress to the Wiltshire County Council), and Miss Watts.

ERNEST MATHEWS.

Little Shardeloes,
Amersham.

AGRICULTURAL EDUCATION AND FORESTRY EXHIBITION, 1905.

FURTHER progress and development marked the Education Exhibition, held for the third successive year in connection with the Society's Show at Park Royal. In 1903, the exhibits were sent by the Experimental Stations and Agricultural Colleges; in 1904, Forestry was added and received extensive illustration; in 1905, Meteorology was also included, an excellent exhibition illustrating meteorological phenomena being organised by the Royal Meteorological Society. Thus, in 1905, all departments of science applicable to rural economy were illustrated in three main divisions of Agricultural Education, Agricultural Meteorology, and British Forestry.

The detailed organisation was undertaken by the Society's Education Committee, with the assistance of expert members, including Mr. H. J. Elwes, F.R.S., Mr. George Marshall, Dr. W. Somerville, and Mr. Daniel Watney. The Society is particularly indebted to Mr. Elwes, Mr. Marshall, and Dr. Somerville for their kindness in explaining personally the technical significance of the Forestry exhibits to visitors; and also to Mr. William Marriott, Assistant Secretary of the Royal Meteorological Society, for his lectures on "Meteorology in relation to Agriculture," given daily during the Show.

Lord Moreton (Chairman of the Society's Education Committee) and myself acted as Stewards of the Exhibition.

The following are notes of the exhibits sent by the respective contributors to the Education and Meteorological sections, the Forestry section being described by Professor W. R. Fisher, B.A. (President of the Royal English Arboricultural Society).

AGRICULTURAL EDUCATION AND METEOROLOGY.

I. Rothamsted Experimental Station.—The Lawes Agricultural Trust showed the following series of diagrams:—

(i.) Diagrams showing washing out of carbonate of lime in the Rothamsted soils, and the effect of manures on the rate at which the lime disappears.

(ii.) Diagrams illustrating the restoration of carbonate of lime and other bases to the soil by the growth of plants.

(iii.) Turfs and diagrams showing the composition of the natural herbage growing on chalked and unchalked land allowed to run wild at Rothamsted.

(iv.) Diagrams illustrating the accumulation of fertility when land is allowed to run wild.

(v.) Specimens of various kinds of lime and manures, with diagrams showing the relative amount of base they add to or take away from the soil.

The exhibit illustrated certain investigations connected with the amount of carbonate of lime in the soil. The natural

soil on the Rothamsted estate contains little or no carbonate of lime ; but during the eighteenth century and earlier very large quantities of chalk were applied artificially, until it formed 5 per cent. or so of the surface soil. This carbonate of lime is being dissolved out by the rain percolating through the soil. The rate at which it was being removed from the unmanured plots was shown by diagram. The rate of loss of carbonate of lime was increased by the use of manures containing ammonium salts, and diminished by the use of nitrate of soda or farmyard manure.

The normal growth of crops tended to restore a certain amount of carbonate of lime or other base to the soil, because the plant, in feeding upon the neutral salts dissolved in the soil water, took more of their acids than of their bases, leaving behind a basic residue combined with carbonic acid excreted from the root. A diagram illustrated an experiment upon the growth of wheat, showing how the acids and bases with which the plant was supplied were eventually divided between the plant and the soil. A table was exhibited showing that with ordinary agricultural crops the restoration of base in this way must be considerable, probably supplying sufficient base for the nitrification process which is always going on. This explains why many soils containing little or no carbonate of lime remain healthy under ordinary cultivation, provided that acid manures like sulphate of ammonia or superphosphate are not used on them.

Two turfs showed the appearance of grass land which had become sour and acid, and was in want of lime. Specimens showed weeds of the arable land indicating the same thing—samples of lime and chalk and manures, adding lime to the soil ; and manures which were acid and removed carbonate of lime from the soil.

Two other turfs and a diagram illustrated one result of the former chalking of the Rothamsted soil : they had been taken from portions of land which had been allowed to run wild for the past twenty-four years, and thus carried a natural self-sown vegetation. One was taken from land which had been chalked, and now contained about 3 per cent. of carbonate of lime in the surface soil. The other was taken from another piece of land which had escaped the chalking process, and only contained about 0·2 per cent. of carbonate of lime in the surface soil. During the period of lying “prairie,” the soil of the one had accumulated about 2,200 lb. of nitrogen per acre ; the soil of the other only about 950 lb. per acre.

II. Cambridge University Agricultural Department.—The exhibit of the Cambridge University Department of Agriculture comprised three sections. The first section illustrated

the results obtained in the Department's plant-breeding experiments. Some account of the methods adopted in plant breeding, was given at page 337 of the Journal for 1904 (Vol. 65).

The exhibits sent were intended to demonstrate the progress which has already been made. There is no variety of wheat generally cultivated in this country suitable for the direct manufacture of flour for bread making, and our English wheat can only be utilised for blending with "strong" foreign wheats.¹ In spite of the introduction of numerous new varieties, the quality of the home-grown product is steadily deteriorating. Recent work has shown conclusively that this is in no way due to climatic influences, as is popularly supposed, and that "strong" wheat can be grown as readily as our own inferior grain. Unfortunately these strong varieties are not altogether satisfactory in their yield of straw and grain, and consequently they can only be cultivated under exceptional conditions. To overcome this difficulty a number of wheats known to retain their strength in this country have been crossed with high-yielding varieties, with the object of raising new types combining both yield and "strength."¹

The hybrids exhibited were chosen chiefly with the object of showing that hybridising, instead of being a haphazard process of more than doubtful value, can, now that the laws of heredity are becoming known, be relied upon to give perfectly definite results to the plant breeder. Thus all the types obtained as the results of crossing Rough Chaff with Golden Drop and Polish with Rivet wheat were shown. The fixity of the selected forms has been amply demonstrated, and the experimental plots have proved to be as level and as uniform as those of the oldest types in cultivation. An extraordinarily complex group of forms obtained by crossing the highly diverse Rivet and Red King wheats was displayed; yet, in spite of this complexity, the results could be predicted with considerable accuracy before even making the cross. All these new types proved valueless commercially, and would ultimately find their way into the waste heaps.

Specimens were shown of the ears and grain of a number of the fixed types of "strong" wheats already obtained, which are now being tested for yielding power alongside standard English varieties. As far as could be judged from a few dozen specimens, they were in no way inferior to these in productiveness, while their grain was worth several shillings per quarter more.

¹ The term "strength" is used by millers to indicate the relative capacity of flour to make a good loaf of large size.

A fact was demonstrated which may prove to be the starting point of a rational method of combating plant diseases. In the course of the experiment a wheat, useless in many respects, but highly resistant to the attacks of yellow rust, was discovered. This was crossed with a susceptible variety. The three cultures shown were descended from the cross-bred so obtained; they were grown under precisely the same conditions. One was entirely free from rust, whilst its neighbour was smothered, and the third culture consisted of rust-free and rust-covered plants grown from the same ear of wheat. The rust-free form breeds true to this characteristic.

The second section of the exhibit dealt with the composition of mangels. During the past few years, a very large number of analyses have been made by the Department. It has been shown that the ordinary mangels of commerce resolve themselves into five well-marked types, viz., the Yellow Globe, with white flesh; the Yellow Intermediate, with white flesh; the Golden Globe, with yellow flesh; the Golden Tankard, with yellow flesh; and the Long Red, with pink flesh. Some other types, such as Red Intermediates, are occasionally met with, but are much less common than the foregoing. Strains of these different types of mangels are sold under many names; but, so far as the composition is concerned, the different strains are identical. This was shown by means of a diagram.

Although the different seedsmen's strains of any one type of mangel have the same composition, they may differ both in form and productiveness, according to the care with which the seed has been grown. The points to which seedsmen have given attention are shape and cropping quality, and these are the points in which the best strains of seed excel inferior sorts.

The average composition and the total yield of dry matter and sugar of the five different types of mangel mentioned above were also shown by diagrams. On the average of all the analyses, Golden Globe was shown to be richest in dry matter and sugar, containing 12·4 per cent. of the former, and 8·2 per cent. of the latter; but this sort is so closely followed by the Long Red and Golden Tankard types that the three may be classed as equal. The Yellow Globe, with an average of 10·7 per cent. of dry matter, is distinctly the poorest in quality. Of the five types, Yellow Globe and Long Red are about equally good croppers. When both quality and quantity are taken into account, the first place is occupied by the Long Red mangel. This, on the average, produced 3·9 tons of dry matter, and 2·9 tons of sugar per acre. Golden Globe is rather an inferior cropper, but with its high quality it takes second place and produced 3·3 tons of dry matter and 2·3 tons of

sugar per acre. For soils which suit it, the Long Red mangel may be recommended.

It is well known that large mangels contain on the average a greater percentage of water than small mangels, but the importance of this point has been much exaggerated. As a matter of fact, the difference in composition is not great. Yellow Globe mangels, for example, weighing 3 lb. to 4 lb., will contain about 12·7 per cent. of dry matter; while roots weighing between 7 lb. and 8 lb. will contain 10½ per cent. A popular supposition, too, is that the part of the root which grows below ground is very much richer than that which grows above. A diagram showing the composition of different parts of the mangel supplied information on this point. It was shown that the percentage of dry matter does not differ much in similar parts of the mangel whether above or below ground; on the other hand, the percentages of both sugar and nitrogen are somewhat higher in the parts beneath the surface.

The third section of the exhibit was intended to illustrate points in connection with the formation and management of pastures. Diagrams showed the results obtained at three experimental stations in different parts of the Eastern Counties, where the improvement produced by different methods of manuring was tested by the increase of live weight of the sheep consuming the grass. The average results obtained in a number of experiments in different parts of England were also illustrated. The experiments were in all cases made upon poor clay soils. The diagrams indicated that the best results always followed the use of liberal dressings of basic slag, and that manures containing potash, lime, and ammonia are not as a rule required in the early stages of the improvement of such pastures.

Specimens of the new pastures alluded to on page 213 of the Journal for 1904 were again shown, and also a set of turfs from Wenden Lofts (*Ibid.*, page 214). Another year's experiments has confirmed the opinions recorded in 1904. The turfs from Wenden Lofts showed that while basic slag improves the clovers of pastures, it only affects grasses indirectly and through clovers; so that where clovers are absent the grasses are not improved. A set of turfs from Saxmundham in East Suffolk showed that slag does not act in any marked way upon sainfoin. New pastures seeded down with clovers and grasses at this station were greatly improved by basic slag; but where sainfoin replaced clovers in the seeds mixtures, neither the leguminous plant nor the grasses derived any benefit from the phosphatic manure.

III. Midland Agricultural and Dairy Institute.—The exhibit was composed of various specimens, photographs, and diagrams,

all of which had some direct bearing upon agricultural subjects and were illustrative of the several departments of instruction as carried out at Kingston.

1. *Assimilation of Free Atmospheric Nitrogen by Crops.*¹—A series of experiments in pots containing boiled sand, photographs of other pot cultures, and sample plants taken from field experiments showed the results obtained with the various new inoculating materials for leguminous crops. The results indicated that the German cultures supplied by Dr. Hiltner were well capable of producing nodules on plants grown in sand free from the nodule organisms of the plant under experiment, and most satisfactory results were also obtained with cultures made in the laboratories of the Institute by a new method: viz., by filtering crushed nodules through porous porcelain filters, which allowed the small form of the nodule organism to pass, but held back the impurities.

The American cultures, on the other hand, did not produce such good results, and plants fertilised with them were often but little better than those which were obtained without nitrogen and without inoculation.

Peas exhibited from one field trial showed very good results with the dressing of the nutrient solution containing the American culture; but it was pointed out that the seed for the control plot had not been dressed with a manurial solution without the organisms, as should have been done to get a strict comparison.

2. *Dairy Bacteriology.*—Cases were shown illustrating the effect produced by good and bad ventilation of cow byres on the number of bacteria in the air, and the effect of washed and sterilised pails on the germ contents of milk. A new organism was shown which produced a taint in milk containing copper.

3. *Potato Culture.*—This section consisted of photographs and diagrams concerned with the life-history and growth of potatoes. Boxes of seed, tubers, and seedlings produced by hybridisation were shown. Some of the seedlings were shown in pots bearing a label upon which was written the parents from which the plants had been obtained by crossing. Jars of museum specimens illustrating the formation of tubers in the early life of the plant, and the ripening of the seed towards the end of the season, were included. Comparison of these furnished material for connecting the two methods of reproduction in potatoes.

Some tubers were exhibited which bore evidence of a new potato disease, very conspicuous on tubers of the Evergood variety obtained from Lincolnshire. They were accompanied

¹ See also page 211 of this Volume.

by specimens from Cheshire, preserved in spirit, having the warty outgrowths of the disease known as *Chrysophlyctis endobiotica*.

The College also showed a large number of instructive exhibits relating to Veterinary Science and Apiculture.

IV. Harper-Adams Agricultural College.—The exhibits from this College were divided into botanical, chemical, and veterinary sections. In the botanical section was a set of preparations in spirit showing the germination of wheat, barley, and oats at different stages; also mounted in the same way were specimens of the different natural Orders of plants. Photographs were included of hedges and hedge-making plants, and with these were exhibited several models to illustrate how fences may be “laid” as well as different methods of growing hedges. In the chemical section the exhibits included a complete set of tubes illustrating the relative feeding properties of milk, separated milk, butter milk and whey; a set of tubes showing the amount of fat contained in milk, the result of a series of experiments to ascertain the effect of milking at different intervals. Another series of specimens illustrated the amounts of nitrogen, phosphoric acid, and potash removed in a four-course rotation (wheat, roots, barley, clover). The veterinary section included specimens, models, and diagrams, illustrating the anatomy, pathology, and dentition of farm animals.

V. University College of Reading.—The Agricultural Department of this College sent specimens of the chief British thistles with living seedlings of the same in different stages of development. A series of pot-cultures, illustrating the influence of graduated doses of nitrate of soda, sulphate of ammonia, superphosphate of lime, and sulphate of potash on barley and red clover, was also exhibited. Turfs were shown from plots of pasture at Chesham, Bucks., manured with various artificial fertilisers and farmyard dung.

There were also on view specimen tubes illustrating the composition of various feeding stuffs used by farmers, as well as milk, cheese, and other dairy products.

Common dairy bacteria were shown, and methods of testing milk for preservatives were demonstrated.

VI. Royal Agricultural College, Cirencester.—The College showed a diagram and specimens illustrating the results of manurial experiments on grass lands for fifteen years, 1889 to 1904, and a case showing the chemical composition of certain foods. Some natural history exhibits included dried and preserved specimens and photographs of various insects, including lice, mites, ticks, &c., and showing their distinctive peculiarities. Dried specimens and drawings also illustrated

leaf-curl, sycamore leaf blotch, larch canker, and the damage caused by the elm bark beetle. A special case showed the extreme shallowness of one of the oolite soils and the gradual transition from the rock to the few inches of soil at the surface.

The veterinary section included a case of horse shoes of all descriptions, both for normal and pathological feet, made by the students at the College; a number of specimens of incisor teeth of horses and cattle, illustrating the stages of development of the teeth at different ages; some preserved dissections of limbs of the domesticated animals; and an interesting collection of general pathological specimens, including calculi and hair balls from different animals, diseases of bone consequent on injury, and many others of interest to those having the care of farm live stock.

The College also showed a comprehensive selection of wools from different breeds of British sheep and of foreign breeds, including the Angora and varieties of the Merino. A small quantity of Australian wool was shown in the condition in which it arrives in this country, containing numerous fruits of the *medicago* which has received the name of the "Bathurst Burr."

VII. Agricultural Education Association.—The Association organised a depôt for the distribution of the Reports and other publications of the contributing institutions, thus enabling visitors to obtain all the available literature upon the subjects illustrated in the Exhibition.

VIII. Royal Meteorological Society.—A Department of Agricultural Meteorology was organised by the Council of the Royal Meteorological Society under the supervision of Mr. W. Marriott, the Assistant Secretary. In the grounds adjoining the Exhibition building, a grass plot, twenty feet square, was arranged as a typical climatological station. This included the following instruments for weather observations, which were all placed in position, viz.:—(1) Stevenson thermometer screen, fitted with dry bulb, wet bulb, maximum and minimum thermometers; (2) Snowdon rain gauge and measuring glass; (3) black and bright bulb thermometers *in vacuo*; (4) grass minimum thermometer; (5) Campbell-Stokes sunshine recorder; and (6) earth thermometers (one and four feet.)

In the building was arranged a very interesting series of exhibits. Among the diagrams were:—

(1) Dr. H. R. Mill's maps of the British Isles showing mean annual rainfall, 1870-1899; rainfall of the wettest year, 1872; and rainfall of the driest year, 1887.

(2) Monthly distribution of rainfall according to altitude, up to 1,000 ft. above sea level, in the West and East of England. The latter diagram brought

out prominently the fact that the higher the altitude, the greater is the rainfall, and also that the Western districts have a greater rainfall than those in the East.

(3) Monthly rainfall at Greenwich, 1815-1904. This diagram showed the actual rainfall for each month during the ninety years. The greatest fall being 7·65 in., October, 1880, and the least 0·04 in., February, 1821.

(4) Maps showing the average number of hours of bright sunshine recorded in England and Wales, 1881-1900 ; also those in the year 1904.

The influence of weather upon agricultural crops was shown by the following diagrams :—

(1) Temperature and rainfall when the wheat crop was good, and when it was bad.

(2) Temperature and rainfall when the hay crop was good, and when it was bad.

(3) Yield of wheat in England, and autumn rainfall, 1884-1905.

(4) The warmth of the seasons, 1884-1904, and the barley crop, Eastern Counties.

The diagrams (3) and (4), which were by Dr. W. N. Shaw, showed that when the autumn rainfall was below the average the wheat crop of the following year was a good one ; but if the autumn rainfall was above the average the wheat crop was poor.

A large number of photographs and drawings illustrated meteorological phenomena, such as clouds, lightning, damage by lightning, hail, damage by hail, snow, frost, floods, drought, damage by gales, tornadoes, and whirlwinds. In addition to the above, the following interesting objects were shown :— (1) Models of large hailstones seven inches in circumference, which fell near Montreaux, France, August 15, 1888 ; (2) boots of a man struck by lightning ; and (3) portion of a tree damaged by a whirlwind in Wiltshire, October 1, 1899.

A large number of meteorological instruments were included. Among these were the following self-recording instruments by Messrs. Negretti & Zambra, Mr. J. J. Hicks, and Mr. F. Le Halliwell : barograph, thermograph, sunshine recorders, hygrometers, and rain gauges.

IX. Royal Agricultural Society of England.—One of the fourteen bays into which the Exhibition building was divided was reserved for the Society and devoted to a representation of its educational and scientific departments. Copies of all the Society's publications were displayed, and the sales during the week amounted to 17*l.* 4*s.* 7*d.* As most of these publications were pamphlets sold at 6*d.* or 1*s.* each, the number of purchasers was considerable. The Botanical Department was represented by wheat and potato diagrams and the collections of weed seeds shown last year. A new exhibit, prepared under the direction of the Society's Consulting Botanist (Mr. W. Carruthers, F.R.S.), consisted of samples of agricultural seeds, showing the bulk of an ounce of each kind, and specifying the number of seeds contained in the ounce. The

Zoological Department was represented by the Insect Diagrams, prepared by the late Miss Ormerod and her sister, and by four cases of injurious insects with illustrations of injuries. These, with two similar cases of forestry pests shown in the Forestry Department, form part of a cabinet which is now in process of formation by the Society's Zoologist (Mr. Cecil Warburton), and which is open to the inspection of Members at Hanover Square.

The exhibits from the Woburn Experimental Station, prepared by the Society's Consulting Chemist (Dr. J. Augustus Voelcker), were however the principal feature of the Society's own share in the Exhibition. They consisted mainly of experimental crops grown in pots at the Pot-culture Station, together with illustrations of certain of the plots on the Experimental Farm, and of the produce obtained.

1. *Canadian Wheat*.—Pots, with growing crops, were shown, exhibiting the "Red Fife" variety of Canadian wheat in comparison with English "Nursery" wheat, both being grown on the same soil and under the same conditions. The wheat in each case was spring-sown. This trial is being carried out on the field scale also. In 1903 the yield of Canadian wheat was about five bushels per acre lower; but the quality of the corn was better and fetched in the market about 3s. per quarter more than the English wheat.

2. *Large and Small Seed for Sowing*.—The difference between using, in the one case, large and plump grains and, in the other, small grains, was illustrated with barley by two pots, in one of which twelve large grains had been sown and in the other twelve small grains. There was, at the time of exhibition, little difference to be seen between them.

3. *Improvement of Fen Land*.—There were several pots, with barley growing in them, to show how a pot-culture station might be put to good service in ascertaining what are the requirements of a soil from a district quite different from that where the station happens to be located. The soil in question was from regular fen land in Cambridgeshire; an analysis of it gave—phosphoric acid, .12 per cent.; potash, .23 per cent.; lime, 3.23 per cent. In such a soil the amount of organic matter would, of course, be very high, and this might tend to produce acidity. It was shown how, by the addition of lime, at the rate of 1 ton per acre, on a soil like this (which might be said to be well supplied with lime were it an ordinary soil), the yield of barley could be considerably increased, and, further, that the physical condition of the soil was much improved. The soil was rendered much more friable and showed less tendency to "cake"; the organic acids had, no doubt, been also neutralised. Even more striking was the

appearance presented by the crop to which mineral superphosphate at the rate of 5 cwt. per acre and sulphate of potash, 1 cwt. per acre, had been applied. The crop was much more healthy and strong than on the untreated plot, this bearing out the conclusions that might have been drawn from a consideration of the analysis of the soil, which showed the land to be rather poor in respect of phosphoric acid and potash.

4. *Influence of Weeds.*—A further series of pots showed how weeds influence the growth of a crop, and how they may serve as an index of the requirements of a soil. A set of six pots was filled with the light sandy loam of a plot of Stackyard Field, Woburn, this soil possessing an acid reaction. Barley was grown in all, but with three of the pots the weeds were allowed to grow undisturbed together with the barley, while from the other three pots the weeds were removed. In some cases lime at the rate of 1 ton per acre had been applied. Where, in the absence of weeding or use of lime, weeds and barley were allowed to grow together, the barley was nearly killed out, there being only a mass of spurry and knot grass; where the weeds were removed, but no lime used, the barley was better, but the acid condition of the soil kept the crop from growing properly; where lime had been put on but weeds not removed, the spurry had disappeared and the barley crop still further improved; but where both weeding and lime application had been followed the barley was most vigorous. The presence of weeds like spurry, that thrive in an acid soil, may thus afford a guide as to the proper treatment of the soil, viz., by liming.

5. *Inoculation Experiments.*—That which created the greatest interest was the demonstration, through growing crops in pots and by photographs of the plants taken at various stages, of the result of treating leguminous crops with inoculating materials for the purpose of increasing their power of utilising the nitrogen of the atmosphere. Neither by the increased growth, nor by any perceptible increase in the “nodules” formed on the roots, could any marked benefit be seen at that stage of the experiments as accruing from the use of the inoculating media. The experiments are described in detail at page 211 of this Volume.

Mr. H. M. Freear, Dr. Voelcker’s chemical assistant at the Woburn Pot-culture Station, was present during the whole of the time the Exhibition was open, and was most assiduous in explaining the nature of the exhibits to visitors, and in affording information as to the farm and its experimental work.

Both Lord Moreton and myself desire cordially to acknowledge the valuable co-operation of all who contributed to the

success of the Exhibition; and, in particular, we would especially thank the expert representatives of the contributing colleges and other institutions who attended during the Show, and whose verbal explanations did so much to render the exhibits intelligible, interesting, and useful to visitors.

J. BOWEN-JONES.

St. Mary's Court, Shrewsbury.

BRITISH FORESTRY.

THE collection of forestry exhibits at Park Royal this year was in a general way fully equal to that of 1904. Where the exhibition of 1904 excelled was in the magnificent collection of coniferous plants from Devonshire, sent by the Hon. Mark Rolle. These plants, after the Show, were presented by Mr. Rolle to the Royal English Arboricultural Society and were immediately transferred to Englefield Green, Surrey, where, during the autumn of 1904, they were planted out temporarily in a nursery on the Bagshot sand. The young conifers, about 2,000 in number and consisting of 150 species, have made good growth at Englefield Green, and have now been transferred to Tubney, near Oxford. Here, Magdalen College has most kindly offered a suitable site, on which they will be planted when large enough. Meanwhile they are in the College Forest Nursery at Tubney. Mr. H. J. Elwes, F.R.S., of Colesborne, has also promised 200 species of exotic trees, and it is hoped that others will help by giving plants; so that a fine Geographical Arboretum will eventually be established at Tubney.

In 1905, good collections of plants and shrubs were exhibited by Messrs. Kent & Brydon, of Darlington, and by Messrs. Fisher, Son & Sibray, Ltd., of Handsworth, Sheffield. Though not forming part of the Forestry Department, other collections of trees and shrubs were dotted about the Show-yard for picturesque effect, and were shown by Messrs. Little & Ballantyne, of Carlisle; Messrs. William Cutbush & Son, of Highgate; and Mr. L. R. Russell, of Richmond, Surrey. The Country Gentlemen's Association sent a collection of forest tree seeds and cones. There were several interesting exhibits of willows, including osiers of one, two, and three years' growth from Tatton Park, Cheshire, by Earl Egerton of Tatton, and timber-willows, grown in Cambridgeshire, by Mr. Albert Pell, of Hazelbeach, Northamptonshire. Messrs. John Wisden & Co., of 21 Cranbourne Street, Leicester Square, sent a useful exhibit illustrating the manufacture of cricket bats made from willows with open and close bark. The close bark denotes more slowly grown and harder wood than that of the open bark willow, and the former is used for cricket bats of the best quality. It has also been stated that willow

wood grown north of the river Trent is unsuitable for cricket bats and that willows grown on the Continent are also unsuitable for this purpose. Here, at any rate, appears to be a product which we can grow in perfection at home, and when the world-wide demand for cricket bats in all British colonies is considered, this fact should be used to its full advantage by the landowner.¹ The Royal Agricultural College, Cirencester, also sent specimens of willow for cricket bats, as well as bottles of wood-pulp in process of manufacture.

The Earl of Yarborough exhibited hand-specimens of 157 species of woods grown on the Brocklesby and Manby estates in Lincolnshire, as well as a number of photographs of woods and plantations, of all ages, from one year to 120 years old. These plantations were commenced in 1787 and are still continued; so that in 119 years, 23,260,887 trees have been planted on these estates, being an average of 195,469 plants per annum. As these woods extend over about 5,000 acres, and the oldest woods are mature, about 50 acres of them are now cut annually, the cleared areas being regularly re-planted. It would be of the greatest value to British foresters if a statistical account of these interesting woods were published, showing the species grown, either pure or mixed, the cost of the plantations and of their maintenance, and the financial returns from the thinnings and final fellings. The cost of all operations intended merely for amenity or ornament should not be included in the cost of the economic woods. As Lord Yarborough has now, I believe, the only extensive high forest of mixed woods in Britain, in which all ages of trees, from mere seedlings up to maturity, are represented, such a work would compare with that of the Duke of Bedford for his agricultural property, and would be of inestimable value.

Some interesting photographs of large conifers were exhibited by Mr. F. S. W. Cornwallis, of Linton Park, Maidstone. The data given are as follows:—

Species	Age in years	Height	Girth at chest-height	
			ft.	in.
Abies concolor	44	87	11	7
„ Albertiana	44	72	5	8
Sequoia gigantea	44	81	12	4
Abies nobilis	59	83	7	8
„ cephalonica	59	73	11	0
Sequoia sempervirens	61	68	12	0
Pinus excelsa	62	64	9	0
„ Austriaca	64	83	9	0

¹ See article on “The East Anglian Timber Willow” at page 19 of this Volume.

Isolated trees frequently attain large dimensions, especially in girth, but the timber thus produced is very rough and knotty. If trees were closely planted and only absolutely necessary thinnings made, most valuable statistics of their rate of growth would be available. Specimens of Scotch pine timber exhibited by the Duke of Northumberland showed the good effects of close growth in the production of pine timber.

Some interesting exhibits showing the comparative durability of creosoted and uncreosoted timber were exhibited by the Duke of Northumberland and by the Earl of Yarborough. Larch rails and posts from Brocklesby that were uncreosoted had rotted in nine years, while similar wood creosoted was as sound as when it was first used, although it had been exposed to the weather for nine years. It was shown to be indifferent for creosoted wood, whether it were used on clay, calcareous, or sandy soil. Even spruce posts when creosoted were quite sound after seven years' use in the ground. Horses will not gnaw creosoted timber.

Mr. E. R. Pratt, of Ryston Hall, Downham, Norfolk, exhibited a magnificent black-oak door, made of bog-oak dug from Roxham Fen in 1904, and supposed to be 70,000 years old. The Royal Agricultural Society exhibited nine photographs, presented by Mr. C. Richardson, of Stamford, of brown-oak trees, grown in Rockingham Forest, Northamptonshire, and in Welbeck Park, Notts. The frames of the photographs were also made of brown-oak. Considering the high value of brown-oak—10s. a cubic foot—some attempt should be made to ascertain whether this peculiarity is inherited in trees grown from acorns of brown-oak trees. There can be no doubt that, although some brown-oak is due to a commencement of decay, other brown-oak is perfectly sound, and extends throughout the tree up into its branches, as far as the heart wood goes. Such sound brown-oak is hard, and has a bright lustre that is not possessed by partly decayed brown-oak, which is often offered by dealers as a substitute for the real article.

The Commissioners of His Majesty's Woods, Forests, and Land Revenues exhibited several interesting photographs and specimens of timber. They also exhibited the working plan of High Meadow Wood, adjoining the Forest of Dean. This is managed chiefly as coppice-with-standards, with twenty-five years' rotation for the underwood, which, like that of many woodlands on the Continent, is sold as pit timber. No form of woodland is more suitable for private management than the old English method of coppice-with-standards. It is therefore deplorable that, owing to the

reduced demands for small underwood, so many landowners are no longer attending to their coppices-with-standards, and either allow the underwood to be destroyed by rabbits, or root it up, fell their standards, and convert the area into coniferous woods. By lengthening the rotation for the underwood, making thinnings in it every five or six years, and planting a number of oak, ash, and larch saplings, whenever the underwood is felled, this valuable property might be greatly improved and made to yield from 30s. to 2*l.* per acre annually when once the gradation of ages of the standards is established. A good example of this wise treatment may be seen at Blackmoor, near Woolmer Forest, the property of the Earl of Selborne, the working-plan for which was made by Dr. Nisbet.

Since the Show closed, the Commissioners of Woods and Forests have published another working-plan, prepared by Dr. Schlich, C.I.E., F.R.S., for Alice Holt Wood, in Hampshire. This action of theirs, in submitting the Crown Woods to carefully prepared working-plans, besides entailing eventually a steady and enhanced revenue, will render the woods so treated excellent models for neighbouring landowners; and such regularly treated woodlands will eventually form training grounds for young foresters who are being educated for service in India and our Colonies. It would be well if the interesting Crown coppice-with-standards of Princes Coverts, near Esher, in Surrey, that was originally planted by the Duke of Coburg, husband of Princess Charlotte, and afterwards the first King of the Belgians, were put under a regular working-plan. The 1,200 acres of oak woods in the Windsor Forest should also be managed on scientific principles, and they would then serve a truly national purpose. How can forestry be properly taught in the British Isles if there is not a single regular forest of oak—our principal native forest tree—where the student can see all ages of oaks, from seedlings to mature trees? In this connection, the exhibit by the Royal Agricultural College, Cirencester, of the plan of the well-managed Oakley woods, available (by Lord Bathurst's consent) for instructional purposes by the students, was highly interesting. The College also showed the working-plan map of a German forest and some tree-measuring and other implements.

The President of the Royal English Arboricultural Society exhibited a series of twenty large photographs, showing, among other subjects, that serious damage by windfall occurs on the Continent as well as in Britain, although this has been represented as an insuperable obstacle to extensive planting in the Highlands; also the splendid growth of Sessile oak,

100 years old, on the Millstone grit, near Chatsworth, at an altitude of about 800 ft., where pedunculate oak of the same age is all stagheaded and dying. This was from a photograph by Mr. Robertson, woodman to the Duke of Devonshire.

Mr. Elwes, F.R.S., exhibited a number of remarkable photographs of specially fine trees and woods, all of which are growing in Britain; but these were not mentioned in the catalogue. In collaboration with Dr. Henry, F.L.S., of Kew, Mr. Elwes is now producing a work on "The Trees of Great Britain and Ireland," the completion of which will form quite an era in British forestry.

One section of this interesting exhibition was devoted to specimens showing damage to trees by insects and fungi, the chief exhibitors being: the Royal Agricultural Society, who showed two cases of specimens (prepared by Mr. Cecil Warburton, Zoologist to the Society) illustrating the damage done to trees by *Scolytus pruni*, *Saperda carcharias*, the cockchafer, *Cryptococcus fagi*, *Hylesinus fraxini*, and several insects that attack conifers; the Board of Agriculture, who presented the Society with a set of nine diagrams of diseases of forest trees; the Surveyors' Institution; the Earls of Powis and Yarborough; Mr. W. Frank, of 31 Great James Street, London, who showed some German cases of insects and fungi affecting trees; and Mr. A. T. Gillanders, forester to the Duke of Northumberland. A manual of insects destructive to forest trees will shortly be published by this latter painstaking and experienced entomologist.

There can be no doubt that the Forestry Exhibition, for which excellent accommodation was afforded at Park Royal, proved a complete success; and great credit is due to Lord Moreton, Mr. George Marshall, and others, who must have devoted much time and labour in collecting and arranging such useful exhibits.

His Majesty the King, who visited the Show at Park Royal, spent quite a considerable time in the Forestry Exhibition, and the well-managed woods at Sandringham and Balmoral show that the King is a keen forester.

W. R. FISHER.

6 Linton Road,
Oxford.

Official Reports.

REPORT OF THE COUNCIL

TO THE

SIXTY-SIXTH ANNIVERSARY GENERAL MEETING OF
GOVERNORS AND MEMBERS OF THE SOCIETY,

HELD AT THE SOCIETY'S HOUSE,

ON MONDAY, MAY 22, 1905, AT 3 P.M.

LORD MIDDLETON

(President) in the Chair.

1. The Council have to report the following changes in the list of Governors and Members during the year which has elapsed since the last Anniversary Meeting in May, 1904 :— 13 Governors and 492 Members have been admitted into the Society, and 15 Members have been reinstated under Bye-law 12 ; whilst the deaths of 6 Governors, 88 Life Members, and 126 Annual Members have been reported. A total of 410 Members have resigned ; whilst 23 have been struck off the books under Bye-law 10 owing to absence of addresses, and 51 under Bye-law 11 for arrears of subscriptions.

2. The Council have to deplore the loss by death on January 30 last of their colleague, Mr. J. E. Ransome, of Ipswich, who joined the Council in 1886, and who did useful work for the Society as a Member of its Botanical, Implement, and Education Committees. Amongst other Governors and Members whose deaths have been announced since the last meeting in December are the Earl of Morley, Earl Stanhope, Lord Henry Vane-Tempest, Lord Norton (a Member since 1841), Lord Tollemache, Sir John Barran, Bart., Sir I. Lowthian Bell, Bart., Sir M. W. Collet, Bart., Gen. Sir F. Fitzwygram, Bart., Sir R. Jardine, Bart., Mr. J. K. D. Wingfield-Digby, M.P., Mr. S. B. L. Druce (Auditor from 1892 to 1897), Mr. W. H. Emson (a Member since 1847), Mr. John Philip Fletcher, of Darby Lodge, Sunbury-on-Thames (a Foundation Life Governor of the Society, elected a Member on June 19, 1839, whose

death leaves the Society with only one surviving Member, Mr. W. Barrow Simonds, elected before the granting of the original Charter on March 26, 1840), Mr. E. J. Halsey, Mr. Louis Huth, Vet.-Col. J. D. Lambert, C.B., Mr. W. Newton, of Crowmarsh Battle, Mr. E. C. Ozanne, of Guernsey, and Mr. G. Pitt (a Member since 1845).

The above and other changes bring the total number of Governors and Members now on the Register to 9,276, divided as follows :—

- 72 Annual Governors ;
- 95 Life Governors ;
- 5,808 Annual Members ;
- 3,270 Life Members ;
- 31 Honorary Members.

9,276 Total number of Governors and Members, as against a total of 9,477 Members on the Register, reported to the Anniversary General Meeting on May 30 last.

4. Lord Moreton has been elected a Trustee of the Society in the room of the late Lord Ridley, and Mr. Percy Crutchley has been appointed to the Vice-Presidency thus vacated. To fill a vacancy in the list of Vice-Presidents caused by the regretted resignation, through ill-health, of Mr. G. H. Sanday, who has rendered very valuable services to the Society as a Member of the Council for the last thirty-one years, Mr. J. Bowen-Jones has been elected a Vice-President. Mr. J. T. C. Eadie, of The Knowle, Hazelwood, Derby, and Mr. Thomas L. Aveling, of Rochester, have been elected Members of the Council to fill existing vacancies, and will hold office until the first Annual General Meeting under the Society's Supplemental Charter, when all the present Council will retire.

5. It was mentioned in the last Report of the Council presented to the General Meeting held on December 8, 1904, that active steps were being taken to obtain such an alteration of the Society's original Charter of March 26, 1840, as would enable the Society to rearrange its system of appointing the Council, with a view to placing it on a more representative basis. A Petition to His Majesty the King, praying for the grant of a Supplemental Charter to give effect to this object, was adopted by the Governors and Members at a Special Meeting held on January 11, 1905 ; and the Petition was thereupon sealed with the Seal of the Society and deposited at the Privy Council Office. The Society's Petition was laid before the King in Council on March 20, 1905, when instructions were given to the Secretary of State for the Home Department for the issue of Letters Patent under the Great Seal of the United

Kingdom, granting the prayer of the Society for a Supplemental Charter.

6. This Charter has since been received, and is substantially in the form asked for by the Society. Under it, the ordinary Members of the Council, instead of being elected at General Meetings of the Society by the votes of those present, may in future "be elected by divisions of the Society comprising the Governors and Members resident in electoral districts." The Council are empowered by the new Charter to make, with the sanction of a General Meeting, bye-laws as to (*inter alia*) "the number and area of such electoral districts, the number of Members of Council to be returned by every or any division, and the qualifications, mode of nomination, and election," &c., of the ordinary Members of Council.

7. The Governors and Members will be asked to sanction, at an Extraordinary General Meeting to be held after the business of the Anniversary General Meeting on May 22 is concluded, a series of new bye-laws which the Council have drawn up with reference to the election of the Council, the procedure at General Meetings, and other kindred matters. The proposed new bye-laws are circulated with this Report; but their general effect may be thus stated:—

- (1) It is generally agreed that the most convenient period of the year at which to hold the Annual General Meeting of the Society is in December, during the Show of the Smithfield Club, when many agriculturists come to London. This year, in order that the new Council may get to work as early as possible, it is proposed that the first "Annual General Meeting" under the new Charter shall be held (exceptionally) on Tuesday, August 1, 1905; but in 1906 and future years the Annual Meeting will be held in December (Bye-law 57).
- (2) Each county in England is constituted a "division" or electoral district, with the addition of three "divisions" for Wales, one "division" for Scotland, and one "division" for Ireland (Bye-law 78).
- (3) A county or "division" comprising less than 300 Governors and Members is to return one ordinary Member of the Council by the votes of the Governors and Members residing therein. A county having 300 or more Members resident therein is to return two Councillors, with an additional Councillor for every additional 200 Governors and Members (Bye-law 79).
- (4) The first election of the ordinary Members of Council under the Supplemental Charter will take place during July next (Bye-law 82), and the results will be reported at the first "Annual General Meeting" under such Charter to be held on August 1, 1905. The earliest day for the receipt of nominations of candidates for this election will (under Bye-law 83) be June 1, and the final day July 1, *i.e.*, on the day after the forthcoming Show at Park Royal is closed.
- (5) The Council, as constituted at the Anniversary General Meeting to be held on May 22, will hold office until the Annual General Meeting on August 1, 1905, when they will all retire (Bye-law 74), and the new Council will come into office.

- (6) All the ordinary Members of the newly elected Council will hold office until December, 1906, when one-third of them will retire. The various electoral districts have been divided (in the Second Schedule to the bye-laws) into three groups, and the particular group of counties, &c. (A., B., or C.), whose representatives are to retire in 1906, will be settled at a later date by ballot of the new Council. The representatives of another group (also to be settled by ballot) will retire in December, 1907; and the representatives of the remaining group in December, 1908 (Bye-law 82).

8. The Council are advised that in view of the phraseology of Clause 6 of the original Charter of March 26, 1840: "The President shall be an annual officer of the Society and not re-eligible to the office of President for three years," the period for which Lord Middleton was elected President of the Society cannot be legally extended beyond the time contemplated by that Charter, viz., the closing of the Society's forthcoming Show (June 30). To meet this difficulty, Sir John Thorold, Bart., President in 1894-5, has at the request of his colleagues of the present Council, consented to allow himself to be placed in nomination, in accordance with the terms of the old Charter, for election as President at the Anniversary General Meeting to be held on May 22, on the understanding that he is only to hold office as President during the interval between Lord Middleton's retirement and the election of a new President at the first Annual General Meeting of the Society to be held under the Supplemental Charter. If elected on May 22 to succeed Lord Middleton, Sir John Thorold will assume office as President on July 1, and will preside at the "Annual General Meeting" to be held on Tuesday, August 1, when a new President will be elected, who will come into office at once, together with the Trustees and Vice-Presidents also to be elected on that occasion, and the ordinary Members of Council whose election by the various electoral districts will be announced to that Meeting (see Bye-law 86).

9. The Balance-sheet for the year 1904 has been duly examined and certified as correct by the Auditors appointed by the Members and by Messrs. Welton, Jones & Co., the professional Accountants employed by the Society, and it is printed as an Appendix to this Report [see pp. xii and xiii]. The figures recorded therein have already been fully dealt with in the Report of the Council presented to the last meeting of Governors and Members on December 8, 1904, when it was pointed out that "the two heavy losses on the Shows at Park Royal in 1903 and 1904, added to those on the provincial Shows of 1898, 1899, 1900, and 1902, have entirely exhausted the Society's Reserve Fund, and have brought it face to face with a most serious situation." The economies already decided upon in general administration will not have their full effect

until the present year ; and as to the Shows, much will depend upon the financial results of the third Show at Park Royal which the Council, at their meeting held on January 11 last, decided to organise, and which will be held on the four days from June 27-30 next. As stated in the Council's Report of December last, "it will be for the new Council elected under the Supplemental Charter to deliberate and decide as to the future of the Society's Shows and as to the character and scope of the Society's other operations. Meanwhile, the present Council have used and are using their utmost endeavours to carry out the Society's work with due economy, having regard to the financial position and without prejudice to the decisions which the Council elected under the new Charter will be called upon to make."

10. As announced in their last Report, the Council had postponed until a further meeting to be held in January a final decision as to the advisability of holding a Show for this year, in the hope that meanwhile further sums by way of subscriptions or guarantees would be forthcoming from Members, exhibitors, and others which would be sufficient to warrant the Society in organising a Show without further loss to its General Funds. The Council accordingly held a Special Meeting on January 11, 1905, when it was decided by a majority to hold the Society's Show at Park Royal in 1905 on the then existing subscriptions and guarantees, and any further subscriptions and guarantees that might be obtained. The total amount promised to date for the Show Fund is 6,367*l.*, of which 4,754*l.* has already been received. The Council trust that Members who have not already subscribed to it will do so, in order that all risk of further diminution of the Society's general resources may be avoided.

11. The date of the Show of 1905 has been fixed for the usual period, viz., the week after Ascot. It will open on Tuesday, June 27, and close on Friday, June 30, thus lasting four days instead of five days, as in previous years. The prices of admission to the public will be 2*s.* 6*d.* on Tuesday, June 27 ; 2*s.* 6*d.* on Wednesday, June 28 ; 2*s.* 6*d.* on Thursday, June 29, before 3 p.m., 1*s.* after 3 p.m. ; 1*s.* on Friday, June 30.

12. In connection with the preparation of the Stock Prize Sheet for the Show, the Council received an intimation from Sir Walter Gilbey that if the prizes proposed to be offered were increased to the amount expended for prizes at the Show of 1903, he would guarantee the sum of 1,000*l.* towards this object from money subscribed by himself and his friends. The Council felt that in the interests of the Show they could not do otherwise than accept this generous proposal, although it involved some increase in the amount which the Finance

Committee had originally placed at the disposal of the Stock Prizes Committee for distribution as prizes at the Show.

13. The total amount of prizes offered for the Show of 1905 is therefore 7,910*l.*, of which the sum of 1,334*l.* is contributed by the various Breed Societies. In the Horse section, prizes amounting in all to 2,091*l.* are offered for Hunters, Cleveland Bays, Coach Horses, Hackneys, Ponies, Shetland Ponies, Mountain and Moorland Ponies, Polo and Riding Ponies, Harness Horses and Ponies, Four-in-hand Teams, Trotting Horses, Shires, Clydesdales, and Suffolks. For Cattle, prizes amounting to 2,947*l.* will be offered for Shorthorns, Lincolnshire Red Short-horns, Herefords, Devons, South Devons, Sussex, Welsh, Red Polled, Aberdeen Angus, Galloways, Highland, Ayrshires, Jerseys, Guernseys, Longhorns, Kerries, and Dexters, with two classes for Butter Tests and special Milk-yield prizes. For Sheep, prizes amounting to 1,647*l.* have been provided for the following breeds : Oxford Downs, Shropshires, Southdowns, Hampshire Downs, Suffolks, Lincolns, Leicesters, Cotswolds, Border Leicesters, Kent or Romney Marsh, Wensleydales, Dorset Horn, Devon Longwools, Dartmoors, Exmoors, Cheviots, Black-faced Mountain, Lonks, Herdwicks, Welsh Mountain, and Ryeland. The Pig classes include the Large, Middle, and Small Whites, Berkshires, Tamworths, and Large Blacks, and prizes amounting to 492*l.* are offered. Prizes amounting to 319*l.* will also be given for useful descriptions of Poultry, including Table Fowls, Ducks, Geese, and Turkeys ; 41*l.* for Butter ; 80*l.* for Cheeses of 1905 make ; 40*l.* for Cider and Perry ; 54*l.* for Wool ; and 45*l.* for Hives, Honey, and Bee Appliances. Prizes amounting to 138*l.* are offered in four classes for Horse-jumping Competitions. A Horse-shoeing Competition for the shoeing of light horses will also be held, and will be open to Shoeing Smiths in the United Kingdom, the prizes amounting to 16*l.* An Agricultural Education and Forestry Exhibition will again be organised in connection with the Show. In the Implement Department, the number of feet of shedding (exclusive of open ground space) actually allotted is 9,964 ft. The total number of Implement Stands is 288, and 58 entries have been received for the Society's Silver Medals offered for "New Implements."

14. Mr. Percy Crutchley having intimated that he did not desire re-election as Honorary Director of the Show, the Council passed a cordial vote of thanks to him for the valuable services which he had rendered to the Society as Honorary Director for each of the Shows held during the six years, 1899-1904, and elected him as a Life Governor and as one of the Society's Vice-Presidents. The Council are glad to be able to report

that the direction of the Show of 1905 will be in the capable and experienced hands of Sir Jacob Wilson, who was Honorary Director from 1875-92, and who, at the request of his colleagues, has consented again to undertake the duties for this year.

15. The reductions sanctioned by the Chemical Committee in the charges for analyses to Members of the Society have resulted in a somewhat increased number of samples being sent to the Consulting Chemist. During the past five months 293 samples were submitted, as against 240 in the corresponding period of last year.

16. There were no Feeding experiments carried out during the past winter at the Woburn Farm, but the Field experiments have been continued as before, with the addition of others on the use of Lime and of Soot. Further experiments under the Hills' Bequest, and in connection with the field work of the farm, have been conducted at the Pot-culture Station, and there has also been commenced an extensive series of experiments on the utility of inoculating preparations ("Nitragin") for leguminous crops, the materials for which have been, in great part, supplied through the Board of Agriculture. Renewed experiments for the extermination of Wild Onion on badly infested land in Hertfordshire have been undertaken.

17. During the past five months 102 enquiries have been received by the Consulting Botanist. Of these, 74 dealt with the quality and germination of pasture and other seeds; 14 related to laying down land to permanent pasture, to the names and properties of weeds, and to more miscellaneous matters; and 13 referred to the diseases of plants. Potatoes were examined attacked by *Nectria*, by the common and the deep scab, both caused by bacteria, and by the warts described and figured in the Report for last year. The foliage of young tomatoes was injured by bacteria. A hitherto unknown fungus has been found to cause great loss to cucumber growers. The fungus is figured and described in the recently published Volume (65) of the Society's Journal. Other injuries have been reported on, which affected turnips, peas, clover, violets, peach trees, larch, and Douglas fir.

18. The applications dealt with in the Zoological Department during the winter months presented no feature of special interest. The disease of "big bud" in black currants again gave rise to many inquiries, and information was given to several Members of the Society as to where mite-free plants could be obtained. Since the commencement of spring the "wheat bulb fly" seems to have been particularly destructive. The obscure but destructive mites of the genus *Tarsonemus*

have received a good deal of attention and are still under investigation. These creatures appear to be increasingly troublesome in nursery gardens, from which it is extremely difficult to eradicate them.

19. The official returns of the Board of Agriculture show that there has been no sensible decline in the prevalence of anthrax during the past six months, but the outbreaks of glanders have not been quite so numerous as in the preceding half-year, and gratifying progress has been made in the extermination of swine fever. There has also been a marked decline in the reported outbreaks of sheep scab. The number of specimens forwarded to the Research Laboratory at the Royal Veterinary College for examination during the past half-year was 395.

20. The Sixth Annual Examination for the National Diploma in Agriculture will, by the courtesy of the authorities, be held at The University, Leeds, in the week commencing the 8th instant. The examination for this Diploma is conducted by a joint Board, composed of representatives of the Highland and Agricultural Society of Scotland and of this Society. The number of candidates is 91, of whom 58 have entered in Part I. and 33 in Part II. The results of the Examination will be announced to the Members at the General Meeting.

21. The Annual Examinations in the autumn for the National Diploma in the Science and Practice of Dairying will be held as before at the Reading College and British Dairy Institute (for English candidates) from September 18-21 next, and at the Dairy School for Scotland, Kilmarnock (for Scottish candidates), from September 25-28. The entries for both these Examinations will close on Thursday, August 31, 1905.

By Order of the Council,

ERNEST CLARKE,

Secretary.

13 Hanover Square, London, W.

May 3, 1905.

ANNUAL REPORT FOR 1905 OF
THE PRINCIPAL OF
THE ROYAL VETERINARY COLLEGE.

RESEARCH LABORATORY.

DURING the year 1905, 692 morbid specimens were forwarded for examination to the Laboratory which was established at the Royal Veterinary College in 1890 for research in Comparative Pathology and Bacteriology, and to which the Royal Agricultural Society has since made an annual grant. The number of similar specimens dealt with in the Laboratory in 1904 was 654. In the great majority of these cases assistance is sought with a view to having the nature of the disease accurately determined, and it cannot be doubted that, since its establishment, the Laboratory has proved of great service to veterinary surgeons throughout the kingdom, and through them to stock owners. There is, however, another respect in which the Laboratory has proved useful; it has made available for the practical instruction of veterinary students an amount of pathological material which could scarcely have been obtained in any other way, and which is of the greatest value in familiarising future veterinary practitioners with the appearance of the lesions of almost all the important diseases of farm stock.

GLANDERS.

The following Table shows the number of cases of this disease for each of the past six years :—

Year	No. of cases	Year	No. of cases
1900	1,858	1903	2,499
1901	2,370	1904	2,628
1902	2,040	1905	2,062

It is satisfactory to find that the past year has been marked by some abatement in the prevalence of the disease; but, as has frequently been pointed out in these Reports, no substantial

decline in the number of cases need be expected under the present method of dealing with it. This is now generally admitted, but the measures which would yield more satisfactory results cannot in the meantime be brought into operation, because of the rather serious expenditure, in the way of compensation for slaughtered horses, which they would involve.

SWINE FEVER.

The following Table shows the number of outbreaks of this disease for the past eight years :—

Year	Outbreaks	Year	Outbreaks
1898	2,514	1902	1,688
1899	2,322	1903	1,478
1900	1,940	1904	1,188
1901	3,140	1905	817

The total number of pigs slaughtered as diseased or exposed to infection during the past year was 3,876, and to appreciate the extremely satisfactory nature of the present position, it ought to be remembered that in some years, before the disease was taken in hand by the Board of Agriculture, as many as 30,000 pigs were returned as having been affected with it. Indeed, during one year (1887) no fewer than 41,973 animals were attacked, while the total outbreaks numbered 7,238, and the disease occurred in seventy-one counties.

The steady decline in the number of outbreaks since 1901 justifies a confident hope that the efforts to exterminate the disease will before very long prove successful. Should that result be actually achieved, it will constitute a triumph even greater than the stamping out of cattle-plague, foot-and-mouth disease, and pleuro-pneumonia.

ANTHRAX.

The following Table shows the incidence of this disease in Great Britain during the past five years :—

Year	Outbreaks	Animals attacked
1901	651	971
1902	678	1,032
1903	767	1,143
1904	1,023	1,533
1905	967	1,333

The figures for the past year are satisfactory in the sense that they show a slight decrease as compared with those for 1904, but they are disappointing in so far as they indicate that the present methods of dealing with the disease are powerless to reduce the number of outbreaks. The probable explanation

of this failure has been dealt with in the Annual Report for the two previous years. The measures enforced against anthrax have proved inadequate because a large proportion of the outbreaks have no connection with antecedent cases on the same farm or premises, but are caused by the use of contaminated cake, meal, and other articles of diet imported from countries in which anthrax is much more prevalent than it is in Great Britain. The provisions of the Anthrax Order, insisting on prompt notification of the disease and proper treatment of the carcasses of animals that have died from it, are admirable as means for preventing the spread of infection where the disease has broken out, and from that point of view they are in most cases quite effectual, as is proved by the fact that in the great majority of outbreaks the losses do not exceed one animal. There are, however, no practicable measures by which the seeds of future outbreaks, in the shape of infected foreign food materials, can be prevented from entering the country, and there is therefore no reason to expect that there will be any sensible decline in the number of outbreaks in the future.

The fact that the number of animals attacked in outbreaks of anthrax in this country is usually very small (less than two on an average), to a large extent deprives the methods of protective inoculation which have been utilised on a large scale in some foreign countries of their importance, for when a farmer has every reason to believe that an outbreak is at an end with the loss of the first animal, he cannot be expected to submit the rest of his stock to an operation which involves some expense and trouble, and is itself not altogether free from risk. Nevertheless, it appears to be desirable to call attention here to a new method of vaccinating cattle and other farm animals against anthrax, which has some distinct advantages over the one devised by the late M. Pasteur and almost exclusively employed hitherto. In this new method the animal which it is desired to protect receives a subcutaneous injection of so-called "protective serum." In order to obtain a supply of this serum an animal (preferably a horse) is first vaccinated with an attenuated or weakened culture of the anthrax bacillus, and after that it has injected into its body, at intervals, gradually increasing quantities of a virulent culture of the same organism.

After some months of this treatment the blood-serum of the horse acquires protective properties, that is to say, if even a small quantity of it be injected into an ox or other animal the latter is for a time rendered immune against anthrax. The chief advantages of this method of vaccinating against anthrax are (1) that the operation is practically devoid of danger, and

(2) that the animal enters into possession of immunity immediately. Its chief defect is that the protection which it confers does not last more than a fortnight, and to this has to be added the fact that the serum is rather more expensive than the "vaccins," which are used in the ordinary Pasteurian method of vaccinating. The new method, in spite of these drawbacks, may be recommended as a means of cutting short outbreaks, where, from carelessness in dealing with the carcass of a first case of anthrax, or from any other cause, there is reason to fear that a number of the survivors have already become infected, although they have not yet developed any symptoms of the disease. Furthermore, experience which has been gained abroad indicates that the life of an animal already showing symptoms may sometimes be saved by giving one or more large doses of the serum.

VACCINATION OF CATTLE AGAINST TUBERCULOSIS.

It is a fact familiar to every one that in the case of certain diseases, both of man and the lower animals; recovery from a first attack makes it highly improbable that the individual will at any subsequent time become affected with the same disease. This is true, for example, of human beings who have survived an attack of small-pox or scarlatina, of cattle which have recovered from cattle-plague, and of horses which have suffered from strangles. There are, on the other hand, certain bacterial diseases from which the same individual may suffer repeatedly, the first attack leaving the patient almost or quite as susceptible to infection as before. Only a few years ago it was the universal opinion, both among medical men and veterinary surgeons, that tuberculosis belonged to the latter class of diseases, it being generally held that recovery from a first attack left the individual with all his original susceptibility, or even with diminished power of resisting infection. From this it followed as a corollary that it was hopeless to expect the discovery of any useful method of vaccinating animals against tuberculosis.

In a previous Annual Report (Journal, Vol. 63, 1902, page 264) it was pointed out that this opinion appeared to have been formed on quite inadequate grounds, and a number of experiments were described which went to show that recovery from a first attack of tuberculosis left cattle with increased powers of resisting infection, and that it was possible to confer on cattle a very high degree of immunity against the disease. Since the date of that Report (1901), and especially during the last two years, the immunisation or vaccination of cattle against tuberculosis has been the object of numerous

experiments, the earliest and most important of which were carried out in Germany at the instance of Von Behring. The chief impetus to these experiments was the discovery that the bacilli which are the cause of tuberculosis in man and various species of the lower animals have very different degrees of virulence, and especially the discovery that the bacilli which are present in the majority of cases of human tuberculosis have only feeble powers for exciting disease in cattle. This latter fact, of course, suggested that among these weaker strains or varieties of tubercle bacilli there might be found some which could safely be used as "vaccins," that is to say, might be injected into cattle with the object of setting up a mild non-dangerous attack of tuberculosis, terminating in complete recovery, and leaving the animal so treated with a serviceable degree of immunity. Such a process would be strictly analogous to the vaccination of human beings against small-pox, for there is reason to believe that the disease which is known as cow-pox is caused by a feebly virulent variety of the organism which is responsible for human small-pox.

The experiments referred to above have during the last two years been followed with interest by all who were acquainted with them, and, as it may now safely be said that they have passed beyond the laboratory stage, it appears to be desirable to call the attention of British stock owners to the enormously important prospect which they open up. Briefly it may be said that they appear to justify the assertion that we have now at our command a comparatively safe and inexpensive method of vaccinating cattle against tuberculosis.

The first point in connection with the method is to select from the various available strains of tubercle bacilli one which has been proved by preliminary experiments to be of very low virulence for cattle. This is not a matter of any real difficulty, for the majority of the strains which are found in human lesions appear to be incapable, in small doses, of killing cattle with tuberculosis, or of setting up more than a temporary disease. Experiments also indicate that the bacilli which are found in the lesions of tuberculosis of fowls may be used for the purpose.

Having obtained a suitable strain of tubercle bacilli, these are grown in artificial cultures in the laboratory, and employed as the vaccin, which is injected in definite dose into one of the jugular veins of the animal to be vaccinated. It is not yet possible to say whether a sufficient degree of immunity can be conferred by a single injection of a dose which involves no risk to the animal, or whether it may be found better to vaccinate the animal twice, viz., first with a very feeble vaccin,

and after an interval with a stronger one. It is also as yet impossible to say how long the immunity conferred by the operation will last, and it may be found that a life-long protection is unattainable except by vaccination repeated yearly or at longer intervals. Finally, it is possible that injection of the vaccin into the veins is not necessary, and that immunity can be conferred by introducing the bacilli under the skin.

It is perhaps well to point out that, even if the vaccination realises the hopes which at present appear to be justified, it will still be necessary to continue some of the precautions which are imperative when it is desired to prevent the spread of tuberculosis in a herd. It appears to be established by the experience already gained that the full effect of the vaccination is not obtained until about three months after the operation, and therefore during that period the vaccinated animals ought, as far as possible, to be secluded from the risk of contagion. There is also little prospect that the vaccination will have any useful effect on an animal which is already infected; and, for both these reasons, a preliminary test with tuberculin will be necessary before proceeding to vaccinate any lot of animals, all those that react being rejected as unsuitable for the operation, and dangerous if left with the others.

Although there is every reason to believe that a healthy animal of any age can by this method be protected against tuberculosis, it will probably in practice be best to attempt the eradication of the disease from a herd by systematically vaccinating the young animals within a few weeks or months after birth. By so proceeding it may be possible in the course of a few years, with a very moderate amount of trouble and expense, to free even a badly infected herd from the disease.

SWINE ERYSIPELAS.

A certain amount of alarm, not unreasonable in the circumstances, was caused during the past summer and autumn by reports regarding outbreaks of what was represented to be a new disease of pigs in Cambridgeshire. It was soon ascertained, however, that this disease was the one which during recent years has come to be known under the name, swine erysipelas. It is certainly not a new disease in England, and it is quite possible that it has been much longer in existence in this country than the more serious and better-known swine fever. Until about fifteen years ago, however, it was unrecognised in Great Britain as a distinct disease of the pig, the custom being to regard it as a variety of swine fever. It was the application of the methods of bacteriology which

first established the non-identity of the two diseases, as they were found to be caused by two entirely different organisms ; but, as a matter of fact, swine fever and swine erysipelas are quite dissimilar affections, and can nearly always be readily distinguished in practice by their different symptoms and by the different conditions under which they occur.

Swine fever is a purely contagious disease of the pig, and it never breaks out except where there have been opportunities for infection. Swine erysipelas may break out among pigs no matter how strictly they have been isolated ; and, although in some cases it attacks a large number of pigs simultaneously or in quick succession and may appear to spread by contagion, in most outbreaks only single cases of the disease are observed at a time, even when there has been no attempt to isolate the diseased animal. This fact was clearly brought out in the Report of a Departmental Committee of the Board of Agriculture in 1897. The fact that swine erysipelas frequently arises independently of contagion can only be explained by supposing that the germ which is the cause of the disease is one capable of multiplying in soil and dirt, and the slight tendency of the disease to spread must be ascribed to the fact that most pigs are but little susceptible to infection with it.

In exceptional cases, of which the recent Cambridgeshire outbreaks furnish an example, the disease exhibits unusually virulent characters, and occasions serious losses. The cause of this is not well understood. Such severe outbreaks generally occur during the hot weather of summer or early autumn, and they may be caused by an unusually rapid multiplication of the bacilli in the soil or manure of the pigsty. It is also possible, however, that for some reason or another the bacilli suddenly acquire an unusual virulence, that is to say, an exceptional power of mischief for pigs, when they are taken into the alimentary canal.

This acute form of swine erysipelas can, as a rule, be easily distinguished from swine fever by its more rapid course, and by the occurrence of peculiar, slightly raised, red or purple blotches on the skin. Death sometimes occurs so rapidly that poison is suspected. Post-mortem examination also makes it easy to distinguish between the two diseases, for the peculiar ulceration of the large intestine which is almost constant in swine fever is never met with in swine erysipelas.

When an actual outbreak of swine erysipelas occurs, the best plan is to isolate the visibly diseased pigs and temporarily turn the apparently healthy out into a field, which is generally an easy matter at the season when outbreaks commonly occur. Before the sties are restocked they ought to be thoroughly cleaned and disinfected.

REDWATER IN CATTLE.

The disease known by the above name has at the present day a comparatively restricted distribution in England, being apparently almost unknown except in the extreme northern counties and in Devon and Cornwall. It is, on the other hand, a fairly common disease over the whole of Scotland and throughout the greater part of Ireland. With some exceptions which will be specially considered later, cases of redwater are seen only in the summer and autumn seasons, and only in cattle which are running at grass. It has always been observed that it is a rare disease on cultivated land, being more frequent on land which has never been brought under the plough, such as hill or moor pasture and meadows. On this account it has long received the name "moor-ill" in Scotland. It is specially a disease of adult cattle, though it may attack yearlings or two-year-olds, and occasionally even calves of not over six months old. The disease received its common name from the fact that affected animals pass dark-red urine, the abnormal colour being due not to actual blood mixed with the urine, but to the presence of hæmoglobin or blood-pigment.

Until quite recently the most erroneous views were generally put forward and accepted with regard to the cause of the disease, the commonest being that the malady was the result either of actual poisoning with some noxious herbs or weeds, or of a diet in some respect improper, such as one containing a great excess of carbohydrates. Within the last few years, however, the cause and true nature of the disease have been determined with certainty, and at the present time there are few diseases of cattle which are so well understood as redwater. The actual cause of the disease is a microscopic animal parasite, very similar to the one which is the cause of human malaria. During the height of the disease this parasite is found in larger or smaller numbers in the red corpuscles of the blood, and all the principal symptoms exhibited by an affected animal are ascribable to the destruction of the corpuscles which these parasites bring about. When the corpuscles are destroyed their red colouring matter becomes dissolved in the liquid part of the blood, and when excreted by the kidneys it imparts the abnormal colour to the urine. In an ordinary fatal case of redwater the blood is obviously thin and watery, and the carcass is even more bloodless in appearance than that of an animal which has been killed by bleeding.

Although redwater is not a contagious or infectious disease in the ordinary sense of these words, it is one which can be experimentally conveyed from a diseased to a healthy ox with

the most deadly certainty. To effect this it is merely necessary to take a few drops of the warm fresh blood of a redwater animal and inject it into the one which it is desired to infect. After a time which varies with the amount of blood used for the experiment (usually about a week when only a small quantity has been used), the inoculated animal sickens and begins to pass red urine. Needless to say, this result is attributable, not to the injection of the blood itself, but to the redwater parasites present in it.

But, as previously stated, redwater is not naturally a disease which spreads by contagion, and it remains to explain how, in natural circumstances, the parasites which are the cause of it find their way into the body. This really great discovery was made by two American authorities (Smith and Kilborne), who proved what had previously been suspected, viz., that cattle are infected with redwater by the agency of a tick. In the case of the redwater of the United States, Africa, and Australia, the tick which plays this part has been identified, and it is known that the females which have sucked the blood of an infected animal produce a brood of ticks capable of conveying the disease to the cattle to which they become attached. The redwater parasites (or piroplasms, as they are named) are thus handed on from the mother tick to her offspring, but as yet all attempts to identify them either in the mother tick, eggs, or young ticks have failed. The ticks thus do in a round-about way what one can do directly with a hypodermic syringe, using the latter to draw off a little blood from a diseased animal and immediately injecting it into a healthy one.

There is not the least doubt that European redwater is identical with the redwater of the other Continents in the sense that it is caused by piroplasms in the blood, and there is also no room to doubt that it is spread by the agency of ticks. What particular species of tick is concerned in the transmission of redwater in Great Britain and other parts of Europe has, however, not yet been conclusively proved by experiment, though there is reason to believe that it is the *Ixodes reduvius*. This is almost the only point in connection with British redwater about which there remains any obscurity, and it is to be hoped that it will soon be cleared up. It is one of some importance, for the common British cattle-tick (unlike the species concerned in transmitting redwater in America, Africa, and Australia) is one of which the young may attach themselves in succession to three individual cattle before reaching maturity; and it is therefore uncertain whether the piroplasms are passed through the eggs, or are obtained by the young ticks while sucking the blood of an infected ox, and

passed into the body of the healthy cattle on which they pass the next stage of their development.

In the light of these discoveries, many points in connection with the pathology of redwater that were once obscure can now be quite satisfactorily explained. The disease is rare or unknown on cultivated land because ploughing and cropping interfere with the multiplication of ticks. It is a disease of moor-land and rough permanent pasture because these are places in which ticks can maintain their existence from year to year, provided that they can find cattle to which they may attach themselves. The disease is specially one which attacks cattle at grass, because housing secludes cattle from the attacks of ticks. It is a disease of summer and autumn because these are the seasons during which ticks are active.

One or two other points have still to be considered. On some redwater farms the only losses occasioned by the disease are among bought-in cattle, those bred on the farm appearing to escape infection. In such cases the majority or the whole of the cattle reared on the farm have not escaped the disease, but have become infected as calves or yearlings, at which age cattle are but little susceptible, and generally do not develop any symptoms of illness when bitten by infected ticks.

An animal which has passed through an attack of redwater is protected for a long time afterwards, and possibly for life, against a second attack. Nevertheless, such an animal continues to have small numbers of the redwater parasites in its blood, as may readily be proved by injecting some of this into a healthy animal. This is true even of those cases in which infection has taken place during calf-life, and in which the animal has never been observed to be ill. Hence it follows that cattle removed from a redwater farm to another may carry the disease to the latter, provided it is one on which ticks exist; for these would become infected in sucking the blood of the imported animals, and their immediate progeny would be capable of infecting the cattle reared on the farm.

Although the investigations of recent years have thrown clear light on the cause of redwater, the prevention of the disease is still in most cases a difficult problem. As in natural circumstances there is no redwater without ticks, it might be supposed that measures directed against them ought to have an important part in any plan of prevention. Unfortunately, however, there has not yet been discussed any practicable means of eradicating ticks except by keeping animals off the land for a period which exceeds the longest possible life-time of a tick. In all probability a complete year would suffice for this purpose, and it may be accepted as practically certain that two

years would leave no living ticks on the ground. To exclude animals from even a single field for two years would of course entail a considerable loss even in the most favourable circumstances, but fortunately it would only be necessary to exclude cattle. None of the other farm animals can be infected with redwater, and there is therefore no reason why the worst-infected pastures should not be grazed by horses or sheep. It is true that this would not lead to extermination of the ticks, for these attach themselves to other animals than cattle, but even when an infected tick attaches itself to a sheep or horse the progeny of that tick are free from infection, and therefore harmless for cattle.

From what has just been said, it will be inferred that, when experience has shown that on any farm cases of redwater occur only on a particular part of it, an effort should be made to exclude cattle from that for at least an entire year, and if possible for two years.

When a case of redwater occurs, the affected animal ought to be immediately housed; and, in the event of its recovery, it ought to be kept indoors for not less than three weeks. The motive for this is to prevent the ticks on it from escaping on to pasture, and during the period of its isolation its skin ought to be searched for ticks. It is scarcely possible to detach these until they do so voluntarily, and then they ought to be collected and destroyed. Even if no ticks are detected, the litter and manure ought to be carefully removed, and either burnt or stored until it can be applied to ploughed land. After the three weeks have elapsed, the recovered animal ought not to be returned to the infected pasture, but if possible put to grass on a field subject to rotation of crops.

If it is impossible to exclude cattle from what is known to be infected pasture, then it is well to remember that bought-in cattle, assuming that they come from a healthy farm, are more likely to contract the disease than those bred and reared on the place. Known infected pastures, if they must be grazed by cattle, ought therefore to be reserved for home-bred animals, and the younger these are the less will be the risk.

In concluding the subject of prevention it may be mentioned that cattle may, with a certain amount of risk, be immunised or vaccinated against redwater. It has been previously explained that the blood of recovered cattle generally continues to harbour small numbers of the redwater parasites for a long time afterwards, and inoculation with the blood of such recovered animals almost invariably excites an attack of redwater in a healthy subject. Sometimes, however, the attack which is thus set up is of a very mild character, but sufficient to confer protection against subsequent infection

by ticks. Unfortunately, the exceptions to this rule are considerable, and they can never be foreseen. Some experiments in this direction have been carried out at the Royal Veterinary College during the past two years, and out of ten cattle experimentally infected with redwater only one died, and that one was at the time affected with another disease which certainly contributed to its death. Only one of the remaining nine animals had an attack which endangered its life; in another the attack was moderately severe but not dangerous, and in the other seven there was scarcely any appreciable disturbance of the general health.

As has already been stated, redwater is mainly a disease of summer and autumn, but attacks of acute illness characterised by all the chief symptoms of this disease, including the abnormal appearance of the urine, are sometimes observed in cows during the months of winter or spring, at a time when the animals are confined to the house, and when tick infection is scarcely possible even among cattle at grass. It cannot be said that the identity of these attacks with the redwater described above has been proved; but, in spite of the different conditions under which they occur, it is quite possible that the two diseases are the same.

It is well known that animals which contract the disease and recover while at pasture in summer or autumn may have a relapse or second attack afterwards, and this is especially likely to happen if from almost any cause the animal's general health becomes seriously depressed. The winter attacks of redwater are generally seen among recently calved cows, and it is possible that they are of the nature of relapses brought on by the general disturbance and drain on the system incidental to parturition.

J. MCFADYEAN.

Royal Veterinary College, Camden Town.

ANNUAL REPORT FOR 1905 OF THE CONSULTING CHEMIST.

In the twelve months, December 1, 1904, to November 30, 1905, the number of samples analysed on behalf of members of the Society was 571, this being an increase on the number—530—recorded for the corresponding period in 1904. This increase may, to some extent, be attributed to the reduction of fees which was introduced in January, 1905, with the view of extending the usefulness of the Chemical Department and of enabling the members to avail themselves more fully of the privileges offered.

From returns recently issued, it would appear that the Fertilisers and Feeding Stuffs Act was made use of in 1904 to about the same extent as in the previous year. Though there has not been any increase in this direction, yet there have been several prosecutions instituted under the Act, which have shown the usefulness of this legislation. In some of these I have been myself engaged, notably in one concerning the sale of a meal called "Erup" meal, and in others relating to the sale of steamed bones.

Though the Report of the Departmental Committee on the Fertilisers and Feeding Stuffs Act has been issued, no steps have as yet been taken in regard to further legislation; but this Society and other bodies have drawn up and duly submitted their views upon the recommendations of the Departmental Committee. [See Appendix to this Volume, page xlvi.]

The principal features of the year, so far as they have reference to samples examined on behalf of members, have been (1) the satisfactory condition of the linseed cake trade; (2) the disappearance, to a large extent, of the trade in Bombay cotton cake; (3) the not infrequent adulteration of different classes of milling products; (4) the improved quality and higher guarantee given in the case of basic slag; (5) the adulteration of steamed bones; (6) the more frequent examination of coal, coke, sulphur, and hops for the presence of arsenic; and (7) the revival of prospects of a beet-sugar industry in this country.

A. FEEDING STUFFS.

1. *Linseed Cake.*

A marked improvement has to be recorded in the conditions under which linseed cake is sold to the farmer. It is remarkable that, whereas formerly I had occasion frequently to report on cases of inferior and adulterated linseed cake, I have not, throughout the past year, had to bring forward a single instance of this in reference to English-made cakes. Where inferiority has been found, it has been with cakes of foreign manufacture and sold without definite guarantee. Even more satisfactory is it to find that the vague terms "oil cake," "95 per cent.," &c., are going out of use, and it would certainly seem as if the constant warnings I have issued year by year have borne fruit. Much of this is due, no doubt, to the action of a number of firms in agreeing to sell subject to the Royal Agricultural Society's recommendations as regards "purity," and the fact that guarantees in this form are now freely given and accepted, affords proof of the satisfactory nature of the standard laid down by this Society, and, further, that there is no practical difficulty in attaining it.

2. *Cotton Cake.*

The use of borax in ordinary undecorticated cotton cakes has not been nearly as general as before, though in Bombay cotton cakes borax is almost always employed. Bombay cotton cake has, however, to a large extent gone out of use, partly in consequence of the nearer approximation of its price to that of Egyptian cotton cake, and partly because of the well-founded objection to its "woolly" character. But few samples of it have been sent to me, and, when they have come, they have mostly been found to be very "woolly," and to contain borax, and, frequently, excessive sand. Such an instance is the following, when a sample gave on analysis:—

	Per cent.
Oil	4·49
Nitrogen	2·79
Sand	1·75

Both oil and nitrogen, the latter especially, are decidedly below what would be found in a good cotton cake, and the sand also is very high. Borax and excessive woolliness were additional features.

3. *Decorticated Cotton Cake.*

This cake has been alike dear and hard to procure of good quality and condition. The crushed and "made-up" cake has, in consequence, been in greater demand, and, provided this be sound and fresh, it is certainly better to get than the hard,

lumpy, indigestible cake. A correspondent complained of the cake he had bought as being very "crumbly." A sample gave on analysis :—

	Per cent.
Oil	10.69
Albuminoids	40.69
(Containing nitrogen)	6.51)

This cake was free from borax, and was of quite good quality; the fault of being "crumbly" was really one in the right direction.

In one case I found decorticated cotton cake to be adulterated with admixture of some fibrous matter not derived from cotton seed at all. It gave, on analysis, excessive fibre and low nitrogen, viz. :—

	Per cent.
Fibre	9.06
Nitrogen	5.69

The cake, as a consequence of my report, was returned to the vendor.

4. *Compound Feeding Cakes and Meals.*

These, as usual, have presented great variations as regards both analytical results and the constituents of which they have been composed. The cases here mentioned emphasise the necessity of buying mixed feeding cakes and meals with a guaranteed analysis, and under the further proviso that the materials used shall all be sound and of good feeding value.

(a) Reported to the Council, March 1, 1905. *Compound Feeding Cake.*

	Analysis guaranteed Per cent.	Analysis found Per cent.
Oil	11	9.43
Albuminoids	20	18.12
Carbohydrates	38	43.70

(b) Reported to the Council, March 1, 1905. *Feeding Cake.* This was found to contain 5.05 per cent. of sand.

(c) A new food sold under a "fancy" name.

	Analysis guaranteed	Analysis found
Oil	7.05	2.10
¹ Albuminoids	18.00	12.06
Carbohydrates	53.92	60.39
Mineral matters	8.47	9.03
Moisture	12.56	16.42
	-----	-----
	100.00	100.00
	-----	-----
¹ Containing nitrogen	2.82	1.93

The price of this was 6*l.* 15*s.* per ton delivered. The disparity between the guaranteed analysis and that actually given is very marked.

(*d*) “*Erup*” *Meal*. This case, reported to the Council on May 3, 1905, became subsequently the subject of a prosecution by the East Suffolk County Council under the Fertilisers and Feeding Stuffs Act. The material, which in reality was nothing more than distiller’s grains, was sold under the name “*Erup*” meal [ERUP=PURE (reversed)] at the price of 45*s.* per ton. The analyses guaranteed and actually found were :—

	Analysis guaranteed	Analysis found
Oil	12·95	2·47
Albuminous matters	26·68	7·25
Carbohydrates	20·02	6·15
Ash and fibre	5·25	1·43
Moisture	35·10	82·70
	<hr/>	<hr/>
	100·00	100·00

This material, it will be seen, was totally different from what had been represented, and the difference between the moisture found (82·7 per cent.) and that in the guaranteed analysis (35·1 per cent.) need alone be mentioned in order to show the poor quality of the meal as actually sold. A substantial fine with costs was imposed.

5. *Maize Products.*

The analysis is here given of a product of maize which was sold under the name of “*White Hominy Feed*” :—

Moisture	14·10
Oil	13·23
¹ Albuminoids	11·19
Starch, sugar, and other carbohydrates	53·34
Woody fibre	4·09
² Mineral matter (ash)	4·05
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	1·79
² Including sand	·05

This cost 5*l.* 7*s.* 6*d.* per ton delivered, and was a nice clean material, which cannot be considered at all dear.

6. *Milling Products.*

Several instances have been brought to my notice where there has been adulteration of different products obtained from milling processes. There seems, indeed, to be an impression that, because a material like bran, for example, is

recognised as being an "offal," it is allowable to class under it, or mix with it, any similar "offal," irrespective of its origin. This is an entire mistake, and it requires to be known that the Fertilisers and Feeding Stuffs Act is quite applicable to such cases, and to regulate that when a milling product is sold it shall conform to the description of it recognised in the trade. Thus "bran" is universally recognised as being one of the "offals" of wheat, but offals of grains other than wheat must not be included under this term unless bearing a special description indicating their origin. The following are cases in point:—

(a) Reported to Council, October 4, 1905. "*Middlings*" adulterated with rice husk.

In this case, a considerable admixture of rice husk was given to "middlings," and sold under the name of "middlings," at 5*l.* 5*s.* per ton, for the use of poultry. The rice husk was so finely ground up that it was very difficult to detect it, and, on giving it to poultry, serious losses were experienced. The vendor maintained that, because "middlings" were "offal," he was entitled to use any "offal" he pleased. Ultimately, however, he paid 15*l.* by way of compensation.

(b) "*Middlings*" adulterated with oat husk, &c.

The foregoing case having, through its publication in the R.A.S.E. Council proceedings, drawn attention to the adulteration of "middlings," another member sent me a sample for examination, and this was found to contain considerable admixture of oat husk, together with weed seeds.

(c) *Barley Meal.*

My attention was called to the sale, under the name "barley meal," of a mixture of the latter with a material called "oat sharps," this being just the ground-up husk of the oat.

(d) Reported to the Council, October 4, 1905. *Bran* adulterated with coffee-bean husk.

In an instance brought to my notice I found that in a purchase of "bran," there was a large admixture of the ground husk or "parchment" skin of the coffee bean.

Unfortunately in none of the above cases, though strong representations were made, could the purchaser be induced to take proceedings under the Fertilisers and Feeding Stuffs Act. This is much to be regretted, as the publicity so given would act as a great deterrent in other cases. The Royal Agricultural Society meantime can do useful work by bringing such forms of adulteration to light, though its work would be much more effective if purchasers of these adulterated materials would

follow up the beneficial action by taking active proceedings against the vendors. In this connection it is well to point out that County Councils have, in not a few instances, shown themselves ready to undertake and carry through, on their own responsibility, cases which have been put before them and which will stand investigation. Where this has been done it is seldom that the action has not been followed with success.

7. *Hemp Fibre.*

A sample of meal made from the fibre of the hemp plant was submitted to me and gave the following results:—

Moisture	7·39
Ether extract	2·70
¹ Albuminoids	6·19
Carbohydrates, &c.	28·23
Woody fibre.	50·20
² Mineral matter (ash)	5·29
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	·99
² Including silica	·35

This had a very insipid taste, and its feeding value can be but small.

B. FERTILISERS.

Attention has been called to the more satisfactory condition of the trade in linseed cake, and the same may be said as regards the trade in the staple manufactured fertilisers, such as mineral superphosphate, dissolved bones, &c. Of these there has been little to complain about when purchasers have gone to well-known and respected firms, of whom there is an abundance. It is, however, when buying compound manures, special fertilisers, and waste products particularly, that care requires to be exercised, and the aid of chemical analysis to be employed.

1. *Basic Slag.*

Improved manufacture and better milling, aided by competition, has caused a general raising of the terms of guarantee under which basic slag is offered. Whereas, formerly, vendors confined themselves to giving a guarantee of 75 to 80 per cent. "fineness," it is now not at all infrequent to give one of 85 to 90 per cent.; and it must in justice be said that this when offered is generally attained. Nevertheless, there must necessarily occur variations, and the only real safeguard is to buy under strict guarantee and to check deliveries by subsequent analysis. The following are cases in point:—

(a) A member sent me, for analysis, a sample of basic slag which he had bought as "the best quality." It analysed :—

	Per cent.
Phosphoric acid	13·54
Equal to phosphate of lime	29·56
Fineness	71·00

As the "best quality" basic slag is generally sold now on a basis of 38 to 45 per cent. of phosphates, and of 85 to 90 per cent. "fineness," it will be seen that this delivery was very far removed from being of "the best quality." It cost 2*l.* 4*s.* per ton delivered, and was decidedly dear. The purchaser was made an allowance of 7*s.* per ton.

(b) Another member purchased basic slag without a guarantee, paying 39*s.* 3*d.* per ton. Analysis of a sample gave :—

	Per cent.
Phosphoric acid	11·71
Equal to phosphate of lime	25·57
Fineness	78·00

This, again, was very dear, and 48 tons had already been purchased and used before a sample was sent for analysis. There is little need of further emphasising the benefits which might accrue from a more general use of the privileges which the Royal Agricultural Society offers to its members.

2. *Steamed Bones.*

During the year several instances have been brought to light in which, through the presence in steamed bones of some quantity of sulphate of lime, inferiority of quality has resulted. Bones naturally contain a quite small quantity of sulphate of lime, but this does not exceed ·25 per cent.; hence, if sulphates are found in any quantity, it may be concluded that they have been added. In some cases this is by direct admixture of gypsum (sulphate of lime) used for the purpose of drying the material, and so getting it in better condition; in others by the employment, in treating the raw bones, of a new process called "the sulphite process," in which the bones, for the purpose of getting a clearer and less-coloured glue out of them, are treated with sulphurous acid; this results in the formation of sulphite of lime, which, on exposure to the air, gradually becomes oxidised to sulphate of lime. Whichever plan is adopted, the result is to produce a material inferior in quality to steamed bones obtained by the ordinary process of steaming. Wherever such special treatment has been adopted, it is imperative that the product, when sold, should be accurately described, and due notification be given of what has been done. It is not enough to give merely the

analysis guaranteed, but if a material be sold as “steamed bones,” it should be bones merely steamed, and not those treated with sulphurous acid, or steamed bones with gypsum added to them, in both of which cases sulphate of lime is found in some quantity. The following are three instances in point:—

	A	B	C
	Steamed bones.	Steamed bone flour.	Boiled bones.
Moisture	19·87	9·77	11·39
¹ Organic matter	23·21	10·22	22·52
Phosphate of lime	38·58	61·67	49·08
Sulphate of lime	11·61	7·38	9·19
Carbonate of lime, &c.	3·94	8·46	4·78
Sand	2·79	2·50	3·04
	<hr/>	<hr/>	<hr/>
	100·00	100·00	100·00
	<hr/>	<hr/>	<hr/>
¹ Containing nitrogen	2·11	1·03	2·59
Equal to ammonia	2·56	1·25	3·14

In the case of “A” it was admitted that gypsum had been added, and an allowance of 10*l.* on a purchase of 25 tons was made. In “B” and “C” the “sulphite process” had been adopted, and allowances were made in each instance. In a fourth case, not here reported (as the sender was not a member of the R.A.S.E.), a prosecution was instituted by the Lindsey (Lincolnshire) County Council, and a fine with costs inflicted, the admission being made that gypsum had been added in order to get the material into dry condition. There is no objection either to the admixture of gypsum or the adoption of the “sulphite process,” so long as the fact be clearly stated and the material be not sold as “steamed bones” without qualification.

3. “Compound Barley Fertiliser.”

Under this name was sold, at the price of 7*l.* per ton delivered, a manure, the analysis of which was:—

Moisture	15·89
¹ Organic matter and water of combination	18·08
Monobasic phosphate of lime	10·70
Equal to tribasic phosphate of lime (bone phosphate) rendered soluble by acid	(16·75)
Insoluble phosphates	5·50
Sulphate of lime, alkaline salts, &c.	49·13
Insoluble siliceous matter	·70
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	1·89
Equal to ammonia	2·30

This—excellent manure as it may have been for a barley crop, and though subject to a cash discount of 1*l.* per ton—could not, even at a liberal valuation, be put at a higher figure than 4*l.* 10*s.* a ton. No guarantee was given with it beyond the evasive one of containing “not less than 10 per cent. of soluble phosphates, 1 per cent. of insoluble, and $\frac{1}{2}$ per cent. of nitrogen.” In this way the provisions of the Fertilisers and Feeding Stuffs Act, as at present in force, are evaded. But there will be always, I suppose, people who will continue to buy manures like this, at extravagantly high prices, and without any proper guarantee, especially when there is the added inducement of a prize for barley grown by the use of such a manure.

4. *Soot.*

Soot, whilst an excellent material, especially as a top-dressing for wheat on heavy land, is of very variable composition, and is very liable to be rendered inferior either by the circumstances under which it is produced or collected, or else by wilful adulteration. After experiencing, in my own case, at the Woburn Experimental Farm, the difficulty of getting soot of high quality, I received from members of the Society, for analysis, two samples of soot, the respective analyses of which were as follows :—

	A	B
	Per cent.	Per cent.
Nitrogen	2·19	3·72
Equal to ammonia	2·66	4·52
Siliceous matter.	51·36	19·34

These both came from the same district and cost the same, but were of very different quality, “A” being composed, to the extent of fully one-half, of ashes and similar earthy refuse, whilst “B” was a sample of excellent quality and good value.

5. *Ground Lime.*

Much has been written about “ground lime” and the advantages of using it. As I have, however, before pointed out, this is very well, provided that the quality of the ground lime can be depended upon. A small dressing of ground lime, if good, will no doubt go further and act more quickly than a larger one of less finely divided lime; but if one cannot depend upon the quality of the ground lime, the advantage is gone. As the result of my experience with samples of ground lime that have been sent to me for analysis, or which I have obtained for myself, I can only say that ground lime, in nine cases out of ten, is of decidedly inferior quality. The following examples are given in illustration :—

	A	B
Lime (total)	80·18	65·73
Oxide of iron and alumina.	3·43	9·33
Siliceous matter	5·78	15·27
Carbonic acid, magnesia, &c.	10·61	9·67
	<hr/>	<hr/>
	100·00	100·00

“A” had been guaranteed to contain 92 per cent. of lime, with only 1·92 per cent. of silica; and “B” was supposed to be the “best ground lime.” Both, it will be seen, fell much below the descriptions given. Indeed, I may say that I can hardly call to mind a really first-class sample of ground lime which has been sent to me for analysis in the ordinary course.

6. Refuse Lime.

Occasionally lime which has been obtained as a waste product in some manufacturing process is available for use and can be profitably employed. As a rule, the bad condition of the lime and the difficulty of applying it to the land form the chief bar to its utilisation. In the following instance lime was obtained as a residue in soap manufacture, and the water was subsequently removed, as far as possible, by hydraulic pressure. The result was to obtain the lime in a friable condition and capable of ready distribution. In this state it was obtainable at the low cost of 2s. per ton at the works. The analysis of it was:—

Moisture	28·57
Oxide of iron and alumina	·25
Lime	40·92
Siliceous matter	·40
Carbonic acid, &c.	29·86
	<hr/>
	100·00

7. Mustard Cake.

A sample of mustard refuse cake was sent to me which analysed as follows:—

Moisture	13·12
¹ Organic matter	82·28
² Phosphoric acid	·66
Lime	1·29
Magnesia, Alkalies, &c.	2·59
Sand	·06
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	2·87
Equal to ammonia	3·48
² Equal to phosphate of lime	1·44

This cost 3*l.* 6*s.* 3*d.* per ton delivered, rape cake costing on the same terms 4*l.* 10*s.* per ton. Considering that the latter

will give frequently over 6 per cent. of ammonia (a sample recently analysed by me gave ammonia 6.76 per cent.), the mustard cake cannot be considered so well worth the money at the respective prices.

8. *Farmyard and Stable Manure.*

It may be of advantage to give analyses of samples of farmyard and stable manure such as is generally procurable in London, and is available for transport to the hop lands of Kent and other districts within reach of the Metropolis. The samples were carefully drawn from considerable bulks of (a) best London dung (b) sweepings, or "London mixture," and the analyses were :—

	A Best London dung	B Sweepings
Moisture	66.55	56.60
¹ Organic matter	22.40	18.07
Lime	1.00	1.67
² Phosphoric acid . . . . .	.42	.40
Alkalies, &c.	1.30	4.94
Sand	8.33	18.32
	<hr/>	<hr/>
	100.00	100.00
	<hr/>	<hr/>
¹ Containing nitrogen . . . . .	.67	.56
Equal to ammonia . . . . .	.81	.68
² Equal to phosphate of lime . . . . .	.92	.87

"A" cost 22*l.* 7*s.* 6*d.* per barge load of 84 cart loads, delivered to the farm (near Faversham, Kent), a cartload being, roughly, 1 ton, so that the price came to 5*s.* 4*d.* per ton. "B" cost, also delivered, 14*l.* 7*s.* 6*d.* per barge load, or 3*s.* 5*d.* per ton. At the respective prices "B" was the cheaper, though both may be considered good value.

9. (a) *Poultry Manure*; (b) *Feather Waste.*

Samples of these were sent for analysis and gave the following results :—

	Poultry manure	Feather waste
Moisture	62.50	9.12
¹ Organic matter	20.52	76.52
Lime . . . . .	.83	1.25
² Phosphoric acid . . . . .	.65	1.40
Alkalies, &c.	2.13	2.74
Sand	13.37	8.97
	<hr/>	<hr/>
	100.00	100.00
	<hr/>	<hr/>
¹ Containing nitrogen	1.59	9.95
Equal to ammonia	1.93	12.08
² Equal to phosphate of lime	1.42	3.06

The poultry manure was in wet and pasty condition, making its ready application difficult; its manurial value would be rather under 1*l.* a ton. The feather waste cost 90*s.* per ton and was good value, the material being dry and in good condition.

C. MISCELLANEOUS.

1. *Arsenic in Coal, Coke, Sulphur, and Hops.*

The agitation caused by the "arsenic scare" in connection with materials used in brewing led naturally to the submission of a number of samples of coal, coke, &c., used by farmers in connection with hop-drying, and also of the finished hops themselves. The buyers of hops, in order to secure themselves, would only buy subject to the hops being free from arsenic, and the hop farmer, in turn, wished to ensure that the coal or coke he used, as also the sulphur burnt in the kilns, were free from excess of arsenic, so that contamination of the hops could not take place. It may be said, generally, that when anthracite coal was used it was, as a rule, found to be practically free from arsenic; coke was, however, more or less arsenical, the quantity of arsenic exceeding .05 grains per lb., an amount which may be taken as the limit allowable. Sulphur, when Sicilian sulphur was used, was quite satisfactory, but some sulphur obtained from "recovery" processes contained excessive arsenic. With hops much depended upon the kind of coal or coke that had been employed, but it was only in a few cases, and where coke had been used, that more than $\frac{1}{50}$ grain of arsenic per lb. was found.

2. *Sugar Beet-root.*

The revival in the prospects of making beet-sugar production a commercial success in this country caused a good deal of sugar-beet to be grown experimentally in different districts, and several samples of the roots so grown were submitted to me for analysis. The season of 1905 was particularly favourable to the growth of roots of a character such as a factory would desire, viz., a root well-matured and not of large size. Hence, one would expect the roots in such a season as 1905 to be rich in sugar, and this proved to be the case, as the subjoined analyses show. In comparison with these results are given some obtained in 1904, exemplifying the differences which season will make.

Sugar-beet grown in 1904.

	1	2	3	4
Water	87.07	88.09	86.85	87.92
Sugar	7.92	6.99	6.80	6.60
Crude Fibre	2.16	2.06	2.30	1.80
Albuminoids and Ash, &c.	2.85	2.86	4.05	3.68
	100.00	100.00	100.00	100.00

Sugar-beet grown in 1905.

	5	6	7	8	9
	Per cent.	Per cent.	Per cent.		Mangel beet
Water	—	—	—	76·63	84·92
Sugar	15·46	13·23	15·21	14·99	8·22
Crude fibre	4·94	4·19	3·92	5·26	2·98
Albuminoids and Ash, &c.	—	—	—	3·12	3·88
				100·00	100·00

The samples (1, 2, 3, 4) of 1904 were grown near Norwich; No. 5 (1905) was from a 14 ton per acre crop, grown near Ipswich, the seed being of the *Wanzleben* variety, and manured with farmyard manure only; No. 8 was grown in Bucks., and No. 9 was a sample of "mangel-beet" from the same farm. It will be noticed how much higher is the sugar percentage in the roots of 1905 than in those of 1904. Of the possibility, however, of growing in this country, in a favourable season, beet containing a good percentage of sugar there can be no longer any doubt; but it is equally certain that there are many other factors that have to be taken into consideration before it can be concluded that the production of beet-sugar in this country will be a commercial success.

3. Taints in Milk.

In a private dairy consisting of six cows in-milk, the milk was noticed to have an offensive taste, and, on a sample being sent to me, I clearly recognised this to be the case. At my suggestion the cows were separately milked and the milk of each set aside, to ascertain, if possible, whether all the milk was equally affected (as would probably be the case if the fault lay in food or pasture or surroundings), or if it could be traced to one individual cow. In this way the trouble was traced to a particular cow, which was subsequently pronounced by a veterinary surgeon to be suffering from illness, and her removal from the herd caused also the disappearance of the objectionable taste observed in the mixed milk.

List of samples analysed on behalf of members of the Society between December 1, 1904, and November 30, 1905:—

Linseed cakes	57
Uncorticated cotton cakes	29
Decorticated cotton cakes	15
Compound feeding cakes and meals	54
Cereals	9
Rice meal	1
Bean and pea meals	2
Dried grains	2

Superphosphates	36
Dissolved bones and compound manures	37
Raw and steamed bones	23
Peruvian guanos	16
Fish, meal, and bone guanos	11
Basic slags	43
Nitrate of soda	8
Sulphate of ammonia	3
Potash salts	14
Shoddy	14
Hoofs and horns	2
Rape and other manure cakes	4
Lime	7
Soot	2
Roots	5
Creosote	1
Waters	108
Soils	20
Milk, cream, and butter	25
Miscellaneous	23
Total	<hr/> 571

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ANNUAL REPORT FOR 1905 OF THE CONSULTING BOTANIST.

DURING the past year, 242 applications from members of the Society have been dealt with. Of these, 131 related to the quality of seeds; their purity was determined and their germination was tested. Eleven per cent. of the clover seeds were condemned because of the presence of the seeds of dodder in the samples. No less than 6 per cent. of the seeds of this parasite were found in two samples of red clover.

The injury to the clover crop from the use of doddered seed is only realised by those that have experienced it. Dodder is a conspicuous plant, and cannot be mistaken for any other weed. It is somewhat later in germinating than the clover, for it is entirely dependent on this plant for its living. The seed does not contain any stored up food; it is entirely filled with the coiled up wormlike embryo of the plant. When this develops it pushes itself up into the air, while the lower end keeps hold of the ground. The upper part of the ascending stem bends over nearly at a right angle, and turns round in search of a clover plant on which it can live. If this does not come within reach of its sweep, it exhausts itself within four days, and dies. When it succeeds in finding a clover plant, the slender stem twines round the clover, and pushes out many suckers which penetrate the skin of the stem; through these it obtains its food, weakening the clover and by its rapid growth killing plant after plant. When it appears, the clover should be dug up with the parasite and burned. When it has widely spread, a trench should be dug round the injured plants and straw or any inflammable refuse should be spread over the patch and set on fire so as to destroy all the vegetation.

The germination of the clovers was satisfactory, and so also were the germination and purity of the grasses examined. Some of the latter contained grains of ergot, a fungus which attacks all kinds of pasture grasses. Ergoted seeds should not be used. It is important to point out again the unwisdom of using ready-mixed seeds. These may be made the vehicle of spreading worthless weeds and grasses in the pasture, as the presence of their seeds is not easily detected by the farmer. The different kinds of seeds to be used in the pasture should be purchased separately and mixed by the farmer. A guarantee

should be obtained from the dealer that each kind of seed is true to the kind ordered and that it is free from weeds, or the seeds should be examined by an expert before they are mixed and used.

Several applications were received from members as to the composition of mixtures suitable for permanent pasture. Two such mixtures may be given. The first is a thin sowing which, if allowed to hay the first year, would result in the shedding of a number of seeds sufficient to increase greatly the number of the plants. The other mixture would be a fairly heavy sowing.

1.—*Thin Sowing per acre.*

	Lb.	Number of seeds	Cost
Cocksfoot	1½	575,100	s. 1 d. 7½
Meadow Fescue	2½	584,100	1 10½
Timothy	2	2,587,200	1 0
Rough-stalked Meadow Grass	½	1,083,900	0 8
Smooth-stalked Meadow Grass	½	790,500	0 5½
Foxtail	1½	661,500	2 0
Yarrow	½	789,700	1 9
White Clover	2	1,434,700	2 8
Total	11	8,506,700	12 0½

2.—*Thicker Sowing per acre.*

	Lb.	Number of seeds	Cost
Cocksfoot	6	2,300,400	s. 6 d. 6
Meadow Fescue	5	1,168,200	3 9
Timothy	4	5,174,400	2 0
Rough-stalked Meadow Grass	1½	3,251,900	2 3
Smooth-stalked Meadow Grass	1½	2,371,500	1 4½
Foxtail	3	1,323,000	4 0
Yarrow	½	1,579,500	2 6
White Clover	3	2,152,000	4 0
Total	24½	19,320,900	26 4½

A little red clover may be added ; and if the sowing is done without a cereal crop, which is the fairest treatment to the pasture, 1 lb. of rape should be sown per acre. This would give the needed protection, and would afford good eating in the autumn, when sheep may be allowed to eat down the grass. All the plants are perennial and are all liked by stock. A mixture intermediate between these may be made by modifying the quantities ordered.

A farmer found his drill failing to deliver his seed. On examining the matted mass which he forwarded, it was found that the seeds of one of the grasses had germinated, throwing out a stem an inch or so long, and having a corresponding root growth. The dead plantlet had matted together in the machine.

The names, properties, and treatment of fifty-two plants were supplied to members. The majority of the plants were weeds of cultivation, for the most part described and figured in previous Reports, and the remainder were plants so rarely met with in agriculture that they need not be specially referred to here.

The greedy consumption of the early growing chickweed has again been the cause of death to lambs, not because the chickweed is poisonous, but because of the constipation it produces.

Cases of cow-poisoning in Warwickshire arose from eating bitter sweet (*Solanum Dulcamara* Linn.) and meadow saffron (*Colchicum autumnale* Linn.). The poisonous properties of bitter sweet are well known. It is not an uncommon plant in hedges and thickets, requiring support for its growth. The purple flowers are in structure like those of the potato, and the berries are red and ovate in shape. It is a perennial plant with a woody stem in the older part, and when supported grows to a height of twelve or fourteen feet. It should not be allowed to grow where stock are being fed, and must be rooted out if it is to be destroyed. The meadow saffron is more rare, but in some places too abundant. In all its parts it is poisonous, and it is not an infrequent cause of injury. It is an irritant poison, causing violent purging. This plant was the probable cause of the cows dropping their calves, the farmer having lost between eighty and ninety calves. The leaves appear in spring and wither before summer. The purple crocus-like flowers appear from August to October. The fruits formed underground are brought to the surface by the lengthening of the flower stalks in the following spring with the new leaves. The bulbs are deep in the ground, often as far as ten inches below the surface, and to get rid of them they must be dug up singly. The bulbs and seeds are used in medicine, and the bulbs are also in request for gardens. Stock must not be allowed to have access to this plant, but where it is abundant it might perhaps be cultivated with profit for the pharmacist or for the seedsman. It is so cultivated on the Continent, whence the supplies come to England.

The stomach of a cow that was believed to have been poisoned was examined, and among its contents were found fragments of the two plants that have been named. In a visit

to the farm in the late summer, the two plants were found to be common in the field where the cows had been feeding, and other poisonous plants were also found. In boggy places, where the cattle sought protection from the summer sun, hemlock (*Conium maculatum* Linn.) and dog's mercury (*Mercurialis perennis* Linn.) were in plenty. In former Reports these plants have been figured and described.¹

From Berwick was received a weed which was growing on the links along the coast, and which was blamed for poisoning some cattle. The plant is dog's tongue (*Cynoglossum officinale* Linn.), which gives off a disagreeable fetid odour when drying, and is known to be poisonous. The soft downy elliptical leaves spreading out on the surface of the ground had been eaten. Deadly nightshade (*Atropa belladonna* Linn.) was sent for determination, though it was not known to have caused injury to animals. It is poisonous and should not be allowed within the reach of stock. There seems to exist a notion that the Irish yew has not the injurious properties to animals that the ordinary yew possesses, and may be planted with impunity where the ordinary yew would be dangerous; but this is not so. A member in Herefordshire short of litter had a plentiful supply of vegetation that might be used for this purpose if there were no dangerous plants in it. A sample of the herbage was examined and found to be quite free from any poisonous or dangerous plants.

Specimens of a weed supposed to be charlock were sent for examination, because it had not been killed, as was expected, by the spraying with Bordeaux mixture. Attention has before been called to the fact that a nearly allied plant, much less common in cornfields, but having the general appearance of charlock, is not injured by the spraying. It appears desirable to figure the two plants alongside of each other so that they may be distinguished. The charlock (*Sinapis arvensis* Linn.) is hairy on both the stem and leaves, the divisions of the calyx spread out from the flower, and the pod is angular, with from three to five nerves on each of its valves. The wild cabbage (*Brassica campestris* Linn.) is a smooth and glossy plant, the divisions of the calyx are erect round the bottom of the flower, and the pod is cylindrical, with a single nerve on each of its valves (see Fig. 1 on page 166).

A member purchased the seed of Monarch swede, and there came up in his field five different kinds of turnips. This must have arisen from the supply of mixed seeds, only a portion of which were true to the variety ordered. A different case occurred in Yorkshire, where in a field of swedes a large

¹ See Journal R.A.S.E., Vol. 59, 1898, page 561.



Charlock.
Sinapis arvensis Linn.

A, Upper portion of the plant. C, Single flower, showing the spreading divisions of the calyx. D, Stem leaf. All natural size. E, Fruit, twice natural size.

FIG. 1.

Wild Cabbage.
Brassica campestris Linn.

B, Upper portion of the plant. F, Single flower, showing the erect divisions of the calyx. G, Stem leaf. All natural size. H, Fruit twice natural size.

number of plants produced exceptionally large leaves, reaching a height of nearly three feet, and failing to form any turnip root. A similar sport is not infrequently seen in mangels. No fault could be charged against the seedsman in respect of the seed supplied. The member has hurdled in some of the abnormal plants, and will keep them under observation. Some of the seed has been obtained with the view of experimenting with it at Woburn.

Thirty-three different diseases of plants were dealt with. Nine inquiries were made in regard to diseased potatoes. The samples sent showed injuries from the following seven parasites:—

1. *Nectria solani* R. & Bert., described in the Report of last year.

2. Scab. The results of this investigation are appended to this Report (see page 173).

3. The remarkable canker described and figured in the Report of 1902 under the name of *Chrysophlyctis endobiotica*, belonging to an obscure group of fungi, in which no mycelium was observed. It is probable that it is the same fungus described by Schilberszky under that name; but the further study of specimens during the year has shown that after separating the starch granules, and repeatedly treating the preparation with iodide of potassium, the mycelium became visible. This removes it from the *Chytridiaceæ*, and places it in the genus *Edomyces*, as suggested by Dr. Magnus, though whether it is the same species as *Ed. leproides* Trabut, which was found on beet in Algiers, has yet to be determined by a comparison of specimens.

4. The wart disease, described in last year's Report. It occurs on other potatoes beside the "Ever-good."

5. From Sussex were sent specimens attacked by the fungus *Macrosporium solani* Ell. et Mart. The fungus attacks the leaves, showing first a small brown spot, which increases in size, forming concentric circles as in some other fungi. Spraying the plants with a 2 per cent. solution of Bordeaux mixture would quickly kill this parasite.

6. From Norfolk potatoes were received which had blackened skins, though the skin itself was intact. When the tuber was cut in two, the cut surface showed several brownish discoloured places, while the rest appeared healthy. A very strong unpleasant odour was given off from the cut potato, and the surface became almost immediately brownish red, and afterwards the colour became more intense as it was longer exposed in the air. Under the microscope the cells of the coloured portions were found to be full of actively moving bacteria. Some of these were isolated and placed in a sterilised medium for

cultivation. The pure culture was placed on healthy potatoes which were infected, and after eight days the signs of the rot were obvious and its characteristic smell was given off. In these trials no other bacteria made their appearance, and all the infections of the healthy potatoes were successful. These, without doubt, showed that this particular bacterium was the cause of the rot. From the readiness with which healthy tubers became infected it is clear that this is a dangerous organism. One diseased potato in a pit would do serious damage, and as each diseased potato would pass on the bacteria to its neighbours extensive mischief would be done. It was found that when litmus paper was brought into slight contact with the disease it was instantaneously coloured red, showing a strong acid reaction. This justifies applying to this disease the name of acid rot. When the whole of the sugar in the potato is dissolved by the bacteria the tubers dry and shrivel up, often to such an extent as to make them into a flattened disc. If the dried tuber be broken a number of cavities are seen covered with a chalk-like powder. The bacteria in the diseased potatoes are small longish rods, 2.5 to 4μ long and $.7$ to $.8\mu$ broad. In the cultures the size is slightly less. Both ends are rounded. They are identical with those described by Migula (*System d. Bacterien*, ii., page 573) and called by him *Bacillus solaniperda* (see Fig 2, A).

7. A second bacterial disease was observed, which is called black leg or potato stem rot. It has been noticed in several counties in England, and it has been very destructive in Germany. It shows itself by killing the haulm just above the ground; the leaves soon discolour and die. On cutting an injured stem, the cells near the skin are seen to be darkish brown in colour, and under the microscope these are seen to be filled with countless numbers of bacteria which freely move about in the liquid within the cell. The tubers become attacked either directly from the diseased stem, or by the dispersion of the bacteria in the soil from the decay of the stem. The bacteria move by the help of four to six minute flagella or small hair-like appendices. This bacterium is known to attack other plants, such as tomatoes, cucumbers, carrots. It is a short, stout, little rod, variable in length, and from $.8$ to $.10\mu$ broad. Its name is *Bacillus phytophthorus* Appel. (see Fig. 2, B). No satisfactory method can be suggested for dealing with these bacterial diseases in the field. A crop like that attacked should not be repeated in the field, but cereals or beet root may be grown, as these have hitherto not suffered. It is found that tubers kept in dry and well-ventilated pits remain free from disease, and that the disease does not spread in tubers that are slightly diseased. If used for seed the

potatoes should be carefully selected, and all showing the slightest symptom of injury should be separated.

Turnips and swedes were submitted which were suffering from finger-and-toe. This has been figured and described in the Journal.¹ The bacterial disease described in the Report for 1903 was again met with and reported upon. Turnips were sent from Norfolk, which, when cut, showed streaks of a yellowish colour in striking contrast to the white flesh of the turnip.

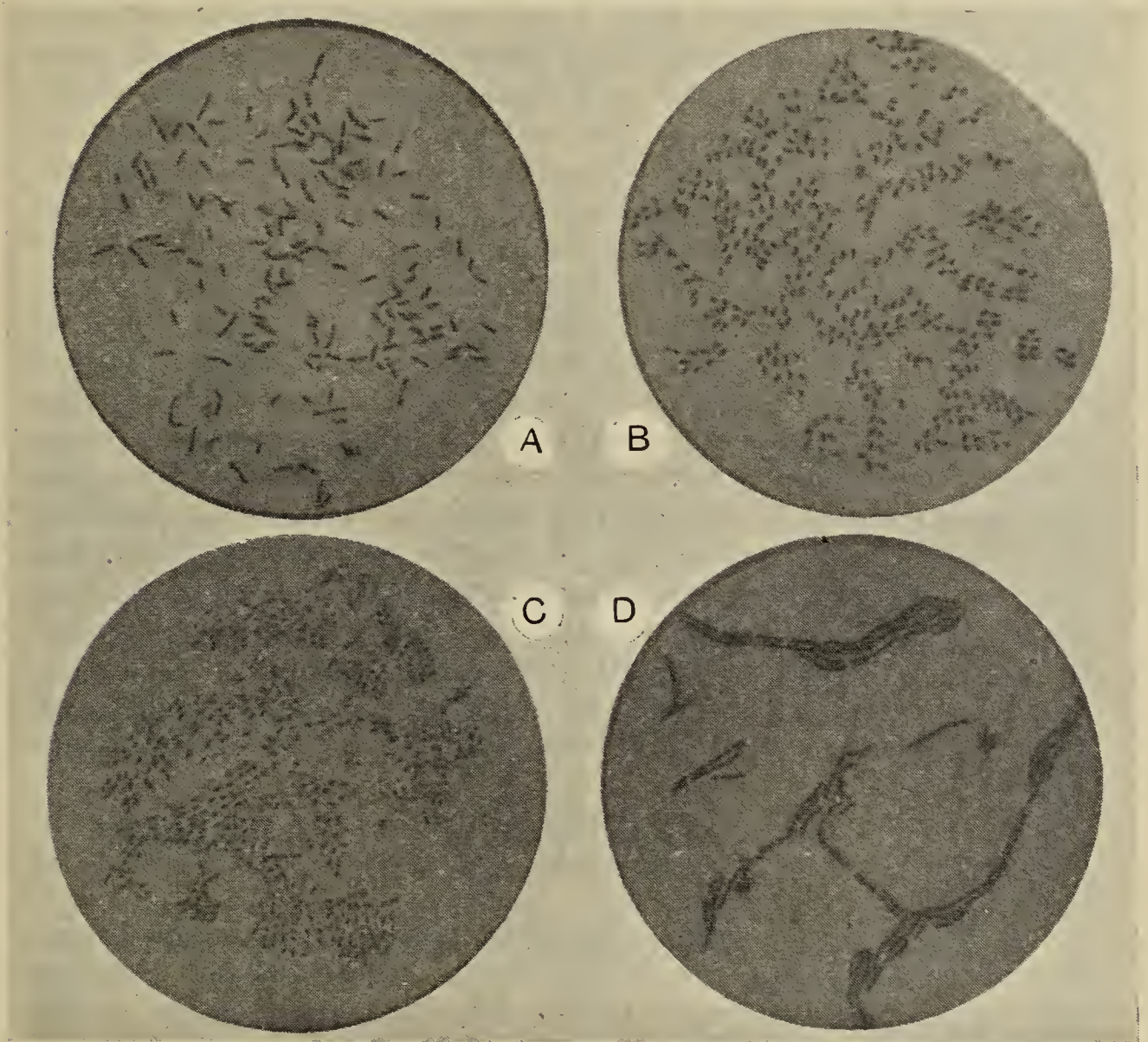


FIG. 2.—A, Acid rot bacteria (*Bacillus solaniperda* Mig.). B, Black leg or potato stem rot bacteria (*Bacillus phytophthorus* Appel). C, Bacteria causing disease in mangels. D, Bacteria causing disease in tomatoes.

These four figures of bacteria are produced by photo-micrography, and are all magnified 500 times.

This was found to be due to the food stored in the cells, which was in the form of sugar and not of starch, a phenomenon not infrequent in the carrot.

From Cornwall were received some mangels which began to fail in September, the leaves withering and the roots failing

¹ Journal R.A.S.E., Vol. 54, 1893, pp. 334-339.

to swell. They had made a struggling growth, and were observed to be rotting rapidly. The leaves were small, black, and shrivelled; they were found to contain numerous bacteria. No injury on the small roots was apparent externally. On cutting them they all showed a brownish discolouration under the skin, and a blackened ring about half an inch beneath the surface. These discoloured cells were, under the microscope, seen to be empty of food, but filled with numerous bacteria. One of the roots was carefully cleansed and then immersed for an hour in a 1 per cent. solution of corrosive sublimate. Sections from this, about half an inch thick, were cut with a sterilised knife and placed under conditions which prevented any infection. In a fortnight small colonies of bacteria of a greyish colour made their appearance, and these, removed by a sterilised needle to a slide, were found to be the same which had been taken from the diseased roots. Pure cultures will be used for infecting healthy roots in order to determine whether the disease is primarily due to this bacterium. The bacteria are from 1.5 to 2 μ long, and from .8 to 1 μ broad (see Fig. 2, C. At this stage of the inquiry the member could only be advised to lime his field and grow some other kind of crop. Appel has observed bacteria adhering to the seeds (fruits) of mangel that agree in form and dimension with those just described, and it may be that the infection has been due to the bacteria being sown with the seed. If this should be so, the immersion of the seed in a 2 per cent. solution of copper sulphate would kill these organisms.

A case of rust in wheat, and one of so-called clover sickness, caused by the fungus, *Sclerotinia ciborioides* Rehm, were reported on.

An apple tree was examined, injured by the attack of *Fusicladium dendriticum* Wallr., and a peach tree affected by silver leaf.

A larch plantation in Hampshire was visited to investigate the unhealthy condition of the trees. It covers the western side of a small hill, and extends into the small valley at the bottom for some fifteen yards. The trees were growing vigorously on the top of the hill, but had made little progress since planting in the valley. Holes were dug in the ground and the soil was found to be water-logged. Some of the unhealthy trees were lifted and they were found to have diseased roots.

The valley had been drained, but portions of the drain had fallen in and it was useless. The limit of the diseased trees was distinctly marked. No affected trees were found towards the top of the hill, but only in the water-logged soil at the bottom. It was recommended that a deep open drain should be made,

and the dead and dying trees on which an abundant growth of *Dasyscypha* was present, should be removed and burnt. Some small Douglas firs had been planted amongst the larches, which were injured by *Botrytis Douglasii* v. Tub., a fungus that attacks the base of the leaf, which, being protected by scales, is soft. This disease was observed in 1904 on cedar, and described in the Report for last year.

Specimens of young spruces from Northamptonshire showed the leading shoot broken off or doubled over. The trees were described as ten to twenty feet high, and the strongest and healthiest were injured. The member sending the specimens feared that it was due to an attack of the spruce bug, but no trace of this insect was present. It was clear that some fungus had caused the injury, and a further supply of specimens showed that it was a species of *Cæoma*, allied to *C. pinitorquum* Hart., a fungus which possesses the peculiar property of twisting the leading shoots of the Scotch fir. It is called in Germany by the characteristic name of twist rust. The fungus is usually more severe in wet years, but in dry years the mycelium spreads but little in the tissues. Vigorous trees get over the injury before any serious harm is done to the tree for use as timber.

Several injuries to plants grown in greenhouses have been examined during the year. Such plants are more liable to be attacked by fungi than similar plants grown in the open air. Thus the fungus, *Corynespora Mazei* Güssow, described last year from cucumbers grown under glass, has this year been received from various localities over England, showing extensive damage done by it. The attacks of *Corynespora*, *Cladosporium*, *Botrytis*, and *Alternaria* are only dangerous when they attack the cucumbers in the greenhouse where the moist and warm atmosphere supply the conditions favouring the germination of the spores of the fungi, and the more delicate tissues of the host plant enable them more easily to enter it.

A disease of tomatoes was investigated this year from specimens sent in the first instance from Jersey, and afterwards from Northampton. In Jersey it was causing great damage. The young fruits of the tomato begin to discolour, generally on the top, showing black or brownish depressions of various sizes, which increase outwardly in a circular manner. Small chains of bacteria have been obtained from the diseased tissues (see Fig. 2, D). Young and healthy fruits inoculated with the bacteria by Prillieux became diseased. At first it seems that these organisms obtain access to the fruit through the delicate tissues of the style, but they may take advantage of any little prick made by an insect in the skin. Earle

(*Alabama. Coll. Stat. Bull.* 108, page 19) suggests that the plants affected should be treated with insecticides to destroy the insects which give access to the bacteria.

From North Wales were received some unhealthy and shrivelled grapes. The fungi that were detected on the grapes were not the cause of the injury, but it was primarily due to some defect in the cultivation. A similar injury was investigated in Surrey, where it was suggested to lift the vines nearer to the surface of the soil so that the fibrous roots would be able to obtain food from the manure applied to the surface of the ground. This proved eminently successful. It was done during the rest period of the plant, and the vines are now in a perfect condition. As a sample of the soil asked for contained no fragments of the fine roots, it was clear that the defect in North Wales was the same as that dealt with in Surrey, and the member was advised as to treatment.

Two diseases affecting violets were sent for information by members. In the one case the plants were growing out of doors. They were attacked by a fungus called *Urocystis violæ* Sow., which produces abnormal swelling and distortion of the leaf-stalks. These burst and emit a black powder composed of the minute spores of the fungus. As soon as the swollen leaf stalks are observed the plants should be pulled up and destroyed by burning. The other case was an attack of fungi in violets growing under glass. It was no doubt due to the plants growing very closely together and keeping a moist atmosphere surrounding the lower leaves and stem. The plants should be thinned, and kept quite dry for two or three days. If the fungal attacks re-appear, then the plants should be lifted and planted out of doors.

During the year several communications have been held with home and foreign authorities. Mr. E. Brown, of the Department of Agriculture of the United States of America, visited the laboratory to investigate the methods pursued in connection with the Society's work. Specimens of the apparatus in use were supplied to him for the information of his department. A similar visit was paid by Dr. Hillman, of the German Agricultural Society, who has special charge of the department dealing with the improvement of farm seeds. Work has been done for H.M. Office of Works, and an inquiry attended to on behalf of the London County Council. Professor Dr. Kempsey, of the Agricultural Experimental Station, Rostock, Germany, had information given him as to the opinions entertained in regard to the vitality of seeds which have passed through the alimentary system of animals and birds. Dr. Mazé, of the Pasteur Institute, Paris, supplied information and specimens in regard to a disease of cucumbers

which was of importance to the working out of an undescribed fungus.

A decree was issued by the Minister of Agriculture of the Argentine Republic requiring a certificate from the Consulting Botanist of the Royal Agricultural Society of England as to the freedom from dodder of all pasture seeds imported from England, without which no such seeds would be allowed to enter the country. In accordance with this decree a considerable number of samples have been examined and certified.

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APPENDIX.

Potato Scurf and Potato Scab.

THE cause of the scabbed appearance of potatoes has been a puzzle to investigators, chiefly because an appearance somewhat similar to the true scab has been mistaken for it.

Many potato tubers in good condition present a more or less regular peeling off of layers of the epidermis as shown in the accompanying illustration (Fig. 3, A). Though this appearance at first sight resembles the real scab, on careful observation it will be found to differ from it distinctly. The tissues between the small patches of the peeling epidermis are entirely normal; they are smooth, even glossy, as in a perfectly clean and healthy potato. This appearance is frequent in potatoes, and none of the many varieties are entirely free from it.

Potatoes cultivated under strict conditions of complete sterilisation develop the same appearance. The separated epidermal patches remain organically connected with the underlying tissues, though the margins dry and turn up. It must be remembered that the potato tuber is a branch. In the rapidly expanding tuber the epidermis is torn and the increasing intervening spaces are covered with a new epidermis. This shortened branch is enormously developed to store food, and as the increasing diameter of the stem of the potatoes above ground finds relief by linear fissures in the epidermis, so the epidermis of the roundish tubers breaks into oval or roundish patches. This is a normal operation, and is not due to disease or any other secondary agent. Plants adapt themselves to their place of growth and soil, and this may explain how some potatoes present no such appearance. To this normal peeling off of the skin we will give the name scurf to distinguish it from the true scab. In experiments with potatoes having the scurf, the fungi that have shown themselves under cultivation

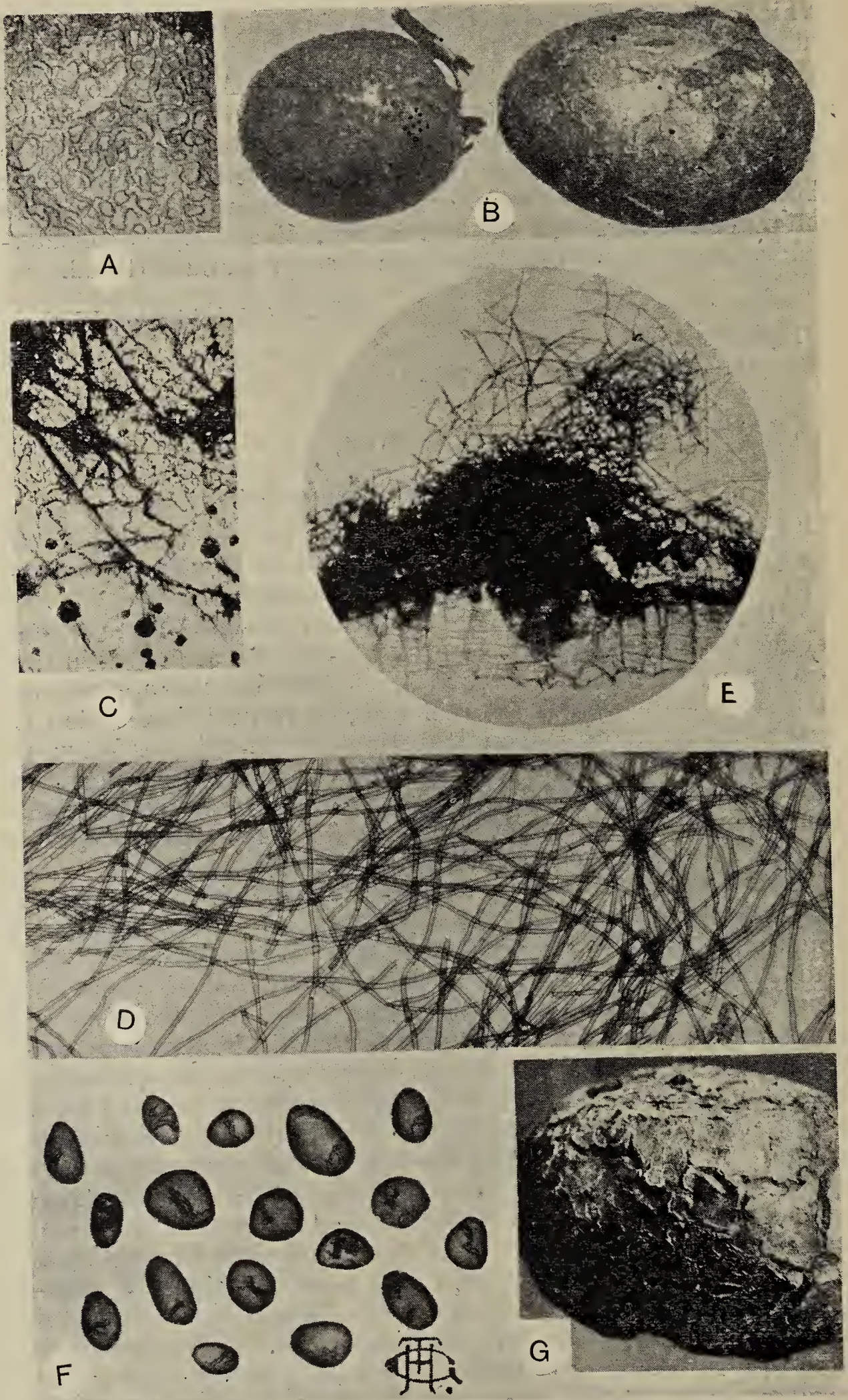


FIG. 3.—Potato Scurf and Potato Scab (see Explanation opposite).

in the laboratory have been accidental and have never produced scurf when healthy potatoes were infected with them.

The true scab on potatoes is shown in Fig 3, B. The appearance of the tubers is very like potato scurf; but under the pocket lens one at once detects the absence of the glossy appearance, due to the new cells of the epidermis in the interspaces. Here the interspaces show a rough irregular surface, consisting of broken cells of the epidermis, which can easily be detected under the microscope. On the other hand, while the patches found in scurf exhibit, as a rule, a circular or oval shape, the patches in scab are rarely curved, but show more or less straight border lines. In addition, the tubers attacked by true scab exhibit the presence of minute dark spots, which may easily be taken for particles of soil adhering to the surface, but the washing that would remove the soil does not affect them. Under the microscope these dark spots are found to consist of compact hardened mycelium. Though thoroughly soaked for hours they offer great resistance to the dissecting needles and are with difficulty separated. The mycelium is of a reddish-brown colour, septate, and has enlarged oval cells, approaching in appearance hyphæ of sclerotia forming fungi.

Potato tubers from a farm in Essex served as material for the investigation of this scab. They were covered with a dull reddish-brown webbing, which was raised into numerous points as if grains of sand were below it. They had thus excited the farmer's curiosity. On removing the reddish-brown mycelium it was found that the granular elevations were caused by small masses of mycelium which maintained a firm hold on the potato (Fig. 3, C), and that the more superficial, spreading mycelium left a net work of shallow furrows on the surface of the potato somewhat like those seen in scurf, but forming more or less straight channels. Under the microscope the covering was found to consist of septate, branching mycelium, of dull carmine-brown colour (see Fig. 3, D). The small dark bodies were composed of the same mycelium, though clearly modified to form sclerotia. Thus the connection between the dark bodies observed on the tubers of the potatoes and the net-like furrows was determined. The mycelium was ascertained to belong to the fungus *Rhizoctonia*, which,

Explanation of Fig. 3.

- A, Portion of the surface of healthy potato, showing scurf.
- B, Potatoes with the scab disease.
- C, Portion from the surface of scabbed potatoes enlarged, one half showing strings of *Rhizoctonia violacea* Tul., the lower half showing sclerotia.
- D, Mycelium of *R. violacea* enlarged.
- E, Section through sclerotium.
- F, Starch grains pierced by the mycelium.
- G, Severe fissures in the development of scab.

unfortunately, is not yet known to have produced any fructification, though the formation of sclerotia has been observed and described by other investigators.

A well-known species (*R. violacea* Tul.) causes the death of lucerne and clover. Dr. J. Kühn, in 1858, in his book, *Krankheiten der Gewächse*, page 224, gives an account of the same fungus on potatoes, and gives to it the specific name *solani*. From comparison of the description of *R. violacea* and *R. solani*, no morphological differences can be discovered, though Kühn gave to it a new name. It is important to record that the farmer informed me that a crop of lucerne had been grown last year in the field where the potatoes grew. From the identity of the mycelium in the lucerne and the potato, and from the connection of these two crops, there can be no doubt that it is the same fungus that attacked these plants, and consequently that the name given by Kühn—*R. solani*—must be considered as a synonym of *R. violacea*.

How far the specific names of other *Rhizoctoniae*, as *R. Allii* Grev., *R. Batata* Fr., and *R. Mali* D.C., represent different species must be determined by further investigation. Cultivation experiments at the laboratory for the purpose of producing fructification have hitherto failed, as with other investigators, but the following additional observations may be recorded.

In my visit to the field it was found that the soil was of a light sandy and gravelly composition. It may be noted that the plants—lucerne, onions, and yams—on which *Rhizoctoniae* have been noticed prefer a light sandy soil.

The fungus occurred in the low-lying damp portions of the field, where its attack was very conspicuous. The haulm of the potatoes to a height of six inches and the surrounding soil was covered with a thick felt of the reddish mycelium. This spread below the surface, covering all parts of the subterraneous portions of the plants and the tubers, and permeated the soil. The fungus grew with great rapidity, spreading over and entangling all plants in the moist portions of the field, but only became noticeable late in the year, when moisture abounded.

The mycelium spreads entirely in and on the epidermal cells. The sclerotia, however, scarcely pass beyond the sub-epidermal cells (see Fig. 3, E). No penetration of the potato by the superficial mycelium beyond the epidermal cells was observed; the potatoes were all in this stage firm and intact. The mycelium, however, rapidly takes possession of the interior where a rupture of the skin occurs; then it loses its dull red colour, becoming in a mass, yellowish; but single filaments are nearly colourless. The mycelium thus entering the tubers did not

dissolve the starch grains in the ordinary way, but all cell walls had entirely disappeared, and the starch grains formed a plaster-of-Paris-like spongy lump. When dry, this lump could be rubbed easily to a powder between the fingers, and even without magnification was seen to be pure starch. Inside, the lump was quite white and mealy; towards the outside it was yellowish, becoming green at the exterior. Microscopically examined, the white mealy portions consisted of sound starch grains; the yellowish, and especially the greenish portions, consisted also of starch grains, but they had been curiously attacked, being pierced by the mycelium (see Fig. 3, F). In some, the mycelium had passed right through them; in others it penetrated the interior, giving off short branches; whilst others were entirely filled with it, but their outlines had not been altered. *Rhizoctonia* thus differs from the other known fungi, which dissolve and absorb the starch in the cells of the host plant. The affinities of this fungus in its treatment of the host plant may be found with those fungi occurring on timber. The furrows on the epidermis caused by the mycelium burst open in wet seasons, and deep fissures result, through which the mycelium may have access to the interior of the potato, as shown in Fig. 3, G. In the early stages where the furrows are slight the potatoes are marketable, and their nutritious value is not impaired; the tubers are rendered, however, unfit for the market when exhibiting the deep fissures.

The following conclusions result from this investigation :—

1. The scurf appearance does no injury to the potato, either as an article of food or for use as seed.
2. The scab disease in its earlier stages does not affect the food value of the potato, but in no case should the tubers be used as seed.
3. The so-called deep scab is only a further stage of the scab disease, and is of less value as food material and more dangerous if used as seed.

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ANNUAL REPORT FOR 1905 OF THE ZOOLOGIST.

INTRODUCTION.

THE past year has not been marked by any great outbreaks of insect attack, though some pests, like the diamond-back moth, have done considerable harm in certain districts. The blight insects (Aphidæ) which were so generally destructive in 1904, have, for the most part been conspicuous by their absence, and the only member of that group concerning which several complaints have been received is the larch bug, which is treated at some length in the following Report.

Flea-beetles were perhaps more than usually abundant, both on turnips and on other cruciferous plants, and it was noticeable that there were often greater numbers of some of the allied species than of the so-called turnip-fly, *Phyllotreta nemorum*. Mr. James Fletcher, the Government Entomologist of Canada, writes to me to say that Bordeaux mixture has been very successfully used in Canada against flea-beetles. This wash has generally been considered more valuable as a fungicide than as an insecticide, but after the Canadian experience it might be well to give it a trial in this country as a remedy for turnip-fly.

BIG BUD DISEASE.

Continued observation of the Black-currant Gall-mite has for the most part confirmed the conclusions arrived at four years ago, when the life-history of this mite was described and illustrated in my Annual Report for the year 1901.¹ One important point in its life-history still remains obscure, for though investigators have not been able to find living mites in the soil, or on or near the roots of the plants, experience shows that one or other of these hiding places must be open to them. Otherwise, cutting the plants entirely down would infallibly cure the disease, whereas its effect is extremely uncertain, the result in some cases being satisfactory, whereas in others the mites recur. But, though direct evidence on the

¹ Journal R.A.S.E., Vol. 62, 1901, pp. 258 and 261. See also Vol. 65, 1904 pp. 65 and 66.

point would be most welcome, there seems to be sufficient indirect evidence to warrant us in believing that it is always the plant, and not the ground, which harbours the mite. In the first place, numerous migrating mites have been allowed to fall upon soil, and have been kept under observation under the microscope until they died. They never showed signs of having reached a congenial environment—as they naturally would if they sought the ground to hide there. They did not conceal themselves or lay eggs, but wandered restlessly till they died. In the second place, all the variable results of severe pruning can readily be explained on the supposition that in some cases mites obtain shelter very low down on the plants, whereas, if the ground remains infested, some of the results are quite impossible to account for.

Take such a case as that communicated recently by a member of the Society. Of two dozen infested bushes, he, three years ago, treated half by cutting out all the new wood at the end of June and dressing the plants with lime. The remaining dozen he cut down to within six inches of the ground. The first lot showed a great improvement the following year, but the disease recurred. The more severely pruned bushes had no recurrence of the mite, and this year bore a heavy crop. Now if the soil was a source of infestation, there is no reason why any of the bushes should have escaped; while those cases in which the disease appears again in plants which have been entirely cut down can be still accounted for, so long as any of the plant remains, on the supposition that occasionally the mite contrives to conceal itself very low down on the stem.

Moreover, there are several cases on record where old diseased bushes have been replaced by new plants without any treatment of the ground, and have proved free from disease. In those instances where they have exhibited it they were in all probability diseased when planted, for it is quite possible for young plants to appear quite clean, and yet to contain enough mites to develop the disease in a severe form.

It is desirable to sum up briefly what is now known with regard to the life-history of this pest.

Eggs have been found within the buds during every month of the year. The mites inhabit the centre of the buds, spreading towards the exterior as they increase in number. In the spring the slightly infested buds are not prevented from opening, and the mites are obliged to leave; but having as yet no new buds to enter, they perish unless they can live in the ground, which does not appear to be the case. The badly infested buds do not open, but harbour the mites till they become dry and brown, when a definite migration takes place.

The new buds are now ready, and the few mites which are fortunate enough to reach them set up the new attack. They travel partly by crawling, partly by leaping, and largely by adhering to passing insects. Probably the currant aphid does more than any other insect to spread the disease, as the winged individuals will fly directly to another currant bush, whereas a casual insect visitor might carry the mites far from their natural food.

The mites which do not reach the new buds either perish or have some way of sheltering in the ground or low down on the plant. Reasons have been given above for believing that some at least do occasionally find a hiding place in the lower part of the stem, and that the rest all die.

The conclusions are clear, if not comforting. There is no likelihood of exterminating the pest except by exterminating the diseased bushes. A creature so minute and so well hidden is bound to survive the most drastic treatment in sufficient numbers to set up a new attack, for a single living mite in a young bud may start the disease afresh.

The disease may certainly be mitigated—if this result is worth aiming at—though the life-history given above indicates that many of the measures ordinarily adopted are so much waste of money, as they are calculated to kill the mites which would in any case die. There is no doubt that by uprooting and burning badly infested bushes, removing “big buds” from those slightly attacked, and washing during the migrating period, a tolerable crop may be obtained from diseased plants for several years; but it must once more be pointed out that if growers are contented with this result there will, before long, be no mite-free plants to be obtained. As things are at present, nurserymen will not guarantee plants to be free from mite, but introduce at intervals so-called disease-resisting varieties, which always succumb sooner or later.

Growers content themselves with getting what fruit they can from a diseased plantation, grubbing up the plants when they cease to yield a paying crop, and replacing them with young plants from the nurseries, free from any obvious “big buds,” but often quite sufficiently diseased to develop very clear symptoms a year or two later. The only people who can do anything to alter this state of things are the fruit growers, and the first step must be to insist on getting cuttings taken only from entirely mite-free plants. The universal habit of propagating from plants which are diseased—though perhaps very slightly—is rapidly spreading the mite everywhere. As has been stated before in these Reports, a few years ago there was no big bud disease in Co. Armagh, but when an increased demand for fruit caused many growers to purchase new plants

from the nurserymen it was at once introduced from England and Scotland—of course without the knowledge of those who supplied the plants.

Plantations free from disease are rapidly getting scarce, and if growers follow the above advice the demand for clean plants will for a time greatly exceed the supply; yet this seems the only way to prevent matters from going from bad to worse.

There are still localities where the disease has happily not yet penetrated. Probably there are many small plantations of mite-free plants whose owners have regarded them as too small to be of any importance. It is only a matter of a very few years to propagate thousands of plants from such a nucleus—jealously guarding it at the same time from contamination by imported plants. In this direction, at all events, lies the only hope of getting rid of the disease:—in the determination to aim at absolute, and not only comparative freedom from the mite. The issue is entirely in the hands of the fruit growers. If they resolve to plant only mite-free (not mite-resisting) bushes, and to destroy ruthlessly any that show the slightest sign of big bud, there is the prospect of a vast improvement in a few years' time. But the motto must be, "Either clean bushes or none." A compromise will infallibly lead to the continued spread of the disease. Of course, such a measure would be a "self-denying ordinance," and would result in temporary reduction of the black-currant crop; but it would, nevertheless, be a wise and far-sighted policy.

PLANT LICE.

Compared with 1904 the past year has been singularly free from aphid disease, the conditions on the whole being adverse to pests of this kind, and their natural enemies having, no doubt, largely increased towards the end of last season and gained a temporary ascendancy, as is generally the case after an unusual visitation of any special class of insect. Nevertheless, two of the aphid tribe demand notice here—one, because of the numerous complaints received with regard to it; and the other, because it is little known, and more information as to its powers of injury is much desired.

THE LARCH BUG (*Chermes laricis*).

The numerous complaints which have been received concerning this pest during the past year seem to render a tolerably full account of it desirable, even at the risk of repeating what has often been stated before and is familiar to entomologists, but by no means so to all the owners of larch plantations.

It is necessary at the outset to state one remarkable characteristic of the aphid tribe, namely, that they are able to produce young for many successive generations by females only, without the intervention of any male. After several such generations a brood ordinarily appears comprising both males and females, and the eggs which result from their pairing hatch out into females only, which begin a new succession of broods containing no males. This may all happen on the same plant, or the insects may migrate from one plant to another, in which case the sexual generation is generally confined to one plant, though the purely female broods may occur on either.

It has long been known that the cone-like galls or "false cones" often found on spruce trees were the work of an insect of this group, which has been named *Chermes abietis*. We have also, for a long time past, been acquainted with a *Chermes* attacking the needles and twigs of young larches, and the trunks of older trees, and showing its presence by exuding a white woolly substance, and this has been described as *Chermes laricis*. Some years ago the researches of several investigators, —notably Dreyfus and Blochmann—led to the belief that these two apparently distinct creatures were in reality one and the same, the sexual generation only occurring on the spruce, but some of the winged females migrating to the larch and, with changed habits and slightly changed appearance, producing several purely female broods before returning to the spruce for another sexual generation.

If this view is correct, it has obviously a very important bearing on practical forestry, for it condemns the practice of intermingling spruces and larches, and it indicates, moreover, that the entire absence of spruces would put an end to the disease on the larches, unless the insect can propagate itself indefinitely by females only.

Among more recent investigations those of the Russian zoologist, Cholodkovsky, are, perhaps, the most important, and the following are among the conclusions at which he arrives. He finds that the spruce galls may be inhabited by various kinds of *Chermes*, two of which specially concern us.

One, which he identifies as Kaltenbach's *Ch. abietis*, has the hibernating female yellow, long, and narrow, the winged form bright yellow, with the fourth joint of the antennæ longer than the third, and laying yellow eggs, which hatch into larvæ with long suckers. The other, which he identifies with Ratzeberg's *Ch. viridis*, has the hibernating female green, and broad-oval, the winged form reddish, with the third joint of the antennæ longer than the fourth, and laying green eggs, which hatch into larvæ with short suckers.

Now the first he believes to be confined to the spruce, not migrating at all, and being entirely without a sexual generation. In his experiments he found the winged forms frequently laying their yellow eggs on various other conifers, but only when laid on the spruce did they come to anything. The second form has a periodic sexual generation, once in two years, always occurring on the spruce, while the intermediate purely female generation may take place either on the spruce or the larch.

The existence of any *Chermes* entirely independent of a sexual generation is, if true, a very interesting biological fact; but assuming Cholodkovsky's conclusions to be correct, it is manifestly of practical importance to determine to which of these forms, if either, our British "spruce bug" belongs. Further research may show that we have more than one species in the spruce galls, but certainly the one ordinarily observed corresponds more closely with Cholodkovsky's second and migrating form than with the first, which he believes to be entirely confined to the spruce.

Now to turn to the larch. The most careful search has not resulted in the discovery of any male insects among the *Chermes* infesting that tree. Is the common "larch bug" the intermediate form of the migrating spruce *Chermes* (which Cholodkovsky calls *Ch. viridis*), or is it another species which can exist exclusively on larches, and can dispense with the presence of males? That such a species exists Cholodkovsky believes, for he has found in Esthland a large green bristly *Chermes* on larches, which he calls *Ch. viridanus*, living on the buds and not on the needles, and laying its dark-green eggs on larches only. This, however, is certainly not our English larch bug, which much more closely corresponds to the insect which the Russian zoologist describes as alternating between the larch and the spruce. Certainly none of the cases of larch bug disease which have come under my notice during the last year are inconsistent with the view that both trees are necessary for its life-cycle. In one instance it was alleged that there were no spruce trees at all in a badly diseased larch plantation, but further inquiry elicited the fact that there were several not many yards away, and when branches from them were obtained for examination they were found to be dotted all over with the "false cones" characteristic of the disease on the spruce. There are two matters on which further light is urgently required. The first is a question for experts, and concerns the particular species of *Chermes* in each case of so-called larch bug or spruce bug attack. The second, which involves no expert knowledge at all, is the question whether there are any cases of larch bug disease in this country in which

the possibility of its having been contracted from diseased spruces is definitely excluded.

If any members of the Society meet with cases of larch bug attack where there are not, and have not recently been, any spruces in the neighbourhood, they would greatly aid by communicating the fact to their Zoologist.

In the present state of our knowledge spruce-larch mixtures should certainly be avoided, and where larch bug appears attention should be given to the spruces in the neighbourhood, and if they are few and diseased, they should be cut down and the branches burnt.

For the sake of those who are not familiar with spruce bug and larch bug disease, it may be well in conclusion to describe them briefly. On the spruce the minute bugs come out from their winter hiding places under the bark early in April, and attach themselves to the bases of the young leaves, and lay eggs, which hatch into "larvæ," and begin sucking close at hand. The irritation they cause sets up an abnormal growth, much resembling a small pine cone, in the chambers of which the insects live. This is the spruce gall or "false cone," and the disease is manifested by the presence of numerous galls on the tree. The appearance of larch bug disease is entirely different. There are no "false cones," but in young trees the first indication of attack is on the needles, which bend in a characteristic manner where the insect begins to suck. Soon a white woolly matter is exuded, and at a later stage the twigs become flecked with it. On old trees it often covers large areas on the trunk, and looks very much like the familiar woolly scale of the beech.

Any galls which are noticed on seedling spruces should be removed and burnt, but on older trees this measure is, of course, impracticable. Diseased trees are, however, benefited by spraying with paraffin emulsions in April, when the wingless females are spreading over the branches. Larches may be sprayed with advantage at any time, as the bugs are not hidden away in galls.

THE SUBTERRANEAN APHIS (*Siphonophora fodiens*).

A correspondent who had taken up a number of two-year-old black-currant plants for transplanting noticed some insects at the roots, and sent specimens for identification. They proved to be the underground aphid known as *Siphonophora fodiens*. The case was interesting, inasmuch as it was at the roots of black currants that this aphid was first observed by Mr. Buckton, who describes it in his monograph on British Aphides. Since that time I find no record of its occurrence on black-currant roots, though it has occasionally been found at

the roots of apple trees and accused of doing considerable injury.

The young black-currant plants in the case under notice appeared perfectly healthy, and it was entirely by accident that the insects were discovered, as there was no suspicion of root disease. The question naturally arose as to whether it was desirable to plant black currants which had aphids at the root. Certainly the insects must be to some extent injurious, as, like all aphides, they live on the sap of the plant. Whether they ever do serious harm it is impossible at present to say, as no failure of plants clearly traceable to their agency has been recorded. It would be as well to wash the roots of infested plants, and to keep them under observation after transplanting. In case of failure without any obvious disease of the parts above ground the aphids would naturally be suspected, and examination of the roots would show whether it was present in sufficient numbers to be a probable cause of the unsatisfactory condition of the plant.

The forms most likely to be noticed on the roots are the wingless females and the pupæ. The wingless females are yellowish, globular, mealy-looking creatures, without eyes and without cornicles (or honey-tubes). The head, antennæ, and legs are brownish. The pupæ, from which the wingless females are developed, are reddish-brown and possess eyes. The winged forms, which come above ground and spread the attack, have the front part of the body and the legs glossy-black and the abdomen slate-coloured. The creatures live together in little nests of white woolly material among the roots.

THE ASPARAGUS BEETLE (*Crioceris asparagi*).

This pest is too familiar to require description, the prettily marked little beetle being generally present to some extent in most asparagus beds, though only occasionally in such numbers as to prove troublesome. It lays its long dark-brown eggs both on the new shoots and on the foliage of the plant, and these hatch out in about a week into black-headed slaty grubs, which hold tight to their food not only by their six rather long legs, but by little tubercles under the hinder part of their body, so that it is not easy to dislodge them by shaking. They feed for about a fortnight, attaining a length of nearly half an inch, and then let themselves drop to the ground and form beneath its surface, or under the shelter of dead leaves, little yellow parchment-like cocoons. About a fortnight later the beetles emerge from these cocoons, but two or three days elapse before they come above ground to lay the eggs of a new brood. How many broods there are probably depends upon the season, but three often occur. I have generally found the treatment

advocated by the late Miss Ormerod against this pest fairly satisfactory. This consists in successive dressings of warm water and soot or a mixture of soot and lime. The water dislodges most of the grubs, and it also causes the soot to adhere to the feathery fronds of the plant, making them unpalatable to the insect.

The injury to the shoots just appearing is most difficult to deal with, and it is a wise plan to take advantage of the insects' preference for the foliage by allowing some of the shoots to grow up at the outset. The beetles are attracted by these and lay their eggs upon them to the neglect of the younger heads. When eggs and grubs are seen upon them they are of course cut down and destroyed.

In most cases these measures will be sufficient, but in beds where the beetle is an annual nuisance, recourse might be had to an arsenic spray after the cutting of asparagus shoots has come to an end. The object of such a spray is to kill the grub by poisoning the food on which it lives. The constitution of such sprays, and the precautions to be observed in their use, were given in the article on "Orchard and Bush Fruit Pests," in Vol. 63 of the Journal, 1902, page 116.

AN ASPARAGUS CATERPILLAR (*Hadena pisi*).

In one case of beetle-infested asparagus, another pest was present in large numbers in the shape of a caterpillar about an inch and a quarter long, which was feeding greedily on the foliage. This was identified as the grub of a Noctua moth, known as *Hadena pisi*, which is now, I believe, first recorded as injuring asparagus in this country, though various Continental entomologists mention that it feeds upon this among several other plants. Newman calls it the "broom moth," though he remarks that, as far as his observation goes, its favourite food-plant is the bracken-fern. It is evidently very catholic in its tastes.

The caterpillar is a striking creature, and easily recognised by its four bright yellow longitudinal lines, two along the back and one along either side. The ground colour is a mottled green when the caterpillar is young, but after the last moult it is often a rich chocolate-brown, faintly marked with lighter streaks.

The moth of which it is the grub or larva is much like many of the other night-flying moths, having the front wings reddish-brown without any very distinct pattern, and the hind wings somewhat greyer in tint; it measures about an inch and a half across the extended wings.

If the caterpillar should be noticed in asparagus beds it would be as well to look for it on any wild plants near at

hand, and especially on bracken, if there be any in the immediate neighbourhood. The treatment for asparagus beetle would probably destroy many of the caterpillars; but there is a further point worth remembering, namely, that the insect lives through the winter as a glossy-black chrysalis an inch or so under the surface of the soil, so that something can be done to prevent the moth ever coming out in the following summer. A heavy dressing of salt, often given to this plant in the ordinary course of cultivation, would probably kill many chrysalids, or the surface earth might be removed to a depth of about two inches and buried deeply.

SURFACE CATERPILLARS.

Every year many complaints are received of the depredations of these troublesome creatures, and it often happens that the real cause of injury is overlooked, and some quite innocent insect — generally the grub of the ladybird—is accused in the place of the true malefactor.

Ladybird grubs, as though conscious of rectitude, disdain to hide away, and when the farmer finds them in large numbers on failing turnips it is only natural that he should regard them with suspicion. They are, of course, only there to feed upon green-fly, and are not merely harmless, but extremely useful.

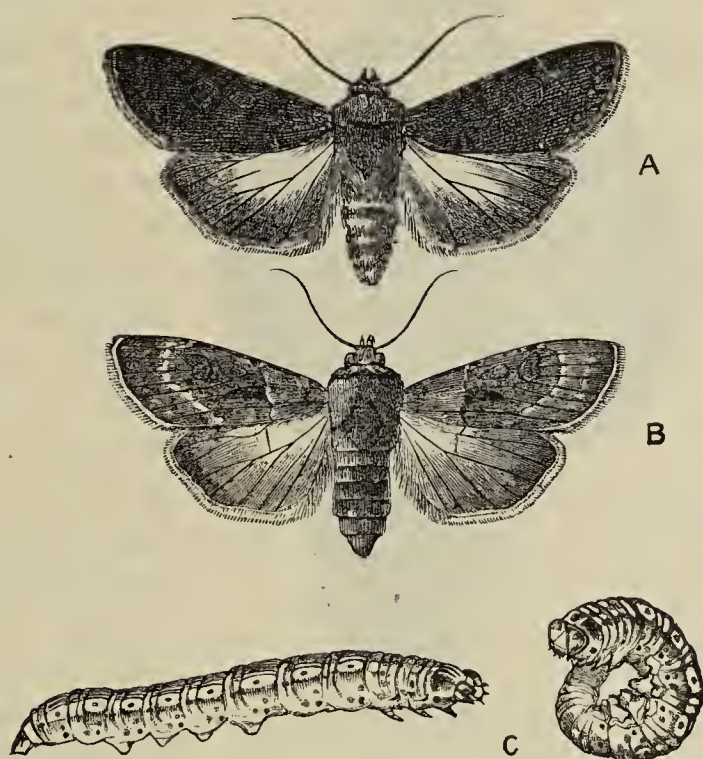


FIG. 1.—A, *Agrotis segetum*, female. B, *A. exclamatoris*, female. C, Larvæ of *A. segetum*.

If the injury takes the form of large excavations in the roots, or the tops of some of the plants are bitten entirely off, the real culprit is pretty sure to be the “surface caterpillar,” though in the daytime not a single specimen may be visible. These creatures are the grubs of nocturnal moths, two of the commonest of which are figured in the accompanying wood-cut. They fly readily to a light—a habit which makes their appearance familiar to most people. The big brown moths which come in through the open window on summer nights, belong to this group.

The eggs are laid in the early summer, near the roots of the farm crops they attack, or of cruciferous weeds, and the

caterpillars which hatch out in a few days generally continue feeding not only through the summer, but during the autumn and winter, except in very severe weather, not turning into chrysalids till the following spring. Just before they turn (usually late in April) they are particularly voracious, and do much harm.

It has often been suggested that advantage might be taken of the habit these moths have of flying to a light, and many "trap-lanterns" have been devised as remedies for these and other pests. There may be cases in which trap-lanterns would be useful against an insect pest, but three conditions would be necessary: it would have to be strongly attracted by the light; females (and not males only) would have to succumb to the attraction; and, most important of all, the time of flight would



FIG. 2.—Injury by surface caterpillars.

have to be very definite, and limited to a few days. Elaborate experiments have shown that the general use of trap-lanterns throughout the summer is far more harmful than beneficial. The results obtained some years ago by Mr. Slingerland at the Cornell University were most instructive. Most of the insects caught were neutral as regards agriculture, and of those which had any economic importance, the useful insects caught equalled or even out-numbered the injurious. Of the *Noctua* moths captured 88 per cent. were males, though both sexes are winged, and the females which came to the lamps had mostly laid their eggs. On the other hand a nearly equal percentage of the

useful ichneumon flies taken were females, just the individuals most important to preserve.

We seem reduced, therefore, to waging war upon surface caterpillars in the grub stage, and this is a troublesome business. On the farm it is important to keep down charlock and other cruciferous weeds; to disturb the ground by frequent harrowing during an attack, so as to turn the grubs up for the birds; to encourage the crop by forcing manures; and especially to try and clean the ground when next free of crop by a dressing of lime or gas-lime ploughed in.

In market gardens it would certainly pay to do more than generally is done in the way of hand-picking, particularly at night with lanterns, for it is chiefly at night that the

caterpillars feed above ground. It is also found useful to sprinkle lime, lime and soot, or kainit, round individual plants.

HOT-HOUSE MITES.

In my last Annual Report mention was made of certain mites, exceedingly troublesome to horticulturists, of the obscure genus *Tarsonemus*, which I had under investigation in the autumn of 1904. The investigation has made little progress on account of lack of material; for, though I have found the mites on leaves sent for examination, I have not been equally successful in obtaining diseased plants on which to observe the life-history of these creatures, those which have been sent invariably proving to be infested by various other pests, but not by the particular mites in question. They are excessively small, no larger than the black-currant mite; and not being crowded together in buds, but dispersed over the leaves, the search for them is much more laborious; but the attempt to throw some further light on their habits is not abandoned.

Meanwhile a further search into the very scattered literature on the subject has disinterred a few more species of *Tarsonemus*, which have been from time to time described, so that the list of known species given in the last Report for the assistance of those who desire to study these creatures must be extended.

List of species of Tarsonemus hitherto described.

1. *T. floricolus* Canestrini & Fanzago, *Atti del. Soc. Veneto-Trentina di Sci. Nat.*, Vol. 5, 1876. Found on many different plants, but probably other species have sometimes been included under this name.

2. *T. Kirchneri* Kramer, *Archiv. f. Nat. Jahrg.*, Vol. 42, page 199. This mite, found inside the galls of an *Eriophyes*, was described under the genus *Deudroptus*.

3. *T. buxi* Can. & Fan., *Atti del Soc. Veneto-Trentina di Sci. Nat.*, Vol. 9, page 8, 1884. Found on box leaves.

4. *T. oryzæ* Targioni-Tozetti, *Annali dell' Agricoltura*, Vol. 1, 1878. Found in diseased rice; male unknown.

5. *T. minusculus* Can. & Fan., *t.c.* Found on the body of another mite; male unknown.

6. *T. spirifex* Marchal, *Bull. Soc. Ent. Fr.*, 1902. Found on diseased oat plants.

7. *T. soricola* Oudemans, *Tijd. voor Ent. Jahrg.*, 1903, page 5. The male only found on a shrew.

8. *T. brevipes* Sicher & Lonnardi, *Nuovi Tarsonemidæ*.

9. *T. æquipes* Sicher & Leonardi, *Nuovi Tarsonemidæ*.

I have not been able to obtain this work, but Berlese says that *T. brevipes* was found in company with *T. floricolus*.

10. *T. intectus* Karpelles. I have not seen the description of this species which is said to attack men in the Danube region.

11. *T. pallidus* Banks, *Proc. Ent. Soc. Washington*, iv., 294. On greenhouse plants in America.

12. *T. latus* Banks. Causing galls on shoots of mango plants.

13. *T. anasæ* Tryon. On pineapples in Australia.
 14. *T. culmicolus* Reuter, *Acta Soc. pro Fauna et Flora Fennica*, xix. 77. Producing "silver-top" in grasses in Finland.
 15. *T. canestrinii* Messalongo. On *Triticum repens*.
 16. *T. tepidariorum* Warburton, *Journal R.A.S.E.*, Vol. 65, 1904, page 285. On fern leaves.
 17. *T. chironiæ*, Warburton, *l.c.*, page 286. On the leaves of *Chironia ewigera*.

In the Kew Bulletin, No. 40, Mr. A. D. Michael speaks of two species of *Tarsonemus*, which he observed on diseased sugar-cane from the West Indies. One, he says, is apparently the same as that which Dr. Bostock noticed on sugar canes from Queensland, and of which he gave figures that were published in the "Second Annual Report of the Committee appointed to inquire into the causes of disease to Live Stock and Crops," published in Queensland in 1887. This, he suggests, ought to be called *Tarsonemus Bostocki*. As he gives no diagnosis of the species, it must be considered as not established, so that the two kinds of *Tarsonemus* observed on sugar-canes are as yet undescribed.

MISCELLANEOUS NOTES.

Among pests infesting animals inquiries have been received concerning various sheep and dog parasites, which are more or less well known. One case was reported where bugs were found in considerable numbers on the window sills of a house. Specimens were sent for identification, and it was found that the species was *Cimex hirundinis*, and that the creatures came from the nests of house-martins near the windows. These are distinct from the ordinary bed-bug, and would not establish themselves in the house in the absence of the martins; but they are, nevertheless, capable of causing annoyance to human beings, and in such cases the nests should be immediately removed.

Several complaints have been received with regard to millipedes. In one case the common species, *Julus terrestris*, was found in large numbers in a dairy, but its presence there was no doubt accidental and of no economic importance. The "spotted millipede," *Blanjulus guttulatus*, does considerable harm, and was found in one instance injuring strawberries. In such cases the best measure is to bait for it with slices of mangel, its favourite food. The slices are lightly covered with earth among the strawberry plants, and are taken up at intervals and destroyed with the millipedes they have attracted.

Notices of pear midge attack have not been so frequent during the last year, but there is no reason to relax vigilance with regard to this pest. It is gradually spreading, and if not carefully watched may eventually become almost as serious as the black-currant mite. It is very important that fruit growers

should look out for signs of its presence on their pear trees, and should take instant measures against it if it occurs. The following extract from my 1899 Report may be repeated here :—

Treatment.—Fruit growers unfamiliar with this pest are earnestly advised to inspect their pear trees carefully next May, and to take immediate action if the disease is found to be present in ever so small a degree. It is easily recognised by the stunted fruit, and the small jumping maggots they contain. If confined to one or two trees, it is well worth while to strip off the whole of the fruit and burn it ; but to be effectual this must of course be done before any of the maggots have left the pears and entered the ground. If the attack is observed too late for this measure, it is well to know that a heavy dressing of kainit beneath the trees has been found to destroy the puparia, and to prevent the emergence of the midge during the following season.

The very similar pea midge, of which I gave an account last year, has again been sent for identification, and is probably a widespread though little-noticed pest.

It is as well to record in these notes a case of wireworm attack on mustard, which occurred in the early summer of 1905. Similar instances have been very rarely observed, for the pest generally eschews this plant, which, indeed, is often grown and ploughed in green as a cleaning crop. Such cases are not easy of explanation, for it is difficult to see that so omnivorous a grub can be short of more congenial food.

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THE WOBURN EXPERIMENTAL STATION OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

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I. FIELD EXPERIMENTS, 1904.

CONTINUOUS GROWING OF WHEAT (*STACKYARD FIELD*), 1904 (28TH SEASON).

DURING September and October, 1903, the land was cleared of twitch, scarified, and ploughed. On November 1, 10 pecks to the acre of wheat, "Square-head's Master," were drilled, the seed having been previously treated with bluestone (sulphate of copper). Mineral manures were applied on December 17 to all the plots receiving them, bad weather having delayed their earlier sowing. Already by December 24 it was noticed that the plant on plots 2a, 5, and 8 (ammonia salts) was very scanty, the corn only showing in any strength round the edges of each

plot. Plot 2a was, indeed, almost a blank, and plot 2b (the same treatment, but with 2 tons of lime per acre in December, 1897), showed up in marked contrast to it.

On March 11, 1904, the applications of farmyard manure and rape dust were given, the former having, as usual, been made during the winter in feeding boxes by bullocks consuming definite quantities of decorticated cotton cake and meal, together with roots, hay, straw, and chaff, the manure then being taken out, stored in a heap, and covered with earth. The nitrogenous top-dressings of ammonia salts (sulphate of ammonia and muriate of ammonia in equal quantities) and of nitrate of soda were put on in two different applications, the first halves of the heavier dressings (plots 8b and 9b) on May 3, and the second halves, as well as the single dressings to plots 2, 3, 5, and 6, on May 25.

By June 20 the wheat began to come into ear, 10b being the earliest plot. "Rust" appeared early on this plot, as also on 11b, 3, and 6. Plot 5 (minerals and ammonia salts) showed a marked failing this year. The wheat was in bloom by July 1. There was hardly any "smut" (*ustilago*) in the corn, but it was most present where nitrogenous top-dressings had been used.

The harvest was an early one, for the plots were all cut by August 11, carted on the 19th, and stacked. The different lots were threshed on November 1, the produce weighed, and the corn subsequently valued by an expert. Table I, on page 194, gives the results obtained.

The wheat crop, as was the case all over the country, was an exceedingly poor one, falling below that of 1903 (a very wet season), and being even less than that of 1901 (an exceptionally dry year). The comparison of these years shows how very marked is the influence of season, and how little the manures applied will effect the yield independently of favourable weather. In 1901 the rainfall for the year was 20 in. only, in 1903 it was 34½ in., and it was in 1904, 22 in. The unmanured produce was only 7·4 bushels, against 7·7 bushels in 1901, and 10·2 bushels in 1903. The highest produce in 1904 was 17 bushels (plot 9b), in 1901, 25 bushels, and in 1903, 34 bushels. Straw also was exceptionally short, owing to the drought, the highest return being 16 cwt. only. Of the two unmanured plots, number 7 must be taken as representative, for both plots 1 and 4 are becoming more and more affected by the nearness of trees. Ammonia salts have shown still more strongly the injury that is being done to the land by their continual use, and on plots 2a and 8a there was no crop worth weighing, and on 5 very little. The plots treated with nitrate of soda are also beginning to show that there is deterioration of the land going on, for on plot 3 the produce is below the unmanured yield.

TABLE I.—*Continuous Growing of Wheat, 1904 (28th Season).*

(Wheat grown year after year on the same land, the manures being applied every year.)

Stackyard Field—Produce per acre.

Plot	Manures per acre	Head corn			Tail corn	Straw, chaff, &c.	Value per quarter on basis of 32s.		Remarks
		Wght.	No. of bush.	Wgt. per bush.	Weight		C. q. lb.	s. d.	
		Lb.		Lb.	Lb.				
1	Unmanured.	267 ³	4·4 ³	61·0	5	4 1 25 ³	30	6	{ Poor miller's wheat; and more yellow than plot 7
2a	{ ¹ Ammonia salts (containing 50 lb. ammonia) . . . }	16	—	—	6	0 1 4	32	0	{ Not so even as 8b, and less strength
2b	{ Ammonia salts (containing 50 lb. ammonia) with 2 tons lime, December, 1897 . . }	164	2·7	60·0	2	3 0 17	31	6	{ Looks blighted: stronger wheat than 2a, and larger grain than 10b
3	{ Nitrate of soda (containing nitrogen=50 lb. ammonia) }	261	4·5	58·0	5	4 3 25	31	0	{ Badly matured and thin, but more strength than plot 1
4	{ ² Mixed mineral manures (sulphates of potash, soda, and magnesia, with superphosphate) . . . }	411 ³	6·6 ³	61·7	5	6 3 2 ³	32	0	{ Less colour and strength than plot 7, equal to plot 10a
5	{ Mixed mineral manures and ammonia salts (containing 50 lb. ammonia) . . . }	263	4·2	62·0	3	3 2 6	32	6	{ Does not contain so much thin corn as 8a; good average miller's wheat; well filled out, but not quite so strong as 8a
6	{ Mixed mineral manures and nitrate of soda (containing nitrogen=50 lb. ammonia) }	776	12·9	59·7	9	11 1 19	31	6	{ Badly matured, practically the same as 9b
7	Unmanured.	455	7·4	61·5	5	6 1 23	32	0	{ Decidedly better wheat than plot 1; bigger berry and more bloom
8a	{ Mineral manures, ammonia salts (=100 lb. ammonia) omitted (in alternate years, including 1904) . . . }	17	—	—	5	0 1 10	32	6	{ Runs plot 5 very close; contains more thin corn, but is a stronger wheat
8b	{ Mineral manures and (in alternate years, 1904 included) ammonia salts (=100 lb. ammonia) . . . }	348	5·6	62·0	4	4 1 0	32	0	{ More even and more strength than 2a; not quite so much bloom
9a	{ Mineral manures, nitrate of soda (containing nitrogen=100 lb. ammonia) omitted (in alternate years, including 1904) . . . }	331	5·5	60·0	6	3 3 24	31	6	{ Bigger wheat than 10b, but less strength
9b	{ Mineral manures and (in alternate years, 1904 included) nitrate of soda (containing nitrogen=100 lb. ammonia) }	1,027	17·1	60·0	10	15 2 26	32	0	{ Useful lot of wheat, fairly strong, not fully matured
10a	{ 1889, rape cake (=50 lb. ammonia). No manure since . . . }	303	4·9	62·0	4	5 1 8	32	0	{ Equal to plot 4, with less colour and strength than plot 7
10b	{ Rape cake (=100 lb. ammonia) every year since 1890 . . . }	883	14·6	60·5	14	16 0 14	31	6	{ Small grain wheat, practically the same as 2b
11a	{ 1877-1881, farmyard manure (=200 lb. ammonia). No manure since . . . }	554	9·0	61·2	8	8 2 2	32	6	{ Nice small berry, and well filled out
11b	{ Farmyard manure (=200 lb. ammonia) every year . . . }	748	12·2	61·2	12	13 1 8	32	6	{ Very like 11a, but contains more drossy wheat than plots 5, 8a, 11a

¹ Ammonia salts are equal weights of sulphate of ammonia and muriate of ammonia.² Mixed mineral manures are, throughout, 3½ cwt. superphosphate of lime, 200 lb. sulphate of potash, 100 lb. sulphate of soda, 100 lb. sulphate of magnesia per acre.³ These plots were injured by trees near them.

TABLE II.—*Continuous Growing of Barley, 1904 (28th Season).* 195

(Barley grown year after year on the same land, the manures being applied every year.)

Stackyard Field—Produce per acre.

Plot	Manures per acre	Head corn			Tail corn	Straw, chaff, &c.	Value per quarter on basis of 28s.		Remarks
		Wght.	No. of bush.	Wgt. per bush.	Weight		s.	d.	
		Lb.		Lb.	Lb.	C. q. lb.			
1	Unmanured	161	3.0	54.0	2	3 0 6	24	6	This and plot 7 have a nasty green tinge about them not seen in other samples, and very objectionable to a maltster
2a	{ ¹ Ammonia salts (containing 50 lb. ammonia)}	38	.7	52.0	8	0 1 27	24	0		Considered to be quite as good value as 2b, but colour is not quite so good
2b	{Ammonia salts (containing 50 lb. ammonia) with 2 tons lime, December, 1897}	739	14.3	51.7	8	7 1 12	24	0	{Smaller grain than 2a, not the "body" of 5a and 8bb
3	{Nitrate of soda (containing nitrogen=50 lb. ammonia)}	595	11.5	51.7	5	6 2 15	22	0	{Not fit for malting, grain too thin and colour bad; very little different from 10b
4	{ ² Mixed mineral manures (sulphates of potash, soda, and magnesia, with superphosphate)}	290	5.4	54.0	3	3 3 15	27	6	{Better shape and more quality than any other sample; it is more uniform and better grown
5a	{Mixed mineral manures and ammonia salts (containing 50 lb. ammonia)}	97	1.8	54.0	2	1 1 16	24	6	These barleys are about equal to 8bb and better than 2b; they contain a lot of unripe corns and are sour looking
5b	{Mixed mineral manures and ammonia salts (containing 50 lb. ammonia), with 2 tons lime, December, 1897}	1,254	23.9	52.5	10	15 3 3	24	6	
6	{Mixed mineral manures and nitrate of soda (containing nitrogen=50 lb. ammonia)}	1,315	24.7	53.2	9	15 2 9	24	0	{Fair colour for poor barley; bigger and better grains than 3
7	Unmanured	312	5.8	53.7	3	3 2 24	24	6	{Same as plot 1, having a peculiar green colour about it
8a	{Mineral manures, ammonia salts (=100 lb. ammonia) omitted (in alternate years, including 1904).}	154	2.8	54.0	4	2 0 8	22	6	Poor uneven sample
8aa	{Mineral manures, ammonia salts (=100 lb. ammonia) omitted (in alternate years, including 1904), with 2 tons lime, December, 1897}	584	10.4	56.0	4	5 3 0	25	0	{Not such a bold sample as plots 11a and 11b, having more variety in colour
8b	{Mineral manures and (in alternate years, 1904 included) ammonia salts (=100 lb. ammonia)}	369	6.6	56.0	4	4 1 11	22	6	{Same as 8a, only fit for grinding
8bb	{Mineral manures and (in alternate years, 1904 included) ammonia salts (=100 lb. ammonia), with 2 tons lime, December, 1897}	1,672	30.9	54.0	8	18 3 19	24	6	{Not so uniform in size as 8aa
9a	{Mineral manures, nitrate of soda (containing nitrogen=100 lb. ammonia) omitted (in alternate years, including 1904)}	767	14.5	52.7	6	7 1 12	25	0	{A shade greener than 8aa, and would pass for brown malt
9b	{Mineral manures and (in alternate years, 1904 included) nitrate of soda (containing nitrogen=100 lb. ammonia)}	2,041	37.1	55.0	12	25 0 10	23	6	No difference between these samples; is questionable if they would pass for malt. "Unkind" samples
10a	{1889, rape cake (=50 lb. ammonia). No manure since}	402	7.2	56.0	2	4 2 10	23	6	
10b	{Rape cake (=100 lb. ammonia) every year since 1890 (1877-1881, farmyard manure)}	1,351	25.7	52.5	8	15 3 26	22	6	{Would not malt, too thin and green
11a	{(=200 lb. ammonia). No manure since}	619	11.5	54.0	6	6 1 19	25	0	{Has a little more size and uniformity than 11b
11b	{Farmyard manure (=200 lb. ammonia) every year}	1,338	24.8	53.9	10	14 0 5	25	0	{Not quite the quality of 11a, and both samples are considerably below plot 4 in value

¹ Ammonia salts are equal weights of sulphate of ammonia and muriate of ammonia.

² Mixed mineral manures are, throughout, 3½ cwt. superphosphate of lime, 200 lb. sulphate of potash, 100 lb. sulphate of soda, and 100 lb. sulphate of magnesia per acre.

The influence of the one application of 2 tons of lime, so long ago as December, 1897, still continues to manifest itself, as there was a certain, though small, crop on plot 2b, while there was none on 2a (without lime). The heavier application (plot 9b) of nitrate of soda gave the highest produce of the year, 17·1 bushels, but the omission of nitrate of soda for the single year took the produce below that of the unmanured land. Rape dust, as in 1903, gave a rather heavier crop than did farmyard manure.

The valuer reported that the wheat samples were an average set for the season. The farmyard manure plot (11b) was as good as any, and fully up to the average wheat of the district. The nitrate of soda plots (3 and 6) were about the worst samples, and it is noticeable also that these gave a lower weight per bushel than any of the others.

CONTINUOUS GROWING OF BARLEY (*STACKYARD FIELD*), 1904 (28TH SEASON).

The barley land was cleared of twitch during the winter and ploughed on December 12, 1903. All through the winter the line of plots on which ammonia salts were used, year after year, was distinguishable from the others by reason of the lighter colour of the soil. On March 24, 1904, 9 pecks per acre of "Chevalier" barley, taken off Fen land, were drilled, and on the same day farmyard manure (prepared as for the wheat, see page 193) and rape dust were respectively spread on plots 10b and 11b. Mineral manures were sown on March 26, and the nitrogenous top-dressings in two lots (as with the wheat) on May 3 and May 25 respectively. There was very little crop visible on plots 2a or 5a, and 8a and 8b were also very patchy. By June 20, plot 2a was just one mass of spurry and plot 5a was very little better; where, however, lime had been applied (plots 2b, 5b, 8aa, 8bb) spurry was practically absent. The succeeding drought affected the barley plant very much, and ripening was much hastened. The crop was cut by August 15, and carted home on August 22. Rain, however, coming on then, the crop had to be spread out and dried before it could be stacked. On November 1 it was threshed, the returns recorded, and the corn subsequently valued. The results are given in Table II. on page 195.

The barley crop was, taken all round, a better one than that of 1903, when only 2·2 bushels were grown on the unmanured land. The highest yield that year was 41 bushels, and in 1904 37 bushels—in each case with the heavy dressing of nitrate of soda and minerals. The unmanured produce was 4·4 bushels, and that with minerals only (plot 4) 5·4 bushels. Ammonia salts continued to show markedly their harmful

effects when used year after year, there being practically no crops on plot 2a, 5a, and 8a. Plot 8b was but little better. Where, however, lime had been applied (2 tons in December, 1897, but none since) the crop was markedly increased, viz., by 14 bushels on 2b, 22 bushels on 5b, and 24 bushels on 8bb. The produce with ammonia salts, after lime had been applied, was very nearly as good as with nitrate of soda. Rape dust gave a slightly higher crop than did farmyard manure.

The report of the valuer as to quality was not favourable, the barleys being, as a whole, inferior to those of 1903. The best plot was that from land manured with mineral manures only, but even this was below average. Nitrate of soda gave rather more tail corn than did the other applications, and a low weight per bushel on plot 3; the barley on this latter plot was quite useless for malting purposes.

ROTATION EXPERIMENT (*STACKYARD FIELD*), 1904.

It was mentioned in the Report for 1903 that the wet season of that year prevented the proper cleaning of the land which had been intended, and, accordingly, it was decided to grow again a root crop in 1904, and so get the land into good order. Kohl rabi was the crop selected, as swedes were known to be subject to "finger-and-toe" on this land. The upper half (or road side) of the rotation area (8 acres) was cultivated in April, 1904, ploughed on May 5, and on May 14 basic superphosphate, at the rate of 6 cwt. per acre, with 1 cwt. per acre of sulphate of potash, was put on, 4 lb. per acre of Large Green Kohl Rabi seed being then drilled. Singling began on June 18, and on July 15 a top-dressing of 1 cwt. per acre of nitrate of soda was given. A crop of rather over 12 tons per acre of kohl rabi was grown. The roots were pulled and put in heaps on the field. Preparations were then made for feeding the roots off with sheep; but, in order that there might not be too large an amount fed and the land be rendered thereby over-rich (so that differences between decorticated cotton cake and maize meal would not tell), the weight of roots fed on each plot was kept down to 12 tons per acre, this quantity being weighed out to the sheep. On Rotations I., II., and III. the roots were fed off by sheep which received in addition only about $\frac{1}{2}$ lb. per head daily of clover hay-chaff; but on Rotation IV. the new rotation experiment was begun, the sheep feeding off the roots on plot 1 ($\frac{1}{2}$ acre) with decorticated cotton cake, on plot 2 ($\frac{1}{2}$ acre) with maize meal, and on plots 3 and 4 the roots only, clover hay-chaff, however, being given in all cases as in the other three rotations. Barley was to be the crop to follow on Rotation IV. in 1905.

On the lower half of the rotation area (also 8 acres) a different plan was pursued, the whole being put into mustard. White mustard seed, at the rate of 14 lb. per acre, was sown on July 21, and, coming up well, sheep (ewes) were put on it at the beginning of September, and fed it off until September 17, after which the land was ploughed, and the area drilled with wheat.

GREEN-MANURING EXPERIMENT (*LANSOME FIELD*), 1904.

In 1903 wheat had been grown after the ploughing-in of the green crops of mustard, rape, and tares respectively, and, as stated in the Report for 1903, had given a better crop after mustard than it did after tares. It had been suggested to take a second corn crop in order to ascertain whether the enrichment of the land, assumed on theoretical grounds to result from the growth and ploughing-in of a leguminous and nitrogen-collecting crop like tares, as compared with the non-nitrogenous mustard crop, could not in this way be brought out, as it might not have had time to tell with the single corn crop (wheat). Accordingly, it was decided to grow barley in 1904 to follow the wheat of 1903.

The land was ploughed in November, 1903, and a second ploughing given in March, 1904. "Goldthorpe" barley was drilled, 9 pecks per acre, on March 22, and came up well. In May the barley looked best after the tares, that after mustard being not so good; but by the middle of June these differences were not so marked. The barley was cut on August 6, and

TABLE III.—*Green-manuring Experiment (Lansome Field).*

Produce of Barley per acre, 1904, after Wheat in 1903.

Plot	Manuring	Head corn			Tail corn	Straw, chaff, &c.
		Weight	Bush.	Weight per bushel	Weight	
		Lb.		Lb.	Lb.	C. q. lb.
1	{ Tares ploughed in, with mineral manures . . . }	1,038	18·5	56·0	10·5	11 0 4
2	{ Tares ploughed in, with- out mineral manures . . }	1,036	18·3	56·6	7·5	9 3 13
3	{ Rape ploughed in, with mineral manures . . . }	906	15·9	56·7	10·5	9 1 17
4	{ Rape ploughed in, with- out mineral manures . . }	949	16·7	56·9	9·0	9 1 5
5	{ Mustard ploughed in, with mineral manures . . . }	1,125	19·7	57·0	9·0	11 2 14
6	{ Mustard ploughed in, without mineral manures }	1,068	18·7	57·0	9·0	12 0 21

carted on August 19, being subsequently threshed, weighed, and valued. The results are given in Table III., page 198.

From these results it will be seen that what advantage one crop possessed over another belonged to the previous treatment with mustard and not with tares; so that the latter have not, in this experiment at least, succeeded in showing, even with a second corn crop, that they enrich the soil to a greater extent than does mustard, so far as corn crops coming afterwards are concerned. The tares, however, gave rather better crops than did the rape, which was not the case the year before. As between the use of mineral manures and their omission there was nothing definite. The barley grown was of much better quality than that obtained in the continuous barley series, and was valued at from 28s. to 30s. per quarter on an average basis of 28s. for the season. Plot 5 (after mustard) was placed highest, at 30s., and was described as a "very nice lot, uniform in colour, with nice skin, and of good size." The barley after tares was put at 28s.

It would accordingly seem from this experiment that on this class of land, at least, tares do not possess the superiority over mustard (as a preparation for corn crops) which theoretical considerations, based upon their power of collecting nitrogen, would lead one to expect. This question will, however, be followed up further.

CANADIAN WHEATS.—Spring Sown (*WARREN FIELD*), 1904.

The continued interest shown in the growing of Canadian wheat in this country caused the series of experiments already initiated to be continued. The seed used was from crops that had been obtained on the farm (Lansome Field) in 1903, and which already had been grown a year previous to this in England; so that the present was the third season since the introduction of the wheat from Canada. Two varieties, "Preston" and "Red Fife," were sown, at the rate of 10

TABLE IV.—*Canadian Wheats*, 1904.
(Spring Sown.)

Variety	Produce per acre				
	Head corn			Tail corn	Straw, chaff, &c.
	Weight	Bushels	Weight per bushel	Weight	
	Lb.		Lb.	Lb.	C. q. lb.
"Preston"	778	12·6	61·6	14·0	9 3 24
"Red Fife"	1,268	20·2	62·8	15·0	16 0 27

pecks per acre, in Warren Field, on March 16-17, 1904. The soil of this field is considerably heavier than that of Lansome Field. It received a dressing of farmyard manure in the winter; on May 26 a top-dressing of 1 cwt. per acre of sulphate of ammonia was given. The wheats were cut on August 9, and carted on August 22-25. The results of threshing are given in Table IV., page 199.

The "Red Fife," as in 1903, came out as decidedly the better of the two varieties, and would seem to be the one most likely to succeed in this country. As there was no English variety of wheat grown in this field, no proper comparison can be made between the English and Canadian varieties; but it is to be remarked that when the corn came to be valued, the expert admired the Canadian samples very much, and assigned to them a value of 36s. per quarter, on the basis of 32s. for average English wheat of the season. As a matter of fact this price (36s.) was what the bulk of "Red Fife" actually fetched on Bedford market.

LUCERNE (*STACKYARD FIELD*), 1904.

The plots (resown in 1902) were cleaned during the winter of 1903; mineral manures were applied on March 11, 1904, and the nitrogenous top-dressings on May 25. Plots 6 and 7 (mixed mineral manures, including potash and nitrogenous salts), as before, looked much the best, while the lucerne of plot 3 (sulphate of potash alone) was of a very light colour, as if it stood in need of nitrogenous manuring. The dry season resulted, of course, in but short crops being obtained; two cuttings were taken of each plot on July 15 and August 30 respectively. The weights of green produce are given in Table V., below.

TABLE V.—*Lucerne (Stackyard Field).*

Green produce per acre, 1904 (third year of new series).

Plot	Manures per acre, applied annually	Green produce ¹		
		T.	c.	q. lb.
1	No manure	3	16	3 11
2	Superphosphate, 4 cwt.; bone dust, 4 cwt.	2	8	2 4
3	Sulphate of potash, 4 cwt.	3	7	1 18
4	Sulphate of ammonia, 2 cwt.	3	0	2 19
5	Nitrate of soda, 2 cwt.	3	19	2 5
6	{ Superphosphate, 4 cwt.; bone dust, 4 cwt.; sulphate of } { potash, 4 cwt.; sulphate of ammonia, 2 cwt. }	8	6	1 11
7	{ Superphosphate, 4 cwt.; bone dust, 4 cwt.; sulphate of } { potash, 4 cwt.; nitrate of soda, 2 cwt. }	9	11	1 22

¹ Two cuttings.

The results show, as in the earlier series, that plots 6 and 7 gave far and away the highest return, plot 7 being the better of the two. It is noticeable that the manures used on these two plots included sulphate of potash.

SAINFOIN (*STACKYARD FIELD*), 1904.

This was the fifth season of these plots, and they were now coming to an end, for the plant failed much and weeds took its place. However, the plots were cleaned as far as possible, and the first cutting was taken on July 15. Plot 1 (English "giant") was the only one to give a second cutting, this being taken on November 15. The results are set out in Table VI., below.

TABLE VI.—*Sainfoin (Stackyard Field)*.

Green produce per acre, 1904 (fifth season).

Plot	Variety	Green produce per acre.											
		First cutting		Second cutting		Total							
		T.	c.	q.	lb.	T.	c.	q.	lb.				
1	English "giant" .	1	19	1	4	1	13	1	16	3	12	2	20
2	" " "common" .	2	17	1	23	—	—	—	—	2	17	1	23
3	French "giant" .	0	7	3	12	—	—	—	—	0	7	3	12
4	" " "common" .	0	13	1	1	—	—	—	—	0	13	1	1

Putting together the produce of the five years, 1900-1904, we have the totals as given in Table VII., below.

TABLE VII.—*Sainfoin (Stackyard Field)*.

Green produce per acre—total of 5 years, 1900-1904.

Plot	Variety	1900	1901	1902	1903	1904	Total
		T. c. q. lb.	T. c. q. lb.	T. c. q. lb.	T. c. q. lb.	T. c. q. lb.	T. c. q. lb.
1	English "giant"	1 16 3 9	4 13 2 5	5 2 0 16	9 0 2 24	3 12 2 20	24 5 3 18
2	" " "common"	1 10 1 22	3 8 1 1	8 0 0 10	8 18 3 0	2 17 1 23	24 15 0 0
3	French "giant"	1 14 1 14	3 4 3 8	2 18 3 20	3 1 3 14	0 7 3 12	11 7 3 12
4	" " "common"	1 10 1 22	4 0 1 27	5 4 0 12	6 2 2 10	0 13 1 1	17 10 3 16

The greatest yield has been given by the English "common" variety, closely followed by the English "giant," and both of these are considerably better than the French varieties. It was pointed out when starting the experiment in 1900 that the English seed was about one-third dearer than the French, but was believed to stand longer. This is fully borne out by the results here obtained, and the English varieties certainly lasted longer and produced considerably better crops. By 1904, however, the plots had practically all come to an end, and so were ploughed up.

TRIFOLIUM INCARNATUM (*LANSOME FIELD*), 1904.

For the last few years crimson clover (*Trifolium incarnatum*) has been grown with considerable success at the Woburn Farm, and made into hay, which has been used by the farm horses. The ease with which the seed can be sown, viz., on a corn stubble, by merely scarifying and harrowing the ground and scattering the seed broadcast, makes it a crop that can be readily put in, and as, after it, there is time to sow white turnips or mustard, it makes a very good "catch crop." Up to this year the crimson variety had always been sown, but it was decided to try in 1904 the white variety also. This is known as *Trifolium Molineri*, and is generally believed to give less produce than the crimson variety. It is later in growth than the red, and the seed is also dearer. The two varieties were tried side by side in Lansome Field in 1903-1904. The *Trifolium* followed wheat. Both varieties were sown, 20 lb. of seed to the acre, on September 1, 1903, and harrowed in. The crop in each case came up well and stood the winter capitally. The early red variety came into flower on May 23, 1904, and was ready for cutting on June 13, being carted on June 22. The late white variety was cut on June 22; and carted on July 1. The respective weights of hay were :—

	T.	c.	q.	lb.	
Early red <i>Trifolium</i>	3	3	2	21	per acre.
Late white "	3	2	0	21	"

Thus the difference between the two was not great, though there is no advantage for the white variety, especially as the seed costs more. It may, however, be convenient to grow the two kinds, in order to be able to follow on from one to the other, and not have the whole ready at the same time. The crops were excellent, and did good service for feeding cart horses in the winter.

EXPERIMENTS ON PASTURE.

1. *Laying Down Land to Grass (Great Hill Bottom)*, 1903.

The field, having been grazed in 1903, was hayed in 1904; it was, however, treated as a whole, except that the two new plots, laid down in 1901 with Mr. R. H. Elliot's mixtures, were separately weighed. The grass was cut on June 21, and carted June 24-26. The yields were :—

Produce per acre of hay	1902 ¹				1904 ²			
	T.	c.	q.	lb.	T.	c.	q.	lb.
Elliot's mixture—with rye grass	3	7	1	23	1	9	3	24
" " without rye grass	2	18	3	17	1	18	3	3

¹ Two cuttings.² One cutting only.

2. Improvement of Old Pasture (Broad Mead and Long Mead), 1904.

Broad Mead was grazed throughout the year, but Long Mead was hayed. The last application of manures was on April 3, 1903. The grass was cut on June 28, and carted on June 30. The weights of hay are given in Table VIII., below.

TABLE VIII.—*Grass Experiments (Long Mead).*
Produce of hay, 1904.

Plot	Manures per acre in 1901	Weight of hay per acre			
		T.	c.	q.	lb.
1	Lime, 2 tons	1	15	1	0
2	No manure	1	14	0	0
3	Mineral superphosphate, 5 cwt.	1	18	1	0
4	Basic slag, 8 cwt.	1	17	3.	0

All the plots showed some small gain on the unmanured produce, and in the same direction as the results of 1901 (Journal, Vol. 63, page 326), superphosphate giving rather the highest produce, though the herbage was considerably rougher than on plot 4 (basic slag).

POTATO EXPERIMENTS (*BUTT CLOSE*), 1904.

The experiment with potatoes in 1904 was a manurial one, it being considered desirable to try the relative values of kainit and sulphate of potash as suppliers of potash, and of nitrate of soda and sulphate of ammonia as nitrogenous manures. The variety chosen was "Up-to-date." Twelve tons of dung to the acre were carted out and spread in the drills

TABLE IX.—*Potato Experiments (Butt Close), 1904.*

Plot	Manures per acre	Produce of Tubers per acre															
		Ware				Seed				Pig				Total			
		T.	c.	q.	lb.	T.	c.	q.	lb.	C.	q.	lb.	T.	c.	q.	lb.	
1	{ Superphosphate, 3 cwt.; nitrate of soda, 1 cwt.; sulphate of potash, 1 cwt. }	7	14	3	14	1	14	3	14	5	2	14	9	15	1	14	
2	{ Superphosphate, 3 cwt.; nitrate of soda, 1 cwt.; kainit, 4 cwt. }	7	11	0	8	1	7	3	0	5	2	14	9	4	1	22	
3	{ Superphosphate, 3 cwt.; sulphate of ammonia, 1 cwt.; kainit, 4 cwt. . }	6	12	1	14	1	4	0	0	9	2	16	8	6	0	2	
4	{ Superphosphate, 3 cwt.; sulphate of ammonia, 1 cwt.; sulphate of potash, 1 cwt. }	8	2	3	0	1	5	0	14	8	2	14	9	16	2	0	

early in May, 1904, and the potatoes were "set" on May 12, the artificial manures, as given in Table IX., page 203, being placed in the drills at the same time. The crop was lifted on September 13, and the tubers sorted and weighed as set out in Table IX.

It will be seen that in each case better results were obtained with sulphate of potash than with kainit. The amounts of potash supplied by the two dressings were, it may be said, just about equal. As between sulphate of ammonia and nitrate of soda there was little to choose, slightly the highest crop of all and the largest amount of ware or saleable potatoes being obtained from using sulphate of ammonia together with sulphate of potash, though, when kainit was employed, nitrate of soda gave a larger crop than did sulphate of ammonia.

"FINGER-AND-TOE" IN TURNIPS (*GREAT HILL*), 1904.

The series of experiments on this subject, begun in 1900, was carried a stage further, and on the same piece of land as before, the treatment being the same as in 1903. All the applications were made on December 22-26, 1903, with the exception of the lime on plot 6, and the plots were then ploughed and left for the winter. On May 23, 1904, dung was carted out and spread at the rate of 15 tons per acre, being subsequently ploughed in. "Monarch purple-top" swede seed, at the rate of 4 lb. per acre, was drilled in on May 26, and on plot 6 lime was put in with the seed. There was a fair crop all over with the exception of plot 3 (no treatment), and the roots were pulled and weighed on October 13-15. The results are given in Table X., below.

TABLE X.—"Finger-and-Toe" Experiments on Swedes (*Great Hill*), 1904.

Produce per acre.

Plot	Applications per acre	Sound roots				Usable roots			Unsound roots			Total weight of roots per acre			
		T.	c.	q.	lb.	C.	q.	lb.	C.	q.	lb.	T.	c.	q.	lb.
1	Basic superphosphate, 5 cwt.	11	2	3	0	24	3	0	3	3	0	12	11	1	0
2	Lime, 2 tons	12	0	3	0	16	2	0	—	—	—	12	17	1	0
3	Nothing	—	—	—	—	77	1	0	3	3	0	4	1	0	0
4	Gas lime, 2 tons	13	2	2	0	18	3	0	9	0	0	14	10	1	0
5	Basic slag, 10 cwt.	10	9	1	0	20	1	0	6	3	0	11	16	1	0
6	Lime, 2 tons, drilled in with seed	10	19	3	0	7	2	0	3	0	0	11	10	1	0
7a	Finely-divided lime, 2 tons	12	10	2	0	15	0	0	6	0	0	13	11	2	0
7b	Carbolised lime, 2 tons	14	3	2	0	15	0	0	—	—	—	14	18	2	0

The "nothing" plot gave, as will be seen, no sound roots and much the smallest crop of any, all the applications having been more or less successful. The highest return and greatest weight of sound roots were obtained with the carbolised lime dressing, there being no useless roots at all. With ordinary lime (plot 2) the roots were all sound too. Gas lime (plot 4) gave excellent results, as did also finely-divided lime (plot 7a). Between basic superphosphate (plot 1) and ordinary lime (plot 2) there was, as in 1903, little to choose. The drilling in of lime with the seed (plot 6) was much more successful than in 1903, and the previous application of lime had by then probably had time to work. The good result now found with gas lime was noticed in 1902, but not in 1903; while basic slag, which did but poorly in 1902 and 1903, has now been much more effectual.

RAINFALL AT WOBURN EXPERIMENTAL STATION, 1904.
(292 feet above sea level.)

	Inches	Number of days on which .01 inch or more fell		Inches	Number of days on which .01 inch or more fell
January	2.44	19	July	3.42	17
February	2.79	18	August	2.32	12
March	1.49	18	September	1.59	12
April	1.05	11	October	1.10	16
May	1.66	14	November	1.12	10
June	1.12	9	December	1.98	18
			Total	22.08	174

II. POT-CULTURE EXPERIMENTS, 1904.

THE HILLS' EXPERIMENTS.

IN 1903 the subject for inquiry had been the influence of the iodides and oxides of manganese, potassium, sodium, and lithium on wheat and barley. In the case of wheat the salts were used in the solid state, the iodides at the rate of 1 cwt. per acre, and the oxides at 2 cwt. per acre. In every case, and more especially with manganese, the iodides, used at the rate of 1 cwt. per acre, were found to be harmful, whereas the oxides, at the rate of 2 cwt. per acre, all had a beneficial influence on the wheat crop. The results with barley were, in the main, similar, though the oxides did not prove so beneficial as with wheat, the iodides, however, showing the same injurious influence. Water-culture experiments conducted to supplement this inquiry showed that it was the roots of the plants that were chiefly affected by the different applications.

It was decided to carry on the investigation further in 1904 as regards the action of manganese salts on wheat and barley, and to compare this with that of iron salts. A further experiment resolved on was the influence of the direct application of silicate of potash and silicate of soda to wheat and barley.

1. (a) *The Influence of Sulphate of Manganese and Sulphate of Iron on Wheat.*
- (b) *The Influence of Silicate of Potash and Silicate of Soda on Wheat.*

These two sets of experiment were carried on simultaneously. The salts employed in the first set were sulphate of manganese and sulphate of iron. These were used in two different ways: (1) as solutions of varying strength, in which the seed was soaked before planting; (2) as solutions in water directly applied at different times to the growing plant. In the second set the silicates of potash and soda were mixed at the commencement with the top 4 lb. of soil in each pot.

The soil used was that from Stackyard Field, the pots were earthenware ones, and each experiment with the manganese and iron salts was in triplicate, and with the silicates in duplicate. "Grey-chaff Browick" was the variety of wheat sown. The strengths of solutions of sulphate of manganese and sulphate of iron for soaking the seed in were 1 per cent., 2 per cent., and 5 per cent.; and of the solutions directly applied, such as to supply respectively $\frac{1}{4}$ cwt., $\frac{1}{2}$ cwt., and 1 cwt. per acre of the different materials. The applications of silicates were equivalent to dressings of 2 cwt. and 4 cwt. per acre, respectively. The seeds—twelve per pot—were sown in all cases on December 15, 1903, seed soaking, where done, being carried out previously to sowing, and the direct application of solutions taking place on January 26, 1904 (when the wheat plants were 2 in. high), March 31, and April 20. The first noticeable point was the influence of the seed-soaking on the germination. The germination with the untreated seed was 80 per cent., and this was increased to 94 per cent. by soaking the seed for fifteen minutes in a 1 per cent. solution of sulphate of manganese, and to 92 per cent. with a 2 per cent. solution; but a 5 per cent. solution seemed too strong, the germination going down to 73 per cent. With sulphate of iron (seed soaking) the germination was 88 per cent. with 1 per cent., but reduced to 75 per cent. with a 2 per cent., and to 63 per cent. with a 5 per cent. solution. When the solutions of the manganese and iron salts were directly applied to the growing plants, the germination (80 per cent. with untreated) was as follows: sulphate of manganese, $\frac{1}{4}$ cwt. per acre, 88 per cent.; $\frac{1}{2}$ cwt., 86 per cent.; 1 cwt., 80 per cent.: sulphate of iron, $\frac{1}{4}$ cwt. per acre,

85 per cent. ; $\frac{1}{2}$ cwt., 75 per cent. ; 1 cwt., 75 per cent. : silicate of potash, 2 cwt. per acre, 58 per cent. ; 4 cwt., 67 per cent. : silicate of soda, 2 cwt. per acre, 87 per cent. ; 4 cwt., 62 per cent.

As regards the appearance of the plants, the chief thing to note was that the soaking of the seed with sulphate of manganese showed a darker colour in the leaves, this not being the case with the iron salts. On April 20, the number of plants was reduced to six in each pot. The plants treated with the silicates of potash and soda looked at first decidedly better than the untreated ones, and of the two sets the silicate of potash had the advantage. These appearances were, however, hardly maintained as growth went on.

On August 3, the crops were ready for cutting ; measurements of length of straw and ear were taken, and the plants photographed. The produce was cut on August 5, and the grain separated later on and weighed. The principal results are contained in Table I., below.

TABLE I.—(a) Influence of Sulphate of Manganese and Sulphate of Iron on Wheat, 1904 ; (b) Influence of Silicates of Potash and Soda on Wheat, 1904.

Applications	Percentage of germination	Length of straw	Length of ear	Weight of corn	Weight of straw
	Per cent.	Inches	Inches	Grammes	Grammes
1. Untreated	80	29·17	2·84	13·59	21·79
2. Seed-soaking, sulphate of manganese, 1 per cent.	94	26·67	2·76	13·34	21·29
3. Seed-soaking, sulphate of manganese, 2 per cent.	92	29·10	2·62	13·80	21·38
4. Seed-soaking, sulphate of manganese, 5 per cent.	73	28·09	2·83	13·84	24·24
5. Seed-soaking, sulphate of iron, 1 per cent.	88	31·06	2·81	10·77	18·75
6. Seed-soaking, sulphate of iron, 2 per cent.	75	32·18	2·96	14·84	25·27
7. Seed-soaking, sulphate of iron, 5 per cent.	63	31·51	2·84	16·36	27·37
8. Sulphate of manganese, $\frac{1}{4}$ cwt. per acre	88	32·93	2·87	15·76	26·23
9. Sulphate of manganese, $\frac{1}{2}$ cwt. per acre	86	29·23	2·80	15·62	25·87
10. Sulphate of manganese, 1 cwt. per acre	80	30·53	2·65	13·35	22·41
11. Sulphate of iron, $\frac{1}{4}$ cwt. per acre	85	31·20	2·88	12·46	20·12
12. " " $\frac{1}{2}$ " "	75	28·03	2·77	14·40	23·72
13. " " 1 " "	75	30·39	2·84	14·72	22·87
14. Silicate of potash 2 " "	58	30·27	2·90	14·00	25·19
15. " " 4 " "	67	29·52	2·87	16·26	27·41
16. Silicate of soda 2 " "	87	32·84	2·84	12·83	24·19
17. " " 4 " "	62	30·17	2·92	17·56	28·56

The general results as regards soaking the seed before sowing are that sulphate of manganese in the weaker strengths increased the germination, but that sulphate of iron did not; while a 5 per cent. solution of either salt markedly decreased germination. Sulphate of manganese did not increase the weight of corn above the untreated seed, nor did a 1 per cent. solution of sulphate of iron; but 2 per cent. and 5 per cent. solutions of sulphate of iron, the latter in particular, gave decided increase of corn as well as of straw. When used as solutions for direct application, sulphate of manganese, while slightly improving the germination, gave improved yields of corn and straw for applications up to $\frac{1}{2}$ cwt. per acre, a heavier one (1 cwt.) failing, however, to do this. With sulphate of iron almost the very reverse was the case, the applications of $\frac{1}{2}$ cwt. and 1 cwt. per acre increasing the grain and straw, while the $\frac{1}{4}$ cwt. application did not.

The use of silicates of potash and soda, though seeming to lessen the germination, was distinctly beneficial, especially as regards increase of straw when in the larger application of 4 cwt. per acre, but uncertain as regards that of 2 cwt.

From these results the following conclusions may be drawn as regards wheat:—

1. That soaking of the seed, before sowing, in solutions of sulphate of manganese and sulphate of iron improves the germination so long as the strength does not exceed 2 per cent.

2. That soaking the seed in solutions of sulphate of manganese gives no appreciable increase of corn or straw, but soaking in a 2 per cent. or 5 per cent. solution of sulphate of iron will give increase of grain and straw.

3. That solutions of sulphate of manganese applied direct to the growing plant up to $\frac{1}{2}$ cwt. per acre improve the yield, as does also sulphate of iron when used at a rate of $\frac{1}{2}$ cwt. or 1 cwt. per acre.

4. That silicates of potash and soda, while not improving the germination, are beneficial when applied at the rate of 4 cwt. per acre, but not less. The straw, in particular, is considerably increased.

2. (a) *The Influence of Sulphate of Manganese and Sulphate of Iron on Barley.*

(b) *The Influence of Silicate of Potash and Silicate of Soda on Barley.*

These experiments were practically on the same lines as those on wheat just described. The one difference was that, in the case of the direct applications to the growing plant, the solutions of sulphate of manganese and sulphate of iron were

given in one dressing, when the plants were three inches high, and not, as with the wheat, in three separate dressings.

The variety of barley used was "Hallett's Pedigree," the soil that from Stackyard Field, the pots earthenware ones, and the experiments in duplicate. The strengths of solutions for seed-soaking were, as before, 1 per cent., 2 per cent., and 5 per cent.; and of the direct applications $\frac{1}{4}$ cwt., $\frac{1}{2}$ cwt., and 1 cwt. per acre. With the silicates of potash and soda 2 cwt. and 4 cwt. per acre respectively were used. The barley was sown on April 19, 1904. The soaking of the seed, on account of the harder external covering, was continued for three hours, and not for fifteen minutes only as in the case of the wheat.

In the first place the effect on germination was in no way of the marked character that it was with wheat, and, for all practical purposes, it may be said that the effect may be ignored. Out of the thirty-four pots planted with twelve seeds each, nineteen of them all twelve seeds came up, in eight others eleven seeds grew, and only in seven pots did the number fall to ten, so that any difference in percentage of germination would be attributable to chance seeds rather than to any real effect of the treatment. Hence this side of the question may be ignored.

In regard to general appearance and growth the differences were also not so marked as with the wheat. It was unfortunate that in some instances disparities showed themselves between duplicate pots, and, the experiment being in duplicate only, no further check was available. The more one has experience in pot-culture methods the more does one find the necessity, where differences are small, to take into account only such results as are strictly in accord, and not to trust merely to averages, unless they be in fair agreement as to their constituent items.

Throughout the present experiment, therefore, importance is only attached to results which were from duplicates in fair agreement with one another, others being queried (?).

In the earlier stages there was nothing to mark a difference between the treatment with sulphate of manganese and that with sulphate of iron. The silicates, on the other hand, seemed to have kept the plants back at first. As time went on, seed-soaking with sulphate of manganese appeared to have done better than that with sulphate of iron, and also to constitute an improvement on the untreated lots. The straw, in particular, was longer. Beyond this, little could be noticed as calling for definite comment, and the issue had really to be left to the weighing of corn and straw.

The plants were photographed early in August, and the crops cut on August 9, they being subsequently weighed. The results are set out in Table II., page 210.

TABLE II.—(a) *Influence of Sulphate of Manganese and Sulphate of Iron on Barley, 1904; (b) Influence of Silicates of Potash and Soda on Barley, 1904.*

Applications	Length of straw	Length of ear	Weight of corn	Weight of straw
	Inches	Inches	Grammes	Grammes
1. Untreated	16·25	2·52	7·24	9·30
2. Seed-soaking, sulphate of manganese, 1 per cent.	17·20	2·95	6·91	11·29
3. Seed-soaking, sulphate of manganese, 2 per cent.	16·65	2·86	9·28	11·04
4. Seed-soaking, sulphate of manganese, 5 per cent.	17·86	2·52	8·57	10·72
5. Seed-soaking, sulphate of iron, 1 per cent.	18·03	2·86	7·30 (?)	10·11 (?)
6. Seed-soaking, sulphate of iron, 2 per cent.	17·00	2·80	7·55 (?)	11·82 (?)
7. Seed-soaking, sulphate of iron, 5 per cent.	15·87	2·59	6·66 (?)	10·70 (?)
8. Sulphate of manganese, $\frac{1}{4}$ cwt. per acre	17·20	2·80	7·54	11·14
9. Sulphate of manganese, $\frac{1}{2}$ cwt. per acre	16·45	2·75	8·01	10·23
10. Sulphate of manganese, 1 cwt. per acre	15·90	2·63	8·09	11·02
11. Sulphate of iron, $\frac{1}{4}$ cwt. per acre .	16·60	2·71	9·35	11·85
12. " " $\frac{1}{2}$ " " .	17·68	2·80	8·39	12·24
13. " " 1 " " .	16·00	2·56	7·13 (?)	11·87 (?)
14. Silicate of potash, 2 cwt. per acre .	16·95	3·04	8·63	12·16
15. " " 4 " " .	17·13	2·75	8·11	12·44
16. Silicate of soda, 2 cwt. per acre .	15·45	2·96	9·43	12·44
17. " " 4 " " .	13·46	2·93	7·93 (?)	12·83 (?)

An examination of this Table will show that the differences are, in general, but small, and not of the marked character found with wheat. The seed-soaking was, no doubt, influenced to some extent by the hard exterior coating of the grain, for there is no clear proof of the applications, even in the stronger solutions, having done harm, while with wheat this would be clearly traced. So far as differences were shown, it would seem that soaking the seed in solutions of sulphate of manganese was better than the similar use of sulphate of iron, the latter showing no improvement on the untreated lots, whereas sulphate of manganese did. Direct applications of sulphate of manganese and sulphate of iron to the growing plants brought about some increase, more particularly in the case of sulphate of iron. Owing to irregularities, however, it could hardly be said in what quantity the salts had better be used. As to the use of silicates of potash and soda, it was very clear that both salts, in whichever quantities used, gave a decided increase in

the straw, while there was some increase also in the grain. It was not possible, however, to say which of the two salts did the better.

These considerations lead to the following conclusions in the case of barley :—

1. That soaking of the seed, before sowing, in solutions of sulphate of manganese is productive of some benefit, and does not injure germination, even if used to a strength of 5 per cent.

2. That seed-soaking in solutions of sulphate of iron does not injure germination, but is not productive of any benefit.

3. That solutions of sulphate of manganese and sulphate of iron, applied direct to the growing plant, produce some increase of crop, more particularly in the case of sulphate of iron.

4. That silicates of potash and soda benefit the crop, and more especially the straw.

III. INOCULATION FOR LEGUMINOUS CROPS, 1905.

THE Board of Agriculture placed at my disposal, in the spring of 1905, supplies of inoculating materials for leguminous crops, in order that experiments might be made with them at the Society's Woburn Experimental Station. The materials were of two kinds : (1) the German preparations sent direct from Dr. Hiltner, of Munich ; (2) the American preparations received from Mr. G. Moore, of the United States Department of Agriculture. The former comprised materials for peas, beans, tares, and red clover ; the latter for melilotus and soy bean only. Melilotus seed was kindly supplied by Mr. A. D. Hall, of Rothamsted, and soy bean by Professor Shutt, of Canada. In addition to growing the various crops—treated or untreated—in the open on ordinary soil surrounding the Woburn Pot-culture Station, experiments were conducted at the Station itself with prepared soil of three different kinds, viz. : (*a*) sterilised soil ; (*b*) poor soil that had not borne leguminous crops for at least twenty years ; and (*c*) good fertile soil.

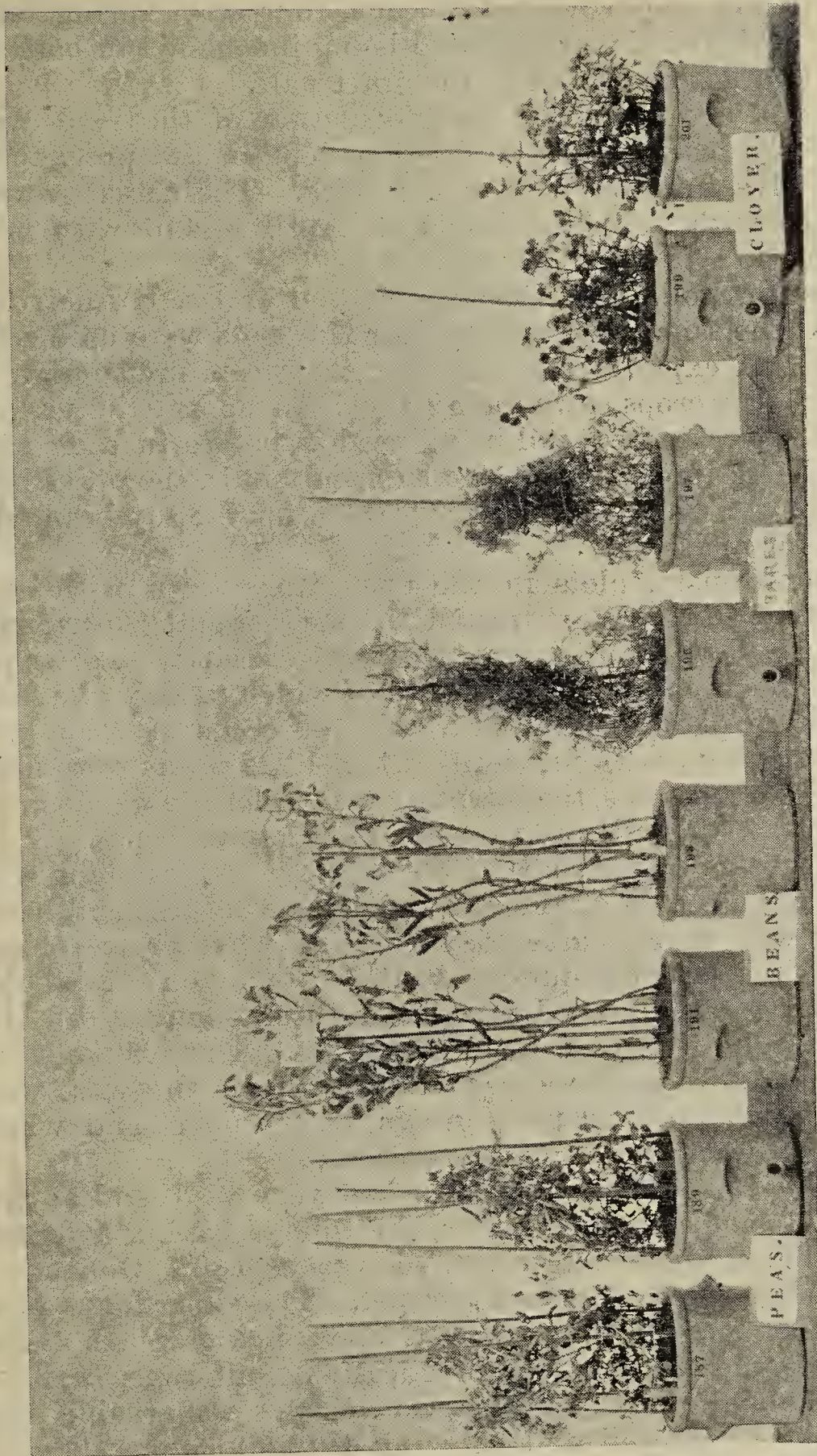
The soil (*a*) was taken from Stackyard Field, Woburn, and was a light sandy loam. It was sterilised by heating the soil for six hours in a copper with water raised to boiling temperature, the soil being then allowed to drain, after which it was spread out to dry, then sieved. The soil (*b*) was the same original soil, but not subjected to the sterilising treatment ; while (*c*) was a heavier and more fertile soil from another field of the Woburn Farm. The three kinds of soil were filled gradually—according to the usual pot-culture method—into forty-eight



PEAS. Not treated. Inoculated.
 BEANS. Not treated. Inoculated.
 TARES. Not treated. Inoculated.
 CLOVER. Not treated. Inoculated.
 FIG. 1.—Inoculation Experiments. German Method—Sterile Soil.



PEAS. Not treated. Inoculated.
 BEANS. Not treated. Inoculated.
 TARES. Not treated. Inoculated.
 CLOVER. Not treated. Inoculated.
 FIG. 2.—Inoculation Experiments. German Method—Poor Soil.



Not treated. Inoculated. Not treated. Inoculated. Not treated. Inoculated. Not treated. Inoculated. Not treated. Inoculated.

FIG. 3.—Inoculation Experiments. German Method—Good Soil.

earthenware pots, sixteen for each kind of soil. In four of each set peas were grown, the seed being previously "inoculated" in two of them and not inoculated in the other two : similarly, four other pots were sown with beans, four with spring tares, and four with red clover, the seed being inoculated in half the number and left untreated in the other half.

The instructions given for inoculation of the seed were scrupulously observed, the seed being kept in the preparation for forty-five minutes and in the dark. The actual sowing took place with peas and beans on April 3, and with tares and clover on April 17, 1905.

In the foregoing, the German method of Dr. Hiltner, was used. At the same time twenty-four zinc pots were used for a similar set of experiments with the American preparation of Mr. Moore, the crops sown being soy bean and melilotus, and the same three kinds of soil being used as before in each case, the seed being inoculated in one half and not in the other half. The dates of sowing were April 22, 1905, for the soy bean, and April 29 for melilotus.

Simultaneously, plots in the open were sown with each variety of seed, this being "treated" in one case and "untreated" in the other. In the pot experiments twelve seeds were sown per pot for all the crops except melilotus, of which twenty-two seeds per pot were planted. In the open, 400 seeds of each kind were sown except with melilotus, when 1,222 seeds were used. In the case of the pots, the intention was to let the plants come up and then reduce them to six in number in each pot.

The dates of appearance of the shoots were noted in each instance and a record of these duly kept. The peas and beans came up well in all three kinds of soil whether treated or untreated, the tares not quite so well, but fairly on the whole ; red clover, however, failed practically throughout, as did also melilotus and, to a large extent, soy bean. The blanks were, however, made up, where practicable, with plants that were taken from the similar plots grown in the open, and where germination was generally more successful.

By May 25, peas and beans looked very well, and at first the treated seed appeared better, the foliage having a darker colour ; this difference, however, soon passed off. On June 8 the plants were thinned to six per pot. The superfluous bean plants thus removed were washed and photographed. The photographs showed, however, practically no difference between the treated and untreated seed, and it was remarkable that plants in sterilised soil and showing no nodules on the roots had made such good growth. The bean plants from fertile soil were larger and stronger, but between the treated and untreated seed in this soil there was, again, nothing to

choose, nor yet in the case of the poor soil. Similarly with the tares; at first the treated seed plants looked the better, but all differences had passed away by the end of July. The irregularities in the clover plant prevented clear deductions being made, but a first crop was cut on August 23, and the plants are being kept on for a second year's observations. The germination with soy bean was so poor that no value could be attached to this series, but melilotus, grown in pots, was generally better from treated than from untreated seed. This latter was, indeed, the only crop in which an advantage was distinctly seen as the result of the treatment, and this was brought out in photographs taken of the crops before cutting. In regard to the plants grown in the open, melilotus was, again, the only one to show anything in favour of the treatment. The respective crops were cut and harvested when ready, and the weights obtained. In the case of the pots the crop weights are given in grammes, and with the plots in the open in pounds and ounces. Records were also kept of the number of pods, grains, &c.; but the following figures will suffice to convey an idea of such differences as were brought out. The mean is taken of the duplicate pots in each case.

I.—PEAS (*German preparation*).

		Weight of grain	Weight of straw	Percentage of untreated	
		Grammes	Grammes	Grain	Straw
Sterilised soil (pots)	Not treated	16.03	38.07	100	100
	Treated	17.75	39.67	100	104
Poor soil (pots)	Not treated	17.48	24.79	100	100
	Treated	17.71	29.37	101	118
Good soil (pots)	Not treated	25.98	35.21	100	100
	Treated	25.03	24.66	96	70
In open (plot)	Not treated	Lb. oz. 1 11½	Lb. oz. 2 8	100	100
	Treated	1 15	3 4	112	130

II.—BEANS (*German preparation*).

		Weight of grain	Weight of straw	Percentage of untreated	
		Grammes	Grammes	Grain	Straw
Sterilised soil (pots)	Not treated	25.61	65.99	100	100
	Treated	25.22	62.72	98	95
Poor soil (pots)	Not treated	35.03	48.03	100	100
	Treated	40.22	53.74	114	112
Good soil (pots)	Not treated	45.48	74.88	100	100
	Treated	47.40	71.09	104	94
In open (plot)	Not treated	Lb. oz. 2 12	Lb. oz. 5 0	100	100
	Treated	2 2½	4 6	77	87

III.—TARES (*German preparation*).

		Weight of grain	Weight of Straw	Percentage of untreated	
		Grammes	Grammes	Grain	Straw
Sterilised soil (pots)	{ Not treated	37·26	44·52	100	100
	{ Treated	32·53	39·43	87	88
Poor soil (pots)	{ Not treated	29·37	32·57	100	100
	{ Treated	28·82	35·30	98	104
Good soil (pots)	{ Not treated	39·17	52·72	100	100
	{ Treated	32·97	56·02	84	106

IV.—RED CLOVER (*German preparation*).

First cutting.

		Weight of grain crop	Percentage of untreated
		Grammes	
Sterilised soil (pots)	{ Not treated	74·02	100
	{ Treated	88·40	119
Poor soil (pots)	{ Not treated	64·85	100
	{ Treated	53·28	82
Good soil (pots)	{ Not treated	84·06	100
	{ Treated	83·13	98

NOTE to III. and IV.:—The plots grown in the open were, in each case, so damaged by birds, mice, &c., as to be untrustworthy for comparison.

V.—SOY BEAN (*American preparation*).

The germination was so bad that the results are not capable of comparison.

VI.—MELILOTUS (*American preparation*).

		Weight of grain crop	Percentage of untreated
		Grammes	
Sterilised soil (pots)	{ Not treated	25·50	100
	{ Treated	25·29	99
Poor soil (pots)	{ Not treated	17·18	100
	{ Treated	21·08	123
Good soil (pots)	{ Not treated	25·90	100
	{ Treated	30·37	117
In open (plot)	{ Not treated	Lb. 18½	100
	{ Treated	25¼	136

A general review of the foregoing results will lead to the conclusion that with neither the German nor the American preparations was there any clear evidence of benefit accruing from the treatment of the seed, before sowing, with the

inoculating material. This is further borne out by examination of the roots of the various plants, for in no case was there to be noticed the presence of nodules with the treated seed where these did not occur also with the untreated seed. Nor was there any increase in the development of nodules as the result



Not treated. Inoculated. Not treated. Inoculated. Not treated Inoculated
 FIG. 4.—Inoculation Experiments. American Method—Melilotus.



FIG. 5.—Inoculation Experiments. American Method—Soy Bean.

of the treatment. Numerous photographs were taken, both of the growing plants and of the roots, but these were, with few exceptions, negative in character. The principal results are shown in Figs. 1-5, pp. 212, 213, and 217.

Dealing with the individual crops, it may be remarked that (1) with peas there was no consistent increase in grain from the treatment, the sterilised soil and the plot in the open

alone showing some increase of crop ; (2) with beans there was no evidence of gain, but in some cases actual loss ; (3) with tares the tendency was in each case to a loss ; (4) with red clover the observations are not complete, but, as yet, gain has not been shown. Thus far as regards the German preparations.

Coming to the American preparations, the results with (1) soy bean have been practically vitiated, and with (2) melilotus has been obtained the only indication of a possible gain from the treatment. In three cases out of the four the treated seed gave some increase, and notably when the plants were grown in the open. The germination in the case of melilotus was not as satisfactory as could have been wished, and allowance has to be made for variations inevitable to pot-culture methods. It would be fairer, therefore, on the whole to say that, as regards the utility of the American preparations, judgment should be held over until further trial has been made. Melilotus, moreover, is not a crop likely to be of general utility in this country ; and one may, as the outcome of the year's experience, say generally that, as regards the ordinary leguminous crops which the farmer would grow, there has been nothing brought out to show that the inoculating materials, now distributed, are likely to be any more successful, practically, than they were when originally introduced nearly twenty years ago.

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Notes and Communications.

AGRICULTURE IN DERBYSHIRE.

IN view of the fact that the Royal Agricultural Society will hold its Sixty-seventh Annual Show at Derby, it is considered that some account of the present position of agriculture in the county may appropriately be submitted to the members. I have therefore prepared these notes in compliance with a request of the Derbyshire Agricultural Society's Council of which I am a member.

No county in England (Cumberland and Westmorland excepted) has a more uneven or diversified surface than Derbyshire. The soil varies in different places according to the strata prevailing in the district. On the shaly gritstone about Glossop and the Peak the soil is poor and yields but scanty herbage. The southern part is more of a marly nature, with patches of gravel, the marly and loamy pastures forming excellent land for the feeding of cattle, and the arable land for the growth of cereals and other crops. On the coal and iron measures the soil is inclined to clay and varies much in quality, being in some places good loam, and in others very inferior land; these extremes may occasionally be met with upon the same farms. In the river valleys the soil is mainly alluvial.

The land is chiefly in meadow or pasture for dairy purposes. Considerable attention is given to the breeding of cattle and horses, and good stud farms have been established in various parts of the county. Derbyshire is well watered by the Trent, Derwent, Dove, and Erewash, and their tributaries.

The county town of Derby, with a population of about 120,000, not being centrally situated like Leicester, is in a measure cut off as a market town from the northern portion of the county, except for its excellent railway connections; for, in addition to the Midland Company, the Great Northern, the London and North Western, and the North Staffordshire Railway Companies have either lines or running powers into the town. Electric tram lines have been recently laid down in the borough and suburbs, and they run close by the proposed entrance to the Royal Agricultural Society's Showyard. The weekly markets at Derby for fat and store cattle, horses, &c., as well as corn, fruit, and vegetables, are well attended. The

Mayor and Corporation, under whose control the markets are, spare no expense from time to time in carrying out improvements for the benefit of both buyer and seller.

This ancient but progressive town, in addition to various large works and manufactures, reaps considerable benefit by having the Midland Railway's central works situated in the borough, where many thousand men are employed. In this connection I may mention that the Company are most liberally granting the site for the coming Show free of cost and are rendering all the assistance possible.

Derbyshire, if not entirely the home of the dairy cow, has from time to time made advances in the breeding of the Shorthorn, especially as regards milking properties. In former days the county took a lead in cheese making, whereas in late years more attention has been paid to the production of milk. It is imagined by some people that the present human generation lives at a much faster pace than previous generations, and it may not be out of place to ask whether our cattle are not doing the same. In the first place, the large-framed, old stamp of dairy cow is not met with now in the numbers it used to be; beasts of from twelve to fourteen years old, apparently as good as ever except for age, are not nearly so numerous, the animal of to-day appearing quite as old at eight or ten years of age. Screws are more plentiful, and tuberculosis is more prevalent. The living of the cow is quite altered; to increase the supply of milk the food given has to be of the most forcing kind, and consequently, to respond to this call upon her, nearly the whole of the food supplied has to be of a minced character, leading one to the impression that she has not time to chew the cud. Formerly choppers and pulpers were unknown machines in connection with the cowshed.

Other questions might be asked as to whether this new mode of living, with its artificial feeding, tends to improve or to deteriorate the animal? Have these machines taken the place of the extra stomach with which nature has supplied the cow? and have the grains which are so largely used (especially when given new and fresh from the brewery) any tendency to render the animal more susceptible to disease?

How the citizen and townsman came by his milk formerly, if he had any, I am at a loss to know, unless each one consumes more than a double quantity now. In the Midland Counties there are plenty of rural parishes where in days gone by one would find from six to a dozen or more dairy farms on which all the milk was made into cheese and butter, turning out from a ton to probably four or more tons in a season, whilst at the present time not a single cheese is made on these farms for the market. All the milk goes direct from the cow to the

consumer, doing away with three most useful products of the farm: namely, cheese, butter, and bacon. The local abandonment of these articles of food has opened the gate wide—fairly or unfairly—to importation; or perhaps, to speak more truly, the importation of these commodities has closed it upon local effort. The old Derbyshire plain cheese has become a thing of the past. A vast difference has taken place in price too, since this old make used to command prices of from 70s. to 80s. per cwt., compared with the present day make, for what little is made is sold at a price of from 50s. to 65s. per cwt.

Some of the Danish butter of the best kind compares very favourably with the home-made, especially as to keeping properties, but no foreign cheese compares in quality with that which used to be made in our best home dairies. The Stilton seems to be the only sort able to hold its own. Our close neighbours appear to monopolise the market and have done so for years. Why Leicestershire is the only county adapted to this make, and why other counties are not enterprising enough to undertake the making of Stilton cheese, it is difficult to say.

Corn growing is very much out of the question in the northern parts of the county, but with the depreciation in the price of corn this need not be greatly regretted. A much less breadth is now sown in the southern half of the county than was the case some twenty years ago, and a large quantity of land has been laid down to permanent pasture, particularly upon strong, unworkable farms. Upon some "dairy farms" (if entitled to this name, now that all the milk is sold off) all the arable land has been so served, save just sufficient for the cultivation of roots, or of alternate crops of corn and roots. A sort of two course system is adopted, roots being grown as often as possible, in some cases year by year if a good supply of farmyard manure, night-soil when near a town, or liquid manure from tanks can be commanded at a reasonable cost. The rotation has for its sole aim the production of milk. This system has of course materially altered the style of farming, and has practically done away with the ordinary four, five, or six course rotations; but in some measure, where a good price for the milk can be maintained, the occupation has been a trifle more remunerative, a relief which for years has been sadly needed.

Great strides have been made in the county during the last quarter of a century in the breeding of the Shire horse, and in this respect the Derbyshire farmer and breeder takes up a prominent position, backed up by the Shire Horse Society. A horse that exercised great influence in the improvement of the breed was "William the Conqueror." This celebrated sire

was discovered by the late Mr. Samuel Wade, of Mickleover, the first Secretary to and a chief mover in the organisation of the Derbyshire Agricultural Society. Another notable horse was Mr. J. H. Potter's "Harold." From these two sires Derbyshire and Shire horse breeders have much to be thankful for; from them in a great measure are derived the hair, bone, and symmetry characteristic of the Shire horse. It is a question whether more good animals have not descended from these two sires than from any other two that could be mentioned in the early stages of what has now become a large and fairly remunerative business. One danger should however be carefully guarded against. The breeders must not allow themselves to be tempted by the high prices offered to allow all the best mares and fillies to pass out the county. The best advice I can give to the tenant farmer is to keep his filly foals and sell his colt foals.

The breeding of sheep is not a leading feature of the county, although a fair quantity of mutton and lamb is produced. A large number of sheep are imported from other districts, some of course coming for breeding purposes and others down from the hills as stores to be finished for the butcher.

By the Trent, Dove, and Derwent valleys some rich pastures are found, and when utilised for simple grazing, turn out some of the finest grass beef. But, unfortunately, the usual high price of store cattle—generally about 1s. per lb. in, and about 6d. per lb. out—kills all the profit that should pertain to this branch of farming.

Though not a turnip and barley county, some good malting barley is cultivated, and some excellent crops are grown of roots, particularly mangels and cabbages. The production of these is most necessary upon the numerous large dairy farms which are situated more or less over the whole of the middle and southern parts of the county. The Derbyshire Agricultural Society encourages the growing of roots by awarding prizes annually, and these prizes are supplemented by others given by seedsmen and artificial manure manufacturers. Writing after a practical experience of over thirty years in the work of judging these crops, I may be allowed to express the opinion that the competition for these prizes stimulates the farmers to produce the heaviest weights. There are, indeed, few counties where a larger bulk of roots are grown per acre, for after a season like the past—dry as it has been—the thirty-one entries for mangels ranged in weight from 40 to $64\frac{3}{4}$ tons per acre, and the twelve entries for cabbage from 41 to 73 tons per acre.

With respect to mangel growing it is surprising in what a variety of widths the seed is sown apart in the rows, the

measurement varying from twenty-five to forty per chain. It has chiefly been found that a drill of about thirty-three per chain, or say twenty-four inches apart, has succeeded in carrying off the prizes in competition. This might be adopted on almost all soils as a good regulation width; it gives plenty of room for both hand and horse hoe, as well as light and air for the growing plants. It is of course too narrow for manuring in the ridge (where a twenty-six to twenty-seven inch ridge is necessary), but then, to be sure of a mangel plant, most will no doubt agree that the better plan is to manure on the flat early, plough in and ridge up afterwards, or drill on the flat, thus securing a capital tilth.

The swede turnip nowadays seems to be a most difficult root to cultivate, for if by chance a plant is raised and the fly avoided, there is a tendency of running to neck or to club root or "finger-and-toe."¹ Then, worst of all, comes the destructive mildew and smother-fly, rendering, as it has done this year, some pieces almost leafless. Strange to say, the southern part of the county suffers in the latter respect more or less every year, whilst the Chesterfield and Alfreton districts are free; on the other hand this part of the county is not so suited to the growth of mangel and cabbage. In addition to these pests there is the mangel grub and the blight upon cabbage with the worm at the root.

Kohl rabi is very little grown in the county. Where it is grown it is only on very limited areas, perhaps one "land" in a field, as though it were something to be afraid of. But after all it is a most nutritious root, and the mystery is that it is not more in cultivation. It has several advantages over other roots, being a safer crop to produce than swedes, or, it might even be said, mangels; it requires no cleaning and it forms the best of keep for sheep.

In respect of labour, a scarcity of good all-round men has been experienced for some years; so many young men decline farm work and flock to the large towns. If at the present time milk had to be made up into cheese in the farmhouse as formerly, it is doubtful where the dairy maids would come from. Education in a great measure appears to be destructive of manual labour, which has to be carried on at a double expense to the tiller of the soil. The mining and manufacturing industries and the railways in various parts of the county are responsible for making labour scarce at times upon the farm, and in some districts the work is carried out by the occupiers of the land, assisted by their sons and daughters. Several local Agricultural Societies throughout the county

¹ This disease is due to a fungus, *Plasmidiophora Brassicæ*, and is usually attributable to deficiency of lime in the soil.—[Ed.]

endeavour, as far as possible, to encourage the agricultural labourer in his work and to retain his services by organising classes and rewards for ploughing, hedge-cutting, stacking and thatching, and long service. The labourer, it may be said, has reaped an advantage in one way; for although most of the products of the soil have diminished considerably in price during the last twenty-five or thirty years—corn for instance, with a drop of 50 per cent., wool 100 per cent., cheese and butter also, with other products in proportion—his wages have increased by one-third.

Rents have by degrees been reduced—of course at the landlord's expense—but not before the reduction was wanted; in some cases, it is regrettable to say, the reduction has been made not to old tenants but to new ones. As a rule, landlords in the county deal fairly with their tenants; but there are exceptions which ought not to exist, for to make agriculture what it should be, landlord, tenant, and labourer should pull together. The hay barns and covered manure yards erected on some farms are a great acquisition.

The wealth of Derbyshire is not all upon the surface, for in addition to its agricultural and manufacturing occupations, its great mining industry turns out probably as many "black diamonds" in proportion to its size as any other mining county in England.

The approaching visit of the Royal Agricultural Society may be expected to impart an important stimulus to the agriculture of the county; whilst the heartiness which the Mayor and Corporation of Derby, the Derbyshire Agricultural Society, and all others concerned are throwing into the preparations for the Show augurs well for its success. On the other hand, I cannot resist the impression that, after the thousands who are expected to visit the Show have done so, they will go away with the belief that we in Derbyshire, as well as being what is often attributed to us, "strong in the arm," have other good qualifications.

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ENGLISH WHEAT AND THE DEVELOPMENT OF BRITISH MILLING.

IN explaining to the British farmer what it is that the miller requires of him in regard to the wheat which goes to make up the requisite mixture for making a good loaf of bread, I feel some difficulty in putting the position clearly.

Perhaps the first thing necessary is to state that the miller does not depend upon any one sort or upon the sorts coming from any one country or hemisphere. In all well-appointed mills there are facilities for dealing with many sorts of grain, no two sorts in fact having the same characteristics, either in regard to their individual composition or the admixtures which are to be found with them. Briefly, however, what is required is a combination of wheats which will in their entirety contain certain properties such as strength, colour, flavour, and yield of flour. The term "strength" is defined by millers as the relative capacity of flour to make a loaf of large size.

Strength, up to the present time, is only possessed in a marked degree by three groups, namely, those wheats coming from Canada, other parts of America, and Russia. Australia grows a fine, big wheat berry which is remarkable for yield, colour, and sweet flavour, and in the best of seasons it also shows fair strength. Indian wheats are on the whole noted for colour and yield of flour. The wheats of Argentina show just a little of the strength element, but here again colour is the main attribute. California and the whole of the Washington territory sends us a wheat which is very weak indeed, but yields a flour rich in whiteness or colour. New Zealand has also a grain of similar but secondary character. French and German wheats are noted mostly for flour colour and not for loaf raising, and English wheat—as already hinted—is best noted for colour and flavour in addition to the excellent yield of flour.

From this brief introduction it will be gathered that throughout the world there is, as a rule, a superabundant amount of wheat which will give colour and bloom to the bread; but the area wherein is grown the stronger glutinous kind is somewhat restricted, and this is where the gist of my remarks apply. Taking as an example our last wheat harvest of 1905, the official estimates show a yield of close upon fifty-nine million bushels in Great Britain, which may be described as all colour, but no strength. This is an obvious disadvantage.

To feed our population we need about thirty million quarters (or 240 million bushels) of wheat yearly, and in the following remarks I will try to show that it would be to the benefit of the British farmer to study the requirements of millers a little more closely.

Most readers will remember that a Home-grown Wheat Committee was appointed about four years ago by the National Association of British and Irish Millers, who have enlisted the co-operation of the Board of Agriculture, the Rothamsted and Woburn Experimental Stations, and others. This Committee

have arrived at some very interesting conclusions regarding the possibilities of improving the quality of home-grown wheat, and they have raised the hopes of those who believe in a self-supporting British Empire.

Without going too deeply into the subject at the present stage of the inquiry, I may say that the Committee hope to prove the possibility of growing strong wheat in this country and still to retain the present high yield per acre. In connection with the yield per acre it is noteworthy that in the United States the average is not more than 13·02 bushels per acre; in Canada the yield is about 20 bushels; while in India, Australia, Argentina, and Russia the yield may be anything down to 10 bushels, and even less. In 1905, the wheat crops of Great Britain averaged, according to the official returns, 32·78 bushels.

Whilst therefore it is desirable that we should grow a stronger variety of wheat in this country, it is necessary that the maximum yield should be maintained, otherwise there can be no advantage; for, although the strongest wheat may sometimes realise 4s. per quarter more money than simple coloury sorts, a loss in yield will more than destroy this advantage, besides the loss in the quantity of straw.

As a rule every other country manufactures its own wheat into flour in its entirety. In England we manufacture from a blend, and it may well be the case that ten, twelve, or even more sorts of wheat will go to make up that blend. The English miller, having the whole world to choose from has, through experience, gained a knowledge of all the properties of all the various kinds of wheat, and he proceeds to select from the group those which he considers will best suit his purpose and secure him a profit. There are certain limitations, however, which he cannot ignore with impunity, and these limitations rule the trade.

In the United States a very strong wheat is grown. That country is well equipped with flour milling machinery; there it is the constant aim to make as much flour as possible for export and the United Kingdom has hitherto been the best customer. In certain periods during the past twenty years the United States have shipped to us as many as twenty-three million cwt. of meal and flour in twelve months; in fact the flour milling industry of these Islands has been in grave danger of being annihilated. That danger has now been averted, and we are able to meet our competitors in that country upon any terms they choose. To-day the flour millers of the United Kingdom possess a thousand mills equipped and handled as no other mills are, and complete with scientific apparatus superior to that of any other country. As a

consequence, during the past year no more than twelve million cwt. of foreign meal and flour have been imported from all sources. This means that over five million extra cwt. of bran, pollard, and middlings have been put upon the market, and sold to farmers at a fair price. These five million cwt. should have displaced their equivalent in foreign feeding cakes, &c.

Unfortunately it cannot be denied that there is a want of proper understanding between farmers and millers on the wheat question. Hitherto the former have had a single eye to yield of grain and straw, nor can they be blamed. What, however, is not so satisfactory is that as a rule the coarsest wheat has the best straw yield; but at the same time that wheat only fetches a very poor price and the farmer thinks he has cause for grumbling. The miller has, however, to study his whole blend when buying.

English wheat, whether red or white, is always a soft and weak wheat. There are degrees in respect of these points varying with the sort grown, and it is desirable that the farmer should pay attention to this matter and accustom himself to differentiate between the characteristics of the varieties of wheat grown. Taking the whole world, there is not enough strong wheat grown; hence the superior price paid for it. On the other hand, it is being demonstrated that it is possible for the strong sorts to be grown in this country, a fact of which full advantage ought to be taken.

British farmers do not even grow the best coloury sorts of wheat, which they might easily do, and thus gain the higher values which are always to be obtained for them. I advocate, however, nothing less than the growth of the very highest class of grain that will materially help in the raising of the loaf. For every hundred sacks of wheat used nearly forty must contain the nitrogenous property called gluten, and we do not at present grow a single sack of it in the British Isles; in fact Canada is the only country in the British Empire that is at present capable of supplying it, and that not in sufficient quantity.

Coloury sorts are grown practically everywhere except in England, and this of course keeps the price of English wheat lower than it ought to be or would be if the case were otherwise. At the time of writing English wheat of the best quality is 32s. per quarter, delivered in London or London district; whereas Australian, superior colour, is 34s.; Indian, rather whiter and a better water absorber, is 33s. Argentina is of about the same quality as ours, and the price is ruled accordingly; this applies also to the New Zealand varieties. No. 1, Northern Manitoba, is about 36s.

This is the strongest wheat on the market, while Russian wheats range between 32s. and 35s. 6d., these being a good second for strength.

These statements are, to my mind, conclusive as to the duty of English farmers in their own interests to pay more attention to the requirements of the millers.

Owing to the dilatory methods farmers have been pursuing during the past few years, millers have had to cast about for an outlet for the extra offal produced. It is a fact that some thousands of tons of offal are being exported annually to Scandinavian dairy farmers, whose produce from that offal is sent back here per return ship to compete with home produce. It is estimated that if British and Irish millers will only increase their capacity in a steady ratio during the next five years, they will make this country self-supporting in the matter of flour production; and it rests with farmers as to whether the extra bran, &c., thus produced, shall be utilised here or abroad. Farmers in this country do not appear to appreciate fully the feeding value of the bye-products of the milling industry; they apparently prefer cheap foreign food compounds, cake, &c. Consequently home millers are compelled to find a market abroad, and Sweden gets the surplus at whatever prices may be ruling. These prices may be higher owing to the period of the cereal year; or, when grass is abundant, they may be lower than in England.

Speaking as a practical miller, it is a fact that we want about thirty million quarters of wheat yearly from somewhere. We get it, of course; but a much larger percentage ought to be grown at home, and at a better profit, if more attention were given to what is most needed in the grain. I am not speaking now of so-called strong wheats exclusively, because higher prices could be had for coloury wheats if these were of a better class all round, for there will always be a demand for the best at best values. Straw and yield can be more than offset by higher quality, as is proved by the testimony of farmers who are working on the best lines.

If more wheat were grown in this country, it would also benefit country millers on account of the lessening of the railway charges now paid for the carriage on foreign varieties. Even the most distant miller uses some percentage of foreign wheat, owing to the unsuitable character of that grown at the mill door, and to meet the ever increasing competition of the mills more favourably situated for grinding all foreign wheat. Such mills will not at present buy native wheat because of its all round lack of quality. I am firmly of opinion that the time is ripe for a great searching of method and practice, with a view to helping agriculturists to adapt themselves to the

altered circumstances and position of those who with them form the staple industry of the country.

It is some satisfaction to know that although Ireland has shared fully in the milling boom and has practically ousted American flour, the call for bran and pollard is greater than ever—greater, in fact, than the increased supply, and the deficiency is made up by the large millers in Liverpool and other ports. Scotland also, formerly a great user of American strong wheat flour, has practically taken the whole of the trade into her own hands ; and yet the increased offal is not sufficient to provide for the improved demand, so that England is again looked to for the deficiency. Yet, I repeat, there is more than enough to meet the present English demand ; but, through lack of organisation, the offal is exported, and Danish butter is the result. Canada is doing her best to meet our wants in strong wheat, and may eventually succeed in doing so ; but it will be, to some extent, at the expense of the home producer.

The points I desire specially to emphasise may be briefly summarised. British millers have recently made great advances, and are likely in the near future to grind not only the whole of the corn required for home consumption, but also to export flour as well. This development of British milling will result in the increase and cheapening of the bye-products of milling to the benefit of the home farmers, who should take steps by co-operation amongst themselves to secure the economical distribution of such bye-products in this country.

Finally, whilst British millers are dependent upon colonial and foreign wheat for admixture with home-grown wheat, in consequence of the superiority of the former in “strength,” it is possible for British farmers, by judicious selection of seed, greatly to improve the milling qualities of our home supply without appreciable diminution of yield, and so to secure a better price. Experiments in this direction are being made, and it is desirable that all British wheat growers should give serious attention to the subject.

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THE BOOK OF THE ROTHAMSTED EXPERIMENTS.¹

MR. A. D. HALL, the present Director of the Rothamsted Experimental Station, has rendered good service to agriculturists by this account in popular language of the origin, results, and present work of the famous Rothamsted Experiments, commenced by the late Sir John Lawes and Sir Henry Gilbert in 1843, and carried on continuously ever since. No intelligent farmer, and, indeed, no one interested in the cultivation of the soil, can afford to neglect the numerous lessons which these experiments convey, and the book under review should find place as an important work of reference on every agricultural bookshelf.

The writer in his preface thus describes the object of the experiments :—

The great object, then, of the Rothamsted Experiments is to obtain knowledge that is true everywhere, and to arrive at principles of general application, leaving the farmer himself, through his more immediate advisers, to adapt these principles to his own practical conditions and translate them into pounds, shillings, and pence. Thus the farmer who visits Rothamsted must not expect to see demonstrations of the most profitable means of growing this or that crop, but rather to obtain information as to its habits and requirements which on reflection he can make useful under his own conditions. Some of the work also that is going on may seem to deal with problems little connected with practice ; so remote, in fact, that they never can have any bearing upon the business of farming. There are, however, many matters in which the actual farmer will always have to rely upon the advice of scientific experts, and as a rule the unpractical-looking experiments are devised to settle this or that point on which the scientific man must have information in order to form a correct judgment for the guidance of the practical man.

The book is divided into thirteen chapters. The first three may be regarded as more or less introductory, dealing as they do with the sources of nitrogen, meteorology, and the nature of the Rothamsted soil. Chapters IV. to VI. describe the continuous experiments with wheat, barley, and oats ; Chapter VII. the experiments with root crops ; Chapter VIII. the leguminous crops ; Chapter IX. the experiments on grass land mown for hay ; Chapter X. the rotation experiments. Chapter XI. discusses the experiments in their bearing upon the subjects of nitrification and the composition of drainage waters ; and the two remaining chapters deal respectively with feeding experiments on animals and with various other inquiries

¹ *The Book of the Rothamsted Experiments.* By A. D. HALL, M.A. (Oxon.), Director of the Rothamsted Experimental Station, First Principal of the South Eastern Agricultural College. Issued with the authority of the Lawes Agricultural Trust Committee. London : John Murray, Albemarle Street, W., 1905. Large 8vo, pp. i.-xl. ; 1-294.

conducted at Rothamsted relating to sewage irrigation, malt and barley, ensilage, and the composition of the wheat grain and of milling products.

The value of the book to practical agriculturists may be best shown by indicating some of the important results obtained from the experiments.

Wheat has been grown continuously on the Rothamsted experimental plots for the long period of sixty years, a fact which is not only absolutely unique in itself, but which enables lessons to be learned that could have been taught in no other way. No one, for instance, could have ventured with any confidence to state what degree of fertility could be maintained in a soil devoted exclusively to the cultivation of wheat. The Rothamsted experiments prove the possibility of growing wheat annually for sixty years upon the same land with no manure whatsoever. And the treatment has resulted in an annual average yield of 13 bushels per acre, this being "almost the average crop produced in the United States, and very similar to the general average production of the great wheat-growing areas of the world." On the other plots striking and definite results have been obtained with the continued use of farmyard manure and artificial fertilisers, all of which will well repay careful study.

The book teems with significant facts and deductions, copiously illustrated by tables and graphic diagrams which greatly assist comprehension. Thus the law of diminishing returns by which "each increment in the cost of production, whether labour or manure, gives rise to a smaller proportionate return, until a point is reached when the value of the increased yield is more than balanced by the outlay required to bring it about," is illustrated very clearly; and the experiments indicate the amount of manure that will give profitable returns with wheat at certain prices. The practical deduction is that "high farming (intensive cultivation and liberal expenditure on manure) is only justified in times of high prices and is no remedy for low ones." A fact brought out and now generally acted upon is the evanescent character of nitrogenous applications like nitrate of soda and sulphate of ammonia. The effect of these are shown to be limited to the season of their application, whereas mineral manuring is carried forward and has effect in future seasons.

Another interesting point illustrated is the effect of the weather during seed time and winter upon the subsequent yield of wheat. Mr. Hall points out that the winter months are one of the most critical periods in determining the yield of wheat. "If the wheat be sown in October or early November it spends the next three or four months almost

wholly in developing its system of roots. Should the weather be wet and the soil in a saturated condition the root system will be restricted, both because of the deficient aëration and because the roots need not extend far in order to obtain the water necessary for growth." A wet winter is therefore almost invariably followed by a poor wheat crop at harvest. This is fully borne out by the Rothamsted yields, for a comparison between the average wheat crop following the ten wettest and the ten driest winters shows that with a November to February rainfall of 13·01 in. the wheat yield was 26·2 bushels per acre, whereas with a rainfall of 5·79 in. the yield was 34·9 bushels per acre. The same effects have been recently demonstrated statistically from meteorological observations by Dr. Shaw.¹ Scientific facts like these enable the observant farmer to forecast to some extent the result of his work and to provide accordingly.

The barley experiments began in 1852. On the land continuously cropped the decline in production on the unmanured plots has been much more marked than on the wheat plot similarly treated, indicating a progressive decline in fertility without reaching a point, as in the case of the wheat crop, where a constant yield is annually obtained. This is attributed to the more limited root range of the barley plant, though there is also evidence of a run of less favourable seasons than in the case of wheat. The effect of nitrogenous and mineral manures upon this crop is discussed and illustrated graphically. The experiments bring out the great importance to the barley crop of phosphoric acid; and the practical deduction is that 3 cwt. of superphosphate per acre may be profitably used on most soils. Even with barley after roots superphosphate is valuable, hastening the ripening and making the sample more uniform. At the same time the crop requires a fair amount of nitrogen, as without it the yield will be low and the berry small. Excess of nitrogen, however, results in "coarseness and an excessive proportion of nitrogen in the grain, deteriorating the quality."

Passing over the oat experiments which lasted from 1869 to 1878 and were abandoned because the land became unworkable through excessive wet, we come to the experiments upon root crops—mangels, turnips, potatoes, and sugar beet. It will be a sufficient indication of the importance of the experiments with mangels to state that these show the effects of nitrogenous and mineral manures; the value of farmyard manure; the proportion of root to leaf; and the composition of the roots as affected by the manures applied. The experiments prove the great value of farmyard manure, which forms the best

¹ Journal of the Royal Statistical Society, Vol. LXVIII., Part II., 1905, pp. 285-287.

basis for the mangel crop. Nitrate of soda, potash, and salt also give good results. The possibility of growing mangels continuously on the same land without injuring the tilth of the soil or the health of the crop is demonstrated.

The recent abolition of the Continental sugar bounties has drawn renewed attention to the possibility of growing sugar beet in this country and of establishing sugar beet manufactories. Those who require scientific data as to the actual results obtainable from the cultivation of sugar beet over a series of years may turn to the record of the Rothamsted sugar beet experiments for the years 1871-1875 and 1898-1901. Other experiments have been made by practical cultivators in different parts of the country during recent years, all tending to prove the possibility of growing roots with a sufficient percentage of sugar for manufacturing purposes and even equal in this respect to Continental sugar beet. It is noteworthy that in the earlier Rothamsted experiments the percentage of sugar in the best roots did not exceed 13·08, whereas in the latter it reached 14·11. A sugar percentage of from 15 to 17 has within recent years been recorded under favourable conditions of soil and climate in Great Britain.

Were it for nothing else, the Rothamsted experiments would be remarkable for their elucidation of the problem as to the sources of nitrogen in the soil and the part played by leguminous plants in the fixation of nitrogen from the air. But other problems have been investigated in connection with the growth of leguminous crops, and the origin of and cure for "clover sickness" is certainly one of the most practically important. The nature of this disease is still a matter of controversy, for whilst agricultural botanists ascribe it to the action of a fungus (*Sclerotinia ciborioides* Rehm), Mr. Hall's interpretation of the results of the Rothamsted experiments will not allow that this fungus is the determining cause of the disease, and he remarks that although in many cases it is the direct cause of the death of the clover plants, it is not yet understood why plants on "clover sick" land alone succumb to the infection.

Important practical lessons are also derivable from the rotation experiments, and from the experiments as to the manurial requirements of grass land which were recently the subject of an article by Mr. Hall in this Journal.

The interest of the book is enhanced by the reproduction, with portraits, of the biographical notices of the founders of the experiments, which were written by Mr. R. Warington, F.R.S., for the Royal Society; and its value as a work of reference by the short summaries of the practical conclusions inserted at the end of each chapter; by the list of references to detailed articles (including the numerous memoirs by Lawes and Gilbert

in this Society's Journal); and lastly, by the complete list of the publications issued from the Rothamsted Experimental Station from 1843-1905, printed as Appendix I.

"Good and true work is usually abundantly prolific." So wrote the late Lord Cathcart in the address from the Society to Sir John Lawes in 1893. The phrase is still more applicable now when local agricultural experiments are being carried out in many new directions, all deriving inspiration and guidance from Rothamsted, and the noble life-work of Lawes and Gilbert.

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STATISTICS AFFECTING BRITISH AGRICULTURAL INTERESTS.

THE tables printed on pp. 240-253 are compiled from the official publications of the Board of Agriculture and Fisheries, including the Agricultural Returns for 1904 [Cd. 2594]; the Acreage and Live Stock Returns issued last October; the preliminary statements as to produce of crops and yield per acre for 1905; the Board of Agriculture Journal; and Vol. I. of the Annual Statement of the Board of Trade. Where not otherwise stated the figures are taken from the Agricultural Returns and the Statements of the Board of Agriculture and Fisheries.

ACREAGE OF WOODLANDS IN GREAT BRITAIN.

In connection with the Agricultural Returns of 1905, special inquiries were made with the view of ascertaining the extent of land occupied by woods in Great Britain. In the Memorandum prefixed to the Acreage and Live Stock Returns for 1905, it is stated that the woodland area is now returned under the several categories of (1) Coppice, *i.e.*, woods, whether containing standards or not, that are entirely cut over periodically and reproduce themselves naturally by stool shoots; (2) Plantations, *i.e.*, land planted or replanted within the last ten years; and (3) "Other woods," which include all land (not returned as coppice or plantation) used altogether or mainly for the growth of wood (other than orchards).

The result of the inquiries is given in the following Table, in which the returns are summarised geographically in the groups of counties usually adopted, and which shows the distribution of the woodland acreage of 1905 :—

Divisions	Coppice	Plantations (since 1895)	Other woods	Total wood- lands
	Acres	Acres	Acres	Acres
I. Eastern and North Eastern	47,159	11,297	189,038	247,494
II. South Eastern and East Midland	270,683	15,580	318,303	604,566
III. West Midland and South Western	184,618	16,156	268,815	469,589
IV. Northern and North Western	35,663	16,614	341,547	393,824
ENGLAND	538,123	59,647	1,117,703	1,715,473
V. WALES	15,733	8,629	159,999	184,361
VI. SCOTLAND (Eastern)	8,645	22,768	421,489	452,902
VII. „ (Western)	14,370	12,639	388,498	415,507
GREAT BRITAIN	576,871	103,683	2,087,689	2,768,243

According to the Memorandum which accompanies this Table in the Agricultural Returns for 1905, the present total area of woodlands in Great Britain, viz., 2,768,243 acres, is 42,127 acres in excess of that returned ten years ago. This extension was, however, confined to England and Wales, the total area of woods in Scotland showing a decline of 10,356 acres. The decrease north of the Tweed has occurred notwithstanding the fact that 35,407 acres of land are returned as having been planted or replanted during the past ten years; so that it would appear that the clearance of woodland areas by storms and from other causes has been considerably greater than the owners of land have been able to make good.

YIELD AND ACREAGE OF CROPS IN GREAT BRITAIN.

The following observations are reproduced from the Agricultural Returns of 1904, and the Acreage and Live Stock Returns of 1905 :—

ESTIMATED YIELD OF CROPS IN 1904.

Wheat.—The total estimated production of wheat was 36,880,246 bushels, a smaller amount than has been returned in any year since the data were first collected. The yield per acre, 26·82 bushels, which was 4·13 bushels below the average, has, moreover, touched a lower point on only three previous occasions, the lowest yield of any year in the crop records having been that of 1893, when it was 25·95 bushels. In Monmouth, Chester, Lancaster, and Northumberland, the yield was about a bushel more than the average, and in four other English counties it also exceeded the mean. In all other parts of England the yield was less than the normal, the worst results being obtained in the great corn-growing districts of the east. The greatest diminution occurred in Essex, where the yield of 22·39 bushels per acre was 9·35 bushels below the mean, or a little over two-thirds of an average crop; while, with the exception of Norfolk and the East Riding of York, all the counties of the Eastern Division of England were 6 bushels or more below the average, as were also Buckingham, Northampton, and Nottingham. The results in Wales differed considerably, the net result being nearly half a bushel above the average; and in Scotland, where the yields varied from 4 bushels below the average in Inverness to 2¾ bushels above in Berwick and Wigtown, there was on the whole an excess of nearly 1 bushel per acre above the mean.

Barley.—The total production of barley, like that of wheat, was the smallest of the last twenty years; and the estimated yield of 31 bushels per acre was 2·1 bushels below the average, but, nevertheless, it exceeded considerably the minimum average yield of 28·69 bushels per acre returned in 1893. The deficiency in England alone was 2·5 bushels per acre, Wales having three-quarters of a bushel over average, and Scotland exactly equalling the ten years' mean. The lowest returns were from the eastern counties, Essex, Hertford, and Huntingdon all showing a deficit of 5½ to 6 bushels per acre, and the great barley county of Lincoln followed closely with nearly 5 bushels below the average. The extreme north of Scotland fared badly, Sutherland, Ross, Inverness, and Nairn showing 7 to 8 bushels below the mean; but the deficiency there was balanced by increases of 2 bushels on the relatively larger areas of Berwick and Forfar.

Oats.—The total production of oats proved to be very large, having been exceeded only in 1894, when 135,462,931 bushels were recorded, and in 1902. This large amount is, however, in the main attributable to the increased acreage, the yield per acre throughout Great Britain being only a tenth of a bushel above the mean. The English crop of this cereal, indeed proved deficient by a quarter of a bushel, Wales having an increase of 1·74, and Scotland one of 0·11 bushels per acre. Essex, Hertford, and Huntingdon gave from 5 to 7½ bushels below the mean, the only English county to show an increase of as much as 5 bushels being Lancaster. The results in Scotland were very variable, an excess of about 4 bushels or more being noted in Berwick, Edinburgh, Kinross, and Selkirk; while a marked deficiency occurred in Clackmannan, Elgin, Inverness, Ross, Sutherland, and Nairn, in which last it amounted to as much as 9 bushels.

Beans and Peas.—Beans were, on the whole, estimated as the worst of the cereal crops in Great Britain, the yield being 5·13 bushels below the mean. A few counties in England, viz., Sussex, Dorset, Somerset, and Wilts, had from 3 to 5 bushels above the mean; but in some of the more important counties there were very large deficiencies amounting to over 12 bushels per acre in Huntingdon, Lincoln, East Riding, Leicester, Notts, and Rutland, while in the West Riding the 8·49 bushels harvested represented very little more than a third of an average crop. In Scotland, where the acreage is relatively small, a yield above the average was secured. Peas, practically negligible outside England, were rather more than half a bushel below the ten years' average. The extremes were 4·58 bushels per acre above the average in Sussex and 7·59 bushels below in the East Riding of Yorkshire.

Potatoes.—The total production of potatoes has only three times previously been exceeded, the greatest crop on record—3,743,203 tons—having been returned in 1884. England and Scotland both had, in 1904, a yield per acre largely above average, the former by 6 cwt., the latter by almost 30 cwt., while an average of over 7 tons per acre, as was secured in Scotland, has never previously been noted in any of the three divisions of Great Britain. Wales was not so fortunate, the 4·84 tons per acre there returned representing about 12 cwt. less than the mean. The best results in England were secured in Lancaster, with nearly 2 tons more than the average; while crops of about a ton over normal were secured in Bucks, Chester, Cumberland, Durham, Norfolk, Northumberland, Salop, Stafford, and Surrey. On the other hand the yield fell below the mean by over a ton in Cambridge and Cornwall. Lincolnshire, the chief potato-growing county, had a deficit of one-third of a ton per acre. In Scotland, one county only, Dumbarton, fell slightly below the normal. Banff and Kinross had almost 3¼ tons above the average; while Bute, Caithness, Fife, and Forfar were all more than 2 tons to the good. The largest yield recorded in any single county was 9·45 tons on the small area in Clackmannan, while Banff also secured over 9 tons to the acre.

Turnips and Swedes.—The production of turnips and swedes was heavy, being above the average by more than a ton in England, by 1½ ton in Wales,

and by over $2\frac{1}{2}$ tons in Scotland. An increase of some 3 tons or more beyond the normal was returned in Berks, Cumberland, Gloucester, Hants, Wilts, and especially the North Riding, where the excess amounted to 5·12 tons. The two most important turnip counties, however, namely Norfolk and Lincoln, were under the average, the former by little more than half a ton and the latter by 2 tons. Other counties showing a decrease of 2 tons or more were Huntingdon, Notts, and Rutland. In Scotland generally, as already indicated, the results were even more satisfactory than in England, and the $17\frac{1}{4}$ tons there raised per acre represents the highest average on record. Fife had 7·69 tons above the average, an increase of nearly 60 per cent. above the normal; while Argyll, Banff, Bute, Elgin, Forfar, Kinross, Kirkcudbright, Linlithgow, Perth, and Selkirk, all had crops 3 to 6 tons in excess of the mean. Shetland, in the extreme north, was the most prominent exception.

Mangels.—Mangels were not quite so conspicuously good a crop as turnips, nevertheless they yielded practically half a ton per acre above the average. On the very small acreage in Scotland, however, they proved below the mean by over three-quarters of a ton. The results varied to some extent in different parts of England, the number of counties showing an increase not being very greatly in excess of those where a diminution was noted. The most prominent among the former were Cornwall, Hants, and Wilts, each of which had from 4 to 5 tons above the average, as had several Welsh counties; and in the second category, Bedford, Huntingdon, and Lincoln were below the mean by 2 to $3\frac{1}{2}$ tons per acre. The highest return of all, nearly 27 tons per acre, came from Cornwall.

Hay.—The Hay crop turned out to be substantially above the average, although it was not up to the level of 1903 either in total amount or yield per acre. Relatively heavier returns were obtained in Scotland than in England, while the Welsh returns were also high. From clover and grasses under rotation a yield of nearly 1 cwt. per acre above the average was secured in England, and nearly $1\frac{1}{2}$ cwt. in Scotland. For England the best results were, as usual, recorded in Lancaster and Westmorland. The greatest increase as compared with the average occurred in the last-named county, but notably over-average results were secured in Berks, Gloucester, Somerset, Surrey, and Sussex. Nearly the whole of the eastern and north-eastern counties were, however, less fortunate, Cambridge, Durham, Essex, Hunts, Norfolk, Northumberland, and the North and East Ridings of York being from 1 to $4\frac{1}{2}$ cwt. below the ten years' mean. The extreme north of Scotland also fared badly, the crop being 12 cwt. short of an average in Caithness; while considerable shortages were also recorded in Banff, Kincardine, Ross, Shetland, and Sutherland. On the other hand, the south-east of Scotland had very heavy yields, Edinburgh, with 68 cwt. to the acre, having 11 cwt. more than the average, and Peebles a similar excess, while Linlithgow exceeded the mean by 13 cwt. Of hay from permanent grass the results reported show England as having nearly 1 cwt., Wales $1\frac{3}{4}$ cwt., and Scotland 2 cwt. more than the mean. The most and least favoured localities were precisely the same as in the last category, and the same counties may be enumerated as having secured crops differing most from the normal, save that in England—after London—Middlesex showed the greatest increase, and that Edinburgh had a yield only moderately above the average from this class of grass, the first position in Scotland being taken by Fife and Selkirk, both of which exceeded the mean by over 7 cwt. per acre.

Hops.—Hops are grown in England only, and these fell below the mean by no less than 3·21 cwt. per acre. A smaller total has hitherto been secured only in the year 1888, when the total production—on a larger area than that of 1904—differed by about 1,000 cwt. from this year's total. Poor as was the crop in Kent—2·35 cwt. below the average—it was much worse elsewhere, and may be described as a failure in the western group of counties, among which Worcester, with a production of just over 3 cwt. per acre, was distinctly the best.

CROPS OF THE UNITED KINGDOM.

Adding to the result of the produce estimates for Great Britain the official figures of production for Ireland, the following table shows the quantity of each of the principal crops harvested in the last three years in the United Kingdom. Estimates for the Isle of Man and the Channel Islands are not furnished.

Crops	1902	1903	1904
	Qrs.	Qrs.	Qrs.
Wheat	7,285,000	6,102,000	4,740,000
Barley	9,305,000	8,164,000	7,807,000
Oats	23,023,000	21,618,000	22,094,000
	Tons	Tons	Tons
Potatoes	5,920,000	5,277,000	6,230,000
Turnips	29,116,000	23,523,000	28,033,000
Mangel	10,809,000	8,212,000	8,813,000
Hay (all sorts)	15,246,000	14,955,000	14,860,000

ACREAGE UNDER PRINCIPAL CROPS AND GRASS IN 1905.

Wheat.—The area under wheat has increased from 1,375,284 to 1,796,995 acres, a recovery of 421,711 acres, or 30·7 per cent., from the figures of 1904. This increase is almost universally attributed by the collectors to the favourable seeding time during the autumn of 1904. These unusually propitious conditions were in marked contrast to the unfavourable weather prevailing during the autumn of 1903, which was largely the cause of the reduced area under this crop in 1904. As a consequence, the loss of over 200,000 acres then noted was not only recovered, but a further 200,000 acres and more were added to the total under this cereal, making it the highest of the present century. A noticeable point is that (with the exception of Aberdeen, where only a few acres are placed annually under this crop) no single county in Great Britain reports a decline in the wheat area. Proportionately, the increase was slightly greater in England (nearly 31 per cent.) than in Scotland (29 per cent.) or in Wales (25 per cent.). Increases of more than 100 per cent. appear in Chester, Durham, Northumberland, and the North Riding of York in England, while the largest acreages added to the 1904 totals are, as might be expected, in the corn-growing counties of the east of England, viz., Lincoln, 44,081 acres (33 per cent.), Essex, 35,190 (44 per cent.), Norfolk, 21,201 (21 per cent.), and Suffolk, 20,363 acres (24 per cent.)

Barley.—The acreage under barley again shows a decline, and the total area, 1,713,664 acres, is the lowest on record, the reduction, as compared with 1904, being 127,020 acres, or 6·9 per cent. The decline was all in England, where it amounted to 8·6 per cent., and in Wales 5·2 per cent.; only one English and one Welsh county (Cumberland and Anglesey) showing slight increases. The largest decreases are in the eastern counties, particularly Lincoln and Essex. In Scotland, on the other hand, there is an increase which amounts to 5·7 per cent., and is less noticeable in the principal barley-growing counties of Fife and Forfar than in Aberdeen, Banff, and Kincardine.

Oats.—In oats there has been a decline, common to all three divisions of Great Britain, due very largely, as in the case of barley, to the largely increased extent of land placed under wheat. It may be noted also that the substitution of wheat for barley and oats would account for over three-fourths of the increase in the wheat area. For several years past the cultivation of oats had been steadily increasing, and the decline of 201,586 acres (or 6·2 per cent.) now apparent cannot, in face of the larger wheat area, be regarded as significant. No English county shows an increased area this year, and decreases of over 10,000 acres are reported in Essex, Lincoln, Norfolk, and the East Riding of York. In Wales and Scotland results were more variable, a

few counties showing trifling increases, but insufficient to counterbalance the more important reductions in Aberdeen and Forfar.

Rye, Beans, and Peas.—Rye shows an increase of 6,483 acres, or 11·6 per cent., most of it, as might be expected, occurring in England. Nearly 1,000 acres more than in 1904 were placed under this crop in Hampshire; but Norfolk shows a falling off of 461 acres, with the result that the rye acreage of this county, usually the largest, is almost equalled by Hampshire and Suffolk. Of beans there is also an increased acreage, confined to England, both Scotland and Wales exhibiting a decline. The changes, as compared with 1904, are very varied in different counties; of the five chief bean-growing counties (with over 10,000 acres each), Cambridge, Lincoln, and Norfolk have decreases of from 1,000 to 2,000 acres, and Suffolk declines by over 400 acres; Essex, on the other hand, shows an increase of over 2,000 acres. The addition of 1,000 acres in the East Riding also represents a large increase. Peas, on the other hand, record a small decrease in England, and show an infinitesimal increase upon the small acreages in Scotland and Wales. As with beans, Essex shows the largest increase; but Lincoln, the chief pea-growing county, has a deficiency of over 4,000 acres.

Potatoes, with 608,473 acres, cover more land by 38,264 acres, or 6·7 per cent., than last year, and for the first time since 1871, when 627,691 acres were returned, over 600,000 acres have been planted with this crop in Great Britain. The increase over 1904 has been, relatively, somewhat greater in England than in Scotland, while in Wales there has been a slight decline. Cornwall and Devon also show a slight falling off, all other English counties reporting increases, which are most considerable in Lincoln, Lancaster, Chester, the West Riding, and Cambridge in England, and in Forfar and Fife in Scotland. The extension during late years of potato growing is a feature of English farming only, the total in Scotland being only now restored to that which it was before 1890, while the Welsh area has exhibited an almost continual decline since 1888.

Root Crops, &c.—The chief root crop, turnips and swedes, show a decline of nearly 1 per cent., bringing the acreage down to 1,589,000 acres. Before 1887 the turnip crop of Great Britain stood at over 2,000,000 acres, and the shrinkage is most notable in England, where a 25 per cent. fall is recorded from that date as compared with one of 5 per cent. in Scotland. In the present year several counties record small augmentations, but these were insufficient to counterbalance losses of over 2,000 acres in Devon, and of over 1,000 acres in Dorset, Salop, and Aberdeen; while a diminution of nearly that amount was noted in Fife and Forfar. Mangels, on the other hand, have slightly improved their position, the total area again exceeding 400,000 acres. The increase was entirely in England, and was most noticeable in Essex and Norfolk. Cabbage shows a material increase, amounting to almost 5 per cent. It is most noticeable in the south-west, particularly Devon, and one or two collectors in that quarter mention an increasing tendency to substitute cabbage for roots as food for stock. The relatively small area under kohlrabi exhibits an even larger increase, viz., 12·7 per cent., nearly a fourth of the whole augmentation occurring in Essex, where there are over 3,500 acres under this crop. Rape, on the contrary, shows a loss of 3,891 acres, or 4 per cent., the decline being very marked in Lincoln; while vetches or tares display a considerable increase (6·4 per cent.), more especially in the eastern counties. Lucerne shows a further check to the extensions noted some years ago. The decline amounts to 4·2 per cent., and the total this year is a trifle below that returned in 1902, Essex, the chief lucerne-growing county showing a decline of 1,253 acres. Among other crops there are returned 12,694 acres under carrots, 2,838 acres under onions, and 441 acres under flax. The onion acreage, it may be noticed, has increased by 513 acres, or 22 per cent., and while this is noticeable in most counties, it is most marked in Bedfordshire, where 148 acres have been added to the 430 under this crop in 1904.

TABLE I.—Acreage under Crops and Grass; and Number of Live
1905, and June 4, 1904, in each Division of Great Britain,

Crops and Grass	England		Wales		
	1905	1904	1905	1904	
Total Area of Land and Water	Acres 32,551,802	Acres 32,551,802	Acres 4,777,133	Acres 4,777,133	
Total Acreage under Crops and Grass	24,611,186	24,630,092	2,794,661	2,798,880	
CORN CROPS:—					
Wheat	1,704,281	1,302,404	44,073	35,144	
Barley or Bere	1,410,287	1,543,579	91,243	96,341	
Oats	1,880,475	2,059,983	207,929	212,240	
Rye	55,454	49,458	1,145	1,228	
Beans	243,242	240,645	1,177	1,235	
Peas	173,384	173,793	941	917	
TOTAL	5,467,123	5,369,862	346,508	347,105	
GREEN CROPS:—					
Potatoes	434,773	402,760	29,435	29,714	
Turnips and Swedes	1,083,640	1,091,344	60,327	61,039	
Mangel	391,712	385,646	10,002	10,212	
Cabbage, K. Rabi and Rape	159,914	159,088	4,587	4,189	
Vetches or Tares	126,934	118,480	938	877	
Other Green Crops	155,557	152,700	1,262	1,390	
TOTAL	2,352,530	2,310,018	106,571	107,421	
Clover, Sainfoin, and Grasses under Rotation	For Hay Not for Hay	1,569,430 1,019,778	1,698,490 1,019,778	192,170 153,106	203,039 159,431
TOTAL	2,573,965	2,718,268	345,276	362,470	
Permanent Pas- ture or Grass, not broken up in Rotation	For Hay Not for Hay	4,033,908 9,726,684	4,116,855 9,576,560	506,270 1,482,906	502,756 1,471,711
TOTAL	13,760,592	13,693,415	1,989,176	1,974,467	
Flax	437	551	—	3	
Hops	48,967	47,799	—	—	
Small Fruit	71,119	70,612	1,213	1,263	
Bare Fallow	336,453	419,567	5,917	6,151	
Live Stock					
Horses used solely for Agri- culture	No. 871,082	No. 869,618	No. 94,817	No. 94,352	
Unbroken Horses:—one year and above	230,994	224,969	43,775	42,446	
Unbroken Horses:—Under one year	102,048	101,355	23,331	23,464	
TOTAL OF HORSES	1,204,124	1,195,942	161,923	160,262	
Cows and Heifers in-milk or in- calf	1,990,402	1,961,860	279,852	277,462	
Other Cattle:—					
Two years and above	1,048,518	1,034,419	90,469	83,931	
One year and under two	1,007,496	968,464	178,534	176,849	
Under one year	974,520	952,489	189,934	190,193	
TOTAL OF CATTLE	5,020,936	4,917,232	738,789	728,435	
Breeding Ewes	5,582,054	5,570,760	1,435,168	1,415,284	
Other Sheep:—					
One year and above	2,951,485	3,070,994	812,832	828,190	
Under one year	6,164,479	6,107,208	1,286,967	1,246,211	
TOTAL OF SHEEP	14,698,018	14,748,962	3,534,967	3,489,685	
Breeding Pigs	285,372	327,904	33,439	36,621	
Other Pigs	1,797,854	2,148,451	178,040	204,483	
TOTAL OF PIGS	2,083,226	2,476,355	211,479	241,104	

Stock (Horses, Cattle, Sheep, and Pigs), as returned on June 5, with Particulars for Ireland and Total for the United Kingdom.

Scotland		Ireland		United Kingdom	
1905	1904	1905	1904	1905	1904
Acres	Acres	Acres	Acres	Acres	Acres
19,458,728	19,458,728	20,710,589	20,710,589	77,684,006	77,684,006
4,880,985	4,888,638	15,262,949	15,230,124	47,673,115	47,670,997
48,641	37,736	37,860	30,825	1,836,598	1,407,618
212,134	200,764	154,645	158,103	1,872,305	2,002,854
962,972	980,739	1,066,806	1,078,772	4,137,406	4,351,183
5,598	5,028	10,155	9,414	72,480	65,177
10,346	10,902	1,471	1,890	256,383	254,892
910	898	253	185	175,624	175,934
1,240,601	1,236,067	1,271,190	1,279,189	8,350,796	8,257,658
144,265	137,735	616,755	618,540	1,236,768	1,200,419
445,306	451,721	282,105	285,831	1,879,384	1,898,010
2,389	2,969	72,570	75,746	477,540	475,313
14,725	14,709	45,695	43,146	225,315	221,478
8,557	8,872	2,566	2,761	139,285	131,273
2,699	2,581	24,882	24,459	186,082	182,901
617,941	618,587	1,044,373	1,050,483	4,144,374	4,109,394
427,686	421,366	628,635	631,748	2,831,305	2,968,462
1,130,591	1,169,391	626,478	647,416	2,948,018	3,028,616
1,558,277	1,590,757	1,255,113	1,279,164	5,779,323	5,997,078
148,342	145,792	1,665,871	1,628,412	6,361,439	6,400,510
1,302,384	1,284,382	9,971,518	9,939,223	22,503,934	22,292,795
1,450,726	1,430,174	11,637,389	11,567,635	28,865,373	28,693,305
4	9	46,158	44,293	46,599	44,856
6,493	6,072	4,531	4,512	48,967	47,799
6,943	6,972	4,195	4,848	83,941	82,980
				353,742	437,927
No.	No.	No.	No.	No.	No.
156,520	156,277	373,182	369,785	1,502,939	1,496,443
35,564	33,956	94,567	93,132	406,317	395,922
14,302	13,799	67,124	68,978	207,542	208,269
206,386	204,032	534,873	531,064	2,116,798	2,100,634
437,138	439,358	1,487,065	1,497,647	4,211,917	4,193,721
276,330	256,286	1,041,313	1,026,609	2,461,820	2,405,923
285,040	284,520	1,024,648	1,035,435	2,505,724	2,474,364
228,787	232,521	1,092,196	1,117,027	2,494,565	2,501,543
1,227,295	1,212,685	4,645,222	4,676,718	11,674,026	11,575,551
2,918,544	2,894,864	1,506,349	1,524,933	11,471,872	11,436,017
1,383,200	1,414,418	688,300	722,454	5,840,929	6,040,563
2,722,467	2,659,249	1,554,664	1,580,532	11,763,937	11,628,529
7,024,211	6,968,531	3,749,313	3,827,919	29,076,738	29,105,109
16,197	17,531	121,840	133,540	458,689	517,620
114,017	126,654	1,042,482	1,181,586	3,142,976	3,674,075
130,214	144,185	1,164,322	1,315,126	3,601,665	4,191,695

TABLE II.—*Estimated Total Produce and Yield per Acre of the Principal Crops in England, Wales, Scotland, Great Britain, Ireland, and the United Kingdom for the years 1904 and 1903.*

Crops	England				Wales			
	Total produce		Yield per acre		Total produce		Yield per acre	
	1904	1903	1904	1903	1904	1903	1904	1903
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Wheat	34,535,897	45,102,329	26·52	30·12	890,800	1,059,229	25·41	24·59
Barley	47,028,421	49,081,389	30·47	31·76	2,983,409	2,890,174	30·97	29·17
Oats	84,078,623	82,790,458	40·82	42·37	7,426,363	6,623,032	34·99	31·06
Beans	5,434,859	7,063,775	22·61	31·20	29,851	38,238	24·27	30·06
Peas	4,406,000	4,763,885	25·77	26·60	19,728	21,320	21·61	20·27
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Potatoes	2,462,613	2,041,023	6·11	5·07	143,964	131,846	4·84	4·37
Turnips	14,240,944	12,996,608	13·05	11·97	1,000,805	873,684	16·40	14·31
Mangels	7,252,440	6,983,763	18·81	18·00	180,615	154,937	17·69	15·10
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Hops	282,330	421,068	5·91	8·78	—	—	—	—
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Hay from clover, sainfoin, &c.	2,542,597	2,847,060	29·94	31·69	252,612	228,354	24·88	22·45
Hay from permanent pasture	5,140,332	5,450,392	24·97	26·44	511,248	433,134	20·34	17·78
Hay of all kinds	7,682,929	7,937,452	—	—	763,860	661,488	—	—
	Scotland				Great Britain			
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Wheat	1,453,549	1,481,258	38·53	36·01	36,800,246	47,642,816	26·82	30·13
Barley	7,181,237	7,502,478	35·77	35·05	57,193,067	59,474,041	31·07	32·00
Oats	35,902,862	35,267,698	36·61	36·24	127,407,848	124,681,188	39·17	39·70
Beans	363,079	348,317	34·53	31·24	5,827,789	7,450,330	23·12	31·19
Peas	15,375	17,918	26·74	26·20	4,441,103	4,803,123	25·75	26·56
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Potatoes	981,677	740,844	7·13	5·64	3,588,254	2,913,713	6·29	5·16
Turnips	7,794,380	6,057,168	17·25	13·26	23,036,129	19,927,460	14·36	12·43
Mangels	48,347	49,055	16·28	14·84	7,481,402	7,187,755	18·76	17·90
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Hops	—	—	—	—	282,330	421,068	5·91	8·78
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Hay from clover, sainfoin, &c.	701,854	596,055	33·31	28·94	3,497,063	3,671,469	30·11	30·44
Hay from permanent pasture	224,116	198,077	30·93	27·46	5,875,696	6,081,603	24·66	25·58
Hay of all kinds	925,970	794,132	—	—	9,372,759	9,753,072	—	—
	Ireland				United Kingdom			
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Wheat	1,039,535	1,175,972	33·72	31·28	37,919,781	48,818,788	26·97	30·15
Barley	5,260,416	5,835,644	33·27	36·75	62,453,483	65,309,685	31·25	32·38
Oats	49,347,200	48,259,367	45·74	43·97	176,755,048	172,940,555	40·80	40·81
Beans	73,005	84,984	38·63	40·86	5,900,794	7,535,314	23·23	31·27
Peas	4,682	8,622	25·31	29·73	4,445,785	4,811,745	25·75	26·56
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Potatoes	2,642,018	2,363,236	4·27	3·81	6,230,272	5,276,949	5·24	4·45
Turnips	4,997,245	3,595,745	17·48	12·50	28,033,374	23,523,205	14·83	12·44
Mangels	1,331,609	1,024,085	17·58	13·48	8,813,011	8,211,840	18·57	17·19
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Hops	—	—	—	—	282,330	421,068	5·91	8·78
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Hay from clover, sainfoin, &c.	1,441,461	1,354,252	45·63	43·18	4,938,524	5,025,721	33·43	33·07
Hay from permanent pasture	4,045,469	3,847,911	49·69	48·19	9,921,165	9,929,514	31·04	31·27
Hay of all kinds	5,486,930	5,202,163	—	—	14,859,689	14,955,235	—	—

TABLE III.—*Preliminary Statement showing the Estimated Total Produce and Yield per Acre of the Principal Crops in Great Britain in the year 1905, and the Average Yield per Acre in Great Britain of the Ten Years, 1895-1904.*

Crops	England		Wales		Scotland		Great Britain		Average of ten years, 1895-1904, Great Britain
	Total produce	Yield per acre	Total produce	Yield per acre	Total produce	Yield per acre	Total produce	Yield per acre	
	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
Wheat . . .	55,669,890	32·66	1,167,228	26·59	2,065,381	42·46	58,902,499	32·78	30·56
Barley . . .	47,288,182	33·53	2,817,436	30·88	8,004,446	37·73	58,110,064	33·91	32·82
Oats . . .	74,116,954	39·41	7,042,126	33·87	35,277,807	36·63	116,436,887	38·16	38·81
Beans . . .	7,806,620	32·13	30,292	25·89	364,818	36·76	8,201,730	32·28	27·66
Peas . . .	4,403,110	25·73	19,265	20·54	17,108	27·16	4,439,483	25·71	26·30
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Potatoes . .	2,619,276	6·02	163,889	5·57	979,541	6·79	3,762,706	6·18	5·83
Turnips . .	13,906,669	12·83	771,119	12·78	7,162,794	16·08	21,840,582	13·74	12·88
Mangels . .	8,002,318	20·43	165,833	16·55	45,109	18·94	8,213,260	20·32	18·32
	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Tons	Cwt.	Cwt.
Hay ¹ . . .	2,243,712	28·59	232,655	24·21	666,985	31·19	3,143,352	28·72	28·89
Hay ² . . .	4,395,414	21·79	482,649	19·07	209,908	28·46	5,087,971	21·71	23·23

¹ Hay from clover, sainfoin, &c.

² Hay from permanent pasture.

TABLE IV.—*Preliminary Statement showing the Estimated Total Production of Hops in the Years 1905 and 1904, with the Acreage and Estimated Average Yield per Statute Acre, in each County of England in which Hops were grown.*

COUNTIES	Estimated total produce		Acreage		Estimated average yield per acre	
	1905	1904	1905	1904	1905	1904
	Cwt.	Cwt.	Acres	Acres	Cwt.	Cwt.
Hants . . .	30,207	9,137	1,978	1,900	15·27	4·81
Hereford . . .	88,802	14,101	6,851	6,767	12·96	2·08
Kent . . .	443,470	216,807	30,655	29,841	14·47	7·27
Salop . . .	1,626	280	135	140	12·04	2·00
Surrey . . .	10,248	2,515	843	877	12·16	2·87
Sussex . . .	69,059	27,726	4,647	4,474	14·86	6·20
Worcester . . .	51,961	11,736	3,807	3,752	13·65	3·13
Other Counties ¹ . .	570	28	51	48	11·18	0·58
Total . . .	695,943	282,330	48,967	47,799	14·21	5·91

NOTE.—The following counties show *increased acreages* in 1905 to the extent named:—Hants, 78 acres; Hereford, 84 acres; Kent, 814 acres; Sussex, 173 acres; Worcester, 55 acres; other counties,¹ 3 acres. The *decreases* are Salop, 5 acres; Surrey, 34 acres. The effective increase on the year is 1,168 acres.

¹ Gloucester and Suffolk.

TABLE V.—*Average Prices of British Corn per Imperial Quarter in England and Wales, as ascertained under the Corn Returns Act, 1882, in each Week of the Year 1904.*

Week ended	Wheat		Barley		Oats		Week ended	Wheat		Barley		Oats	
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
January 2	26	3	22	1	15	5	July 2	26	4	18	8	17	1
January 9	26	6	22	6	15	7	July 9	26	6	19	8	17	1
January 16	26	11	22	3	15	9	July 16	26	10	18	9	17	6
January 23	27	3	22	4	15	11	July 23	27	7	18	10	17	6
January 30	26	11	22	3	15	8	July 30	28	0	19	9	17	10
February 6	26	9	22	4	15	11	August 6	28	3	19	9	17	10
February 13	26	8	22	2	15	9	August 13	28	4	19	9	17	7
February 20	26	11	22	7	16	0	August 20	28	8	22	5	16	7
February 27	27	10	22	4	16	3	August 27	29	5	23	2	16	5
March 5	28	8	22	6	16	5	September 3	30	2	25	3	16	3
March 12	29	1	22	5	16	8	September 10	30	0	24	10	16	1
March 19	28	6	22	9	16	7	September 17	29	7	24	9	15	11
March 26	28	2	22	8	16	7	September 24	29	10	25	10	15	9
Average of quarter ended Lady-day	27	5	22	4	16	0	Average of quarter ended Michaelmas	28	5	21	7	16	10
April 2	27	11	22	10	16	6	October 1	29	10	25	5	15	8
April 9	27	10	22	5	16	5	October 8	30	2	25	6	15	9
April 16	27	9	22	6	16	4	October 15	30	5	25	4	15	8
April 23	27	9	22	0	16	4	October 22	30	4	25	5	15	11
April 30	27	8	21	1	16	3	October 29	30	6	24	11	15	10
May 7	27	4	20	8	16	7	November 5	30	6	25	0	16	0
May 14	27	1	19	10	16	6	November 12	30	3	24	6	15	11
May 21	26	9	20	4	16	7	November 19	30	2	24	5	16	0
May 28	26	9	19	8	16	7	November 26	30	5	24	4	16	1
June 4	26	10	18	8	16	8	December 3	30	4	24	6	16	2
June 11	26	6	18	5	16	10	December 10	30	4	24	4	16	2
June 18	26	5	18	2	16	8	December 17	30	4	24	4	16	2
June 25	26	5	19	2	16	10	December 24	30	3	24	7	16	1
December 31	30	4	24	8	16	2	December 31	30	4	24	8	16	2
Average of quarter ended Midsummer	27	1	20	5	16	6	Average of quarter ended Christmas	30	3	24	9	15	11

TABLE VI.—*Quantities and Values of Corn, &c., Imported into the United Kingdom in the Years 1902, 1903, and 1904.*
 [From Annual Statement of Trade, 1904.]

	Quantities			Values		
	1902	1903	1904	1902	1903	1904
CORN :	Cwt.	Cwt.	Cwt.	£	£	£
Wheat	81,002,227	88,131,030	97,782,500	27,079,823	29,940,191	34,266,416
Wheat meal and flour	19,386,341	20,601,448	14,722,893	8,925,617	9,723,652	7,258,600
Barley	25,200,837	26,555,867	27,152,300	7,131,712	7,221,789	7,161,600
Oats	15,857,167	16,283,763	14,097,700	5,041,323	4,263,950	3,726,120
Rye	1,147,511	1,151,185	1,029,690	312,206	302,701	280,303
Peas	2,035,110	1,829,923	2,179,506	740,123	690,768	767,097
Beans	2,065,593	1,765,700	1,862,686	703,659	594,832	577,094
Maize	44,492,977	50,099,328	42,897,880	11,713,132	12,465,583	10,247,134
Oatmeal and groats	612,602	728,973	648,770	486,241	537,415	456,593
Maize meal	242,841	590,416	316,660	83,270	176,622	100,940
Various other kinds of corn and meal	1,002,910	901,872	1,085,776	255,872	233,710	264,431
TOTAL	193,046,116	208,639,505	203,776,361	62,472,978	66,151,213	65,106,328

TABLE VII.—Average Prices per Imperial Quarter and Quantities of British Corn returned as sold in the Towns in England and Wales from which Returns were received under the Corn Returns Act, 1882, in each of the Years 1895 to 1904.

Year	Wheat		Barley		Oats		Wheat Qrs.	Barley Qrs.	Oats Qrs.
	s.	d.	s.	d.	s.	d.			
1895	23	1	21	11	14	6	1,928,383	3,426,576	665,939
1896	26	2	22	11	14	9	2,111,021	3,391,862	655,153
1897	30	2	23	6	16	11	2,756,561	3,257,187	550,434
1898	34	0	27	2	18	5	2,602,416	3,653,657	688,064
1899	25	8	25	7	17	0	3,530,961	3,296,744	776,361
1900	26	11	24	11	17	7	2,923,483	3,190,793	711,784
1901	26	9	25	2	18	5	2,605,550	3,369,629	714,215
1902	28	1	25	8	20	2	2,247,937	2,783,424	831,285
1903	26	9	22	8	17	2	2,296,723	2,875,749	1,049,995
1904	28	4	22	4	16	4	2,138,142	3,437,176	1,316,516

TABLE VIII.—Annual and Septennial Average Prices per Imperial Bushel of British Wheat, Barley, and Oats in each Year from 1895 to 1904 inclusive, with the Value of 100l. of Tithe Rent-charge.

Year	Annual average price			Septennial average price			Value of tithe rent-charge of 100l.											
	Wheat		Barley	Wheat		Barley	Oats		Calculated on annual average			Calculated on septennial average						
	s.	d.	s.	d.	s.	d.	s.	d.	£	s.	d.	£	s.	d.				
1895	2	10½	2	8¾	1	9¾	3	7	3	2¾	2	3	58	12	0¼	71	9	6¾
1896	3	3¼	2	10¼	1	10	3	6¼	3	2	2	2¼	61	15	8¾	69	17	11½
1897	3	9¼	2	11¼	2	1¼	3	5¾	3	1	2	2	68	2	10¾	68	14	11
1898	4	3	3	4¾	2	3½	3	5¼	3	0¾	2	1¾	76	11	0½	68	2	4¾
1899	3	2½	3	2¼	2	1½	3	4¼	3	0½	2	1	67	16	7½	66	15	9¾
1900	3	4¼	3	1¼	2	2¼	3	4¼	3	0½	2	0¾	68	11	7¼	66	10	9¼
1901	3	4	3	1¾	2	3½	3	5¼	3	0½	2	1	70	1	10¾	67	3	8¾
1902	3	6	3	2½	2	6¼	3	6¼	3	1¼	2	2¼	74	3	9½	69	7	5
1903	3	4	2	10	2	1¾	3	6½	3	1¼	2	2¾	65	13	10¾	69	19	6
1904	3	6½	2	9½	2	0½	3	6	3	1	2	2¾	65	1	5	69	12	0½

TABLE IX.—Average Prices of Wool in each of the Years 1898 to 1904.

Year	ENGLISH					AUSTRAL- ASIAN ³	SOUTH AFRICAN ³		
	Leicester ¹		Half-breds ¹		Southdown ¹			Lincoln ²	
	Per lb.		Per lb.		Per lb.			Per lb.	
1898	8	to 8¾	7¾	to 8¾	8¼	to 0 9¾	8¾	8⅝	7⅝
1899	7	„ 8	7	„ 8¼	7¾	„ 0 11	8¼	9⅜	7⅞
1900	6¼	„ 7½	6¾	„ 8¾	8	„ 1 0	7⅞	11	8⅜
1901	5½	„ 6	5½	„ 9¼	7¼	„ 0 9¼	6⅞	8¼	7
1902	5	„ 5⅝	5⅝	„ 6⅞	7⅞	„ 0 9⅞	6¼	8⅝	7⅜
1903	6½	„ 6⅞	7⅞	„ 8	8½	„ 0 11½	7¼	9⅞	7½
1904	8⅞	„ 9⅝	9½	„ 10⅞	9½	„ 0 11¾	10½	10	7⅝

¹ Computed from the prices given weekly in *The Economist* newspaper.

² Prices extracted from "*The Yorkshire Daily Observer Wool Tables.*"

³ Calculated from the Trade and Navigation Accounts.

TABLE X.—*Number of Cattle, Sheep, and Swine reported as entering the Scheduled Markets of Great Britain under the Markets and Fairs (Weighing of Cattle) Act, 1891, together with the Numbers Weighed and Priced.*

[From the Board of Agriculture Journal, Vol. xi., p. 730.]

Animals	1902	1903	1904
CATTLE :	No.	No.	No.
Entering markets	1,302,601	1,262,301	1,177,717
Weighed	184,499	183,466	165,105
Prices returned	145,996	147,903	140,075
Prices returned with quality distinguished }	121,453	123,946	119,951
SHEEP :			
Entering markets	4,508,045	4,223,877	4,041,428
Weighed	42,832	36,679	35,551
Prices returned with quality distinguished }	34,695	30,810	24,360
SWINE :			
Entering markets	414,351	483,232	506,853
Weighed	2,722	3,034	2,603
Prices returned with quality distinguished }	2,585	2,996	2,305

TABLE XI.—*Average Prices of Fat Cattle per cwt. (Live Weight) for 1903 and 1904. Compiled from the Returns received under the Markets and Fairs (Weighing of Cattle) Act, 1891.*

Places	Inferior or third quality		Good or second quality		Prime or first quality	
	1903	1904	1903	1904	1903	1904
ENGLAND :	Per cwt.	Per cwt.	Per cwt.	Per cwt.	Per cwt.	Per cwt.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Carlisle	27 6	27 2	30 8	31 4	35 6	35 4
Leeds	—	—	31 10	30 10	35 6	34 8
Leicester	—	—	31 0	27 8	34 2	33 0
Liverpool	26 6	24 8	30 2	29 8	34 6	34 2
London	28 8	26 0	33 10	33 10	37 10	37 2
Newcastle	—	—	33 4	32 8	37 6	36 8
Shrewsbury	30 0	28 2	33 10	33 2	36 2	34 4
SCOTLAND :						
Aberdeen	26 6	25 2	34 6	33 6	37 2	36 10
Dundee	25 0	24 4	34 6	33 8	37 8	36 10
Edinburgh	32 0	—	35 4	34 8	37 8	36 2
Falkirk	30 8	30 6	34 10	34 2	37 2	36 6
Glasgow	34 4	32 6	35 10	35 0	36 8	36 2
Perth	31 2	30 6	34 4	33 6	37 4	36 2

TABLE XII.—*Number of Live Stock (Horses, Cattle, Sheep, and Pigs) Imported into Great Britain from Ireland and Exported from Great Britain to Ireland in each of the Three Years, 1902 to 1904.*

Live Stock	Imports from Ireland			Exports to Ireland		
	1902	1903	1904	1902	1903	1904
	No.	No.	No.	No.	No.	No.
HORSES—Stallions	222	265	235	247	257	182
Mares	11,143	12,867	12,909	3,754	3,953	3,248
Geldings	13,895	14,587	14,356	4,255	4,368	3,284
TOTAL	25,260	27,719	27,500	8,256	8,578	6,714
CATTLE—Oxen } Fat	306,892	246,887	231,186	2	15	—
Bulls } Store	556,554	556,506	470,361	644	612	608
and Cows } Others	10,634	6,724	6,896	2	—	—
Calves	85,161	87,528	62,920	63	39	31
TOTAL	959,241	897,645	772,363	711	666	639
SHEEP—Sheep	599,319	444,762	372,159	16,627	31,790	29,681
Lambs	456,483	380,917	367,107	6,793	12,742	8,608
TOTAL	1,055,802	825,679	739,266	23,420	44,532	38,289
PIGS—Fat	603,108	541,601	478,922	3	1	5
Store	34,864	28,319	26,158	25	22	19
TOTAL	637,972	569,920	505,080	28	23	24

TABLE XIII.—*Value of Agricultural Machinery and Implements Exported from the United Kingdom in each of the Five Years 1900 to 1904.* [From Annual Statement of Trade, 1904.]

Agricultural	1900	1901	1902	1903	1904
STEAM ENGINES :	£	£	£	£	£
To British possessions	59,380	58,754	72,019	144,703	120,160
„ Foreign countries	696,125	562,214	559,717	731,398	810,488
Total	755,505	620,968	631,736	876,101	930,648
MACHINERY NOT STEAM :					
To British possessions	106,812	88,517	113,161	159,201	151,044
„ Foreign countries	765,824	644,431	698,840	820,063	930,612
Total	872,636	732,948	812,001	979,264	1,081,656
IMPLEMENTS AND TOOLS :					
To British possessions	158,980	156,460	189,724	210,093	168,535
„ Foreign countries	225,064	237,317	235,421	256,015	258,972
Total	384,044	393,777	425,145	466,108	427,507
Total of agricultural machinery and implements	2,012,185	1,747,693	1,868,882	2,321,473	2,439,811

TABLE XIV.—*Quantities of Wheat, and of Wheat Meal and Flour, Imported into the United Kingdom in each of the Four Years, 1901 to 1904; also the Countries from which they were obtained.* [From Annual Statement of Trade, 1904.]

	1901	1902	1903	1904
WHEAT <i>from</i> —	Cwt.	Cwt.	Cwt.	Cwt.
Russia	2,541,500	6,540,457	17,176,300	23,529,500
Germany	594,700	239,910	310,176	251,000
Turkey	406,400	345,525	433,004	431,200
Roumania	512,100	2,362,453	3,140,727	1,491,800
United States.	40,466,300	43,312,561	24,197,895	7,051,600
Chile	—	251,446	238,644	915,400
Argentina	8,080,400	4,315,165	14,120,454	21,440,400
Brit. E. Indies	3,341,500	8,841,586	17,057,857	25,493,000
Australasia	6,820,800	4,331,379	230	10,630,700
Canada	6,691,710	9,527,475	10,802,127	6,195,300
Other countries	253,120	934,270	653,616	352,600
TOTAL WHEAT	69,708,530	81,002,227	88,131,030	97,782,500
WHEAT MEAL AND FLOUR <i>from</i> —	Cwt.	Cwt.	Cwt.	Cwt.
Germany	34,300	16,208	37,020	264,740
France	534,570	713,935	577,498	1,486,920
Austria-Hungary	799,588	688,962	817,879	733,294
United States.	18,999,882	15,587,217	16,223,639	8,252,602
Canada	1,358,100	1,943,213	2,637,617	2,045,767
Other countries	849,990	436,806	307,795	1,939,570
TOTAL WHEAT MEAL AND FLOUR	22,576,430	19,386,341	20,601,448	14,722,893

TABLE XV.—*Quantities and Values of Fruit, Vegetables, and Hops Imported into the United Kingdom in the Years 1902, 1903, and 1904.* [From Annual Statement of Trade, 1904.]

	Quantity			Value		
	1902	1903	1904	1902	1903	1904
	Cwt.	Cwt.	Cwt.	£	£	£
Apples	2,843,517	4,569,546	3,771,781	1,923,474	2,781,643	2,118,294
Strawberries.	40,211	32,644	34,524	58,080	49,362	49,536
Cherries	166,359	110,192	260,724	216,421	167,142	319,824
Plums	541,136	594,626	493,707	515,059	622,268	526,438
Pears	491,906	271,518	535,614	439,536	326,463	503,573
Grapes	632,932	684,084	853,572	676,992	715,057	827,634
Oranges	6,518,107	6,176,752	5,853,254	2,358,708	2,275,400	2,193,146
Lemons, &c.	1,003,298	978,318	989,296	417,152	406,728	408,500
Unenum'd (raw)	500,679	688,873	654,765	308,998	449,413	372,575
Onions	Bushels 7,605,489	Bushels 8,619,919	Bushels 8,292,136	999,942	1,003,016	1,076,472
Potatoes	Cwt. 5,699,090	Cwt. 9,150,202	Cwt. 9,993,965	1,589,432	2,603,238	2,437,971
Tomatoes	783,894	1,071,927	1,134,721	700,126	953,192	1,007,274
Vegetables, raw, unenumerated	—	—	—	468,411	396,784	457,491
Hops	191,324	113,998	313,667	798,586	578,739	1,839,854

TABLE XVI.—*Number and Value of Live Horses, Cattle, Sheep, and Swine Imported into the United Kingdom in the Years 1902, 1903, and 1904.*

[From Annual Statement of Trade, 1904, and Agricultural Returns, 1904.]

Imported from	Number			Value		
	1902	1903	1904	1902	1903	1904
HORSES :				£	£	£
Canada . . .	1,869	421	401	51,838	14,631	16,541
Denmark . . .	1,202	3,014	2,183	40,211	89,448	65,403
France . . .	1,694	1,215	1,239	168,668	131,712	98,190
Germany . . .	2,999	508	3,665	56,219	8,503	48,394
Holland . . .	2,822	1,971	1,735	92,082	69,044	58,300
Russia	11,440	12,801	2,811	114,854	134,554	29,399
United States . . .	7,146	3,160	2,368	264,519	119,951	98,692
Other countries	3,514	4,176	4,089	47,378	63,412	42,909
TOTAL . . .	32,686	27,266	18,491	835,769	631,255	457,828
CATTLE :						
Channel Islands	1,380	1,721	1,684	25,574	31,035	28,921
Canada . . .	93,674	190,812	146,598	1,644,478	3,315,762	2,547,451
United States . .	324,423	301,756	401,245	6,144,629	5,399,210	7,160,049
Argentina . . .	—	27,807	—	—	455,535	—
Uruguay . . .	—	—	—	—	—	—
TOTAL . . .	419,477	522,087	549,527	7,814,681	9,201,542	9,736,421
SHEEP & LAMBS :						
Canada . . .	55,033	83,291	77,835	86,501	129,045	124,799
United States . .	233,227	171,386	294,804	361,736	264,416	456,630
Argentina . . .	—	82,941	—	—	134,239	—
Iceland and Greenland . . .	4,943	16,623	9,601	6,185	18,363	10,555
Uruguay . . .	—	—	—	—	—	—
TOTAL . . .	293,203	354,241	382,240	454,422	546,063	591,984
TOTAL VALUE OF LIVING ANI- MALS FOR FOOD	—	—	—	8,269,103	9,747,605	10,328,405

TABLE XVII.—*Number and Value of Live Horses, Cattle, Sheep, and Swine Exported from the United Kingdom in the Years 1902, 1903, and 1904.*

[From Annual Statement of Trade, 1904.]

Exported to	Number			Value		
	1902	1903	1904	1902	1903	1904
HORSES :						
				£	£	£
Canada	215	370	545	23,136	34,065	41,878
United States	795	588	504	90,231	76,630	50,696
Belgium	16,058	19,332	19,898	196,440	240,091	180,045
France	2,013	2,490	2,779	109,253	140,415	114,692
Germany	929	786	651	41,100	32,828	22,939
Holland	8,957	9,741	7,433	81,619	83,854	66,501
Russia	11	44	28	970	4,280	2,810
Other countries	1,054	1,447	1,117	92,912	122,435	101,778
TOTAL	30,032	34,798	32,955	635,661	734,598	581,339
CATTLE :						
Channel Islands	103	—	881	3,025	—	12,786
Canada	574	151	77	24,048	6,159	2,629
United States	760	225	125	27,678	6,808	4,200
Argentina	104	536	1,459	12,065	55,854	93,079
Other countries	887	1,824	2,769	29,337	71,423	33,516
TOTAL	2,428	2,736	3,311	96,153	140,244	146,210
SHEEP AND LAMBS :						
Australasia	471	190	276	6,561	2,292	4,195
Canada	155	117	359	2,370	390	2,940
United States	635	142	328	4,384	1,134	1,872
Argentina	327	2,465	3,135	3,979	43,219	60,361
Germany	429	507	543	4,254	4,754	4,994
Other countries	1,579	2,158	3,501	7,521	15,969	14,059
TOTAL	3,596	5,579	8,142	29,069	67,758	88,421
PIGS :						
British possessions	176	256	298	1,658	2,495	4,030
Foreign countries	339	520	434	3,395	4,558	3,820
TOTAL	515	776	732	5,053	7,053	7,850

TABLE XVIII.—Quantities and Values of Dead Meat Imported into the United Kingdom in the Three Years, 1902 to 1904.

[From Annual Statement of Trade, 1904.]

DEAD MEAT		1902		1903		1904	
		Quantities	Values	Quantities	Values	Quantities	Values
BACON :		Cwt.	£	Cwt.	£	Cwt.	£
	From United States . . .	3,283,855	8,239,522	2,893,507	7,370,928	2,806,108	6,209,009
	„ Denmark . . .	1,255,627	3,749,108	1,496,101	4,294,017	1,723,884	4,532,420
	„ Canada . . .	462,487	1,203,280	665,249	1,691,687	829,833	1,865,159
	„ Other countries . . .	87,735	235,057	102,131	262,508	92,436	225,554
	Total . . .	5,089,704	13,426,967	5,156,988	13,619,140	5,452,311	12,832,142
BEEF :							
Salted	{ From United States . . .	143,994	227,283	165,176	232,293	135,280	173,098
	{ „ Other countries . . .	9,580	16,719	8,516	13,312	9,024	14,190
	Total . . .	153,574	244,002	173,692	245,605	144,304	187,288
Fresh	{ From United States . . .	2,290,465	5,204,057	2,693,920	5,739,750	2,395,836	5,130,286
	{ „ Australasia . . .	303,117	533,115	237,486	393,758	251,357	386,825
	{ „ Other countries . . .	1,113,805	2,167,892	1,228,200	2,232,633	1,702,838	2,541,230
	Total . . .	3,707,387	7,905,064	4,159,606	8,366,141	4,350,031	8,058,341
HAMS :							
	From United States . . .	1,312,779	3,422,004	939,169	2,602,654	1,042,659	2,606,129
	„ Canada . . .	163,930	420,319	197,497	524,542	196,732	485,527
	„ Other countries . . .	5,578	16,578	4,666	15,378	4,612	13,343
	Total . . .	1,482,287	3,858,901	1,141,332	3,142,574	1,244,003	3,104,999
MEAT (unenumerated):							
Salted or fresh.	{ From Holland . . .	291,059	623,619	269,541	571,762	265,395	584,725
	{ „ United States . . .	163,348	259,900	179,212	283,766	132,539	210,624
	{ „ Other countries . . .	200,616	315,591	214,508	350,524	234,078	369,093
	Total . . .	655,023	1,199,110	663,261	1,206,052	631,012	1,164,442
Preserved, otherwise than by salting	{ Beef . . .	578,426	1,710,383	472,615	1,511,846	556,918	1,611,693
	{ Mutton . . .	85,496	206,562	49,154	106,328	35,877	85,458
	{ Other sorts . . .	247,434	869,249	245,794	817,603	220,223	761,440
	Total . . .	911,356	2,786,194	767,563	2,435,777	813,018	2,458,591
MUTTON :							
Fresh.	{ From Australasia . . .	1,914,171	3,762,290	2,116,703	4,518,653	1,789,907	3,715,264
	{ „ Argentina . . .	1,352,501	2,273,027	1,485,770	2,603,931	1,422,397	2,491,210
	{ „ Holland . . .	343,759	780,520	257,521	580,673	265,702	605,225
	{ „ Other countries . . .	49,168	99,074	156,628	122,805	16,776	49,832
	Total . . .	3,659,599	6,914,911	4,016,622	7,826,062	3,494,782	6,861,531
PORK :							
Salted (not hams)	{ From United States . . .	105,416	187,131	90,849	158,318	76,977	119,423
	{ „ Other countries . . .	99,843	118,453	146,725	160,938	166,865	174,657
	Total . . .	205,259	305,584	237,574	319,256	243,842	294,080
Fresh.	{ From Holland . . .	353,398	752,089	527,269	1,122,202	448,154	1,005,450
	{ „ Belgium . . .	34,656	83,722	39,745	97,990	32,798	83,061
	{ „ United States . . .	252,421	572,328	132,695	319,634	119,259	262,450
	{ „ Other countries . . .	14,901	38,006	6,135	15,626	10,274	27,506
	Total . . .	655,376	1,446,145	705,844	1,555,452	610,485	1,378,467
RABBITS :							
	From Australasia . . .	341,037	420,127	378,043	445,485	429,980	479,509
	„ Belgium . . .	77,555	226,300	68,716	197,950	77,407	224,791
	„ Other countries . . .	32,865	87,899	28,886	80,446	26,311	76,437
	Total . . .	451,457	734,326	475,645	723,881	533,698	780,737
TOTAL OF DEAD MEAT . . .		16,971,022	38,821,204	17,498,127	39,439,940	17,517,486	37,120,618

TABLE XIX.—*Quantities and Values of Butter, Margarine, Cheese, Milk, Poultry, and Eggs Imported into the United Kingdom in each of the Years 1902, 1903, and 1904; also the Countries from which they were obtained.* [From Annual Statement of Trade, 1904.]

	Quantities			Values		
	1902	1903	1904	1902	1903	1904
BUTTER :	Cwt.	Cwt.	Cwt.	£	£	£
From Sweden . . .	191,591	212,232	206,791	995,838	1,108,980	1,062,353
„ Denmark . . .	1,703,621	1,772,761	1,711,251	9,304,841	9,577,939	9,016,953
„ Germany . . .	26,375	12,507	40,080	145,399	65,165	20,547
„ Holland . . .	393,261	343,761	252,262	1,973,930	1,718,692	1,225,768
„ France . . .	414,240	454,088	371,061	2,233,122	2,351,402	1,961,094
„ New South Wales	17,621	20,371	159,622	88,256	99,629	747,876
„ Victoria . . .	62,519	98,177	255,716	312,578	469,168	1,212,660
„ New Zealand . .	157,993	249,879	294,982	781,872	1,245,022	1,394,455
„ Canada . . .	285,765	185,437	268,607	1,347,345	866,249	1,194,823
„ United States . .	54,458	42,405	68,754	252,874	190,678	294,584
„ Other countries .	667,489	709,076	647,879	3,090,635	3,105,783	2,986,049
Total . . .	3,974,933	4,060,694	4,241,005	20,526,690	20,798,707	21,117,162
MARGARINE :						
From Norway . . .	6,067	5,210	5,667	14,918	12,987	14,081
„ Holland . . .	914,323	843,016	927,980	2,409,257	2,188,461	2,390,243
„ France . . .	34,731	28,795	23,580	117,853	99,751	82,305
„ Other countries .	11,049	5,102	3,151	27,475	12,419	7,838
Total . . .	966,170	882,123	960,378	2,569,503	2,313,618	2,494,467
CHEESE :						
From Holland . . .	284,020	302,503	233,601	668,308	706,832	542,530
„ France . . .	36,801	36,004	44,268	113,611	113,531	138,289
„ Australasia . . .	51,882	56,399	84,948	131,054	168,071	217,289
„ Canada . . .	1,709,565	1,848,142	1,900,556	4,301,859	4,823,090	4,234,790
„ United States . .	390,479	360,916	224,830	962,112	953,215	503,312
„ Other countries .	73,465	90,394	66,094	235,058	289,971	207,560
Total . . .	2,546,212	2,694,358	2,554,297	6,412,002	7,054,710	5,843,770
MILK (condensed)	914,675	915,717	904,136	1,807,351	1,738,931	1,608,391
MILK AND CREAM (other than condensed)	22,030	22,487	12,911	37,613	41,176	29,437
Total . . .	936,705	938,204	917,047	1,844,964	1,780,107	1,637,828
POULTRY (and game) :						
From Russia . . .	—	—	—	218,459	324,087	379,174
„ Belgium . . .	—	—	—	281,063	275,173	263,078
„ France . . .	—	—	—	225,284	254,888	236,166
„ Other countries .	—	—	—	334,238	348,140	338,859
Total . . .	—	—	—	1,059,044	1,202,288	1,217,277
EGGS :	Great Hundreds	Great Hundreds	Great Hundreds			
From Russia . . .	5,339,045	6,802,773	7,032,906	1,509,754	1,866,421	2,042,520
„ Denmark . . .	3,518,212	3,851,557	3,602,326	1,366,073	1,648,367	1,461,459
„ Germany . . .	3,931,280	3,087,748	3,554,232	1,260,871	994,797	1,191,161
„ Belgium . . .	2,627,457	2,291,262	2,517,073	827,914	725,680	837,120
„ France . . .	1,680,433	1,601,930	1,698,614	717,474	670,104	710,057
„ Canada . . .	517,822	557,080	317,722	209,316	218,571	129,631
„ Other countries .	1,352,546	1,656,544	1,219,721	417,583	493,659	358,626
Total . . .	18,966,795	19,848,894	19,942,594	6,308,985	6,617,599	6,730,574

TABLE XX.—Quantities and Values of Wool, Wood, Seeds, Manures, &c., Imported into the United Kingdom in the Years 1902, 1903, and 1904. [From Annual Statement of Trade, 1904.]

	Quantities			Values		
	1902	1903	1904	1902	1903	1904
WOOL: Sheep and Lambs' .	Lb. 637,129,733	Lb. 599,500,932	Lb. 561,677,833	£ 19,924,255	£ 20,622,523	£ 20,366,030
WOOD AND TIMBER:						
Hewn . . .	Loads 2,810,724	Loads 3,237,418	Loads 3,107,432	5,435,204	6,379,954	5,559,289
Sawn or split, planed or dressed . .	6,676,726	6,742,233	6,066,236	17,171,422	18,192,519	15,505,799
Staves . . .	119,992	129,773	132,176	668,630	570,859	527,696
SEEDS:						
Clover & grass	Cwt. 337,802	Cwt. 458,046	Cwt. 426,475	740,387	1,008,772	869,838
Cotton . . .	Tons 550,620	Tons 537,491	Tons 468,653	3,285,650	2,984,096	2,537,499
Flax or linseed.	Qrs. 1,818,829	Qrs. 2,185,694	Qrs. 2,785,983	4,486,997	4,179,727	4,502,064
Rape . . .	228,278	308,296	309,325	385,708	417,271	386,420
MANURES:						
Bones (burnt or not) . . .	Tons 58,973	Tons 52,996	Tons 35,103	224,123	232,592	153,373
Guano . . .	29,293	32,801	24,276	186,926	180,891	117,753
Nitrate of soda	114,952	116,715	120,526	1,067,570	1,079,982	1,176,208
Phosphate of lime and rock.	364,859	392,782	419,270	553,922	560,707	620,066
Unenumerated.	104,321	110,167	111,329	186,523	200,553	205,456
MISCELLANEOUS:						
Cotton, raw . .	Cwt. 16,220,874	Cwt. 16,009,813	Cwt. 17,454,897	41,149,202	44,836,116	54,697,788
Hay . . .	Tons 357,041	Tons 167,408	Tons 131,234	1,359,967	556,942	437,764
Straw . . .	79,571	72,680	115,881	206,650	167,013	254,987
Flax . . .	73,420	94,701	74,917	2,944,390	3,675,664	3,185,475
Hemp . . .	115,069	116,717	132,425	3,913,094	3,551,431	4,121,755
Linen yarn . .	Lb. 28,158,012	Lb. 28,993,021	Lb. 23,567,204	968,332	1,019,027	840,321
Hides, raw:						
Dry . . .	Cwt. 286,334	Cwt. 291,670	Cwt. 325,268	845,484	877,663	940,604
Wet . . .	661,198	493,748	449,580	1,595,109	1,229,727	1,106,360
Leather . . .	1,198,864	1,124,277	1,151,405	8,095,637	8,090,349	8,036,907
Petroleum . .	Gallons 284,809,710	Gallons 283,862,633	Gallons 302,131,143	5,193,582	5,295,351	5,839,033
Lard . . .	Cwt. 1,650,830	Cwt. 1,732,790	Cwt. 1,830,837	4,118,992	3,870,774	3,342,389
Oil-seed Cake .	Tons 387,667	Tons 367,791	Tons 371,809	2,472,938	2,165,430	2,128,817

[Continued from page 239.]

Hops and Fruit.—Hops show an increase of area—the first for six years—but the total advance is only 1,168 acres (2·4 per cent.) on the 1904 figures. Small fruit also has slightly increased, and with nearly 79,000 acres against less than 37,000 acres when first recorded in 1888, now occupies the largest area yet recorded. The past year's increase is relatively much greater in Scotland, particularly Perth and Forfar; while in England a decline of 500 acres in Kent is set off by an equivalent increase in Cambridge. In this connection note may also be taken of an increase in the orchards, although this surface is already accounted for in other categories of the Returns, according as the land is at the same time utilised for grass or other crops.

Grass and Clover.—In the acreage returned as under clover and rotation grasses, the decrease of nearly 200,000 acres occurs mainly in that portion which is described as “for hay.” But conditions differ in different parts of the country; whereas in all England and Wales only four counties exhibit a very slight increase in the area of clover and rotation grasses for mowing, there is in Scotland a distinct increase of 1½ per cent., mainly in and around Aberdeenshire. In England a decline of over 11,000 acres in Essex may be noticed, while decreases of 5,000 acres or more are recorded in Cambridge, Hants, Lincoln, Norfolk, Suffolk, and Sussex, in all of which counties it may be observed the wheat area substantially increased. Of rotation grasses not intended for hay, the decrease is less marked, and, moreover, less universal. The greatest reductions in area are recorded from beyond the Tweed, from 5,000 to 10,000 acres less being returned in Aberdeen, Ayr, Dumfries, and Kirkcudbright. In England and Wales decreases of from 2,000 to 3,000 acres may be noted in Cumberland, Devon, Essex, Carnarvon, and Flint; and increases of like amount in Cambridge, Cornwall, and Stafford. Of the permanent pasture the area set apart for mowing also shows a decline of 1·6 per cent. The reduction is marked chiefly in the West Riding of York, Wilts, Sussex, and Kent, while some counties, viz. Northumberland, Devon, Norfolk, and Aberdeen, have used over 2,000 acres more for hay this year. The permanent grass not intended for hay, however, continues to show a general increase, the most noticeable exceptions being Pembroke, Norfolk, Stafford, and Inverness. In some cases a decline is attributed by collectors to land, formerly returned as grass, being now included in the category of mountain and heath land used for grazing. The largest increases are to be found in Sussex, Wilts, Kent, Somerset, Gloucester, the West Riding, and Kirkcudbright, in the order named.

NUMBERS OF LIVE STOCK IN GREAT BRITAIN IN 1905.

Horses.—The number of horses included in the Returns again shows a small increase over last year's total, which was then the highest on record. Each of the three classes distinguished in the Returns contributes to the increase, which is most apparent in unbroken horses of one year and above, as the result of the increase in the number under one year returned in 1904. As an indication of the progress of horse-breeding the number under one year may perhaps be taken as most significant, and although experience seems to have varied in different counties—Devon, for example, showing an increase of 455, while Lancashire has a falling off of 266—it is satisfactory that on the whole the number of foals dropped in 1905 would seem to have been larger than in the previous year.

Cattle.—The increase in the number of cattle in Great Britain, amounting to nearly 2 per cent., is sufficient to place the total at 6,987,000 head, or 42,000 above the highest hitherto recorded, viz., 6,945,000 in 1892. The improvement is more marked in England than in Scotland, there being (south of the Border) only one county (Leicestershire) which experienced a material decline. In Scotland, however, Aberdeen, Ayr, Banff, Caithness, Elgin, and Inverness all show substantial reductions. Increases of over 5,000 head may be noticed in the West Riding of York, Wilts, Sussex, Cornwall, and Forfar. The number of cows and heifers in-milk or in-calf is again the highest on record in Great

Britain, being 1·1 per cent. more than last year's total. The most striking additions are in Wilts, Sussex, and Cheshire ; while in Scotland there has been, on the whole, a decrease, particularly in Aberdeen. On the other hand, among cattle of two years old and above, which over the whole country show a larger proportionate increase than the cows, the advance is especially marked in Scotland, and in Forfar an addition of over 5,000 head (or more than 31 per cent.) over the 1904 total in this class has been reported. The increase in this county is mainly attributed to the difference in the conditions obtaining in the early part of the year, as compared with the previous season, feeders having held their stock back longer in the spring of 1905 than in that of 1904. Cattle of one year and under two show a proportionate increase almost as great as the older cattle, this being most marked in England, especially Lincoln. Calves under one year increased by 1·3 per cent., the largest increase occurring in Sussex ; while reductions on last year's corresponding figures are to be found in Wales and Scotland.

Sheep, for the first time since 1899, are slightly augmented, although the flocks of Great Britain are still 2,000,000 less than they were six years ago. A slight increase in the number of ewes kept for breeding is perhaps the most satisfactory feature, although the largest absolute addition is recorded among other sheep under one year old. The lambing season appears to have been, on the whole, favourable, but the increase is partially attributed to the lateness of the season, which probably delayed the marketing of the usual proportion of lambs before the date of the returns in June. The local changes in the distribution of sheep have been very diverse. Thus, while England loses 50,000, Wales and Scotland gain 45,000 and 55,000 respectively. Large variations as between county and county are also conspicuous, decreases of 28,000 in Lincoln, 17,000 in Warwick, 14,000 in Northampton and Suffolk being counterbalanced by increases of 21,000 in Cumberland, 18,000 in the East Riding and in Wilts, with other increases of 10,000 to 15,000 in Dorset, West Riding, Dumfries, Westmorland, and Montgomery. The relative increase of the sheep stock of Wales has been a subject of remark when compared with the retrogression in the flocks of England ; and it may be noted that while Welsh flocks never reached 3,000,000 until 1890, they have never fallen below that figure in the past fifteen years, and have stood at an average of over 3,500,000 since 1902 ; while in England, where sheep in the late "seventies" considerably exceeded 18,000,000, the total during the past three years has not reached 15,000,000.

Pigs.—Only two English counties (Middlesex and London) and six Scotch show any increase in swine, while decreases of over 20,000 head are recorded in Suffolk, Norfolk, Lincoln, and the East Riding respectively. Both categories into which pigs are grouped show a decline, but this is somewhat less among the breeding sows than in other pigs. Although the fall in the aggregate amounts to 15·3 per cent. on the year, it must be remembered that the total of pigs has always been subject to wide fluctuations, and has frequently been lower, once as recently as 1902, while the number of pigs enumerated in Great Britain in 1905 is about equal to the average of the past thirty years.

THE WEATHER DURING THE AGRICULTURAL YEAR, 1904-1905.

IN the all-important matter of weather, the past agricultural year, though by no means free from times of anxiety, was, upon the whole, of a favourable character. The dry autumn of 1904, which provided a good seed bed and allowed farming operations to proceed with little interruption, was followed by a winter in

which periods of growing mildness were interspersed with spells of beneficial frost. The spring was also in the main a good one, the only untoward feature being the sharp night frosts which put in an appearance about the middle of April and at the close of the third week in May. The summer was less propitious than either of the two preceding seasons. A long spell of warm dry weather was experienced in July, but with this exception the conditions were unsettled throughout, the changeable weather in August interfering greatly with the progress of the harvest, and serving in some cases to reduce the quality of the yield of grain. The opening season of the ensuing agricultural year was fairly good, for while the autumn of 1905 was less dry than that of 1904, the heavier rains kept off sufficiently long to enable sowing and other field work to be prosecuted with a fair chance of success.

THE WINTER OF 1904-1905.

The winter of 1904-1905 consisted for the most part of long spells of mild weather, interspersed with occasional touches of sharp frost. Snow or sleet was experienced rather frequently in the early part of December, chiefly in the western and northern districts; more generally around the middle of January; and at various times in February, the southern portions of the country being, however, seldom affected to any serious extent. The sharpest frosts put in an appearance at intervals of about a month—in the week preceding Christmas Day, in the third week in January, and in the fourth week in February.

The season opened with wet stormy weather, a strong gale from south-west and west being experienced on December 4-5, with rain in all districts, and thunder and lightning at many places in the west. After this the wind for a time was lighter and more variable, but the weather remained extremely unsettled, heavy rain falling in the South of England on the 6th, and thunder and lightning occurring in several parts of the country on the 7th. Between the 8th and 10th, when the wind blew from the eastward, and afterwards from the north, a keen frost was experienced over the whole country, and especially in the north, the sheltered thermometer at Newton Rigg, in Cumberland, falling on the night of the 8th to as many as 20° below the freezing point. After a stiff northerly gale on the 12th, the wind returned to a milder quarter, and for a few days around the middle of the month the weather was very open, though still unsettled, with frequent falls of rain. About a week before Christmas the equatorial winds gave place to light variable airs, the absence of any definite current being followed by the formation of thick fog over nearly the whole of England. The thermometer at the same time fell steadily,

and between the 20th and 25th a keen frost was experienced, the lowest temperatures being recorded on or about the 23rd, when readings below 20° were observed in many parts of the country. Towards the close of December a stronger current of air set in, at first from south-west and afterwards from west, the result being soon seen in a clearing of the atmosphere, and a very decided rise of temperature. On the 29th the thermometer exceeded 55° in many parts of the eastern and midland counties, and reached 60° in one or two isolated places, a point seldom attained in the mid-winter season. Next day, however, the wind got round to north-west, and the weather again turned cold, snow being experienced in the east and south-east of England on the 31st, and in several parts of the country on January 1 and 2.

In January the weather was exceedingly variable. A brief spell of mild westerly winds between the 3rd and 5th was succeeded on the 6th by a strong gale from the north-westward, accompanied by a very high tide, which occasioned a considerable amount of damage along our east coasts. Another gale from the same quarter was experienced on the 9th, the weather about this time being rather cold, with snow or sleet showers in some of the northern districts between the 8th and 11th. After the latter date the wind again fell light, and another sharp frost set in, the thermometer between the 13th and 15th falling at least 10° below the freezing point in most districts. During the latter part of the 15th, and on the 16th, a severe gale from the south-eastward sprang up over the entire country, and snow fell generally; while on the evening or night of the 16th, when the wind veered to south-west, a heavy fall of rain was experienced in the south of England. The dying away of the gale on the 17th was followed by a long spell of fair quiet weather, lasting until very nearly the close of the month. During this period the days were, as a rule, fine and sunny, but the nights cold and frosty, the lowest temperatures being observed in some places, on or around the 19th, and in other places about the 26th or 27th. Over the country generally the sharpest frosts occurred on the former occasion, when the thermometer fell below 20° in nearly all districts, and below 15° at some of the more central stations. At the close of January a strong westerly wind sprang up, and the weather became much milder.

Throughout the earlier half of February, and, in fact, for more than half the month, the country was under the influence of a long spell of westerly winds, the weather being for the most part fair, mild, and dry. Occasional touches of frost were, however, experienced, the chief of these occurring between the 8th and 11th, when snow showers fell in most districts. After

the 18th, the weather became colder and exceedingly changeable, with occasional falls of snow or hail, and with thunder or lightning in some parts of England and Wales on the 26th. A gale from the north-westward was experienced over the whole country on the 19th, and another gale from points between south and west on the 26th. Sharp frosts occurred between the nights of the 23rd and 25th, the thermometer in some of the more central parts of the country falling at least 10° below the freezing point.

For the winter as a whole the mean temperature was above the average in all but the western parts of the country, where there was practically no divergence from the normal. In most districts the excess of warmth was shown more by the day than by the night readings, but in the eastern counties it appears to have been distributed almost equally throughout the twenty-four hours. The rainfall of the winter was slightly below the average as regards frequency, and very deficient in amount. In no district but the Channel Islands did the total quantity amount to more than three-fourths of the average; in the southern and south-western counties it did not amount to two-thirds; while in the midland and north-eastern counties it was not much more than half the normal. The driest portion of the winter was included within the eight weeks ending with February 25, during which period all the more eastern and southern parts of England received a rainfall amounting to between only one-third and one-half of the average. Over the country as a whole, the winter was the driest experienced since that of 1895-1896, and in some parts of our midland and north-eastern counties it was the driest since the exceptional season of 1890-1891. The amount of bright sunshine registered during the winter was more than the average, the excess being slight in the north-eastern and Channel Islands districts, but rather large over our eastern, southern, and north-western counties. In the north-eastern and south-western parts of the country the winter was the sunniest since that of 1894-1895.

THE SPRING OF 1905.

The variable winter of 1904-1905 was followed by a still more variable spring. March was a mild, but exceedingly rough and blustering month, with heavy rains, especially in the earlier half of the time. April was cooler, drier, and less stormy, but at the same time very changeable, with occasional snow showers in most districts, an alarming shock of earthquake being experienced over the northern half of England early on the morning of the 23rd (Easter Sunday). In May the weather was much quieter and drier than in either of the two preceding months, very little rain falling during the three weeks ending

with the 27th. Occasional slight frosts were reported in the early part of the month, and an exceedingly sharp frost on the night of the 22nd, the latter occasioning, in many places, irremediable damage to the fruit blossoms, and no little injury to potatoes and other crops.

March opened with a short spell of northerly winds with hail or sleet showers in several districts, and a sharp frost on the night of the 2nd, when also a display of aurora was seen in the western and northern parts of the country. After the 5th a long spell of winds from between south and west was experienced, with high temperatures, frequent gales between the 8th and 15th, and a very heavy fall of rain over the southern districts on the 10th. The south-westerly gale which prevailed on the 14th and 15th was very severe in the west and south, and caused some injury to life and property, both on land and at sea. Between the 9th and the 17th thunderstorms were unusually frequent in nearly all parts of the country, the most general of these visitations occurring on the 11th, and between the 15th and 17th. In the latter end of March the weather quieted down, and became somewhat drier, especially in the eastern and southern districts, the thermometer in the meantime remaining above the average over the country generally.

At the commencement of April the conditions were mostly fair, but after the 4th a strong current of wind from north-west set in, and between the 5th and 8th snow showers extended from the northward over nearly the whole country. Sharp frosts also occurred at about this time, the thermometer on the nights of the 6th and 7th falling 10° below the freezing point in some parts of the midlands, and 13° below it at Newton Rigg, in Cumberland. After a calm spell between the 9th and 11th, a short period of mild southerly winds was experienced, the thermometer on the 13th and 14th rising above 60° in most places, and reaching 65° or a trifle more in and around London. Thunderstorms occurred in the north and east of England on the 14th, and at many places in the south on the 16th. After the middle of the month the wind backed from south to east, and finally to north, these changes being accompanied by a return of cold variable weather, with occasional showers of snow or sleet, chiefly in the northern districts, but extending on the 18th and 19th much further south. At the end of the third week in April the wind shifted from north to north-west, the weather in the meantime remaining cold and changeable. Later on a south-westerly breeze sprang up, while at the close of the month a stiff gale from south or south-west was experienced over the whole country, with heavy rain in some parts of Wales and the north of England.

In May the country was largely under the influence of anti-cyclonic, or fine weather, systems. Early in the month the mean temperature differed but little from the average, the days being usually fine and warm, but the nights cold, with frequent touches of frost. About the middle of the period the nights became warmer, but after the 18th a spell of cold winds from north and north-east set in, and the weather became generally inclement. Hail or sleet showers fell in some parts of the eastern districts on the 21st and 22nd, and on the night of the 22nd a very sharp and disastrous frost was experienced over the whole country. Towards the close of May the wind shifted to the south-westward, and the thermometer rose steadily, the highest temperatures of the month, and of the spring, being observed, as a rule, on the 29th, when readings above 80° were recorded in the south-east of England. Thunderstorms occurred on the 30th and 31st in several parts of our eastern and southern counties.

For the spring as a whole the mean temperature was above the average, the excess being small in the north-western district, but rather large elsewhere, and especially in the north-east and east. Over a considerable portion of the country the spring was the mildest since that of 1896. The rainfall of the spring was generally in excess of the normal, but was just equal to the average in the eastern counties, and was deficient (to the extent of 17 per cent.) in the north-eastern counties. In the south of England the total amount was 24 per cent. more than the average, and in the south-west 26 per cent. more. The duration of bright sunshine showed great variations in different parts of the country. In the eastern and southern counties it agreed very closely with the normal, while in the north-western counties it showed a rather large excess. In other districts the amount was less than the average, the deficiency being, singularly enough, greatest in the north-eastern counties,—the only portions of England in which the rainfall amounted to less than the normal.

THE SUMMER OF 1905.

The summer of 1905 opened very badly, especially in the eastern and southern districts, where the early part of June proved cool and exceedingly wet. In the latter half of the month a decided improvement took place in these districts, while the conditions in the west and north became less settled. Towards the close of June the state of affairs was again reversed, the weather being wet in the south and south-east, but drier in the west and north. July proved upon the whole dry and seasonable, the temperature being above the average during nearly the whole month, and especially in the second

week. In August the conditions gradually broke up, and for the remainder of the season there was practically no reappearance of anything in the shape of real summer weather, the thermometer being more often than not below the average for the time of the year.

June commenced with a very brief spell of south-westerly breezes and fair weather. After the 4th, however, the wind shifted to the north-eastward, and after the 11th it backed to east, the thermometer being, in consequence, below its average level. Cyclonic disturbances appearing over France soon caused heavy rains in all neighbouring parts of England, the largest falls occurring on the 5th when amounts varying between $1\frac{1}{2}$ in. and $2\frac{1}{2}$ in. were measured in several parts of our eastern and southern counties. During the week ending June 10 the total rainfall in the eastern district was as much as five times the average, while in the southern district it was no less than six times the average. After the 11th the disturbed weather spread further north, and for about a week the conditions were very changeable over the entire country, with occasional thunderstorms in nearly all districts. The most general storms appear to have occurred between the 17th and 19th, and were accompanied in many places by very heavy falls of rain, more than $1\frac{1}{2}$ in. being collected on the 17th in some parts of the eastern and midland counties, as well as in Lancashire and the Isle of Man. On or about the 21st a very decided improvement took place, and for some three or four days fine summer weather prevailed very generally. Towards the close of the month, however, the conditions again became unsettled and thundery, and on the 30th heavy falls of rain were reported in many parts of England and Wales.

July opened with a continuance of the changeable weather noticed at the end of June, no very material alteration occurring until about the 10th. Thunderstorms occurred almost every day in some part of the country, and on the 9th in most districts, when a torrential fall of rain and hail visited Middlesex; at Enfield nearly $2\frac{1}{2}$ in. of rain came down in fifty minutes, and in this and other parts of the county the hailstones caused much damage to fruit and vegetable crops. After the 10th and throughout nearly the remainder of July the weather was very much finer, and was, in fact, more settled than at any other time in the summer. With an abundance of sunshine the thermometer rose to quite a seasonable level, the shade temperature being above 80° on several days, and occasionally a trifle above 85° in some portions of the midland and southern counties. On the 26th and 27th there was a slight break in the weather in the eastern and southern districts, where thunderstorms occurred rather generally.

Shortly after the beginning of August a gradual deterioration in the weather took place, and before long it became evident that the best part of the summer had gone. With the exception, in fact, of a brief rally between about the 11th and 14th, the remainder of the season was extremely changeable, with occasional thunderstorms and heavy rains in most districts, and with an almost entire absence of high summer temperatures. The heaviest falls of rain occurred—(a) on the 15th, when severe thunderstorms in Devon and Somerset were accompanied by between $2\frac{1}{2}$ in. and $3\frac{1}{2}$ in. of rain around the mouth of the Exe, and by as much as 4 in. at Starcross; (b) on the 22nd, when a heavy downpour was experienced in North Wales; (c) on the 24th and 25th, when a considerable fall occurred in Wales, and a still heavier fall in Cos. Dublin and Wicklow, where serious floods occurred; and (d) on the 27th, in the south of England, and on the 28th, over nearly the whole country, the fall on the latter date varying between 1 in. and $1\frac{1}{2}$ in. in many places, and amounting to about $1\frac{3}{4}$ in. at Bettws-y-Coed. In all the western and southern districts the wind in August was often very strong from the westward, and at places on the coast it occasionally blew with the force of a gale.

For the summer, as a whole, the mean temperature was above the average, the excess being slight in most districts, but rather large in the east and north-east. The season was warmer than in either of the three preceding years, but in all but the eastern districts it was cooler than in 1900 or 1901, and much cooler than in 1899. The total rainfall of the summer differed, as a rule, but little from the average, but showed a rather large excess in the southern counties, and a rather large deficiency in the east of England, where the season was drier than in either of the three years 1902-1904. The duration of bright sunshine was slightly less than the average in the south, and considerably less in the south-western and Channel Islands districts. In other parts of the country there was an excess—small in the midlands, but large over the northern districts. For the entire summer the north-west of England received, on an average, about an hour's more sunshine per day than the normal, while the north-eastern counties received nearly an hour and a quarter more.

THE AUTUMN OF 1905.

The weather of the autumn was, as a rule, fair, cold, and quiet, the gales experienced being less numerous than in many recent years, and, with one or two exceptions, of little severity. One of the most striking features in the meteorology of the season was the absence of anything like summer warmth in the month of September, when a reminiscence of the expiring summer is so frequently experienced. Another point of interest

was the very sharp frost which occurred in the third week of November, the temperatures registered about that time being, in many places, lower than at any other period of the year—a very unusual feature in our English climate. On the evening of November 15 a magnetic storm was accompanied by a brilliant display of aurora over nearly the whole kingdom, as well as in many portions of the Continent.

In the early part of September a spell of south-westerly and westerly winds was experienced, culminating on the 7th and 8th in a gale over nearly the whole country. Temperature at the time was slightly above the average, but the weather was very changeable, with thunderstorms in many places on the 7th and 8th, and with heavy rain in the northern districts on the 9th. After the 10th the wind subsided, and for about a fortnight the country was influenced by anti-cyclonic, or fine weather, systems which came in from the westward, and afterwards drifted slowly across various parts of Western Europe. With these conditions the weather was mostly fair, dry, and cool, with sharp frost on the nights of the 14th and the 20th. At the close of the third week an easterly breeze sprang up, and for the remainder of the month the eastern and southern districts were affected by some barometrical disturbances moving north-eastwards across the Bay of Biscay and France. These occasioned frequent rain in the parts mentioned, and especially in our eastern counties, where considerable quantities fell on the 24th and 25th. Quite at the end of the month the wind backed to north or north-west, and the weather became generally cool and showery, with thunder and lightning on our south coasts on the 29th.

The cool dry weather of September continued throughout the greater part of October. During the first week the wind blew mainly from the north-westward, and reached the force of a gale on the 4th and 5th. The weather was very changeable, especially in the northern districts, where heavy rain fell on the 3rd, frost being experienced in the same localities on the nights of the 2nd and 6th. A short run of fine anti-cyclonic weather between the 7th and 12th resulted in some fairly high temperatures, the thermometer on the 9th rising above 60° in many localities, and reaching 65 at Bath. Towards the middle of the month a strong current of wind again set in, and for about a week the weather was cold and inclement, with occasional showers of hail or sleet in the eastern districts. Sharp frost occurred frequently between the 16th and 22nd, the thermometer falling at some time during this period to 20° or less at many places in the west and south and to 16° at Llangammarch Wells, in Central Wales. Towards the close of the month a brisk breeze from west or

*Rainfall, Temperature, and Bright Sunshine experienced over
England and Wales during the whole of 1905, with Average
and Extreme Values for Previous Years.*

Districts	RAINFALL							
	TOTAL FALL				NO. OF DAYS WITH RAIN			
	In 1905	For 39 years, 1866-1904			In 1905	For 24 years, 1881-1904		
		Aver- age	Extremes			Aver- age	Extremes	
		Driest	Wettest			Driest	Wettest	
North-eastern .	In. 20.1	In. 25.8	In. 19.9 (1884)	In. 37.2 (1872)	169	186	162 (1884)	208 (1894)
Eastern . . .	20.1	25.0	19.1 (1874 and 1887)	33.1 (1872)	170	181	156 (1898)	205 (1894)
Midland . . .	21.7	27.8	19.2 (1887)	39.8 (1872)	174	178	148 (1887)	210 (1882)
Southern . . .	25.7	28.5	21.5 (1887)	41.7 (1872)	170	173	137 (1899)	197 (1882 and 1903)
North-western with North Wales }	30.2	38.0	24.9 (1887)	59.2 (1872)	192	198	163 (1887)	226 (1903)
South-western with South Wales }	31.8	42.1	28.3 (1887)	68.6 (1872)	185	199	159 (1887)	235 (1882)
Channel Islands ¹	29.3	32.8	26.2 (1887)	59.5 (1882)	213	213	169 (1899)	251 (1886)

Districts	MEAN TEMPERATURE				HOURS OF BRIGHT SUNSHINE			
	In 1905	For 39 years, 1866-1904			In 1905	For 24 years, 1881-1904		
		Aver- age	Extremes			Aver- age	Extremes	
			Coldest	Warmest			Cloudiest	Sunniest
North-eastern .	° 48.2	° 47.4	° 45.0 (1879)	° 49.2 (1898)	1519	1302	1006 (1885)	1558 (1893)
Eastern . . .	49.2	48.5	45.8 (1879)	51.0 (1868)	1645	1575	1267 (1888)	1864 (1899)
Midland . . .	48.3	48.3	45.8 (1879)	51.1 (1868)	1424	1401	1173 (1888)	1715 (1893)
Southern . . .	49.6	49.6	46.9 (1879)	51.6 (1898)	1596	1595	1245 (1888)	1983 (1899)
North-western with North Wales }	48.6	48.5	45.9 (1879)	50.3 (1868 and 1893)	1492	1380	1198 (1888)	1683 (1901)
South-western with South Wales }	49.4	50.2	48.3 (1888)	52.8 (1868)	1579	1653	1459 (1888)	1964 (1893)
Channel Islands ¹	52.2	52.2	50.7 (1885)	54.3 (1899)	1751	1905	1710 (1888)	2300 (1893)

NOTE.—The above Table is compiled from information given in the Weekly Weather Report of the Meteorological Office.

¹ For the Channel Islands the "Averages" and "Extremes" of Rainfall and Mean Temperature are for the twenty-four years, 1881-1904.

The Rainfall of 1905 and of the previous Ten Years, with the Average Annual Fall for a long period, as observed at thirty-eight stations situated in various parts of the United Kingdom.

Stations	1905		Rainfall of Previous Years										Average rainfall
	Total rainfall	Difference from average	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	
ENGLAND AND WALES:													
Durham	19.2	-30	19.0	30.8	18.5	22.9	28.8	24.5	20.8	21.8	24.5	27.6	27.6
York	20.7	-19	20.8	30.3	18.7	20.5	25.8	22.4	23.7	24.4	22.2	25.8	25.6
Hillington	22.7	-17	25.7	35.6	26.2	24.4	32.6	24.7	22.1	26.3	29.7	26.9	27.3
Yarmouth	22.6	-14	21.0	25.1	21.4	21.2	24.7	22.4	20.0	20.8	21.3	23.3	26.4
Cambridge	19.0	-17	17.6	30.5	15.8	16.7	19.7	19.3	17.9	20.4	20.7	22.8	22.8
Rothamsted	24.8	-12	23.2	36.3	19.6	21.1	27.1	25.1	18.7	25.0	29.0	25.4	28.1
Nottingham	18.6	-26	20.0	32.2	21.5	20.4	23.5	22.6	19.5	23.4	23.0	20.8	25.3
Cheadle	26.7	-21	26.3	39.2	26.4	27.7	37.5	30.9	27.8	32.8	29.3	29.5	33.6
Hereford	24.0	-11	25.0	37.8	24.3	25.2	32.8	26.7	22.4	26.7	18.2	24.1	26.9
Cirencester	25.1	-20	28.8	41.1	25.1	26.1	31.0	26.8	22.1	32.7	23.6	25.8	31.2
Oxford	21.0	-17	22.7	35.9	16.7	22.3	23.6	21.0	19.1	26.3	23.5	22.5	25.3
London	23.0	- 6	20.2	38.0	20.4	21.5	22.2	22.0	17.8	23.3	22.7	21.4	24.4
Hastings	26.9	- 8	24.6	32.3	23.0	19.4	29.8	25.8	23.0	28.1	29.9	28.6	29.2
Southampton	26.2	-15	31.0	43.2	27.4	28.3	31.6	27.6	26.6	32.6	26.3	28.3	30.9
Stonyhurst	38.8	-19	39.6	58.9	36.8	39.0	48.3	47.5	47.9	51.3	44.2	42.4	47.9
Manchester	33.3	-12	32.0	45.2	26.5	33.3	42.8	33.5	33.2	39.1	38.4	34.2	37.8
Liverpool	24.0	-17	25.1	34.4	25.6	25.1	31.9	27.6	25.6	28.4	26.6	26.2	28.8
Llandudno	26.1	-16	26.0	38.5	25.0	28.7	32.8	32.4	31.3	30.7	30.4	30.1	31.2
Pembroke	28.2	-20	31.8	45.8	30.9	33.0	40.6	35.0	35.5	38.1	30.7	31.1	35.3
Clifton	25.0	-29	30.9	42.8	26.5	26.6	37.7	35.5	30.9	38.9	27.6	32.0	35.1
Cullompton	28.1	-21	34.9	42.7	30.8	31.1	35.5	37.0	29.9	38.9	27.6	34.8	35.5
Plymouth	30.5	-16	41.4	45.8	30.9	33.0	40.3	33.1	29.2	40.4	29.1	37.8	36.3
Scilly (St. Mary's)	27.5	-18	34.4	39.9	25.3	32.6	34.1	31.9	27.1	35.7	25.8	29.9	33.6
Jersey (St. Aubin's)	30.3	-11	37.3	38.2	30.4	29.6	34.6	26.3	30.0	36.2	33.2	34.7	33.9
² Mean for the whole of England and Wales }	25.6	-19	28.0	37.5	26.7	27.4	32.3	28.6	26.2	31.3	28.5	29.0	31.6
SCOTLAND:													
Stornoway	50.7	+ 9	55.7	62.1	46.3	42.8	62.5	59.9	71.6	45.2	59.0	44.3	46.6
Wick	32.3	+13	25.3	35.9	26.4	32.1	33.1	29.7	27.4	21.9	34.7	32.9	28.6
Aberdeen	28.5	- 7	23.7	36.3	27.3	28.0	34.0	30.3	27.5	28.7	31.2	35.8	30.8
Braemar	35.6	- 1	24.9	44.1	31.8	31.4	40.5	35.6	36.5	36.8	30.2	32.7	36.0
Leith	19.2	-18	23.4	30.9	16.4	22.5	31.2	24.8	19.9	20.5	21.7	21.9	23.4
Marchmont	27.4	-21	26.1	38.6	24.4	27.2	43.8	32.6	28.3	29.0	31.4	34.9	34.5
Fort Augustus	43.6	+ 3	44.4	66.0	35.6	36.9	50.5	42.3	54.3	41.9	42.6	43.4	42.5
Glasgow	30.7	-23	33.7	53.3	29.1	32.9	47.0	43.5	37.4	39.7	35.9	32.9	39.8
² Mean for the whole of Scotland }	41.4	- 7	42.1	57.1	43.0	40.8	52.2	46.1	47.4	41.5	43.7	39.7	44.3
IRELAND:													
Edenfel (Omagh)	36.1	- 4	42.9	54.9	39.3	43.0	46.7	42.0	40.4	46.3	37.3	37.0	37.8
Markree Castle	39.0	- 6	44.9	54.1	38.4	44.9	45.3	43.7	40.4	46.1	42.3	38.4	41.6
Armagh	29.9	- 5	30.9	36.3	31.7	32.1	36.4	32.5	31.8	35.1	31.2	30.5	31.5
Dublin	25.3	- 9	22.2	31.6	29.4	26.1	34.3	27.7	27.1	29.4	26.9	31.2	27.8
Parsonstown	25.7	-22	32.9	40.8	28.2	31.1	38.5	33.1	34.2	37.8	32.4	29.0	33.0
Kilkenny	25.0	-24	31.5	42.0	33.1	30.3	39.2	30.9	29.1	41.4	29.2	33.7	32.8
² Mean for the whole of Ireland }	34.6	-13	38.9	47.9	37.2	37.7	44.9	40.6	38.6	44.5	38.0	36.8	39.7

¹ The Average Fall is in nearly all cases deduced from observations extending over the thirty-five years 1866-1900.

² The Mean Rainfall for each country is based upon observations made at a large number of stations in addition to those given above.

[Continued from page 263.]

south-west sprang up, and the weather became gradually milder and less settled. On the 30th and 31st, when a complex barometrical depression passed across the country, heavy rain fell in all our southern districts, more than 1 in. being recorded in Kent and Sussex on the former date, and in Devon and Cornwall on the latter.

In November the weather remained cold and was far less settled than in the two preceding months, heavy rain falling at frequent intervals. Between the 1st and 3rd nearly all parts of the country experienced a copious downpour, and on the last-mentioned occasion thunder and lightning occurred at several places in the west and south. After a brief quiet period between the 7th and 9th, when a good deal of fog prevailed in the south of England, two or three deep cyclonic disturbances came in from the Atlantic, and on the 11th and 12th further heavy rains fell in many districts, these being followed between the 14th and 18th by cold north-easterly winds and snow or sleet showers in several parts of the country. Very sharp night frosts were now experienced, especially about the 18th and 19th, when the thermometer in the screen fell below 20° in most districts, and on the grass went in some cases below 15°. In the closing week of the month westerly or south-westerly winds set in (reaching the force of a severe gale on the evening or night of the 26th) and the weather became milder, with frequent falls of rain, especially in the western half of the country.

For the autumn as a whole the mean temperature was considerably below the average, the deficiency being greatest in the western and southern districts. Over the country generally the autumn was the coldest experienced since that of 1896, and in some districts it was the coldest since that of 1887. The rainfall of the season was less than the average in all but the north-eastern parts of the country, where there was an excess of about 9 per cent. In the midland and south-western districts the total amount was not more than three-fourths of the average, but in the southern counties and the Channel Islands it came within 8 or 9 per cent. of the normal. Over the country generally the autumn was not nearly so dry as in 1904 or in the three successive years 1900 to 1902, but was very much drier than in 1903. The amount of bright sunshine in the autumn exceeded the average in all the western and northern districts, but showed a deficiency elsewhere. The departure from the normal was in no case very large.

FREDERICK J. BRODIE.

12 Patten Road,
Wandsworth Common.

Royal Agricultural Society of England.

(Established May 9, 1838, as the ENGLISH AGRICULTURAL SOCIETY, and Incorporated by Royal Charter on March 26, 1840.)

Patron.

HIS MOST GRACIOUS MAJESTY THE KING.

President for 1905—1906.

Mr. F. S. W. CORNWALLIS.

LINTON PARK, MAIDSTONE, KENT.

Trustees.

Year when
elected on
Council

1895	H.R.H. THE PRINCE OF WALES, K.G., <i>Marlborough House, S.W.</i>
1895	BEDFORD, Duke of, K.G., <i>Woburn Abbey, Bedfordshire.</i>
1882	CAWDOR, Earl, <i>Stackpole Court, Pembrokeshire.</i>
1885	COVENTRY, Earl of, <i>Croome Court, Severn Stoke, Worcestershire.</i>
1895	DERBY, Earl of, K.G., <i>Knowsley, Prescott, Lancashire.</i>
1871	EGERTON OF TATTON, Earl, <i>Tatton Park, Knutsford, Cheshire.</i>
1881	GILBEY, Sir WALTER, Bart., <i>Elsenham Hall, Elsenham, Essex.</i>
1863	KINGSCOTE, Col. Sir NIGEL, G.C.V.O., K.C.B., <i>Kingscote, Wotton-under-Edge, Gloucestershire.</i>
1899	MIDDLETON, LORD, <i>Birdsall House, York.</i>
1880	MORETON, Lord, <i>Sarsden House, Chipping Norton, Oxon.</i>
1874	SPENCER, Earl, K.G., <i>Althorp, Northampton.</i>
1881	THOROLD, Sir JOHN H., Bart., <i>Syston Park, Grantham, Lincolnshire.</i>

Vice-Presidents.

1889	H.R.H. PRINCE CHRISTIAN, K.G., <i>Cumberland Lodge, Windsor.</i>
1871	BOWEN-JONES, J., <i>St. Mary's Court, Shrewsbury.</i>
1898	CAVENDISH, Rt. Hon. VICTOR C. W., M.P., <i>Holker Hall, Lancashire.</i>
1872-74 } 1884 }	CHAPLIN, Rt. Hon. HENRY, <i>Stafford House, St. James's, S.W.</i>
1887	CRUTCHLEY, PERCY, <i>Sunninghill Lodge, Ascot, Berkshire.</i>
1891	DUGDALE, J. MARSHALL, <i>Llwyn, Llanfyllin, S.O., Mont.</i>
1903	FELLOWES, Rt. Hon. AILWYN E., <i>Honingham, Norwich.</i>
1876	FEVERSHAM, Earl of, <i>Duncombe Park, Helmsley, Yorkshire.</i>
1883-90 } 1894 }	JERSEY, Earl of, G.C.B., G.C.M.G., <i>Middleton Park, Bicester, Oxon.</i>
1899	NORTHBROOK, Earl of, <i>Stratton, Micheldever Station, Hampshire.</i>
1881	PARKER, Hon. CECIL T., <i>Eccleston, Chester.</i>
1869	WHITEHEAD, CHARLES, <i>Barming House, Maidstone, Kent.</i>

Ordinary Members of Council.Year when
first elected
on Council

- 1905 ADAMS, GEORGE, *Royal Prize Farm, Faringdon (Berkshire)*.
 1905 ADEANE, CHARLES R. W., *Babraham Hall, Cambridge (Cambridgeshire)*.
 1905 AVELING, THOMAS L., *Boley Hill House, Rochester (Kent)*.
 1905 BANKART, S. N., *Hallaton Hall, Uppingham (Rutland)*.
 1905 BARKER, JOHN, M.P., *The Grange, Bishop's Stortford (Essex)*.
 1905 CARDEN, R. G., *Fishmoyne, Borrisoleigh, Tipperary (Ireland)*.
 1905 CARR, RICHARDSON, *Estate Office, Tring Park (Hertfordshire)*.
 1905 COOPER, SIR RICHARD P., Bart., *Shenstone Court, Lichfield (Staffs)*.
 1893 CORNWALLIS, F. S. W., *Linton Park, Maidstone (Kent)*.
 1891 CURTIS-HAYWARD, Lt.-Col. J. F., *Quedgeley, Gloucester (Gloucestershire)*.
 1906 DUDDING, HENRY, *Riby Grove, Stallingborough (Lincolnshire)*.
 1905 EADIE, JOHN T. C., *The Knowle, Hazelwood, Derby (Derbyshire)*.
 1905 FALCONER, JAMES, *Northbrook Farm, Micheldever Station (Hampshire)*.
 1905 FORREST, ROBERT, *St. Fagan's, Cardiff (Glamorganshire)*.
 1905 GILMOUR, Sir JOHN, Bart., *Montrave, Leven, Fife (Scotland)*.
 1900 GREAVES, R. M., *Wern, Portmadoc (North Wales)*.
 1904 GREENALL, Sir GILBERT, Bart., *Walton Hall, Warrington (Cheshire)*.
 1879 GRENVILLE, R. NEVILLE, *Butleigh Court, Glastonbury (Somerset)*.
 1905 HARRIS, JOSEPH, *Brackenbrough Tower, Carlisle (Cumberland)*.
 1903 HARRISON WILLIAM, *Hall House, Leigh (Lancashire)*.
 1905 HINE, JOHN HENRY, *Pomphlett Farm, Plymstock, Plymouth (Devon)*.
 1905 HISCOCK, ARTHUR, jun., *Manor Farm, Motcombe, Shaftesbury (Dorset)*.
 1903 HOBBS, ROBERT W., *Kelmscott, Lechlade (Oxfordshire)*.
 1900 HOWARD, JOHN HOWARD, *St. Mary's House Bedford (Bedfordshire)*.
 1905 INGRAM, WALTER F., *2 St. Andrew's Place, Lewes (Sussex)*.
 1905 KNIGHTLEY, Sir CHARLES V., Bart., *Fawsley, Daventry (Northants)*.
 1905 LOBB, GEORGE, *Lawhitton, Launceston (Cornwall)*.
 1904 MATHEWS, ERNEST, *Little Shardeloes, Amersham (Buckinghamshire)*.
 1905 MAY, WILLIAM A., *3 Wellington Street, Strand, W.C. (London)*.
 1904 MIDDLETON, CHRISTOPHER, *Vane Terrace, Darlington (Durham)*.
 1884 MILLER, T. HORROCKS, *Singleton Park, Poulton-le-Fylde (Lancashire)*.
 1905 MINTON, THOMAS S., *Montford, Shrewsbury (Shropshire)*.
 1905 ONSLOW, Earl of, G.C.M.G., *Clandon Park, Guildford (Surrey)*.
 1904 PALMER, RALPH C., *9 Little Stanhope Street, Mayfair, W. (London)*.
 1905 PILKINGTON, CLAUDE M. S., *Wollaton, Nottingham (Nottinghamshire)*.
 1905 REA, GEORGE GREY, *Middleton, Wooler (Northumberland)*.
 1897 REYNARD, FREDERICK, *Sunderlandwick, Driffield (Yorks., E. Riding)*.
 1905 RICHMOND AND GORDON, Duke of, K.G., *Goodwood, Chichester (Sussex)*.
 1905 ROGERS, C. COLTMAN, *Stanage Park, Brampton Bryan (South Wales)*.
 1905 ROWELL, JOHN, *Bury, Huntingdon (Huntingdonshire)*.
 1901 SCOBY, WILLIAM, *Hobground House, Sinnington, York (Yorkshire, North Riding)*.
 1903 SHACKLE, ERNEST W., *Redleaf, Hayes (Middlesex)*.
 1886 SMITH, ALFRED J., *Rendlesham, Woodbridge (Suffolk)*.
 1905 SMITH, HENRY HERBERT, *Bowood, Calne (Wiltshire)*.
 1891 STANYFORTH, E. WILFRID, *Kirk Hammerton Hall, York (Yorkshire, West Riding)*.
 1875 STRATTON, RICHARD, *The Duffryn, Newport (Monmouthshire)*.
 1905 TALLENT, HERBERT, *Westacre, Swaffham (Norfolk)*.
 1905 TAYLOR, GEORGE, *Cranford (Middlesex)*.
 1905 THORNTON, JOHN, *7 Princes Street, Hanover Square, W. (London)*.
 1904 TURNER, ARTHUR P., *The Leen, Pembrige (Herefordshire)*.
 1889 WHEELER, E. VINCENT V., *Newnham Court, Tenbury (Worcestershire)*.
 1889 WILSON, CHRISTOPHER W., *Rigmaden Park, Kirkby Lonsdale (Westmorland)*.

[Two Vacancies.]

STANDING COMMITTEES.

* * * Under Bye-law 39, the PRESIDENT is a Member *ex officio* of all Committees, and the TRUSTEES and VICE-PRESIDENTS are Members *ex officio* of all Standing Committees except the Committee of Selection.

Finance Committee.

ADEANE, C. R. W. (<i>Chairman</i>).	AVELING, T. L.
COOPER, Sir R. P., Bart.	CARR, RICHARDSON.
GREENALL, Sir G., Bart.	CRUTCHLEY, PERCY.
THOROLD, Sir J. H., Bart.	HARRISON, W.
KINGSCOTE, Col. Sir NIGEL.	WHEELER, E. V. V.

House Committee.

KINGSCOTE, Col. Sir NIGEL (<i>Chairman</i>).	GILBEY, Sir WALTER, Bart.
THE PRESIDENT.	CRUTCHLEY, PERCY.
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	THORNTON, JOHN.

Journal Committee.

THOROLD, Sir J. H., Bart. (<i>Chairman</i>).	ADEANE, C. R. W.	PALMER, R. C.
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JERSEY, Earl of, G.C.B.	GRENVILLE, R. NEVILLE.	
	MAY, W. A.	

Chemical and Woburn Committee.

BOWEN-JONES, J. (<i>Chairman</i>).	KNIGHTLEY, Sir C. V., Bart.	MINTON, T. S.
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CAWDOR, Earl.	GRENVILLE, R. NEVILLE.	REYNARD, F.
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	MIDDLETON, C.	TURNER, A. P.

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WHEELER, E. V. V. (<i>Chairman</i>).	BOWEN-JONES, J.	REYNARD, F.
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	MIDDLETON, C.	WHITEHEAD, C.

Veterinary Committee.

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GREENALL, Sir G., Bart.	McFADYEAN, Prof. Sir J.	SMITH, A. J.
THOROLD, Sir J. H., Bart.	MASTER OF FARRIERS'	STANYFORTH, E. W.
KINGSCOTE, Col. Sir NIGEL.	COMPANY.	SWITHINBANK, H.
	MATHEWS, ERNEST.	WILSON, C. W.

Stock Prizes Committee.

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NORTHBROOK, Earl of.	HOBBS, ROBERT W.	TURNER, A. P.
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BOWEN-JONES, J.	REYNARD, F.	Live Stock.
CARR, RICHARDSON.	ROWELL, JOHN.	

Implement Committee.

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ADAMS, GEORGE.	GRENVILLE, R. NEVILLE.	TALLENT, H.
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BOWEN-JONES, J.	HOWARD, JOHN HOWARD.	Implements.
CRUTCHLEY, PERCY.	MIDDLETON, C.	

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THE WHOLE COUNCIL, with the following representatives of the
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ANN, Alderman E. T. (Mayor of Derby).	HART, Councillor.	SALT, W. CECIL.
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Showyard Works Committee.

GREENALL, Sir G., Bart. (Chairman).	CARR, RICHARDSON.	REA, G. G.
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COOPER, Sir R. P., Bart.	CRUTCHLEY, PERCY.	TAYLOR, GEORGE.
AVELING, T. L.	FORREST, R.	
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Committee of Selection.

THOROLD, Sir J. H., Bart. (Chairman).	ONSLow, Earl of, G.C.M.G.	HARRISON, W.
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And the Chairman of each of the Standing Committees.

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MORETON, Lord (Chairman).	CORNWALLIS, F. S. W.	MATHEWS, E.
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	HINE, J. H.	

Dairy and Produce Committee.

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CARR, RICHARDSON.	HARRIS, JOSEPH.	WHEELER, E. V. V.

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Prof. Sir JOHN MCFADYEAN, Royal Veterinary College, Camden Town, N.W.

Zoologist.—CECIL WARBURTON, M.A., Zoological Laboratory, Cambridge.

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Consulting Surveyor.—GEORGE HUNT, Evesham, Worcestershire.

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DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE SOCIETY, AND OF ORDINARY MEMBERS OF THE COUNCIL.

(Elected in accordance with the Bye-laws enacted on May 31, 1905, and numbered 57-93.)

ELECTORAL DISTRICT	DIVISION	NUMBER OF GOVERNORS AND MEMBERS	NUMBER OF ORDINARY MEMBERS OF COUNCIL	ORDINARY MEMBERS OF COUNCIL
A.	BEDFORDSHIRE	103	1	J. H. Howard.
	CHESHIRE	273	1	Sir Gilbert Greenall.
	CORNWALL	95	1	G. Lobb.
	DERBYSHIRE	141	1	J. T. C. Eadie.
	DORSET	75	1	A. Hiscock, jun.
	HAMPSHIRE AND CHANNEL ISLANDS	251	1	J. Falconer.
	HERTFORDSHIRE	212	1	Richardson Carr.
	LANCASHIRE AND ISLE OF MAN	333	2	{ William Harrison ; T. H. Miller.
	MIDDLESEX	300	2	E. W. Shackle ; G. Taylor.
	MONMOUTHSHIRE	58	1	R. Stratton.
	NORFOLK	217	1	H. Tallent.
	NORTHAMPTONSHIRE	188	1	Sir C. V. Knightley.
	NORTHUMBERLAND	186	1	G. G. Rea.
	STAFFORDSHIRE	210	1	Sir R. P. Cooper.
	WORCESTERSHIRE	161	1	E. V. V. Wheeler.
YORKSHIRE, N.R.	159	1	W. Scoby.	
SCOTLAND	197	1	Sir John Gilmour.	
		— 3,159	— 19	
B.	BUCKINGHAMSHIRE	139	1	E. Mathews.
	DEVON	148	1	J. H. Hine.
	DURHAM	117	1	C. Middleton.
	ESSEX	224	1	John Barker.

DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE SOCIETY—*continued.*

ELECTORAL DISTRICT	DIVISION	NUMBER OF GOVERNORS AND MEMBERS	NUMBER OF ORDINARY MEMBERS OF COUNCIL	ORDINARY MEMBERS OF COUNCIL.	
B. <i>Contd.</i>	HEREFORDSHIRE	118	1	A. P. Turner.	
	LEICESTERSHIRE	141	1	<i>Vacant.</i>	
	LONDON	616	3	{ W. A. May ; R. C. Palmer ; John Thornton.	
	NOTTINGHAMSHIRE	152	1	C. M. S. Pilkington.	
	RUTLAND	23	1	S. N. Bankart.	
	SHROPSHIRE	264	1	T. S. Minton.	
	SUFFOLK	223	1	A. J. Smith.	
	SURREY	245	1	Earl of Onslow.	
	WILTSHIRE	129	1	H. H. Smith.	
	YORKSHIRE, W.R.	265	1	E. W. Stanyforth.	
	SOUTH WALES	102	1	C. C. Rogers.	
		—2,906	— 17		
	C.	BERKSHIRE	240	1	George Adams.
		CAMBRIDGESHIRE	140	1	C. R. W. Adeane.
CUMBERLAND		104	1	Joseph Harris.	
GLAMORGAN		89	1	R. Forrest.	
GLOUCESTERSHIRE		254	1	{ Lt.-Col. J. F. Curtis- Hayward.	
HUNTINGDONSHIRE		48	1	J. Rowell.	
KENT		444	2	{ T. L. Aveling ; F. S. W. Cornwallis, P.	
LINCOLNSHIRE		220	1	Henry Dudding.	
OXFORDSHIRE		135	1	R. W. Hobbs.	
SOMERSET		118	1	R. Neville Grenville.	
SUSSEX		328	2	{ W. F. Ingram ; Duke of Richmond and Gordon.	
WARWICKSHIRE		225	1	<i>Vacant.</i>	
WESTMORLAND		64	1	C. W. Wilson.	
YORKSHIRE, E.R.		108	1	F. Reynard.	
IRELAND	149	1	R. G. Carden.		
NORTH WALES	171	1	R. M. Greaves.		
	—2,837	— 18			
FOREIGN COUNTRIES	252				
MEMBERS WITH NO ADDRESSES	16				
GRAND TOTALS	9,170	54			

GOVERNORS OF THE SOCIETY.

	Date of election as Member	Date of election as Governor
HIS MAJESTY THE KING...Windsor Castle	—	Feb. 3, 1864
T †H.R.H. THE PRINCE OF WALES, K.G....Marlborough House, S.W., and Sandringham, Norfolk	—	April 6, 1892
VP H.R.H. PRINCE CHRISTIAN OF SCHLESWIG-HOLSTEIN, K.G....Cumberland Lodge, Windsor	—	Aug. 4, 1875
†ABERDARE, Lord...Longwood, Winchester	April 1, 1885	Aug. 1, 1905
†ACLAND, Alfred Dyke...Danesbury, Welwyn	Oct. 8, 1902	Feb. 4, 1903
†ALLCROFT, Herbert John...Stokesay Court, Onibury, Salop	—	Dec. 12, 1888
†AMHERST OF HACKNEY, Lord...Didlington Hall, Stoke Ferry	Feb. 2, 1859	May 7, 1890
ANCASTER, Earl of...Normanton Park, Stamford	Mar. 3, 1869	May 5, 1875
ARCHER-HOUBLON, George B...Hallingbury Place, Bishop's Stortford	—	Mar. 6, 1889
ASHWORTH, Alfred...Horsley Hall, Gresford	Dec. 2, 1868	Feb. 1, 1905
BARNARD, Lord...Raby Castle, Darlington	—	July 27, 1892
T †BEDFORD, Duke of, K.G....Woburn Abbey, Bedfordshire	—	May 3, 1893
†BEEVER, W. F. Holt...Yewden Lodge, Henley-on-Thames	April 2, 1879	June 6, 1894
†BELPER, Lord...Kingston, Derby	July 6, 1881	Mar. 6, 1895
†BENN, Thomas G...Thornton Gate, Rossall Beach, Fleetwood, R.S.O.	Mar. 13, 1878	Aug. 2, 1882
†BLYTH, Sir James, Bart...Blythwood, Stansted, Essex	Nov. 3, 1875	July 27, 1892
VP BOWEN-JONES, J. B...St. Mary's Court, Shrewsbury	Mar. 6, 1867	Feb. 1, 1905
BRASSEY, Henry Leonard C...Apthorpe Hall, Wansford, Northants.	—	Feb. 3, 1892
BUCHANAN, James...Graffham, Petworth	—	July 27, 1904
BURGHCLERE, Lord...48 Charles Street, Berkeley Square, W.	—	Dec. 7, 1892
BURTON, Lord, K.C.V.O....Rangemore, Burton-on-Trent	Nov. 7, 1888	June 25, 1890
CADOGAN, Earl, K.G....Culford Hall, Bury St. Edmunds	—	Dec. 11, 1889
CALTHORPE, Lord...Elvetham, Winchfield	Nov. 7, 1883	May 2, 1894
VP †CAVENDISH, Rt. Hon. Victor C. W., M.P....Holker Hall, Lancashire	—	Mar. 2, 1892
T †CAWDOR, Earl...Stackpole Court, Pembrokeshire	Mar. 3, 1863	Mar. 2, 1892
†CAWSTON, George...The Manor House, Cawston, Norfolk	—	June 6, 1894
VP CHAPLIN, Rt. Hon. Henry...Stafford House, S.W.	—	Nov. 2, 1870
CHELSEA, Viscount...48 Bryanston Square, W.	—	Feb. 6, 1895
†CLARENDON, Earl of, G.C.B...The Grove, Watford	June 5, 1872	May 2, 1894
†CLINTON, Lord...Heanton Satchville, Beaford, N. Devon	April 3, 1867	April 2, 1890
P †CORNWALLIS, Fiennes S. W...Linton Park, Maidstone	—	July 2, 1884
T †COVENTRY, Earl of...Croome Court, Severn Stoke, Worc.	April 1, 1863	April 4, 1894
†COX, Frederick...Harefield Place, Uxbridge	—	July 31, 1901
CRAVEN, Thomas...Kirklington Hall, Southwell, Notts.	May 6, 1891	Dec. 6, 1893
CREWE, Earl of...Crewe Hall, Crewe, Cheshire	Feb. 6, 1884	Mar. 7, 1894
VP †CRUTCHLEY, Percy...Sunninghill Lodge, Ascot	June 3, 1879	Feb. 1, 1905
DARTMOUTH, Earl of...Patshull Hall, Wolverhampton	—	Dec. 9, 1891
T †DERBY, Earl of, K.G., G.C.B...Knowsley, Prescot	June 3, 1874	May 2, 1894
DERWENT, Lord...Hackness Hall, Scarborough	—	April 7, 1869
†DE TRAFFORD, Sir H. F., Bart...Hill Crest, Market Harborough	Aug. 1, 1883	June 1, 1892
†DEVONSHIRE, Duke of, K.G....Chatsworth, Chesterfield	—	June 2, 1880

T Trustee. **P** President. **VP** Vice-President. † Life Governor. †† Member of Council.

List of Governors of the

	Date of Election as Member	Date of Election as Governor
†DEWHURST, G. Littleton...Beechwood, Lymm, Cheshire	Dec. 9, 1891	May 2, 1894
†DICKSON-POYNDR, Sir J., Bart., M.P....Hartham Park, Corsham, Wilts	Nov. 2, 1887	April 2, 1890
DIGBY, Lord...Minterne House, Cerne Abbas, Dorset	—	July 25, 1894
DUCIE, Earl of...Tortworth Court, Falfield, R.S.O., Gos.	May 5, 1869	Feb. 1, 1905
DUGDALE, James Broughton...Wroxall Abbey, Warwick	Feb. 3, 1892	June 28, 1905
VP DUGDALE, John Marshall...Llwyn, Llanfyllin, S.O., Mont.	Feb. 1, 1888	Feb. 1, 1905
†DULEEP-SINGH, Prince Frederick...Old Buckenham Hall, Attle- borough	—	July 25, 1894
DUNCOMBE, Capt. W. H. O....Waresley Park, Sandy, Beds.	April 1, 1885	May 6, 1896
†DUNMORE, Earl of...Isle of Harris, by Portree, N.B.	—	Feb. 3, 1869
†DURHAM, Earl of...Lambton Castle, Durham	—	July 14, 1880
T EGERTON OF TATTON, Earl...Tatton Park, Knutsford	Mar. 6, 1872	Nov. 7, 1883
†ELLESMERE, Earl of...Worsley Hall, Manchester	—	July 7, 1869
ESSEX, Earl of...9 Mansfield Street, W.	Nov. 7, 1888	Nov. 2, 1892
EVANS, Lewis, F.S.A....Russells, Watford	—	July 27, 1904
EXETER, Marquis of...Burghley House, Stamford	May 4, 1898	June 21, 1898
VP FELLOWES, Rt. Hon. Ailwyn E....Honingham, Norwich	Dec. 12, 1888	May 31, 1905
VP FEVERSHAM, Earl of...Duncombe Park, Helmsley, Yorks.	Mar. 5, 1862	Mar. 3, 1875
FIFE, Duke of, K.T....15 Portman Square, W.	—	Nov. 7, 1888
FITZHARDINGE, Lord...Berkeley Castle, Gos.	Mar. 4, 1885	Feb. 1, 1905
T GILBEY, Sir Walter, Bart....Elsenham Hall, Elsenham, Essex	Nov. 2, 1870	June 5, 1889
GLENESK, Lord...139 Piccadilly, W.	—	Dec. 12, 1888
GOLDSMID, Oliver E. d'Avigdor...Somershill, near Tonbridge	—	Mar. 5, 1902
GRAFTON, Duke of, K.G....Wakefield Lodge, Stony Stratford	—	June 3, 1884
†GRANT, Sir G. Macpherson, Bart....Ballindalloch Castle, Ballindal- loch, N.B.	April 1, 1863	April 2, 1890
||†GREENALL, Sir Gilbert, Bart....Walton Hall, Warrington	Feb. 3, 1892	May 2, 1894
GRIFFITHS, John James...Highbury Grange, Highbury, N.	—	May 1, 1889
GROVES, James Grimble...Oldfield Hall, Altrincham, Cheshire	—	May 1, 1895
GWYNNE, John...Kenton Grange, The Hyde, Middlesex	—	Mar. 5, 1879
HAMILTON AND BRANDON, Duke of, Hamilton Palace, Hamilton, N.B.	—	Aug. 1, 1905
HAREWOOD, Earl of...Harewood House, Leeds	June 6, 1883	Nov. 2, 1892
†HENDERSON, Sir Alex., Bart....Buscot Park, Faringdon, Berks.	Nov. 5, 1890	July 28, 1897
†HENRYSON-CAIRD, James A....Cassencary, Creetown R.S.O., Kirk- cudbright	May 7, 1873	July 31, 1895
HERTFORD, Marquis of...Ragley Park, Alcester.	Aug. 2, 1882	May 7, 1884
†HEYWOOD, Sir Arthur Percival, Bart....Doveleys, Uttoxeter	April 7, 1875	Feb. 2, 1898
†HOLFORD, Capt. George L., C.V.O., C.I.E....Westonbirt House, Tetbury, Gos.	—	April 6, 1892
†HORNSBY, James...Laxton Park, Stamford	June 6, 1878	May 29, 1895
†HOTFIELD, Lord...Hothfield Place, Ashford, Kent	—	May 7, 1879
†IRWIN, Colonel Thomas A....Lynehow, Carlisle	May 5, 1880	June 25, 1895
†IVEAGH, Viscount, K.P....5 Grosvenor Place, S.W.	—	June 6, 1894
VP†JERSEY, Earl of, G.C.B., G.C.M.G....Middleton Park, Bicester	June 30, 1875	April 4, 1894
JOICEY, E....Blenkinsopp Hall, Haltwhistle, Northumberland	—	Dec. 12, 1888
†JONES, Walter J. H....Blakemere, Hartford, Cheshire	April 11, 1888	May 2, 1894

T Trustee.

VP Vice-President.

† Life Governor

|| Member of Council.

Royal Agricultural Society of England.

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	Date of Election as Member	Date of Election as Governor
T†KINGSCOTE, Col. Sir Nigel, G.C.V.O., K.C.B....Kingscote, Wotton-under-Edge, Glos.	April 6, 1854	July 1, 1874
†KLEINWORT, Herman Greverns...Wierton Place, Boughton Monchelsea, Kent	—	June 4, 1902
§KOLHAPUR, H.H. The Raja of, G.C.S.I....Kolhapur, India	—	Feb. 6, 1889
†KYNNERSLEY, Thomas F....Leighton Hall, Ironbridge, Salop.	Nov. 7, 1883	Nov. 4, 1891
†LANSDOWNE, Marquis of, K.G., G.C.S.I....Bowood, Calne, Wilts.	Feb. 3, 1875	Feb. 5, 1896
LATHOM, Earl of...Lathom House, Ormskirk	—	Nov. 4, 1903
†LECONFIELD, Lord...Petworth House, Sussex	—	Mar. 6, 1901
†LEICESTER, Earl of, K.G....Holkham Hall, Norfolk	—	Nov. 15, 1843
†LINLITHGOW, Marquis of, K.T., G.C.M.G., G.C.V.O....Hopetoun House, South Queensferry, N.B.	Nov. 7, 1888	July 31, 1895
†LLANGATTOCK, Lord...The Hendre, Monmouth	Mar. 1, 1871	May 2, 1894
†LONDONDERRY, Marquis of, K.G....Wynyard Park, Stockton-on-Tees	—	June 3, 1885
†LONG, Rt. Hon. Walter H., M.P....Rood Ashton, Trowbridge, Wilts	Aug. 4, 1880	Dec. 11, 1895
†LONSDALE, Earl of...Lowther Castle, Penrith	—	July 4, 1883
†LOPES, Rt. Hon. Sir Massey, Bart....Maristow, Roborough, Devon	Mar. 15, 1848	May 7, 1884
MAIR-RUMLEY, J. G....The Hammonds, Udimore, S.O., Sussex	June 5, 1901	Feb. 1, 1905
T MIDDLETON, Lord...Birdsall House, York	—	Mar. 3, 1875
MIDWOOD, G. Norris...Brown Street, Salford	April 11, 1888	Mar. 5, 1902
MILDMAY, F. B., M.P....Flete, Ivy Bridge, Devon	—	Nov. 1, 1905
MONTEFIORE, Rev. D. B....The World's End, Islip, Oxon	Feb. 6, 1901	Mar. 5, 1902
†MOORSOM-MITCHINSON-MAUDE, C. R....Harewood, Leeds	Dec. 2, 1857	July 26, 1893
T†MORETON, Lord...Sarsden House, Chipping Norton, Oxon.	—	Mar. 3, 1875
†MOREWOOD, C. R. Palmer...Alfreton Park, Derbyshire	April 7, 1875	Feb. 7, 1894
†MORRELL, Lt.-Col. G. H....Headington Hill Hall, Oxford	June 6, 1878	July 25, 1894
†MOUNT-EDGCUMBE, Earl of, G.C.V.O...Mount-Edgcumbe, Plymouth	Nov. 6, 1861	Mar. 5, 1890
MOUNTENEY-JEPHSON, A. J....Adbury Holt, Newbury, Berks.	—	Aug. 1, 1905
MUNCASTER, Lord...Muncaster Castle, Ravenglass, Cumberland	—	June 23, 1891
NEELD, Lt.-Col. Sir Audley D., Bart., C.B., M.V.O....Grittleton, Chippenham.	—	July 31, 1901
NORFOLK, Duke of, K.G....Arundel Castle, Sussex	—	July 29, 1891
VP NORTHBROOK, Earl of...Stratton, Micheldever, Hants	June 2, 1880	Feb. 1, 1905
||†ONSLOW, Earl of, G.C.M.G....Clandon Park, Guildford, Surrey	Nov. 3, 1880	May 27, 1903
†PALMER, Sir Walter, Bart....50, Grosvenor Square, W.	—	Feb. 1, 1899
VP†PARKER, Hon. Cecil T....Eccleston, Chester	April 7, 1876	May 25, 1898
†PARR, Roger Charlton...Grappenhall Heyes, Warrington	May 7, 1902	July 30, 1902
†PEARSON, Sir Weetman D., Bart., M.P....Paddockhurst, Worth, Sussex	Nov. 6, 1895	Aug. 1, 1905
PHILLIPS, Lionel...Tilney Hall, Winchfield, Hants.	—	June 28, 1905
†PLATT, Col. Henry, C.B....Gorddinog, Llanfairfechan	Mar. 5, 1862	Feb. 3, 1897
†PLATT, James E....Howbury Hall, near Bedford.	June 30, 1886	May 1, 1895
†PLYMOUTH, Earl of...Hewel Grange, Bromsgrove	—	Nov. 6, 1878
†PORTLAND, Duke of, K.G....Welbeck Abbey, Worksop.	—	June 2, 1880
†PORTMAN, Viscount...Bryanston, Blandford	Aug. 6, 1862	Mar. 5, 1890
PORTSMOUTH, Earl of...Hurstbourne Park, Whitchurch, Hants	—	Dec. 9, 1891
†POWIS, Earl of...Powis Castle, Welshpool.	April 6, 1887	June 23, 1891
†QUILTER, Sir W. Cuthbert, Bart....Bawdsey Manor, Woodbridge, Suffolk	Mar. 3, 1886	April 7, 1879
RADNOR, Earl of...Longford Castle, Salisbury	—	April 9, 1902
†RAMSDEN, Lt.-Col. W. J. F....Rogerthorpe Manor, Pontefract	May 2, 1883	June 25, 1895

† Life Governor.

§ Honorary Member.

T Trustee.

VP Vice-President.

|| Member of Council.

List of Governors.

	Date of election as Member	Date of election as Governor
†REDESDALE, Lord...Batsford Park, Moreton-in-Marsh, Glos..	—	Nov. 3, 1886
REISS, James E....36 Cadogan Square, S.W.	Feb. 7, 1883	May 2, 1894
||RICHMOND AND GORDON, Duke of, K.G....Goodwood, Chichester .	—	April 13, 1904
†RIDLEY, Viscount...36 Portland Place, W.	—	June 5, 1901
RIPON, Marquis of, K.G....Studley Royal, Ripon.	—	July 3, 1861
ROLLE, Hon. Mark...Bicton, East Budleigh Salterton, Devon	—	Nov. 7, 1894
†ROSEBERY, Earl of, K.G....38 Berkeley Square, W.	—	June 6, 1894
ROTHSCHILD, Lord...148 Piccadilly, W.	Nov. 7, 1888	June 4, 1890
ROTHSCHILD, Leopold de...Ascott, Wing, Leighton Buzzard .	—	Mar. 1, 1893
RUTLAND, Duke of, K.G....Belvoir Castle, Leicestershire .	Dec. 12, 1888	Dec. 9, 1891
SALOMONS, Leopold...Norbury Park, Dorking	—	May 6, 1896
†SANDAY, George H....Highfield, Uxbridge	Mar. 4, 1868	Dec. 10, 1902
†SCHRÖDER, Baron J. H. W....The Dell, Staines	Nov. 3, 1869	April 2, 1890
SHEFFIELD, Sir Berkeley D. G., Bart....Normanby Park, Doncaster	Feb. 7, 1900	Feb. 1, 1905
*SIMONDS, W. Barrow...Abbotts Barton, Winchester	June 19, 1839	Mar. 5, 1890
†SMITH, Hon. W. F. D., M.P....3 Grosvenor Place, S.W.	—	Dec. 9, 1891
T SPENCER, Earl, K.G....Althorp Park, Northampton	Dec. 5, 1860	Mar. 3, 1875
||†STANYFORTH, E. Wilfrid...Kirk Hammerton Hall, York	Feb. 6, 1884	July 31, 1895
SUTHERLAND, Duke of, K.G....Stafford House, St. James's, S.W.	Mar. 1, 1882	Dec. 7, 1892
†SUTTON, Martin J....Henley Park, Oxfordshire	May 1, 1878	Feb. 1, 1882
†SWINBURNE, Sir John, Bart....Capheaton, Newcastle-on-Tyne	May 1, 1867	May 7, 1890
†TARLETON, Lieut. Alfred H., M.V.O., R.N....Breakspears, Uxbridge	—	July 29, 1903
†THOMPSON, Henry Yates...19 Portman Square, W.	—	Nov. 7, 1894
T†THOROLD, Sir John H., Bart....Syston Park, Grantham	Aug. 5, 1868	May 1, 1889
TREDEGAR, Viscount...Tredegar Park, Newport, Mon.	—	May 3, 1876
†TRENCH, Col. The Hon. Wm. Le Poer...3 Hyde Park Gardens, W.	Dec. 12, 1888	May 1, 1901
TURBERVILL, Col. J. P....Ewenny Priory, Bridgend	Mar. 5, 1884	July 27, 1892
†TWEEDMOUTH, Lord...Guisachan, Beaulieu, N.B.	—	July 31, 1889
WALTER, Col. Arthur F....Bearwood, Wokingham	—	Mar. 6, 1895
†WARREN, Reginald A....Preston Place, East Preston, Worthing	June 3, 1857	June 6, 1894
WATSON, Rev. Wentworth...Rockingham Castle, Uppingham	—	May 4, 1904
WERNHER, Sir Julius, Bart....82 Piccadilly, W.	—	April 13, 1904
WESTMINSTER, Duke of...Eaton Hall, Chester	—	May 30, 1900
VP†WHITEHEAD, Charles...Barming House, Maidstone	April 1, 1857	Feb. 6, 1889
†WILLIAMS, Henry...Moor Park, Harrogate	Aug. 1, 1883	Mar. 6, 1895
†WILSON, Darcy Bruce...Seacroft Hall, near Leeds	June 3, 1891	Feb. 1, 1905
WYNN, Hon. F. G....Glynllivon Park, Carnarvon	Mar. 4, 1891	Nov. 4, 1903
WYTHES, Ernest J....Copped Hall, Epping, Essex	April 12, 1893	July 29, 1903
†YERBURGH, Robert A....Woodfold Park, Blackburn	—	Nov. 7, 1888
†ZETLAND, Marquis of, K.T....Aske Hall, Richmond, Yorks.	Feb. 4, 1874	May 2, 1894

* Elected a Foundation Life Governor, March 5, 1890.

† Life Governor.

T Trustee.

VP Vice-President.

|| Member of Council.

HONORARY MEMBERS OF THE SOCIETY.

(“*British Subjects or Foreigners who have rendered exceptional services to Agriculture or Allied Sciences,*” and who have been elected under Bye-law 8 as Honorary Members, without payment of subscription.)

	Date of election
ARISUGAWA, H.I.H. Prince...Tokio, Japan	June 29, 1905
ARNIM, Berndt von...Criewen, Brandenburg, Germany	June 21, 1899
BANG, Dr. B...Professor at the Royal Veterinary College, Copenhagen.	July 31, 1901
BROWN, Professor Sir George T., C.B...Bryn Hyfryd, Harrow (Ordinary Member, Dec. 3, 1862)	April 1, 1878
CARTUYVELS-VAN-DER-LINDEN, Jules, M.A...215 Rue de la Loi, Brussels	Dec. 11, 1895
CHAUVEAU, Prof. Auguste, M.D., LL.D...10 Avenue Jules Janin, Passy, Paris.	Dec. 6, 1893
CLARKE, Sir Ernest, M.A., F.S.A... 13A Hanover Square, London, W.	Dec. 6, 1905
COPE, Alexander C...65, Iverna Court, Block 4, Kensington, W. (Ordinary Member, Dec. 6, 1893)	May 1, 1901
DANNFELT, Carl Juhlin B...Villa Dannfelt, near Djursholm, Stockholm, Sweden	Feb. 1, 1871
DE VOGÜE, Marquis...2 Rue Fabert, Paris (Ordinary Member, June 1, 1892)	June 21, 1899
ELLIOTT, Sir Thomas H., K.C.B...Secretary, Board of Agriculture, 4 Whitehall Place	June 23, 1903
ETZDORF, Landrath von...Elbing, West Prussia	May 30, 1900
EWART, Prof. James Cossar, M.D., F.R.S....Regius Professor of Natural History at the University of Edinburgh	May 1, 1901
FLEISCHMANN, Prof. Wm...Director of the Agricultural Institute of the Royal University of Königsberg	Dec. 12, 1894
FOSTER, Prof. Sir Michael, K.C.B., F.R.S...Nine Wells, Gt. Shelford, Cambridge	Feb. 3, 1897
KOLHAPUR, H.H. The Raja of, G.C.S.I. : ...Kolhapur (Governor, Feb. 6, 1889)	July 7, 1902
LE COCQ, Señor Alfredo Carlos...Director of the Department of Agriculture, Lisbon	June 23, 1903
LIVEING, Prof. G. D., M.A., F.R.S...The University, Cambridge	Mar. 7, 1894
LOVINK, Herr Hermanus Johannus...Director-General of Agriculture, The Hague, Holland	April 13, 1904
MACDONALD, James, F.R.S.E...Secretary of the Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh	June 23, 1903
MCFADYEAN, Prof. Sir John, M.B., B.Sc., C.M...Royal Veterinary College, Camden Town, N.W. (Ordinary Member, Feb. 1, 1893)	May 1, 1901
NOBBE, Dr. J. C. F...Director of the Experimental Station, Tharand, Saxony	May 6, 1896
PASSY, Louis...45 Rue de Clichy, Paris	June 23, 1891
PLUNKETT, The Rt. Hon. Sir Horace Curzon, K.C.V.O., F.R.S...Vice-President of the Irish Department of Agriculture and Technical Instruction, Dublin	June 23, 1903
PROSKOWETZ, Emanuel Ritter von, sen...Kwassitz, Moravia	Nov. 5, 1890
RAMOS-MEXIA, Senor Don Ezequiel ...Sociedad Rural Argentina, Buenos Aires	July 30, 1902
REID, His Excellency the Hon. Whitelaw, Dorchester House, Park Lane, W.	June 29, 1905
SALMON, Dr. D. E...Chief of the Bureau of Animal Industry, United States Department of Agriculture, Washington	July 31, 1901
SCHERBATOFF, Prince Alexander...President of the Imperial Agricultural Society of Moscow, Russia	Nov. 3, 1897
SIEMONI, Dr. Giovanni Carlo...Director-General of the Department of Agriculture, Rome	June 23, 1903
THIEL, Dr. H...Privy Councillor, and Director of the Department of Agriculture, 17 Lutherstrasse, Berlin	Aug. 1, 1883
TISSERAND, Eugène...Ancien Directeur de l'Agriculture, 17 Rue du Cirque, Paris	Aug. 1, 1883
VASSILLIERE, Léon...Director of Agriculture at the Ministry of Agriculture, Paris	June 23, 1903

SUMMARY OF MEMBERS ON REGISTER, DECEMBER 31, 1905.

- 1 Foundation Life Governor (Member elected before the granting of the Charter on March 26, 1840).
 - 78 Governors paying an annual subscription of 5*l*.
 - 88 Life Governors who have compounded for their annual subscriptions.
 - 5,758 Members paying an annual subscription of 1*l*.
 - 3,212 Life Members who have compounded for their annual subscriptions.
 - 33 Honorary Members.
-
- 9,170, Total number of Governors and Members at December 31, 1905.

ROYAL AGRICULTURAL BALANCE-SHEET,

Dr.

Corresponding figures for 1903		£	s.	d.	£	s.	d.	£	s.	d.
	To SUNDRY CREDITORS—									
£	Sundry Creditors and outstandings				4,941	10	1			
4,971	Subscriptions received in 1904 in advance				103	0	0			
108					—————			5,044	10	1
	To LOANS							16,500	0	0
14,500	To AVAILABLE CAPITAL—									
	Capital at December 31, 1903				12,140	17	5			
25,631	Income on Investments				311	9	10			
500	Life Compositions received in 1904				259	0	0			
629	Donations towards the Society's Debt				1,697	2	0			
—					—————			14,408	9	3
26,760										
2,718*										
24,042										
	<i>Less</i> Deficiency on Ordinary Income and Expenditure Account*	2,451	16	7						
45	Deficiency on Show Income and Expenditure for 1904, as per Statement printed on pages xx-xxiii of Vol. 65 of Society's Journal	6,920	9	10				9,372	6	5
9,681					—————			5,036	2	10
9,726										
	DEPRECIATIONS written off, viz.:—									
179	Fixtures	165	13	10						
119	Furniture	113	0	5						
41	Machinery	174	4	2						
1,787	Show Plant	134	1	11						
50	Buildings at Woburn	50	0	0				637	0	4
					—————					
12,140								4,399	2	6
	OVERDRAFT at Bank, December 31, 1904							427	7	2
	To SUBSCRIPTIONS AND DONATIONS TO PERMANENT SITE FUND							27,557	7	0
27,557										
	 [Note.—In addition to the Invested Assets, as stated in this Balance-sheet, the Society holds in its corporate name 8,126 <i>l.</i> 8 <i>s.</i> 2 <i>d.</i> Consols., representing a Legacy of 9,000 <i>l.</i> received in 1896 under the will of the late Mr. E. H. Hills. The income arising therefrom is, under the will, to be applied in the investigation of the value and uses of the rarer forms of ash in the cultivation of crops; and the Trust will be administered under the Charitable Trusts Acts].									
£59,276								£53,928	6	9

* See Note on page xiv.

ERNEST CLARKE, *Secretary.*WELTON, JONES & CO., *Accountants.*

SOCIETY OF ENGLAND.

DECEMBER 31, 1904.

xiii

Cr.

Corresponding figures for 1903		£ s. d.	£ s. d.
£ 13,145	By 13,100L. HAREWOOD HOUSE 2½ per cent. DEBENTURE STOCK (part of a total of 37,000L. Stock) at cost		13,144 17 4
	By FIXTURES AT HAREWOOD HOUSE—		
2,388	Value at December 31, 1903	2,209 4 11	
179	Less Depreciation at 7½ per cent.	165 13 10	
2,209		—————	2,043 11 1
	By FURNITURE—		
2,622	Value at December 31, 1903	2,503 3 8	
119	Less Depreciation at 7½ and 5 per cent.	113 0 5	
2,503		—————	2,390 3 3
1,500	By PICTURES (500L.) and BOOKS (1,000L.)		1,500 0 0
	By MACHINERY—		
406	Value at December 31, 1903	365 5 2	
41	Less Depreciation as per new valuation	174 4 2	
		—————	
365	Less Sold	191 1 0 29 11 0	161 10 0
	By SHOW PLANT—		
	Value at December 31, 1903	2,681 18 4	
	Less Depreciation at 5 per cent.	134 1 11	
		—————	
2,682	Additions during 1904	2,547 16 5 66 14 4	2,614 10 9
	By BUILDINGS FOR POT EXPERIMENTS AT WOBURN—		
850	As per Account at December 31, 1903	800 0 0	
50	Less Depreciation	50 0 0	
800		—————	750 0 0
2,962	By SUNDRY DEBTORS		679 18 4
	By SHOW OF 1905—		
4,640	Timber at Park Royal	2,652 18 11	
793	Expenditure on account	358 18 4	
5,433		—————	3,011 17 3
120	By CASH IN HAND		74 11 9
	By SHARES IN PARK ROYAL, LIMITED—		
27,557	15,000 Shares of 1L. each at cost		27,557 7 0
£59,276			£53,928 6 9

Examined, audited, and found correct, this 17th day of April, 1905.

JONAS M. WEBB,
HUBERT J. GREENWOOD,
NEWELL P. SQUAREY, } *Auditors on behalf of the Society.*

STATEMENT OF ORDINARY INCOME

Corresponding figures for 1903.		<i>Income.</i>	£ s. d.	£ s. d.
	ANNUAL SUBSCRIPTIONS—			
£				
306	<i>Governors</i> :	Subscriptions for 1904	322	0 0
97		<i>Members</i> : Received in 1903, but belonging to 1904	107	0 0
5,794		Subscriptions for 1904	5,635	0 0
89		Subscriptions for previous years	62	0 0
5		Miscellaneous : Excess subscriptions, &c.	1	6 0
<hr/>			<hr/>	6,127 6 0
6,291				
2,718*	<i>Contributions from Reserve Fund to Revenue (at 15s. per head) from 3,582 Life Governors and Members on books on January 1, 1903, plus 42 Compounders during 1903.</i>			
<hr/>				
9,009				
45		Debit Balance carried to Balance Sheet		*2,451 16 7
<hr/>				<hr/>
9,054				£8,579 2 7
<hr/>				<hr/>

*NOTE—The excess of this deficiency in 1904 over that of 1903 is accounted for by the fact that it is no longer possible, owing to the disappearance of the Society's Reserve Fund, to make any contribution to the annual revenue in respect of the privileges enjoyed by the Life Members of the Society. On the basis of previous years (as to which see pp. xvii-xix of Vol. 65 of the Journal), this contribution would have been for 1904 the sum of 15s. from each of 3,568 Life Members=2,676l. in all.

ERNEST CLARKE, *Secretary.*
WELTON, JONES & CO., *Accountants.*

Corresponding figures for 1903

Expenditure.

£	GENERAL ADMINISTRATION—	£ s. d.	£ s. d.
2,484	Proportion of Salaries of Official Staff	2,228 10 3	
340	Pensions to Officials	309 9 7	
58	Professional Charges	58 16 0	
1,967	House Rent, Taxes, Insurance, and House Expenses	1,955 15 2	
30	Binding and Purchase of Books	8 0 11	
457	Printing and Stationery	456 16 11	
107	Postage and Telegrams	163 9 6	
25	Carriage of Parcels and Cabs	11 0 8	
19	Advertising, and Miscellaneous Office Expenses	20 8 9	
262	Interest on Loans	492 10 9	
<u>5,749</u>			5,704 18 6
	JOURNAL OF SOCIETY AND OTHER PUBLICATIONS—		
714	Printers' Bills for the Journal of 1904 (Vol. 65)	594 17 4	
158	Engravings and Illustrations	73 5 0	
519	Assistant Editor and Literary Contributions	524 6 0	
259	Postage, Packing, and Delivery	236 8 6	
68	Miscellaneous Journal Printing	29 17 8	
22	Cost of Printing Pamphlets, &c.	31 6 2	
21	Binding Text Book, "Elements of Agriculture"	9 9 0	
<u>1,761</u>		1,499 9 8	
	£ s. d.		
	Less: Received from Sales of Journals (Vol. 64 and earlier)	100 16 10	
114	Sales of Pamphlets and Diagrams	66 12 8	
67	Sales of Text Book on Agriculture	89 19 4	
101	Received for Advertisements in Vol. 65	95 6 8	
134		<u>352 15 6</u>	
<u>416</u>			1,146 14 2
1,345	LABORATORY—		
1,100	Salaries, Wages, &c.	1,100 0 0	
51	Printing and Sundry Expenses	41 18 4	
<u>1,151</u>		1,141 18 4	
387	Less: Fees received from Members for Analyses	330 11 5	
<u>764</u>			811 6 11
	OTHER SCIENTIFIC DEPARTMENTS—		
264	Consulting Botanist's Salary and Expenses	284 7 11	
211	Zoologist's Salary	200 0 0	
500	Grant to Royal Veterinary College	200 0 0	
2	Medals for Proficiency in Cattle Pathology	2 9 6	
<u>977</u>			686 17 5
	EXAMINATION FOR NATIONAL DIPLOMA IN AGRICULTURE—		
	Honoraria and Expenses of Examiners	167 13 6	
	Travelling Expenses of Officials	37 8 3	
	Hotel Expenses of Examiners and Officials	25 8 10	
	Printing, Stationery, and Advertising	20 19 8	
	Writing Diplomas, and Gold Medal	29 10 6	
		<u>281 0 9</u>	
119	Less: Deposits forfeited, Entry Fees received, and Sales of Examination Papers	56 18 1	
		<u>224 2 8</u>	
	Less: Moiety received from Highland and Agricultural Society	112 1 4	
			112 1 4
	EXAMINATION FOR NATIONAL DIPLOMA IN DAIRYING—		
51	Hire of Premises and Appliances for Examination	64 15 0	
30	Fees to Examiners	47 6 4	
21	Hotel and Travelling Expenses	13 19 0	
4	Printing and Postage	4 1 11	
<u>106</u>		130 2 3	
	Less: Deposits forfeited, and Sales of Examination Papers	12 18 0	
<u>6</u>			<u>117 4 3</u>
100			
<u>9,054</u>	Total Expenditure for 1904		<u>£8,579 2 7</u>

Examined, audited, and found correct, this 17th day of April, 1905.

JONAS M. WEBB,
 HUBERT J. GREENWOOD, } *Auditors on behalf of the Society.*
 NEWELL P. SQUAREY,

ROYAL AGRICULTURAL BALANCE-SHEET,

Dr.

Corresponding figures for 1904.	£		£ s. d.	£ s. d.	£ s. d.
		To HAREWOOD HOUSE DEBENTURE STOCK			37,000 0 0
		To SUNDRY CREDITORS—			
	4,942	Sundry Creditors and outstandings		1,931 1 2	
	103	Subscriptions received in 1905 in advance		70 4 0	
	5,045				2,001 5 2
		To LOANS secured by a Second Mortgage on Harewood House			7,785 0 0
	16,500				
		To AVAILABLE CAPITAL—			
	12,141	Capital at December 31, 1904		4,399 2 6	
	311	Income on Investments		186 2 7	
	259	Life Compositions received in 1905		413 0 0	
	1,697				
	14,408			4,998 5 1	
		<i>Less</i> Deficiency on Ordinary Income and Expenditure Account	1,484 2 5		
	2,452	Deficiency on Show Income and Expenditure Accounts for 1904 not ascertained until 1905	21 17 0		
	6,920	For 1905 £7,279 17 11			
		<i>Less</i> Special Donations 7,038 12 0	241 5 11		
		Seven months' Interest on Loan, 7,500 <i>l.</i> , and added to principal	166 5 0		1,913 10 4
	9,372				3,084 14 9
	5,036				
		DEPRECIATIONS written off, viz:—			
	166	Fixtures	153 5 4		
	113	Furniture	106 15 11		
	174	Machinery	16 3 0		
	134	Show Plant	130 14 6		
	50	Buildings at Woburn	50 0 0		456 18 9
	637				2,627 16 0
	4,399				
	427				
	27,557	To SUBSCRIPTIONS AND DONATIONS TO PERMANENT SITE FUND			27,557 7 0
		[<i>Note.</i> —In addition to the Invested Assets, as stated in this Balance-sheet, the Society holds in its corporate name 8,126 <i>l.</i> 8 <i>s.</i> 2 <i>d.</i> Consols., representing a Legacy of 9,000 <i>l.</i> received in 1896 under the will of the late Mr. E. H. Hills. The income arising therefrom is, under the will, to be applied in the investigation of the value and uses of the rarer forms of ash in the cultivation of crops; and the Trust will be administered under the Charitable Trusts Acts.]			
	£53,928				£76,971 8 2

THOMAS MCROW, *Secretary.*

WELTON, JONES & Co., *Accountants.*

DECEMBER 31, 1905.

Cr.

Corresponding figures for 1904.		£ s. d.	£ s. d.
£	By HAREWOOD HOUSE at cost		37,000 0 0
	[<i>Note.</i> —Since its original purchase, the property has considerably appreciated in value.]		
13,145	By 1,100 <i>l.</i> HAREWOOD HOUSE 2½ per cent. DEBENTURE STOCK (part of a total of 37,000 <i>l.</i> STOCK) at cost		1,144 17 4
	By FIXTURES AT HAREWOOD HOUSE—		
2,209	Value at December 31, 1904	2,043 11 1	
166	Less Depreciation at 7½ per cent.	153 5 4	
		<hr/>	1,890 5 9
2,043	By FURNITURE—		
2,503	Value at December 31, 1904	2,390 3 3	
113	Less Depreciation at 7½ and 5 per cent.	106 15 11	
		<hr/>	
2,390	Additions during 1905	2,283 7 4 13 10 0	
		<hr/>	2,296 17 4
1,500	By PICTURES (500 <i>l.</i>) and BOOKS (1,000 <i>l.</i>)		1,500 0 0
	By MACHINERY—		
365	Value at December 31, 1904	161 10 0	
174	Less Depreciation at 10 per cent.	16 3 0	
191		<hr/>	
30	Less sold	145 7 0 3 18 6	
161		<hr/>	141 8 6
	By SHOW PLANT—		
2,682	Value at December 31, 1904	2,614 10 9	
134	Less Depreciation at 5 per cent.	130 14 6	
2,548		<hr/>	2,483 16 3
67			
2,615	By BUILDINGS FOR POT EXPERIMENTS AT WOBURN—		
800	As per Account at December 31, 1904	750 0 0	
50	Less Depreciation	50 0 0	
750		<hr/>	700 0 0
680	By SUNDRY DEBTORS		389 8 9
	By SHOW OF 1906—		
2,653	Timber at Park Royal	1,500 0 0	
359	Expenditure on account	248 16 0	
3,012		<hr/>	1,748 16 0
	By CASH AT BANKERS AND IN HAND—		
	At Bankers	36 12 2	
75	In Hand	81 19 1	
		<hr/>	118 11 3
	By SHARES IN PARK ROYAL LIMITED.		
27,557	15,000 Shares of 1 <i>l.</i> each, at cost		27,557 7 0
	[<i>Note.</i> —This has no relation to the present value of the Shares, which is dependent on the realisation of Park Royal.]		
£53,928			<hr/> £76,971 8 2

Examined, audited, and found correct, this 23rd day of February, 1906.

JONAS M. WEBB, }
 HUBERT J. GREENWOOD, } *Auditors on behalf of the Society.*

but all liabilities incurred in connection with the year's transactions.

Corresponding figures for 1904		Expenditure.					
£		£	s.	d.	£	s.	d.
GENERAL ADMINISTRATION : -							
2,229	Proportion of Salaries of Official Staff	2,007	7	0			
309	Pensions to Officials	190	0	0			
59	Professional Charges:—Auditors' Fees	81	9	8			
	Legal Charges in connection with new Charter	402	15	6			
1,956	House Rent, Taxes, Insurance, and House Expenses	1,859	17	9			
8	Binding and Purchase of Books	1	15	3			
457	Printing and Stationery (including circulars respecting Charter)	521	7	1			
163	Postage and Telegrams	145	5	11			
11	Carriage of Parcels and Travelling Expenses	36	3	6			
20	Advertising and Miscellaneous Office Expenses	45	13	6			
493	Interest on Loans	314	5	7			
<u>5,705</u>							5,606 0 9
JOURNAL OF THE SOCIETY, VOL. 66:—							
595	Printers' Bill for Printing, Binding, &c.	400	0	0			
309	Postage, Packing, and Delivery	194	3	0			
524	Proportion of Assistant Editor's Salary, Literary Contributions, &c.	225	0	0			
71		819	3	0			
<u>1,499</u>							
101	Less : Sales (Vol. 65 and earlier)	103	17	1			
95	Advertisements (Vol. 66)	115	5	11			
<u>1,303</u>		219	3	0			600 0 0
	Preparing General Index to Journal (3rd Series)						75 0 0
ELEMENTS OF AGRICULTURE:—							
90	Printing and Binding Text Book	183	3	3			
<u>1,213</u>	Less : Sales	113	7	0			69 16 3
1,100	LABORATORY:—						
42	Salaries, Wages, &c.	614	17	6			
1,142	Less: Fees received belonging to 1904	18	2	2			596 15 4
<u>331</u>							
811	OTHER SCIENTIFIC DEPARTMENTS:—						
284	Consulting Botanist's Salary and Expenses	254	1	4			
200	Zoologist's Salary	200	0	0			
200	Grant to Royal Veterinary College	200	0	0			
3	Medals for Proficiency in Cattle Pathology	2	14	6			656 15 10
<u>687</u>							
EXAMINATION FOR NATIONAL DIPLOMA IN AGRICULTURE:—							
	Honoraria and Expenses of Examiners	169	3	5			
	Travelling Expenses of Officials	16	3	6			
	Hotel Expenses of Examiners and Officials	26	15	3			
	Printing, Stationery, and Advertising	22	13	7			
	Writing Diplomas and Gold Medal	17	4	0			
112		251	19	9			
	Less: Entry Fees received and Sales of Examination Papers	91	14	11			
		160	4	10			
	Less: Moiety received from Highland and Agricultural Society	80	2	5			80 2 5
EXAMINATION FOR NATIONAL DIPLOMA IN DAIRYING:—							
	Hire of Premises and Appliances for Examination	85	15	0			
	Fees to Examiners	55	7	0			
	Hotel and Travelling Expenses	16	14	7			
	Printing and Postage	5	7	2			
117		163	3	9			
	Less: Deposits forfeited, and Sales of Examination Papers	26	5	9			136 18 0
<u>£8,645</u>	Total Expenditure for 1905						<u>£7,821 8 7</u>

Examined, audited, and found correct, this 23rd day of February, 1906.

JONAS M. WEBB,
HUBERT J. GREENWOOD, } *Auditors on behalf of the Society.*

STATEMENT OF RECEIPTS AND EXPEN-

JUNE 27 TO

Corresponding figures for 1904.	Receipts.	£ s. d.	£ s. d.
	FEES FOR ENTRY OF IMPLEMENTS:—		
£			
4,893	Implement Exhibitors' Payments for Shedding	3,957 6 6	
151	Non-Members' Fees for Entry of Implements	108 0 0	
70	Fees for Entry of "New Implements"	57 0 0	
<u>5,114</u>		<u>4,122 6 6</u>	
	FEES FOR ENTRY OF LIVE STOCK:—		
1,664	By Members:—1,841 Entries @ 1l.	1,841 0 0	
116	66 Post Entries @ 30s.	99 0 0	
86	36 Late Entries @ 2l.	72 0 0	
15	61 Substituted @ 5s.	15 5 0	
<u>1,881</u>		<u>2,027 5 0</u>	
406	By Non-Members:—183 Entries @ 2l.	366 0 0	
63	18 Post Entries @ 50s.	45 0 0	
66	12 Late Entries @ 3l.	36 0 0	
2	5 Substituted at 10s.	2 10 0	
<u>537</u>		<u>449 10 0</u>	
—	199 Entries @ 5s.		49 15 0
697	Fees for Horse Boxes and Stalls		689 10 0
	FEES FOR ENTRY OF POULTRY:—		
15	By Members:—210 Entries @ 2s. 6d.	26 5 0	
4	13 Post Entries @ 5s.	3 5 0	
111	By Non-Members:—623 Entries @ 5s.	155 15 0	
12	20 Post Entries @ 10s.	10 0 0	
<u>142</u>		<u>195 5 0</u>	
	OTHER ENTRY FEES:—		
63	Fees for Entry of Produce		65 7 6
25	Fees for Entries in Horse-shoeing Competition		15 10 0
19			
<u>107</u>			
	CATALOGUE:—		
	Extra Lines for Particulars of Implement Exhibits	£ s. d.	
6		2 10 0	
8	Woodcuts of "New Implements"	7 12 6	
137	Advertising in Catalogue	135 12 6	
23	Sales of Implement Section of Catalogue (including bound copies)	19 12 6	
496	Sales of Combined Catalogue	363 17 3	
23	Sales of Programmes of Jumping Competitions, Awards, Programmes, &c.	12 6 6	
<u>693</u>		<u>541 11 3</u>	
32	Less Commission on Sales of Catalogues and Programmes	24 5 9	
<u>661</u>		<u>517 5 6</u>	
	MISCELLANEOUS RECEIPTS:—		
41	Amount received from Refreshment Contractors	115 0 0	
40	Premium for Cloak Room, &c.	31 10 0	
4	Private Luncheon Tables	10 0 0	
4			
1/4	Takings at Grooms' Cloak Room	0 2 8	
14	Takings at Carriage Enclosure	8 0 0	
2/6	Miscellaneous	23 9 6	
<u>103</u>		<u>188 2 2</u>	
<u>£9,242</u>	Carried forward		<u>£8,319 16 8</u>

30, 1905.

Corresponding figures for 1904.

Expenditure.

		COST OF ERECTION OF SHOWYARD:—					
£		£	s.	d.	£	s.	d.
	Timber—						
	Transferred from 1904	2,652	18	11			
	Timber bought in 1905	559	10	1			
		3,212	9	0			
	Less Timber Sold	264	10	3			
		2,947	18	9			
2,454	Less value of Timber carried forward to 1906	1,500	0	0			
					1,447	18	9
87	Ironmongery	40	7	2			
26	Paint, Oils, &c.	25	3	6			
27	Bricks, Lime, Cement, and Coal	15	14	9			
1,194	Hire of Canvas	1,144	9	1			
102	Roofing Cloth, Felt, &c.	106	1	1			
25	Railway Charges	13	19	1			
266	Horse Hire	144	9	2			
16	Insurance	22	13	9			
32	Stationery, Postage, and Telegrams	20	16	2			
2,221	Wages	1,320	5	8			
453	Superintendent's Salary and Expenses	453	16	0			
111	Extension of Water Pipes	45	0	9			
28	Petty Accounts	12	19	2			
7,024					4,813	14	1
1,352					1,076	7	2
5,690							
	Less: Works for Exhibitors and Purveyors						3,737 6 11
	PROPORTION OF EXPENSES OF HEAD OFFICE IN LONDON:—						
1,107	Debited to Show Account in accordance with Report of Council dated December 8, 1904						2,000 0 0
	PRINTING:—						
485	Printing of Prize Sheets, Entry Forms, Admission Orders, Circulars to Exhibitors, Prize Cards, Tickets, and Miscellaneous	347	6	0			
69	Programmes for Members	59	16	6			
40	Plans of Showyard, including plans of routes	18	18	11			
30	Large Plans of Showyard and Judging Rings	25	12	6			
517	Printing of Catalogues	447	18	5			
89	Binding of Catalogues	71	5	9			
12	Carriage of Catalogues to Showyard	10	15	0			
84	Printing Awards	69	13	6			
29	Programmes of Jumping Competitions	17	14	3			
1,355							1,069 0 10
	ADVERTISING:—						
90	Advertising Closing of Entries in Newspapers	90	13	9			
2,396	Advertising Show in Newspapers	759	0	11			
	Distributing Window Bills	8	15	0			
	Printing of Posters and Placards	133	3	2			
73	Press Visit, &c., before Show	46	14	6			
2,559	Do. Printing	6	2	6			
							1,044 9 10
	POSTAGE, CARRIAGE, &c.:—						
112	General Postage	95	16	6			
	Postage of Tickets to Members	32	17	1			
	Carriage of Luggage	5	10	0			
							134 3 7
4,499	AMOUNT OF PRIZES AWARDED (for details, see page xxii)						
	COST OF FORAGE FOR LIVE STOCK:—						
704	Hay, 147l. 5s. 10d.; Straw, 233l. 17s. 9d.; Green Food, 221l.; Insurance, 1l. 15s. 6d.						603 19 1
	JUDGES' FEES AND EXPENSES:—						
46	Judges of Miscellaneous Implements						12 12 0
475	Judges of Horses, 72l. 7s. 8d.; Cattle, 126l. 15s. 2d.; Sheep, 124l. 0s. 5d.; Pigs, 33l. 9s. 2d.; Poultry, 25l. 15s. 0d.; Butter 8l. 14s. 0d.; Cheese, 5l. 2s. 0d.; Cider and Perry, 7l. 11s. 9d.; Wool, 5l.; Horse-shoeing, 16l. 18s.; Trotting, 3l. 3s. 0d.						428 16 2
£16,547	Carried forward						£14,130 15 5

Receipts (contd.).

Corresponding figures for 1904.

		£	s.	d.	£	s.	d.
9,242	Brought forward				8,319	16	8
	ADMISSIONS TO SHOWYARD:—						
491	Tuesday, June 27, @ 2s. 6d.	342	16	6			
975	Wednesday, June 28, @ 2s. 6d.	949	6	0			
1,043	Thursday, June 29, @ 2s. 6d. and 1s.	639	14	0			
302	Friday, June 30, @ 1s.	285	1	4			
353	<i>Saturday</i>						
62	Day Tickets	40	3	1			
29	Season Tickets	7	8	6			
717							
3,972					2,264	9	5
	ENTRANCES TO HORSE RING:—						
198	Wednesday, June 28	184	1	6			
179	Thursday, June 29	81	4	0			
99	Friday, June 30	21	13	0			
154	<i>Saturday</i>						
337	Tickets sold for Reserved Enclosure	118	12	6			
9	Ladies' Tickets	7	0	0			
976					412	11	0
	DAIRY:—						
100	Sales of Produce at Dairy				60	12	4
165	Auction Sales in Showyard and Share of Commission				240	10	2
20							
6,920					7,279	17	11
	BALANCE TO DEBIT OF SHOW OF 1905						
	[The loss of 7,279l. 17s. 11d. will be defrayed as follows:—						
	By Contributions towards Show Fund (see page xxiv)	£	s.	d.	7,038	12	0
	From the Society's Ordinary Funds				241	5	11
					£7,279	17	11]
	STATEMENT OF PRIZES AWARDED:—						
		£	s.	d.			
1,253	Horses	1,873	0	0			
1,786	Cattle	2,747	5	0			
1,268	Sheep	1,562	10	0			
375	Pigs	424	5	0			
177	Poultry	285	10	0			
99	Cheese and Butter	115	0	0			
40	Cider and Perry	40	0	0			
98	Wool	53	0	0			
32	Horse-shoeing	16	0	0			
246	Horse-jumping (including Entry Fees)	175	0	0			
—	Other Horse Competitions	52	10	0			
35							
40	Contribution to Bee Department	40	0	0			
5,449		7,384	0	0			
		£	s.	d.			
950	Less:—Prizes given by various Societies, &c.	1,247	13	0			
	Subscription to Prize Fund by Sir Walter Gilbey & his friends	1,000	0	0			
	Fees received in Horse-Jumping	36	0	0			
		2,283	13	0			
4,499		£5,100	7	0			
£21,395					£18,577	17	6

ERNEST CLARKE, *Secretary.*WELTON, JONES & Co., *Accountants.*

Corresponding figures for 1904.

Expenditure (contd.).

£		£ s. d.	£ s. d.
16,547	Brought forward		14,130 15 5
21	Badges for Judges and other Officials		14 12 9
38	Rosettes		32 9 9
	GENERAL ADMINISTRATION:—		
—	Honorary Director	83 4 9	
40	Stewards:—Personal and Railway Expenses charged to Society	65 14 4	
114	Assistant Stewards:—Honoraria, 62 <i>l.</i> ; Expenses, 12 <i>l.</i> 14 <i>s.</i> 4 <i>d.</i>	74 14 4	
52	Official Staff:—Extra Clerks, 11 <i>l.</i> ; Lodgings, 1 <i>l.</i> 1 <i>s.</i> ; Maintenance of Clerks, 25 <i>l.</i> 5 <i>s.</i> ; Travelling Expenses, 5 <i>l.</i> 14 <i>s.</i> 7 <i>d.</i> ; Assistant Director's Expenses, 14 <i>l.</i> 0 <i>s.</i> 6 <i>d.</i> ; Secretary's Personal Expenses, 1 <i>l.</i> 6 <i>s.</i> 6 <i>d.</i>	58 7 7	
124	Finance Office: Superintendent of Turnstiles, 10 <i>l.</i> 10 <i>s.</i> ; Grand Stand Men, 21 <i>l.</i> 3 <i>s.</i> 6 <i>d.</i> ; Turnstile Men, 15 <i>l.</i> ; Bank Clerks, 28 <i>l.</i> 15 <i>s.</i>	75 8 6	
40	Awards Office:—Clerks, 32 <i>l.</i> 3 <i>s.</i> 6 <i>d.</i> ; Awards Boys, 13 <i>l.</i> 1 <i>s.</i> 6 <i>d.</i>	45 5 0	
370			402 14 6
	General Management:—		
80	Foreman and Assistant Foremen	71 14 5	
345	Yardmen, Grooms, and Foddermen	324 15 4	
76	Door and Gate Keepers	70 4 3	
40	Carriage and Horse Hire	52 13 11	
58	Veterinary Department:—Veterinary Inspectors	83 7 0	
111	Engineering Department:—Consulting Engineer and Assistants, 73 <i>l.</i> 7 <i>s.</i> 9 <i>d.</i> ; Wages to Workmen, &c., 13 <i>l.</i> 6 <i>s.</i> 11 <i>d.</i>	86 14 8	
483	Police, &c.:—Metropolitan Police, 409 <i>l.</i> 17 <i>s.</i> ; Commissioners, 15 <i>l.</i> 7 <i>s.</i> 6 <i>d.</i> ; Messengers, 2 <i>l.</i> 4 <i>s.</i>	427 8 6	
1,193			1,116 18 9
292	Dairy:—Milk, 58 <i>l.</i> 17 <i>s.</i> 7 <i>d.</i> ; Ice, 16 <i>l.</i> 12 <i>s.</i> 3 <i>d.</i> ; Utensils, 56 <i>l.</i> 12 <i>s.</i> 8 <i>d.</i> ; Staff, 94 <i>l.</i> 19 <i>s.</i> 4 <i>d.</i> ; Salt, 1 <i>l.</i> 16 <i>s.</i> 0 <i>d.</i> ; Miscellaneous Payments, 2 <i>l.</i> 1 <i>s.</i> 10 <i>d.</i> ; Butter Tests, 7 <i>l.</i> 3 <i>s.</i> 2 <i>d.</i> ; Milk Analyses, 5 <i>l.</i> ; Refreshments, 2 <i>l.</i> 4 <i>s.</i> 11 <i>d.</i> ; Coal, 1 <i>l.</i> 7 <i>s.</i> 6 <i>d.</i> ; Fittings, &c., 5 <i>l.</i> 9 <i>s.</i> 11 <i>d.</i>		252 5 2
30	Poultry:—Superintendent, 8 <i>l.</i> 10 <i>s.</i> ; Penning, Attendants, and Food, 22 <i>l.</i> 10 <i>s.</i> 6 <i>d.</i>		31 0 6
36	Horse-shoeing:—Hire of Forges, 19 <i>l.</i> 7 <i>s.</i> ; Coal, 2 <i>l.</i> 10 <i>s.</i> ; Nails, 1 <i>l.</i> 16 <i>s.</i> ; Wages, 2 <i>l.</i> 19 <i>s.</i> 7 <i>d.</i> ; Gratuities, 4 <i>l.</i> ; Refreshments, 1 <i>l.</i> 0 <i>s.</i> 5 <i>d.</i>		31 13 0
24	Produce:—Analyses of Cider		10 0 0
	GENERAL SHOWYARD EXPENSES:—		
173	Military Band	106 8 0	
50	St. John Ambulance Association	50 0 0	
12	Official Luncheons	4 8 11	
178	Royal Pavilion: Furniture, 39 <i>l.</i> 10 <i>s.</i> ; Floral Decorations, 25 <i>l.</i>	64 10 0	
12	Gratuities to Bath Chairmen	12 0 0	
—	Telephones	11 0 1	
129	Horse Hire, 45 <i>l.</i> 18 <i>s.</i> 6 <i>d.</i> ; Slop Carts, 3 <i>l.</i> 6 <i>s.</i> 3 <i>d.</i> ; Jumping Competition, 4 <i>l.</i> 5 <i>s.</i> 7 <i>d.</i> ; Gravel and Ashes, 10 <i>l.</i> 18 <i>s.</i> ; Newspapers, 8 <i>s.</i> 2 <i>d.</i>	64 16 6	
161	Hire:—Furniture, Canvas, &c., 96 <i>l.</i> 0 <i>s.</i> 9 <i>d.</i> ; Chairs, 49 <i>l.</i> 16 <i>s.</i> 8 <i>d.</i>	145 17 5	
33	Miscellaneous:—Superintendent's Petty Accounts, 24 <i>l.</i> 9 <i>s.</i> 10 <i>d.</i> ; Medals, 2 <i>l.</i> 17 <i>s.</i> 6 <i>d.</i>	27 7 4	
748			486 8 3
33	Education and Forestry Exhibition		25 7 6
113	"Rent" of Show Ground (Rates, Taxes, Interest, &c.)	1,869 12 11	
	"Rent" for use of Sleepers, Fixtures, Furniture, and Tools	173 19 0	
1,950			2,043 11 11
£21,395			£18,577 17 6

Examined, audited, and found correct, this 1st day of December, 1905.

JONAS M. WEBB
NEWELL P. SQUAREY } Auditors on behalf of the Society.

Royal Agricultural Society of England.

SHOW OF 1905.

LIST OF DONATIONS TO GUARANTEE FUND

FOR THE

SOCIETY'S SHOW, HELD AT PARK ROYAL,

JUNE 27-30, 1905.

Total of Fund, £7,038 12s.

	£	s.	d.		£	s.	d.
Mr. F. S. W. Cornwallis	710	0	0	Mr. R. A. Lister	25	0	0
The Great Western Railway Company	500	0	0	Rt. Hon. Sir Massey Lopes, Bart.	25	0	0
The Earl of Derby, K.G.	250	0	0	Mr. Henry D. Marshall	25	0	0
Lord Rothschild	250	0	0	Col. the Hon. F. C. Morgan	25	0	0
Mr. Albert Brassey, M.P.	200	0	0	Mr. James E. Ransome (the late)	25	0	0
Rt. Hon. Victor C. W. Cavendish, M.P.	200	0	0	Mr. Howard P. Ryland (the late)	25	0	0
Sir Berkeley Sheffield, Bart.	150	0	0	Mr. W. H. St. Quintin	25	0	0
Lord Calthorpe	100	0	0	Mr. J. G. Williams	25	0	0
Mr. Peter Coats	100	0	0	Mr. A. D. Macneill	21	0	0
Sir R. P. Cooper, Bart.	100	0	0	The Earl of Northbrook	21	0	0
Mr. R. W. Hudson	100	0	0	Mr. John Unite	21	0	0
Lord Leconfield	100	0	0	Messrs. Daniel Watney & Sons	21	0	0
Sir Oswald Mosley, Bart.	100	0	0	Lord Barrymore	20	0	0
The Marquis of Ripon, K.G.	100	0	0	The Earl of Coventry	20	0	0
Viscount Tredegar	100	0	0	The Earl of Ducie	20	0	0
Col. V. W. B. Van de Weyer	100	0	0	Mr. W. H. Foster	20	0	0
The Duke of Westminster	100	0	0	Sir John Gilmour, Bart.	20	0	0
Mr. Henry Williams	100	0	0	Mr. Richard M. Greaves	20	0	0
The Marquis of Winchester	100	0	0	The Earl of Jersey	20	0	0
Miss Gertrude Appack	50	0	0	Lord Moreton	20	0	0
Mr. John Barker	50	0	0	Red Polled Society	20	0	0
Mr. James Buchanan	50	0	0	Messrs. E. R. & F. Turner, Ltd.	20	0	0
Capt. W. H. O. Duncombe	50	0	0	Mr. Owen C. Wallis	20	0	0
Mr. C. E. Gunther	50	0	0	Mr. Charles Whitehead	20	0	0
Sir A. Henderson, Bart., M.P.	50	0	0	Mr. E. J. Wythes	20	0	0
Mr. F. D. Lambert	50	0	0	Auctioneers, 1904 (Mr. A. C. Beck, Mr. W. H. Lythall, Mr. John Thornton)	15	0	0
Lord Middleton	50	0	0	Mr. Lawrence J. Baker	15	0	0
Viscount Ridley (the late)	50	0	0	Messrs. Jas. Smyth & Sons, Ltd.	15	0	0
Mr. Leopold Salomons	50	0	0	Messrs. Thomas Bradford & Co.	10	10	0
Mr. J. M. Sears	50	0	0	Mr. F. S. Courtney	10	10	0
Sir Edward D. Stern	50	0	0	Dairy Supply Co., Ltd.	10	10	0
Sussex Herd Book Society	50	0	0	Messrs. Day & Sons	10	10	0
Mr. R. A. Warren	50	0	0	Messrs. Gartons, Ltd.	10	10	0
Mr. W. H. A. Wharton	50	0	0	Mr. G. E. Gillett	10	10	0
Mr. J. C. Williams	50	0	0	Capt. W. B. Harrison	10	10	0
Mr. Hugh Gorringe	32	0	0	Mr. Harrison Holt	10	10	0
Mr. T. H. Miller	30	0	0	Mr. W. J. Lancaster	10	10	0
Messrs. Ruston, Proctor & Co., Ltd.	28	0	0	Messrs. R. & W. Paul, Ltd.	10	10	0
Messrs. J. & F. Howard	26	5	0	Mr. Thomas Potter	10	10	0
Mr. W. H. Tayleur (the late)	26	5	0	Mr. Charles T. Pulley	10	10	0
Messrs. Barford & Perkins	25	0	0	Senor Don. E. Ramos Mexia	10	10	0
Messrs. Charles Burrell & Sons, Ltd.	25	0	0	Mr. W. W. Swinnerton	10	10	0
Mr. Alex. Cross	25	0	0	Messrs. W. H. Willcox & Co., Ltd.	10	10	0
The Earl of Feversham	25	0	0	Messrs. Winch & Sons	10	10	0
Mr. William Harrison	25	0	0	H.R.H. Prince Christian, K.G.	10	0	0
Mr. Charles H. Hoare	25	0	0	Mr. Charles R. W. Adeane	10	0	0
Mr. W. Hollins	25	0	0	Lord Allerton	10	0	0
Sir James Joicey, Bart.	25	0	0	Mr. Frederick Ames	10	0	0
				Mr. Alfred Ashworth	10	0	0

	£	s.	d.		£	s.	d.
Mr. Hugh Baker	10	0	0	Messrs. H. G. & W. Burkitt	5	0	0
Mr. J. H. Benyon	10	0	0	Mr. J. Carver	5	0	0
The Marquis of Bristol	10	0	0	Mr. Godfrey J. B. Chetwynd	5	0	0
Major H. Dent Brocklehurst	10	0	0	Rear-Admiral W. R. Clutterbuck	5	0	0
Mr. F. J. Colman	10	0	0	Sir Walter O. Corbét, Bart.	5	0	0
Mr. W. H. Cooke	10	0	0	Messrs. George Cradock & Co.	5	0	0
Sir Daniel Cooper, Bart.	10	0	0	Mr. J. J. Cridlan	5	0	0
Lt.-Col. J. F. Curtis-Hayward	10	0	0	Mr. Douglas Crossman	5	0	0
Mr. Alfred E. W. Darby	10	0	0	Messrs. Davey, Sleep & Co., Ltd.	5	0	0
Senor M. A. Martinez de Hoz	10	0	0	Mr. T. A. Dickson	5	0	0
Messrs. Dicksons, Ltd.	10	0	0	Messrs. Dickson, Brown & Tait	5	0	0
Mr. J. Marshall Dugdale	10	0	0	Mr. O. F. Drew	5	0	0
Mr. Alfred C. Duncombe	10	0	0	Col. Hope Edwards	5	0	0
Mr. William Fawcett	10	0	0	Mr. Roger Errington	5	0	0
Rt. Hon. A. E. Fellowes, M.P.	10	0	0	Mr. Lewis Evans	5	0	0
Messrs. James Forshaw & Sons	10	0	0	Mr. Joshua Fielden	5	0	0
Mr. J. L. Gibbons	10	0	0	Mr. Charles File	5	0	0
Mr. R. Neville Grenville	10	0	0	Sir David Gamble, Bart.	5	0	0
Hon. Louis Greville	10	0	0	Mr. Arthur N. Gilbey	5	0	0
London and Provincial Moss Litter Co., Ltd.	10	0	0	Mr. Guy Gilbey	5	0	0
Mr. Frederick Neame	10	0	0	Mr. Henry Walter Gilbey	5	0	0
Mr. George Okell	10	0	0	Maj.-Gen. Graham	5	0	0
Mr. O. O. Openshaw	10	0	0	Mr. James Groves	5	0	0
Mr. A. T. T. Peterson	10	0	0	Mr. J. G. Groves, M.P.	5	0	0
Col. Henry Platt, C.B.	10	0	0	Mr. A. C. Hall	5	0	0
Lord Rendlesham	10	0	0	Mr. J. C. Harford	5	0	0
Mr. Frederick Reynard	10	0	0	Mr. Heath Harrison	5	0	0
Mr. Alfred R. Robinson	10	0	0	Mr. G. L. Foster Harter	5	0	0
Mr. T. Perkin Robinson	10	0	0	Col. F. Henry	5	0	0
The Earl of Rosse	10	0	0	Mr. J. A. Henryson-Caird	5	0	0
Mr. George H. Sanday	10	0	0	Mr. Sidney Hill	5	0	0
Viscount Sidmouth	10	0	0	Mr. James T. Hobbs	5	0	0
Sir John H. Thorold, Bart.	10	0	0	Mr. Robert W. Hobbs	5	0	0
Mr. Robert J. Tidswell	10	0	0	Mr. F. A. Holman	5	0	0
Mr. William Vickers	10	0	0	Mr. James Hunter	5	0	0
Sir Offley Wakeman, Bart.	10	0	0	Mr. H. W. Langley	5	0	0
Mr. E. Vincent V. Wheeler	10	0	0	Col. C. P. Le Cornu	5	0	0
Mr. R. H. Wood	10	0	0	Sir Henry Lennard, Bart.	5	0	0
The Hon. F. G. Wynn	10	0	0	Mr. H. C. Lewis	5	0	0
Mr. H. P. Vacher	9	10	0	Sir W. T. Lewis	5	0	0
Col. Thomas C. P. Calley	5	5	0	Mr. W. W. Lupton	5	0	0
Messrs. J. W. & T. Connolly, Ltd.	5	5	0	Mr. R. H. Mardon	5	0	0
The Economic Fencing Co., Ltd.	5	5	0	Mr. G. Elliott Meakin	5	0	0
Miss Ethel G. Everest	5	5	0	Rev. R. S. Mitchison	5	0	0
Mr. George Galloway	5	5	0	Mr. George Neve	5	0	0
Mr. H. H. Green	5	5	0	Mr. A. F. Nichol	5	0	0
Mr. Edward Hodgson	5	5	0	Mr. J. W. P. Page	5	0	0
Maj.-Gen. J. Jago-Trelawney	5	5	0	Mr. W. B. Paget	5	0	0
Mr. Charles E. Keyser	5	5	0	Mr. Ralph Palmer	5	0	0
Mr. William Lillico	5	5	0	Mr. B. Prescott-Westcar	5	0	0
Mr. A. Lloyd	5	5	0	Mr. Clare Sewell Read (the late).	5	0	0
Prof. Sir J. McFadyean	5	5	0	Mr. Emil Reiss	5	0	0
Mr. J. G. Mair-Rumley	5	5	0	Mr. Henry Rigdon	5	0	0
Mr. H. R. Marsden	5	5	0	Miss Ella S. Ross	5	0	0
Mr. Thomas Penny	5	5	0	Mr. J. A. Rutherford	5	0	0
Mr. Thomas S. Penny	5	5	0	J. G. S.	5	0	0
Mr. Harold Switbinbank	5	5	0	Mr. W. Cecil Salt	5	0	0
Mr. D. A. Thomas, M.P.	5	5	0	Mr. Samuel Sanday	5	0	0
Mr. H. W. Walthall	5	5	0	A Shropshire Breeder	5	0	0
Mr. J. T. C. Winkfield	5	5	0	Mr. James Sinnott	5	0	0
Mr. William Arkwright	5	0	0	Mr. A. S. Marsden Smedley	5	0	0
Mr. W. J. Armstrong	5	0	0	Messrs. Smith, Parfrey & Co., Ltd.	5	0	0
Mr. R. C. Assheton	5	0	0	Mr. S. Snelgrove	5	0	0
Sir H. Aubrey-Fletcher, Bart., M.P.	5	0	0	Maj.-Gen. F. E. Sotheby	5	0	0
Mr. G. E. Lloyd Baker	5	0	0	Mr. Elias P. Squarey	5	0	0
Mr. A. C. Bamlett	5	0	0	Mr. Frank H. Stericker	5	0	0
Mr. E. E. Barclay	5	0	0	Mr. S. G. Stopford-Sackville	5	0	0
Lady Henry Bentinck	5	0	0	Mr. Richard Stratton	5	0	0
Mr. C. Bewes	5	0	0	Mr. A. M. Streatfeild-Moore	5	0	0
The Rev. G. W. Bidwell	5	0	0	Mr. C. Howard Taylor	5	0	0
Mr. J. Bowen-Jones	5	0	0	Messrs. Thomas & Son	5	0	0
Mr. J. H. Bridges	5	0	0	Messrs. Thurgood & Martin	5	0	0
Mr. Edward Brocklehurst	5	0	0	Messrs. George Thurlow & Sons, Ltd.	5	0	0
Mr. J. B. Close Brooks	5	0	0	Mr. A. Toley	5	0	0
Gen. Sir C. H. Brownlow, G.C.B.	5	0	0	Mr. H. W. Trinder	5	0	0
				Mr. W. R. Trotter	5	0	0

Donations to Guarantee Fund,

	£	s.	d.		£	s.	d.
Messrs. Vipan & Headly	5	0	0	Mr. Charles Pascall	2	2	0
Mr. E. W. Voelcker	5	0	0	Maj.-Gen. F. H. Poore	2	2	0
Mr. B. J. Warwick	5	0	0	Mr. John Powell	2	2	0
Mr. Thomas P. Wilkes	5	0	0	Capt. G. E. Price	2	2	0
Lt.-Gen. Sir Henry C. Wilkinson	5	0	0	Mr. W. A. Prout	2	2	0
Mr. C. W. Wilson	5	0	0	Messrs. Pullin & Adams	2	2	0
Mr. John D. Wragg	5	0	0	Col. G. W. Raikes	2	2	0
The Hon. Percy Wyndham	5	0	0	Mr. Charles Reid	2	2	0
Capt. C. P. Noel	4	0	0	Mr. W. Ridley	2	2	0
Mr. Henry Oakley	4	0	0	Mr. John Sanders	2	2	0
Mr. J. Benson	3	3	0	Mr. C. Simmons	2	2	0
Mr. Alfred Cockerill	3	3	0	Mr. W. Simmons	2	2	0
Mr. Edward Colston, M.P.	3	3	0	Mr. A. M. Simon	2	2	0
Mr. Herbert J. Davis	3	3	0	Messrs. W. Singleton & Flint & Co.	2	2	0
Prof. Douglas A. Gilchrist	3	3	0	Dr. B. Skalweit	2	2	0
Mr. A. Hailwood	3	3	0	Capt. J. W. Smith-Neill	2	2	0
Mr. W. M. Harrison	3	3	0	Mr. Alex. R. Stenning	2	2	0
Mr. T. M. Jarman	3	3	0	Mr. Thomas Stirton	2	2	0
Prof. T. H. Middleton	3	3	0	Mr. Charles W. Tindall	2	2	0
Mr. Hugh Morrison	3	3	0	Mr. J. Tootell	2	2	0
Rev. Sir W. Hyde Parker, Bart.	3	3	0	Mr. James Turner	2	2	0
Messrs. R. & J. Reeves & Son, Ltd.	3	3	0	Mr. A. H. Wingfield	2	2	0
Mr. James Rollason	3	3	0	Mr. O. S. Wynne	2	2	0
Mr. A. C. Russell	3	3	0	Mr. Robert Anderson	2	0	0
Mr. John Willmot	3	3	0	Mr. Robert Blezard	2	0	0
Mr. Reginald Bell	3	0	0	Mr. Francis Brouncker	2	0	0
Sir J. Colquhoun, Bart.	3	0	0	Mr. Edward Broughall	2	0	0
Viscount Deerhurst	3	0	0	Mr. D. Cameron	2	0	0
Mr. W. S. Fox	3	0	0	Capt. H. A. Cartwright	2	0	0
Mr. R. L. Greenshields	3	0	0	Mr. P. H. Cathcart	2	0	0
Mr. F. Handley	3	0	0	Mr. H. Shepherd Cross	2	0	0
Hon. A. Holland-Hibbert	3	0	0	Mr. L. M. Crossman	2	0	0
Capt. Egerton Leigh	3	0	0	Mr. Sydney Dennis	2	0	0
Mr. Gervase Markham	3	0	0	Mr. C. W. B. Fernie	2	0	0
Mr. William G. Norris	3	0	0	Mr. William Frankish	2	0	0
Mr. F. L. Pattison	3	0	0	Mr. George Galpin	2	0	0
Mr. Alfred J. Smith	3	0	0	Mr. W. Crosbie Gilbey	2	0	0
The Duke of Somerset	3	0	0	Mr. George Grandage	2	0	0
Mr. M. Stocks	3	0	0	Mr. W. Maling Grant	2	0	0
Mr. G. C. Williams	3	0	0	Mr. Kenneth P. Hawksley	2	0	0
Messrs. H. J. & C. Major, Ltd.	2	17	0	Mr. Charles Hayes	2	0	0
Mr. Frederick Baker	2	2	0	Maj. E. Herbert	2	0	0
Mr. C. W. Bartholomew	2	2	0	Mr. E. G. S. Hornby	2	0	0
The Misses Beck	2	2	0	The Bishop of Ipswich	2	0	0
Mr. Henry D. Buckland	2	2	0	Mr. Arthur M. Lee	2	0	0
Mr. Felix Calvert	2	2	0	Mr. William Lewthwaite	2	0	0
Mr. C. H. B. Cane	2	2	0	Mr. J. B. Littledale	2	0	0
Mr. Edward H. Cartwright	2	2	0	Mr. W. J. Malden	2	0	0
Mr. George Coleman	2	2	0	Mr. W. G. Moore	2	0	0
Mr. Cecil F. A. Cooper	2	2	0	Mr. Thomas Neve	2	0	0
Mr. F. H. Davenport	2	2	0	Mr. J. L. Nickisson	2	0	0
Mr. Harold Dewhurst	2	2	0	Mr. A. C. Norman	2	0	0
Mr. W. B. Dickinson	2	2	0	Capt. W. E. F. O'Brien	2	0	0
Baron Dimsdale	2	2	0	Mr. E. E. Pearson	2	0	0
Mr. John Farrer	2	2	0	Mr. P. P. Pennant	2	0	0
Rev. W. R. Finlay	2	2	0	Lord Polwarth	2	0	0
Mr. T. J. Firth	2	2	0	Mr. L. Ralph Price	2	0	0
Col. H. Oakden Fisher	2	2	0	Mr. F. Punchard	2	0	0
Mr. James Flower	2	2	0	Mr. D. M. Rattray	2	0	0
Mr. G. G. Griffin	2	2	0	Mr. C. Coltman Rogers	2	0	0
Capt. E. L. A. Heygate	2	2	0	Mr. Ernest W. Shackle	2	0	0
Mr. J. T. Holt	2	2	0	Mr. Otho Shaw	2	0	0
Mr. H. Humphreys	2	2	0	Mr. R. S. W. Sitwell	2	0	0
Mr. J. Sutcliffe Hurndall	2	2	0	Mr. J. Thomson	2	0	0
Mr. David Jones	2	2	0	Mr. Arthur S. Thornton	2	0	0
Mr. A. H. Kerr	2	2	0	Mrs. Thornton	2	0	0
Mr. C. Pelham Lane	2	2	0	Mr. John Watts	2	0	0
Messrs. Leverett & Frye, Ltd.	2	2	0	Mr. W. Seward Webb	2	0	0
Mr. E. Gordon Linzee	2	2	0	Mr. E. M. E. Welby	2	0	0
Major Arthur Lloyd	2	2	0	Mr. Thomas Williams	2	0	0
Lt. G. M. Marston, R.N.	2	2	0	Mr. M. Wooten	2	0	0
Mr. Ernest Mathews	2	2	0	Mr. R. Denne Hancock	1	11	6
Mr. A. Miller-Hallett	2	2	0	Mr. Howard Savory	1	10	0
The Hon. R. P. Nevill	2	2	0	Mr. R. T. G. Abbott	1	1	0
Mr. William Owen	2	2	0	Maj.-Gen. Sir H. J. Alderson, K.C.B.	1	1	0
Mr. James Parham	2	2	0	Mr. J. D. Allen	1	1	0
Mr. W. Fillingham Parr	2	2	0	Mr. Hubert D. Argles	1	1	0

	£	s.	d.		£	s.	d.
Mr. William Arkell	1	1	0	Mr. G. P. Mitchell-Innes	1	1	0
Mr. G. F. Armytage	1	1	0	Mr. Thomas Moy	1	1	0
Mr. William Barnes	1	1	0	Mr. J. Tetley Nickels	1	1	0
Mr. R. S. Barrow	1	1	0	Col. Sir Reginald Ogilvy, Bart.	1	1	0
Mr. Hugh Bennett	1	1	0	Mr. Edward Otter	1	1	0
Mr. Ambrose S. Berry	1	1	0	Mr. John Thomas Oxley	1	1	0
Mr. Harry T. Birdsey	1	1	0	Mr. E. Packard	1	1	0
Mr. E. F. Blackwell	1	1	0	Mr. H. Padwick	1	1	0
Mr. H. W. Bland	1	1	0	Mr. Edward Parsons	1	1	0
Mr. G. G. Blantern	1	1	0	Mr. George Pedley	1	1	0
Mr. J. Bowley	1	1	0	Miss Perkin	1	1	0
Mr. D. Bragg	1	1	0	Mr. A. F. Perkins	1	1	0
Mr. F. Brickwell	1	1	0	Miss Cecilia M. Perkins	1	1	0
Mr. Hope Brooke	1	1	0	Mr. J. Picard	1	1	0
Mr. G. A. McLean Buckley	1	1	0	Mr. George H. C. Powell	1	1	0
Mr. W. G. Busk	1	1	0	Mr. W. D. Powles	1	1	0
Mr. Thomas Cash	1	1	0	Mr. Arthur T. Pratt	1	1	0
Mr. William Cave	1	1	0	Mr. F. Preedy	1	1	0
Maj.-Gen. A. Cherry-Garrard	1	1	0	Messrs. Ridler & Hobday	1	1	0
Mr. E. F. Chamier	1	1	0	Mr. Joseph A. Robinson	1	1	0
Mr. R. Bowcher Clarke	1	1	0	Mr. W. B. Roderick	1	1	0
Mr. A. W. Cobbold	1	1	0	Mr. Sidney Sharp	1	1	0
Mr. John Conchar	1	1	0	Mr. Montagu Sharpe	1	1	0
Mr. E. A. Cook	1	1	0	Mr. H. T. Simmons	1	1	0
Lt.-Col. C. H. Eyre Coote	1	1	0	Mr. George Slater	1	1	0
Mr. H. H. Crewe	1	1	0	Mr. J. D. Southam	1	1	0
Mr. Frank Cronk	1	1	0	Mr. Philip Southby	1	1	0
Mr. J. Cryer	1	1	0	Mr. Newell P. Squarey	1	1	0
Capt. Clifford Cullen	1	1	0	Mr. R. H. Sutton	1	1	0
Mr. E. T. Dames-Longworth	1	1	0	Maj. Harold P. Sykes	1	1	0
Mr. R. M. Danks	1	1	0	Mr. Alfred Tanner	1	1	0
Mr. A. H. Dashwood	1	1	0	Mr. J. Thomas	1	1	0
Mr. Edward Davies	1	1	0	Mr. Guy Thomson	1	1	0
Mr. Ben Day	1	1	0	Mr. W. M. Tod	1	1	0
Mr. J. Deane	1	1	0	Mr. William Toller	1	1	0
Lt.-Col. H. F. Dent	1	1	0	Mr. H. Tovey	1	1	0
Mr. W. Scarth Dixon	1	1	0	Mr. H. H. Trevithick	1	1	0
Mr. Thomas Dutfield	1	1	0	Maj.-Gen. T. B. Tyler	1	1	0
Mr. Thomas S. Dymond	1	1	0	Mr. E. Upton	1	1	0
Mr. Augustus J. Eck	1	1	0	Mr. R. Urry	1	1	0
Mr. George Farmer	1	1	0	Col. F. A. Walker-Jones	1	1	0
Mr. James Farmer	1	1	0	Mr. Robert C. Warner	1	1	0
Commander C. J. Fellowes	1	1	0	Mr. B. Wells	1	1	0
Dr. W. Corbin Finch	1	1	0	Mr. J. H. Wheatley	1	1	0
Mr. Philip Fisher	1	1	0	Mr. A. S. White	1	1	0
Mr. R. H. Foster	1	1	0	Mr. E. A. White	1	1	0
Mr. Arthur S. Gibson	1	1	0	Mr. Matthew Williams	1	1	0
Mr. Egerton Gilbert	1	1	0	Messrs. S. M. Wilmot & Co.	1	1	0
Mr. L. D. Gover	1	1	0	Sir Jacob Wilson (the late)	1	1	0
Mr. D. Abbott Green	1	1	0	Mr. C. E. Wodehouse	1	1	0
Mr. A. D. Hall	1	1	0	Mr. W. E. Woodward	1	1	0
Mr. F. Haniel Harvey	1	1	0	Mr. H. A. L. Young	1	1	0
Mr. E. B. Haygarth	1	1	0	Mr. Alfred Amos	1	0	0
Mr. George F. Hempson	1	1	0	Mr. C. Rouabeyn Angell	1	0	0
Viscount Hill	1	1	0	Mr. John Archibald	1	0	0
Mrs. Ernest Hills	1	1	0	Mr. Daniel Arkell	1	0	0
Mr. F. A. Hordern	1	1	0	Mr. Frederic Armitage	1	0	0
Mr. H. Horncastle	1	1	0	Mr. Geoffrey Barnardiston	1	0	0
Mr. Benjamin Howkins	1	1	0	Mr. J. Barton	1	0	0
Mr. Alfred Hughes	1	1	0	Mr. W. Battersby	1	0	0
Mr. J. L. Hughes	1	1	0	Mr. W. W. Becher	1	0	0
Mr. A. F. Hurt	1	1	0	Mr. H. Owen Bell	1	0	0
Mr. Robert Ibbotson	1	1	0	Mr. Jeffrey Bennett	1	0	0
Rev. F. Jickling	1	1	0	Mr. R. A. Benson	1	0	0
Mr. C. Bryner Jones	1	1	0	Mr. H. W. B. Berwick	1	0	0
Mr. F. M. T. Jones-Balme	1	1	0	Mr. W. A. Bewes	1	0	0
Mr. Samuel Kelsey	1	1	0	Mr. Herman Biddell	1	0	0
Mr. J. Kennard	1	1	0	Mr. M. M. Blacker	1	0	0
Mr. J. W. Kenyon	1	1	0	Miss Blundell	1	0	0
Mr. George Laing	1	1	0	Mr. J. Bowers	1	0	0
Mr. Thomas Levett-Prinsep	1	1	0	Mr. J. B. Bowman	1	0	0
Mr. R. W. R. Mackenzie	1	1	0	Lady Margaret Boscawen	1	0	0
Mr. W. McCracken	1	1	0	Mr. C. Clarke	1	0	0
Mr. Alfred Mansell	1	1	0	Mr. Henry Clayden	1	0	0
Mr. J. H. Master	1	1	0	Mrs. Louisa E. Cohen	1	0	0
Mr. John Maughan	1	1	0	Mr. Edward Conder	1	0	0
Mr. John Mills	1	1	0	Mr. E. R. Cook	1	0	0

	£	s.	d.		£	s.	d.
Mr. William Cookson	1	0	0	Mr. E. Goodwin Preece	1	0	0
Mr. E. H. Crofts	1	0	0	Sir R. D. Green Price, Bart.	1	0	0
Mr. T. B. Croome	1	0	0	Mr. H. W. Prior-Wandesforde	1	0	0
Mr. Walter Crosland	1	0	0	The Radnorshire Polo & Riding			
Mr. A. C. Martin Cross	1	0	0	Pony Co., Ltd.	1	0	0
Prof. C. E. Curtis	1	0	0	Mr. William Reading	1	0	0
Mr. Eldred Curwen	1	0	0	Mr. W. J. P. Reading	1	0	0
Mr. J. C. Dawson	1	0	0	Mr. C. Reed	1	0	0
Mr. R. J. Dawson	1	0	0	Mr. Henry Reeve	1	0	0
Mr. Daniel R. Daybell	1	0	0	Capt. H. B. Rhodes	1	0	0
Mr. T. Dent	1	0	0	Col. E. R. S. Richardson	1	0	0
Mr. D. Denis de Vitre	1	0	0	Mr. John Riley	1	0	0
Mr. Matthew Dixon	1	0	0	Mr. G. S. Roadley	1	0	0
Driffield Pure Linseed Cotton and				Mr. J. R. A. Roberts	1	0	0
Union Cake Co., Ltd.	1	0	0	Mr. Ernest W. Robinson	1	0	0
Mr. W. M. Dugdale	1	0	0	Mr. John Robinson	1	0	0
Mr. Arthur Edmondson	1	0	0	Mr. John Robson	1	0	0
Mr. John Evens	1	0	0	Mr. John Robson, jun.	1	0	0
Sir William Farmer	1	0	0	Mr. J. Rooke	1	0	0
Mr. W. R. Flower	1	0	0	Mr. Thomas Howard Ryland	1	0	0
Mr. Edward N. Galloway	1	0	0	Mr. C. R. Saunders	1	0	0
Mr. J. F. Gaskell	1	0	0	Mr. S. R. Sherwood	1	0	0
Mr. John Gaunt	1	0	0	Mr. Alfred C. Skinner	1	0	0
Mr. C. Davies Gilbert	1	0	0	Mr. C. Collins Smith	1	0	0
Mr. E. Green	1	0	0	Mr. Ebenezer Smith	1	0	0
Mr. W. N. Greenwood	1	0	0	Mr. R. H. Sparks	1	0	0
Mr. T. Hacking	1	0	0	Mr. J. Stamper	1	0	0
Mr. H. C. Hancock	1	0	0	Capt. W. P. Standish	1	0	0
Mr. J. J. Harle	1	0	0	Mr. S. D. Stanley-Dodgson	1	0	0
Mr. H. Harmsworth	1	0	0	Mr. H. W. Stilgoe	1	0	0
Mr. Edmund Harrison	1	0	0	Mr. F. W. Stone	1	0	0
Mr. Augustus Harvey	1	0	0	Mr. J. M. Sturgess	1	0	0
Mr. Athole S. Hay	1	0	0	Mr. Gilbert Symons	1	0	0
Mr. J. N. Heathcote	1	0	0	Mr. A. C. Tangye	1	0	0
Mr. T. G. Heatley	1	0	0	Mr. R. Bovill Thompson	1	0	0
Mr. William Hemmings	1	0	0	Mr. James E. Thorold	1	0	0
Mr. William Higgott	1	0	0	Maj. E. Tinker	1	0	0
Mr. Philip Hodgson	1	0	0	Mr. Stanley Tooth	1	0	0
Mr. R. H. P. Hutchinson	1	0	0	Mr. Peverill Turnbull	1	0	0
Mr. Frederick Hutton	1	0	0	Mr. Arthur P. Turner	1	0	0
Mr. Arthur Jenks	1	0	0	Mr. Robert Walker	1	0	0
Mr. J. Jenks	1	0	0	Mr. R. Ward	1	0	0
Mr. A. Jennings	1	0	0	Mr. W. Warner	1	0	0
Capt. the Hon. Francis Johnstone	1	0	0	Mr. J. Way	1	0	0
Mr. J. C. H. Johnstone	1	0	0	Mr. Jonas Webb (the late)	1	0	0
Mr. W. R. Johnstone	1	0	0	Mr. E. F. Welch	1	0	0
Mr. E. F. Jordan	1	0	0	Mr. W. L. Wigan	1	0	0
Mr. Samuel Kidner	1	0	0	Mr. James Wilder	1	0	0
Capt. C. Morley Knight	1	0	0	Mr. C. Wilkinson	1	0	0
Mr. Wm. Levett	1	0	0	Mr. C. Stanley Williams	1	0	0
Herr Heinrich von Loesch	1	0	0	Mr. G. D. Willmot	1	0	0
Mr. E. H. Loyd	1	0	0	Mr. Henry J. Wilson	1	0	0
Mr. C. J. Temple Lynes	1	0	0	Mr. J. Wilson	1	0	0
Mr. J. Manning	1	0	0	Mr. B. Wimbush	1	0	0
Mr. John M. Martin	1	0	0	Mr. Thomas Winter	1	0	0
Mr. Christopher Middleton	1	0	0	Major C. E. W. Wood	1	0	0
Mr. Thomas S. Minton	1	0	0	Mr. John Wood	1	0	0
Mr. J. H. Monins	1	0	0	Mr. T. Wood	1	0	0
Mr. A. G. Montford	1	0	0	Mr. W. Wooddisse	1	0	0
Mr. W. Mosey	1	0	0	Earl of Yarborough	1	0	0
Mr. David Mutton	1	0	0	Mr. G. W. Bennett	0	10	6
Mr. T. B. Newitt	1	0	0	Mr. R. Matthews	0	10	6
Mr. F. Nichols	1	0	0	Mr. J. H. Savill	0	10	6
Mr. C. D. Nicholson	1	0	0	Mr. S. F. Stanford	0	10	6
Mr. Edward Nock	1	0	0	Mr. W. Stow Stowell	0	10	6
Mr. G. F. North	1	0	0	Mr. W. J. Berry	0	10	0
Mr. Richard S. Olver	1	0	0	Mr. John Brierly	0	10	0
Mr. Benjamin Painter	1	0	0	Mrs. C. Candy	0	10	0
Mr. Richard Parry	1	0	0	Mr. J. T. D. Kirkpatrick	0	10	0
Mr. J. Phillips	1	0	0	Mr. W. H. Pain	0	10	0
Mr. Claude M. S. Pilkington	1	0	0	Mr. A. F. Parbury	0	10	0
Major J. J. Porteous	1	0	0	Mr. Alfred Rowntree	0	10	0
Capt. the Hon. Gerald B. Portman	1	0	0	Mr. H. Travers	0	10	0
Mr. J. B. Powell	1	0	0	Mr. F. H. Harpur	0	5	0

PARK ROYAL, LIMITED.

REPORT OF THE DIRECTORS

AND STATEMENT OF ACCOUNTS TO SEPTEMBER 30, 1905.

Presented at the Ordinary General Meeting, held at
13 Hanover Square, W., on Wednesday, January 10, 1906.

Directors :

THE LORD MIDDLETON (*Chairman*).

SIR WALTER GILBEY, BART.

COL. SIR NIGEL KINGSCOTE, G.C.V.O., K.C.B.

MR. PERCY CRUTCHLEY.

1. The Directors present their Second Annual Report and Balance-sheet to September 30, 1905.

2. The work in connection with the erection of buildings and preparation for the Royal Agricultural Society's Show of 1905 was carried out by the Company at a cost of 4,596*l.* 2*s.* 2*d.*, and expenditure was incurred on account of Rates, Taxes, Interest on Mortgage, Rent of Leased Land, &c., amounting to 2,043*l.* 11*s.* 11*d.*

3. At the date of the Balance-sheet there was still due from the Royal Agricultural Society, after adjustment, the sum of 2,924*l.* 1*s.* 10*d.* on account of the Show of 1904, and 522*l.* 4*s.* 6*d.* on account of the Show of 1905. These two amounts have since been received from the Society.

4. Various sums have been received during the year, or are still due, for rent of football grounds, grass keep, ground rent of the "Plumes" Tavern, &c., amounting in all to 567*l.* 18*s.* 8*d.*

5. Vacancies have occurred on the Board during the year by the resignations of The Earl of Derby in June, 1905, and Mr. George H. Sanday in April, 1905.

6. The Directors who would in the ordinary course retire at this Meeting in accordance with the Articles of Association are Lord Middleton and Mr. Percy Crutchley. Having regard however to the decision of the Royal Agricultural Society (which is the registered holder of all but 7 of the 15,000 shares of the Company) to hold its Show of 1906 elsewhere than at Park Royal, and to put the Company's Estate up for sale in the course of next summer, it does not appear to the present Directors of the Company that any useful purpose would be served by their continuing in office. They desire therefore to tender their resignations as Directors so soon as it may be convenient to the Society to make other arrangements for the control of the Company's affairs.

7. The Auditors appointed at the last General Meeting, Mr. Jonas M. Webb, Mr. Newell P. Squarey, and Mr. Hubert J. Greenwood, retire in accordance with the Companies' Act, 1900.

(Signed)

MIDDLETON,	} <i>Directors.</i>
WALTER GILBEY,	
NIGEL KINGSCOTE,	
PERCY CRUTCHLEY,	

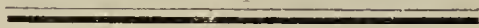
R. S. BURGESS, *Secretary.*

Registered Office of the Company :

Eastern Entrances,

Abbey Road,

Park Royal, Willesden, N.W.



PARK ROYAL, LIMITED.

REVENUE ACCOUNT FOR THE YEAR ENDED SEPTEMBER 30, 1905.

	£	s.	d.		£	s.	d.
Dr.							
To Rents Payable	100	0	0				
„ Rates and Taxes	489	3	3				
„ Water Rates	22	12	1				
„ Interest on Mortgage	880	0	0				
„ Interest on Cost of Construction of Road	252	18	2				
„ Depreciation on Plant, Water Pipes, &c.	287	12	3				
„ Miscellaneous Tools	9	2	6				
„ Administration—	296	14	9				
Salaries	226	10	0				
Wages	60	12	3				
General Repairs	39	13	5				
Stationery and Sundry Expenses	13	16	9				
Insurance	4	14	6				
Accountants' Charges	29	8	0				
„ Balance carried to Balance-sheet	374	14	11				
	263	3	6				
	£2,679	6	8				
					£2,679	6	8

PARK ROYAL, LIMITED : BALANCE-SHEET, SEPTEMBER 30, 1905.

Dr.

Cr.

	£	s.	d.		£	s.	d.
Ordinary Shares			15,000				
Mortgage Debenture Stock			22,000				
Due to Bank			2,360				
Sundry Creditors			455				
Revenue Account—							
As per last Account		128	13	6			
Less Amount overcharged to R.A.S.E. 1904 Account		29	17	8			
<i>Add</i> Balance of 1905 Account		98	15	10			
		263	3	6			
				361		19	4
MIDDLETON, } <i>Directors.</i> NIGEL KINGSCOTE, }							
R. S. BURGESS, <i>Secretary.</i>							
Land and Development—							
As per last Account at September 30, 1904							35,437
<i>Add</i> Further Expenditure to September 30, 1905—							
Sleepers						164	12
Grand Stands						97	8
						35,699	14
<i>Less</i> Depreciation						287	12
Horses, Vehicles, Harness, Tools, &c.						407	16
<i>Less</i> Depreciation on Tools						9	2
Tavern Site							
Balance of Hay not sold							
Sundry Debtors—							
R.A.S.E. Rent Account, 1904						972	2
Do. Showyard Works, 1904						1,814	7
Do. Various, 1904						137	11
						2,924	1
Do. 1905 Account						522	4
Queen's Park Rangers						80	0
Sundries						27	6
Cash in hand						3,553	13
						64	16
						£40,177	5
						2	2

In accordance with the provisions of the Companies Act, 1900, we certify that all our requirements as Auditors have been complied with. We have to report to the Shareholders that we have audited the above Balance-sheet, and in our opinion such Balance-sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs as shown by the books of the Company.

JONAS M. WEBB,
NEWELL P. SQUAREY, } *Auditors.*

WELTON, JONES & CO., *Chartered Accountants.*
December 12, 1905.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Abstracts from the Proceedings of the Council.

WEDNESDAY, JANUARY 11, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Show of 1905.

The Council resumed the discussion as special business of the question of holding the Society's Show in 1905, and resolved itself into Committee for the purpose of considering the results of the appeal made to Members of the Society for further financial support in connection with the following resolution passed by the Council on December 7, 1904 :—

"That a final decision as to the Show in 1905 be postponed until a meeting of the Council to be held in the second week of January, 1905, in the hope that further sums by way of subscriptions or guarantees will meanwhile be forthcoming from Members, exhibitors, and others, which in the opinion of the Council will be sufficient to warrant the Society in organising a Show for 1905 without further loss to its general funds."

The PRESIDENT announced that up to the present time promises of financial support to the Show of 1905, if held, had been received from 684 persons to a total amount of 5,782*l.*, besides conditional subscriptions and guarantees from forty-six other Members amounting to 603*l.* The figure which the Council had originally mentioned as the amount of the Show Fund that they desired to raise was 10,000*l.*, and it was for the Council now to consider on the figures he had given them whether they could undertake the organisation of a Show this year with the probability of being able to avoid a further loss to the Society's general funds. A proposal had just been received from the Great Western Railway Company with regard to the Show, which the Council would doubtless wish to have before them

in considering the general question, and he would ask Lord Cawdor if he would kindly explain it to the Council.

Earl CAWDOR said that he was authorised by the Great Western Railway Company to state that if it was felt that the 10,000*l.* originally mentioned by the Council should be guaranteed before the Council came to a decision, his Company would be ready to guarantee the balance of 4,000*l.* of the 10,000*l.* on receiving in exchange for any money which it might be called upon after the Show to pay under such guarantee an equivalent amount of shares in Park Royal, Limited, at a price to be agreed upon or fixed by arbitration. This was purely a business offer to be dealt with on business lines. He hoped the Council would clearly understand that he did not wish the suggestion he had made to run counter to any proposal of the Council to hold a Show on their own account. The offer of the Great Western Railway Company need only be considered in the event of the Council coming to the conclusion that they could not hold a Show on their own resources, and desiring to find some means by which such Show could be held. His Company's anxiety was to get a Show held, and only in the case of the Council saying that they could not hold a Show by themselves would the Company's offer come forward at all. Having laid the offer before the Council, he should not, of course, vote on the question of its acceptance or otherwise.

The PRESIDENT having read letters from Lord Derby and Mr. Albert Pell

with respect to the question of holding a Show this year, a general discussion ensued.

The Hon. CECIL PARKER said it appeared to him that unless the Society came to some such arrangement with the Great Western Railway Company as had been suggested it would be very risky to attempt to hold a Show. He maintained that if they were to have a Show at all, the Society should accept the Great Western Company's proposal, and unless they did so he was of the opinion that they would not be justified in holding a Show.

Mr. SANDAY observed that he was one of those who thought it was not absolutely necessary for 10,000*l.* to be obtained to enable the Society to hold a Show in 1905, and that with the 6,000*l.* already promised, and with the proposed economies in the administration of the Show, they could hold it without help from the Great Western Railway Company. He thought, however, that the suggestion made by Lord Cawdor was a very valuable one. They had every reason to hope that if the Society had the Great Western Company's co-operation, it was to that Company's interests, as well as the Society's, to induce as many people to come to the Show as possible. He thought it desirable that they should decide at once that they would hold a Show this year on the conditions given.

Lord MORETON inquired whether the arrangement which had been suggested meant that these shares were to be transferred to the Company, to which Lord CAWDOR replied in the affirmative.

Sir WALTER GILBEY observed that the question now before the Council was, Was it the wish that a Show should be held this year? At a previous meeting of the Council they had certainly asked that 10,000*l.* should be obtained before a Show could be held; and now that it did not seem that this sum would be reached, it was a question for decision as to whether they should hold a Show or not in 1905.

Mr. RYLAND said he thought the point was if the Society could go on with a Show with a guarantee of

6,000*l.* With respect to the proposal made by the Great Western Railway Company, if the Park Royal shares were of value to the Great Western Company, they were likewise of value to the Society.

Mr. STRATTON inquired if it was thought necessary that the question of the proposal of the Great Western Railway Company should be settled at once. If the Company would hold open their offer until after the Show, he saw no objection to it as far as the Society were concerned, and they could then go on on the basis of the amount subscribed, viz., 6,000*l.* By doing this the Society would not then be pledging beforehand its interest in Park Royal. Would there be any objection on the part of the Great Western Company to keeping their offer open until after the Show?

Lord CAWDOR replied that the matter would keep itself open. If the Show were carried through without a larger loss than 6,000*l.*, nothing would arise.

Mr. BOWEN-JONES said that the Great Western Railway Company had made a very liberal offer, but he did not approve of the Society selling their valuable shares in Park Royal to the Great Western Company.

Mr. CRUTCHLEY pointed out that if the Society did not hold a Show they would still be depleting their capital. They were on the horns of a dilemma in this matter.

The Earl of JERSEY said the Council had come to a conclusion that there was a risk of the Show costing 10,000*l.* more than it would bring in. Towards that, 6,000*l.* had been subscribed, and the Great Western Company had generously come forward with an offer to guarantee the balance on condition that the Company should receive shares to the extent of the amount they were called upon to make good. The Council had adjourned the matter of coming to a decision as to the holding of a Show month after month, and had decided that they would not allow the Society's general funds to be encroached upon. Supposing there was a loss of 3,000*l.* or 4,000*l.* beyond the 6,000*l.* already raised, the Society would then have to hand over 3,000*l.* or 4,000*l.* worth of

Park Royal shares—that is to say, they would run the risk of parting with one-quarter of their property. He did not think this would be a wise proceeding on their part at the present moment, just as they were asking for a new Charter with a view of carrying on the Society's operations on a different basis.

Mr. HARRISON said the all-important question was whether the Council thought it wise, with the sum which had been guaranteed, to have a Show this year. That appeared to be a more important question than the offer made by the Great Western Railway Company. He thought it would be better for the Council to focus their consideration upon that point. The loss on the Show last year was 6,920*l.*, but it was understood that the cost of this year's Show would be from 1,500*l.* to 2,000*l.* less than last year. They all knew that their advertising in London to the extent they did in 1904 did not succeed in bringing a large attendance to the Show, and no doubt the Council had acted wisely in not allowing a sum of more than 1,000*l.* for advertising purposes this year, which would be a saving of some 1,300*l.* or 1,400*l.* There were also, in his opinion, many economies which could be effected with respect to the administration of the Showyard. He thought that the implement section would be represented to the same amount at the Show of this year that they were in 1904. The carriage exhibitors did not make much of a display in 1904, but he thought that an improvement could be effected in this connection with regard to the 1905 Show. If economies could be made to the amount of some 2,000*l.* or 3,000*l.*, they could then face, on the basis of last year, a probable deficit of 4,000*l.*; and they had over 6,000*l.* guaranteed at the present time.

Sir JACOB WILSON said that if they were justified in having a Show in 1904, by which there was a loss of 6,900*l.*, they were standing in a better position than last year with the money that had been promised. Further, he felt that there could be no objection also to adopting the generous offer which had been made

by Lord Cawdor on behalf of the Great Western Railway Company. He objected, however, to the permanent handing over to that company of any of the Park Royal shares. If any money was required to make up any deficit in connection with the 1905 Show, sufficient shares could be handed over to the Great Western Company to be held till they could be redeemed. He trusted, however, that the money would not be required.

The Earl of FEVERSHAM observed that if the Society could repay any advance which might be made by the Great Western Railway Company, they would then perhaps be in a more independent position. On the other hand, they must recollect that it would be an advantage to the permanent interests of the Society if it co-operated with a great railway company. He did not see why they should be jealous of any offer the Great Western Company had made. He thought that in the interests of this Society, not only now, but in the future, it should be accepted.

Mr. CHRISTOPHER MIDDLETON said that he would be reluctant to advocate the acceptance of the Great Western Railway Company's proposal, as he should like to see the Society's assets kept intact. Moreover, he did not know how many of those who had subscribed the 6,000*l.* would be content that the Society should accept the Company's suggestion. He was of the opinion that the Society might hold a Show at Park Royal this year with the money already raised, and he would venture to hope that, should a Show be held in 1905, no greater loss than the 6,000*l.* could occur, taking into consideration the economies mentioned. He proposed that the Council should decide to hold a Show in 1905, with the promises already received. He therefore moved: "That the Society's Show be held at Park Royal in 1905 on the present subscriptions and guarantees, and any further subscriptions and guarantees that may be obtained."

Mr. STRATTON said he desired to second the proposition of Mr. Middleton that a Show should be held this year with the guarantee of 6,000*l.* already received. He was of

opinion that 10,000*l.* was an unnecessarily large amount, and that 5,000*l.* would be sufficient. Whilst he did not think the Society would be in any way prejudiced in having the Great Western Railway Company as a shareholder in Park Royal, as he believed that they would greatly assist in the development of the property in the best possible way, it would not be wise on the part of the Council—especially in its present transition state—to accept that offer without having an opportunity of fully considering the matter. If necessity arose at the last moment, they would still have their assets in Park Royal with which they could go to the Great Western Railway. However, he did not believe that they would be put in any difficulty, as undoubtedly there would be a considerable saving in connection with this year's Show. In his opinion to abandon the Show would be to abandon everything, and he felt that if they appealed to the majority of the Members of the Society there would be an enormous vote in favour of continuing the Show.

Mr. GREAVES asked if it were thought probable that the Show would result in a loss of 9,000*l.* It seemed that if they did not hold a Show they would not have the 6,000*l.* promised, but the Society would have to spend some 3,000*l.*, and therefore their capital would have to be depleted to that extent.

Mr. CRUTCHLEY said that, as Chairman of the Showyard Works Committee, he might perhaps be thought the proper person to answer this question; but he confessed that it was impossible to forecast what any loss on the Show might be, as they could not control the weather, and he could not say how much space might be taken in the yard, or how many people would attend the Show. Mr. Harrison was perfectly justified in saying that there might be considerable reductions in the cost of preparing for the Show. It was hardly correct to call all the items of reduction economies, because the possibility of reduction of the cost of erecting the Showyard arose from the fact that the Society had for its own protection during the last two years

been writing down the value of its timber very heavily—about one-third each year—and it now stood in the books of the Society at 2,652*l.* It would be plain to every one that at the end of the 1905 Show, if the timber were written down in the same way as before, it would stand at nothing, or almost nothing, on the books of the Society. There would, however, still remain timber worth a large sum, and therefore, in the opinion of the Showyard Works Committee, it would not be necessary to write down the value next year to anything like the extent that it had been in the past. That accounted for a large reduction in the expenditure in connection with the erection of the Showyard. A saving would also be effected in connection with the wages for workmen for the erection of the Showyard, as this year nearly the whole of the shedding erected in 1904 had been left standing. Other reductions had been referred to. Altogether it might be estimated that the Show of 1905 would not cost more than 19,000*l.* as against 21,500*l.* last year, and that was taking into consideration the fact that for 1905 it had been recommended that a larger sum should be charged against the Show for head office expenses than had been done in the past.

Sir CUTHBERT QUILTER, M.P., said there was one aspect of the case which he would like to mention. He looked upon the future success of the Society as very much bound up with the alterations which were to be discussed that day—*i.e.*, the alteration of their Charter. It was hardly fair to the future government of the Society that they should have their hands tied so shortly before important matters were to be discussed by a certain amount of the property of the Society being alienated either to the Great Western Railway or anybody else. He thought they ought to hesitate very much before doing this. Let them combine the wisdom of the new Council with the experience of the old, and leave to them the decision as to whether any property of the Society should be alienated for this purpose. The general feeling seemed to be in favour of holding the Show,

and if the reforms that were about to be brought forward were satisfactory, he did not think that they would experience any difficulty in holding a successful Show in whatever neighbourhood it took place.

Sir WALTER GILBEY said that before the Council came to a decision as to holding a Show in 1905, they ought to recognise clearly their own responsibility in the matter. The Council had begun their preparations for the Show of 1904, knowing full well that they had no reserve to fall back upon if a loss should be incurred from holding it. Though he had warned the Council last spring that they stood to lose some 5,000*l.* or more by the Show of 1904, and that they ought to consider in what way the Society's resources could be increased, his warnings were unheeded at the time. The Council recognised after the last Show that they could not have another without a large subscription to guarantee the Society against the further loss which the holding of a Show this year might involve. It was easy to talk of the economies, but whilst they might estimate how much the expenses would be likely to be, they could form no forecast of the receipts. The calculations that had been made last year broke down at once, as he pointed out at the time, as soon as the implement entries were received and were found to show a large shrinkage from 1903. He regarded it as of the utmost importance that they should have a Show ; but the Council ought to take precautions in advance against entering upon it without sufficient promises of subscriptions. What he wished to emphasise was that whatever was decided the responsibility lay upon the Council themselves, and with no one else ; certainly not, as had been suggested in some quarters, with their officials, who only carried out the Council's bidding, and could not defend themselves. For any mistakes that had been made, whether financially or otherwise, it was the Council who were to blame, and he for one did not wish to exonerate himself from his own share of responsibility.

Mr. RYLAND said he was of the opinion that, with the reductions fore-

shadowed by previous speakers, 6,000*l.* would more than cover a possible loss on the Show. With regard to the offer made by the Great Western Railway Company, he thought this raised a most serious point, for he was of the opinion that the money had been promised in the belief that the funds of the Society would remain intact.

Mr. PARKER remarked that as it had been decided by the Council that no Show could be held in 1905 unless the sum of 10,000*l.* were guaranteed, it seemed to him that the only possible means of arriving at this result would be by accepting the Great Western Railway Company's offer. As the matter stood then, he must vote against holding a Show on a guarantee of only 6,000*l.*

Col. CURTIS-HAYWARD said that practically, as far as the Society was concerned, they had got nearly 10,000*l.* If they did not hold a Show they must spend 3,000*l.* If the loss on the Show this year were as much as 9,000*l.* the Society would be in no worse position than if they held no Show at all. A previous speaker had said that the 6,000*l.* was given on the understanding that the Society's capital was not touched. Supposing that that sum was not sufficient, the money must come from somewhere.

After some further discussion, in which Mr. MARTIN, Sir JACOB WILSON, the Rev. D. B. MONTEFIORE, Mr. DUGDALE, Sir NIGEL KINGSCOTE, the Earl of NORTHBROOK, Mr. RALPH PALMER, the Earl of COVENTRY, Mr. WHEELER, and others took part, the Hon. CECIL PARKER moved, and Mr. CRUTCHLEY seconded, the following amendment to Mr. CHRISTOPHER MIDDLETON'S motion :—“That as only a sum of 6,000*l.* has been guaranteed towards the expenses, it is not desirable to hold a Show for 1905, without accepting the offer of the Great Western Railway Company.”

On being put to the vote, there appeared sixteen votes for the amendment and twenty against. The amendment was therefore declared to be lost.

The resolution moved by Mr. MIDDLETON, and seconded by Mr. STRATTON, was then put as follows:—

“That the Society’s Show be held at Park Royal in 1905, on the present subscriptions and guarantees, and any further subscriptions and guarantees that may be obtained.” This resolution was declared by the PRESIDENT to be carried by sixteen votes to eleven.

On the motion of Col. CURTIS-HAYWARD, seconded by the Rev. D. B. MONTEFIORE, it was resolved to thank the Great Western Railway Company for their letter, and to state that the offer it contained would receive further consideration should the necessity arise.

Date of Show of 1905.

Sir NIGEL KINGSCOTE then moved, pursuant to notice, Mr. SANDAY seconded, and it was unanimously resolved: “That the Show of 1905 be fixed for the period which has been customary for the last fifteen years—*i.e.*, the week after Ascot—and that the Show be accordingly held at Park Royal on Tuesday, Wednesday, Thursday, and Friday, June 27 to 30, 1905.”

Stock Prizes Committee.

Mr. SANDAY (Chairman) reported that in view of the understanding that the Show of 1905 (if held) was to be on the same general lines as the Show of 1904, the Committee had drawn up a prize sheet for this year, based generally upon that of 1904, with certain modifications which had arisen out of the discussions of the previous autumn, and out of the suggestions which had been referred by the Council to the Committee for their

consideration. The draft prize sheet, as proposed by the Committee, would be circulated amongst the Council with the agenda paper for the next Council meeting, to be held on February 1, on which occasion he would bring up a formal motion for its adoption by the Council.

Mr. RALPH PALMER said he understood the Stock Prizes Committee had accepted the suggestion made on behalf of one particular breed that the ages should be calculated from December 1, instead of from January 1, as in all other breeds of cattle. He thought this alteration was open to objection, and he proposed therefore to take the views of the Council on the subject when the Committee’s draft prize sheet was submitted for the Council’s approval next month.

Special Charter Committee.

The PRESIDENT announced that, although the Special Charter Committee had no formal recommendations to present on that occasion, he might mention for the information of the Council that the Committee had unanimously decided in favour of the principle of making each county a separate division returning at least one ordinary Member of the Council, with two Members for a county comprising 300 Members, and an extra Member for every additional 200 Members. The Members of Council so appointed would hold office for three years; so that there would be a triennial general election.

Proceedings at General Meeting of Governors and Members

(Adjourned from December 8, 1904),

HELD IN THE LARGE HALL OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20 HANOVER SQUARE, LONDON, W.

WEDNESDAY, JANUARY 11, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Present:

Trustees.—Earl Cawdor, the Earl of Coventry, Sir Walter Gilbey, Bart., Col. Sir Nigel Kingscote, G.C.V.O., K.C.B., Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. Victor C. W. Cavendish, M.P., the Earl of Feversham, the Earl of Jersey, G.C.B., the Hon. C. T. Parker, Mr. G. H. Sanday, Sir Jacob Wilson.

Other Members of Council.—Mr. R. C. Assheton, Mr. J. Bowen-Jones, Lord Brougham and Vaux, Mr. Percy Crutchley, Lt.-Col. J. F. Curtis-Hayward, Mr. J. Marshall Dugdale, Mr. W. Frankish, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. W. Harrison, Mr. R. W. Hobbs, Mr. J. Hornsby, Capt. W. S. B. Levett, Mr. H. D. Marshall, Mr. J. Martin, Mr. Ernest Mathews, Mr. C. Middleton, Mr. T. H. Miller, the Rev. D. B. Montefiore, the Earl of Northbrook, Mr. Ralph Palmer, Mr. W. A. Prout, Mr. F. Reynard, Mr. H. P. Ryland, Mr. W. Scoby, Mr. E. W. Shackle, Mr. A. J. Smith, Mr. R. Stratton, Mr. A. P. Turner, Mr. E. V. V. Wheeler.

Governors.—Capt. W. H. O. Duncombe, Mr. G. Norris Midwood.

Members.—The Marquis of Winchester, Lord Northbourne, Sir Reginald Graham, Bart., Sir A. W. Legard, Bart., Sir J. R. Heron Maxwell, Bart., Sir Oswald Mosley, Bart., Sir R. D. Green Price, Bart., Sir Henry Vavasour, Bart., Messrs. C. R. W. Adeane, D. T. Alexander, John Barker, John Beulah, W. J. Bennison, Edward Blundell, Joseph Brandon, W. Broomhall, Lt.-Col. G. J. Fergusson-Buchanan, Messrs. Colin Campbell, James Chalcraft, W. W. Chapman, T. H. Cockbain, W. Cooper, S. Copeland, F. S. Courtney, W. Crosland, F. J. K. Cross, H. S. Fenning, Charles File, A. N. Gilbey, H. W. Gilbey, A. G. Gold, Charles Goring, H. J. Greenwood, Henry Grinling, Percival Harter, G. S. Hewitt, T. G. M. Hine, F. A. Hordern, John Hughes, J. C. Hughes, H. Humphrey, R. H. P. Hutchinson, Surg.-Lt.-Col. J. Ince, M.D., Messrs. T. M. Jarmain, John Jones, Clement Keevil, C. R. Knollys, George Laing, T. Latham, Rev. C. H. Legard, Messrs. J. C. McCowan, K. J. J. Mackenzie, John McLaren, J. G. Mair-Rumley, Alfred Mansell, J. H. Master, Thomas May, W. Moat, J. M. Moubray, John Neilson, G. F. North, Capt. W. E. F. O'Brien, Messrs. E. Packard, Leopold C. Paget, Professor J. Penberthy, Messrs. A. W. Perkin, C. M. S. Pilkington, T. F. Plowman, R. Prendergast, T. V. Prickard, J. E. Rawlence, A. Roger Rowden, C. B. Russell, F. W. Silvester, H. M. Simmons, Henry Smith, T. Stirton,

H. Swithinbank, J. Herbert Taylor, Joseph Thorley, John Thornton, C. W. Tindall, J. de C. Treffry, E. Trimen, James G. Unite, Jonas M. Webb, T. P. Wilkes, H. J. C. Winterton, &c.

The PRESIDENT, in opening the proceedings, said that they had met together for the consideration of the terms of the proposed Supplemental Charter, the main object of which was to enable the Society to prescribe for itself a new method of electing the Members of the Council, viz., by making divisions of the Society and empowering each division to return one or more Members. The new Charter would in fact constitute the framework upon which the new system would be built by means of bye-laws. The bye-laws could not be enacted until the new Charter had been obtained; but the interval between the presentation and granting of the Charter—assuming, as they all hoped, that it would be granted substantially in the form of the draft—would be employed in carefully considering and framing the bye-laws. These bye-laws would then be submitted to a General Meeting of Members for their approval, and would not, of course, come into force until sanctioned by such General Meeting. The Members would naturally desire an indication of the form which the new scheme would take. Although that had not yet been fully considered by the Council, the matter had occupied their attention. The Committee, at their meeting held on the previous day, were unanimously in favour of the principle of making each county a separate division, returning at least one ordinary Member of the Council, two Members for each county comprising 300 Members, and an extra Member for every additional 200 Members. The Members of the Council, so appointed, would hold office for three years, so that there would be a triennial general election. At a convenient date after the granting of the Supplemental Charter, the whole of the present Council would retire, and the new Council to be appointed under the scheme would come into office. This scheme represented the opinions of the Charter Committee

only. Neither the Council nor the Members were in any way committed to it. The whole matter would receive careful consideration before anything was done, and every Member would have a draft of the suggested bye-laws sent to him before the date of the Special Meeting convened to sanction them.

Mr. ARTHUR E. CLARKE (of Messrs. Garrard, James & Wolfe, Solicitors to the Society), then explained certain points in the draft of the new Charter, the chief provisions of which were as follows¹ :—

Notwithstanding the terms of the original Charter or anything therein contained to the contrary the bye-laws enacted by the Council of the said Society may from time to time with the sanction of a General Meeting of the said Society prescribe or provide with respect to all or any of the following matters namely :—

(a) The number of General Meetings of the Governors and Members of the said Society to be held in each year and the day place and time at which every or any such General Meeting shall be held but so that there shall be at least one General Meeting in each year which shall be called the Annual General Meeting at which the President Trustees and Vice-Presidents shall be elected and the election of the ordinary Members of the Council of the said Society in the place of those vacating office shall take place or be reported or taken cognizance of.

(b) The summoning and holding of and the proceedings at General Meetings of the said Society including the voting at such meetings and whether by show of hands with or without a poll (if demanded) or by ballot or voting papers and with or without power to vote by proxy and the quorum necessary for a General Meeting.

(c) The number and period of office of the Trustees Vice-Presidents and ordinary Members of the Council of the said Society respectively and the period of office of the President.

(d) The election of the ordinary Members of the Council of the said Society so that instead of being elected by the Governors and Members at large in General Meeting assembled such ordinary Members shall be elected by divisions of the said Society comprising the Governors and Members residing in electoral districts and the number and area of such electoral districts respectively the number of Members of Council to be returned by every

or any division and the qualifications mode of nomination and election and the removal resignation continuance in office and duties and powers of such ordinary Members of the Council and the evidence to be furnished of their election and the method of reporting or taking cognizance thereof and the mode of filling casual vacancies arising by death resignation or otherwise.

(e) The addition to the Council of Members being Governors or Members of the said Society to be from time to time appointed by the Council and being persons distinguished in science or engaged or interested in some industry connected directly or indirectly with agriculture whose presence on the Council is considered by the Council desirable and the qualifications nomination removal resignation continuance in office and duties and powers of such Members of the Council but so that not more than ten persons so appointed shall at any one time be in office.

(f) The holding of representative Meetings of the said Society consisting (1) of such Governors or Members elected by divisions of the said Society and (2) of such Members of the Council as may be determined in accordance with the bye-laws and the mode in which each division is to elect its representatives for any representative Meeting and the evidence to be furnished thereof and the qualification for election and the quorum and proceedings at representative Meetings and the powers authorities and discretions thereof and what matters (if any) may only be submitted to General Meetings of the said Society on the recommendation of representative Meetings.

(g) The repeal alteration modification or suspension of any such bye-laws.

Mr. JOHN McLAREN moved, and Lt.-Col. Surgeon INCE seconded, the amendment of Section (a) by the addition of the following words :—
“ And that there shall be at least one country meeting in each year, held in regular annual sequence in the various territorial and electoral districts.”

The PRESIDENT stated that Section (a) had no reference to the Show, and Mr. CLARKE explained that the bye-laws to be made under the Charter could prescribe any number of meetings. He suggested that the Society should not curtail its liberties by putting too much into the Charter. They should have the widest liberty under the Charter.

After some further discussion, the amendment was negatived, and

¹ These provisions include the legal amendments subsequently approved by the Meeting.

Sections (a), (b), (c), and (d) were passed.

Mr. MCLAREN then moved, and Lt.-Col. Surgeon INCE seconded, the omission of Section (e) on the ground that it was unnecessary to empower the Council to co-opt Members.

Mr. W. COOPER suggested that the number of Vice-Presidents should be limited. They became, ex-officio Members of the Council and might out-vote others.

Mr. HARRISON said the intention was that each county should elect its own Member. It therefore followed that in any district farmers would predominate and implement manufacturers would undoubtedly be in the very lowest minority. Taking his own county of Lancaster, where under the new rules two Members might be allowed, farmers would naturally elect their own representatives, and it was quite right that they should. But he might claim

that the implement manufacturers were of some importance to the Royal Agricultural Society. When they considered that the exhibitors of implements and seeds subscribed £5,000 and did not ask much in return from the Society, he thought that Section (e) had some wisdom in it. If certain members could not be co-opted, it would be prejudicial to the Society.

Mr. MCLAREN then withdrew his amendment, and Section (e) was passed.

Mr. MCLAREN also proposed the omission of Section (f), but on Mr. CLARKE'S explanation that the Society was not committed in any way by the provision, he expressed himself as satisfied and did not press the point.

The draft Charter was then formally approved, subject to certain amendments of a legal character, suggested by the solicitors.

The proceedings then terminated.

Abstracts from the Proceedings of the Council.

WEDNESDAY, FEBRUARY 1, 1905.

LORD MIDDLETON (PRESIDENT), IN THE CHAIR.

Death of Mr. J. E. Ransome.

The PRESIDENT, in opening the proceedings, said it was his melancholy duty to announce the death, on Monday last, of their able and esteemed colleague, Mr. James E. Ransome, of Ipswich. Mr. Ransome joined the Society as a Member in 1861. He was elected a Member of Council in 1886, and since that time he had done good work for the Society as a Member of its Botanical, Implement, and Education Committees. He was, as they knew, a prominent representative of the agricultural implement industry, and his co-operation as a Member of the Implement Committee was especially valuable. He took part in their discussions with great shrewdness and ability, and his loss would be deeply regretted by all his colleagues.

At the suggestion of Mr. HOWARD, it was decided to send a letter of condolence with Mr. Ransome's widow and family.

Finance Committee.

Sir NIGEL KINGSCOTE (Chairman) reported that an intimation had been received from Sir Walter Gilbey that in the event of the prize list for the Show of 1905 being increased from the amount proposed by the Stock Prizes Committee to the amount expended for prizes in 1903, he would guarantee the sum of 1,000*l.* towards this object from money subscribed by himself and his friends, on the understanding that the Society would provide an additional sum of 500*l.* for this purpose. The Committee recommended that in the event of the Council deciding, in view of Sir Walter Gilbey's proposal, that the amount of the prizes to be offered by the Society this year should be the same as in 1903, the extra amount of money needed (with the 1,000*l.* subscribed by Sir Walter Gilbey and his friends) to make up the prize sheet to the 1903 standard should be provided by the Society.

Stock Prizes.

Mr. WHEELER reported the Committee's recommendation that Regulation 31 of the prize sheet of 1904 be rescinded, and that the regulation previously in force be placed in the prize sheet for this year. The regulation was as follows :—

No third prize will be given in any class unless at least six entries be exhibited, and no second prize will be given unless at least three entries be exhibited, except in the case of sufficient merit and on the recommendation of the Judge, with the approval of the Steward of the Department, at the time of judging the class.

With regard to the resolution as to the date for reckoning the age of Aberdeen Angus cattle, proposed by Mr. Stratton and adopted by the Committee at their last meeting, the Committee now recommended that no alteration be made in the dates of reckoning the age of this breed in the prize sheet for this year.

Mr. STRATTON said he desired to make a brief explanation with regard to the resolution standing in his name upon the agenda paper respecting Aberdeen Angus cattle. The matter had been fully discussed at the Stock Prizes Committee, and there seemed to be a strong feeling that now that the Society was in a transition state the matter should stand over until the new Council had been appointed. In view, therefore, of this expression of the Committee's opinion, he had deferred to their wishes, and had agreed not to bring forward his resolution at the present time.

Committee of Selection.

Sir JOHN THOROLD (Chairman) brought up recommendations from this Committee as to the appointment of a new Honorary Director, and of the Stewards for the Show of 1905. He said that the Committee had received with much regret an intimation from Mr. Crutchley that he did not desire re-election as Honorary Director of the Show. The cordial thanks of the Council and of the Society at large were due to Mr. Crutchley for the services he had rendered in connection with the Shows during the last six years; and the Committee recommended that Mr.

Crutchley be asked to accept a Life Governorship of the Society. Sir John Thorold added that in the first instance Mr. Crutchley had been appointed to the office of Honorary Director for three years, but at the expiration of the first three years the Council had succeeded in persuading him to continue in the office. Mr. Crutchley felt that the time had now arrived when he might reasonably ask to be relieved from it, and he had therefore intimated that he did not seek re-election. He moved that a cordial vote of thanks be given to Mr. Crutchley for the valuable services which he had rendered to the Society, and that he be asked to accept a Life Governorship.

H.R.H. PRINCE CHRISTIAN said he had very great pleasure in seconding this motion.

The motion having been formally put to the meeting by the PRESIDENT, and carried by acclamation,

Mr. CRUTCHLEY expressed his best thanks to the Council for the great honour they had done him. If anything could have rewarded him for any small exertions that he had made on behalf of the Society, the kind words of Sir John Thorold and their reception by the Council were sufficient, and he was sure that his work needed no further reward. He had undertaken the work of the Honorary Director with considerable misgivings, as he felt how little qualified he was to fill the office. But he had done so with the full belief that he would receive the hearty support of the Council, and his expectations had not in any degree been falsified. He would like to take that opportunity of thanking the Council for the help they had given him, and especially those Members of Council with whom he had been more closely associated in their offices as Stewards of the Show. The office of Honorary Director had not been so onerous in his time as during the period when his predecessors held the post, owing to the appointment of an Assistant Director by the Council.

Had he been living in normal times his (Mr. Crutchley's) duties would have been comparatively light, but, as they knew, the duties of the

Honorary Director, like those of Members of Council, had during the past few years been carried out under abnormal conditions, and had no doubt caused them, as they had caused him, considerable anxiety. He had, however, great gratification in feeling that it was in the power of the Council to entrust the Honorary Directorship to hands much more competent than his, and he felt sure that the assistance and support he had received might be depended upon by the future holder of the office. It was not to be expected that the ordinary Members of the Society could realise fully the extent to which the permanent staff had devoted themselves in carrying out the work of the Society. It was only people who held the sort of position which he had occupied, and who thus came into close contact with the work of the permanent officials, that could adequately realise the extent and quality of the work which was expected of them, and which they had devoted to the service of the Society. He could honestly say that the chief members of the staff—he meant the Secretary, the Assistant Director, and the Superintendent of the Showyard—had not spared themselves in the smallest degree; they had done everything in their power, and their one idea had been the welfare of the Society. He had great faith in the future of the Society, and he was not one of those who thought that they ought to diminish their operations, but, if anything, that they should extend them. He trusted that under the new Council they might hope and expect that the ordinary Members of the Society would give a still greater support to it, for without such support their present operations could not be carried on. In conclusion he desired to say that it had been a high privilege to him to hold the office of Honorary Director, and also a great pleasure to him to work with his colleagues on the Council and with the permanent officials of the Society. He desired to return them all his very best thanks. (Hear, hear.)

Sir JOHN THOROLD said that the Committee of Selection had much satisfaction in announcing that Sir

Jacob Wilson had, at the request of the Committee, expressed his willingness to act as Honorary Director for the Show of 1905, and they therefore unanimously recommended his appointment in that capacity.

Sir JOHN THOROLD having moved a formal resolution to this effect,

Sir NIGEL KINGSCOTE said that it gave him very great pleasure as an old friend, and as the senior Member of the Council, to second the proposal. He felt sure that Sir Jacob Wilson's acceptance of the duties of Honorary Director for the Show of 1905 would be received with the greatest satisfaction, both by the Members of the Society and by the exhibitors, and that under his able and experienced guidance everything possible would be done to make their forthcoming Show a success.

The PRESIDENT, in putting the motion, said he did so with much gratification, and he felt that the Society at large would greatly appreciate the sacrifice Sir Jacob Wilson was making in accepting the duties of Honorary Director.

The resolution having been carried by acclamation,

Sir JACOB WILSON said that after the exceedingly kind and flattering remarks of the President, Sir Nigel Kingscote, and Sir John Thorold, he felt he must say a few words in acknowledgment. When Sir John Thorold had first approached him in the matter, and intimated that Mr. Crutchley was unable to continue the work of the office of Honorary Director, he had received the intimation with sincere regret and considerable surprise—regret, because, after the admirable manner in which Mr. Crutchley had conducted the duties of the office for several years in the face of the most depressing and disappointing conditions, he hoped he would continue to act as Honorary Director for this year, at all events. That, unfortunately, was not the case. But when Sir John Thorold further intimated that a desire had been expressed by the Committee of Selection that he himself would take up the position he confessed he was considerably surprised, as, after the number of years that he had served in that capacity, he

thought he had a right to expect that he would be exempt from future service. However, when Sir John very properly pointed out that it was of vital importance in the interests of the Society that the Show of 1905 should be carried on, he felt that it was the duty of every Member of Council—whatever position he occupied—to come forward and loyally help to carry on the Society's work. So far as he was personally concerned, if it was the opinion of the Committee and of the Council that his services would be of any value to them, he felt that his duty was to step into the breach. There were, however, one or two conditions which he thought it would not be out of place to mention: firstly, that he was taking the office by the general—if not the unanimous—wish of the Council; secondly, that he should have a fairly free hand in the management of the Show; and, thirdly, that he might rely upon receiving the assistance of the Council both collectively and individually.

Under these circumstances, and with the continuance of good health, he was willing to do the best he could. He had undertaken these duties in the interests of that great Society to which many of them were so warmly attached. (Applause.)

Special Charter Committee.

The PRESIDENT reported that this Committee had held a meeting on the previous day, and had made further progress with the drafting of the by-laws for the election of Members of Council under the Supplementary Charter, when obtained.

The SECRETARY reported the adoption by the General Meeting held on January 11, 1905, of the petition for a Supplemental Charter, the sealing of such petition with the Society's seal (attested by the signatures of Lord Middleton as President, Sir Nigel Kingscote as Trustee, and Sir Ernest Clarke as Secretary), and its deposit at the Privy Council Office.

WEDNESDAY, MARCH 1, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Finance Committee.

Sir JOHN THOROLD reported that a circular had been approved for issue to each Member of the Society with reference to the county in which he desired to be registered for the purpose of voting at elections to the Council under the new system proposed by the Supplemental Charter. This circular would be issued to each of the Members in the course of the present month in the parcel containing his copy of Vol. 65 of the Society's Journal, and the replies thereto would form the basis for the new county registers of Members which would have to be prepared in supplement to the ordinary registers of Members already kept. The Committee presented their recommendations as to the arrangements to be made for the preparation and maintenance of the new county registers of Members, which would entail a considerable amount of extra work in the office.

The Committee proposed to bring up at the next meeting of the Council

recommendations with regard to the adjustment of the Society's outstanding obligations for 1904.

The Hon. CECIL PARKER felt it necessary once more to impress upon the Council, as he had endeavoured to do at the meeting on January 11 (when he had voted against the decision arrived at by the majority), the danger of postponing a settlement of the Society's outstanding obligations until after the Show at the end of next June, when the Council would all be dispersed in different directions. It was hardly likely that even with the financial assistance that had been promised to the Society for this year's Show they could do more than pay for the expenses of such Show, and there might even be a considerable additional loss to be met. As matters stood, the heavy obligations of 1904 were now only temporarily covered by guarantees and loans from the Bank, which expired absolutely on July 31, when such obligations would have to be

taken up by the Society. He hoped that the question of how this was to be done would be thoroughly discussed at the April meeting of the Council, for he did not consider they would be justified in allowing it to stand over, as there seemed to be a disposition in some quarters to do, until after the next Show.

Charter and Bye-laws Committee.

The PRESIDENT reported that the

Special Charter Committee had held several meetings, and had agreed upon a code of new bye-laws for the election of Members of Council, which they had prepared in anticipation of the granting of the Supplementary Charter for which a petition had been presented to the King in Council. These proposed bye-laws would now be printed and circulated for the consideration of the Council at their next meeting on April 5.

WEDNESDAY, APRIL 5, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Resignation of Mr. Sanday.

The PRESIDENT read a letter from Mr. George H. Sanday, stating that he had decided, in consequence of ill-health, but with the greatest possible reluctance and regret, to resign the seat upon the Council which he had held during the past thirty-one years. He (Lord Middleton) was sure the Council would greatly regret the cause of Mr. Sanday's decision, and the loss of his valuable services as a Member of the Council. Mr. Sanday, who lived near London, had given a great deal of his time to their deliberations, and he had been Chairman of the Stock Prizes Committee since 1890.

Finance Committee.

Sir NIGEL KINGSCOTE brought up a special report from the Finance Committee with reference to the Society's financial position and the adjustment of its outstanding obligations for the year 1904. The Council resolved itself into Committee for the consideration of this report, and of a series of resolutions on the agenda paper which the Hon. Cecil Parker had given notice that he would move.

After considerable discussion in Committee, a resolution was adopted to the effect that it was inexpedient to postpone until after the Show of 1905 the adjustment of the Society's outstanding obligations for 1904. The further consideration of the subject of the Society's liabilities was adjourned for consideration at the next meeting of the Council on May 3.

Charter and Bye-laws Committee.

The SECRETARY reported that the Society's petition for a Supplemental Charter had been granted by His Majesty the King in Council on March 20, when instructions has been given to the Secretary of State for the Home Department for the issue of Letters Patent under the Great Seal. It was hoped that the new Charter would be received very shortly.

The Council then proceeded to consider the report from the Charter and Bye-laws Committee, dated February 28, 1905, together with the draft bye-laws governing the procedure at General Meetings and the election of ordinary Members of Council, as prepared by the Committee for enactment under the Supplemental Charter when granted.

A formal motion having been made by the PRESIDENT (as Chairman of the Committee) for the adoption of the bye-laws, and this motion having been seconded by Mr. STRATTON,

Sir JACOB WILSON, pursuant to notice, moved an amendment to provide for the annual retirement of one-third of the Members of Council, instead of a triennial general election of all the ordinary members of Council, as recommended by the Charter and Bye-laws Committee. In doing so, he explained that the reason he moved his amendment at this stage was that, although a Member of the Charter Committee, he was not able to be present at the meeting when it was decided to recommend a triennial

general election instead of the plan which he now proposed. He therefore took the only opportunity he had of bringing the matter before the Council, and made these remarks to show that he acted from no captious motive. He confessed that he was surprised to hear the decision at which the Committee had arrived. He himself had never expected that any departure would be made from the system which was adopted by Agricultural and Breed Societies throughout the country.

The resolution, he was told, was based mainly on the fact that County Councils adopted the system of triennial elections. He failed to derive any satisfaction from the statement that this proposed system of triennial election was also adopted by the City and Guilds Institute. They (the Council) were not there to consider what was the best for County Councils and City Guilds, but they were there to do the best they could for their agricultural Members and the farmers of the country. The system which he now suggested, by which one-third of the Council would retire each year, had the great advantage of preserving continuity of action. It was the system adopted by the Highland Society, the Bath and West, the Royal Counties, the Yorkshire, Lancashire, Lincolnshire, and many other Societies with which he was familiar, and it was found to work very well. Then the Smithfield Club, one of the oldest Societies in the country, adopted the same system, and it worked harmoniously and well.

It was the same thing with the Shorthorn Society, of which many of those present were members. The Shire Horse, Hackney Horse, Hunter and Polo Societies all adopted the same system, and he had yet to learn that there had been any dissatisfaction with regard to it. It was a guarantee for continuity of action in the work. He felt that under the triennial system, between one election and the next, Members would lose interest in the Society; whereas by one-third going off annually, as it were, Members would keep their interest in it. What would be the practical effect on the staff and administration of a Society

like theirs with an election coming on, as it would, every three years? They would have to engage a special staff to do the work, and after an interval of three years a new staff might have to be educated to it. If, however, one-third retired at a time, it would go on automatically—every one would be accustomed to it and there would be no inconvenience.

Up to the present time the Royal Agricultural Society had not been altogether in close harmony and touch with the other Societies throughout the country. He was anxious that the Society should be made as popular as possible, and that could only be done by working as closely as possible with the Agricultural and Breed Societies. They should row in the same boat in every possible way. He suggested that they should first discuss the principle of his amendment, which was that a third of the Members should retire annually, and that if his proposal were carried they should then decide upon the distribution of the Members into three districts in order to give effect to it.

Sir NIGEL KINGSCOTE, in seconding the amendment, said he felt that the system of election suggested by Sir Jacob Wilson would work far better than sweeping the board every three years.

Mr. RALPH PALMER, in opposing the amendment, hoped that the Council would not be led away by Sir Jacob Wilson's eloquent arguments. The Members of the Committee had had the opportunity of persuading one another as to the best procedure to adopt, and they were unanimous in the recommendation which they had made. At the General Meeting held in January, the President had announced from the Chair that a triennial election of the whole Council was proposed by the Committee. It was to be a general election of the whole of the Members of the Council on County Council and Parliamentary lines, and every county was to return its own man. If they were to have such an election, and then after the first year only a third of the Members were to go out, how were they to get the increased vitality and popularity that were wanted? Let them take the great Society of the

nation—Parliament. Had Parliament any difficulty as to continuity? Were not the same men returned again and again? The Council would see in the bye-laws a provision for an Executive Committee to which all questions of policy should be submitted. That would be the best way in which to preserve continuity of policy.

Mr. STRATTON was of opinion that for simplicity and general advantage the system recommended by the Committee was in every way the best. Sir Jacob Wilson had made a great point about the continuity of policy. That must be broken, and broken at the outset, when, as it was agreed, the present Council went out of office. Sir Jacob's proposition was that every year one-third should go out. He would suggest that there was no necessity for any such complicated arrangement. He thought it would be extremely inconvenient at this time, after an announcement had been made from the Chair at the General Meeting which led the Members to expect that the triennial system would be adopted, to go back to the system proposed by Sir Jacob Wilson. He felt strongly that the Members generally would prefer the clean sweep at the end of three years.

After some further discussion, the PRESIDENT put Sir Jacob Wilson's amendment, and it was carried by eighteen votes to four.

As to the division of the country into districts for the purpose of the annual election of a third of the Members of Council, a scheme submitted by Sir JACOB WILSON was, after some amendment, agreed upon, and was

ordered to be incorporated with the new bye-laws. These were then formally adopted, and were ordered to be circulated to the Members before the date of the Anniversary General Meeting on May 22 next. It was decided that the bye-laws should be submitted for adoption at an Extraordinary General Meeting to be held immediately after the Anniversary Meeting on May 22.

On the motion of Mr. RALPH PALMER, seconded by Mr. HARRISON, and in accordance with a recommendation of the Charter Committee, the following new bye-law was enacted as No. 31A of the bye-laws now in force:—

31A. The Council may from time to time appoint an Executive Committee to exercise such powers and functions as may be delegated to it by the Council or the bye-laws, and may at any time modify, dissolve, or reconstitute the Executive Committee, and may make such regulations in regard thereto as the Council may think expedient.

Committee of Selection.

Sir JOHN THOROLD (Chairman) reported that a letter had been read from the Italian Ambassador relative to the proposal of H.M. the King of Italy for the establishment of an International Chamber of Agriculture. The Committee recommended that the adherence of the Royal Agricultural Society be given to the proposal for the convening of an International Congress to discuss this matter, and they hoped that some Member of the Council might be willing to represent the Society at such Congress, which, it was understood, would be held in Rome next May.

WEDNESDAY, MAY 3, 1905.

THE EARL OF DERBY, K.G. (TRUSTEE), IN THE CHAIR.

Supplemental Charter.

The SECRETARY laid upon the table the Letters Patent under the Great Seal, dated April 1, 1905, granting a Supplemental Charter to the Society.

Special Report of Finance Committee.

The Council then resolved itself into Committee for the further consideration of a Special Report from the

Finance Committee, and of a resolution which was proposed at the last meeting by the Hon. Cecil Parker, with reference to the adjustment of the Society's outstanding obligations for the year 1904. After considerable discussion it was, on the motion of Mr. ASHWORTH (acting on behalf of Mr. Parker, who was absent through illness), seconded by Earl EGERTON

OF TATTON, resolved, with one dissentient, that authority be given to the Finance Committee to enter into negotiations recommended by them with the object of discharging the liabilities of the Society remaining over from 1904, and of relieving certain of the Trustees from the guarantees which they gave last July, and which would expire on July 31 next.

Chemical and Woburn Committee.

Mr. BOWEN-JONES (Chairman) presented the following report by the Committee with reference to the Report of the Board of Agriculture and Fisheries Departmental Committee on the Fertilisers and Feeding Stuffs Act, 1893:—

Report of the Board of Agriculture Departmental Committee on the Fertilisers and Feeding Stuffs Act, 1893:—

1. The Chemical Committee of the Royal Agricultural Society of England, after careful perusal of the Report, express their general agreement with the recommendations made, and their satisfaction at the care bestowed upon the subject by the Departmental Committee.

2. They concur with the conclusion that the Act has undoubtedly been productive of benefit, but that its working and general adoption have been hampered in many ways, the majority of which difficulties will be removed if the recommendations of the Departmental Committee be adopted.

3. They feel, however, that while credit is given to the Royal Agricultural Society of England and other kindred organisations for the work which they have done in providing for farmers facilities at cheap rates for the examination of samples of fertilisers and feeding stuffs, certain of the suggestions made in the Report will, if carried out, have a tendency to limit the usefulness of these Societies in the direction in which they have been so long working.

4. The Committee think that ample protection is already given by the Royal Agricultural and other Societies if farmers will but avail themselves of the privileges offered. Many farmers, however, are deterred by personal reasons from availing themselves of this protection, and the amendment of the Act should be so framed as to help this class.

5. The Fertilisers and Feeding Stuffs Act is one that deals with cases of a criminal nature, and was enacted to make obligatory the compliance of vendors with certain conditions laid down as to the description and invoicing of the goods they sell, and to prevent, detect, and punish fraud and adulteration. These conditions should be simplified in any amending Act. The work

of the District Agricultural Analysts should be principally confined to this.

6. The Committee therefore consider that, in the carrying out of the Act, the officials appointed under it should confine themselves to the duties specified in the Act, viz., the reporting of samples, test samples, and samples taken in accordance with the Act, as to whether the guarantees given have been complied with or otherwise.

7. The Committee regret that the Report does not recommend an extension to at least fourteen days of the ten days limit during which samples may be taken.

8. The Committee agree generally with the different "Conclusions" of the Departmental Committee, but with the following reservations:—

(b) *Proposal to appoint official Samplers.*

The Committee have no objection to the appointment of official Samplers. In many cases this will be the only practical way of getting the Act worked.

(c) *Proposal to take test samples not necessarily in accordance with the regulations.*

Except in the case of test samples with a view to the discovery of fraud, they do not approve the taking of samples except in accordance with the regulations.

(d) *Proposal that purchaser be not obliged to send invoice or copy of it to the Analyst.*

The purchaser may be allowed to omit the name of the seller or other matter identifying the seller; but the exact description of the goods, together with statement of guarantee given, must be supplied to the Analyst.

(f) *Recommendation that the District Agricultural Analyst be resident in district where he acts.*

Is seldom practicable and not generally advisable. The Analyst under the Act should not become a local consultant.

(n) *That farmers be entitled to analyses by District Analysts if samples taken without the formalities of the Act.*

That, except for test purposes, no samples should be taken or analysed under the Act unless taken in accordance with the Regulations.

(v) *That the Board of Agriculture prescribe uniform methods of analysis.*

Not advisable.

J. BOWEN-JONES,

May 1, 1905.

Chairman.

Committee of Selection.

Sir JOHN THOROLD (Chairman) having submitted the various recommendations of this Committee,

Sir NIGEL KINGSCOTE moved, and Sir JACOB WILSON seconded, the following resolution, which was unanimously adopted:—

That having regard to the phraseology of Clause 6 of the Society's original Charter of March 26, 1840: "The President shall be an annual officer of the Society and not re-eligible to the office of President for three years," and to the necessity of providing for the fulfilment of the duties of the Presidency in the interval between the termination of Lord Middleton's year of office on June 30, 1905, and the first Annual General

Meeting of the Society appointed to be held under the Supplemental Charter of April 1, 1905, the name of Sir John Thorold, Bart., be suggested by the Council to the Anniversary General Meeting to be held on the 22nd instant for election as President of the Society *pro tem.*, pending the election of a new President at the Annual General Meeting of the Society to be convened for August 1 next.

Proceedings at the Anniversary and Extraordinary General Meetings of Governors and Members,

HELD AT THE SOCIETY'S HOUSE, 13 HANOVER SQUARE, LONDON, W.,

MONDAY, MAY 22, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

The Sixty-sixth Anniversary Meeting of Governors and Members was held on Monday, May 22, 1905, at 13 Hanover Square, London, W., and was followed immediately by an Extraordinary General Meeting, called for the purpose of sanctioning a series of new bye-laws, prepared by the Council for enactment under the Society's Supplemental Charter of April 1, 1905. The Chair at both meetings was occupied by Lord Middleton (President).

Present :

Trustees.—The Earl of Derby, K.G., Earl Egerton of Tatton, Sir Walter Gilbey, Bart., Col. Sir Nigel Kingscote, G.C.V.O., K.C.B., Lord Moreton, Earl Spencer, K.G., Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Earl of Jersey, G.C.B., G.C.M.G., the Hon. C. T. Parker, Sir Jacob Wilson.

Other Members of Council.—Mr. Alfred Ashworth, Mr. T. L. Aveling, Mr. F. S. W. Cornwallis, Mr. W. Frankish, Mr. W. Harrison, Mr. James Hornsby, Mr. John Howard Howard, Mr. Joseph Martin, Mr. Ernest Mathews, the Rev. D. B. Montefiore, Mr. Ralph Palmer, Mr. W. A. Prout, Mr. F. Reynard, Mr. H. P. Ryland, Lord Wenlock, G.C.S.I., Mr. C. W. Wilson.

Governors.—Capt. W. H. O. Duncombe, Mr. Leopold Salomons.

Members.—The Marquis of Bristol, Lady Margaret Boscawen, Lord Heneage, the Rt. Hon. F. J. Savile Foljambe, the Rt. Hon. James Round, M.P., Col. the Hon. H. W. L. Corry, Sir John Kelk, Bart., Sir A. W. Legard, Bart., Sir John M. Cockburn, K.C.M.G., Messrs. George Adams, W. W. Chapman, G. D. Clark, J. G. Clarke, W. T. Clarke, A. C. Cope, S. H. Cowper-Coles, John B. Cookson, S. Copeland, Major P. G. Cragie, C.B., Messrs. J. W. Dennis, H. Trustram Eve, Charles File, W. Fitzherbert-Brockholes, Walter Graham, H. J. Greenwood, R. Halford, J. Harrison, W. M. Haywood, John Hughes, R. H. P. Hutchinson, Surg.-Lt.-Col. J. Ince, M.D., Messrs. Henry Jonas, H. Landon, Capt. P. Langdale, Messrs. W. W. Leadam, F. D. Little, James Long, F. A. Cavendish Macdonnell, Augustus Mannington, A. H. H. Matthews, F. M. Nichols, Capt. W. E. F. O'Brien, Messrs. E. Packard, A. W. Perkin, George H. C. Powell, H. Rigden, Col. S. Sandbach, Messrs. W. M. Scott, Sidney Sharp, Frank Silvester, H. M. Simmons, Dr. Bruno Skalweit, Messrs. G. F. Strawson, J. Herbert Taylor, John Thornton, W. M. Tod, J. S. Tregoning, Edward Trimen, James G. Unite, E. W. Voelcker, Henry A. Wakeman-Newport, A. G.

Watney, James Watt, Jónas M. Webb, W. F. Wilson, &c.

Election of Temporary President.

The PRESIDENT, in opening the proceedings, explained that under the bye-laws upon which up to the present the Society had acted with reference to the conduct of business at the Anniversary Meetings, the first matter to occupy their attention was the election of the President, Trustees, and Vice-Presidents. The suggestion of the existing Council with regard to the Presidency for the short interval which elapsed before the new bye-laws came into force would be found in paragraph 8 of the Report (see page 131). As they would gather from this Report, Sir John Thorold had very kindly consented, at the request of his colleagues on the present Council, to allow himself to be placed in nomination as President *pro tem*; and as the bye-laws prescribed that the election of the President should be taken by show of hands, he now put the question :

“That Sir John Thorold be elected President of the Society, to hold office during the interval between the retirement of Lord Middleton at the end of June, and the election of a new President at the Annual General Meeting on August 1, to be convened under the Supplemental Charter.”

Re-election of Trustees, Vice-Presidents and Council.

This resolution was unanimously adopted, and the Trustees, Vice-Presidents, and the twenty-four retiring Members of Council were re-elected to hold office for the like period.

Report from the Council.

The PRESIDENT, in moving the adoption of the Report (see pp. 128-135), said that the questions arising out of the present position of the Society had been so fully discussed at recent meetings that there could be no advantage in going over the ground again, especially as their third Show at Park Royal, upon which so much depended, was so close at hand. He hoped and believed that the new Council, directly representative of the Members, would give a fresh impetus to the work which the

Society had carried on now for two generations to the great advantage of agriculturists.

The EARL OF DERBY, in seconding the motion, said there was no doubt that the Society was at the parting of the ways. They had endeavoured to go on as long as they could in the old ways, and they then endeavoured to hold their Shows under altered circumstances. They had now come to the time when they thought that by way of still further progress it would be better to bring a larger body of Members of the Society into close touch with the governing body. It was for this reason that the constitution, which had lasted for a good many years, had been altered. That constitution had been placed upon a wider basis, and it would be for the new Council to discuss what should be the future of the Society. The record of affairs up to the present had been frankly given in the Report. He hoped and believed that the Members of the Council of the Royal Agricultural Society under the new circumstances would endeavour to act as whole-heartedly in the interests of the Society as he knew they themselves had endeavoured to do in the past.

Suggestions of Governors and Members.

The report having been adopted unanimously, the PRESIDENT put the usual inquiry as to whether any Governor or Member had any remarks to make or suggestions to offer that might be referred to the Council for consideration.

Mr. E. PACKARD suggested that the amount expended upon the Journal for editing and literary contributions might be reduced if the Secretary undertook the editing in addition to his present duties.

Extraordinary General Meeting.

The PRESIDENT having promised that this suggestion should receive the attention of the Council, said he thought they might now regard the ordinary business of the meeting as concluded, and might go on to the consideration of the preliminaries which were necessary before the new Council could come into existence.

A Special Committee, of which he had been Chairman, devoted a great deal of time and trouble throughout the winter and spring in preparing the series of bye-laws designed to give effect to the desire, which had been expressed, that the system of appointing the Council should be placed upon a more representative basis. It was hardly possible to hope that any scheme of representation should be free from inequalities; but after mature deliberation the Council decided to make each of the counties of England, whatever its size and number of Members, an electoral district, with the provision explained in Bye-law 79 for further representation of counties in which there was a considerable number of Members. He was glad to see, from the comments made in the Agricultural Press, that these proposed bye-laws seemed to be regarded as satisfactory, and if, as he hoped, they should be sanctioned substantially in the form in which they had been prepared by the Council, they could come into force practically immediately, and the election of the new Council could take place in July.

Consideration of New Bye-laws.

The meeting then proceeded to consider a series of new bye-laws relating to "General Meetings of the Society and the proceedings at such meetings, the constitution of the Council, divisions of the Society, and other matters, prepared by the Council and proposed to be enacted under the powers conferred by the Society's Supplemental Charter of April 1, 1905." It was explained that the existing code of bye-laws, passed on December 12, 1888, being numbered 1 to 56, were not materially affected (except as to the method of election to the Council) by the new bye-laws, which had therefore been numbered from 57 to 93. Bye-laws 57 to 77 were then passed without question.

Upon Bye-law 78, which provided that the Members resident in each county should constitute a separate division,

Lord HENEAGE moved that Lincolnshire should be treated in the same way as the three Ridings of

Yorkshire, each of which was regarded as a separate county. He presumed that when it had been decided to treat Yorkshire in this way, the Council had acted on the principle that each of the three Ridings of Yorkshire was a separate county. If so, he asked, why was not Lincolnshire treated on the same principle? Lincolnshire consisted of three separate counties: the Parts of Lindsey, Kesteven, and Holland. Each had separate rating, each had separate Justices of the Peace, and were in exactly the same position as the Ridings of Yorkshire. Yorkshire was a large county, but if it was a matter of principle, each county should be taken by itself—even a small county like Rutland. He thought Lincolnshire was as much entitled to separate representation as Yorkshire.

Earl EGERTON OF TATTON pointed out that if they took the number of Members in Yorkshire, the East Riding had 105, the West Riding 276, and the North Riding 167; whereas if Lincolnshire were divided into three, the whole of the Members would only number 229, which was less than the total in Cheshire, which was 283. If Lincolnshire were divided into three counties, with one member for each, then Cheshire, with more Members, ought also to be entitled to three Members of Council.

Mr. JOHN W. DENNIS seconded Lord Heneage's motion, and said that in the three divisions of Lincolnshire there were not only separate administrations, but different agricultural interests involved.

The PRESIDENT having put the motion, it was declared to be lost, only the mover and seconder voting for it, and Bye-law 78 was then passed.

On Bye-law 79, which provided that each division of less than 300 Members should be entitled to one Member of Council, and that each division of 300 or more Members should be entitled to elect two Members of Council for the first 300, and one additional Member of Council in respect of each 200 additional Members,

Lord HENEAGE moved an amendment to substitute "200" for "300"

in the bye-law. He said that under the bye-laws, as drafted, the Council would consist of twelve Trustees, twelve Vice-Presidents, and fifty-four elected Members, so that there would be twenty-five co-opted Members out of the total of seventy-nine. By this arrangement of taking only one Member of Council for under 300 Members of the Society, it worked out that, except in four cases, and also in London, no county, however far from London, would return more than one Member. He could not help thinking that this was very hard upon those counties which were a long way from London and which had some difficulty in their representatives coming up. He could not see why 200 should not have been taken instead of 300. If 200 were taken as the number, it would allow not less than sixteen agricultural constituencies to have an additional Member. Under this proposition there would be twelve Trustees, twelve Vice-Presidents, and seventy ordinary Members of Council, making ninety-five Members, of whom twenty-five would be co-opted, which was a very fair share of co-opted Members.

What they wanted to get was representation. Unless they got representation from agricultural counties there was not much use in changing the Charter. He knew he would be told that his plan would add seventeen Members, and that the Council would be very large; but if the Council should be reduced, let it be reduced in regard to its co-opted Members. There were twelve Trustees, but they had no more duties or responsibilities than the ordinary Members of the Council. If they inserted 200 instead of 300 the counties would get an extra Member, which would enable the Members to send representatives from a great distance, and would also, in many cases, enable them to do what they would like to do, viz., to send both an owner and an occupier of land to represent them. His plan would not alter the grouping of the counties, as at present proposed. He had put the question forward simply on the plea that what was required to make the Society popular and put it on its legs again was representation and the

confidence of the agricultural counties. If these counties desired further representation, it was only fair to give it to them. He did not think it fair, if the number of co-opted Members should remain, that the agricultural counties should not have further representation. If there was to be any reduction, it should be amongst the co-opted Members and not amongst those required to represent the agricultural districts.

Mr. H. M. SIMMONS seconded the resolution.

The PRESIDENT pointed out that every county was able to increase its membership on the Council by increasing its number of Members of the Society. He thought the bye-law would be an inducement to the counties to increase the number of their Members in order to obtain further representatives upon the Council.

Surg. - Lt. - Col. INCE supported the amendment, and hoped that it would be adopted, as, if the bye-law was once carried in its present form, it would, like an Act of Parliament, be very difficult to repeal it.

Earl SPENCER said he felt that the original motion was quite right and justifiable, and he was strongly in favour of it. As one of the older Members of the Society he was also strongly in favour of the introduction of the representative principle into the Council; but with regard to the amendment of his noble friend, Lord Heneage, he did not share his views, and he thought the original proposition a wiser one. He did not know if many of the Members had been connected with the redistribution of seats in Parliament. If so, they would remember that it was a very queer and difficult subject. "Single Seats" was one of the principles of a great statesman—not on his side of politics, because by single seats they gained a greater variety of opinion. Once they got the principle of representation established, they must look a little to the body which was to become the ruling body of that great Society. To have a large and unwieldy Council would not be at all an efficient and proper way of conducting its business. They all knew

that a small Committee, so long as it had within it the elements of representation, was a very much better working body than a larger one. As it was, the Council would be a very large one, and if the amendment were adopted they would have sixteen more Members on the Council, which would then be a great deal too large. He cordially supported the original proposal made by the Committee.

Mr. A. W. PERKIN spoke against the principle of co-opting Members, and supported the suggestion that their number should be reduced in favour of a larger proportion of representative Members.

The PRESIDENT pointed out that the Trustees and Vice-Presidents were not co-opted Members, but were elected annually by the General Meeting. It would also rest with the future Council to decide whether there should be co-opted Members or not. He then put the amendment moved by Lord Heneage, when there appeared twenty-eight votes for it and thirty-seven votes against it. The amendment was therefore lost.

The remaining bye-laws, Nos. 79 to 93, were then passed; and, on the motion of Lord HENEAGE, a formal resolution sanctioning the new bye-laws was carried.

Procedure for Election of Council.

Mr. JAMES WATT (Carlisle) said he would like to see some system adopted which would revive the interest of the Members of the "Royal" in the distant counties. He understood that the proposal was to elect the Members of Council by means of voting papers, which must be sent out and returned to the office. Now that appeared to him to be a very quiet and sleepy sort of way, especially as on that occasion they were making a fresh start. He hoped that they would pass a resolution to ask the Lords-Lieutenant of the different counties, or the Chairmen of the County Councils, or any other public men, to call a meeting of the Members in their own counties for the purpose of recommending eligible candidates for the position. He thought if this was done it would

create a great amount of interest in each county, and a certain amount of emulation amongst the Members, when this man or that man was a candidate for the position. If there was nothing of that kind, their devolution would not be carried sufficiently far, and they would not have the return they looked for. If the suggestion made by a previous speaker had been adopted it would have been a great pity, because the claim for extra Members on the Council would induce Members to ask their friends to join the Society, but if otherwise that object would be defeated.

The new bye-laws were very well drawn, and he thought they were ample for carrying on a great institution. He hoped the Society would go on and prosper, and be more useful in the future than in the past; but they must create interest and enthusiasm in the distant counties, and give Members opportunities for emulation. They in the North had much regretted that the provincial Shows had been given up; but now that the Society had gone to Park Royal, let them stick to it.

The PRESIDENT said that the suggestion made by Mr. Watt had been in the minds of a good many of the Council, who thought that it would be a very proper thing for the Lords-Lieutenant of the different counties to call a meeting of the Members in their districts, and nominate a Member of the Council at that meeting.

Earl SPENCER said that this matter had been before him as connected with Northamptonshire, and it certainly seemed to him that meetings of the Members residing in each county should be called for the purpose of nominating candidates. No doubt any candidates so nominated would be subsequently elected.

Mr. S. H. COWPER-COLES referred to the application of this suggestion to Wales, where the counties were grouped into the two districts of North Wales and South Wales.

Vote of Thanks to the Chairman.

The Rt. Hon. F. J. SAVILE FOLJAMBE then moved a vote of

thanks to the President for his services in the Chair. He said that his Lordship had had to steer the vessel through stormy seas and tempestuous weather. With many other interests, he had yet devoted a great deal of his time in the endeavour to pull the Society round. They had the satisfaction of knowing that he had now inaugurated a new era for the Royal Agricultural Society of England.

Surg.-Lt.-Col. INCE seconded the motion, which was carried unanimously.

The PRESIDENT, in reply, thanked the meeting for their kind vote, and said they had passed through an anxious time during the year that he had been President ; but he hoped that the new bye-laws might be the means of giving a fresh start to the Society and of keeping the Council more closely in touch with the Members.

The proceedings then terminated.

Abstracts from the Proceedings of the Council.

WEDNESDAY, MAY 31, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Death of Mr. J. H. Arkwright.

The PRESIDENT, in opening the proceedings, said it was with much regret that he had to announce from the Chair the death of one of the oldest and most highly respected of their colleagues, Mr. J. Hungerford Arkwright, who had passed away on the 25th instant. Mr. Arkwright was first elected a Member of Council in 1862, and he was elected a Vice-President in 1901. For many years he had worked actively on the Society's scientific committees, including the Chemical and Woburn, the Botanical and Zoological, the Education, and the Dairy Committees. He was also a member of the Stock Prizes Committee, and had been a noted breeder of Herefordshire cattle. As a typical country gentleman interested in agriculture and rural affairs he would be greatly missed by his colleagues, not less than in his own county of Hereford, of which he had been Lord-Lieutenant.

Veterinary Committee.

The Hon. CECIL PARKER (Chairman) reported the Committee's recommendation that a letter be addressed to the Board of Agriculture asking the Board to issue a special Order enabling local authorities of districts to which the Swine Fever (Regulation of Movement) Order of 1903 applied to issue licences authorising the movement of swine from

the Society's Show to premises situated in the districts of such local authorities, notwithstanding the provisions of the principal Order.

The Committee recommended that a letter be addressed to the Board of Agriculture drawing attention to the previous correspondence between the Society and the Board on the subject of glanders, and again urging the Board to give effect to the recommendations of the Departmental Committee whose Report was presented on June 2, 1899.

Sir WALTER GILBEY, on the motion for the adoption of this Report, deprecated the publication of these reports on the diseases of animals, especially of horses. In giving publicity to these matters they were doing a large amount of harm abroad amongst those who were purchasers of English animals. For instance, with regard to glanders, there was as great a diversity of opinion amongst the veterinary profession in questions of diagnosis as there was amongst medical men in regard to human diseases, and Mr. Cope himself had admitted the failure of some of the measures adopted. He knew of two instances in his own practical experience within the last forty years where prominent veterinary experts had pronounced cases to be glanders, but were mistaken in their diagnosis. He agreed that they should do all they could to check the disease, but he greatly questioned the advisability of publishing these full reports.

Sir NIGEL KINGSCOTE did not agree with Sir Walter Gilbey, as he could not conceive what harm could be done by the publication of the reports. The Council had appealed to the Board of Agriculture two years ago to try to stop these outbreaks of glanders. Since that time the outbreaks had been going on, and where an outbreak occurred on a farm the poor farmer had to kill every one of his horses. He warmly supported the suggestion that a letter be sent to the Board of Agriculture. Only within the last ten days he had seen the report of the death of a man from glanders.

Mr. MARTIN was very glad that the Committee had decided to send this letter to the Board of Agriculture. It would be remembered that two years ago this matter had been brought, at his instigation, before the Council, who had then passed a resolution urging the Government to adopt more stringent measures for the eradication of glanders.

Mr. PARKER said he was quite in agreement with what had fallen from Sir Nigel Kingscote and Mr. Martin, and he thought it was quite time stronger measures were adopted.

The Rt. Hon. AILWYN FELLOWES, M.P., said that the Board of Agriculture had already taken strong measures against glanders, but it was a very expensive matter, and was really one more for the Treasury than for his Department. The Board were, however, fully alive to the importance of the question, and hoped to take action before very long.

The report of the Veterinary Committee was then adopted, the PRESIDENT emphasising the importance of the subject as affecting breeders of horses.

Committee of Selection.

Sir JOHN THOROLD (Chairman) reported that in fulfilment of the duties imposed upon them by the Standing Orders, the Committee of Selection had had under consideration the name of the Governor to be suggested by the Council for election as President at the Annual General Meeting which, under the new bye-laws, was to be convened for August 1 next. The Com-

mittee were unanimous in thinking that if they could obtain the services of Lord Onslow as President of the Society for the ensuing year they would be very fortunate; and he was sure that the nomination of Lord Onslow as President would meet with the approval not only of the general body of Members, but of the whole agricultural community. He was glad to say that Lord Onslow had expressed himself as willing to undertake the duties, if elected, and he therefore moved: "That the name of the Earl of Onslow, G.C.M.G., be recommended by the Council to the Annual General Meeting to be held on August 1 next, for election as President of the Society for the year 1905-1906, in accordance with the Supplemental Charter of April 1, 1905, and Bye-law 75 enacted by authority thereof."

The Rt. Hon. AILWYN FELLOWES, M.P., seconded the resolution, which was carried by acclamation.

The PRESIDENT said it would be a source of great satisfaction to the Society that they had been able to obtain the services of Lord Onslow, who, he was sure, would be acceptable to the whole of the Members.

In accordance with other recommendations of the Committee of Selection, it was decided that the usual meeting of Governors and Members be held in the Large Tent in the Showyard on the second day of the Show (Wednesday, June 28), at 12.30 p.m.; that the first Annual Meeting under the Supplemental Charter be held at 13 Hanover Square, on Tuesday, August 1, at 12 noon; and that the first meeting of the new Council be convened for 2.30 p.m. on that day.

The PRESIDENT explained the procedure with regard to the elections in the different counties of the ordinary Members of the new Council, to take place during the month of July next, under the regulations laid down in Bye-laws 78-86, which had already been circulated amongst the Members.

Enactment of New Bye-laws.

The PRESIDENT then moved the following resolutions, pursuant to notice given at the last meeting of the Council:—

(1) That the existing Bye-laws 21, 22, and 23, with regard to General Meetings, Election of Council, &c., enacted under authority of the Society's Charter of March 26, 1840, be and are hereby repealed.

(2) That the bye-laws, numbered 57-93, together with the Schedules appended thereto, sanctioned at the Extraordinary General Meeting of the Society held on May 22, 1905, be and are hereby enacted under

authority of the Society's Supplemental Charter of April 1, 1905, subject to the continuance of the Council under the existing bye-laws until the first Annual General Meeting to be held under the new bye-laws on August 1 next.

These resolutions were seconded by Lord WENLOCK, and were adopted unanimously.

Proceedings at General Meeting of Governors and Members,

HELD IN THE LARGE TENT IN THE SHOWYARD AT

PARK ROYAL.

WEDNESDAY, JUNE 21, 1905.

LORD MIDDLETON (PRESIDENT) IN THE CHAIR.

Present on the Platform.

Trustees.—Sir Walter Gilbey, Bart., Lord Moreton, Sir John H. Thorold, Bart.

Vice-Presidents.—H.R.H. Prince Christian, K.G., Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Earl of Feversham, the Earl of Jersey, G.C.B., the Hon. Cecil Parker, Sir Jacob Wilson.

Other Members of Council.—Mr. Alfred Ashworth, Mr. R. C. Assheton, Mr. T. L. Aveling, Lord Brougham and Vaux, Lt.-Col. J. F. Curtis-Hayward, Mr. Alfred Darby, Mr. J. Marshall Dugdale, Mr. W. Frankish, the Marquis of Granby, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. R. Neville Grenville, Mr. W. Harrison, Mr. R. W. Hobbs, Mr. James Hornsby, Mr. John Howard Howard, Capt. Levett, Mr. Joseph Martin, Mr. Christopher Middleton, Mr. T. H. Miller, the Rev. D. B. Montefiore, the Earl of Northbrook, Mr. Ralph Palmer, Mr. W. A. Prout, Mr. F. Reynard, Mr. C. C. Rogers, Mr. Howard P. Ryland, Mr. W. Scoby, Mr. E. W. Shackle, Mr. E. Wilfrid Stanyforth, Mr. R. Stratton, Mr. Garrett Taylor, Mr. A. P. Turner, Mr. E. Vincent V. Wheeler, and Mr. C. W. Wilson.

Others present included Lady Middleton, the Earl of Onslow,

G.C.M.G., Sir John Heron-Maxwell, Bart., Sir Oswald Mosley, Bart., the Very Rev. Dr. John Gillespie, and Mr. A. T. T. Peterson. There was also a large attendance of the general body of Governors and Members.

The PRESIDENT, in opening the proceedings, said that they were all fully aware of the conditions under which the holding of the present Show was made possible, and they must all hope that the results of the Show would be satisfactory to those who so generously came forward with subscriptions to the Guarantee Fund. They would know better where they stood in the course of a very few days, and there would be another General Meeting of Governors and Members in little more than a month's time, when they could discuss at Hanover Square the future of the Society much better than was practicable in a tent in a Showyard with many interruptions all round.

Whatever might be the financial result of this year's exhibition, they could say with confidence that they had a very good Show—a Show which he ventured to say could not be excelled in quality by any in the world. His Royal Highness the Prince of Wales, who, as they knew, was their President when they had their first

Show at Park Royal two years ago, honoured them with a visit yesterday afternoon, and was pleased to express his entire satisfaction with the arrangements. This afternoon they were looking forward with loyal and pleasurable anticipation to the visit of their illustrious Patron, His Majesty the King, whose interest in the Society's welfare was so well known, and who, as they were proud to remember, had himself been three times President of the Society. It was a source of additional gratification to know that His Majesty would be accompanied by Her Majesty the Queen. Agriculturists had always prided themselves on their loyalty to the Crown, and he had no doubt at all as to the enthusiastic reception which Their Majesties would receive when they came amongst them that afternoon. (Cheers.)

Not only was His Majesty visiting the Show himself, but he had recommended our illustrious visitors from the Far East to pay it a visit also ; so that on Thursday afternoon they hoped to receive the representatives of that great and remarkable nation whose wonderful achievements in the art of war had lately won the admiration of the whole world. They would hope to show Their Imperial Highnesses the Prince and the Princess Arisugawa of Japan the achievements of their friends and allies in the arts of peace, and they trusted that they would carry away agreeable recollections of their visit to rural England gathered at Park Royal.

All that remained for him was to thank them for their attendance that day, and for their never failing consideration to him during the period of his office as President of the Society. He could hardly describe this period as having been altogether a bed of roses, as they had had times of great anxiety and uncertainty as to the future. He could only claim for himself and his colleagues of the old Council that they had tried to do their best for the true interests of the Society under exceptionally difficult and somewhat disappointing conditions. It would have been too much to expect that their various decisions (which were not arrived at

without careful deliberation) should have escaped criticism ; but with certain exceptions to which he did not think it necessary further to allude, that criticism had been of a kindly character, and he thought was becoming more kindly now that the difficulties which beset them had come to be more generally recognised.

In an assembly like that he hardly thought it necessary to argue the national importance to the country at large of the continued existence and prosperity of a national agricultural Society such as theirs, and they all hoped that under the new Council which would set to work in a month's time it might renew its youth and carry out with redoubled vigour the national work which it was established two generations ago to perform, and for which it had deserved and ought to receive the grateful thanks and unstinted support of the entire community. (Cheers.)

The Earl of FEVERSHAM, in moving a vote of thanks to Lord Middleton for his services as President during the past year, said they knew that his Lordship had undertaken that great and important duty at a time when they could not say that the Society was in the most flourishing condition ; but his noble friend, with that public spirit which belonged to him, had undertaken it, and he was sure the meeting would agree with him that he had performed the duties of his office with ability, energy, and success. (Cheers.) Lord Middleton had distinguished himself as a British farmer in Yorkshire. He had one of the best herds of cattle to be found anywhere ; he had some splendid horses—Shires, Hunters, and Hackneys ; and he ventured to say that there was no place in England where they could find better breeds of cattle and horses than at Birdsall. In that respect, he set a valuable example to every landlord in this country. Lord Middleton had worked for the Society most laboriously and had been most assiduous in attendance at their various Council meetings. The arrangements for the new governing body had thrown a great deal of extra work upon the President, and he deserved and would receive their hearty thanks.

No President of the Society had ever done more or shown more zeal in discharge of the duties devolving upon him, and he only hoped that the Society under its new government would go on and prosper and always be as fortunate in obtaining a President like Lord Middleton. (Loud cheers.)

Mr. GEORGE ADAMS seconded the resolution, which was carried by acclamation.

The PRESIDENT, in reply, said that in undertaking the Presidency of the Society this year he had been working — he hoped successfully — for the Society. He thanked the Council who had so ably helped him through his duties and also the staff of the Society, who this year had had exceptional work. Before they parted he wished to point out to the Members that they had taken upon themselves more responsibility, and that therefore they would be expected to do everything they could for the welfare of the Society. (Cheers.) He meant that they could get new Members and money to carry on the Society's work, and he hoped that they would use their influence to the best advantage. (Cheers.)

Sir JOHN THOROLD moved a vote of thanks to Sir Jacob Wilson for his services as Honorary Director during the past year. When the Committee of Selection found that Mr. Crutchley, to whom the Society was so much indebted for the arrangement of the new Showyard, could not continue to act as Honorary Director this year, they felt they would not appeal in vain to Sir Jacob Wilson's well-tryed loyalty, and they therefore pressed him again to undertake the Honorary Directorship. It was well to have an excellent Showyard and a liberal prize sheet; but personal influence was also required to induce exhibitors to fill the classes. This personal influence had been freely exercised by Sir Jacob, and had been most kindly met by the exhibitors. He felt sure this meeting would now record their hearty thanks to Sir Jacob Wilson for having undertaken the Honorary Directorship, and for the successful and energetic way in which he had performed the arduous duties of that office. (Cheers.)

The resolution was seconded by Mr. HENRY WEBB, and carried unanimously.

Sir JACOB WILSON thanked the meeting from the bottom of his heart for the very cordial manner in which they had been pleased to pass the vote. He could assure them that he had learnt with deep regret that Mr. Crutchley had not felt equal to carrying on the duties for another year, and he regarded it as a very real compliment to be asked to undertake the duties by his colleagues on the Council. He did not quite realise that he would be equal to the occasion, and was doubtful, in consequence of somewhat impaired health, whether he would be able to undertake it at all. He had, however, done so from a sheer sense of duty, for he felt it incumbent upon every one connected with the Society to put aside private interests and lend a helping hand this year to carry on the work of that great Society. He had had the assistance of very capable colleagues, and if he had been able in any way to add to the convenience and comfort of the visitors to the Show he felt that he had done his duty and had been amply rewarded.

The Earl of JERSEY moved a vote of thanks to the railway companies for the facilities afforded by them in connection with the Show and especially for the concession of reduced fares to country Members in travelling to and from the Show. He said that they were grateful to the railway companies for what they had done in connection with the Show, but their gratitude was doubtless of a somewhat prophetic nature. They trusted that they would in the future receive favours from the railway companies. As they remembered that this Show was the result of the year's agricultural working in this country and that the companies had done their best to help it forward, so they hoped and believed that the great railway companies would recognise that it was to their own interests to do everything in their power to promote the agricultural interests of this country. (Cheers.) Theirs was indeed a Royal industry, but it could only be successful if all

those who were interested in it in any degree did their best to pull together. If the railway companies would do all they could to study their interests, they might depend upon it that agriculture in this country would flourish.

Sir WALTER GILBEY, in seconding the motion, said the Show was dependent upon the railway companies for the means of locomotion. Visitors to the Show had to expend money at the gate and also for refreshments. It was therefore essential that every possible facility should be provided in the way of cheap fares.

The resolution having been passed unanimously,

The PRESIDENT put the customary inquiry as to whether any Governor or Member had any remark to make or suggestion to offer for the consideration of the Council.

Mr. MACHEN considered that the railway companies should provide better facilities for the general public who travelled by first and second class, and who wished to travel other than in third class crowded and inconvenient trains.

Dr. GILLESPIE agreed with this suggestion, and said that in Scotland there were far better facilities for the general public than there were in England. They in England ought to be like the importunate widow and keep hammering away. (Laughter.) In Scotland the railway companies granted return tickets at single fares to everybody throughout the Show week. The railway companies in Scotland were like the individuals in Scotland—they only did what they thought would benefit themselves. (Laughter.) The companies in Scotland had found by experience that they did benefit themselves by the issue of these tickets.

Mr. E. R. BERRY TORR suggested the reduction of the fees charged for the privileges of Members. These had been fixed in days gone by, and were not up to modern requirements. If these fees were reduced it would do the Members a great deal of good.

Mr. RICHARD BROWN advocated a return to the system of dual judging instead of single judges. He did not for a moment make the slightest insinuation against the judges of this year or last year or any year. He knew that the Council had the best men that they could get, and that these men were recommended by the Councils of the Stud, Herd, and Flock Book Societies, and that they were above suspicion. But a judge by a mistake might make a great difference to an exhibitor, as it was not only a question of winning a prize, but the decision might make a difference to him of 100% or a 1,000%.

Mr. F. STREET referred to the railway rates for the carriage of trussed straw as compared with pressed straw. The pressed straw cost 10s. 10d. for carriage, but the trussed straw cost double that. He begged the Council to use their influence to induce the railway companies to carry trussed straw at the 2-ton rate.

Mr. ELDRED WALKER said he had been asked by a small meeting of exhibitors of cider to bring forward the question of the indifferent manner in which the produce was shown. All the cask cider had brass taps. On behalf of the cider makers, he also asked for a return to the dual system of judging.

The PRESIDENT stated that all the suggestions made had been noted, and would be referred to the new Council for consideration.

The proceedings then terminated.

Proceedings at Annual General Meeting of Governors and Members,

HELD AT THE SOCIETY'S HOUSE, 13 HANOVER SQUARE, LONDON, W.

TUESDAY, AUGUST 1, 1905.

SIR JOHN H. THOROLD, BART. (PRESIDENT), IN THE CHAIR.

The First Annual General Meeting of Governors and Members under the Supplemental Charter granted to the Society on April 1, 1905, was held at 13 Hanover Square, London, W., on Tuesday, August 1, 1905, in accordance with the new bye-laws enacted by the Council on May 31, 1905.

Present :

Governors.—The Earl of Feversham, the Earl of Jersey, G.C.B., Lord Middleton, Lord Moreton, Sir Walter Gilbey, Bart., Sir Gilbert Greenall, Bart., Col. Sir Nigel Kingscote, G.C.V.O., K.C.B., Mr. J. Bowen-Jones, Mr. Victor C. W. Cavendish, M.P., Mr. F. S. W. Cornwallis, Mr. Percy Crutchley, Mr. James Hornsby, Mr. J. G. Mair-Rumley, the Rev. D. B. Montefiore, Mr. G. H. Sanday, Mr. E. W. Stanyforth, and Mr. Charles Whitehead.

Members.—Sir John Gilmour, Bart., Sir Wilfrid Lawson, Bart., M.P., Sir Henry M. Vavasour, Bart., Messrs. C. R. W. Adeane, R. C. Assheton, T. L. Aveling, W. J. Bennison, H. W. B. Berwick, G. A. Blyth, Richardson Carr, John G. Clarke, F. Roper Cooke, R. P. Cooper, W. Cooper, A. C. Cope, J. P. Cross, Lt.-Col. J. F. Curtis-Hayward, Messrs. W. Scarth Dixon, George Drewry, E. G. Dulcken, G. H. Evans, R. Forrest, W. Frankish, Walpole L. Greenwell, H. J. Greenwood, Ernest Hamlyn, Laurence Hardy, M.P., Joseph Harris, W. Harrison, Percival Harter, J. H. Hine, R. W. Hobbs, John Hughes, R. H. P. Hutchinson, Surg.-Lt.-Col. J. Ince, M.D., Messrs. W. F. Ingram, T. M. Jarman, J. S. Ledbrook, F. A. Cavendish Macdonnell, Ernest Mathews, W. A. May, F. E. Metcalfe, C. Middleton, T. S. Minton, J. E. Moore-

Gwyn, John Neilson, E. Packard, James B. Paynter, Claude M. S. Pilkington, L. Ralph Price, G. G. Rea, John Rowell, E. W. Sankey, E. W. Shackle, G. F. Sheppard, F. W. Silvester, H. M. Simmons, Thomas Stirton, R. Stratton, Herbert Tallent, George Taylor, J. Herbert Taylor, John Thornton, E. Trimen, A. P. Turner, J. G. Unite, Jonas M. Webb, E. V. V. Wheeler, T. P. Wilkes, C. W. Wilson, W. F. Wilson, &c.

Election of President for 1905-1906.

The CHAIRMAN, in opening the proceedings, said that they were assembled that day for the Annual General Meeting under exceptional circumstances, which would not recur. They had already, at a previous meeting held under the Society's original Charter barely two months ago, despatched their ordinary business for the year by receiving and discussing the customary Report from the Council. The Chair was only temporarily taken by himself, as, according to the Charter, the retiring President vacated his position after the Show, and could not be re-elected, and the new President could not be elected until the Meeting held that day. The reason, however, of summoning them there that day was, in the words of the Report presented at the meeting held on May 22, "in order that the new Council may get to work as early as possible." As they could not get to work until after the Annual General Meeting had been held, there had been no option but to convene the meeting this year (and exceptionally for this year only) at a time which he feared was not very convenient for many of them.

It had been hoped, as they knew, that they might have had the advantage

during the next year of having at the head of their affairs a public man of the exceptional experience and training of the Earl of Onslow. Lord Onslow's great interest in agricultural matters generally was sufficiently manifested during his two years' tenure of office as President of the Board of Agriculture. He was at first willing to undertake the office, but found on further consideration that the demands likely to be made upon his fully occupied time, especially under the present difficult circumstances of the Society, would interfere with his duties elsewhere, and he therefore asked to be excused from being proposed for the office of President; but he (Sir John Thorold) was glad to say that they would have the advantage of Lord Onslow's advice and assistance as an elected Member of Council.

Under these circumstances it became necessary for the Committee of Selection (one of whose duties under the Standing Orders was to make a recommendation for the consideration of the Governors and Members as to the selection of a President) to enter into negotiations with other Governors as to their willingness to be nominated for the post; and they might consider themselves fortunate in having been able to persuade Mr. F. S. W. Cornwallis, of Linton Park, Maidstone, to undertake the duties, if it should be the pleasure of this meeting to elect him as President. (Cheers.) Mr. Cornwallis had already had twelve years' experience of the Society's work as a Member of the Council. He had been a Steward of both Live Stock and Implements at the Shows, and he had served on Committees so varied in their functions as Finance, Journal, Botanical, Show-yard Works, and Education. In all these capacities he had won the esteem of his colleagues for his courtesy, patience, clear-headedness, and insight into affairs; and these were peculiarly qualities that would be most valuable in the occupant of the Chair during the next somewhat critical year of the Society's existence. He had, therefore, very much pleasure in proposing: "That Mr. F. S. W. Cornwallis be elected President of the

Society, to hold office until the next ensuing Annual General Meeting."

Mr. LAURENCE HARDY, M.P., in seconding the motion, felt that he need add nothing to the terms in which the proposal had been made to elect Mr. Cornwallis as the Society's President, because the Council would be already aware of his services to the Society in the past, and which were so much appreciated. But speaking as to his connection with his own county of Kent, there was nobody they would see with greater satisfaction as President of that Society than Mr. Cornwallis. Whether they turned to Mr. Cornwallis's public life in connection with work on the County Council, or in lighter phases in connection with county cricket, with which he had always been associated, they always knew that they could rely on his common sense; that he formed his own views and that he could express them and stick to them. At this critical time in the Society's history, he (Mr. Hardy) felt sure that they could fix upon no better man to occupy the position of President. (Cheers.)

Sir JOHN THOROLD then formally put the motion from the Chair, and declared Mr. Cornwallis to be unanimously elected President of the Society.

Mr. CORNWALLIS, in reply, said it would be impossible for him to find words adequately to express his appreciation of the compliment which the Society had paid him in electing him as President of the Society for the coming year. He felt, however, that both Sir John Thorold and Mr. Laurence Hardy had spoken of his humble services within those walls in far too appreciative a manner. No one regretted more than he did that Lord Onslow had found it impossible, on account of the large amount of public business that would demand his attention, to accept office as President of the Society, as his services would have been extremely valuable in the present crisis of its history. When asked to accept the office of President himself, however, he felt that it was not a position which he could refuse, although he had the greatest possible hesitation in

consenting to act, especially at so critical a period in the Society's history. He was sure, however, that as in the case of all his predecessors in the Chair, he might count upon the indulgence and help of the Council, and he hoped that with their kind co-operation they might see the Society established on a sound and satisfactory footing on the conclusion of his period of office as President.

Election of Trustees.

The following twelve Trustees were then elected by show of hands: H.R.H. the Prince of Wales, the Duke of Bedford, Earl Cawdor, the Earl of Coventry, the Earl of Derby, Earl Egerton of Tatton, Sir Walter Gilbey, Bart., Sir Nigel Kingscote, Lord Middleton, Lord Moreton, Earl Spencer, and Sir John H. Thorold, Bart.

Election of Vice-Presidents.

The CHAIRMAN said that the last public occasion on which he had performed any duty in connection with the Society was at the recent show at Park Royal, when he had the pleasure of proposing a vote of thanks to their old and esteemed friend and colleague, Sir Jacob Wilson, for having undertaken the honorary direction of the Show of 1905. And now it was his mournful duty to draw attention to the gap—and a very serious gap it was—in their panel of Vice-Presidents caused by his lamented death on July 11, not much more than a fortnight after the Show for whose success he strove so gallantly with, he feared, serious results to his own health. With the exception of their friend Sir Nigel Kingscote, Sir Jacob Wilson was the senior member of the governing body of the Society, which he had served with unexampled assiduity for the long period of forty years. He placed unstintedly at the service of the Society the best of his talents; and those talents were, as every one present recognised, of a very remarkable and unusual type of excellence. They would all miss most grievously the benefit of his great experience and wise counsels, and he was sure it would be their wish that on their behalf he should communicate to his sorrowing widow and family the deep sympathy

of that assembly at their irreparable loss.

In view of Sir Jacob Wilson's death it would only be possible for them on that occasion to elect eleven of the twelve Vice-Presidents who had, under Bye-law 75, been recommended by the Council for that post. At the meeting of the new Council, to be held that afternoon, the vacancy would be formally declared under Bye-law 76, and it would be for the new Council to decide whether, as customary in the past, they would refer the matter to a Committee of Selection for consideration and report as to the filling up of the vacant Vice-Presidency.

The Vice-Presidents were then elected by show of hands as follows: H.R.H. Prince Christian, Mr. J. Bowen-Jones, Mr. Victor C. W. Cavendish, M.P., the Rt. Hon. Henry Chaplin, M.P., Mr. Percy Crutchley, Mr. J. Marshall Dugdale, the Rt. Hon. Ailwyn E. Fellowes, M.P., the Earl of Feversham, the Earl of Jersey, the Hon. Cecil T. Parker, and Mr. Charles Whitehead.

Election of Auditors.

The CHAIRMAN said that heretofore the election of the three Auditors of the Society's Accounts representing the Members had taken place at the December meeting of Members held in the Smithfield week. It had been decided, under Bye-law 57, that the Annual General Meeting of 1906 and future years should be held in the Smithfield week, and it had been laid down in another bye-law that the Auditors of the Society should be elected at the same time as the President, Trustees, and Vice-Presidents. They were extremely fortunate in having the promise of the continued assistance, if so desired by the meeting, of Auditors so capable and zealous as Mr. Jonas M. Webb, Mr. Hubert J. Greenwood, and Mr. Newell P. Squarey, who had rendered valuable services to the Members in the past.

On the motion of Surg.-Lt.-Col. INCE, seconded by Mr. T. STIRTON, Mr. Jonas M. Webb, Mr. Hubert J. Greenwood, and Mr. Newell P. Squarey were then unanimously elected as Auditors to hold office until the next ensuing Annual General Meeting.

Result of Elections of Ordinary Members of Council.

The CHAIRMAN said that under the new bye-laws it was his duty as President to report to the Annual General Meeting the names and addresses of the ordinary Members of the Council who had been elected by Divisions (Bye-law 86), in order that, in the words of Bye-law 74, the meeting might "take cognisance of the election of ordinary Members of the Council in place of those vacating office" (who this year were the whole of the old Council).

This duty he formally fulfilled by placing before them the list printed on the agenda paper. There were 48 divisions entitled under the new system to elect ordinary Members of the Council, 43 of these sending up one Member, 4 two Members and 1 (London) three Members: total, fifty-four Members of Council. In 4 constituencies—Cornwall, Dorset, Essex, and South Wales—no effective nominations had been made, and these vacancies would have to be filled up by the Council under Bye-law 90. For the moment, therefore, only fifty Members of the new Council had been actually elected. Of these, twenty-six were Members of the old Council, including two, who, having been elected only in April last, might be said to be practically new Members. The other twenty-four they would have the pleasure of welcoming as colleagues for the first time at the meeting of the new Council convened for that afternoon.

In 29 of the 44 divisions of the Society who had sent these fifty gentlemen to represent them, there was never more than one candidate nominated, and the provisions of Bye-law 83 therefore applied. In each of 4 other districts there was originally one more candidate than there were vacancies to be filled, but one retired before the day of polling arrived. In the remaining 11 districts there were contested elections, which were conducted by voting papers issued in accordance with Bye-law 85. In practically every case the majority of the successful candidate was a substantial one.

The elections were conducted under the supervision of a Sub-Committee, consisting of Lord Middleton (ex-President), Sir Nigel Kingscote, and himself; and the actual counting of votes was done under the superintendence of the Sub-Committee (who had attended for the purpose on Monday, July 24) by the three Auditors of the Society's accounts appointed by the Members themselves, who very kindly acted as scrutineers. The cordial thanks of the Sub-Committee, the candidates, the voters, and the Members generally were due to these three gentlemen for spending a very hot day in sorting out and counting up some 1,600 voting papers.

Suggestions of Governors and Members.

The CHAIRMAN, in putting the usual question as to whether any Governor or Member had any observation to make or suggestion to offer that might be referred to the Council for their consideration, adverted to the financial result of the recent Show at Park Royal. He said that the situation required patience and calmness, if the best interests of the Society were to be safeguarded, and he felt confident that it would be their wish to give the new Council, reinforced as it had been by so many fresh Members, adequate time to consider in all its bearings the difficult, but he hoped not irretrievable, position in which the Society, after two generations of usefulness, now unfortunately found itself.

Surg.-Lt.-Col. INCE suggested the abandonment of Park Royal and the disposal of the Society's present house, these being two incumbrances which, he thought, the new Council would be fully justified in parting with.

Mr. ERNEST HAMLYN said that, as one of the candidates for a seat on the Council nominated for Surrey, and having fought the election, he should like to say a few words. Having applied to the Secretary of the Society for a list of the Members resident in his division, he was surprised to find how few men he really knew were Members of the Society. There were in Surrey masters of staghounds and foxhounds, brewers, distillers, and other men who obtained their revenue

from the soil, and who were not on that list. He spoke to the various men that he knew well who were not Members of the Society, and nearly all of them stated they had not been asked to join the Society, and wanted to know what they would gain by doing so. These advantages ought to be clearly set forth, and men like those he had mentioned should be shown the value of giving this national organisation their hearty support. For himself, although he had been connected with agriculture a great many years, he had not been invited to join the Society, but one day he wanted a sample of water analysed, and he was told he could get it done at half price if he became a Member.

Although they had much "new blood" on the Council, there were a number of important agriculturists who might desire to show their interest in the Society's work, and he suggested that the Members of the Council in each division should form a committee of the most important agriculturists and stockbreeders in their division for the purpose of hearing their views. Each Member of Council would then attend the ordinary meetings of the Council with the views of the best men in his division in his mind. The Members of the new Council could act as chairmen and secretaries of these committees. He did not agree with Col. Ince's suggestion that their fine building should be disposed of, but advocated its retention, as surely they wanted to recruit and to increase. (Hear, hear.) His idea was that the gentlemen he had mentioned should act as recruiting committees, and no doubt each county should provide another 100 Members. This would increase their revenue, and instead of their having but 10,000 Members, they ought to muster 50,000. Their building might be formed into an excellent club, where farmers could meet and discuss agricultural affairs, and the Members of which could have for one guinea as good accommodation as other clubs could provide for seven or eight guineas.

Mr. E. PACKARD said at a previous meeting he had suggested that the Secretary should undertake the editing of the Journal, and he wished to know

what had been done in this direction. The work of the Society ought to be carried out on business lines, because they could not go on with the work as in recent years if they wished to make the Society a success. He did not in the least agree with the last speaker as to the question of remaining in their present building. He was confident that if the new Council began with that idea the Society would lose much support. If their Members could be satisfied that the Council were intending to meet the present state of the Society's affairs in a businesslike and more modern way, they would not only get new Members, but keep their old ones. He was moreover convinced that a large body of the Life Members of the Society, if they saw that the new Council were intending to proceed on these lines, would throw over what they were entitled to as Life Members and become ordinary Members of the Society.

Their Society was the national Society, which all the world looked up to in regard to the breeding of stock and the manufacture of implements. As to Park Royal, from inquiries he had made he was confident that it had been a greater success than any other locality in which the Society had held a Show. He did not, however, wish to debate whether Park Royal should be retained by the Society, or not; but it was a question as to whether Park Royal had not been most useful to the Members of the Society. He had heard it suggested that for a time Park Royal should be thrown overboard, and that the Society should restrict itself to the scientific side of agriculture. This, however, was being dealt with by their County Councils, by their experimental stations, and by the Board of Agriculture. He hoped that the Society would still go on with its inquiries, but he held that, after all, in the interests of agriculture, the Show of the Royal Agricultural Society was of paramount importance. He ventured to hope that drastic economies would be at once taken in hand, and the Society thus placed upon a firm and sure footing.

Mr. H. M. SIMMONS advocated reduction of expenses, and suggested

that an effort should be made to obtain permission for the holding of the Show in one of the London parks.

Vote of Thanks to the Chairman.

No other Member rising,

Sir WILFRID LAWSON, M.P., proposed a vote of thanks to the Chairman. He said that probably it had been anticipated that that meeting would be rather of an exciting nature. He was very glad to say that it was very pleasant for him to come there and find a "holy calm," which did not prevail in the House of Commons. (Laughter.) He did not know what the future of the Society might be. They, however, all wished it well. The great point that day was as to whether Park Royal should be continued or not. That question had not been very fully discussed, but it had been discussed with good temper and in good taste. He would warn his friends there not to expect that anything that might be settled would be regarded as entirely satisfactory. He remembered a story of a gentleman going along a road in Yorkshire, when he came to two roads which branched off. Both went to Leeds, and he asked which was the best to take. He was told that whichever road he took he would wish that

he had taken the other. (Laughter.) He could only hope that the Chairman and the other gentlemen who took an interest in the Society would be able to do something to put upon its legs the premier Society connected with agriculture, which was the greatest and most magnificent of all the industries in this country.

Mr. HAMLYN having seconded the motion, it was put by the SECRETARY, and carried unanimously.

§§ Sir JOHN THOROLD, in acknowledgment, said that if his services had been of any use he was very glad. With regard to the suggestion which had been made as to giving up their house, he would point out that in consequence of the great increase of Members the continued occupancy of the house next door became impossible. A number of gentlemen then came forward and took up debentures to secure their present house. If the house were now to be given up, those debentures would have to be refunded. They were all occupied with one thought, which was to do the best they could for the future of the Society, and he thought that meeting was an augury that they would do their best to meet their difficulties in good temper and spirit, and in doing so they would overcome them.

The proceedings then terminated.

Abstracts from the Proceedings of the Council.

TUESDAY, AUGUST 1, 1905.

MR. F. S. W. CORNWALLIS (PRESIDENT) IN THE CHAIR.

President's Opening Remarks.

The PRESIDENT, in opening the proceedings, said that as by the goodwill of the general body of Members he had been called upon to take the Chair at a crisis in the Society's history, he would like to take advantage of the opportunity of first addressing the Council, not only to thank the Society for this mark of its confidence in electing him as President, but of asking—as he knew he would not do in vain—for their kindness and consideration if he fell short of all that was expected in the occupant of the Chair. Many of the Council had yet

to make each other's acquaintance: and they approached the consideration of the serious problems which were in front of them with varying degrees of familiarity with the past administration of the Society, and the facts which had guided the Council in their decisions. Those of them who had had seats on the old Council were glad to have their ranks reinforced by the fresher minds of so many new colleagues. They cordially welcomed them all, and felt sure that their help and counsel would be of the greatest possible service to the Society at large. Their first duty would be, in the

words of the Report presented to the General Meeting last December, "to deliberate and decide as to the future of the Society's Shows, and as to the character and scope of the Society's other operations." These were matters which would obviously demand their immediate and serious attention, though it would not be expected that they could come to any decision without careful deliberation, and doubtless prolonged discussion. †

He wished to assure their new colleagues that he would endeavour to give every one the fullest freedom, consistent with the orderly conduct of their debates, for the expression of his personal views on the situation. The Finance Committee had prepared a special report for the information of the Council, with the particular object of putting each Member of the Council in possession of the fullest and latest information relative to the Society's position. This report of the Finance Committee presented no recommendations, but was a mere statement of facts. It afforded, however, a convenient peg on which to hang a general discussion and to obtain an exchange of views on the subject which was uppermost in all their minds—the future of the Shows and of the Society generally. He suggested, therefore, that they should pass the customary monthly report of the Finance Committee as to receipts and payments, formally receive the special report, and then decide to consider the general questions arising out of it in Committee of the whole Council, so that they might have greater latitude of debate. He hoped that the discussion would be a full and frank one, and promised that any information desired by any Member of the Council would be supplied as far as possible.

Report of Finance Committee.

Sir NIGEL KINGSCOTE presented a special report, giving particulars of the Society's obligations, and stating that, irrespective of the Guarantee Fund, the actual receipts for the Show of 1905 were 11,200*l.*, while the expenses would be some 19,000*l.* or a deficit of 7,800*l.* The donations of 6,300*l.* would reduce the actual loss, which would fall on the Society's

general funds from the holding of the Show of 1905, to about 1,500*l.* This report was received, and by general consent the discussion thereon was deferred until the other items on the agenda paper had been disposed of.

Vacancies on the Council.

The PRESIDENT reported that no representatives had been elected to serve upon the Council for the electoral districts of Cornwall, Dorset, Essex, and South Wales, and he suggested that the question of filling up these vacancies under Bye-law 90 should be referred to the Committee of Selection. This course was, after a short discussion, agreed to.

Miscellaneous.

A letter was received from the Royal Veterinary College, stating that the Society's medals for Cattle Pathology for 1905 had been gained by Mr. Leonard Danels, of 20 Westwell Road, Streatham Common, S.W. (silver medal), and Mr. William Henry Taylor, of Mount Pleasant, Sampford Peverell, near Tiverton (bronze medal). These medals were ordered to be issued accordingly.

A letter from the Town Clerk of Blackpool, inquiring "if it would be convenient at any and what date for the Society to receive a deputation from the borough with a view to the Show of the Royal Agricultural Society being held at Blackpool at a date to be arranged," was postponed for future consideration.

Authority was given for the Society's Seal to be affixed to the Diplomas of Honorary Membership of H.I.H. Prince Arisugawa of Japan and the Hon. Whitelaw Reid, who were elected as Honorary Members of the Society at the Council meeting in the Showyard on June 29.

The Position of the Society.

The Council then resolved into Committee for the purpose of discussing the general position of the Society.

Mr. BOWEN-JONES said he had received a letter from Mr. Ryland, who, he was sorry to say, was too unwell to attend their meeting that day, putting forward certain suggestions. Mr. Ryland suggested that an entirely independent Committee of old

and new Members of the Council qualified by practical business knowledge should be forthwith appointed, with power to call for any information from officials, and to employ professional assistance, if they considered it necessary, from accountants, solicitors, and valuers, to thoroughly investigate the entire position of the Society, and to make a report to the Council as to what reforms and economies they considered desirable to put the Society on a sound footing again. He himself felt that some such course as that was desirable, as they needed a thorough investigation as to what future economies and what arrangements could be made for the satisfactory working of the Society.

Mr. FORREST having seconded the motion for the appointment of such a Committee,

Mr. STRATTON said he desired strongly to support the proposition made by Mr. Bowen-Jones. He thought that a Committee of the kind mentioned was most desirable in order to restore the confidence of the Members. He thought it would be expected of the Members of the Council that they would ventilate their views with regard to the future of the Society. They were undoubtedly in a serious position, but a Society like theirs with 10,000 Members had not lost its prestige, and would go on and prosper provided they started on economical lines. The Show had, unfortunately, been a great source of loss for some years, so far as making money at the gates was concerned; but so far as general business was concerned, and the quality of the exhibits, they had never had a better Show than that held at Park Royal this year. That view was endorsed by the implement makers, as well as by the exhibitors of stock, and he maintained that there lay the element of their success. He was of opinion that those who profited by the Show should pay a larger share of the expenses. They could not be continually appealing to the public to carry on the Show. Those who exhibited gained benefit by the Show, and every owner of pure-bred stock was a great gainer. If the Show ceased to exist, the value of pedigree stock would go down throughout the country.

He had always been of opinion that it was necessary to offer high prizes, and to have small entry fees, but he was bound to admit that high prizes were not necessary to secure a first-class Show. He must also admit that they could not get low entrance fees; it was the duty of exhibitors to pay higher fees. He maintained if they could not do that they could not have the Show. The Show would, he believed, be none the worse if they charged double the present fees. Another question was with regard to the size of the Show. It seemed to him that the ground might be very considerably curtailed, and they might let off a portion, if not sell a portion, and possibly better terms could be arranged than those offered at the present time. At all events, the Show was unnecessarily large. There was no particular object so far as the general public was concerned in having duplicate and triplicate implement exhibits. He thought that the expenses of the Show could be very considerably cut down. This was one of the matters that should be investigated by the Committee.

He was aware that it was said that as they had borrowed money on low terms on Harewood House it did not cost them much more than ordinary offices would cost. He could not help thinking, however, that Members looked upon that house as a standing hindrance to economy. The house was certainly a most valuable asset, but to continue to use it as offices for the Society in its present position was certainly the reverse of economical. It was necessary to dispose of the house to propitiate their Members, and unless they were propitiated the Society would never be successful. The sooner the public knew they were going to work on those lines, the sooner their membership would increase. He suggested that they might admit tenant farmers as Members at a lower fee than now. The more Members they had the smaller would be the expenses per head.

With regard to the Journal, the general opinion was that it was not worth the money it cost, and if they had to curtail anything, they must curtail expense in that direction. He

was quite sure that the great body of Members were strongly of opinion that the Show should go on by some means or other, and he hoped that the Committee would be able to indicate in what way it could be carried on.

SIR WALTER GILBEY felt that he must disabuse Mr. Stratton's mind on one point. He was certain that they could not increase their income by increasing the entry fees for the Show. He was persuaded that few even of those present were aware of the great cost that every agricultural show entailed. He had the honour of being President of the Society for the Leicester Show, and he thought it would surprise them to know how much money was locally subscribed. No Society existed without subscriptions or support by means of voluntary contributions, and no Show had been self-supporting or could be held without assistance and outside subscriptions from the residents in the cities and towns visited.

MR. STRATTON remarked that this assistance could not now be obtained.

SIR WALTER GILBEY (continuing) said that thousands of pounds could be obtained, but what was every one's business was nobody's business. He had taken some little trouble, and had found no difficulty in getting a large number of new Members.

MR. HARRISON said he had supported the Show going to Park Royal this year, as they were aware, although at the present time he was in favour of the migratory Shows; and he would like to explain why he supported going to Park Royal this year. It would be in the remembrance of many Members that they had called a meeting of the implement exhibitors to consent or otherwise to a Show being held. The only possible place at which a Show in 1905 could be held was Park Royal, and, after some difficulty, the implement exhibitors decided to go there. He might say now, however, that he feared Park Royal would not receive the same support again from implement exhibitors. He thought that if any sensible man would look at the facts, he would see that Park Royal as a site for the Show was doomed. With respect to migratory Shows, he was not at all in

agreement with Sir Walter Gilbey. He (Mr. Harrison) was fully of opinion that if they went back to the country, and associated themselves with the county societies, they would get invitations to hold the Show in the country. Whilst they were in a particular county they would get support which they had not had in the past. The great question was finance, and the acquisition of new Members. To his mind, the Show was the practical expression of the Society, and if the Show did not exist, the membership would fall down, and Hanover Square could not exist. The administrative expenses might be said to be a perennial question, but it was a vital question.

He agreed with a previous speaker that the new Council would have to act very drastically with the expenditure at Hanover Square. Economies might very well be made without effecting either the utility or efficiency of the Society, and the sooner the new Council tackled that important question the better. With regard to the question of entry fees mentioned by Mr. Stratton, many of the stock exhibitors got large prizes, but not all of them, and many showed for the advantage of the different breeds. The implement people, of course, went to the Show for business; but so far as any future Show was concerned, he believed that the implement space could be curtailed with advantage, and the exhibitors would be prepared to pay proportionately higher fees for less space.

He could say at once that he knew of five or six towns where there was a site available for the Show, if they would go back to the provinces. Park Royal, was, he hoped, their great asset. Although they might not hold another Show at Park Royal, they should try to retain the land at Park Royal as a land speculation, and he believed that even with the interest paid, by the time the right of pre-emption expired, they would get such a sum as would leave a good profit. He was quite in agreement with the suggestion that fell from Mr. Bowen-Jones that a Committee of both new and old Members should be formed to go into the question of the Society's position, and he believed that after the fullest consideration they

would be able to make such economies as would give satisfaction to the general public, and would result in their putting the Society on a better financial standing than it was at the present time, or had been for many years past.

Mr. MATHEWS said he thought the Committee ought to know the view of the Members generally, because that was a mistake they made some time ago, when they decided to have a permanent Show at Park Royal. He would like a circular sent to every Member of the Society, to include a number of questions as to whether (1) the Member was in favour of holding a Show in 1906? (2) If so, whether it should take place at Park Royal or elsewhere? (3) If in favour of the Show, whether he would contribute, in the case of a Life Member 1*l.*, and in the case of an Ordinary Member 2*l.*, towards the Show? (4) If not in favour of continuing the Shows, what should the Society do to keep itself in evidence before the Members? He suggested that each Member of Council should undertake to send out such a circular to the Members of the Society resident in his own county. The answers should be sent to the Member of Council, and he should be asked to analyse them, and send the results to the Special Committee, as it would be a great help to the Committee in coming to a decision with regard to the Show. His own impression was that the majority of replies would be in favour of a Show somewhere next year. One good result that would arise from the sending out of that circular would be to bring the Members of Council in touch with their constituents, and he was sure that they would learn a great lesson as to the people who belonged and who did not belong to the Society. They would then be in a position to get a great many new Members, which would show the subscribers that the new Council were not going to be a thing of nought, but were doing their very best to forward the interests of the Society.

Col. CURTIS-HAYWARD said that before a Committee set to work on the question as to how to put their house in order, he thought they ought to

decide the question as to whether or not a permanent Showyard was the best for the Society. He believed that the majority of their Members considered that the whole of their disasters were caused by their having given up the migratory Show, but he thought that they could not sufficiently have read the report of the Committee which showed the failure of the migratory Show system. A suggestion had been made that day that they should call a conference of representatives of the local Agricultural Societies. If this proposal was adopted, the Council could ascertain authoritatively whether there were any sites in the different districts for the Society's Show; whether the county Societies were prepared to co-operate; and whether they would give up their own Shows at the time that the "Royal" came into their neighbourhood. The Council would then know whether a return to the system of migratory Shows was possible. Until that was decided the Special Committee could not tell in what directions they were to reform.

After some further discussion, Mr. BOWEN-JONES formally moved, and Mr. FORREST seconded, the following resolution, which, on being put, was declared by the PRESIDENT to be carried unanimously:—

"That a Special Committee be appointed, with power to call for any information from officials, and to employ professional assistance, if they consider it necessary, from accountants, solicitors, and valuers, to thoroughly investigate the entire position of the Society, and to make a report to the Council after the recess as to what reforms and economies they consider desirable to put the Society on a sound footing."

This Committee was constituted as follows:—The President, Mr. T. L. Aveling, Mr. Richardson Carr, Mr. R. P. Cooper, Mr. R. Forrest, Sir John Gilmour, Bart., Sir Gilbert Greenall, Bart., Mr. W. Harrison, the Earl of Jersey, Mr. Christopher Middleton, Mr. T. S. Minton, Mr. F. Reynard, Mr. John Rowell, Mr. E. W. Stanyforth, Mr. Richard Stratton, Mr. George Taylor, Mr. John Thornton, and Mr. C. W. Wilson.

(This Committee subsequently held a preliminary meeting and decided to sit again on September 20 and 21.)

WEDNESDAY, OCTOBER 4, 1905.

MR. F. S. W. CORNWALLIS (PRESIDENT) IN THE CHAIR.

Report of Special Committee.

The first business before the Council was the consideration of the following report, dated September 21, which was presented by the Special Committee appointed at the last meeting on August 1:—

REPORT OF THE SPECIAL COMMITTEE.

1. In accordance with the Resolution of the Council of August 1, 1905, your Committee met on September 20 and 21, and beg to report on the reforms and economies they consider desirable to place the Society on a sound footing.

2. The Committee desire to express their recognition of the services of the Staff in the past; but in view of the financial position of the Society they are unable to recommend a continuance of so large an expenditure as is at present incurred under this head, and regret that they see no other course open to them but to request the Council to ask for the resignation of the whole Staff as at present engaged at Hanover Square and Park Royal.

3. They consider that a sum not exceeding 1,500*l.* per annum is all that the Society is at present justified in expending on the salaries of the Secretary and administrative Staff.

4. They recommend that a Secretary (to devote his whole time to the work of the Society) should be appointed at a salary of 600*l.* per annum, and an assistant at 300*l.* per annum.

5. HAREWOOD HOUSE.—They recommend that if a satisfactory price can be obtained for Harewood House it shall be sold at as early a date as possible, and failing this, that such part of the house not absolutely required for the purposes of the Society shall be let.

6. JOURNAL.—They recommend that the cost of the Journal, including distribution, shall not exceed 600*l.* per annum.

7. SCIENTIFIC DEPARTMENTS.—They recommend that the Board of Agriculture be approached with a view to obtain a grant in aid of the scientific operations of the Society, which must otherwise be curtailed, unless such assistance can be obtained.

8. THE SOCIETY'S SHOW.—They recommend that no Show be held at Park Royal in 1906, but that it take place in the provinces if a suitable site can be obtained and financial arrangements made; also that a sum of not less than 2,000*l.* from the Governors and Members' subscriptions be credited to the expenses of the annual Show.

9. They think it would be most advantageous that a conference be held annually between the Council and Officers of the Royal Agricultural Society and the Secretaries of the County, Breed,

and other leading Agricultural Societies to consider questions of general and mutual interest.

10. PARK ROYAL.—They recommend that immediate steps be taken for the disposal of the Society's interest in the Park Royal Estate.

11. SUBSCRIPTIONS.—The Committee desire to draw attention to and emphasise the desirability of encouraging Members to give financial support to the Society beyond the minimum subscription.

THOMAS L. AVELING.
RICHARDSON CARR.
R. P. COOPER.
R. FORREST.
JOHN GILMOUR, BT.
GILBERT GREENALL.
W. HARRISON.
CHRIS. MIDDLETON.
T. S. MINTON.
FREDK. REYNARD.
JOHN ROWELL.
R. STRATTON.
G. TAYLOR.
JOHN THORNTON.
C. W. WILSON.

[The Earl of JERSEY and Mr. E. W. STANYFORTH were unavoidably absent.]

13 Hanover Square, London, W.
September 21, 1905.

The adoption of this report, which was discussed in private, was moved by Mr. STRATTON, and seconded by Mr. HARRISON. With the exception of paragraph 10, which was remitted to the Special Committee for further consideration, the report was adopted, paragraphs 2, 3, 4, and 11 being referred to the Finance Committee, 5 to the House Committee, 6 to the Journal Committee, 7 to the Chemical, Botanical, and Education Committees, and 8 to the Special Committee to deal with.

Committee of Selection.

Sir JOHN THOROLD (Chairman) reported that the question of the vacancies at present unfilled of ordinary Members of the Council for the electoral districts of Cornwall, Dorset, Essex, and South Wales had been considered. The Committee were advised that, in view of the terms of Bye-law 90, it had devolved upon the Council to fill up these vacancies, but, before taking steps in this direction, the Committee were of opinion that the electors of the divisions concerned

should be given another opportunity of expressing their wishes in the matter. They proposed, therefore, that a circular (a draft of which they had approved) should be issued, acquainting each voter in these divisions with the fact that a vacancy existed in the representation of the county, and giving notice that nominations of candidates to fill such vacancies might be made up to Saturday, October 28. In the event of more than one candidate being nominated for one vacancy, the Committee thought it desirable, with the view of ascertaining the wishes of the majority of electors in a division as to the candidate whom they desired to be appointed as their representative on the Council, to follow the procedure relative to the issue of voting papers,

&c., adopted in the contested elections which took place in other divisions in July last.

Show of 1906.

Letters were read from the Mayors of Blackpool and Derby, conveying invitations to the Society to hold its Show in these towns.

Mr. WHEELER mentioned that the site available at Blackpool had already been inspected when a former invitation had been tendered in 1901.

As to the Derby invitation, it was decided to request Mr. Carr, Mr. Cooper, and Mr. Crutchley (or, failing him, Mr. Wheeler) to visit Derby and report to the Council on November 1, with reference to the site and other facilities available.

WEDNESDAY, NOVEMBER 1, 1905.

MR. F. S. W. CORNWALLIS (PRESIDENT) IN THE CHAIR.

Death of Earl Cathcart.

The PRESIDENT, in opening the proceedings, made sympathetic reference to the death, on October 30, of Earl Cathcart, a past-President and Trustee of the Society. Lord Cathcart was President in 1872-1873, and he was for many years Chairman of the Journal and Selection Committees. The Society and agriculturists generally had lost a warm supporter, and his Lordship's death would be deeply regretted.

Finance.

Sir NIGEL KINGSCOTE reported that the Finance Committee had held, in addition to their usual monthly meeting, a special meeting on October 17, to consider the references made to them by the Council on October 4, of the paragraphs in the report of the Special Committee which related to the Society's Staff. Representations had been made to the Committee that to call for the resignation of each member of the Staff would be likely to endanger the future prospects of the Society's servants in obtaining other employment, as implying dissatisfaction with the performance of their duties in the past. The Finance Committee had the assurance of those

of their number who signed the Report of the Special Committee that this was not at all the Committee's intention, but that they considered that the new arrangements for the administration of the Society's affairs which they proposed would be best facilitated by bringing to a termination the existing engagements with the whole of the staff. The present Finance Committee wished to associate themselves with the words of appreciation of the services of the Secretary, Assistant Director, Superintendent of Works, and Assistant Editor, and of the clerks employed under them, used by the Sub-Committee on Finance in their Report of April 12, 1904; and they recommended that the President be authorised to express satisfaction with these services in communicating to each member of the Staff the decision of the Council concerning him.

With regard to the Secretary, it had already been reported on his behalf to the Council, at their meeting on October 4, that he was willing to retire at once, with a view to facilitate the new arrangements for carrying on the business of the Society coming into force as soon as possible, on the understanding that he received what

was legally due to him as regards remuneration. In view of Sir Ernest Clarke's past services to the Society during the eighteen and a half years that he had been its Secretary, the Finance Committee unanimously recommended to the Council (1) that his tenure of office as Secretary of the Society should be considered as terminated at Christmas next; (2) that he should receive at that time, in lieu of further salary, the sum of 1,000*l.* in full discharge of all pecuniary claims upon the Society; (3) that he be permitted to occupy his present rooms at Harewood House until not later than March 25 next, it being understood by him that if rendered necessary by the previous sale or letting of the house, he would have to vacate such apartments at an earlier date when required. With regard to all the other officials of the Society at Hanover Square and Park Royal, the Committee recommended that notice be given to each officer and clerk by the President immediately after the November Council (1) that his engagement by the Society would terminate on March 25 next (Lady Day, 1906); (2) that the Council reserved the power—acting through their Finance Committee—to dispense (with or without request) with his further attendance at any date prior to March 25, and would take into consideration the circumstances of any new appointment which he might meanwhile obtain in deciding as to the date when his salary from the Society should terminate.

In order that the selection of the new Secretary might be expedited, the Committee drew up, on October 17, a form of application for the post, and ordered the appointment to be advertised forthwith, the forms of application to be returnable not later than Tuesday, October 31. The Committee recommended that the question of the appointment by the Council of an Assistant to the Secretary be reserved until the new Secretary had been selected and was in office. A total of 481 forms of application for the post of Secretary had since been issued to applicants, and 230 actual applications had been received. The Committee proposed to hold a further

meeting after the rising of the Council to go through these applications and to make a selection of a small number of candidates therefrom to be personally interviewed by the Committee, with a view to the final appointment of the new Secretary being made at the next Council meeting on December 6.

Show of 1906.

Sir GILBERT GREENALL, in presenting a further report from the Special Committee appointed on August 1 last, said that in paragraph 8 of that Committee's report of September 21, 1905, it was recommended that a Show be held by the Society in 1906 in the provinces if a suitable site could be obtained and financial arrangements made. As notified direct to the Council in the letter from the Mayor of Derby, dated September 29, an invitation had now been received from that borough; and a Sub-Committee consisting of Mr. Carr, Mr. Cooper, and Mr. Crutchley had visited the site on Friday, October 13. The Sub-Committee's report indicated that a good and convenient site was available at Derby, that the Mayor and Corporation were willing to carry out the Society's customary requirements, and that the Derbyshire Agricultural Society was ready to suspend its own Show for 1906 if the Royal Show should be held at Derby.

The Sub-Committee recommended "that the invitation from Derby be accepted if the Council decide to hold a show in 1906," and in that recommendation the Special Committee concurred. The Committee had the assurance of one of their number that in the event of the Society holding a Show at Derby in 1906, and such Show should (under the new arrangements as to administration, &c., which had already been sanctioned in principle by the Council) involve a loss to the Society's general funds, he would be prepared to make such loss good; and the Committee recommended that this generous offer be accepted. The Committee thought that the Show of 1906 should be held at the usual time, viz., in the week after Ascot, and that it should be a four days'

Show ending on a Saturday. They recommended therefore that the Show be open on Wednesday, June 27, 1906 (admission 5s.), Thursday, June 28 (admission 2s. 6d.), Friday, June 29 (admission 1s.), and Saturday, June 30 (admission 1s.). They recommended also that in view of the Derbyshire Agricultural Society having consented to suspend its show of 1906 in favour of the Royal Show, every member of the Derbyshire Society (numbering some 700) who was on that Society's books at the end of 1905 and who paid his subscription to it for 1906, be granted without payment the same privileges of admission to the Show as a Member of the Royal Agricultural Society.

In view of the present financial position of the Society, the Committee were of opinion that the Council would not be justified in voting from the Society's own funds a larger sum than four thousand pounds (4,000*l.*) in prizes for the Show of 1906. They hoped that this sum might be supplemented by grants from the various breed societies, and they were of opinion that in the distribution of the prize money every established breed of live stock should as far as possible have classes and prizes allocated to it.

Sir Gilbert added that it seemed to him that in these recommendations of the Special Committee they had every promise, so far as it was possible to make a forecast, of a successful Show at Derby if they went there next year, and he therefore concluded by moving the adoption by the Council of such recommendations.

Mr. HARRISON seconded the motion, which was agreed to.

A deputation from the borough and county of Derby being in waiting, it was decided to receive them before the passing of a definite resolution on the subject.

Mr. JOHN T. C. EADIE, the Member of Council representing Derbyshire, then introduced a deputation from the borough and county of Derby, consisting of the Mayor of Derby (Mr. W. Hart), the Chairman of the Derbyshire County Council (Mr. G. Herbert Strutt), the Chairman of the Derbyshire Agricultural Society (Mr. J. Pakeman), Sir Thomas Roe, M.P.,

Alderman E. T. Ann, and Mr. C. Salt, with the Town Clerk of Derby (Mr. G. Trevelyan Lee).

Speeches in support of the object of the deputation having been made by the Mayor and others, and the deputation having withdrawn,

Mr. VICTOR CAVENDISH, M.P., moved, Mr. J. T. C. EADIE seconded, and it was resolved unanimously "That the invitation which has been tendered by the Mayor of Derby and representatives of the county be accepted, and that the Society's Show of 1906 be held at Derby from June 27-30 next, subject to the usual formal agreement being entered into by the Mayor and Corporation."

The Park Royal Estate.

Sir GILBERT GREENALL said there was another matter which had come before the Special Committee at their last meeting on October 17, viz., the question of the sale of the Society's estate at Park Royal. In their Report of September 21 the Committee had recommended that "immediate steps be taken for the disposal of the Society's interest in the Park Royal estate," and this recommendation had been referred back by the Council to the Committee for further consideration. The Special Committee, after again going fully into the matter, felt that they must adhere to their previous recommendation. They were of opinion that the Society would not be justified in incurring the large annual expense for interest, upkeep, &c., which would be necessary if Park Royal were retained in the Society's possession until the pre-emption period expired at the end of 1911; and they recommended, therefore, that the Council should forthwith instruct the Directors of Park Royal, Limited, to offer the property to the original vendors at the price of 375*l.* per acre stipulated in Clause 14 of the agreement of purchase, dated September 30, 1901. He was fully conscious that there might be considerable differences of opinion as to this re-assertion of the attitude the Special Committee took up in its original report of September 21, viz., that the Society having no further use for Park Royal as its Showground, the property had better be sold.

Though many of them did not find themselves in agreement with the policy of a permanent Showyard, decided upon by the old Council in 1901, yet he, for one, fully recognised the generosity of those who then came forward to the help of the Society by subscribing large sums of money to enable Park Royal to be acquired. It might possibly be that those of their colleagues who were Directors of Park Royal, Limited, would like an opportunity of considering the matter from their special point of view before they accepted the instructions which the Special Committee recommended the Council to give them, to offer the property to the original vendors. He quite felt that this was not a matter to be disposed of in a hurry, especially as it involved such a large sum of money. So far as the Special Committee was concerned, their views had been unmistakably expressed, and it was for the Council to say whether they would now endorse those views to the extent of ordering them to be carried into effect, or would await a report (as in the case of the Special Committee's other recommendations) from the particular Standing Committee—in this case the Board of Park Royal, Limited—which was specially concerned with the administration of this department of the Society's operations.

Mr. HARRISON having seconded the adoption of this recommendation,

Mr. WHEELER thought the Council should have some statement as to the expense of holding this site, and also as to the revenue they might make out of it for other purposes. He thought that the Directors of Park Royal might be asked to bring up a report on this matter at the next meeting of the Council.

Mr. HARRISON said the charge that Park Royal would be to the Society in case the land were retained as a speculation had been calculated at anything from 1,300*l.* to 1,700*l.* per annum. The Special Committee, in considering this, felt that in the present financial position of the Society it could not recommend the Society to retain possession of Park Royal for the six years which would elapse before the vendor's right of pre-emption

expired. A capital expenditure of more than 1,000*l.* a year for the retention of Park Royal was considerably more than the Special Committee felt justified in recommending to the Council.

Sir NIGEL KINGSCOTE said he did not think that the Directors of Park Royal had any further information to give than had already been laid before the Council. The Directors had taken steps to make the best they could of the place, and with regard to letting the land, a football club had hired some of it, and he did not think the Royal Agricultural Society were in a position to develop the ground in any other way. He thought that the site would eventually have turned out advantageously to the Society as a permanent Showground, but if the Council were determined not to use it for this purpose, he did not see any alternative but to sell it.

Mr. CRUTCHLEY quite agreed with what had fallen from Sir Nigel Kingscote. He did not see what advantage there could be in the Directors of Park Royal expressing their views further on the subject now before them. If the Council had decided once for all not to go back to Park Royal to hold its Shows there, he thought the best course, under the circumstances, would be to realise the estate, and that it was only waste of time for the Council to postpone dealing with the question.

Mr. STANYFORTH said that he could not help feeling that in parting from this land at the present moment they were parting from property which in future years would become very valuable. He quite appreciated the arguments that had been used to the contrary. On the other hand, he did not think they could go on with the Shows in the provinces year after year. They had a Showground for next year, and they might secure one for a year or two longer. It was a question, however, if they could continue these migratory Shows. If not, they might ultimately have to come back to London, and if they parted with Park Royal now, they were placed in the position of not having any Showground for the future. Could not a portion of the Park Royal

estate be sold, sufficient to discharge the Society's liabilities, or to permit of their borrowing from the bankers without much difficulty? They did not want so much land at Park Royal as they had and the implement makers had told them they did not want so much space as in the past. If they could hold on to Park Royal, he thought it ought to be the course that they should pursue at the present moment. He considered they were parting with a very valuable property, and that the price they would obtain for the land if they sold it now would be nothing compared with that which they would gain six or seven years hence.

Mr. CHRISTOPHER MIDDLETON was of the opinion that it would be well that the Council should disabuse their minds as to selling a part of Park Royal. They must sell the whole, as they could not hold on to it for several years. In the course of a few years the provinces might be exhausted, and they might want to return to a permanent Showyard; but how could they return to Park Royal after their experience there during the past three years? He thought the Council ought to arrive at a decision on the matter at once, and burn their boats behind them.

Mr. MATHEWS inquired whether, in the event of Park Royal being sold, the Council would be able to apply the money towards the discharge of any of their liabilities, or would it be held in trust?

Mr. AVELING said that as a Member of the Special Committee he desired to express the opinion that it was impossible to keep Park Royal, and that the only thing they could do at the present time was to dispose of it. The Committee had sat for three days; they had gone carefully and thoroughly into the whole question, and they did not see how the Society could keep Park Royal.

SIR GILBERT GREENALL said that the Special Committee certainly thought this was the right course to pursue, but they felt that they did not wish to ignore the Directors of Park Royal when the Council were considering the matter.

Col. CURTIS-HAYWARD said that the question as to what would be the position of the Society if the migratory

Shows failed ought to be considered. If they were determined to dispose of Park Royal, it must be on the understanding that they were burning their boats behind them, for if the migratory Shows failed they had nothing to fall back upon.

Mr. HARRISON pointed out that if part of Park Royal were sold, the proceeds must go in the reduction of the mortgage; the money could not be used in any other way.

The PRESIDENT then formally moved the adoption of the recommendation of the Special Committee for the sale of Park Royal, which, on being put, was carried *nem. dis.*

Journal Committee.

SIR JOHN THOROLD (Chairman) reported that the Committee had had before them estimates for the production of the Journal at a net cost to the Society of not exceeding 600*l.*, including distribution, as recommended by the Special Committee. They had arrived at the conclusion that the annual volume could be produced for the sum named, provided that the volume be bound in paper covers instead of cloth covers, and that the size be reduced to 450 pages. They recommended therefore that the preparation of the volume for the current year (Volume 66) be proceeded with on these lines.

Sir JOHN THOROLD, in presenting this report, said that if the Journal was to be issued for the sum named, it could not be produced upon the same lines as before. It could not be so large, nor could it be bound in cloth. It would, however, contain all the Reports of the Society's scientific officers and the illustrated Reports on the Show, and it was proposed to revert to the blue paper cover formerly used. There would also be notice of an arrangement by which Members who wished to do so could themselves get the Journal bound in cloth to match the previous series.

Chemical and Woburn Committee.

Mr. BOWEN-JONES (Chairman) reported that the Committee had carefully considered the report of the Special Committee as passed by the Council on October 4, and had reviewed the

position with the object of making such further economies as might be possible. They pointed out, in the first place, that the very considerable economies in the Chemical Department effected at the beginning of the present year had not yet had time to make themselves felt. It might be remembered that, as the outcome of the report of the Sub-Committee on Finance, presented in May, 1904, there was a reduction of 150*l.* per annum made in Dr. Voelcker's salary; and further, the allowance of 400*l.*, given to Dr. Voelcker for the work of his laboratory, salaries of assistants, &c., was dropped, Dr. Voelcker taking in return the fees paid by Members for analyses, which amounted in 1904 to 330*l.* Accordingly there was, as commencing from January, 1905, a direct saving of about 220*l.*, which would appear for the first time when the accounts for 1905 were presented.

The present cost of the Chemical Department, inclusive of the Pot-culture Station at Woburn, did not exceed 650*l.* per annum, this including Dr. Voelcker's salary (550*l.*), printing, &c. (say 50*l.*), and the balance required (about 50*l.*) to pay the salary of the assistant at the Pot-culture Station (200*l.*), over and above what was received from the Hills' Bequest. The Committee did not feel that they could sensibly decrease the expenditure further at present, though opportunity for doing so would be taken should it offer. The Committee had reviewed the work of the Woburn Experimental Station, and they desired to call the attention of the Council to the fact that, owing to the liberality of the Duke of Bedford, the work of the Station entailed at present no charge on the finances of the Society beyond a proportion of Dr. Voelcker's salary. The Committee were of opinion that, with the economies already effected, they might reasonably expect to be able to carry on their work as in the past; and they hoped that, in view of the great importance of the Society's Chemical Department, no further curtailment of its work would be found necessary.

Stock Prizes Committee.

Mr. GREAVES (Chairman) reported that the Committee had considered a

draft of the prize sheet for the Show of 1906, on the lines laid down by the Special Committee, viz., that the total amount of the prizes offered by the Society should not exceed 4,000*l.* The Committee had considered a communication from the Polled Cattle Society asking that the age of Aberdeen Angus cattle should be reckoned as from December 1 instead of January 1, and proposed that in the prize sheet for 1906 the ages of Aberdeen Angus animals should be calculated as from December 1. The Committee recommended that the Ayrshire cows or heifers should be shown in-milk only; that the auction sales should be held, as usual, in the Showyard; and that facilities be afforded to exhibitors of stock for showing their animals for the purpose of sale, a privilege already granted in the case of exhibitors of horses. They also recommended that sheep entered for competition for the Society's prizes must be entered or certified as eligible for entry in the Flock Book of their breed, provided that the Flock Book had been in existence for five years; and that the regulations with regard to the shearing of sheep exhibited in the Society's Showyard be omitted from the prize sheet.

Date for Calculation of Ages of Aberdeen Angus Cattle.

Mr. JOHN THORNTON said that, with reference to the recommendation of the Stock Prizes Committee on the subject of the calculation of the ages of Aberdeen Angus cattle from December 1, instead of January 1, it hardly seemed just that the ages of one breed of cattle should be so reckoned, when in all other breeds of live stock the age dated from January 1.

Mr. RALPH PALMER said he desired to support what had fallen from Mr. Thornton, as he failed to appreciate the reason why Aberdeen Angus cattle should date from December 1, and the ages of Galloways should date from January 1. He was of the opinion that, if any alteration were made in this direction, it should apply to all classes of stock at their Show, and not to any particular breed. He

hoped that the recommendation of the Stock Prizes Committee would not be adopted.

Mr. STRATTON said that, as he had brought this matter before the Stock Prizes Committee, he might say a few words on the subject. It was a very old grievance so far as Aberdeen Angus breeders were concerned. It involved no injury to any other breed, as there were no competitive prizes between Aberdeen Angus and other breeds. The reason why the change was desired was that for forty or fifty years—ever since the establishment of their Herd Book—the Polled Cattle Society had established December 1 as the date for the commencement of their year, and so they got their cattle to calve as early as they could in the winter. Some 60 per cent. of the pure-bred Aberdeens were born in December. Consequently, if the ages dated from January 1, the animals calved in December had to compete with animals of a different age from the great majority.

The Highland Society, a perfectly independent body, had seen the force of the argument used by the Polled Cattle Society, and had granted their request. They dated their ages from January 1, except for the Aberdeen Angus breed, which dated from December 1. The same applied to the Bath and West Society. Why should the Royal insist upon a symmetrical condition which damaged the Aberdeen Angus people, and caused a vast deal of unpleasantness and great prejudice against the Society? His proposal had been passed by the Stock Prizes Committee last year, but it was withdrawn in deference to the fact that they were in a state of transition, and it was thought best to leave the matter to the decision of the new Council. He hoped that the new Council would not affront a very important section of breeders of one of the most important breeds of cattle in the kingdom, and simply for the sake of uniformity, the absence of which would do no harm to anybody.

Mr. GREAVES thought it a great injustice that any one breed of cattle should have a special advantage. Take the case of a man going round the Royal Show. He looked at the

different breeds, but when he came to the Aberdeen Angus he would notice that they were finer animals, and he would not observe from the catalogue that they were a month older. It would be most unwise for the new Council to bring a hornets' nest about their ears.

Mr. REA thought it would be rather short-sighted to run counter to the wishes of the Polled Cattle Society. That Society had asked the Northumberland Agricultural Society to alter the date, so that it might correspond with their own arrangements. Personally he opposed this at the time, as he did not think it just. But the request was acceded to, and he must say that there had been no subsequent jealousy on the part of other breeds. He thought every society should be at liberty to make its own regulations as to age.

Mr. THORNTON said that the Polled Cattle Society had originally made the rule in connection with the Show of the Smithfield Club. That was really the origin of the trouble.

The PRESIDENT then put the question, and the motion to refer this matter back to the Committee was carried by sixteen votes to three.

Education Committee.

Lord MORETON (Chairman) reported the Committee's concurrence with the proposal to appeal to the Government for an annual grant in aid of the Education and Scientific branches of the Society's work.

Mr. RALPH PALMER, referring to the speech of the Chairman of the Derbyshire County Council, said he had had the honour as an officer of a London Society to deal with a considerable deputation from the north headed by Sir J. Wolfe Barry, who desired to know whether the London Society could not see its way to grant Certificates in Agriculture, saying that the Royal Agricultural Society itself did little or nothing in this direction. There was undoubtedly a growing need for the inclusion of agriculture with other trades in the assistance afforded for the purposes of improved scientific education. He hoped that in connection with all the applications

that were being made for assistance in the teaching of sciences bearing upon other trades their Education Committee would hold their own, and would even see whether they could not enlarge the scope of their operations, and put agricultural education upon the same basis as education in machinery and cotton spinning. He was sure that the Royal Agricultural Society was the only body that could take this matter up.

Lord MORETON said he was delighted to think that his old friend Mr. Palmer was himself a Member of the Education Committee of this Society. He would therefore have been able to explain to his engineering and other friends the very considerable work done, not only for the past few years, but for many years previously, by the Royal Agricultural Society in the direction of agricultural education. For some years past their Society had worked in partnership with the Highland and Agricultural Society of Scotland. The two Societies had, since 1900, been holding Examinations in Agriculture and Dairying, and had been granting National Diplomas to successful candidates. He was surprised, under these circumstances, that any responsible body should suggest that others should do the Society's work without taking the trouble to find out what the Royal Agricultural Society was doing.

Appeal for Government Grant.

The PRESIDENT stated that in view of the recommendations by the various Scientific Committees as to the proposal to ask the Government for a grant in aid of the Education and Scientific Branches of the Society's work, he had thought it expedient to invite the Chairmen of those Committees to confer with him as to the procedure to be adopted. A meeting had accordingly been held on the previous afternoon, attended by Mr. Bowen-Jones (Chairman of the Chemical and Woburn Committee), Mr. Wheeler (Chairman of the Botanical and Zoological Committee), Mr. Stanforth (on behalf of the Veterinary Committee), and by Lord Moreton (Chairman of the Education Committee). They had agreed to suggest to the Council that a Deputation should be appointed to wait upon the President of the Board of Agriculture in support of a strong appeal from the Society for a Government grant in aid of the Education and Scientific Branches of the Society's work.

The course proposed by the PRESIDENT was unanimously agreed to, and the following Members of Council were appointed as the Deputation to wait upon the Minister of Agriculture: The President, the Earl of Northbrook, Lord Moreton, Sir John Gilmour, Mr. Bowen-Jones, and Mr. Wheeler.

WEDNESDAY, DECEMBER 6, 1905.

MR. F. S. W. CORNWALLIS (PRESIDENT) IN THE CHAIR.

Finance Committee.

Sir NIGEL KINGSCOTE reported that a letter had been received from the Society's Solicitors, stating that the original vendors had declined to exercise their right of pre-emption in regard to the Park Royal estate. Under these circumstances the Committee proposed that the estate should be put up for sale in the course of next summer. Any suitable offer made meanwhile would be considered.

The Committee further reported that Sir Nigel Kingscote had intimated his desire to be relieved of the duties

of Chairman at the end of the present year. They had received this intimation with extreme regret, and they felt it incumbent upon them to place on record their high sense of the ability, courtesy, and impartiality with which Sir Nigel had fulfilled the responsible and laborious duties of Chairman of the Committee during the long period of thirty years.

Mr. C. R. W. Adeane had been elected Chairman of the Committee for the year 1906.

The PRESIDENT said he was sure the Council cordially agreed with the

Finance Committee in their appreciation of the long and valuable services which Sir Nigel Kingscote had rendered to the Society as Chairman.

Election of New Secretary.

Sir NIGEL KINGSCOTE presented a report from the Finance Committee upon the applications received for the office of Secretary to the Society. The Committee submitted the names of three candidates for the consideration of the Council, and recommended the appointment of Mr. Thomas McRow. He, therefore, formally moved Mr. McRow's appointment.

Mr. HARRISON seconded the motion, and it was unanimously adopted.

Mr. McROW, having been called in and acquainted by the PRESIDENT with the decision arrived at, expressed his sense of the honour conferred upon him, and stated that it would be his sole aim to assist the Council to carry out the objects of the Society.

Stock Prizes Committee.

Mr. GREAVES (Chairman) reported that the question of the date from which the ages of Aberdeen Angus cattle should be calculated had been again considered by the Committee, who adhered to their previous recommendation on the subject. They also recommended that the request of the Galloway Cattle Society, for the calculation of the ages of Galloway cattle from December 1, be complied with.

Date for Calculation of Ages of Aberdeen Angus Cattle.

Mr. RALPH PALMER said that, with reference to the question as to the date from which the ages of Aberdeen Angus cattle should be calculated, he did not think the Council had had the facts as to the matter before them. If the recommendation of the Stock Prizes Committee were adopted he thought it would entail a very great hardship, and he therefore begged to oppose the Committee's recommendation that the ages of Aberdeen Angus cattle be calculated from December 1 instead of January 1 as at present. The words of his (Mr. Palmer's) amendment might be taken from the recommendation of the Stock Prizes Committee to the Council on March 3, 1880, which was adopted without discussion. It was in

the following terms:—"The Committee recommend that after the Show of 1881 the cattle classes in the prize sheet be arranged according to the years in which animals are born, without reference to any other date." This was reported to the General Meeting, held on May 23, 1881, in the undermentioned terms:—"The Council take this opportunity of reminding exhibitors of cattle, that, after the forthcoming Show at Derby, the new rule relating to the ages of animals exhibited will come into force—namely, that the cattle classes in the prize sheet will be arranged according to the years in which the animals are born."

He desired briefly to refer to the history of this question. Up to the year 1874, July 1 in the year before the meeting was the date from which the ages of cattle had to be calculated. He thought it was at the Bedford Show of 1874 that reference was first made to the subject now before them. On March 1, 1876, the Society addressed 147 letters to breeders, asking their opinion on the question of the date of calculating the ages of cattle, but from the replies received it was clear that there was no agreement to be found amongst them. Later on, in 1879, there was a representation made to the Society by the breeders and exhibitors of Hereford cattle on the subject, saying that March 1 was the most natural date. The Council then passed the resolution which he had just mentioned. He asked what was the reason why one date or another date should be put forward. He asked the Council now to oppose the Committee's motion. He had seen two of the letters lately published on this question, which spoke of the intrinsic advantages of the December date. This was suggested so that it might be possible for the fat beasts of the Christmas Show to be able to appear as breeding animals the next June. The question was one for the decision of their Council, without having regard to pleasing individual exhibitors.

Mr. THORNTON seconded, and said that as the matter now stood the year was stated to be 1902, 1903, or 1904, and the Aberdeen Angus Society

desired, under the new order of things, that the ages should be reckoned from December 1.

Mr. GREAVES thought the Society must go even further. If they allowed any of the breeds to choose their own dates, they must allow all the breeds to do likewise. It would not be fair on the application of one breed to fix a certain date without consulting the other breeds.

Mr. MIDDLETON said that all animals had to be eligible for entry in their respective Herd Books. If so, they ought to take the dates from those books. It might be assumed that the different Societies knew the requirements of their own breeds best. If the Society required the cattle to be entered in the books of their breed, they might leave it to the Breed Societies to fix the date themselves.

Mr. STRATTON said that before the amendment was put he should like to mention that that was the third occasion that the motion had been brought up as a recommendation from the Stock Prizes Committee, viz., that the petition of the Aberdeen Angus Society that the ages of Aberdeen Angus cattle should be calculated from December 1 be granted. He had hoped that this would be the last time that this matter would have been brought before the Society, and that the petition would be granted. Mr. Palmer's arguments against the motion were very interesting from the point of view of ancient history, but they would not avail now. The Society allowed the Dorset sheep breeders to take their dates at a different time from the others. Having done so, the bottom was knocked out entirely of Mr. Palmer's arguments, as well as of the others who opposed the Committee's recommendation. He did not think there was any objection to the recommendation amongst the breeders. He might say that it was something like twenty-five years ago since the suggestion was first made by the Aberdeen Angus Association, and they had persistently followed it ever since.

The Society's refusal to meet the wishes thus expressed had occasioned a great deal of ill-feeling, and it had no doubt caused much unpopularity to arise in connection with the

Society. Surely it was politic for them to consider the wishes of the Breed Societies, as their Society was practically a reflection of them. It had been clearly demonstrated that the continuance of the old date had militated very much against the Aberdeen Angus breed. They could not compete on the best terms, and he (Mr. Stratton) did not think that they ought to put anything in the way of their competing on the best possible terms.

Sir JOHN GILMOUR supported what had fallen from Mr. Stratton, as he was of the opinion that the time had arrived when the Council should come to a decision on this matter. There was no more enthusiastic class of men at the Shows than the breeders of Aberdeen Angus cattle, and to grant their wishes could not but have a good effect upon the membership of the Society and upon the representation of the breed at the Show. All the other Societies except the Royal had adopted the 1st December date, and he thought the time had certainly come when the Council should adopt the finding of the Stock Prizes Committee.

The PRESIDENT having formally put Mr. Palmer's amendment to the meeting, it was declared lost, and the recommendation of the Stock Prizes Committee was adopted.

Committee of Selection.

Sir JOHN THOROLD (Chairman) reported that Mr. James Falconer, of Northbrook Farm, Micheldever Station, Hants, had been duly elected under Bye-laws 84 and 88 as an ordinary Member of the Council for the Division of Hampshire, to fill the vacancy caused by the election of the Earl of Northbrook as a Vice-President. He also reported that for the four divisions—Cornwall, Dorset, Essex, and South Wales—in which there were vacancies on the Council to be filled up, the following Members had received the largest number of votes:—Cornwall: Mr. George Lobb, of Lawhitton, Launceston. Dorset: Mr. Arthur Hiscock, jun., of Manor Farm, Motcombe. Essex: Mr. John Barker, of The Grange, Bishop Stortford. South Wales: Mr. C. Coltman Rogers, of Stanage Park,

Brampton Bryan. The Committee had the pleasure to announce that Sir Gilbert Greenall had consented to undertake the duties of Honorary Director of the Derby Show, and the Committee formally recommended his appointment. They recommended also the appointment of Mr. Ernest Mathews as Steward of Dairying, and Mr. J. T. C. Eadie as Steward of Forage. The Committee recommended the election of Sir Ernest Clarke as an Honorary Member of the Society on his retirement from the office of Secretary.

Sir JOHN THOROLD, in moving that Sir Ernest Clarke be elected an Honorary Member of the Society on his retirement from the office of Secretary, in recognition of his services to the Society during the eighteen and a half years that he had held that office, said that he did not think words of his were necessary to recommend this motion to the Council. Having been on the Special Committee which elected Sir Ernest Clarke in 1887, and having worked with him up to the present time, he wished to testify to the very great obligation of himself and every Member of that Council to Sir Ernest for the great services he had rendered to the Council, and for the valuable assistance he had rendered to them all as individuals, never sparing himself in time or out of time, and always having the interests of the Society as his one and only object. In conferring the Society's Honorary Membership upon Sir Ernest, they would permanently attach him to the Society in whose interests he had spent the best years of his life. (Hear, hear.)

Sir NIGEL KINGSCOTE said he had the greatest pleasure in seconding this proposal. Having been on the Council during the whole of Sir Ernest's period of office, he wished to express his high sense of obligation to him for all that he had done for the Society. In matters of difficulty Sir Ernest's clear mind and good judgment had been of the greatest help to them, and he had rendered the Society most able assistance in every way. He regretted Sir Ernest's departure very much, and he hoped that his future would be what they all could wish.

The PRESIDENT said that he felt he could add nothing to what had been said so ably by Sir John Thorold and Sir Nigel Kingscote, except to say that during the short time that he had filled the chair he recognised to the full the ready assistance which Sir Ernest Clarke had given him on all occasions.

The motion having been carried unanimously,

Sir ERNEST CLARKE, whose rising was greeted with applause, said that he was deeply touched at the generous words with regard to himself and his services to the Society which had been spoken by the two distinguished Members of the Council who had moved and seconded the resolution, and who had been such kind friends to himself during his long association with the Society. His philosophy failed him at the crucial moment when he reflected that he was now standing for the last time in the familiar place that by the favour of the old Council had been his for the last eighteen and a half years. Very many changes had taken place in the interval, and of the Members of the Council whom he had first met as a complete stranger to them all in June, 1887, only eight were still Members of the governing body. Time had passed so quickly by that it was difficult to realise that he had served the Society longer than his predecessor as Secretary, and had been officially associated with more Royal Shows than even their late friend Sir Jacob Wilson had been as Honorary Director. He desired to thank the Council from the bottom of his heart for their constant kindness and consideration to him in the carrying out of the heavy and responsible work which had to be fulfilled by the occupant of the honourable office which he now relinquished.

He also wished to express his cordial thanks to the colleagues who had worked with him and under him for the loyal assistance they had always given to him and to the Society. The Council had been good enough to pay him a rare compliment, and one which he highly appreciated, by electing him an Honorary Member, and thus, as Sir John Thorold had well said, attaching him to the Society for the rest of his

life. He thanked the Council for this mark of their good-will towards him, and he hoped that the many private friendships with which he had been honoured during the time that he had been privileged to be in official relations with Members of the Council would be continued in his retirement. The Council had honoured him with their confidence and support during the long years of strenuous work which lay behind him, and he had endeavoured to the utmost of his abilities to justify that confidence by devoting the best of his powers to the service of the Society, which he sincerely hoped might have before it a prosperous future worthy of its splendid traditions.

On the motion of Sir JOHN THOROLD, Mr. George Lobb, Mr. A. Hiscock, jun., Mr. John Barker, and Mr. C. Coltman Rogers were formally elected Members of the Council under Bye-law 90.

Royal Commission on Horse Breeding.

On the motion of the EARL OF COVENTRY, seconded by Lord MIDDLETON, it was resolved unanimously that Sir Walter Gilbey be

nominated as the Society's representative upon the Royal Commission on Horse Breeding, in the room of the late Sir Jacob Wilson.

Appeal for Government Grant.

The PRESIDENT said that, in view of the decision of the Council at their last meeting that a Deputation from the Society should wait upon the President of the Board of Agriculture to present an appeal to His Majesty's Government for a grant in aid of the Education and Scientific Branches of the Society's work, he had arranged with Mr. Fellowes that such Deputation should attend at the offices of the Board at 2 p.m. that afternoon. The wording of the appeal had been laid before the several Committees concerned, and, after revision, approved by them; and the Members constituting the Deputation had held a meeting, at which the terms of the appeal had been finally agreed to. Owing to the recent political changes, it would be impossible for Mr. Fellowes now to receive the Deputation himself, but it had been arranged that Sir Thomas Elliott, the permanent Secretary, should represent the Board on that occasion.

Deputation to the Board of Agriculture.

WEDNESDAY, DECEMBER 6, 1905.

A Deputation from the Royal Agricultural Society of England waited upon Sir Thomas H. Elliott, K.C.B., Secretary of the Board of Agriculture, on Wednesday, December 6, 1905, at 2 p.m.

The Deputation consisted of Mr. F. S. W. Cornwallis (President), the Earl of Northbrook (Chairman of the Veterinary Committee), Lord Moreton (Chairman of the Education Committee), Mr. J. Bowen-Jones (Chairman of the Chemical and Woburn Committee), Sir John Gilmour, Bart., Sir Ernest Clarke (Secretary), and the Very Rev. Dr. John Gillespie, LL.D., and Mr. Ernest H. Godfrey (Chairman and Secretary of the National Agricultural Examination Board).

Mr. CORNWALLIS having introduced the Deputation, and apologised for the

absence, through illness, of Mr. E. V. V. Wheeler (Chairman of the Botanical and Zoological Committee), made a statement as to the objects of the Deputation, and presented the following Appeal from the Society for a grant from His Majesty's Government in aid of the Education and Scientific Branches of the Society's work:—

APPEAL FOR GOVERNMENT GRANT IN AID OF THE EDUCATION AND SCIENTIFIC BRANCHES OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

I.—NATIONAL OBJECTS OF THE SOCIETY.

1. The Royal Agricultural Society of England was incorporated by Royal Charter in 1840 as a Society for the general advancement of English Agriculture and for the purpose of prosecuting certain National Objects defined in the Charter.

2. In pursuance of these National Objects, the Society has held annually since 1839 an Agricultural Show of Live Stock and Implements. This Show has gradually increased to very large dimensions, and its maintenance as a comprehensive National Agricultural Exhibition taxes severely all the resources of the Society. Equally in pursuance of the National Objects enumerated in the Charter, are the Education and Scientific Branches of the Society's work, which are carried on simultaneously with the Show.

II.—EDUCATION BRANCH.

3. From 1868 to 1905 the Society has awarded medals, prizes, life memberships, certificates, scholarships, and diplomas upon the results of annual examinations, and in the period of the thirty-seven years named has expended upwards of 12,000*l.* in direct efforts of this kind for the "improvement of the education of those who depend upon the cultivation of the soil for their support." (Clause 7 of Royal Charter of 1840.)

4. At the present time, the Royal Agricultural Society of England, in partnership with the Highland and Agricultural Society of Scotland, holds annual examinations in agriculture and dairying, awarding to the successful candidates, respectively, National Diplomas in the Science and Practice of Agriculture and Dairying. The number of candidates entered for these National Diploma Examinations has increased year by year from twenty at the commencement of the Dairying Examination in 1896 to sixty-one in 1905, and from fifty-three at the commencement of the Agricultural Examination in 1900 to ninety-one in 1905, proving that both examinations are supplying a definite need and are being increasingly appreciated by teaching institutions and their students.

5. These examinations provide, indeed, the only independent test of the teaching given at the Agricultural Colleges and Dairy Institutes which are subsidised by direct Government Grants administered by the Board of Agriculture and Fisheries, and by funds at the disposal of the County Councils. Being thoroughly practical in character, the diplomas are a guarantee of the fitness of those who possess them for appointment in various agricultural and dairying capacities at home, in the Colonies, and abroad.

6. The examinations are conducted by the National Agricultural Examination Board, comprised of representatives of the two Societies; and the work thus carried on has already received the recognition and co-operation of His Majesty's Government by the appointment as members of that Board of official representatives of the Board of Agriculture and Fisheries and the Scotch Education Department.

III.—SCIENTIFIC BRANCHES.

7. The Society conducts an Agricultural Experimental and Pot-culture Station under the direction of its Consulting Chemist (Dr. J. Augustus Voelcker), and the results of these experiments, which embrace the trial on a field scale and by pot culture of different manures, rotations, and crops, and also the relative economy of different foods in the fattening of cattle, sheep, and pigs, are made available for all landowners and farmers through the columns of the Society's Journal, of which 10,000 copies are issued. Fertilisers and feeding stuffs are analysed at small fees and farmers are periodically warned against particular cases of fraud and misrepresentation.

8. Dating from the foundation of the Society, an Annual Grant has been made to the Royal Veterinary College for the purpose of securing veterinary advice in the treatment of cattle, sheep, and pigs, and in aid of the study of cattle pathology, as distinguished from equine pathology. Under arrangements made with the College, important outbreaks of disease amongst farm animals have been investigated in the public interest, and original scientific researches in comparative pathology and bacteriology have been undertaken and reported upon in the Society's Journal.

9. The Society has retained the services of an authority upon agricultural botany (Mr. W. Carruthers, F.R.S.), whose advice on the laying down and renovation of pastures, the choice of seeds, the extermination of weeds, and the diseases affecting crops and plants, has been published in the Journal for general information. Much original research into the nature of and remedies for such serious maladies as the potato disease, clover sickness, finger-and-toe in turnips, &c., has been carried out by the Botanical Department, and the results have been given to the public. Important grass experiments in different localities have also been undertaken and reported upon. Researches into the vitality of agricultural seeds and the comparative value of English and foreign clovers are now being carried on under the direction of the Consulting Botanist.

10. A Department of Agricultural Zoology has also been maintained. The Society's Zoologist (Mr. Cecil Warburton) has furnished information and advice respecting quadrupeds, birds, insects, parasites, &c., which affect the farm or rural economy generally. Useful original researches have been patiently and laboriously carried out by this Department, including investigations into the life-histories of serious insect pests such as the black-currant gall-mite, which causes "big bud," and of other insects affecting fruit and vegetable crops. The information thus obtained has been published in the Journal.

IV.—GROUNDS UPON WHICH APPEAL FOR GRANT-IN-AID IS BASED.

11. The total annual cost to the Society of its Education and Scientific Branches, including expenses of printing and general administration, is not less than 2,000*l.* The losses sustained by the Society in the holding of recent annual Shows having greatly crippled its resources, the Council have arrived at the conclusion that the work of the Education and Scientific Branches will have to be seriously curtailed unless extraneous financial aid be forthcoming. They appeal therefore most strongly to His Majesty's Government for an Annual Grant in aid of the continuation and, if possible, the extension of the work, an outline of which has been given.

12. They base their appeal upon the fact that these branches are conducted as much in the interests of the general agricultural public as in the interests of the Governors and Members who subscribe to the Society. They also point out that whilst the Board of Agriculture and Fisheries administers annually considerable Grants in aid of local teaching institutions, and of local agricultural experiments and research, the Royal Agricultural Society of England, whose educational and scientific research work is national in character, receives at present no Grant of the kind. It is considered that the Society may fairly claim to be placed in this respect upon an equal footing with other Agricultural Societies and with the local University and Agricultural Colleges in the various districts of Great Britain.

F. S. W. CORNWALLIS,

President.

13 Hanover Square, W.,
December 6, 1905.

Lord MORETON, Dr. GILLESPIE, Lord NORTHBROOK, Mr. BOWEN-JONES, and Sir JOHN GILMOUR having spoken in support of the Appeal,

Sir THOMAS ELLIOTT, in reply to the representations of the Deputation, said that Mr. Fellowes and the Officers of the Board had been in consultation for some time past as to the position of the Royal Agricultural Society and its desire for a grant from the Government. As a result of the inquiries made, he had come to the conclusion that there was no prospect of the Treasury making any direct grant to the Society. There was, in fact, a disinclination to recognise the justice of a claim for a subvention from the Imperial Exchequer towards defraying the cost of privileges which were more or less confined to a limited class.

That being so, the Board had considered whether there was any way in which indirect aid could be given to the Society, and in discussing the question he would deal with the work of the Society under the three chief heads which had been mentioned.

The Board believed that the valuable work done by the Royal Veterinary College constituted an equitable claim to assistance from the State, and representations on the subject had been made to the Treasury, who seemed not unwilling to provide the money for a grant. At the present time the principle was practically acknowledged, and the only matter in dispute was the amount of the grant. The Board were very hopeful that a substantial sum would be allocated for this purpose, and, if they were thus able to give a grant to the Royal Veterinary College, it would be possible for the Royal Agricultural Society to withdraw, or considerably reduce, their grant of 200*l.* a year, and so diminish, for a time at least, the burden of charge upon the decreased resources of the Society.

The Board fully recognise the value of the work done by the Royal Agricultural Society in the direction of examinations, and they were strongly of opinion that it was most desirable to have one central standard examination for the whole country. At present there were several bodies holding examinations at different centres with varying standards, and some measure of co-ordination was urgently needed. The Board believed that this could best be achieved by the formation of a National Examination Council, on which would be represented the Board, the Royal Agricultural Society, the Highland Society, and the Agricultural Colleges and Institutions. If this could be done he thought the Government should contribute a substantial sum towards the expenses, and that the other adhering bodies should each contribute some smaller amount. In this way also the funds of the Royal Agricultural Society would be relieved, since instead of spending, say, 250*l.* a year on the examinations it might be sufficient if they contributed only 50*l.* a year.

As to the Agricultural Research Work and the Woburn Farm, Sir Thomas alluded to the great and important problems from an economic point of view which awaited solution in the field of agricultural research. He felt sure that in many directions research would result in discoveries of very great practical value. At present such work was being carried out by many agencies at isolated stations in different parts of the country, and here again what was needed was better organisation and co-ordination. If there were some representative body, well equipped with funds, comprising representatives of the Board, the Royal and Highland Societies, the Colleges, the Rothamsted Trustees, and possibly some of the County Councils, there could be no doubt but that more work would be done, and the whole would be better organised. He thought that if such a body were formed, somewhat on the lines of the Fruit and Cider Institute, the Government would not be unwilling to provide sufficient

funds for the purpose when a suitable opportunity presented itself. So far as the Royal Agricultural Society was concerned, the Board would hope that Woburn could be included in such a scheme, and that the valuable services of Dr. Voelcker would still be available in this direction. If it proved practicable for the Royal Agricultural Society to co-operate in such a scheme it would entail a reduced charge upon the funds of the Society without any diminution of the efficiency of the work as at present carried on.

In conclusion, Sir Thomas said that the Board were prepared to take the initiative at once by formulating schemes on the lines above indicated, which would be submitted for the consideration of the Royal Agricultural Society and others concerned at an early date.

The Deputation then withdrew, after an expression of thanks from Mr. CORNWALLIS on its behalf, for the courtesy of Sir Thomas Elliott in receiving it.

THE SOCIETY'S SHOW OF 1905,
HELD AT
PARK ROYAL, WILLESDEN, LONDON, N.W.
JUNE 27-30, 1905.

PRESIDENT :
THE LORD MIDDLETON, Birdsall House, York.

OFFICIALS :

Honorary Director.

SIR JACOB WILSON, Chillingham Barns, Belford, Northumberland.

Stewards of Live Stock.

FREDERICK REYNARD, Sunderlandwick, Driffield, Yorks.
F. S. W. CORNWALLIS, Linton Park, Maidstone.
E. W. STANYFORTH, Kirk Hammerton Hall, York.
THE EARL OF NORTHBROOK, Stratton, Micheldever, Hants.
R. M. GREAVES, Wern, Portmadoc, North Wales.
HOWARD P. RYLAND, Moxhull Park, Erdington, near Birmingham.

Stewards of Implements.

R. NEVILLE GRENVILLE, Butleigh Court, Glastonbury.
W. A. PROUT, Sawbridgeworth, Herts.
CAPTAIN W. S. B. LEVETT, Milford Hall, Stafford.

Steward of Dairying.

ERNEST MATHEWS, Little Shardeloes, Amersham, Bucks.

Steward of Forage.

GEORGE H. SANDAY, Highfield, Uxbridge.

Stewards of Finance.

E. VINCENT V. WHEELER, Newnham Court, Tenbury, Worcestershire.
W. FRANKISH, The Moorlands, Bracebridge, Lincolnshire.

Stewards of Agricultural Education and Forestry Exhibition.

THE LORD MORETON, Sarsden, Chipping Norton.
J. BOWEN-JONES, St. Mary's Court, Shrewsbury.

Secretary.

SIR ERNEST CLARKE, 13 Hanover Square, London, W.

Assistant Director.

J. E. COMPTON-BRACEBRIDGE.

Supt. of the Showyard.

ROBERT S. BURGESS.

JUDGES OF MISCELLANEOUS IMPLEMENTS.

Miscellaneous Implements entered for Silver Medals.

BAYNTUN HIPPISELY, Ston Easton Park, near Bath.
J. G. MAIR-RUMLEY, The Hammonds, Udimore, Sussex.

JUDGES OF STOCK, &c.

(As finally corrected.)

HORSES.

Hunters.—Classes 1-4.

T. H. HUTCHINSON, The Manor House,
Catterick.

Hunters.—Classes 4A, 5, & 6.

J. M. RICHARDSON, Edmondthorpe
Hall, Oakham.

Cleveland Bays.—Classes 7-9.

F. P. BAKER, Ingmanthorpe Grange,
near Wetherby.

Coach Horses.—Classes 10-12.

RICHARD FOXTON, Manor Farm,
Dringhouses, York.

Hackneys.—Classes 13-18.

ROBERT WHITWORTH, Southwood
End, Halifax.

Ponies.—Classes 19-23.

TOM MITCHELL, Upwood, Bingley,
Yorks.

**Shetland, Mountain and Moorland
Ponies.—Classes 24-28.**

JOHN M. MARTIN, Murieston House,
Mid-Calder, N.B.

Polo and Riding Ponies.—Classes 30-35.

EDWARD MUCKLOW, jun., Wood Hill,
Bury, Lancs.

**Harness Horses and Ponies.—
Classes 36-41.**

Maj.-Gen. Sir HENRY P. EWART,
G.C.V.O., K.C.B., Royal Mews,
Buckingham Palace, S.W.

Capt. the Hon. W. C. W. FITZWILLIAM,
Marlborough House, S.W.

EDWARD COLSTON, M.P., Roundway
Park, Devizes, Wilts.

Four-in-Hand Teams.—Class 42.

EDWARD COLSTON, M.P., Roundway
Park, Devizes, Wilts.

Trotting Horses.—Classes 43 & 44.

ARCHIBALD SINCLAIR, Twickenham,
Middlesex.

Shires.—Classes 45-52.

JOSEPH MORTON, Stow, Downham
Market.

Clydesdales.—Classes 53-59.

JOHN MCCAIG, Challock, Leswalt,
Stranraer.

Suffolks.—Classes 60-67.

CORDY S. WOLTON, Ixworth, Bury
St. Edmunds.

CATTLE.

Shorthorn Bulls.—Classes 68-70.

JOHN C. TOPPIN, Musgrave Hall,
Skelton, Penrith.

**Shorthorn Cows and Heifers.—
Classes 71-76.**

HARRY BUTLER, Babminton, Chippen-
ham.

**Lincolnshire Red Short-horns.—
Classes 78-83.**

C. W. TINDALL, Wainfleet, Lincs.

Herefords.—Classes 85-90.

CHRISTOPHER WILLIAMS, Glen-
thorne, Holmer, Hereford.

Devons.—Classes 91-96.

SAMUEL KIDNER, Bickley, Milverton,
Somerset.

South Devons.—Classes 97 & 98.

WILLIAM P. VOSPER, Merafield,
Plympton, Devon.

Sussex.—Classes 100-105.

ALFRED HEASMAN, Court Wick,
Littlehampton.

Welsh.—Classes 106-109.

J. W. HARRIS, Pilshoth, Llanstephan
Road, Carmarthen.

Red Polled.—Classes 110-115.

D. F. SMITH, Steward's Office, Easton
Park, Wickham Market.

Aberdeen Angus.—Classes 117-122.

ROBERT BRUCE, Leinster House,
Dublin.

Galloways.—Classes 123-126.

SAMUEL THOMSON, Buxley, Duns.

Highland.—Classes 127 & 128.

DUNCAN MCDIARMID, Camusericht,
Rannoch Station.

Ayrshires.—*Classes 129 & 131.*
JOHN MURRAY, Carston, Ochiltree,
Ayrshire.

Jersey Bulls.—*Classes 133-135.*

W. ARKWRIGHT, Sutton Scarsdale,
Chesterfield.

Jersey Cows and Heifers.—
Classes 136-138.

W. ASHCROFT, 13, The Waldrons,
Croydon.

Guernseys.—*Classes 140-145.*

DAV. MICHIE, Tichborne Park Estate
Office, Alresford.

Longhorns.—*Classes 147-150.*

A. S. BERRY, Church Farm, Whitting-
ton, Lichfield.

Kerry and Dexter.—

Classes 152-154 and 156-158.

F. A. HORDERN, Buxted, Sussex.

SHEEP.

Oxford Downs.—*Classes 162-165.*

JAMES P. CASE, Binham Abbey,
Wighton, R.S.O., Norfolk.

Shropshires.—*Classes 166-172.*

J. E. FARMER, Felton, Ludlow.

Southdowns.—*Classes 173-178.*

GEORGE F. HEMPSON, Good Hall,
Ardleigh, Essex.

Hampshire Downs.—*Classes 179-183.*

JOSEPH DEAN, Chitterne, Codford,
Wilts.

Suffolks.—*Classes 184-189.*

CHARLES T. A. ROBERTSON, Little
Horringer Hall, Bury St. Edmunds.

Lincolns.—*Classes 190-196.*

CHARLES CLARKE, Brocksides, Scop-
wick, Lincoln.

Leicesters.—*Classes 197-200.*

BENJAMIN PAINTER, Cow Close
Farm, Burley-on-the-Hill, Oakham.

Cotswolds.—*Classes 201-204.*

ROBERT JACOBS, Eynsham, Oxford.

Border Leicesters.—*Classes 205-208.*

JOSEPH LEE, Congalton, Drem

Kent or Romney Marsh.—

Classes 209-213.

FRANCIS DE B. COLLARD, Minster
Abbey, Ramsgate.

Wensleydales.—*Classes 214-217.*

METCALFE SPENSLEY, Castle Bank,
Leyburn, R.S.O., Yorks.

Dorset Horn.—*Classes 218-221.*

JOHN CHICK, Compton Valence,
Dorchester.

Devon Long Wool.—*Classes 222 & 223.*

E. R. BERRY TORR, Instow, North
Devon.

Dartmoor and Exmoor.—

Classes 224-227.

WILLIAM P. VOSPER, Merafield,
Plympton, Devon.

Cheviots.—*Classes 228 & 229.*

JOHN ELLIOT, Hindhope, Jedburgh.

Black-faced Mountain.—

Classes 230 & 231.

C. HOWATSON, Glenbuck, Scotland.

Lonks.—*Classes 232 & 233.*

GEORGE DEWHURST, 222 Portland
Street, Southport.

Herdwicks.—*Classes 234 & 235.*

JOHN HAWELL, Armboth House,
Thirlmere, Grasmere, Cumberland.

Welsh Mountain.—*Classes 236 & 237.*

DAVID PRICE, Bulwark House,
Brecon.

Ryeland.—*Classes 238-240.*

FRANCIS HAWKINS, Sugwas, Swains-
hill, R.S.O., Herefordshire.

PIGS.

Large Whites.—*Classes 241-244.*

JOHN ANGUS, Whitefield, Morpeth.

Middle and Small Whites.—

Classes 245-250.

ANTHONY F. NICHOL, Bradford, Bel-
ford, Northumberland.

Berkshires.—*Classes 251-254.*

JOHN WATTS, Fair Green, Sarsden,
Chipping Norton.

Tamworths.—*Classes 255-258.*

W. H. MITCHELL, Elmdene, Kenilworth.

Large Blacks.—*Classes 259-262.*

ROBERT BEAUMONT BOND, The Red House, Sproughton, Ipswich.

POULTRY.

Classes 263-373.

EDWARD BROWN, The Chestnuts, Theale, Berks.

EDWARD KENDRICK, Weeford House, Lichfield.

ARTHUR C. MAJOR, Ditton, Langley, Bucks.

JOHN WHARTON, Honeycott, Hawes, Yorks.

EGGS.

Classes 364 & 365.

ARTHUR NEWPORT, Caswell House, Isleworth.

PRODUCE.

Butter.—*Classes 374-377.*

Professor H. J. DRUMMOND, Dairy School, Kilmarnock.

Cheese.—*Classes 378-384.*

J. HUDSON, jun., 50 Ludgate Hill, London, E.C.

Cider and Perry.—*Classes 385-388.*

JOHN H. WOOTTON, Byford, Hereford.

Wool.—*Classes 389-397.*

CHARLES WILLEY, 3 Eldon Terrace, Bradford.

Hives and Honey.—*Classes 398-420.*

W. BROUGHTON CARR, 10 Buckingham Street, Strand, W.C.

T. S. ELLIOT, M.D., 198, Camberwell New Road, London, S.E.

A. G. PUGH, Beech House, Beeston, Notts.

W. F. REID, Fieldside, Addlestone, Surrey.

COMPETITIONS.

Horse-jumping.

J. B. COOKSON, Meldon Park, Morpeth.

T. B. MILLER, Manor House, Cricklade.

ALGERNON RUSHOUT, Bourton House, Moreton-in-Marsh.

Horse-shoeing.

F. W. WRAGG, F.R.C.V.S., 17 Church Lane, Whitechapel, E.

JOHN THIRTLE, R.S.S., 109 St. Albans Avenue, Bedford Park, W.

VETERINARY INSPECTORS.

A. C. COPE, M.R.C.V.S., 65 Iverna Court, Kensington, W.

HENRY G. LEPPER, M.R.C.V.S., Aylesbury.

Professor MACQUEEN, F.R.C.V.S., Royal Veterinary College, Camden Town, N.W.

JOHN MALCOLM, F.R.C.V.S., Holliday Street Wharf, Birmingham.

HARRY MOORE, M.R.C.V.S., Potter Street, Worksop.

Professor PENBERTHY, F.R.C.V.S., Royal Veterinary College, Camden Town, N.W.

AWARDS OF PRIZES AT PARK ROYAL, 1905.

ABBREVIATIONS.

I., First Prize. II., Second Prize. III., Third Prize. IV., Fourth Prize.
R. N., Reserve Number. H. C., Highly Commended. Com., Commended.

N.B. The responsibility for the accuracy of the description or pedigree, and for the eligibility to compete of the animals entered in the following classes, rests solely with the Exhibitors.

Unless otherwise stated, each Prize Animal in the Classes for Horses, Cattle, Sheep, and Pigs was "bred by Exhibitor."

HORSES.

Hunters.

No. in Class 1.—*Hunter Mares, with Foals at foot, 13 stone and upwards.*
Cata- [11 entries, none absent.]
logue.

- 11 I. (£15.)—F. B. WILKINSON, Cavendish Lodge, Edwinstowe, Newark, for **Glasspore**, chestnut, foaled 1895 [foal *by* Knockabout], bred by John Watson, Waresly Stud, Kidderminster; s. Glasshampton, *d.* Extempore.
3 II. (£10.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **The Witch** 2099, bay, foaled 1889 [foal *by* Ballymena 23], breeder unknown.
10 III. (£5.)—E. W. ROBINSON, Brookleigh, Esher, for **Golden Leaf**, chestnut, foaled 1894 [foal *by* Riverstown], bred by M. D. Peacock, Manor House, Middleham, R.S.O.; s. Tertius, *d.* Golden Fringe *by* Discord.
2 R. N. & H. C.—SIR MERRIK R. BURRELL, BT., Knepp Castle, Horsham, for **Speculation**.

Class 2.—*Hunter Fillies, foaled in 1902.* [5 entries, 1 absent.]

- 13 I. (£15, & **Champion**.¹)—LORD MIDDLETON, Birdsall House, York, for **Mercy**, chestnut; s. Red Eagle, *d.* Mermaid.
16 II. (£10.)—F. B. WILKINSON, Cavendish Lodge, Edwinstowe, Newark, for **The Duchess**, bay, bred by Capt. Straker, Newark; s. Florismart, *d.* Vesper *by* Claremont.
14 R. N. & H. C.—J. L. NICKISSON, Hinton Manor, Swindon, for **Limelight**.

Class 3.—*Hunter Fillies, foaled in 1903.* [5 entries, 2 absent.]

- 20 I. (£15.)—C. KELWAY-BAMBER, Priestlands, Horley, for **Columbine**, chestnut s. Pantomime, *d.* Sweetheart 1641 *by* Napsbury.
17 II. (£10.)—MARK BURNS-LINDOW, Eversley, Winchfield, for **Sunshine**, chestnut; s. Hale, *d.* Dolly *by* Blue Blood.
18 R. N. & H. C.—C. H. DIXON, Stretton Hall, Leicester, for **The Squaw**.

Class 4.—*Hunter Fillies, foaled in 1904.* [7 entries, 1 absent.]

- 28 I. (£15, & **R. N. for Champion**.¹)—J. L. NICKISSON, Hinton Manor, Swindon, for **Success**, chestnut; s. Enterprise, *d.* Socks.
23 II. (£10.)—W. & J. A. CHENEY, Gidding Grove, Peterborough, for **Lady Madcap**, bay; s. Forced March, *d.* Ladysmith *by* Old Coin.

Class 4A.—*Hunter Mares or Geldings, foaled in 1901.*

[6 entries, none absent.]

- 29 I. (£20, & **Champion**.²)—W. & J. A. CHENEY, Gidding Grove, Peterborough, for **Casual**, bay mare, bred by the Earl of Lonsdale; s. Castlenock, *d.* Sister Mary *by* Brown Prince.

¹ Gold Medal, value £10 10s., given by the Hunters' Improvement Society for the best Hunter Filly not exceeding three years old, registered or entered in the Hunter Stud Book.

² Gold Medal, value £10 10s., given by the Hunters' Improvement Society for the best Hunter Mare four years and upwards, registered or entered in the Hunter Stud Book.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

33 II. (£10.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for **Kitchener**, chestnut gelding, bred by Mr. Kerr, Lythe, Whitby; s. Khartoum, *d. by* Bass Rock.

32 III. (£5.)—J. H. STOKES, for **Artist**, bay gelding, bred by J. S. Darrell, West Ayton, Yorks; s. Androssa, *d. Miss Worcester by Duc de Beaufort*.

34 R. N. & H. C.—J. H. STOKES, for **Knicknack**.

Class 5.—*Hunter Mares or Geldings, 14 stone and upwards, foaled in or before 1900.* [7 entries, 1 absent.]

39 I. (£20.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for **Gold Reef**, chestnut gelding, foaled 1899, breeder unknown.

40 II. (£10.)—J. H. STOKES, for **Lady Emily** 1929, chestnut mare, foaled 1898, bred by R. W. George, Fimmere Warren, Buckingham; s. Braggadocia, *d. Venus by Muleteer*.

37 III. (£5.)—F. G. COLMAN, Nork Park, Epsom Downs, for **Chance**, chestnut gelding, foaled 1897, breeder unknown.

35 R. N. & H. C.—A. J. BROWN, York Road, Doncaster, for **Ireland**.

Class 6.—*Hunter Mares or Geldings, under 14 stone, foaled in or before 1900.* [6 entries, 2 absent.]

42 I. (£20.)—A. J. BROWN, York Road, Doncaster, for **Huntsman**, bay gelding, foaled 1899, bred by M. Flanagan, Tomona Tulsk, Co. Roscommon; s. Macready, *d. Cooney by Courage*.

46 II. (£10, & R. N. for **Champion**.¹)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for **Rosebud**, chestnut mare, foaled 1899, breeder unknown.

43 III. (£5.)—A. CORY-WRIGHT, Totteridge, for **Grandee**, bay gelding, foaled 1899, bred by Mr. Colbert, Templeleatha, Athea, Co. Limerick; s. Perigonitus, *d. by Don Pedro*.

44 R. N. & H. C.—PANDIA P. RODOCANACHI, Dunchurch, Rugby, for **Princethorpe**.

Cleveland Bays.

Class 7.—*Cleveland Bay Stallions, foaled in 1902 or 1903.* [6 entries, 1 absent.]

51 I. (£15.)—GEORGE SCOPY, Beadlam Grange, Nawton, York, for **Beadlam Fred**, foaled 1903; s. King Fred 1523, *d. Beadlam Augusta 1175 by Lorenzo 1402*.

53 II. (£10.)—F. H. STERICKER, Westgate House, Pickering, for **Radium**, foaled 1903, bred by G. Mortimer, Westerdale, Grosmont; s. Pitch and Toss 1204, *d. Westerdale Princess 1167 by Prince George 235*.

50 III. (£5.)—JOHN LETT, Cleveland Stud Farm, Rillington, for **Rillington Reliance** 1265, foaled 1902, bred by W. Miller, Egton, Grosmont; s. Prince George 235, *d. Lady Eck 1126 by Pitch and Toss 1204*.

49 R. N. & H. C.—THOMAS KNAGGS, Tofts Farm, Marske-by-the-Sea, for **Saltburn Favourite**.

Class 8.—*Cleveland Bay Mares, with Foals at foot.* [4 entries, none absent.]

57 I. (£15.)—F. WILSON HORSFALL, Potto Grange, Northallerton, for **Lady Salton** 1068, foaled 1896 [foal *by* Potto Hutton 1603], bred by H. C. Stephens, Cholderton, Salisbury; s. Lucks All 189, *d. Countess of Salton by Fidius Dius 107*.

56 II. (£10.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Lady Toft** 1205, foaled 1901 [foal *by* Woodland Pride 1619], bred by George Elders, Aislaby, Whitby; s. Prince George 235, *d. Hetty 949 by Pitch and Toss 1204*.

55 III. (£5.)—FRANK BATEMAN, Shinfield, Reading, for **Queen of Beadlam**.

Class 9.—*Cleveland Bay Fillies, foaled in 1902 or 1903.* [2 entries.]

59 I. (£15.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Woodland Briar** 1269, foaled 1902, bred by F. Wilson Horsfall, Potto Grange, Northallerton; s. King of the East 1525, *d. Progress 948 by Cleveland Park 1052*.

58 II. (£10.)—CHARLES BUTTERS, 28 Bishopsgate Street Within, E.C., for **Cholderton Farndale** 1240, foaled 1902, bred by H. C. Stephens, Cholderton, Salisbury; s. Wellington 1488, *d. Sultana 1008 by Sultan 667*.

Coach Horses.

Class 10.—*Coaching Stallions, foaled in 1902 or 1903.* [6 entries, 1 absent.]

62 I. (£15.)—JOHN LETT, Cleveland Stud Farm, Rillington, for **Special Delight** 2390, foaled 1902, bred by J. W. Lett, Mount Pleasant, Welburn, York; s. Speciality 2302, *d. Delight 826 by Touchwood*.

¹ Gold Medal, value £10 10s., given by the Hunters' Improvement Society for the best Hunter Mare four years and upwards, registered or entered in the Hunter Stud Book.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 60 II. (£10.)—BERT KITCHING, Hungate House, Pickering, for **Young Mischief**, foaled 1902, bred by Mr. Thompson, Wormbleton, Nawton, Yorks.; s. Mischief 2173, d. Beauty by Magistrate 1409.
- 64 III. (£5.)—F. H. STERICKER, Westgate House, Pickering, for **Aneroid** 2419, foaled 1902, bred by T. Hick, Saltersgate, Lockton; s. Lord Chief Justice 1244, d. Jumper 1051 by Lord Ryedale 2344.
- 63 R. N. & H. C.—GEORGE SCOBY, Beadlam Grange, Nawton, York, for **Walwin**.

Class 11.—*Coaching Mares, with Foals at foot.* [3 entries.]

- 68 I. (£15.)—JOHN WEBSTER, Harome, Nawton, York, for **Bell of Harum** 963, foaled 1899 [foal by King Fred 1523]; s. Sparrow Hall Venture 1482, d. by Sportsman 1195.
- 66 II. (£10.)—GEORGE ELDERS, Toft House Farm, Aislaby, Whitby, for **Aislaby Beauty** 1169, foaled 1900 [foal by Rosedale]; s. Prince George 235, d. Hetty 949 by Pitch and Toss 1204.
- 67 III. (£5.)—F. WILSON HORSEFALL, Potto Grange, Northallerton, for **Perseverance** 840, foaled 1897 [foal by Potto Hutton 1603], bred by J. Jackson, Upton Hall, Lythe; s. Prince George 367, d. Trimmer 2nd 330 by Candidate 64.

Class 12.—*Coaching Fillies, foaled in 1902 or 1903.* [3 entries.]

- 70 I. (£15.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Woodland Beauty** 1020, foaled 1902, bred by S. Leaf, Escrick, York; s. Stillingfleet 2235, d. Frolicsome 423 by Fidius Deus 1592.
- 71 II. (£10.)—JOHN LETT, Cleveland Stud Farm, Rillington, for **Madeline**, foaled 1903; s. Speciality 2302, d. Madam 2nd 814 by Lucks All 1114.
- 69 III. (£5.)—GEORGE GRANDAGE, for **Mayflower**, foaled 1903; s. King Fred 1523, d. Lady Ladas 917 by Ladas 1350.

Hackneys.

Class 13.—*Hackney Stallions, foaled in 1902, 15 hands 1 inch and upwards.*
[7 entries, 1 absent.]

- 74 I. (£15, & Champion.¹)—R. P. EVANS, Woodhatch House, Reigate, for **Evanthius** 8463, chestnut; s. Polonius 4931, d. Julia 11929 by Dagenham 4214.
- 76 II. (£10.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Kirkburn Sensation** 8533, chestnut, bred by John Beal, Blanch, North Dalton; s. Rosador 4964, d. Lady Dorothy 9085 by Remus 3900.
- 73 III. (£5.)—MRS. F. E. COLMAN, Nork Park, Epsom Downs, for **All Serene** 8346, chestnut, bred by George Hall, East Farm, Langton, Malton; s. St. Thomas 7261, d. Lady Langmore 15948 by Langton 6078.
- 72 R. N. & H. C.—F. J. BATCHELOR, Hopwood, Alvechurch, for **Hopwood Admiral**.

Class 14.—*Hackney Stallions, foaled in 1903.* [10 entries, 1 absent.]

- 86 I. (£15.)—ALFRED A. HALEY, Whitewall, Malton, for **Hiawatha** 8893, chestnut, bred by David Beal, Wharram Percy, York; s. Rosador 4964, d. Country Fashion 7733 by Garton Duke of Connaught 3009.
- 85 II. (£10.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Dashing Duke** 8815, chestnut; s. Bonny Danegelt 6990, d. Garton Duchess of Connaught 6700 by Connaught 1453.
- 82 III. (£5.)—ALFRED BENSON, Upper Gatton Park, Merstham, for **Copper Duke** 8800, dark chestnut, bred by Thomas Hall, East Farm, Langton, Malton; s. Garton Duke of Connaught 3009, d. Jenny Lind 3950 by Matchless of Londesboro' 1517.
- 84 R. N. & H. C.—MRS. E. FLETCHER, The Grange Hackney Stud, Angram, York, for **Angram King**.

Class 15.—*Hackney Stallions, foaled in 1904.* [3 entries.]

- 90 I. (£15, & R. N. for Champion.¹)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Bouncing Danegelt**, chestnut; s. Royal Danegelt 5785, d. May Queen 1258 by Confidence 163.
- 89 II. (£10.)—R. P. EVANS, Woodhatch House, Reigate, for brown; s. Polonius 4931, d. Woodhatch Wildrose 15530 by Chocolate Junior 4185.
- 91 R. N. & H. C.—ALFRED LEWIS, Church Stud Farm, Heacham, King's Lynn, for **Heacham Dignity**.

Class 16.—*Hackney Mares, with Foals at foot, 15 hands and upwards.*
[4 entries, 1 absent.]

- 95 I. (£15, & Champion.²)—W. B. TUBBS, The Paddocks, Mill Hill, N.W., for **Rosadora** 11437, chestnut, foaled 1896 [foal by Administrator 8047], bred by J. F. Richardson, Norton Lodge, Malton; s. Rosador 4964, d. Wild Daisy 6311 by Wildfire 1224.

¹ Gold Medal, value £10, given by the Hackney Horse Society for the best Hackney Stallion in Classes 13-15.

² Gold Medal, value £10, given by the Hackney Horse Society for the best Hackney Mare or Filly in Classes 16-18.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 92 II. (£10.)—WALTER BRIGGS, The Hall, Burley-in-Wharfedale, for **Lady Millie** 11153, chestnut, foaled 1896 [foal *by* St. John 8290], bred by John Barker, The Grange, Bishop's Stortford; *s.* Agility 2799, *d.* Lady Mildred 9147 *by* Danegelt 174.

Class 17.—*Hackney Fillies, foaled in 1902.* [11 entries, 2 absent.]

- 102 I. (£15, & R. N. for Champion.¹)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Mitre** 16055, chestnut, bred by A. Craggy, North Newbald, Brough; *s.* His Majesty 2513, *d.* Anne Boleyn 13229 *by* Demas 6331.
- 104 II. (£10.)—H. LE MARCHANT, St. Sidwells, Sydenham Hill, for **Green Girl** 15835, chestnut, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; *s.* Polonius 4931, *d.* Dandy Girl 3661 *by* Danegelt 174.
- 100 III. (£5.)—STEPHEN CLIFF, Western Flats, Wortley, Leeds, for **Crayke Czarina** 15715, bay, bred by T. Hodgson, Whin Hill, Ottringham; *s.* Cornfactor 6313, *d.* Halsham Topsy 13533 *by* Lord Derby 2nd 417.
- 103 R. N. & H. C.—JOHN KERR, M.P., Gaddesden Place, Hemel Hempstead, for **Coldspring Evaline**.

Class 18.—*Hackney Fillies, foaled in 1903.* [10 entries, 4 absent.]

- 110 I. (£15.)—R. P. EVANS, Woodhatch House, Reigate, for **Pollinaris** 16856, chestnut, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; *s.* Polonius 4931, *d.* Fragility 10940 *by* Agility 2799.
- 114 II. (£10.)—W. R. LYSAGHT, Chepstow, for **Wyelands Mary** 17066, chestnut; *s.* Polonius 4931, *d.* Lady Kate 9122 *by* Evolution 2058.
- 112 III. (£5.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Dashing Princess** 16563, chestnut; *s.* Baden Powell 7346, *d.* Loving Cup 9649 *by* Gannymede 2076.
- 108 R. N. & H. C.—MRS. F. E. COLMAN, Nork Park, Epsom Downs, for **Prudence of Nork**.

Ponies.

Class 19.—*Pony Stallions, above 12 hands 2 inches, and not exceeding 14 hands.*

[3 entries, 1 absent.]

- 119 I. (£15.)—THOMAS SMITH, Shirley Stud, Hall Green, Birmingham, for **Pinderfields Horace** 7952, brown, foaled 1900, bred by T. P. Robinson, Pinderfields House, Wakefield; *s.* Sir Horace 5402, *d.* Lady Poma 2955 *by* Pomfret Wonder 1371.
- 117 II. (£10.)—THE REV. GEORGE CRUDDAS, Nether Warden, Hexham, for **Boydie** 8753, brown, foaled 1902, bred by the late Eustace Smith, Benton House, Newcastle-on-Tyne; *s.* Tom Tit 2nd 5040, *d.* Nena 1081 F.S.

Class 20.—*Pony Stallions, not exceeding 12 hands 2 inches.* [3 entries.]

- 120 I. (£10.)—CARR & CO., Clyde Vale Stud, Carlisle, for **Torchfire**, dark brown, foaled 1903, bred by John Jones, Dinarth Stud, Colwyn Bay; *s.* Torchlight 8682, *d.* Miss Dot 12124 *by* Julius Cæsar 2nd 5666.
- 122 II. (£6.)—THE DUCHESS OF NEWCASTLE, Clumber, Worksop, for **Linnel Don**, dark brown, foaled 1899, bred by Roy B. Charlton, Linnel Pony Stud, Hexham; *s.* Little Wonder 2nd 1610, *d.* Pride 1087 F.S.
- 121 III. (£4.)—J. MARSHALL DUGDALE, Llwyn, Llanfyllin, S.O., Mont., for **Llwyn Prince of Wales** 47, bay, foaled 1897, bred by H. W. Nockolds, Broadway, Turnham Green; *s.* Prince Consort, *d.* Maggie May.

Class 21.—*Pony Mares, with Foals at foot, above 12 hands 2 inches, and not exceeding 14 hands.* [2 entries.]

- 123 I. (£15.)—MRS. T. S. HALL, Weeting Hall, Brandon, for **Berry Hill Sniff** 12453, bay, foaled 1897 [foal *by* Fireboy 7440]; *s.* Prospector 6516, *d.* Miss Sniff 11316 *by* Cassius 2397.
- 124 II. (£10.)—O. T. PRICE, New Park, Brockenhurst, for **Gold Fleece** 11863, brown, foaled 1897 [foal *by* Sir Horace 5402], bred by Sir Gilbert Greenall, Bt., Walton Hall, Warrington; *s.* Sir Horace 5402, *d.* Golden Polly 8941 *by* Goldfinder 6th 1791.

Class 22.—*Pony Mares, with Foals at foot, not exceeding 12 hands 2 inches.*

[3 entries.]

- 127 I. (£10.)—MRS. FRANK JAGGER, Rundells, Harlow, for **Only a Midget** 1181 F.S., bay, foaled 1892 [foal *by* Baby Ribbons 8727], bred by the Halewood Stud Co., Halewood, Liverpool; *s.* Cronton Denmark 2918.
- 126 II. (£6.)—J. MARSHALL DUGDALE, Llwyn, Llanfyllin, S.O., for **Llwyn Nell** 998, chestnut, foaled 1890 [foal *by* Llwyn Prince of Wales 2nd 47], bred by Robert Richards, Green Hall, Llanfyllin, S.O.; *s.* Eidwen Flyer, *d.* Tibbie.
- 125 III. (£4.)—J. MARSHALL DUGDALE, for **Llwyn Jessie** 147, black, foaled 1894 [foal *by* Llwyn Survivor], bred by W. Alderson, Glanmihely, Kerry, N. Wales; *s.* Novelty.

¹ Gold Medal, value £10, given by the Hackney Horse Society for the best Hackney Mare or Filly in Classes 16-18.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 23.—*Pony Mares, foaled in 1902 or 1903, not exceeding 14 hands.*

[4 entries, 1 absent.]

- 131 I. (£15.)—G. C. WAUD, Ferniehurst, Baildon, Shipley, for **Ferniehurst Fortuna** 16608, bay, foaled 1902; s. Sir Horace 5402, d. Good Luck 5373 by Consequence 1456.
128 II. (£10.)—ROBERT HUSSEY, Eastfields, Lichfield, for **Minnow** 16807, bay, foaled 1903; s. Fireboy 7440, d. Bog Myrtle 11648 by Garton Duke of Connaught 3009.
130 III. (£5.)—O. T. PRICE, New Park, Brockenhurst, for **Adbolton Dearest** 16390, chestnut, foaled 1903, bred by A. W. Hickling, Adbolton, Nottingham; s. Fireboy 7440, d. A Sweetest 14883 by Grand Cadet 4797.

Shetland Ponies.

Class 24.—*Shetland Pony Stallions, not exceeding 10½ hands, foaled before or in 1902.* [6 entries, 1 absent.]

- 134 I. (£15, & **Champion**.¹)—THE LADIES E. & D. HOPE, Great Hollenden, Underriver, Sevenoaks, for **Haldor** 270, black, foaled 1899, bred by H. F. Anderton, Vaila, Lerwick, Shetland; s. Duncan 147, d. Dinah 525 by Lord of the Isles 26.
135 II. (£10.)—R. W. R. MACKENZIE, Earlshall, Leuchars, N.B., for **Marquis**, black, foaled 1901; s. Rattler 210, d. Meta 1368 by Thor 83.
136 III. (£5.)—R. W. R. MACKENZIE, for **Monkshood** 274, black, foaled 1899; s. Bonaparte 168, d. Meta 1368 by Thor 83.
132 R. N. & H. C.—MRS. J. BEALE, Cacketts, Cudham, Kent, for **Northern Light**.

Class 25.—*Shetland Pony Mares, not exceeding 10½ hands, foaled before or in 1901.* [10 entries, none absent.]

- 143 I. (£15, & R. N. for **Champion**.¹)—R. W. R. MACKENZIE, Earlshall, Leuchars, N.B., for **Gold Flower**, brown, foaled 1900, bred by John Cran, Kirkton, Bunchrew; s. Harold 117, d. Gold Mine by Mulum in Parvo 28.
142 II. (£10.)—THE LADIES E. & D. HOPE, Great Hollenden Farm, Underriver, Sevenoaks, for **Freesia** 1601, black, foaled 1899 [foal by Douglas 145], bred by the Marchioness of Linlithgow; s. Bonaparte 168, d. Fuchsia 1285 by Merryman.
144 III. (£5.)—R. W. R. MACKENZIE, for **Strawberry** 1635, dark brown, foaled 1898, bred by the Marquis of Londonderry, K.G., Bressay; s. Odin 32, d. Sweetie 676 by Lord of the Isles 26.
141 R. N. & H. C.—WILLIAM FAWCETT, The Grange, Old Bramhope, for **Ruby**.

Class 26.—*Shetland Pony Fillies, foaled in 1902 or 1903.*

[5 entries, none absent.]

- 151 I. (£15.)—R. W. R. MACKENZIE, Earlshall, Leuchars, N.B., for **Bellwort**, brown, foaled 1902; s. Rattler 210, d. Belle of Bressay 1192 by Oman 33.
150 II. (£10.)—THE LADIES E. & D. HOPE, Great Hollenden Farm, Underriver, Sevenoaks, for **Viola**, black, foaled 1903; s. Oman 33, d. Vaila 1666 by Prince of Thule 36.
149 III. (£5.)—THE LADIES E. & D. HOPE, for **Patti**, black, foaled 1902; s. Oman 33, d. Prima Donna 989 by Jill 19.
152 R. N. & H. C.—R. W. R. MACKENZIE, for **Brilliant**.

Mountain and Moorland Ponies.

Class 27.—*Mountain and Moorland Pony Stallions, foaled before or in 1901, not exceeding 13 hands.* [4 entries.]

- 155 I. (£15.)—EVAN JONES, Manoravon, Llandilo, for **Greylight** 80, grey, foaled 1900; s. Starlight 4, d. Myfanwy 356.
153 II. (£10.)—HARRY DYSON, Priory Farm, Pamber, Basingstoke, for **Twilight** 248, grey, aged, breeder unknown.
156 III. (£5.)—THE RADNORSHIRE POLO & RIDING PONY CO., LTD., The Farm, Bleddfa, Llangunllo, R.S.O., for **His Lordship**, bay, foaled 1901, bred by R. Morgan, Bahailon, Newtown; s. Lord Polo 132, d. Bahailon Ruby.
154 R. N. & H. C.—R. M. GREAVES, Wern, Portmadoc, for **Wern Crocus**.

Class 28.—*Mountain and Moorland Pony Mares, foaled before or in 1901, not exceeding 13 hands.* [8 entries, 1 absent.]

- 158 I. (£15.)—J. MARSHALL DUGDALE, Llwyn, Llanfyllin, S.O., Mont., for **Llwyn Snowdrop** 1308, grey, foaled 1893, bred by T. Hayes, Rock Ferry, Cheshire; s. Winnal George.

¹ Silver Medal given by the Shetland Pony Stud Book Society for the best Shetland Pony in Classes 24-26.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 162 II. (£10.)—EDWARD HOLLINGWORTH, Moordale, Dobercross, Oldham, for **Y ffran Ddu** 1357, black, foaled 1897, bred by John Evans, Cwm Ciofran Talli, Llandilo.
 160 III. (£5.)—W. GREAVES, Carr Lodge, Darley, Nidderdale, *viá* Leeds, for brown foaled 1900.
 161 R. N. & H. C.—EDWARD HOLLINGWORTH, for **Titw.**

Polo and Riding Ponies.

Class 30.—*Polo and Riding Pony Stallions, not exceeding 14 hands 2 inches.*
 [5 entries, none absent.]

- 168 I. (£15, & **Champion.**¹)—THE RADNORSHIRE POLO & RIDING PONY CO., LTD., The Farm, Bleddfa, Llangunllo, R.S.O., for **Gownboy** 114, chestnut, foaled 1896, bred by S. Hughes Hewitt, Sports Club, London; s. **Montezuma**, d. **Santa Zita** by Galliard.
 165 II. (£10, & **R. N. for Champion.**¹)—JOHN BARKER, The Grange, Bishop's Stortford, for **Antre** 285, brown, foaled 1901, bred by A. O. Haslewood, Fairfield Stud Farm, Buxton; s. **Rigmarole**, d. **Motilla** by Veracity.
 167 III. (£5.)—S. H. MOORHOUSE, Woodlands, Stockport, for **Rudheath** 182, bay, foaled 1893, bred by M. Gurry, Newmarket; s. **Macheath**, d. **June Rose** by Saraband.
 169 R. N. & H. C.—C. W. WILSON, Rigmaden Park, Kirkby Lonsdale, for **Helidon**.

Class 31.—*Polo and Riding Pony Mares, above 13 hands 2 inches, and not exceeding 14 hands 2 inches, with Foals at foot, or to foal in 1905.*
 [8 entries, 1 absent.]

- 171 I. (£15, & **Champion.**²)—JOHN BARKER, The Grange, Bishop's Stortford, for **Sapphire** 1448, bay, aged [foal by **Bold Marco**], bred by James Curry, Dowdenstown, Ballymore-Eustace, Co. Kildare; s. **Pet Fox**, d. by Lurgan.
 177 II. (£10, & **R. N. for Champion.**²)—MISS L. C. STANDISH, Marwell Manor, Eastleigh, for **The Pheasant** 1464, bay, foaled 1893 [foal by **Rupert** 308], breeder unknown.
 170 III. (£5.)—JOHN BARKER, for **Black Bella** 475, black, foaled 1889 [foal by **Mark For'ard**], bred by A. J. S. Johnstone; s. **Blackthorne**, d. by Tynedale.
 176 R. N. & H. C.—MISS L. C. STANDISH, for **Silver Star**.

Class 32.—*Polo and Riding Pony Mares, not exceeding 13 hands 2 inches, with Foals at foot, or to foal in 1905.* [3 entries.]

- 179 I. (£15.)—THE REV. D. B. MONTEFIORE, Islip Polo and Riding Pony Stud, Oxon, for **Kathleen** 1189, chestnut, foaled 1895 [in foal to **Autocrat**], breeder unknown.
 178 II. (£10.)—COL. E. N. HENRIQUES, Mursley Stud, Winslow, for **Aristocrat**, chestnut, foaled 1901 [foal by **Delicious**], bred by the Rev. D. B. Montefiore, Islip, Oxon; s. **Mootrub** 32, d. **Girton Girl** 952.
 180 III. (£5.)—THE RADNORSHIRE POLO & RIDING PONY CO., LTD., The Farm, Bleddfa, Llangunllo, R.S.O., for **Kitty Owen** 715, bay, foaled 1894 [foal by **Mountain Ash** 298], bred by Stuart Forster, Postlip Hall, Winchcombe; s. **Patron Saint** 36, d. **Miss Owen** 210.

Class 33.—*Polo and Riding Pony Geldings or Fillies, foaled in 1902, not exceeding 14 hands 1½ inches.*³ [6 entries, 1 absent.]

- 181 I. (£7.)—JOHN BARKER, The Grange, Bishop's Stortford, for **Marquis**, bay gelding; s. **Sandiway** 121, d. **Lady Polo** by Lord Polo.
 185 II. (£5.)—THE EARL OF LEITRIM, Mulroy, Milford, Co. Donegal, for **May Flower**, brown filly, bred by J. J. Adams, Scarva House, Clones, Ireland; s. **Egerton**, d. **Idalia** by **Necromancer**.
 182 III. (£3.)—JOHN BARKER, for **Spring Lightning**, chestnut filly; s. **Sandiway** 121, d. **Lightning** 726.
 184 R. N. & H. C.—TRESHAM GILBEY, Whitehall, Bishop's Stortford, for **Tortoiseshell**.

Class 34.—*Polo and Riding Pony Colts, Geldings, or Fillies, foaled in 1903, not exceeding 14 hands and ½ inch.*³ [7 entries, 1 absent.]

- 188 I. (£7.)—JOHN BARKER, The Grange, Bishop's Stortford, for **Rachael**, brown filly; s. **Mark For'ard**, d. **Jew** 631 by **Pearl Diver**.
 187 II. (£5.)—JOHN BARKER, for **Nimble**, bay filly; s. **Mark For'ard**, d. **Nimble** 220.
 190 III. (£3.)—COL. E. N. HENRIQUES, Mursley Stud, Winslow, for **Columbine**, bay filly; s. **Eheu** 219, d. **Shakra** 451.
 192 R. N. & H. C.—THE RADNORSHIRE POLO & RIDING PONY CO., LTD., for **Oh My** 3rd.

¹ Gold Medal given by the Polo and Riding Pony Society for the best Polo and Riding Pony Stallion in Class 30.

² Gold Medal given by the Polo and Riding Pony Society for the best Polo and Riding Pony Mare in Classes 31 and 32.

³ Prizes given by the Polo and Riding Pony Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 35.—*Polo and Riding Pony Colts, Geldings, or Fillies, foaled in 1904.*¹
[7 entries, none absent.]

- 194 I. (£7.)—JOHN BARKER, The Grange, Bishop's Stortford, for **Flash Lightning**, bay filly; s. Sandiway 121, *d.* Lightning 726.
195 II. (£5.)—JOHN BARKER, for **Meddling**, bay colt; s. Sandiway 121, *d.* Meddlesome 986.
199 III. (£3.)—THE REV. D. B. MONTEFIORE, Islip Polo and Riding Pony Stud, Oxon, for **Delightful**, chestnut filly, bred by Exhibitor and Col. E. N. Henriques, Mursley Stud Farm, Winslow; s. Hurlingham 90, *d.* Flirt 84.
198 R. N. & H. C.—TRESHAM GILBEY, Whitehall, Bishop's Stortford, for **Quicksand**.

Harness Horses and Ponies.

Class 36.—*Mares or Geldings, of any age, 15 hands 2 inches and upwards.*
[5 entries.]

- 2 I. (£15, & R. N. for Cup² & Medal.³)—W. E. INMAN, Westfield Lodge, Huddersfield, for **Silver Ness** 12294, chestnut mare, foaled 1897, bred by Alfred Darby, Little Ness, Shrewsbury; s. Canny Man 2882, *d.* Salipia 2nd 8436.
5 II. (£10.)—MISS ELLA S. ROSS, Beechfield, Sale, Cheshire, for **Rowton Blackthorn** 5778, black gelding, foaled 1894, bred by J. W. Macfie, Rowton Hall, Chester; s. Grand Fashion 2nd 3024, *d.* Blackie 1449.
3 III. (£5.)—JOHN KERR, M.P., Gaddesden Place, Hemel Hempstead, for **Forest Fireaway** 7814, brown gelding, foaled 1899, bred by the late C. Hutchinson, Sancton Grange, Brough; s. Forest King 5621, *d.* Lady Foston 2186.
1 R. N. & H. C.—JOHN R. DIXON, for **Marion Royal Dane**.

Class 37.—*Harness Mares or Geldings, of any age, under 15 hands 2 inches.*
[9 entries.]

- 6 I. (£15, Cup,² & Medal.³)—MRS. HARTLEY BATT, 20 Westbourne Terrace, Hyde Park, W., for **Heathfield Squire** 5207, chestnut gelding, foaled 1893, bred by the late Earl of Londesborough, Londesborough Park, Market Weighton; s. Wildfire 1224, *d.* Ophelia.
9 II. (£10.)—W. S. CUNARD, Hawthorn Hill, Bracknell, for **Wild Lucy**, bay mare, foaled 1895, bred by P. Deighton, Selby; s. Wildfire, *d.* Lucy Botherem.
11 III. (£5.)—E. H. GOAD, Castle Keep, Reigate, for **Lord Pick-em-up**, dark chestnut gelding, six years old.
12 R. N. & H. C.—H. H. KONIG, 51 South Street, Park Lane, W., for **Gav Girl**.

Class 38.—*Harness Pony Mares or Geldings, of any age, not exceeding 14 hands.* [10 entries.]

- 18 I. (£15.)—W. S. CUNARD, Hawthorn Hill, Bracknell, for **Queen Go-Bang**, chestnut mare, foaled 1897, bred by Mr. Oliver, Carnarvon; s. Julius Cæsar 2nd.
17 II. (£10.)—MISS CLARKE, Brook House, Hayward's Heath, for **Berkeley Bobs**, bay gelding, foaled 1898, bred by A. Day, Crewe; s. Berkeley Model 3663, *d.* Dame Fortune 8808.
22 III. (£5.)—WALTER LLOYD, Moonhill, Cuckfield, for **Moonhill Model**, roan gelding, foaled 1900; s. Polonius 4931, *d.* Dolly Daydream 11754.
24 R. N. & H. C.—T. SMITH, Shirley Stud, Hall Green, Birmingham, for **Shirley Dasher**.

Class 39.—*Pairs of Mares or Geldings, 15 hands 2 inches and upwards, driven in Double Harness.* [5 entries.]

- 2 I. (£15, & Cup.⁴)—JOHN KERR, M.P., Gaddesden Place, Hemel Hempstead, for **Advertisement**, bay mare, foaled 1900, bred by R. Whitworth, Market Weighton; s. Endemynag 5989, *d.* Wildflower 2509; and **Paddock Wildfire**, bay gelding, foaled 1900, bred by Cockayne Bros., Sheffield; s. Paddock Polonius 7208, *d.* Royal Beauty.
5 II. (£10.)—MISS ELLA S. ROSS, Beechfield, Sale, Cheshire, for **Rowton Vinca** 5779, black gelding, foaled 1894, bred by J. W. Macfie, Rowton Hall, Chester; s. Grand Fashion 2nd 3204, *d.* Lady Verbena, No. 302 Inspected F.S.; and **Rowton Blackthorn** 5778, black gelding, foaled 1894, bred by J. W. Macfie; s. Grand Fashion 2nd 3024, *d.* Blackie 1449 *by* King Cole 2130.
1 III. (£5.)—MISS E. K. CUNLIFFE, Tyrrels Woods, Leatherhead, for **Sam Weller**, black chestnut gelding, bred by Tom Mitchell, The Park, Eccleshill; s. Gannymede 2076, *d.* Mischievous *by* Prince George; and **Beckingham Gentleman**, black chestnut gelding, bred by Tom Mitchell; s. Lord Rattler 2566, *d.* Maggie 2275 *by* Cadet.
4 R. N. & H. C.—MISS ELLA S. ROSS, for **Rowton Vitalba** and **Rowton Merrylegs**.

¹ Prizes given by the Polo and Riding Pony Society.

² Silver Cup, value Twenty-five Guineas, given by Members of the Stock Exchange for the best Mare or Gelding in Classes 36-38.

³ Gold Medal given by the Hackney Horse Society for the best Mare or Gelding in Classes 36-38, the produce of a registered Hackney Stallion.

⁴ Silver Cup, value Twenty-five Guineas, given by Members of the Stock Exchange for the best Pair of Mares and Geldings in Classes 39 and 40.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 40.—*Pairs of Mares or Geldings, under 15 hands 2 inches, driven in Double Harness.* [5 entries.]

- 6 I. (£15. & R. N. for Cup.¹)—W. S. CUNARD, Hawthorn Hill, Bracknell, for **Jenny Lind**, bay mare; and **Wild Lucy**, bay mare, foaled 1895, bred by P. Deighton, Selby; s. Wildfire, d. Lucy Botherem.
- 9 II. (£10.)—H. LE MARCHANT, St. Sidwells, Sydenham Hill, for **The Only Way**, chestnut gelding, foaled 1901, bred by Cockayne Bros., Sheffield; s. Polonius 4931, d. Paddock Bell; and **Chieftain**, chestnut gelding, foaled 1901, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; s. Polonius 4931, d. by Candidate.
- 7 III. (£5.)—E. H. GOAD, Castle Keep, Reigate, for **Lord Pick-em-up**, dark chestnut gelding, six years old; s. Royal Star 3rd 6543; and **Lady Pick-em-up**, dark chestnut mare; s. His Majesty, d. Heroine.
- 10 R. N. & H. C.—THE HON. MRS. WARD, Morfa, Old Colwyn, for **Prince of Naples** and **Amphray**.

Class 41.—*Mares or Geldings, of any height, driven Tandem.* [3 entries.]

- 2A I. (£15.)—MISS ELLA S. ROSS, Beechfield, Sale, Cheshire, for **Rowton Vinca** 5779, black gelding, foaled 1894, bred by J. W. Macfie, Rowton Hall, Chester; s. Grand Fashion 2nd 3204, d. Lady Verbena. No. 302 Inspected F.S.; and **Rowton Blackthorn** 5778, black gelding, foaled 1894, bred by J. W. Macfie; s. Grand Fashion 2nd 3204, d. Blackie 1449 by King Cole 2130.
- 2 II. (£10.)—JOHN KERR, M.P., Gaddesden Place, Hemel Hempstead, for **Advertisement**, bay mare, foaled 1900, bred by R. Whitworth, Market Weighton; s. Endemynag 5989, d. Wildflower 2509; and **Paddock Wildfire**, bay gelding, foaled 1900, bred by Cockayne Bros., Sheffield; s. Paddock Polonius 7208, d. Royal Beauty 2443.
- 1 III. (£5.)—W. S. CUNARD, Hawthorn Hill, Bracknell, for **Jenny Lind**, bay mare, foaled 1894, bred by the late C. Hutchinson, Brough; s. His Majesty, d. Lady Foston; and **Wild Lucy**, bay mare, foaled 1895, bred by P. Deighton, Selby; s. Wildfire, d. Lucy Botherem.

Class 42.—*Four-in-hand Teams, Mares or Geldings, shown in Harness with Coach.* [5 entries.]

- 7 I. (£15.)—WALTER WINANS, Surrenden Park, Pluckley, Kent, roans.
- 5 II. (£10.)—MISS ELLA S. ROSS, Beechfield, Sale, Cheshire, blacks.
- 6 III. (£5.)—SIR EDWARD STERN, 4 Carlton House Terrace, S.W., roans.
- 4 R. N. & H. C.—MRS. MARSHALL ROBERTS, Elmham Hall, Dereham, brown Shetland Ponies.

Class 43.—*Trotting Mares or Geldings, of any age or height, bred in the United Kingdom, driven in a buggy or sulky against time.* [1 entry.]

- 8 I. (£10.)—WILLIAM SAMPSON, Barcaldine House, 118 Saltram Crescent, Kilburn, N.W., for **Solomon**, skewbald, foaled 1899, bred by Mr. Howell, Bridgend; d. Kitty.

Class 44. *Trotting Mares or Geldings, of any age or height, driven in a buggy or sulky against time.* [3 entries.]

- 2 I. (£10.)—LOUIS W. WINANS, 5 Grand Avenue, Hove, for **Prince Alert**, bay gelding, bred by G. W. Fort, Knightstown, Indiana, U.S.A.; s. Crown Prince, d. Till.
- 1 II. (£5.)—LOUIS W. WINANS, for **Charley B**, black gelding, bred in Canada; s. Octoroon, d. Brownie.
- 3 III. (£3.)—LOUIS W. WINANS, for **Tom Nolan**, bay gelding, bred in U.S.A.; s. General Hancock 1165, d. by Belmont.

Shires.

Class 45.—*Shire Stallions, foaled in 1902.* [10 entries, 2 absent.]

- 207 I. (£15, & Champion.²)—LORD ROTHSCHILD, Tring Park, Herts., for **Delamere Chorister** 21328, bay, bred by J. W. Kenworthy, Hurst Hall, Ashton-under-Lyne; s. Monaco 11879, d. Delamere Lady Abbess 23479 by Apostle 14455.
- 210 II. (£10.)—R. N. SUTTON-NELTHORPE, Scawby Hall, Lincs., for **Souldern Scylax** 21885, bay, bred by R. J. Rigby, Manor Farm, Souldern, Banbury; s. Scylax of Willington 18347, d. Souldern Lady 33972 by Willington Sir Edwin 14438.
- 204 III. (£5.)—EARL EGERTON OF TATTON, Tatton Park, Cheshire, for **Eastoft Royal Lad** 21378, brown, bred by W. Coulman, The Hall, Eastoft, Yorks.; s. Lockinge Albert 15695, d. Eastoft Lass 19871 by Lincolnshire Lad 2nd 1365.
- 206 R. N. & H. C.—SIR P. ALBERT MUNTZ, BT., M.P., for **Dunsmore Hydrometer**.

¹ Silver Cup, value Twenty-five Guineas, given by Members of the Stock Exchange for the best pair of Mares and Geldings in Classes 39 and 40.

² Gold Medal given by the Shire Horse Society for the best Shire Stallion in Classes 45-47.

xcviii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 46.—*Shire Stallions, foaled in 1903.* [14 entries, 5 absent.]

- 221 **I.** (£15, & R. N. for Champion.¹)—LORD ROTHSCILD, Tring Park, Herts., for **Childwick Champion** 22215, bay, bred by the late Sir. J. Blundell Maple, Bt., Childwick, St Albans; s. Childwick Majestic 17254, d. Blythwood Laurel 44217 by Ercall Wynn 14620.
- 212 **II.** (£10.)—JAMES GOULD, Model Farm, Lymm, Cheshire, for **Lymm Champion** 22562, brown, bred by W. Platt, Bexton Hall, Knutsford; s. Lymm Lion 18892, d. Bexton Lady 44113 by Monks Laddie 18937.
- 217 **III.** (£5.)—SIR P. ALBERT MUNTZ, BT., M.P., Dunsmore, Rugby, for **Dunsmore Albert Victor**, bay; s. Dunsmore Jameson 17972, d. Daisy 14490 by Albert Victor 3rd.;
- 218 **R. N. & H. C.**—SIR P. ALBERT MUNTZ, BT., M.P., for **Dunsmore Regent**.

Class 47.—*Shire Stallions, foaled in 1904.* [15 entries, 9 absent.]

- 227 **I.** (£15.)—FRANK FARNSWORTH, Tooley Park, Hinckley, for **Ratcliffe Forest King**, bay, bred by J. L. Harrison, Pailton Fields, Rugby; s. Lockinge Forest King 18867, d. Pailton Queen 33362 by King Harold 7496.
- 237 **II.** (£10.)—LEOPOLD SALOMONS, Norbury Park, Dorking, for **Norbury Menestrel**, bay; s. Birdsall Menestrel 19337, d. Childwick Youno 35375 by Childwick Majestic.
- 225 **III.** (£5.)—CHARLES BELL, Norley Hall, Cheshire, for **Norley Prince**, bay; s. Intake Advance 18822, d. County Princess 31477 by Royal William 2nd 12207.
- 230 **R. N. & H. C.**—MAX MICHAELIS, Tandridge Court, Oxted, for **Redlynch M.P.**

Class 48.—*Shire Mares, with Foals at foot.* [8 entries, 4 absent.]

- 246 **I.** (£15.)—SIR EDWARD D. STERN, Fan Court, Chertsey, for **Ladysmith 2nd** 32825, brown, foaled 1899 [foal by Dunsmore Jameson 17972], bred by J. H. Marshall, Marnham Hall, Newark; s. Nailstone Cœur de Lion 16269, d. Marnham 33041 by Bold Lincoln 2nd 2725.
- 240 **II.** (£10.)—EARL EGERTON OF TATTON, Tatton Park, Cheshire, for **May Flower** 39625, bay, foaled 1901 [foal by Lockinge Albert 15695], bred by John Wright, Backlane Farm, Ashley, Altrincham; s. Ercall Wynn 14620, d. Butterfly 19563 by Royal William 2nd 12207.
- 242 **III.** (£5.)—R. W. HUDSON, Danesfield, Marlow, for **Tatton Tapestry** 27063, bay, foaled 1897 [foal by Hendre Hydrometer 18082], bred by Earl Egerton of Tatton, Tatton Park, Cheshire; s. Royal William 2nd 12207, d. Tartan 13627 by Royal Sandy.
- 247 **R. N. & H. C.**—THE DUKE OF WESTMINSTER, Eaton Hall, Chester, for **The Nun**.

Class 49.—*Shire Fillies, foaled in 1902.* [9 entries, 3 absent.]

- 249 **I.** (£15, & R. N. for Champion.²)—JOHN BRADLEY, Halstead, Tilton, Leicester, for **Halstead Duchess 3rd** 42121, brown; s. Menestrel 14180, d. Halstead Lady Harold 28812 by Markeaton Royal Harold 15225.
- 255 **II.** (£10.)—SIR P. ALBERT MUNTZ, BT., M.P., Dunsmore, Rugby, for **Bonny Blue** 41101, brown, bred by W. Heckford, Streetfields, Lutterworth; s. Dunsmore Jameson 17972 d. Smart 43292 by Dunsmore Masterman 12874.
- 254 **III.** (£5.)—LORD MIDDLETON, Birdsall House, York, for **Birdsall Coralline** 40952, bay; s. Menestrel 14180, d. Birdsall Cora 25334 by Kingcraft 2nd 11707.
- 251 **R. N. & H. C.**—WALPOLE GREENWELL, for **Hendre Favourite**.

Class 50.—*Shire Fillies, foaled in 1903.* [11 entries, 1 absent.]

- 266 **I.** (£15, & Champion.²)—SIR P. ALBERT MUNTZ, BT., M.P., Dunsmore, Rugby, for **Dunsmore Fuchsia** 44795, grey, bred by G. G. Atterbury, West Haddon, Rugby; s. Dunsmore Jameson 17972, d. D'Arcy Fuchsia 23455 by Dunsmore Willington Boy 13021.
- 262 **II.** (£10.)—MAX MICHAELIS, Tandridge Court, Oxted, for **Pailton Sorais** 45919, brown, bred by J. L. Harrison, Pailton Fields, Rugby; s. Lockinge Forest King 18867, d. Pailton Queen 33362 by King Harold 7496.
- 257 **III.** (£5.)—H.M. THE KING, Sandringham, for **Facsonia** 44927, brown; s. Calwich Blend 17226, d. Saxon Queen 26829 by Prince William 3956.
- 261 **R. N. & H. C.**—T. SIMPSON JAY, Warren Farm, Wimbledon, for **Wimbledon Fuchsia**.

Class 51.—*Shire Fillies, foaled in 1904.*³ [18 entries, 9 absent.]

- 273 **I.** (£15.)—EARL EGERTON OF TATTON, Tatton Park, Cheshire, for **Tatton May Queen**, bay, bred by Joseph Blunt, Field Farm, Barleston, Nuneaton; s. Lockinge Forest King 18867, d. May Blossom 36574 by Bury Pilot 8943.
- 271 **II.** (£10.)—JOHN BRADLEY, Halstead, Tilton, Leicester, for **Halstead Duchess 4th**, bay; s. Dunsmore Jameson 17972, d. Duchess 2nd 19846 by Salisbury 5324.
- 284 **III.** (£5.)—W. & J. THOMPSON, Barron's Park Stud, Desford, Leicester, for **Desford Future Queen**, bay; s. Lockinge Forest King 18867, d. Alston Jessie 25212 by Potentate 12086.
- 274 **R. N. & H. C.**—FLETCHER & ANDREWS, for **Maori Sunbeam**.

¹ Gold Medal given by the Shire Horse Society for the best Shire Stallion in Classes 45-47.

² Gold Medal given by the Shire Horse Society for the best Shire Mare or Filly in Classes 48-51.

³ Prizes given by the Shire Horse Society.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 52.—*Shire Geldings, foaled in 1899, 1900, or 1901.*

[7 entries, 1 absent.]

- 289 **I.** (£15.)—A. C. SPARKES, Oldfield, Altrincham, for **Oldfield Duke**, brown, foaled 1900, bred by T. Simpson Jay, Wimbledon; s. Dunsmore Wellington Boy 13021.
 288 **II.** (£10.)—JOSEPH PARK, Grove, Retford, for **Blackbird**, black, foaled 1901, bred by W. Howard, Blyth, Notts.; s. Bury Victor Chief 11105.
 290 **III.** (£5.)—A. C. SPARKES, for **Oldfield Prince**, brown, foaled 1899, bred by the late E. Green, Settling Stones; s. Conquering Harold 15558.
 286 **R. N. & H. C.**—PETER COATS, Sheepcote, Clifford, for **Clifford Victor**.

Clydesdales.

Class 53.—*Clydesdale Stallions, foaled in 1902.* [5 entries, 2 absent.]

- 293 **I.** (£15.)—SIR JOHN GILMOUR, BT., Montrave, Leven, Fife, for **Montrave Magnus** 12255, bay; s. Baron Fortune 10680, d. Montrave Mermaid 14224 by Prince of Albion 6178.
 296 **II.** (£10.)—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for **Earl of Angus** 12134, brown, bred by the Duke of Buccleuch and Queensberry, K.G., Drumlanrig Castle; s. Prince Thomas 10262, d. Lady Hamilton 14953 by Baron's Pride 9122.
 295 **III.** (£5.)—A. & W. MONTGOMERY, for **Baron Airies** 12018, brown, bred by John Drennan, Carse Hall, Limavady; s. Baron's Pride 9122, d. Cirello 16042 by Mains of Airies 10379.

Class 54.—*Clydesdale Stallions, foaled in 1903.* [4 entries, 1 absent.]

- 298 **I.** (£15, & **Champion**.¹)—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for **Baron Fyvie** 12451, brown, bred by J. P. Sleigh, St. John's Wells, Fyvie; s. Baron's Pride 9122, d. Fyvie Bell 15795 by Prince Thomas 10262.
 300 **II.** (£10.)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for **Pearl Diver** 12688, black; s. Airies Prince 10667, d. Pink Pearl 15781 by Johnnie's Style.

Class 55.—*Clydesdale Stallions, foaled in 1904.* [3 entries, 1 absent.]

- 302 **I.** (£15, & **R. N. for Champion**.¹)—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for bay, bred by John Barrowman, Corrahill, Kirkcudbright; s. Everlasting 11331, d. Jean 2nd of Caigton 14478 by Prince of Galdenoch 8157.
 304 **II.** (£10.)—THOMAS SMITH, Blacon Point, Chester, for **Admiral Togo**, dark brown s. Drumflower 10537, d. Chester Princess 16371 by Baron's Pride 9122.

Class 56.—*Clydesdale Mares, with Foals at foot.* [5 entries, 2 absent.]

- 308 **I.** (£15, & **Champion**.²)—J. E. KERR, Harviestown Castle, Dollar, Clackmannan, for **Lady Garnet** 14636, brown, foaled 1897 [foal by Royal Favourite 10630], bred by Alex. Thomson, Barmeal, Port William; s. Baron's Pride 9122, d. Kate of Barmeal 11632 by Garnet Cross 1662.
 306 **II.** (£10.)—SIR JOHN GILMOUR, BT., Montrave, Leven, for **Montrave Rena**, brown, foaled 1901 [foal by Hiawatha 10067]; s. Baron's Pride 9122, d. Montrave Rebecca 13441 by Prince of Albion 6178.
 309 **III.** (£5.)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for **Scotch Mist** 15258, brown, foaled 1898 [foal by Silver Cup 11184], bred by M. Marshall, Bridge Bank, Stranraer; s. William the Conqueror 9093, d. Scottish Maid 15255 by Prince Frederick 8905.

Class 57.—*Clydesdale Fillies, foaled in 1902.* [5 entries, none absent.]

- 312 **I.** (£15, & **R. N. for Champion**.²)—J. E. KERR, Harviestown Castle, Dollar, Clackmannan, for **Ambrosine**, black, bred by Mr. Taylor, Edrington, Castle Douglas; s. Woodend Gartly 10663, d. by Prince Robert 7135.
 310 **II.** (£10.)—SIR JOHN GILMOUR, BT., Montrave, Leven, for **Montrave Marion**, bay; s. Baron Fortune 10680, d. Balmedie Queen Mab 13513 by Royalist 6242.
 314 **III.** (£5.)—HERBERT WEBSTER, Morton House, Fence Houses, for **Lady Alexandria**, bay, bred by A. & W. Montgomery, Netherhall and Banks, Kirkcudbright; s. Baron's Pride 9122, d. Graceful 13977 by Macgregor 1487.
 311 **R. N. & H. C.**—SIR JOHN GILMOUR, BT., for **Montrave Rosalind**.

Class 58.—*Clydesdale Fillies, foaled in 1903.* [3 entries, 1 absent.]

- 316 **I.** (£15.)—J. E. KERR, Harviestown Castle, Dollar, Clackmannan, for **Lady Rotha**, brown; s. Royal Favourite 10630, d. Lady Garnet 14636 by Baron's Pride 9122.
 317 **II.** (£10.)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for **Silver Princess**, brown; s. Silver Cup 11184, d. Princess Victoria 15779 by Moncreiffe Marq is 9953.

¹ Prize of £10 given by the Clydesdale Horse Society for the best Clydesdale Stallion in Classes 53-55.

² Prize of £10 given by the Clydesdale Horse Society for the best Clydesdale Mare or Filly in Classes 56-58.

c *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 59.—*Clydesdale Geldings, foaled in 1899, 1900, or 1901.* [2 entries.]

- 319 I. (£15.)—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for brown, foaled 1901, bred by Robert Meikle, Little Kype, Strathaven; s. Royal Ensign 10629 *d. Darling by Royal Degree 11901.*
 318 II. (£10.)—GEORGE HODGSON, Carlatton, Heads Nook, Carlisle, for **King Harry**, bay, foaled 1900, bred by William Ismay, Wavercroft, Wigton; s. Lord Lothian.

Suffolks.

Class 60.—*Suffolk Stallions, foaled in or before 1901.*¹ [3 entries.]

- 320 I. (£10, & R. N. for **Champion**.²)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Count** 3257, foaled 1899, bred by A. H. E. Wood, Sudbourne Hall; s. Prince Wedgewood 2364, *d. Sudbourne Cuss 5387 by Champion 1510.*
 322 II. (£5.)—R. EATON WHITE, Boulge Hall, Woodbridge, for **Boulge Monarch** 3054, foaled 1901, bred by the late R. Holmes White, Boulge Hall; s. Prince Wedgewood 2364, *d. Madge 4276 by Windsor Chieftain 2025.*

Class 61.—*Suffolk Stallions, foaled in 1902.* [8 entries, 1 absent.]

- 330 I. (£15, & **Champion**.²)—A. J. SMITH, Rendlesham, Woodbridge, for **Rendlesham Sorcerer** 3077; s. Prince Albert 2525, *d. Eyke Scandal 3806 by Queen's Diadem 1721.*
 328 II. (£10.)—THE LATE E. F. QUILTER, Bentley, Ipswich, for **Bentley Bashful Warrior** 3041, bred by H. E. Smith, Walton; s. Bentley Warrior 2898, *d. Bashful 2380 by Prince of May 1586.*
 324 III. (£5.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Royal** 3205, bred by A. H. E. Wood, Sudbourne Hall; s. Sudbourne Prince 2906, *d. Sudbourne Redstart 5400 by Wedgewood 1749.*
 323 R. N. & H. C.—KENNETH M. CLARK, for **Sudbourne Highness**.

Class 62.—*Suffolk Stallions, foaled in 1903.* [11 entries, 3 absent.]

- 338 I. (£15.)—E. F. QUILTER, Bentley, Ipswich, for **Bentley Kaiser** 3169, bred by C. H. Berners, Woolverstone Park, Ipswich; s. Sunshine 2734, *d. Lady 3886 by Windsor Chieftain 2025.*
 331 II. (£10.)—C. H. BERNERS, Woolverstone Park, Ipswich, for **Prince Edward** 3167, bred by E. Packard, Ipswich; s. Prince Albert 2525, *d. May 3942 by Old Times 1902.*
 340 III. (£5.)—A. J. SMITH, Rendlesham, Woodbridge, for **Rendlesham Braggadocio** 3136; s. Saturn 2653, *d. Braggs 3821 by Queen's Diadem 1721.*
 332 R. N. & H. C.—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Conqueror**.

Class 63.—*Suffolk Stallions, foaled in 1904.* [5 entries, 1 absent.]

- 345 I. (£15.)—E. F. QUILTER, Bentley, Ipswich, for **Bentley Grist** 3238; s. Bentley Warrior 2898, *d. Miller's Daughter 2608 by Sultan 1727.*
 344 II. (£10.)—ROBERT EDGAR, Knight's Hill, Cockfield, Bury St. Edmunds, for **Cheerful Prince**; s. Cockfield Prince 3073, *d. Cheery 4113 by Rattle 1776.*
 342 III. (£5.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Arabi** 3287; s. Sudbourne Count 3257, *d. Sudbourne Arabelle 5472 by Wedgewood 1749.*
 343 R. N. & H. C.—E. A. COOK, Dennington Lodge, Framlingham, for **Ormond**.

Class 64.—*Suffolk Mares, with Foals at foot.* [8 entries, 3 absent.]

- 347 I. (£15.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Arabelle** 5472, foaled 1899 [foal *by Sudbourne Count 3257*], bred by A. H. E. Wood, Sudbourne Hall; s. Wedgewood 1749, *d. Sudbourne Harebell 5417 by Verger 1550.*
 348 II. (£10.)—KENNETH M. CLARK, for **Sudbourne Queen of Diamonds** 5456, foaled 1897 [foal *by Sudbourne Count 3257*], bred by the Trustees of the late Duke of Hamilton, Easton Park, Wickham Market; s. Eclipse 2627, *d. Sudbourne Queen of Trumps 5376 by Cupbearer 3rd 566.*
 354 III. (£5.)—R. EATON WHITE, Boulge Hall, Woodbridge, for **Boulge Maid** 4840, foaled 1900 [foal *by Boulge Conqueror 2667*], bred by the late R. Holmes White, Boulge Hall; s. Prince Wedgewood 2364, *d. Madge 4276 by Windsor Chieftain 2025.*
 350 R. N. & H. C.—E. F. QUILTER, Bentley, Ipswich, for **Bentley Belle**.

Class 65.—*Suffolk Fillies, foaled in 1902.* [5 entries, 1 absent.]

- 356 I. (£15.)—SIR CUTHBERT QUILTER, BT., M.P., Bawdsey Manor, Woodbridge, for **Bawdsey Daisy** 2nd 5113; s. Prince Wedgewood 2364, *d. Marguerite 3733 by Eclipse.*
 355 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Susan** 5506, bred by A. H. E. Wood, Sudbourne Hall; s. Prince Albert 2525, *d. Sudbourne Sally 4388 by Verger 1550.*

¹ Prizes given by the Suffolk Horse Society.

² Challenge Cup, value Fifty Guineas, given by the Suffolk Horse Society for the best Suffolk Stallion in Classes 60-63, the Cup to become the absolute property of an Exhibitor winning it three times.

[Unless otherwise stated, each prize animal named below was "breedy exhibitor."]

359 III. (£5.)—JOHN SYMONDS, Thistleton Hall, Burgh, Woodbridge, for **Diamond** 5104; s. Golden Grain 2479, d. Duchess 4033 by Warrior 1938.

357 R. N. & H. C.—E. F. QUILTER, Bentley, Ipswich, for **Bentley Perfect**.

Class 66.—*Suffolk Fillies, foaled in 1903.* [7 entries, none absent.]

363 I. (£15.)—SIR CUTHBERT QUILTER, BT., M.P., Bawdsey Manor, Woodbridge, for **Bawdsey China Aster** 5224; s. Prince Wedgewood 2364, d. Marguerite 3733 by Eclipse.

360 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Beauty** 5511, bred by A. H. E. Wood, Sudbourne Hall; s. Prince Albert 2525, d. Sudbourne Council 5438 by Carthusian 2275.

365 III. (£5.)—A. J. SMITH, Rendlesham, Woodbridge, for **Rendlesham Tola** 5151; s. Ironside 2759, d. Toll 3340 by Queen's Diadem 1721.

361 R. N. & H. C.—KENNETH M. CLARK, for **Sudbourne Midget**.

Class 67.—*Suffolk Geldings, foaled in 1899, 1900, or 1901.* [6 entries, 1 absent.]

367 I. (£15.)—C. H. BERNERS, Woolverstone Park, Ipswich, for **Jolly**, foaled 1901, bred by W. H. Allen, Harkstead Hall, Ipswich; s. Sunshine 3734, d. by Windsor Chieftain.

369 II. (£10.)—SIR CUTHBERT QUILTER, BT., M.P., Bawdsey Manor, Woodbridge, for **Bowler**, foaled 1899, bred by W. Toller, Gedgrave, Orford.

370 III. (£5.)—SIR CUTHBERT QUILTER, BT., M.P., for **Prince**, foaled 1900, bred by Charles Pratt, Fexboro' Hall Farm, Woodbridge.

372 R. N. & H. C.—E. F. QUILTER, Bentley, Ipswich, for **Proctor**.

CATTLE.

Shorthorns.

Class 68.—*Shorthorn Bulls, calved in 1901 or 1902.* [24 entries, 2 absent.]

392 I. (£15, & **Champion**.¹)—ROBERT TAYLOR, Pitlivie Farm, Carnoustie, N.B., for **Royal Emblem** 82154, roan, born March 4, 1901, bred by J. Durno, Jackston, Rothie-Norman; s. Lord Lynedoch 74900, d. Rose of Elbe by British Leader 60417.

387 II. (£10, & **R. N. for Champion**.¹)—A. J. MARSHALL, Bridgebank, Stranraer, N.B., for **Roan Conqueror** 84519, roan, born Feb. 27, 1902, bred by W. & J. W. Peterkin, Dunglass, Conon Bridge; s. Collynie Conqueror 78609, d. Ruby by Chieftain 2nd.

388 III. (£5.)—A. F. NICHOL, Bradford, Belford, for **Baron Butterfly** 82783, white, born Jan. 7, 1902, bred by W. Bell, Ratcheugh, Alnwick; s. Baron Abbotsford 76087, d. Armathwaite Butterfly 17th by Eden Prince 63978.

390 R. N. & H. C.—R. STRATTON, The Duffryn, Newport, Mon., for **Great Mogul**.

Class 69.—*Shorthorn Bulls, calved in 1903.* [45 entries, 11 absent.]

441 I. (£15.)—J. DEANE WILLIS, Bapton Manor, Codford, Wilts., for **Daynton Brave Archer** 85745, roan, born May 10, bred by J. Lear, Doynton, near Bristol; s. Chewton Brave Archer 78578, d. Anemone 34th (vol. xlv. p. 529) by Viceroy 73814.

402 II. (£10.)—R. P. COOPER, Shenstone Court, Lichfield, for **Meteor** 86631, white, born March 29, bred by C. Morgan-Richardson, Noyadd Wilym, Cardigan; s. Moonlight 75110, d. Calluna by Major 59419.

426 III. (£5.)—PHILO L. MILLS, Ruddington Hall, Nottingham, for **King Christian of Denmark** 86316, roan, born Jan. 26; s. King of Denmark 76958, d. Countess Farewell 5th by Best of Archers 69981.

425 R. N. & H. C.—F. MILLER, La Belen, Clifton Road, Birkenhead, for **Limepark Champion**.

Class 70.—*Shorthorn Bulls, calved in 1904.* [60 entries, 15 absent.]

489 I. (£15.)—LORD POLWARTH, Mertoun House, St. Boswell's, N.B., for **British Renown**, roan, born Feb. 1, bred by Richard Booth, Warlaby, Northallerton; s. British Soldier 78480, d. Lady Aline Studley (vol. xlix. p. 388) by Alto 68147.

499 II. (£10.)—J. DEANE WILLIS, Bapton Manor, Codford, Wilts., for **Orphan Chief**, roan, born Jan. 23, bred by J. Bonis, Fairlawn, Moy, Co. Armagh; s. Circassian 80706, d. Orphan Star (vol. xlix. p. 388) by Star of Ulster 73727.

463 III. (£5.)—ALEXANDER T. GORDON, Combscauseway, Inch, N.B., for **Fascinator**, roan, born April 12, bred by James Durno, Jackston, Rothie-Norman; s. Lord Lynedoch 74900, d. Favourite Blossom (vol. l. p. 532) by Pride of Collynie 75248.

469 R. N. & H. C.—GEORGE HARRISON, Gainford Hall, Darlington, for **Royal Ensign**.

Class 71.—*Shorthorn Cows (in-milk), calved before or in 1901.*

[15 entries, 4 absent.]

516 I. (£15.)—J. DEANE WILLIS, Bapton Manor, Codford, Wilts., for **White Heather** (vol. xlvii. p. 850), white, born Feb. 1, 1898, in-milk, calved January 3, 1905, bred by J. B. Manson, Kilblean, Old Meldrum; s. Merrymason 67486, d. Beauty 24th by Morton 53330.

¹ Prize of £50 given by the Shorthorn Society for the best Shorthorn Bull in Classes 68-70.

cii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

514 II. (£10.)—T. F. ROSKRUGE, Tehidy Barton, Redruth, for **Lobelia** (vol. xlvii. p. 742), roan, born May 31, 1900, in-milk, calved July 18, 1904; s. Norman 73140, *d. Laurustinus by Baron Bridekirk 15th 63639.*

507 III. (£5.)—JEREMIAH COLMAN, Gatton Park, Surrey, for **Hawthorn Flower**, roan, born March 7, 1901, in-milk, calved Jan. 14, 1905, bred by W. Atkinson, Overthwaite, Milnthorpe; s. Cairo 72151, *d. Henrietta 4th by Baron Bloom 66653.*

510 R. N. & H. C.—GEORGE HARRISON, Gainford Hall, Darlington, for **Ursula Raglan**.

Class 72.—*Shorthorn Heifers (in-milk), calved in 1902.*² [10 entries, 5 absent.]

519 I. (£15.)—LEOPOLD DE ROTHSCHILD, Ascott, Leighton Buzzard, for **Lady's Slipper** (vol. i. p. 522), red, born Jan. 1, in-milk, calved Nov. 1, 1904; s. Bapton Juan 71971 *d. White Locks by President 67611.*

518 II. (£10.)—WILLIAM BELL, Ratcheugh, Alnwick, for **Ratcheugh Witch** (vol. xlix. p. 373), roan, born Sept. 20, in-milk, calved Dec. 29, 1904; s. Baron Abbotsford 76087, *d. Ratcheugh Maid by Major 59419.*

521 III. (£5.)—H. S. LEON, Bletchley Park, Bucks., for **Roseleaf** (vol. xlix. p. 669), roan, born March 17, in-milk, calved April 5, 1905; s. Silver Mint 79968, *d. Rose 2nd by Percy 2nd 73194.*

525 R. N. & H. C.—SIR OSWALD MOSLEY, BT., Rolleston Hall, Burton-on-Trent, for **Yours Faithfully**.

Class 73.—*Shorthorn Heifers, calved in 1903.* [20 entries, 5 absent.]

535 I. (£15, & **Champion**.¹)—F. MILLER, La Belen, Clifton Road, Birkenhead, for **Lady Amy 7th** (vol. i. p. 848) roan, born Jan. 24, bred by the Earl of Powis, Powis Castle, Welshpool; s. Cornish Night 78641, *d. Lady Amy 5th by Master Archer 70962.*

534 II. (£10.)—SIR ALEXANDER HENDERSON, BT., M.P., Buscot Park, Faringdon, for **Lady Buscot Grace**, red, born Feb. 22; s. Wanderer's Prince 78105, *d. Grace Darling* (vol. xlv. p. 525) *by Scotch Goods 69547.*

539 III. (£5.)—THE EARL OF NORTHBROOK, Stratton, Micheldever, for **Clorinda** (vol. i. p. 379), roan, born Feb. 21; s. Scottish Monarch 77828, *d. Countess of Clarence 24th by Royal Nottingham 3rd 63274.*

545 R. N. & H. C.—ROBERT TAYLOR, Pitlivie Farm, Carnoustie, for **Pitlivie Carnation**.

Class 74.—*Shorthorn Heifers, calved in 1904.* [59 entries, 16 absent.]

547 I. (£15, & R. N. for **Champion**.¹)—H.M. THE KING, Royal Farms, Windsor, for **Receptim**, roan, born March 6; s. First Fruits 83482, *d. Remembrance* (vol. i. p. 344) *by Count Lavender 60545.*

552 II. (£10.)—A. F. BASSET, Tehidy, Camborne, Cornwall, for **Tehidy Queen of Brilliants**, roan, born March 13; s. Shamrock 84742, *d. Brilliant Princess 2nd* (vol. xlix. p. 491) *by Bapton Juan 71971.*

596 III. (£5.)—THE EARL OF POWIS, Powis Castle, Welshpool, for **Welsh Maid**, red, born Feb. 7; s. Cornish Knight 78641, *d. Powysland Pippin* (vol. xlix. p. 808) *by Duke of Barrington 26th 57174.*

585 R. N. & H. C.—F. MILLER, La Belen, Clifton Road, Birkenhead, for **Lady Hermoine**.

Class 75.—*Shorthorn Dairy Cows (in-milk), calved before or in 1900, entered or eligible for entry in Coates's Herd Book.*² [23 entries, 5 absent.]

613 I. (£15.)—J. T. HOBBS, Maisey Hampton, Fairford, for **Orange Blossom 13th** (vol. xliii. p. 492), roan, born Sept. 27, 1894, in-milk, calved April 2, 1905; s. Royal Nottingham 59834, *d. Orange Blossom 7th by Devonshire 47686.*

620 II. (£10.)—LORD ROTHSCHILD, Tring Park, Herts., for **Tulip Leaf** (vol. xlvi. p. 495), roan, born Feb. 10, 1896, in-milk, calved Feb. 20, 1905, bred by George Gerrard, Offerton Farm, Hindlip; s. St. Blaise 69521, *d. Lilla by Thurlaston Kirklevington 58218.*

614 III. (£5.)—R. W. HOBBS, Kelmscott, Lechlade, for **Betty 7th** (vol. xlvi. p. 535), red and little white, born April 8, 1896, in-milk, calved March 27, 1905; s. Gloster 64082, *d. Betty 3rd by Maurice 53298.*

606 R. N. & H. C.—C. R. W. ADEANE, Babraham Hall, Cambridge, for **Lucretia**.

Class 76.—*Shorthorn Dairy Cows (in-milk), calved in or after 1901, entered or eligible for entry in Coates's Herd Book.*² [6 entries, 2 absent.]

634 I. (£15.)—G. W. TYSER, Oakfield, Mortimer, Berks., for **Darlington Cran**, roan, born April 12, 1902, in-milk, calved April 23, 1905, bred by George Taylor, Cranford, Middlesex; s. Beau Sabreur 74049, *d. Darlington Cranford 2nd* (vol. xlviii. p. 687) *by Earl Blagdon 62477.*

632 II. (£10.)—A. B. & W. G. LITTLE, Paxcroft Farm, Trowbridge, for **Roseleaf 2nd** (vol. xlix. p. 674), red, born Sept. 3, 1901, in-milk, calved April 14, 1905, bred by John Little; s. Vain Lord 75806, *d. Rosemary by Pink Prince 75228.*

¹ Prize of £50 given by the Shorthorn Society for the best Shorthorn Cow or Heifer in Classes 71-74.

² Prizes given by the Shorthorn Society.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 631 III. (£5.)—W. J. HOSKEN, Loggans Mill, Hayle, for **Gwynne J 2nd**, red, born Feb. 28, 1902, in-milk, calved May 1, 1905, bred by W. James, Barteliver, Grampound Road; s. Jacobite 76910, d. Vena Gwynne (vol. xlvi. p. 559) by Winsome Prince 68110.
- 633 R. N. & H. C.—LORD ROTHSCHILD, Tring Park, Herts, for **Llyncllys Actress**.
- Class 77.—*Milk-yield Prizes, open to Shorthorn Cows and Heifers entered in Classes 71, 72, 75, and 76 only.* [19 entries, 3 absent.]
- 624 I. (£10.)—GEORGE TAYLOR, Cranford, Middlesex, for **Melody** (vol. l. p. 954), red and white, born July 10, 1895, in-milk, calved June 20, 1905; s. Horsted Duke 6th 64168, d. Musical Anna by Armadale 60263.
- 613 II. (£5.)—JAMES T. HOBBS, for **Orange Blossom 13th**. (See Class 75.)
- 621 III. (£3.)—CHARLES A. SCOTT-MURRAY, The Manor House, Hambleton, Henley-on-Thames, for **Lady Millicent Waterloo** (vol. l. p. 953), roan, born Feb. 28, 1899, in-milk, calved May 21, 1905, bred by George Taylor, Cranford; s. Wild Prince 3rd 71876, d. Lady Molly Waterloo by Lord Somerset 10th 48249.
- 607 R. N. & H. C.—C. R. W. ADEANE, Babraham Hall, Cambridge, for **Oxford Ada**.

Lincolnshire Red Short-horns.

N.B.—In the Lincolnshire Red Short-horn Classes, the number inserted within brackets after the name of an animal indicates that the animal is entered in Coates's Herd Book. A number without brackets indicates that the animal is registered in the Lincolnshire Red Short-horn Herd Register.

Class 78.—*Lincolnshire Red Short-horn Bulls, calved in 1901 or 1902.*
[3 entries.]

- 637 I. (£15.)—T. B. FRESHNEY, South Somercotes, Louth, for **Saltfleet Bonus 3582**, born April, 1902, bred by Frederic Riggall, Well, Alford; s. Red Monarch (77605), d. by Lord Knightley 170.
- 635 II. (£10.)—E. H. CARTWRIGHT, Keddington Grange, Louth, for **Stenigot Bloom Boy 3611**, born March 17, 1902, bred by R. & R. Chatterton, Stenigot, Lincoln; s. Red Chief 2611, d. Stenigot Bloom 4th by Wolseley 1436.
- 636 III. (£5.)—S. CRAWLEY, Hemington, Oundle, for **Weston Monarch 2nd 3144**, born March 12, 1902, bred by W. J. Atkinson, Weston St. Mary, Spalding; s. Red Monarch (77605), d. Weston Charm by Pippin's Pride (71157).

Class 79.—*Lincolnshire Red Short-horn Bulls, calved in 1903.*¹
[3 entries.]

- 638 I. (£10.)—JAMES CARTWRIGHT, Dunston Pillar, Lincoln, for **Sharpshooter 4099**, born Jan. 27, bred by W. S. Fox, Potter Hanworth, Lincoln; s. Field Cornet 2515, d. by Burtevan 2122.
- 640 II. (£6.)—CAPT. THE HON. GERALD B. PORTMAN, Healing Manor, Lincs, for **Healing Blucher 3913**, born Sept. 27; s. Benniworth Actor 2105, d. Healing Princess by Bigby Rough Coat 1461.
- 639 III. (£4.)—JOHN LANGHAM, Park Valley, Nottingham, for **Brandon Champion**, born Aug. 6; s. Chief Justice 2125, d. Brandon Nonpareil.

Class 80.—*Lincolnshire Red Short-horn Bulls, calved in 1904.*¹
[3 entries, 1 absent.]

- 642 I. (£10.)—R. & R. CHATTERTON, Stenigot, Lincoln, for **Stenigot Gwynne**, born Feb. 18; s. Red Chief 2611, d. Stenigot Gwynne 3rd by Commander 80.
- 643 II. (£6.)—R. & R. CHATTERTON, for **Stenigot Primate**, born March 3; s. Red Chief 2611, d. Stenigot Red Daisy by Wrangler 71901.

Class 81.—*Lincolnshire Red Short-horn Cows or Heifers (in-milk), calved before or in 1902.* [6 entries, none absent.]

- 647 I. (£15.)—JOHN EVENS, Burton, Lincoln, for **Saltfleet Favourite** (vol. x. p. 177), born March 10, 1901, in-milk, calved March 25, 1905, bred by T. B. Freshney, South Somercotes, Louth; s. Grandad 1561, d. by Nonsuch 1292.
- 648 II. (£10.)—T. B. FRESHNEY, South Somercotes, Louth, for **Ruby 12th**, born May 20, 1902, in-milk, calved May 27, 1905; s. Benniworth 4th 629, d. Ruby 2nd by Saltfleet Eclipse 227.
- 644 III. (£5.)—S. B. CARNLEY, Norbury House Stud, Alford, for **Norbury Duchess**, born May, 1898, in-milk, calved Aug. 23, 1904, bred by C. H. Bower, Bingham Lodge, Holbeach; s. Poolham Duke 2nd 886, d. by Kinsman (79582).
- 649 R. N. & H. C.—JOHN LANGHAM, Park Valley, Nottingham, for **Brandon Satellite**.

Class 82.—*Lincolnshire Red Short-horn Heifers, calved in 1903.*¹ [3 entries.]

652 I. (£10.)—JOHN TODD, Kirkby Green, Lincoln, for **Kirkby Nonpareil** (vol. x. p. 212), born March 21; s. Benniworth 4th 629, d. Nonpareil 2nd by Ludford 172.

¹ Prizes given by the Lincolnshire Red Short-horn Association.

civ *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

650 II. (£6.)—W. J. ATKINSON, Weston St. Mary, Spalding, for **Ruby 14th**, born May 29, bred by T. B. Freshney. South Somercotes, Louth; s. Regent (73398), *d.* Ruby 4th *by* Saltfleet Sappy 502.

651 III. (£4.)—CAPT. E. M. GRANTHAM, The Rookery, West Keal, Spilsby, for **Keal Nancy**, born March 27; s. Conhalcom 1831, *d.* Keal Favourite *by* Stenigot Red 530.

Class 83.—*Lincolnshire Red Short-horn Heifers, calved in 1904.*¹

[5 entries, none absent.]

655 I. (£10.)—JOHN LANGHAM, Park Valley, Nottingham, for **Brandon Red Rose**, born May 29; s. Stroxtton Victor Red.

656 II. (£6.)—JOHN MARRIOTT, The West Lea, Cropwell Butler, Nottingham, for **Cropwell Belle 2nd**, born March 6; s. Scampton Drama, *d.* Cropwell Belle *by* Wolseley 1436.

654 III. (£4.)—R. & R. CHATTERTON, Stenigot, Lincoln, for **Stenigot Daisy 14th**, born Jan. 11; s. Head Porter 2909, *d.* Stenigot Daisy 11th, *by* Sirdar 1676.

653 R. N. & H. C.—W. J. ATKINSON, Weston St. Mary, Spalding, for **Red Rosette 6th**.

Class 84.—*Milk Yield Prizes, open to Lincolnshire Red Short-horn Cows and Heifers entered in Class 81 only.* [4 entries, none absent.]

645 I. (£10.)—JOHN EVENS, Burton, Lincoln, for **Burton Primrose 2nd**, born April 19, 1899, in-milk, calved March 25, 1905; s. Knight of Chewton (68867), *d.* Good Gell *by* Gwynne 133.

647 II. (£5.)—JOHN EVENS, for **Saltfleet Favourite**. (See Class 81.)

Herefords.

Class 85.—*Hereford Bulls, calved in 1901 or 1902.*

[3 entries, 1 absent.]

658 I. (£15, & **Champion**.²)—H.M. THE KING, Royal Farms, Windsor, for **Fire King** 22135, born Feb. 20, 1901; s. Earlsfield 19387, *d.* Firefly *by* Lollipop 16814.

659 II. (£10.)—G. D. FABER, M.P., Rush Court, Wallingford, for **Prime Minister** 23069, born March 26, 1902; s. Balfour 18688, *d.* Delicia *by* Truant 15758.

Class 86.—*Hereford Bulls, calved in 1903.* [7 entries, 2 absent.]

667 I. (£15, & R. N. for **Champion**.²)—A. P. TURNER, The Leen, Pembridge, for **Marquis** 23605, born March 20; s. Lord Lieutenant 22323, *d.* Madge 2nd *by* Clarence 15944.

665 II. (£10.)—THE EARL OF COVENTRY, Croome Court, Severn Stoke, Wores., for **Lama** 23550, born March 20; s. Fortunio 21396, *d.* Ladylove *by* Royal Ruler 13406.

664 III. (£5.)—SIR J. R. G. COTTERELL, BT., Garnons, Hereford, for **Priam** 23674, born Feb. 22; s. Ricardo 20957, *d.* Primilla *by* Admiral 15814.

661 R. N. & H. C.—H.M. THE KING, Royal Farms, Windsor, for **Admiral**.

Class 87.—*Hereford Bulls, calved in 1904.* [15 entries, 5 absent.]

679 I. (£15.)—ALLEN E. HUGHES, Wintercott, Leominster, for **Premier**, born Jan. 29; s. Baron 22719, *d.* Primrose (vol. xxxv. p. 443) *by* Nonpareil 19614.

682 II. (£10.)—A. P. TURNER, The Leen, Pembridge, for **Antonio**, born Jan. 27; s. Handy Man 22909, *d.* Agatha 3rd (vol. xxxiv. p. 675) *by* Statesman 14938.

678 III. (£5.)—R. W. HALL, Ashton, Leominster, for **Gaffer**, born Feb. 6, bred by the late Dr. T. R. H. Williams, The Shrublands, Kingsland; s. Foreman 22863, *d.* Auranta (vol. xxxv. p. 746) *by* Ceylon 19930.

680 R. N. & H. C.—CHARLES T. PULLEY, Lower Eaton, Hereford, for **Eaton King**.

Class 88.—*Hereford Cows or Heifers (in-milk), calved before or in 1902.*

[10 entries, 2 absent.]

683 I. (£15, & **Champion**.³)—SIR C. H. ROUSE BOUGHTON, BT., Downton Hall, Ludlow, for **Lady Betty** (vol. xxviii. p. 208), born March 29, 1896, in-milk, calved Jan. 30, 1905; s. Royalist 3rd 16958, *d.* Norah *by* Sovereign 12688.

691 II. (£10, & R. N. for **Champion**.³)—T. R. THOMPSON, Erw'r Delyn, Penarth, for **Bonnie Mary** (vol. xxxiii. p. 665), born Jan. 5, 1901, in-milk, calved Dec. 6, 1904, bred by Wm. Thomas, The Hayes, Sully, Barry; s. King John 20114, *d.* Gazelle *by* Royalist.

686 III. (£5.)—G. D. FABER, M.P., Rush Court, Wallingford, for **Ivy Lass** (vol. xxxiii. p. 386), born Jan. 21, 1901, in-milk, calved Jan. 21, 1905, bred by Richard Green, The Whittern, Kington; s. Whittern Sovereign 20405, *d.* Ivy *by* Druid 5880.

690 R. N. & H. C.—RICHARD PHIPPS, Buckenhill, Bromyard, for **Nonsuch**.

Class 89.—*Hereford Heifers, calved in 1903.* [11 entries, 4 absent.]

703 I. (£15.)—ALLEN E. HUGHES, Wintercott, Leominster, for **Ivington Plum** (vol. xxxv. p. 444), born Jan. 22; s. Malcolm 21575, *d.* Wintercott Plum 2nd *by* Nonpareil 19614.

¹ Prizes given by the Lincolnshire Red Short-horn Association.

² Prize of £10 10s. given by the Hereford Herd-Book Society for the best Hereford Bull in Classes 85-87.

³ Prize of £10 10s. given by the Hereford Herd-Book Society for the best Hereford Cow or Heifer in Classes 88-90.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 702 II. (£10.)—J. R. HILL, Orleton Court, R.S.O., for **Western Star** (vol. xxxv. p. 429), born Feb. 14; s. Macbeth 21566, d. Phyllis by Renovator 16930.
 698 III. (£5.)—PETER COATS, Sheepcote, Clifford, for **Dewy May** (vol. xxxv. p. 256), born May 2; s. Bage Protector 21167, d. Silvia 4th by Baron Grove 2nd 9544.

700 R. N. & H. C.—THE EARL OF COVENTRY, Croome Court, for **Golden Fairy**.

Class 90.—*Hereford Heifers, calved in 1904.* [12 entries, 5 absent.]

- 714 I. (£15.)—CHARLES T. PULLEY, Lower Eaton, Hereford, for **Ashleaf 3rd**, born Jan. 7; s. Glendower 2nd 22169, d. Ashleaf (vol. xxxv. p. 617) by Success 20357.
 709 II. (£10.)—W. H. DAVIES, Claston and Liver's Ocle, Hereford, for **Counter**, born Jan. 6; s. Obelisk 21637, d. Countess 4th (vol. xxxi. p. 612) by Mars 24th 13965.
 707 III. (£5.)—PETER COATS, Sheepcote, Clifford, for **Pearl**, born Jan. 16; s. Endale 21366, d. Douglas Pearl (vol. xxxv. p. 252) by Endale Hero 18825.
 708 R. N. & H. C.—THE EARL OF COVENTRY, Croome Court, for **British Fortune**.

Devons.

Class 91.—*Devon Bulls, calved in 1901 or 1902.* [3 entries.]

- 717 I. (£15, & Champion.¹)—J. C. WILLIAMS, Caerhays, St. Austell, for **Drosera** 4565, born April 6, 1901; s. Dramatist 4015, d. Blooming Cow 5th 14281 by Whitehall 2175.
 718 II. (£10.)—J. C. WILLIAMS, for **Ficus** 4765, born May 5, 1902; s. Foxglove 4400, d. Whitstone May Blossom 13523 by Mario 2279.
 716 III. (£5.)—T. S. MORGAN, Whimble, Exeter, for **Pound Mayor** 4850, born Feb. 5, 1902, bred by A. C. Skinner, Pound Farm, Bishop's Lydeard; s. Merryman 4082, d. Myrtle 65th of Pound 17141 by Masterpiece 2837.

Class 92.—*Devon Bulls, calved in 1903.* [5 entries, none absent.]

- 722 I. (£15, & R. N. for Champion.¹)—J. C. WILLIAMS, Caerhays, St. Austell, for **Dianthus** 4961, born Feb. 6; s. Dramatist 4015, d. Blooming Cow 5th 14281 by Whitehall 2175.
 720 II. (£10.)—CHARLES L. HANCOCK, The Manor Farm, Cothelstone, Taunton, for **Rufus** 5370, born Oct. 30, bred by R. D. Hancock, Blake's House, Halse, Taunton; s. Tostig 4680, d. Lady Bright 3rd 17557 by Councillor 3407.
 721 III. (£5.)—E. C. NORRISH, Gays, Coppelstone, for **Level Best** 5040, born April 26; s. Kemble 4614, d. Gay Snowdrop 18988 by Middling Character 3630.
 723 R. N. & H. C.—J. C. WILLIAMS, for **Mistletoe**.

Class 93.—*Devon Bulls, calved in 1904.* [4 entries.]

- 727 I. (£15.)—A. C. SKINNER, Pound Farm, Bishop's Lydeard, for **Pound Royal 2nd** 5352, born April 2; s. Councillor 3407, d. Rosebud 5th of Pound 16530 by Masterpiece 2837.
 726 II. (£10.)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, for **Pound Pink'un** 5350, born Jan. 4, bred by A. C. Skinner, Pound Farm, Bishop's Lydeard; s. Councillor 3407, d. Pink 17th 19064 by Wilscombe 3679.
 725 III. (£5.)—E. C. NORRISH, Gays, Coppelstone, for **Master True-Type** 5311, born Jan. 28; s. Kemble 4614, d. Sandford True-Type 5th 17003 by Duke of Pound 31st 3874.
 724 R. N. & H. C.—E. C. NORRISH, for **Fancy Free**.

Class 94.—*Devon Cows or Heifers (in-milk), calved before or in 1902.*

[8 entries, 1 absent.]

- 734 I. (£15, & Champion.²)—A. C. SKINNER, Pound Farm, Bishop's Lydeard, for **Curly 2nd of Pound** 14771, born March 30, 1895, in-milk, calved April 14, 1905; s. Masterpiece 2837, d. Curly 8190 by Agricola 1881.
 733 II. (£10, & R. N. for Champion.²)—B. C. SHEPHERD, Knowle Hall, Bridgwater, for **Hestercombe Myrtle** 18407, born Feb. 20, 1901, in-milk, calved May 8, 1905, bred by the Hon. E. W. B. Portman, Hestercombe, Taunton; s. Hestercombe Ruby 4045, d. Myrtle 56th of Pound 154 2 by Masterpiece 2837.
 735 III. (£5.)—A. C. SKINNER, for **Pound Curly 5th** 19068, born Jan. 20, 1902, in-milk, calved Dec. 27, 1904; s. Merryman 4082, d. Curly 4th of Pound 16519 by Masterpiece 2837.
 732 R. N. & H. C.—B. C. SHEPHERD, for **Hestercombe Leaf**.

Class 95.—*Devon Heifers, calved in 1903.* [5 entries, none absent.]

- 740 I. (£15.)—J. C. WILLIAMS, Caerhays, St. Austell, for **Blooming Cow 19th** 19777, born May 21; s. Drosera 4565, d. Blooming Cow 8th 15504 by Afterthought 3375.
 736 II. (£10.)—H.M. THE KING, Royal Farms, Windsor, for **Dewdrop** 19205, born Jan. 23; s. Benedictine 4141, d. Dolly 4th 13906 by Tempter 2nd 2153.

¹ Prize of £10 10s. given by the Devon Cattle Breeders' Society for the best Devon Bull in Classes 91-93.

² Prize of £10 10s. given by the Devon Cattle Breeders' Society for the best Devon Cow or Heifer in Classes 94-96.

cvi *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 739 III. (£5.)—B. C. SHEPHERD, Knowle Hall, Bridgwater, for **Hestercombe Rubric** 19629, born May 10, bred by the Hon. E. W. B. Portman, Hestercombe, Taunton; s. Hestercombe Lord 4416, d. Rosebud 4th 12662 by Nobleman 2848.
- 737 R. N. & H. C.—T. S. MORGAN, Whimble, Exeter, for **Whimble Beauty** 3rd.
- Class 96.—*Devon Heifers, calved in 1904.* [7 entries, none absent.]
- 743 I. (£15.)—ELAND CLATWORTHY, Cutsey, Wellington, Somerset, for **Cutsey Zenobia** 2nd 19925, born Jan. 1; s. Bickley Opal 4533, d. Zenobia 11th 16920 by Councillor 3407.
- 741 II. (£10.)—H.M. THE KING, Royal Farms, Windsor, for **Lucy** 19800, born Feb. 10; s. Benedictine 4141, d. Lovely 5th 13857 by Lord Currvpool 2nd 2619.
- 745 III. (£5.)—T. S. MORGAN, Whimble, Exeter, for **Whimble Beauty** 5th 20191, born Jan. 4; s. Hestercombe Redlight 4417, d. Beauty 5th 16669 by The Pink'un 2684.
- 744 R. N. & H. C.—ELAND CLATWORTHY, for **Violetta**.

South Devons.

Class 97.—*South Devon Bulls, calved in 1901 or 1902.* [3 entries, 1 absent.]

- 750 I. (£15.)—J. SPARROW WROTH, Coombe, Aveton Gifford, Kingsbridge, for **Star's Duke** 1764, born Aug. 10, 1902; s. Widland Masher 1244, d. Star's Marchioness 3659 by Marmion 631.
- 749 II. (£10.)—FRED. W. ROWE, Trevego, Lostwithiel, for **Merry Boy** 1495, born April 2, 1901, bred by Wm. Merry, Woodford, Plympton; s. Cromer 969, d. Primrose 2601 by Farm Boy 299.

Class 98.—*South Devon Cows or Heifers (in-milk), calved before or in 1902.*
[5 entries none absent.]

- 753 I. (£15.)—BENJAMIN BUTLAND, Leigham, Plympton, for **Handsome** 4040, born March 27, 1900, in-milk, calved April 3, 1905; s. Cromer 969, d. Beauty 1st 1000 by Melton.
- 751 II. (£10.)—BENJAMIN BUTLAND, for **Buttercup** 3692, born Feb. 11, 1899, in-milk, calved Aug. 17, 1904; s. Prince Charles 785, d. Beauty 2nd 3083 by Rainbow 2nd 520.
- 755 R. N. & H. C.—T. R. C. CUNDY, Stoke, Devonport, for **Myrtle**.

Class 99.—*Milk Yield Prizes, open to South Devon Cows and Heifers entered in Class 98 only.* [2 entries, none absent.]

- 754 I. (£10.)—T. R. C. CUNDY 25 Benbow Street, Stoke, Devonport, for **Alice** 3869, born Sept. 20, 1899, in-milk, calved Jan. 23, 1905, bred by the late J. W. Risdon, Budshead, St. Budeaux, Devonport; s. Snowdrop's Duke 932, d. Dorothy 2942 by Guardsman.

Sussex.

Class 100.—*Sussex Bulls, calved in 1901 or 1902.* [3 entries, 1 absent.]

- 758 I. (£15.)—A. J. THOMAS, Rodmersham, Sittingbourne, for **Prince Confidence** 2nd 1850, born Jan. 21, 1901, bred by the Hon. R. P. Nevill, Birling Manor, West Malling; s. Confidence 2nd 1630, d. Chickweed 7151 by My Lord 1169.
- 756 II. (£10.)—THE EARL OF DERBY, K.G., Orchardmains, Tonbridge, for **Mayor** 1883, born Feb. 13, 1902; s. Diploma 1540, d. Meadow Sweet 7594 by Vickress 1364.

Class 101.—*Sussex Bulls, calved in 1903.* [6 entries, 1 absent.]

- 762 I. (£15.)—C. J. LUCAS, Warnham Court, Horsham, for **Lord Eric** 1990, born March 10; s. Alfred 1637, d. Aldon Prebble A 6056 by Red Hill Goldust 927.
- 763 II. (£10.)—THE HON. R. P. NEVILL, Birling Manor, West Malling, for **Bonfire Prince** 2nd 1975, born Jan. 17, bred by Joseph Godman, Park Hatch, Godalming; s. Broad-gauge 9th 1761, d. Bonfire 6th 6800 by Prince John 1261.
- 760 R. N. & H. C.—JOHN AUNGIER, Lynwick, Rudgwick, for **Lynwick Prince**.

Class 102.—*Sussex Bulls, calved in 1904.* [5 entries, 1 absent.]

- 769 I. (£15.)—EARL WINTERTON, Shillinglee Park, Petworth, for **Shillinglee Bewbush** 2097, born June 12; s. Bewbush 1943, d. Success 2nd 8126 by Brantridge Duke 1408
- 767 II. (£10.)—GERALD WARDE, Tutsham Hall, West Farleigh, Maidstone, for **Gallant Statesman**, born Jan. 24, bred by M. White, The Lodge, Watlington; s. Bewbush Statesman 1855, d. Marcella 6958 by Oxford Duke 1st 840.
- 766 R. N. & H. C.—THE HON. R. P. NEVILL, Birling Manor, for **Birling Lord**.

Class 103.—*Sussex Cows or Heifers (in-milk), calved before or in 1902.*
[4 entries, 2 absent.]

- 773 I. (£15.)—W. F. WINCH, Tilsden, Cranbrook, for **Warden Lady** 9103, born Feb. 15, 1902, in-milk, calved Feb. 2, 1905, bred by W. J. Hawes, Watlington; s. Tutsham Rival 1757, d. Warden Crumple 7977 by Chatham 1508.
- 771 R. N. & H. C.—THE EARL OF DERBY, K.G., Orchardmains, Tonbridge, for **Fancy**.

Class 104.—*Sussex Heifers, calved in 1903.* [5 entries, 1 absent.]

- 778 I. (£15.)—EARL WINTERTON, Shillinglee Park, Petworth, for **Sunlight** 5th 9441, born Jan. 13 s. Drungewick Prebble 1666, d. Sunlight 3rd 8127 by Brantridge Duke 1408.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

776 II. (£10.)—PHILIP SAILLARD, Buchan Hill, Crawley, for **Bewbush Wind 4th** 9378, born April 13; s. Bewbush Lad 2nd 1786, d. Wind 4th 6935 by Silversmith 2nd 1115.

777 R. N. & H. C.—GERALD WARDE, Tutsham Hall, West Farleigh, for **Tutsham Pearl**.

Class 105.—*Sussex Heifers, calved in 1904.* [11 entries 1 absent.]

788 I. (£15.)—EARL WINTERTON, Shillinglee Park, Petworth, for **Simla 4th** 9923, born Jan. 2; s. President 1944, d. Simla 7231 by Stanhope 1232.

781 II. (£10.)—JOHN AUNGIER, Lynwick, Rudgwick, for **Gwendolen of Lynwick** 9493, born Jan. 31, bred by J. B. Powell, Old Place, Mayfield; s. Merchant Prince 4th 1826, d. Gwendolen 8317 by Buckswood Lad 4th 1654.

789 III. (£5.)—EARL WINTERTON, for **Sunlight 7th** 9929, born Feb. 1; s. Bewbush 1943, d. Sunlight 3rd 8127 by Brantridge Duke 1408.

786 R. N. & H. C.—A. J. THOMAS, Rodmersham, Kent, for **Prebble Smeeth Twin 2nd**.

Welsh.

Class 106.—*Welsh Bulls, calved in 1901, 1902, or 1903.* [4 entries.]

793 I. (£15.)—JOHN SCOURFIELD, Blaenwernddu, Whitland, R.S.O., for **Lloffwr**, born Aug. 23, 1901; s. Teilo 296, d. Tegan 3rd 767 by Beryl's Boy 292.

790 II. (£10.)—R. M. GREAVES, Wern, Portmadoc, for **The Czar**, born Aug. 20, 1902, bred by W. E. Oakeley, The Plas, Tan-y-bwlch; s. Leporello 521, d. Pretoria 1347 by Cawr 417.

792 III. (£5.)—ROBERT ROBERTS, Bronygadair, Portmadoc, for **Madoc Bach** 534, born Jan. 2, 1901; s. Madoc Boy 398, d. Lady.

791 R. N. & H. C.—LORD HARLECH, Glyn, Talsarnau, R.S.O., for **Tudor**.

Class 107.—*Welsh Bulls, calved in 1904.* [7 entries, none absent.]

797 I. (£15.)—JOHN OWEN, Llwynderw, Whitland, R.S.O., for **Derw Boy**, born Feb. 23; s. Lloffwr 286, d. Pen Square 840 by Beryl's Boy 292.

799 II. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Hyfwr**, born Feb. 29; s. Hyfwr, d. Madryn Sally by Black Bear.

800 III. (£5.)—THE UNIVERSITY COLLEGE OF NORTH WALES, for **Madryn Shon**, born Feb. 28; s. Hyfwr, d. Madryn Pansy.

795 R. N. & H. C.—R. M. GREAVES, Wern, Portmadoc, for **Wern Delight**.

Class 108.—*Welsh Cows or Heifers (in-milk), calved before or in 1902.*

[5 entries, 1 absent.]

802 I. (£15.)—R. M. GREAVES, Wern, Portmadoc, for **Pyrites 2nd** 1190, born Jan. 3, 1898, in-milk, calved April 10, 1905, bred by W. E. Oakeley, The Plas, Tan-y-bwlch; s. Hawfa 420, d. Pyrites 973 by Ardudwy 255.

805 II. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Sally**, born June 8, 1899, in-milk, calved Feb. 12, 1905, bred by R. M. Greaves, Wern, Portmadoc; s. Black Bear 390, d. Lady Sarah 2nd 1082 by Little Orme 369.

804 III. (£5.)—THE UNIVERSITY COLLEGE OF NORTH WALES, for **Madryn Kate**, born Dec. 24, 1898, in-milk, calved June 12, 1904; s. Klondyke 432, d. by Dafydd Ddu.

801 R. N. & H. C.—THE COED COCH TRUSTEES, Llawes-y-Coed Farm, Abergele, for **Upstart 2nd**.

Class 109.—*Welsh Heifers, calved in 1903 or 1904.* [5 entries, 1 absent.]

809 I. (£15.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Beryl**, born Feb. 15, 1903, bred by Thomas Evans, Boston House, Gaerwen, Anglesey; s. Mafeking.

807 II. (£10.)—JAMES W. GRIFFITHS, The Court, Penally, R.S.O., for **Penally Primrose**, born Aug. 27, 1903, bred by the late J. M. Griffiths; s. Beryl's Last 185, d. Primrose 504 by Sir Harry 2nd 154.

808 III. (£5.)—RICHARD THOMAS, Great Pale, Whitland, R.S.O., for **Beauty 2nd**, born Oct. 15, 1903; s. Billy, d. Kitty.

810 R. N. & H. C.—THE UNIVERSITY COLLEGE OF NORTH WALES, for **Madryn Mair**.

Red Polled.

Class 110.—*Red Polled Bulls, calved in 1901 or 1902.* [5 entries, none absent.]

813 I. (£15, & Champion.¹)—JOHN HAMMOND, Bale, Dereham, for **Davyson 244th** 9059, born April 27, 1902; s. Handy Man 8213, d. Davy 155th 10149 by Davyson 78th 3067.

811 II. (£10, & R. N. for Champion.¹)—LORD AMHERST OF HACKNEY, Didlington Hall, Stoke Ferry, for **Recruit** 8994, born June 27, 1901; s. Redvers 6570, d. Charmante 10080 by Caistor Spark 3413.

814 R. N. & H. C.—A. J. SMITH, Rendlesham, Woodbridge, for **Rendlesham Sirdar**.

¹ Prize of £5 5s. given by the Red Polled Society for the best Red Polled Bull in Classes 110-112.

cvi Award of Live Stock Prizes at Park Royal, 1905.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 111.—*Red Polled Bulls, calved in 1903.* [8 entries, none absent.]

- 817 **I.** (£15.)—R. P. COOPER, Ashlyns, Berkhamsted, for **Ashlyns Major** 9192, born Jan. 4; s. Lord Rosebery 8383, d. Wilby 2nd 10893 by Game Boy 2315.
816 **II.** (£10.)—LORD AMHERST OF HACKNEY, Didlington Hall, Stoke Ferry, for **Defender** 9232, born May 8; s. Defiance 6966, d. Nellie 9614 by Red Shirt 2014.
821 **III.** (£5.)—A. J. SMITH, Rendlesham, Woodbridge, for **Rendlesham Knockin** 9481, born April 17; s. Roger Knocking 8671, d. Miss Glaze 2nd 12667 by Red Prince 2902.
820 **R. N. & H. C.**—ALFRED G. SCORER, Flaxmoor, Caston, Attleborough, for **Flaxmoor Firebrand**.

Class 112.—*Red Polled Bulls, calved in 1904.* [14 entries, 2 absent.]

- 829 **I.** (£15.)—SIR WALTER CORBET, BT., Acton Reynold, Shrewsbury, for **Acton Rufus** 9354, born Jan. 20; s. Lord Rattler 8977, d. Acton Cherry 17878 by Logan 6391.
826 **II.** (£10.)—R. P. COOPER, Ashlyns, Berkhamsted, for **Ashlyns Ben** 9361, born March 1; s. Felix 7066, d. Minnie 8045 by Earl 2279.
828 **III.** (£5.)—SIR WALTER CORBET, BT., for **Acton Garnet** 9352, born Feb. 16; s. Albert 7789, d. Linda 3rd 13767 by Planet 4579.
831 **R. N. & H. C.**—THE RT. HON. A. E. FELLOWES, M.P., Honingham, for **Alake**.

Class 113.—*Red Polled Cows or Heifers (in-milk), calved before or in 1902.*
[13 entries, none absent.]

- 839 **I.** (£15.)—LORD AMHERST OF HACKNEY, Didlington Hall, Stoke Ferry, for **Popsey 6th** 17392, born March 19, 1900, in-milk, calved Jan. 7, 1905; s. Redvers 6570, d. Popperty 2nd 4289 by Didlington Davyson 2nd 657.
845 **II.** (£10.)—JOHN HAMMOND, Bale, Dereham, for **Davy 204th** 16447, born Jan. 22, 1900, in-milk, calved Oct. 11, 1904; s. Majiolini 3600, d. Davy 142nd 9254 by Davyson 78th.
842 **III.** (£5.)—THE RT. HON. A. E. FELLOWES, M.P., Honingham, Norwich, for **Alba** 18665, born Feb. 8, 1902, in-milk, calved March 13, 1905; s. Arthur 7802, d. Avon 14478 by The Pope 4581.
843 **R. N. & H. C.**—THE RT. HON. A. E. FELLOWES, M.P., for **Ardent**.

Class 114.—*Red Polled Heifers, calved in 1903.* [9 entries, 1 absent.]

- 855 **I.** (£15.)—THE RT. HON. A. E. FELLOWES, M.P., Honingham, Norwich, for **Angelus** 19250, born Jan. 30; s. Antic 7799, d. Madge 17055 by Champion 5370.
856 **II.** (£10.)—THE RT. HON. A. E. FELLOWES, M.P., for **Avon 2nd** 19254, born June 20; s. Ampton 6777, d. Avon 14478 by The Pope 4581.
851 **III.** (£5.)—R. P. COOPER, Ashlyns, Berkhamsted, for **Ashlyns Gravel** 19000, born Feb. 16; s. Lord Rosebery 8383, d. Gravel 2nd 12374 by The Prince 4587.
857 **R. N. & H. C.**—SIR THOMAS V. S. GOOCH, BT., Wangford, for **Priestess**.

Class 115.—*Red Polled Heifers, calved in 1904.* [15 entries, 2 absent.]

- 864 **I.** (£15.)—SIR WALTER CORBET, BT., Acton Reynold, Shrewsbury, for **Acton Primrose** 19603, born Jan. 1; s. Albert 7789, d. Acton Tulip 14424 by Red Lord 5820.
868 **II.** (£10.)—JOHN HAMMOND, Bale, Dereham, for **Davy 283rd** 19713, born March 8; s. Majiolini 3600, d. Davy 142nd by Davyson 78th 3067.
870 **III.** (£5.)—ALFRED G. SCORER, Flaxmoor, Caston, Attleborough, for **Flaxmoor Geisha** 19770, born Feb. 8; s. Tiptop 9018, d. Handsome of Broomhill 7th 18067 by Lord Kitchener 7316.
863 **R. N. & H. C.**—R. P. COOPER, Ashlyns, Berkhamsted, for **Ashlyns Flirt**.

Class 116.—*Milk Yield Prizes, open to Red Polled Cows and Heifers entered in Class 113 only.* [8 entries, none absent.]

- 847 **I.** (£10.)—LORD ROTHSCHILD, Tring Park, Herts., for **Clarissa** 13315, born Dec. 1, 1898, in-milk, calved Feb. 9, 1905, bred by Garrett Taylor, Trowse House, Norwich; s. Redmond 5147, d. Chrissy 6246 by Master Falstaff 1233.
849 **II.** (£5.)—LORD ROTHSCHILD, for **Rustic** 18277, born Sept. 28, 1900, in-milk, calved June 1, 1905, bred by A. H. Cobbald, Eldo House, Bury St. Edmunds; s. Rustic Prince 5184, d. Honest Rhoda by Master Astley 2823.
846 **III.** (£3.)—THE EARL OF RADNOR, Longford Castle, Salisbury, for **Ashlyns Rose 2nd** 16137, born May 2, 1898, in-milk, calved March 31, 1905, bred by Mrs. A. Morrison, Fonthill, Tisbury; s. Oakpost 4558, d. Ashlyns Rose 8317 by Priney 1602.
845 **R. N. & H. C.**—JOHN HAMMOND, Bale, Dereham, for **Davy 204th**.

Aberdeen Angus.

Class 117.—*Aberdeen Angus Bulls, calved in 1901 or 1902.*

[6 entries, 1 absent.]

- 879 **I.** (£15, & Champion.¹)—R. W. HUDSON, Danesfield, Marlow, for **Danesfield Jester** 18949, born Jan. 15, 1901; s. Junior Jehu 14536, d. Joyful of Ballindalloch 22999 by Prospero of Dalmore 11208.

¹ Gold Medal given by the Polled Cattle Society for the best Aberdeen Angus Animal in Classes 117-122.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 877 **II.** (£10.)—GEORGE CRAN, Morlich, Glenkindie, for **Jeshurun** 19257, born Feb. 17, 1901, bred by Sir George Macpherson Grant, Bt., The Castle, Ballindalloch; s. Eblito 14306, *d. Junta* 23000 *by Rabbi* 11228.
- 875 **III.** (£5.)—THE REV. C. BOLDEN, Preston Bissett, Buckingham, for **Publican of Preston** 21178, born April 9, 1902; s. Boniface of Preston 16329, *d. Pride of Preston* 17th 2100 *by Eglamore* 11618.
- 878 **R. N. & H. C.**—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, for **Wizard of Maisemore**.

Class 118.—*Aberdeen Angus Bulls, calved in 1903.* [9 entries, 2 absent.]

- 882 **I.** (£15.)—THE REV. C. BOLDEN, Preston Bissett, Buckingham, for **Proud Hope** 22564, born May 26; s. Proud Duke of Ballindalloch 12031, *d. Pride of Preston* 17th 2510 *by Eglamore* 11618.
- 883 **II.** (£10.)—THE REV. C. BOLDEN, for **Veneration of Preston** 22783, born May 13, s. Proud Duke of Ballindalloch 12031, *d. Veracity of Preston* 27946 *by Cadmus of Preston* 14183.
- 887 **III.** (£5.)—C. E. HUNTER, Selaby, Gainford, Darlington, for **Velasquez** 22780, born Jan. 2, bred by W. S. Adamson, Careston Castle, Brechin; s. Eliminator of Ballindalloch 17756, *d. Violet of Careston* 25022 *by Eglamore* 11618.
- 881 **R. N. & H. C.**—H. T. BIRDSEY, Southcourt, Leighton Buzzard, for **Ameer of Goodwood**.

Class 119.—*Aberdeen Angus Bulls, calved in 1904.* [8 entries, 1 absent.]

- 893 **I.** (£15.)—SIR JAMES DUKE, BT., Laughton, Shortgate, R.S.O., for **Jasper**, born Jan. 31; s. Junie 14535, *d. Laughton Joan* 25305 *by Jovial Souter* 7634.
- 890 **II.** (£10.)—H. T. BIRDSEY, Southcourt, Leighton Buzzard, for **Gambler of Southcourt** 23249, born Jan. 17; s. Carolus of Mulben 18876, *d. Graceful of Goodwood* 34453 *by Ganymede of Ballindalloch* 14428.
- 891 **III.** (£5.)—J. H. BRIDGES, Langshott, Horley, for **Judge of Hursley** 23353, born March 17, bred by G. A. Cooper, Hursley Park, Winchester; s. Jeshurun 19257, *d. Jemima* 50th of Morlich 31562 *by Dargai* 16436.
- 894 **R. N. & H. C.**—SIR JAMES DUKE, BT., for **Ribstone**.

Class 120.—*Aberdeen Angus Cows or Heifers (in-milk), calved before or in 1902.* [6 entries, 1 absent.]

- 903 **I.** (£15.)—MRS. MACPHERSON, Wyrley Grove, Pelsall, Staffs, for **Corskier 4th of Wyrley** 24456, born Feb. 29, 1896, in-milk, calved July 3, 1904, bred by the late L. A. Macpherson; s. Dictator of Haddo 11583, *d. Corskie* 21st 14090 *by Ixion* 5431.
- 901 **II.** (£10.)—C. E. HUNTER, Selaby, Gainford, Darlington, for **Estimation** 33962, born April 9, 1902, in-milk, calved Dec. 15, 1904; s. Hyperion of Selaby 16680, *d. Estimate of Selaby* 25617 *by Kidnapper* 9300.
- 900 **III.** (£5.)—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, for **Mabel 8th of Knapperna** 34654, born March 5, 1902, in-milk, calved Jan. 13, 1905, bred by W. Stewart, Mains of Knapperna; s. Dreyfus 16472, *d. Mabel of Knapperna* 24805 *by Kalendar* 10962.
- 899 **R. N. & H. C.**—J. J. CRIDLAN, for **Mabel 7th of Knapperna**.

Class 121.—*Aberdeen Angus Heifers, calved in 1903.*

[5 entries, 1 absent.]

- 908 **I.** (£15, R.N. for Champion,¹ & Gold Medal.²)—C. E. HUNTER, Selaby, Gainford, Darlington, for **Ruritania** 35794, born Feb. 17; s. Examiner of Selaby 19107, *d. Rubina* 30298 *by Crowbar* 14233.
- 904 **II.** (£10, & R. N. for Gold Medal.²)—THE REV. C. BOLDEN, Preston Bissett, Buckingham, for **Verona of Preston** 35125, born March 3; s. Pundit of Preston 17156, *d. Valencia of Preston* 26505 *by Proud Duke of Ballindalloch* 12031.
- 905 **R. N. & H. C.**—G. A. COOPER, Hursley Park, Winchester, for **Enamel of Dalvey**.

Class 122.—*Aberdeen-Angus Heifers, calved in 1904.* [13 entries, 3 absent.]

- 909 **I.** (£15.)—THE REV. C. BOLDEN, Preston Bissett, Buckingham, for **Election of Preston** 36877, born Jan. 9; s. Publican of Preston 21178, *d. Elastic of Preston* 31378 *by Proud Duke of Ballindalloch* 12031.
- 911 **II.** (£10.)—J. H. BRIDGES, Langshott, Horley, for **Laurel of Langshott** 5th 36905, born Jan. 18; s. Equerry of Ballindalloch 9136, *d. Laurel of Langshott* 2nd 27960 *by Jackanapes of Ballindalloch* 13517.
- 918 **III.** (£5.)—C. E. HUNTER, Selaby, Gainford, Darlington, for **Eyelid** 37548, born April 14; s. Examiner of Selaby 19107, *d. Eyelash of Selaby* 32103 *by Diplomat* 13310.
- 915 **R. N. & H. C.**—SIR JAMES DUKE, BT., Laughton, Shortgate, R.S.O., for **Elba**.

¹ Gold Medal given by the Polled Cattle Society for the best Aberdeen Angus Animal in Classes 117-122.

² Given by the English Aberdeen Angus Cattle Association for the best Animal of the opposite sex to that of the Animal awarded the Gold Medal of the Polled Cattle Society in Classes 117-122.

cx *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Galloways.

Class 123.—*Galloway Bulls, calved in 1901, 1902, or 1903.*

[4 entries, 1 absent.]

- 922 I. (£15.)—JOHN CUNNINGHAM, Tarbreoch, Dalbeattie, for **Chancellor of Ballyboley** 9010, born May 28, 1903, bred by R. L. Calwell, Ballyboley, Ballynure, Co. Antrim; s. Bondsman 7306, *d.* Marigold of Castlemilk 14679 *by* Lowlander 2nd of Tarbreoch.
- 923 II. (£10.)—A. H. FOX-BROCKBANK, The Crofts, Kirksanton, Silecroft, Cumberland, for **Defiance of Kirkconnel** 8266, born March 21, 1901, bred by Robert Graham, Auchengassel, Twynholm; s. Gay Stanley of Harelawhill 7122, *d.* Fanny of Kirkconnel 15304 *by* Lucky Jock of Hensol 6779.
- 925 III. (£5.)—SIR R. W. BUCHANAN JARDINE, BT., Castlemilk, Lockerbie, for **Black Douglas 4th of Castlemilk** 8056, born April 23, 1901, bred by the late Sir Robert Jardine, Bt.; s. The Pathfinder 3rd 5991, *d.* Lady Isabella Douglas of Netherhall 10688 *by* Robin Gray 2650.

Class 124.—*Galloway Bulls, calved in 1904.* [4 entries, 1 absent.]

- 928 I. (£15.)—ANDREW MONTGOMERY, Nether Hall, Castle Douglas, for **Captain 2nd of Tarbreoch** 9169, born Jan. 2nd, bred by John Cunningham, Tarbreoch, Dalbeattie; s. Captain of Tarbreoch 7764, *d.* Beauty 2nd 16524 *by* Macdougall 4th 6841.
- 926 II. (£10.)—ROBERT GRAHAM, Auchengassel, Twynholm, for **Black Pearl** 9190, born Jan. 27, bred by R. D. Barre Cunningham, Hensol, New Galloway; s. Monk of Castlemilk 7679, *d.* Annie 2nd of Hensol 15550 *by* Lobengula 5938.
- 929 III. (£5.)—H. C. STEPHENS, Cholderton, Salisbury, for **Archer of Castlemilk** 9129, born Jan 2, bred by the late Sir Robert Jardine, Bt., Castlemilk, Lockerbie; s. Quarter-master of Castlemilk 8057, *d.* Alice 2nd of Castlemilk 16352 *by* The Pathfinder 3rd 5991.

Class 125.—*Galloway Cows or Heifers (in-milk), calved before or in 1902.*

[4 entries.]

- 932 I. (£15, & Champion.¹)—SIR R. W. BUCHANAN JARDINE, BT., Castlemilk, Lockerbie, for **Alice 2nd of Castlemilk** 16352, born March 5, 1900, in-milk, calved Dec. 24, 1904, bred by the late Sir Robert Jardine, Bt.; s. The Pathfinder 3rd 5991, *d.* Alice of Castlemilk 14282, *by* Lowlander 2nd 5992.
- 930 II. (£10, & R. N. for Champion.¹)—JOHN CUNNINGHAM, Tarbreoch, Dalbeattie, for **Doris of Kilquhanity** 16912, born May 1, 1901, in-milk, calved Feb. 2nd, 1905, bred by Robert Wilson, 34, Rye Hill, Newcastle-on-Tyne; s. Great Scott 6489, *d.* Dora of Durhamhill 13550 *by* Camp-Follower 5042.
- 933 III. (£5.)—ALFRED PALMER, Wokefield Park, Mortimer, for **Maggie of Castlemilk** 15409, born March 1, 1898, in-milk, calved Dec. 15, 1904, bred by the late Sir Robert Jardine, Bt., Castlemilk, Lockerbie; s. Black Douglas of Castlemilk 5002, *d.* Maggie 4th of Garliestoun 10053 *by* Ivanhoe 3080.
- 931 R. N. & H. C.—ROBERT GRAHAM, Auchengassel, Twynholm, for **Violet 3rd of Gally.**

Class 126.—*Galloway Heifers, calved in 1903 or 1904.* [4 entries.]

- 935 I. (£15.)—JOHN CUNNINGHAM, Tarbreoch, Dalbeattie, for **Nettie 32nd of Tarbreoch** 17996, born April 14, 1903, bred by W. & R. Clarke, Culmain, Dumfries; s. Worthy 3rd 7762, *d.* Netty 30th of Culmain 16984 *by* Cedric 4th of Tarbreoch 6466.
- 934 II. (£10.)—JOHN CUNNINGHAM, for **Miss Sally 7th of Tarbreoch** 18423, born March 3, 1904; s. Lord William of Durhamhill 7108, *d.* Miss Sally 2nd of Tarbreoch *by* Exquisite.
- 937 III. (£5.)—SIR R. W. BUCHANAN JARDINE, BT., Castlemilk, Lockerbie, for **Alice 4th of Castlemilk** 18386, born Feb. 12, 1904, bred by the late Sir Robert Jardine, Bt.; s. Nugget of Castlemilk 7681, *d.* Alice of Castlemilk 14282 *by* Lowlander 2nd 5992.
- 936 R. N. & H. C.—ROBERT GRAHAM, Auchengassel, Twynholm, for **Fairy Queen.**

Highland.

Class 127.—*Highland Bulls, calved in 1901 or 1902.* [3 entries.]

- 939 I. (£15.)—WILLIAM SOPPER, Dummaglass, Inverness, for **King Alaric** 1712, yellow, born Jan. 23, 1901, bred by the late Earl of Southesk, Kinnaird Park, Brechin; s. Calum Raibhach 2nd of Atholl 1325, *d.* Rosa Buidhe 4253 *by* Tarinduin 696.
- 938 II. (£10.)—W. D. MACKENZIE, Farr House, Daviot, Inverness, for **Calum Ban of Farr**, yellow, born Jan. 8, 1902; s. Calum Ban of Atholl 1203, *d.* Flora Beag of Farr 3679 *by* Calum Riabhach of Farr 985.
- 940 III. (£5.)—H. C. STEPHENS, Cholderton, Salisbury, for **Loch Tay** 1862, dun, born Jan. 26, 1901, bred by J. V. A. Maclearn, Dall, Perthshire; s. Valentine 5th 1062, *d.* Romaig Rossie *by* Rossie 456.

¹ Prize of £10 10s. given by the Galloway Cattle Society for the best Galloway Animal in Classes 123-126.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 128.—*Highland Cows or Heifers (in-milk), calved before or in 1902.*
[4 entries, 1 absent.]

- 941 **I.** (£15.)—WILLIAM SOPPER, Dinnmaglass, Inverness, for **Cattadale 5766**, brindled, born Feb. 25, 1899, in-milk, calved Dec. 21, 1904, bred by R. & J. Campbell, Kintra, Port Ellen, Islay; s. Victor 9th 1069, *d.* Maizie Dubh *by* Dunlossit Dun Bull.
- 944 **II.** (£10.)—H. C. STEPHENS, Cholderton, Salisbury, for **Odstock 4th of Cholderton 5882**, brindled, born April 8, 1901, in-milk, calved Feb. 8, 1905; s. Ceatharnach Bhuidhe 719, *d.* Odstock 2nd of Cholderton 3412 *by* Calum Odhar of Atholl 79.
- 943 **III.** (£5.)—H. C. STEPHENS, for **Learaig 3rd of Cholderton 3402**, brindled, born Feb. 17, 1898, in-milk, calved March 2, 1905; s. Ceatharnach 642, *d.* Learaig 2nd of Cholderton 3401 *by* Calum Odhar of Atholl 79.

Ayrshires.

Class 129.—*Ayrshire Bulls, calved in 1901, 1902, 1903, or 1904.*
[5 entries, 1 absent.]

- 947 **I.** (£15.)—JAMES HOWIE, Hillhouse, Kilmarnock, for **Morton Mains Waynflete 5441**, white with dark spots, born March 10, 1902, bred by Robert Osborne, Morton Mains, Thornhill; s. Points of Merit of Wynholm 4258, *d.* Young Bonny Jean of Wynholm.
- 949 **II.** (£10.)—ANDREW MITCHELL, Barcheskie, Kirkcudbright, for **McQuittiston Secretary 5429**, white and brown, born in April, 1902, bred by J. S. Hunter, Foulton, Monkton; s. Prince Imperial of Netherhall 5830, *d.* Miss Mot of Foulton 11455.
- 946 **III.** (£5.)—JAMES HOWIE, for **Howie's Give and Take 5963**, white with dark spots, born April 9, 1903, bred by Robert McKinlay, Hillhouse, Lanark; s. Imperial Chief of Hillhouse 4601, *d.* Brockie of Hillhouse 11044.

Class 130.—*Ayrshire Cows or Heifers (in-milk or in-calf), calved before or in 1902.* [11 entries, none absent.]

- 951 **I.** (£15.)—ALEXANDER CROSS, Knockdon, Maybole, for **Lady Jane of Knockdon 13820**, white, born May 8, 1900, calved July 25, 1905; s. Prince 3rd of Knockdon 3689, *d.* Lady Guy 2nd of Knockdon 11168 *by* Prince Bismarck 3287.
- 955 **II.** (£10.)—ANDREW MITCHELL, Barcheskie, Kirkcudbright, for **Gay Lass**, brown and white, born in April, 1900, in-milk, calved June 18, 1905, bred by Matthew Hunter, Adamhill, Craigie; s. Flora's Chief of Adamhill 3955, *d.* Grace.
- 953 **III.** (£5.)—LT.-COL. G. J. FERGUSSON-BUCHANAN, Auchentorlie, Bowling, for **Auchentorlie Marguerite 17044**, brown and white, born in April, 1900, in-milk, calved June 13, 1905, bred by C. Duncan, Little Kilmory, Rothesay; s. McQuittiston General French 5027, *d.* Little Kilmory Daisy 2nd.
- 954 **R. N. & H. C.**—LT.-COL. G. J. FERGUSSON-BUCHANAN, for **Auchentorlie Susy 2nd**.

Class 131.—*Ayrshire Heifers, calved in 1903 or 1904.*¹ [5 entries, 1 absent.]

- 963 **I.** (£10.)—ANDREW MITCHELL, Barcheskie, Kirkcudbright, for **Handsome Nell 17536**, brown and white, born March 30, 1903, bred by James Osborne, Dinning, Closeburn; s. The Real McKay of Drumsuie 4252, *d.* Fleckie of Dinning *by* Springlight of Dinnie 4513.
- 962 **II.** (£6.)—JAMES HOWIE, Hillhouse, Kilmarnock, for **Howie's Snow-Wreath 17193**, white, born April 5, 1903; s. Howie's Gentleman John 4934, *d.* White Brockie 17192.
- 965 **III.** (£4.)—ANDREW MITCHELL, for **Sweet Briar**, brown and white, born March 13, 1903, bred by John McKean, Dam of Aber, Alexandria; s. General Buller of Broomhill 4352, *d.* Barboigh of Dam of Aber 15035 *by* Brown Blairkip of Barboigh.

Class 132.—*Milk Yield Prizes, open to Ayrshire Cows and Heifers entered in Class 130 only.* [6 entries, none absent.]

- 954 **I.** (£10.)—LT.-COL. G. J. FERGUSSON-BUCHANAN, Auchentorlie, Bowling, for **Auchentorlie Susy 2nd 17322**, mostly white, born April 24, 1900, in-milk, calved June 13, 1905, bred by J. Steel, High Newton, Darvel; s. Ben of Bogside 3900, *d.* Susy of High Newton 12495, *by* Loudounhill Lad 1st 3134.
- 957 **II.** (£5.)—CAPT. J. W. SMITH-NEILL, Wendover Lodge, Wendover, for **Hillhouse Blossom 4th 16747**, white and little brown, born April 11, 1901, in-milk, calved April 27, 1905, bred by John Drennan, Hillhouse, Galston; s. Chief of Hillhouse 4325, *d.* Blossom of Hillhouse 13098 *by* Peter of Whitehill 1397.

Jerseys.

N.B.—In the Jersey Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Island Herd Book. A number without brackets indicates that the animal is registered in the English Jersey Herd Book.

Class 133.—*Jersey Bulls, calved in 1901 or 1902.* [9 entries, 3 absent.]

- 969 **I.** (£15.)—CAPT. L. G. GISBORNE, Allestree, Derby, for **Glorious Lad 7824**, whole colour, born March 5, 1902, bred by J. Le Sueur, St. Saviour's, Jersey; s. Foxhill 7208, *d.* Glorious (7387) P.S.C. *by* Golden Lad 3324.

¹ Prizes given by the Ayrshire Cattle Herd-Book Society.

cxii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

971 **II.** (£10.)—A. MILLER-HALLETT, Goddington, Chelsfield, for **Jolly Peter**, whole colour, born Dec. 24, 1902, bred by J. A. Marett, St. Saviour's, Jersey; s. Golden Jolly 7518, *d.* Hearty (7465) P.S.H.C. *by* Uncle Peter 5727.

966 **III.** (£5.)—JOSEPH BRUTTON, 7 Princes Street, Yeovil, for **Shy Lad** 7999, black, born Aug. 4, 1902, bred by George Baal, St. Martin's, Jersey; s. Eminent 2nd 6546, *d.* Berne (8297) F.S.H.C.

967 **R. N. & H. C.**—LADY DE ROTHSCHILD, Aston Clinton, Tring, for **Gallant**.

Class 134.—*Jersey Bulls, calved in 1903.* [13 entries, none absent.]

983 **I.** (£15.)—T. B. MILLER, Manor House, Cricklade, for **Cricketer** (vol. xv. p. 79), whole colour, born July 28; s. Chief Justice 7138, *d.* Hamley's Dawish *by* Hamley 6585.

979 **II.** (£10.)—JULIUS C. DREW, Wadhurst Hall, Sussex, for **Black Pearl** (vol. xv. p. 146), whole colour, born May 20, bred by the Marquis of Winchester, Ampport, Andover; s. Distinction's Fox 7780, *d.* Roselaise Pearl *by* Pearl King 7322.

980 **III.** (£5.)—CAPT. A. B. S. FRASER, Withdean Farm, Brighton, for **Reminder's Bud** (vol. xv. p. 47), mulberry fawn, born Sept. 30; s. Reminder 6384, *d.* Fair Violet *by* Good Fellow 7526.

986 **R. N. & H. C.**—LADY SMYTH, Ashton Court, Bristol, for **Wyllard**.

Class 135.—*Jersey Bulls, calved in 1904.* [24 entries, 3 absent.]

998 **I.** (£15.)—MRS. MCINTOSH, Havering Park, Romford, for **Jolly Jim**, whole colour, born May 16, bred by A. J. B. Arthur, St. Owen's, Jersey; s. Golden Jolly (2921), *d.* Plaisanterie (9153).

1011 **II.** (£10.)—R. BRUCE WARD, Westwood Park, Droitwich, for **Silken Fop**, whole colour, born June 27; s. Silken Lad 7666, *d.* Phyllis 13th *by* Darby 7163.

995 **III.** (£5.)—CAPT. L. G. GISBORNE, Allestree, Derby, for **Tommy**, broken colour, born May 18; s. King's Counsel 7891, *d.* Miss Tomboy (vol. xv. p. 348) *by* Monk 7897.

1004 **R. N. & H. C.**—ARTHUR POCOCK, Freegrove, Calne, Wilts, for **Barrister**.

1001 **S. P.**, £10 10s.¹—A. MILLER-HALLETT, Goddington, Chelsfield, for **Rover of Oaklands**.

997 **R. N. for S. P.**¹—J. JOICEY, Poulton Priory, Fairford, for **Netina's Dairy Lad**.

Class 136.—*Jersey Cows or Heifers (in-milk), calved before or in 1902.*

[33 entries, 13 absent.]

1033 **I.** (£15.)—A. MILLER-HALLETT, Goddington, Chelsfield, for **Lottie** (vol. xi. p. 280), whole colour, born April 27, 1896, in-milk, calved April 11, 1905, bred by W. G. Renouf, St. Martin's, Jersey; s. Golden Fern's Lad 6236, *d.* Rivalry (6133) *by* Distinction's Crown 4818.

1037 **II.** (£10.)—LORD ROTHSCHILD, Tring Park, Herts., for **Daystar** (vol. xi. p. 230), whole colour, born Feb. 13, 1897, in-milk, calved March 29, 1905, bred by H. Padwick, Manor House, West Thorney, Emsworth; s. Jonathan 5609, *d.* Puss *by* Bessie's Monopolist 3080.

1039 **III.** (£5.)—LORD ROTHSCHILD, for **Syren 3rd** (vol. x. p. 346), broken colour, born April 26, 1896, in-milk, calved March 9, 1905, bred by John Le Ruez, St. Owen's, Jersey; s. La Chasse Prince 5243, *d.* Syren (2596) P.S.H.C. *by* Volunteer 2983.

1032 **R. N. & H. C.**—A. MILLER-HALLETT, for **Longueville Brownie 5th**.

Class 137.—*Jersey Heifers (in-milk), calved in 1903.*

[24 entries, 10 absent.]

1064 **I.** (£15.)—LORD ROTHSCHILD, Tring Park, Herts, for **Oxford Snowdrop** (vol. xv. p. 105), broken colour, born Jan. 27, in-milk, calved March 25, 1905; s. Oxford Duke 5314, *d.* Syren 3rd *by* La Chasse Prince 5243.

1065 **II.** (£10.)—LORD ROTHSCHILD, for **Venecia**, broken colour, born March 13, in-milk, calved June 4, 1905, bred by F. J. Dorey, Trinity, Jersey; s. Astor 7414, *d.* Vinnie (8491).

1058 **III.** (£5.)—MRS. MCINTOSH, Havering Park, Romford, for **Havering Glorissa 5th** (vol. xv. p. 70), fawn, born May 20, in-milk, calved April 30, 1905; s. Brompton 7118, *d.* Glorissa 3rd *by* Silver Grey 1805.

1051 **R. N. & H. C.**—W. C. COOPER, for **Fern's Twylish 3rd**.

Class 138.—*Jersey Heifers, calved in 1904.* [25 entries, 5 absent.]

1082 **I.** (£15.)—JAMES JOICEY, Poulton Priory, Fairford, for **Glorinda**, whole colour, born May 13; s. Chief Justice 7138, *d.* Havering Glorissa 2nd (vol. xiv. p. 278) *by* Havering Pride 6265.

1071 **II.** (£10.)—JOSEPH BRUTTON, 7 Princes Street, Yeovil, for **Pretty Princess**, black, born May 12; s. Pilot's Sultan (2795), *d.* Benita 4th *by* Golden Maid's Prince 7836.

1090 **III.** (£5.)—LORD ROTHSCHILD, Tring Park, Herts, for **Sweet Pansy**, broken colour, born April 17; s. Barrister 7719, *d.* Sweet Violet (vol. xiv. p. 362) *by* Beauty's Greycoat.

1072 **R. N. & H. C.**—EARL CADOGAN, K.G., Culford Hall, for **Nebraska**.

¹ Special Prize of £10 10s. given by the Royal Jersey Agricultural Society for the best Jersey Bull in Classes 133-135, provided its Dam has won a Prize or Certificate of Merit in any Butter Test Competition recognised by the English Jersey Cattle Society.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 139.—*Milk Yield Prizes, open to Jersey Cows and Heifers entered in Classes 136 or 137 only.* [19 entries, 4 absent.]

- 1025 **I.** (£10.)—THE BISHOP OF IPSWICH, Burgh House, Gt. Yarmouth, for **Lady Teasel** (vol. x. p. 276), broken colour, born Jan. 4, 1897, in-milk, calved April 16, 1905, bred by Dr. Watney, Buckhold, Pangbourne; s. Lord of the Western Isles 5969, *d.* Wild Teasel *by* Bard 2212.
- 1026 **II.** (£5.)—THE BISHOP OF IPSWICH, for **Oxford Dewdrop** (vol. xi. p. 302), broken colour, born March 28, 1897, in-milk, calved April 10, 1905, bred by Lord Rothschild, Tring Park, Herts; s. Planet 5332, *d.* Oxford Daffodil *by* Nunthorpe 4648.
- 1041 **III.** (£3.)—CAPT. J. W. SMITH-NEILL, Wendover Lodge, Bucks, for **Geraldine** (vol. xiv. p. 265), whole colour, born Oct. 19, 1900, in-milk, calved March 4, 1905, bred by Mrs. Dauncey, Winslow; s. Brian 6479, *d.* Girdle *by* Scrip 4370.
- 1039 **R. N. & H. C.**—LORD ROTHSCHILD, Tring Park, Herts, for **Syren 3rd**.

Guernseys.

N.B.—Unless otherwise stated, the numbers refer to the *English Guernsey Herd Book*.

Class 140.—*Guernsey Bulls, calved in 1901 or 1902.* [2 entries.]

- 1094 **I.** (£15.)—H. M. OZANNE, Lilyvale, Castel, Guernsey, for **Golden Jewel 1336**, P.S., R.G.A.S., fawn and white, born Sept. 4, 1902; s. Harley of Chitral 1182, P.S., R.G.A.S., *d.* Rose of Gold 3668, P.S., R.G.A.S.
- 1095 **R. N. & H. C.**—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for **His Grace 2nd**.

Class 141.—*Guernsey Bulls, calved in 1903.* [9 entries, none absent.]

- 1101 **I.** (£15.)—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for **Roland of Seaview 10th 1621**, fawn and white, born Aug. 8, bred by W. A. Glynn, Seagrove, Seaview, Isle of Wight; s. Roland of Seaview 2nd 1243, *d.* Seaview Rose 3921 *by* Billy.
- 1096 **II.** (£10.)—E. A. HAMBRO, Hayes Place, Hayes, Kent, for **Charleston 1646**, fawn, born April 26, bred by A. Rougier, St. Saviour's, Guernsey; s. Charleston 1378, P.S., R.G.A.S., *d.* May Rose of the New Place 5180, P.S., R.G.A.S.
- 1104 **III.** (£5.)—COL. H. W. SHAKERLEY, Burgate, Godalming, for **Picton 1699**, orange and white, born June 4, bred by J. Le Page, Villosq Farm, Castel, Guernsey; s. Interest 1st (1366), P.S., R.G.A.S., *d.* Bon Espoir 10th (4963), P.S., R.G.A.S.
- 1099 **R. N. & H. C.**—C. E. HOGG, Alltrees, Horsham, for **Fair Lad of the Barras**.

Class 142.—*Guernsey Bulls, calved in 1904.* [7 entries, none absent.]

- 1109 **I.** (£15.)—J. PIERPONT MORGAN, Dover House, Roehampton, for **Coronation King 3rd 1556**, P.S., R.G.A.S., red and white, born May 12, bred by R. Alexandre, La Villiaze, Forest, Guernsey; s. Governor of the Chêne 1297, P.S., R.G.A.S., *d.* Butter Queen 1983, F.S., R.G.A.S.,
- 1107 **II.** (£10.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for **Merton Signet 1691**, fawn and white, born May 20; s. Reuben 2nd 1416, *d.* Signalmina 4647 *by* Signalman 585.
- 1111 **III.** (£5.)—COL. H. W. SHAKERLEY, Burgate, Godalming, for **Burgate Holden 3rd 1642**, pale red, born June 11; s. Burgate Holden 1358, *d.* Maid of Calais 2nd 4550 *by* Captain Parry 971.
- 1105 **R. N. & H. C.**—E. A. HAMBRO, Hayes Place, Hayes, Kent, for **Hayes Truro**.

Class 143.—*Guernsey Cows or Heifers (in-milk), calved before or in 1902.* [16 entries, 2 absent.]

- 1114 **I.** (£15.)—E. A. HAMBRO, Hayes Place, Hayes, Kent, for **Queen of Roses 5285**, fawn, born Sept. 3, 1898, in-milk, calved May 15, 1905, bred by H. M. Ozanne, Lilyvale, Castel, Guernsey; s. Nomadic, *d.* Queen.
- 1123 **II.** (£10.)—H. M. OZANNE, Lilyvale, Castel, Guernsey, for **Lady Roberts 2116**, F.S., R.G.A.S., fawn and white, born Feb. 5, 1895, in-milk, calved April 21, 1905, bred by C. Kelly, Little Street, Alderney.
- 1126 **III.** (£5.)—H. C. STEPHENS, Cholderton, Salisbury, for **Itchen Claudia 5152**, fawn, born April 14, 1899, in-milk, calved May 3, 1905, bred by J. W. Martel, Preel, Guernsey; s. Orson 296, F.S., R.G.A.S., *d.* Itchen Daisy of the Preel 5154.
- 1113 **R. N. & H. C.**—E. A. HAMBRO, for **Golden Cherry**.

Class 144.—*Guernsey Heifers, calved in 1903.* [12 entries, 2 absent.]

- 1139 **I.** (£15.)—H. C. STEPHENS, Cholderton, Salisbury, for **Itchen Belle 5th 5845**, red and white, born May 8, bred by Sir H. D. Tichborne, Bt., Alresford; s. Rival 1343, *d.* Itchen Belle 2nd 5150 *by* Itchen Jewel 1112.
- 1129 **II.** (£10.)—E. A. HAMBRO, Hayes Place, Hayes, Kent, for **Hayes Impériale 5834**, fawn and white, born April 24; s. Merry Anton 1400, *d.* Impériale 5147 *by* Squire Bob.

cxiv *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1136 **III.** (£5.)—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for **Cleopatra of Goodnestone 2nd** 5757 red and white, born April 22; s. Sly Boots 1351, *d.* Claremont Cleopatra 3rd 4006 *by* Claremont the Benedict 977.

1132 **R. N. & H. C.**—SIR H. LENNARD, BT., for **Wickham Buttercup 2nd.**

Class 145.—*Guernsey Heifers, calved in 1904.* [11 entries, 1 absent.]

1145 **I.** (£15.)—H. M. OZANNE, Lilyvale, Castel, Guernsey, for **Sensitive 6th** 5165, P.S., R.G.A.S., fawn and white, born Feb. 3; s. Golden Secret 1314, P.S., R.G.A.S., *d.* Sensitive 4th 3882, P.S., R.G.A.S.

1141 **II.** (£10.)—E. A. HAMBRO, Hayes Place, Hayes, Kent, for **Hayes Olive 2nd** 6170, fawn and white, born May 31; s. Coronation King 1556, *d.* Olive Branch 5258 *by* Billy.

1143 **III.** (£5.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for **Fairy Footsteps** 6129, fawn and white, born Feb. 2, bred by J. W. Martel, Preel, Castel, Guernsey; s. Squire of Les Sages 2nd 1318, P.S., R.G.A.S., *d.* Miranda of the Preel 2157, F.S., R.G.A.S.

1147 **R. N. & H. C.**—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for **Muriel 15th.**

Class 146.—*Milk Yield Prizes, open to Guernsey Cows and Heifers entered in Class 143 only.* [10 entries, none absent.]

1120 **I.** (£10.)—SIR H. LENNARD, BT., Wickham Court, West Wickham, Kent, for **Lady 77th** 4134, red and white, born Nov. 24, 1898, in-milk, calved March 27, 1905, bred by Sir J. F. Lennard, Bt., Wickham Court; s. Lady Rowse 801, *d.* Lady 64th 3051 *by* Claude 298.

1114 **II.** (£5.)—E. A. HAMBRO, Hayes Place, Hayes, for **Queen of Roses.** (See Class 143.)

1123 **III.** (£3.)—H. M. OZANNE, Castel, Guernsey, for **Lady Roberts.** (See Class 143.)

1112 **R. N. & H. C.**—E. A. HAMBRO, for **Express.**

Longhorns.

Class 147.—*Longhorn Bulls, calved in 1901, 1902, or 1903.*

[4 entries, 1 absent.]

1154 **I.** (£15.)—W. L. RILEY, Wyken House, Coventry, for **Wychnor Prince** 437, dark brindle and white, born March 25, 1902, bred by Basil T. Levett, Wychnor Park, Burton-on-Trent; s. Wychnor Primus 400, *d.* Primrose *by* Earl Upton 10th 307.

1151 **II.** (£10.)—MRS. M. M. CHEAPE, Bentley Manor, Redditch, for **Bentley Chieftain** 406, brindle, born Jan. 7, 1903; s. Chieftain 378, *d.* Bride *by* Cæsar 293.

1152 **R. N. & H. C.**—THE HON. E. A. FITZROY, M.P., for **Duke Lollo.**

Class 148.—*Longhorn Bulls, calved in 1904.*¹ [3 entries.]

1155 **I.** (£10.)—THE HON. E. A. FITZROY, M.P., Fox Hill, West Haddon, Rugby, for **Impious**, brindle and white, born Mar. 7; s. President 390, *d.* Ismay *by* Earl of Upton 12th 384.

1156 **II.** (£5.)—LORD GERARD, Eastwell Park, Ashford, Kent, for **Eastwell Earl**, dark brindle and white, born Feb. 27; s. Rufus 394, *d.* Countess of Stowe *by* Pretender 2nd 334.

1157 **R. N. & H. C.**—W. H. SALE, Arden Hill, Atherstone, for **Arden Model.**

Class 149.—*Longhorn Cows or Heifers (in-milk), calved before or in 1902.*

[6 entries, none absent.]

1159 **I.** (£15.)—MRS. M. M. CHEAPE, Bentley Manor, Redditch, for **Polly 2nd** (vol. ii. p. 34), brindle, born in March 1897, in-milk, calved May 21, 1905, bred by H. Jasper Selwyn, Leek Wootton; s. Pretender 2nd 334, *d.* Polly *by* Punch 345.

1163 **II.** (£10.)—W. H. SALE, Arden Hill, Atherstone, for **Perfection** (vol. iii. p. 15), dark brindle and white, born April 24, 1900, in-milk, calved Dec. 18, 1904; s. Oxley's Stowe Duke 327, *d.* Fradley Beauty *by* The Duke 361.

1158 **III.** (£5.)—MRS. M. M. CHEAPE, for **Phœbe** (vol. iv. p. 28), brindle, born Aug. 25, 1900, in-milk, calved Jan. 24, 1905, bred by H. Jasper Selwyn, Leek Wootton; s. Kenilworth 317, *d.* Upton Brindle Beauty *by* Earl of Upton 10th 307.

1161 **R. N. & H. C.**—W. H. SALE, for **Fradley Queen.**

Class 150.—*Longhorn Heifers, calved in 1903 or 1904.*¹

[5 entries, 2 absent.]

1166 **I.** (£10.)—LORD GERARD, Eastwell Park, Ashford, Kent, for **Lady Emily** (vol. iv. p. 20), grizzle and white, born Jan. 22, 1903, bred by J. R. Watson, South Mosses, Lamplugh, Cumberland; s. Young Bowhorn 438, *d.* Dewdrop *by* Baddesley 289.

¹ Prizes given by the Longhorn Cattle Society.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1164 II. (£5.)—MRS. M. M. CHEAPE, Bentley Manor, Redditch, for **Bentley Phœbe**, dark brindle, born Feb. 10, 1903; s. **Pride of Upton 392**, *d.* **Phœbe** (vol. iv. p. 28) *by* **Kenilworth 317**.

1168 R. N. & H. C.—W. H. SALE, Arden Hill, Atherstone, for **Arden Pansy 3rd**.

Class 151.—*Milk Yield Prizes, open to Longhorn Cows and Heifers entered in Class 149 only.* [2 entries. No award.]

Kerries.

N.B.—In the Kerry Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Irish Kerry Herd Book. A number without brackets indicates that the animal is registered in the English Kerry Herd Book.

Class 152.—*Kerry Bulls, calved in 1901, 1902, or 1903.*

[7 entries, 2 absent.]

1173 I. (£15, & R. N. for **Champion**.¹)—THE DUCHESS OF NEWCASTLE, Clumber, Worksop, for **La Mancha Gordon 121**, F.S., born in 1901, bred by J. E. Butler, Waterville, Co. Kerry.

1174 II. (£10.)—D. M. RATTRAY, Gortnaskehy, Ballybunion, for **Gort Conn (545)**, born April 6, 1902, bred by Viscount de Vesce, Abbeyleix; s. **Coomdubh (440)**, *d.* **Lady Castletown 5th (2484)** *by* **Waterville Knight (368)**.

1172 III. (£5.)—LADY GREENALL, Walton Hall, Warrington, for **Marquis 8th of Carton (561)**, born March 8, 1903, bred by the Duke of Leinster, Carton, Maynooth; s. **Dermot (468)**, *d.* **Orchid 2nd of Carton (2377)** *by* **Nuadhat (302)**.

1171 R. N. & H. C.—CLIFFORD J. CORY, for **Llantarnam Libertine**.

Class 153.—*Kerry Cows or Heifers (in-milk), calved before or in 1902.*

[14 entries, none absent.]

1185 I. (£15, & **Champion**.¹)—THE DUCHESS OF NEWCASTLE, Clumber, Worksop, for **Hardwick Flora 483**, born April 23, 1898, in-milk, calved April 18, 1905; s. **Kidmore Floral King 71**, *d.* **Sheen 5th 430** *by* **The O'Dowd (112)**.

1178 II. (£10.)—CLIFFORD J. CORY, Llantarnam Abbey, Newport, Mon., for **Patricia an Ceathramhadh (2337)**, born April 13, 1896, in-milk, calved March 15, 1905, bred by Pierce Mahony, Kilmorna, Listowel, Co. Kerry; s. **Desmond (285)**, *d.* **Patricia an Treas (1616)** *by* **Curoi (66)**.

1189 III. (£5.)—R. TAIT ROBERTSON, La Mancha, Malahide, Co. Dublin, for **La Mancha Mary Ann**, born in 1900, in-milk, calved April 15, 1905, breeder unknown.

1176 R. N. & H. C.—CLIFFORD J. CORY, for **Attingham Pet**.

Class 154.—*Kerry Heifers, calved in 1903 or 1904.*²

[9 entries, 1 absent.]

1195 I. (£5.)—D. M. RATTRAY, Gortnaskehy, Ballybunion, for **Gort Raven (3321)**, born in 1903, breeder unknown.

1196 II. (£3.)—R. TAIT ROBERTSON, La Mancha, Malahide, for **La Mancha Twilight**, born in 1903, breeder unknown.

1198 III. (£2.)—COL. V. W. B. VAN-DE-WEYER, New Lodge, Windsor, for **Pearl**, born Feb. 10, 1904; s. **Forest Earl 2nd of Carton 99**, *d.* **Forest Volatile 96**, F.S.

1194 R. N. & H. C.—GEORGE LL. PALMER, Lackham, Lacock, Wilts, for **Lackham Shamrock**.

Class 155.—*Milk Yield Prizes, open to Kerry Cows and Heifers entered in Class 153 only.* [9 entries, none absent.]

1183 I. (£10.)—LADY GREENALL, Walton Hall, Warrington, for **Walton Joyous 574**, born April 10, 1902, in-milk, calved May 7, 1905; s. **Marquis 3rd of Carton 108**, *d.* **Walton Joy 507** *by* **Coco (384)**.

1181 II. (£5.)—MURIEL, COUNTESS DE LA WARR, Old Lodge, Ashdown Forest, Nutley, for **La Mancha Vesta 128**, F.S., born in 1894, in-milk, calved April 2, 1905, breeder unknown.

1182 III. (£3.)—LADY GREENALL, for **Maple 4th of Carton 492**, born March 8, 1899, in-milk, calved April 17, 1905, bred by the Duke of Leinster, Carton, Maynooth; s. **Abbeyleix Mackineely (346)**, *d.* **Maple (609)**.

1177 R. N. & H. C.—CLIFFORD J. CORY, Llantarnam Abbey, Newport, Mon., for **La Mancha Turtle Dove**.

¹ Challenge Cup, value Twenty-five Guineas, given by the English Kerry and Dexter Cattle Society for the best Kerry animal exhibited in Classes 152-154, the Cup to become the property of an Exhibitor winning it three years in succession.

² Prizes given by the English Kerry and Dexter Cattle Society.

cxvi *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Dexters.

N.B.—In the Dexter Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Irish Dexter Herd Book. A number without brackets indicates that the animal is registered in the English Dexter Herd Book.

Class 156.—*Dexter Bulls, calved in 1901, 1902, or 1903.*

[15 entries, 3 absent.]

- 1202 **I.** (£15, & **Champion.**¹)—G. J. B. CHETWYND, Park Lane Hall, Doncaster, for **Don Gentian** 244, black, born March 16, 1902, bred by Mrs. E. A. Leatham, Hinton House, Brackley; s. La Mancha Dick 157, *d.* Little Nell 650 *by* Grandaddy 200.
- 1200 **II.** (£10.)—F. P. BULLEY, Marston Hill, Fairford, for **Marston Tom Thumb**, black, born Sept. 20, 1903; s. Cowbridge Jock 174, *d.* La Mancha Rosie 868.
- 1212 **III.** (£5.)—R. TAIT ROBERTSON, La Mancha, Malahide, for **La Mancha Little Jim**, black, born April 27, 1903, bred by Frank Robertson, Springfield, Lisburn; s. Zulu (441), *d.* Slane Cherry (1719).
- 1206 **R. N. & H. C.**—THE DUCHESS OF DEVONSHIRE, for **Compton Dido**.

Class 157.—*Dexter Cows or Heifers (in-milk), calved before or in 1902.*

[20 entries, 1 absent.]

- 1219 **I.** (£15, & **R. N. for Champion.**¹)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for **Compton Dot** 809, black, born in 1897, in-milk, calved May 6, 1905, breeder unknown.
- 1222 **II.** (£10.)—H. M. GIBBS, Barrow Court, Bristol, for **Barrow Gunga**, black, born in 1901, in-milk, calved June 4, 1905, breeder unknown.
- 1216 **III.** (£5.)—BALDOMERO DE BERTODANO, Cowbridge House, Malmesbury, for **Cowbridge Lorna** 1163, black, born in 1900, in-milk, calved April 22, 1905, breeder unknown.

1218 **R. N. & H. C.**—THE DUCHESS OF DEVONSHIRE, for **Compton Dorcas**.

Class 158.—*Dexter Heifers, calved in 1903 or 1904.*² [17 entries, 2 absent.]

- 1249 **I.** (£5.)—THE COUNTESS OF SEFTON, Croxteth Hall, Liverpool, for **Gort My Queen** (2159), black, born in Jan. 1903, breeder unknown.
- 1235 **II.** (£3.)—G. J. B. CHETWYND Park Lane Hall, Doncaster, for **Don Grevillia** 1172, black, born in 1903, breeder unknown.
- 1239 **III.** (£2.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for **Compton Dorothy**, black, born in 1903, breeder unknown.
- 1241 **R. N. & H. C.**—H. M. GIBBS, Barrow Court, Bristol, for **Barrow Brunette**.

Class 159.—*Milk Yield Prizes, open to Dexter Cows and Heifers entered in Class 157 only.* [10 entries none absent.]

- 1219 **I.** (£10.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for **Compton Dot**. (See Class 157.)
- 1218 **II.** (£5.)—THE DUCHESS OF DEVONSHIRE, for **Compton Dorcas**. (See Class 157.)
- 1216 **III.** (£3.)—BALDOMERO DE BERTODANO, Cowbridge House, Malmesbury, for **Cowbridge Lorna**. (See Class 157.)
- 1222 **R. N. & H. C.**—H. M. GIBBS, Barrow Court, Bristol, for **Barrow Gunga**.

Butter Tests. [42 entries, 5 absent.]

Class 160A.—*Cows, of any age, breed, or cross, exceeding 900 lb. live weight.*³

- 1262 **I.** (£15, **S. M.,**⁴ & **S. P. £10.**⁵)—DR. HERBERT WATNEY, Buckhold, Pangbourne, for **Guénon's Lady** (Jersey) (vol. xiii. p. 273), fawn, born March 20, 1899, calved March 24, 1905; s. Mariette's Guénon 6325, *d.* Lady of the Sunny Isles *by* Just.
- 1258 **II.** (£10, **B. M.,**⁴ & **S. P. £5.**⁵)—A. MILLER-HALLETT, Goddington, Chelsfield, for **Salvadora** (Jersey) (vol. xiii. p. 344), broken colour, born March 18, 1899, calved Jan. 27, 1905, bred by J. de Fen, St. Owen's, Jersey; s. Angler 2nd 6122, *d.* Clairvoyante 2nd (3601), P.S.H.C., *by* Leonidas 3461.
- 1266 **III.** (£5.)—DR. HERBERT WATNEY, for **Violette** (Jersey) (vol. xv. p. 405), fawn, born in 1897, calved March 26, 1905, bred by T. J. Vautier, St. Saviour's, Jersey.
- 1039 **R. N. & H. C.**—LORD ROTHSCHILD, Tring Park, Herts, for **Syren** 3rd.

¹ Challenge Cup, value Twenty-five Guineas, given by the English Kerry and Dexter Cattle Society for the best Dexter Animal in Classes 156-158, the Cup to become the property of an Exhibitor winning it three years in succession.

² Prizes given by the English Kerry and Dexter Cattle Society.

³ Prizes given by the English Jersey Cattle Society.

⁴ Gold, Silver, and Bronze Medals were given by the English Jersey Cattle Society for the three Jersey Animals entered or eligible for entry in the English Jersey Herd Book, which obtained the greatest number of points in the Butter Tests.

⁵ Special Prizes of £20, £10, and £5 were given by the English Jersey Cattle Society for the three Cows in Class 160A and 160B obtaining the greatest number of points in the competition.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 160B.—*Cows, of any age, breed, or cross, not exceeding 900 lb. live weight.*¹

1252 I. (£15, G. M.,² & S. P. £20³)—LADY DE ROTHSCHILD, Aston Clinton, Tring, for Lady Dora (Jersey) (vol. xiv. p. 294), broken colour, born in 1899, calved Jan. 16, 1905, bred by P. Audrain, St. John's, Jersey.

1267 II. (£10.)—DR. HERBERT WATNEY, Buckhold, Pangbourne, for Wild Teasel 2nd (Jersey) (vol. xiv. p. 374), fawn, born Oct. 27, 1899, calved Jan. 18, 1905; s. Mariette's Guénon 6325, d. Wild Teasel by The Bard 2212.

1026 III. (£5.)—THE BISHOP OF IPSWICH, Burgh House, Gt. Yarmouth, for Oxford Dewdrop. (See Class 139.)

1025 R. N. & H. C.—THE BISHOP OF IPSWICH, for Lady Teasel.

Special Milk Yield Prizes.

Class 161.—*Cows (in-milk), of any age, breed, or cross, judged by points under Regulation 73 of Prize Sheet.*¹ [46 entries, 7 absent.]

1252 I. (£20.)—LADY DE ROTHSCHILD, for Lady Dora. (See Class 160B.)

1267 II. (£10.)—DR. HERBERT WATNEY, for Wild Teasel 2nd. (See Class 160B.)

624 III. (£5.)—GEORGE TAYLOR, Cranford, Middlesex, for Melody. (See Class 77.)

645 R. N. & H. C.—JOHN EVENS, Burton, Lincoln, for Burton Primrose 2nd.

SHEEP.

Oxford Downs.

Class 162.—*Oxford Down Shearling Rams.* [13 entries, 1 absent.]

1271 I. (£10.)—ALBERT BRASSEY, M.P., Heythrop Park, Chipping Norton; s. Heythrop.

1272 II. (£6.)—ALBERT BRASSEY, M.P.; s. Southleigh 3524.

1275 III. (£4), & 1276 IV. (£2.⁴)—JAMES T. HOBBS, Maisey Hampton, Fairford.

1282 R. N. & H. C.—HUGH W. STILGOE, The Grounds, Adderbury, Banbury.

Class 163.—*Pens of Three Oxford Down Ram Lambs.* [15 entries, 1 absent.]

1288 I. (£10), & 1289 IV. (£2.⁴)—ROBERT W. HOBBS, Kelmscott, Lechlade.

1298 II. (£6.)—W. A. TREWEEKE, Ryne Hill, Chipping Norton; s. Lynton 3908.

1286 III. (£4), & 1287 R. N. & H. C.—JAMES T. HOBBS, Maisey Hampton, Fairford.

Class 164.—*Pens of Three Oxford Down Shearling Ewes, of the same Flock.*
[7 entries, 1 absent.]

1299 I. (£10.)—ALBERT BRASSEY, M.P., Heythrop Park, Chipping Norton.

1302 II. (£6), & 1303 III. (£4.)—JAMES T. HOBBS, Maisey Hampton, Fairford.

1300 IV. (£2.⁴)—GEORGE HANKINS, Glebe Farm, Achurch, Oundle; s. Faringdon 3868.

1304 R. N. & H. C.—JAMES HORLICK, Cowley Manor, Cheltenham.

Class 165.—*Pens of Three Oxford Down Ewe Lambs.*
[10 entries, 1 absent.]

1309 I. (£10.)—JAMES T. HOBBS, Maisey Hampton, Fairford.

1311 II. (£6.)—JAMES HORLICK, Cowley Manor, Cheltenham.

1314 III. (£4), & 1315 IV. (£2.⁴)—W. A. TREWEEKE, Ryne Hill, Chipping Norton.

1310 R. N. & H. C.—ROBERT W. HOBBS, Kelmscott, Lechlade.

Shropshires.

Class 166.—*Shropshire Two-Shear Rams.*⁵ [6 entries, 2 absent.]

1317 I. (£8.)—R. P. COOPER, Ashlyns, Berkhamsted.

1318 II. (£4.)—THOMAS FENN, Stonebrook House, Ludlow.

1316 R. N. & H. C.—A. S. BERRY, Church Farm, Whittington, Lichfield.

¹ Prizes given by the English Jersey Cattle Society.

² Gold, Silver, and Bronze Medals were given by the English Jersey Cattle Society for the three Jersey animals entered or eligible for entry in the English Jersey Herd Book, which obtained the greatest number of points in the Butter Tests.

³ Special Prizes of £20, £10, and £5 were given by the English Jersey Cattle Society for the three Cows in Class 160A and 160B obtaining the greatest number of points in the competition.

⁴ Given by the Oxford Down Sheep Breeders' Association.

⁵ Prizes given by the Shropshire Sheep Breeders' Association.

cxviii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 167.—*Shropshire Shearling Rams.* [23 entries, 1 absent.]

- 1343 I. (£10.)—MATTHEW WILLIAMS, Whiston Hall, Albrighton, Wolverhampton.
1328 II. (£6.), & 1327 R. N. & H. C.—R. P. COOPER, Ashlyns, Berkhamsted.
1340 III. (£4.)—EDWARD NOCK, Harrington Hall, Shifnal.

Class 168.—*Pens of Five Shropshire Shearling Rams, of the same Flock.*¹
[14 entries, none absent.]

- 1348 I. (£15.)—R. P. COOPER, Ashlyns, Berkhamsted.
1358 II. (£10.)—MATTHEW WILLIAMS, Whiston Hall, Albrighton, Wolverhampton.
1355 III. (£5.)—SIR P. ALBERT MUNTZ, BT., M.P., Dunsmore, Rugby.
1356 R. N. & H. C.—EDWARD NOCK, Harrington Hall, Shifnal.

Class 169.—*Special Selling (Auction) Shearling Rams.*¹
[28 entries, none absent.]

- 1327 I. (£20.)—R. P. COOPER, Ashlyns, Berkhamsted.
1348 II. (£15.), III. (£10.), & R. N. & H. C.—R. P. COOPER.
1364 IV. (£5.)—BERNARD WALL, Hazelwood, Coleshill, Warwickshire.

Class 170.—*Pens of Three Shropshire Ram Lambs.* [10 entries, 2 absent.]

- 1375 I. (£10.)—EDWARD NOCK, Harrington Hall, Shifnal.
1369 II. (£6.)—R. P. COOPER, Ashlyns, Berkhamsted.
1371 III. (£4.)—JOHN HARDING, Norton House, Shifnal.
1374 R. N. & H. C.—T. S. MINTON, Montford, Shrewsbury.

Class 171.—*Pens of Three Shropshire Shearling Ewes, of the same Flock.*
[7 entries, none absent.]

- 1379 I. (£10.), & 1380 II. (£6.)—R. P. COOPER, Ashlyns, Berkhamsted.
1384 III. (£4.)—SIR P. ALBERT MUNTZ, BT., M.P., Dunsmore, Rugby.
1383 R. N. & H. C.—PHILO L. MILLS, Ruddington Hall, Nottingham.

Class 172.—*Pens of Three Shropshire Ewe Lambs.* [9 entries, 1 absent.]

- 1390 I. (£10.)—T. S. MINTON, Montford, Shrewsbury.
1388 II. (£6.)—JOHN HARDING, Norton House, Shifnal.
1391 III. (£4.)—EDWARD NOCK, Harrington Hall, Shifnal.
1393 R. N. & H. C.—ALFRED TANNER, Shrawardine, Shrewsbury.

Southdowns.

Class 173.—*Southdown Two-Shear Rams.*² [19 entries, 4 absent.]

- 1409 I. (£10, & R. N. for Champion.³)—THE DUKE OF NORTHUMBERLAND, K.G., Albury Park, Guildford, bred by Earl Cadogan, K.G., Culford Hall, Bury St. Edmunds.
1412 II. (£6.)—THE DUKE OF RICHMOND AND GORDON, K.G., Goodwood, Chichester.
1395 III. (£4.)—H.M. THE KING, Sandringham.
1407 R. N. & H. C.—EDWIN ELLIS, Summersbury Hall, Shalford, Guildford.

Class 174.—*Southdown Shearling Rams.* [27 entries, 1 absent.]

- 1414 I. (£10, & Champion³), & 1415 III. (£4.)—H.M. THE KING, Sandringham.
1435 II. (£6.)—THE DUKE OF RICHMOND AND GORDON, K.G., Goodwood, Chichester.
1419 R. N. & H. C.—C. H. BERNERS, Woolverstone Park, Ipswich.

Class 175.—*Pens of Three Southdown Shearling Rams, of the same Flock.*²
[12 entries, none absent.]

- 1441 I. (£10.)—H.M. THE KING, Sandringham.
1446 II. (£6.)—THE DUKE OF DEVONSHIRE, K.G., Compton Place, Eastbourne.
1447 III. (£4.)—EDWIN ELLIS, Summersbury Hall, Shalford, Guildford.
1449 R. N. & H. C.—THE DUKE OF NORTHUMBERLAND, K.G., Albury Park, Guildford.

Class 176.—*Pens of Three Southdown Ram Lambs.* [18 entries, 3 absent.]

- 1462 I. (£10.)—EDWIN ELLIS, Summersbury Hall, Shalford, Guildford.
1454 II. (£6.), & 1455 III. (£4.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
1453 R. N. & H. C.—H.M. THE KING, Sandringham.

¹ Prizes given by the Shropshire Sheep Breeders' Association.

² Prizes given by the Southdown Sheep Society.

³ Gold Medal, value £10 10s., given by the Southdown Sheep Society for the best Southdown Ram in Classes 173 and 174.

South Down, Hampshire Down, and Suffolk Sheep. cxix

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 177.—*Pens of Three Southdown Shearling Ewes, of the same Flock.*

[14 entries, 3 absent.]

- 1471 **I.** (£10, & Silver Medal.¹)—H.M. THE KING, Sandringham.
1477 **II.** (£6, & R. N. for Silver Medal.¹)—EDWIN ELLIS, Summersbury Hall, Shalford.
1476 **III.** (£4.)—THE DUKE OF DEVONSHIRE, K.G., Compton Place, Eastbourne.
1474 **R. N. & H. C.**—EARL CADOGAN, K.G., Culford Hall, Bury St. Edmunds.

Class 178.—*Pens of Three Southdown Ewe Lambs.* [14 entries, 2 absent.]

- 1493 **I.** (£10.)—EDWIN ELLIS, Summersbury Hall, Shalford, Guildford.
1486 **II.** (£6.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
1485 **III.** (£4.)—H.M. THE KING, Sandringham.
1495 **R. N. & H. C.**—EDWIN HENTY, The Grange, Ferring, Worthing.

Hampshire Downs.

Class 179.—*Hampshire Down Two-Shear Rams.*² [5 entries, none absent.]

- 1500 **I.** (£10.)—CARY COLES, Manor House, Winterbourne Stoke, Salisbury, for **Stonehenge 73rd**; s. King Cole 4616.
1503 **II.** (£5.)—H. C. STEPHENS, Cholderton, Salisbury.
1499 **R. N. & H. C.**—THOMAS F. BUXTON, Waters Place, Ware.

Class 180.—*Hampshire Down Shearling Rams.* [18 entries, 1 absent.]

- 1515 **I.** (£10.)—JAMES FLOWER, Chilmark, Salisbury.
1506 **II.** (£6.)—THOMAS F. BUXTON, Waters Place, Ware.
1508 **III.** (£4.)—CARY COLES, Manor House, Winterbourne Stoke, Salisbury.
1510 **R. N. & H. C.**—H. L. CRIPPS, Shifford, Bampton, for **Shifford No. 38.**

Class 181.—*Pens of Three Hampshire Down Ram Lambs.*

[15 entries, 1 absent.]

- 1527 **I.** (£10, & Champion.³)—JAMES FLOWER, Chilmark, Salisbury.
1534 **II.** (£6.)—SIR WILLIAM G. PEARCE, BT., Chilton Lodge, Hungerford.
1535 **III.** (£4.)—H. C. STEPHENS, Cholderton, Salisbury.
1524 **R. N. & H. C.**—CARY COLES, Manor House, Winterbourne Stoke, Salisbury.

Class 182.—*Pens of Three Hampshire Down Shearling Ewes, of the same Flock.*

[6 entries, none absent.]

- 1541 **I.** (£10), & 1542 **II.** (£6.)—JAMES FLOWER, Chilmark, Salisbury.
1539 **III.** (£4.)—THOMAS F. BUXTON, Waters Place, Ware.
1540 **R. N. & H. C.**—H. L. CRIPPS, Shifford, Bampton.

Class 183.—*Pens of Three Hampshire Down Ewe Lambs.*

[14 entries, 1 absent.]

- 1555 **I.** (£10, & R. N. for Champion.³)—H. C. STEPHENS, Cholderton, Salisbury.
1554 **II.** (£6.)—SIR WILLIAM G. PEARCE, BT., Chilton Lodge, Hungerford.
1545 **III.** (£4.)—CARY COLES, Manor House, Winterbourne Stoke, Salisbury.
1548 **R. N. & H. C.**—JAMES FLOWER, Chilmark, Salisbury.

Suffolks.

Class 184.—*Suffolk Two-Shear Rams.*⁴ [5 entries, 2 absent.]

- 1558 **I.** (£10.)—ROBERT BARCLAY, Desnage Lodge Farm, Higham, Bury St. Edmunds for **Higham 67th.**
1557 **II.** (£6.)—ROBERT BARCLAY, for **Higham 66th.**

Class 185.—*Suffolk Shearling Rams.* [8 entries, 1 absent.]

- 1565 **I.** (£10.)—M. G. HALE, Claydon, for **Claydon Choice**; s. Claydon Amalgamation.
1568 **II.** (£6.)—HERBERT E. SMITH, The Grange, Walton, Suffolk.
1566 **III.** (£4.)—S. R. SHERWOOD, Playford, Ipswich; s. Playford Model 7731.
1562 **R. N. & H. C.**—ROBERT BARCLAY, Higham, Bury St. Edmunds, for **Higham 69th.**

Class 186.—*Suffolk Ram Lambs.*⁴ [6 entries, none absent.]

- 1573 **I.** (£10), & 1574 **III.** (£4.)—HERBERT E. SMITH, The Grange, Walton, Suffolk.
1575 **II.** (£6.)—S. & F. TRAYLEN, Manor House, Honington, Bury St. Edmunds.
1572 **R. N. & H. C.**—S. R. SHERWOOD, Playford, Ipswich.

¹ Given by the Southdown Sheep Society for the best Pen of Ewes or Ewe Lambs in Classes 177 and 178.

² Prizes given by the Hampshire Down Sheep Breeders' Association.

³ Prize of £10 given by the Hampshire Down Sheep Breeders' Association for the best Pen of Hampshire Down Ram Lambs or Ewe Lambs in Classes 181 and 183.

⁴ Prizes given by the Suffolk Sheep Society.

cxx *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 187.—*Pens of Three Suffolk Ram Lambs.* [5 entries, none absent.]

- 1579 I. (£10.)—HERBERT E. SMITH, The Grange, Walton, Suffolk.
1580 II. (£6.)—S. & F. TRAYLEN, Manor House, Honington, Bury St. Edmunds.
1578 III. (£4.)—S. R. SHERWOOD, Playford, Ipswich.
1577 R. N. & H. C.—M. G. HALE, Claydon, Suffolk.

Class 188.—*Pens of Three Suffolk Shearling Ewes, of the same Flock.*
[3 entries.]

- 1583 I. (£10.)—EARL CADOGAN, K.G., Culford Hall, Bury St. Edmunds.
1581 II. (£6), & 1582 III. (£4.)—ROBERT BARCLAY, Higham, Bury St. Edmunds.

Class 189.—*Pens of Three Suffolk Ewe Lambs.* [5 entries, none absent.]

- 1586 I. (£10.)—S. R. SHERWOOD, Playford, Ipswich.
1587 II. (£6.)—HERBERT E. SMITH, The Grange, Walton, Suffolk.
1588 III. (£4.)—S. & F. TRAYLEN, Manor House, Honington, Bury St. Edmunds.
1584 R. N. & H. C.—ROBERT BARCLAY, Higham, Bury St. Edmunds.

Lincolns.

Class 190.—*Lincoln Two-Shear Rams.*¹ [8 entries, 2 absent.]

- 1589 I. (£7, & Champion.²)—TOM CASSWELL, Pointon, Folkingham, for **Ajax**.
1594 II. (£3.)—HENRY DUDDING, Riby Grove, Great Grimsby, bred by R. & W. Wright, Nocton, Lincoln.
1595 R. N. & H. C.—HENRY DUDDING.

Class 191.—*Lincoln Shearling Rams.* [14 entries, 2 absent.]

- 1610 I. (£10, & R. N. for Champion.²)—R. & W. WRIGHT, Nocton Heath, Lincoln.
1607 II. (£6), & 1606 R. N. & H. C.—HENRY DUDDING, Riby Grove, Great Grimsby.
1599 III. (£4.)—TOM CASSWELL, Pointon, Folkingham.

Class 192.—*Pens of Five Lincoln Shearling Rams, of the same Flock.*¹
[7 entries, 1 absent.]

- 1617 I. (£15.)—R. & W. WRIGHT, Nocton Heath, Lincoln.
1612 II. (£10.)—TOM CASSWELL, Pointon, Folkingham.
1615 III. (£5.)—HENRY DUDDING, Riby Grove, Great Grimsby.
1611 R. N. & H. C.—J. E. CASSWELL, Laughton, Folkingham.

Class 193.—*Pens of Three Lincoln Ram Lambs.* [5 entries, 1 absent.]

- 1620 I. (£10), & 1621 II. (£6.)—HENRY DUDDING, Riby Grove, Great Grimsby.
1619 III. (£4), & 1618 R. N. & H. C.—S. E. DEAN & SONS, Dowsby Hall, Bourne.

Class 194.—*Pens of Three Lincoln Shearling Ewes, of the same Flock.*
[4 entries.]

- 1626 I. (£10), & 1625 II. (£6.)—R. & W. WRIGHT, Nocton Heath, Lincoln.
1624 III. (£4.)—HENRY DUDDING, Riby Grove, Great Grimsby.
1623 R. N. & H. C.—S. E. DEAN & SONS, Dowsby Hall, Bourne.

Class 195.—*Pens of Three Lincoln Ewe Lambs.* [4 entries.]

- 1627 I. (£10), & 1628 II. (£6.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.
1629 III. (£4), & 1630 R. N. & H. C.—HENRY DUDDING, Riby Grove, Great Grimsby.

Class 196.—*Pens of Three Lincoln Ewe Hoggets, in wool.*¹
[4 entries, 1 absent.]

- 1633 I. (£10), & 1632 II. (£5.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.
1634 III. (£3.)—HENRY DUDDING, Riby Grove, Great Grimsby.

Leicesters.

Class 197.—*Leicester Shearling Rams.* [8 entries, 1 absent.]

- 1638 I. (£10), & 1639 R. N. & H. C.—E. F. JORDAN, Eastburn, Driffield.
1635 II. (£6), & 1636 III. (£4.)—GEORGE HARRISON, Gainford Hall, Darlington.

Class 198.—*Pens of Three Leicester Ram Lambs.* [5 entries, none absent.]

- 1644 I. (£10), & 1643 III. (£4.)—GEORGE HARRISON, Gainford Hall, Darlington.
1645 II. (£6), & 1646 R. N. & H. C.—E. F. JORDAN, Eastburn, Driffield.

¹ Prizes given by the Lincoln Long-wool Sheep Breeders' Association.

² Medal, value £5, given by the Lincoln Long-wool Sheep Breeders' Association for the best Lincoln Ram in Classes 190 and 191.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 199.—*Pens of Three Leicester Shearling Ewes, of the same Flock.*

[5 entries, none absent.]

1649 I. (£10), & 1650 II. (£6.)—E. F. JORDAN, Eastburn, Driffeld.

1648 III. (£4.)—GEORGE HARRISON, Gainford Hall, Darlington.

1652 R. N. & H. C.—MRS. PERRY-HERRICK, Beau Manor Park, Loughborough.

Class 200.—*Pens of Three Leicester Ewe Lambs.* [5 entries, none absent.]

1654 I. (£10), & 1653 III. (£4.)—GEORGE HARRISON, Gainford Hall, Darlington.

1655 II. (£6), & 1656 R. N. & H. C.—E. F. JORDAN, Eastburn, Driffeld.

Cotswolds.

Class 201.—*Cotswold Shearling Rams.* [5 entries, none absent.]

1660 I. (£10.)—W. T. GARNE, Aldsworth, Northleach.

1661 II. (£6), & 1662 R. N. & H. C.—WILLIAM HOULTON, Broadfield Farm, Northleach.

Class 202.—*Pens of Three Cotswold Ram Lambs.* [2 entries.]

1664 I. (£10), & 1663 R. N. & H. C.—W. T. GARNE, Aldsworth, Northleach.

Class 203.—*Pens of Three Cotswold Shearling Ewes, of the same Flock.*

[3 entries.]

1666 I. (£10), & 1667 R. N. & H. C.—WILLIAM HOULTON, Broadfield Farm, Northleach.

1665 II. (£6.)—W. T. GARNE, Aldsworth, Northleach.

Class 204.—*Pens of Three Cotswold Ewe Lambs.* [2 entries.]

1668 I. (£10), & 1669 R. N. & H. C.—W. T. GARNE, Aldsworth, Northleach.

Border Leicesters.

Class 205.—*Border Leicester Shearling Rams.* [6 entries, 2 absent.]

1670 I. (£10), & 1671 III. (£4.)—THE RT. HON. A. J. BALFOUR, M.P., Whittingehame Prestonkirk.

1675 II. (£6.)—THOMAS WINTER, Lotherton Park, Aberford, Leeds.

Class 206.—*Pens of Three Border Leicester Ram Lambs.* [2 entries.]

1676 I. (£10.)—THE RT. HON. A. J. BALFOUR, M.P., Whittingehame, Prestonkirk.

1677 II. (£6.)—THOMAS WINTER, Lotherton Park, Aberford, Leeds.

Class 207.—*Pens of Three Border Leicester Shearling Ewes, of the same Flock.*

[3 entries, 1 absent.]

1678 I. (£10.)—THE RT. HON. A. J. BALFOUR, M.P., Whittingehame, Prestonkirk.

1680 II. (£6.)—THOMAS WINTER, Lotherton Park, Aberford, Leeds.

Class 208.—*Pens of Three Border Leicester Ewe Lambs.* [2 entries.]

1681 I. (£10.)—THE RT. HON. A. J. BALFOUR, M.P., Whittingehame, Prestonkirk.

1682 II. (£6.)—THOMAS WINTER, Lotherton Park, Aberford, Leeds.

Kent or Romney Marsh.

Class 209.—*Kent or Romney Marsh Two-Shear Rams.*¹ [9 entries, none absent.]

1688 I. (£10.)—HENRY RIGDEN, Etchinghill, Lyminge.

1686 II. (£6.)—FREDERICK NEAME, Macknade, Faversham.

1683 III. (£4.)—GEORGE FARMER, Leeds Abbey, Maidstone, for **Farmer's No. 33**; s. Macknade Showson 21st.

1684 R. N. & H. C.—CHARLES FILE, Elham, Canterbury.

Class 210.—*Kent or Romney Marsh Shearling Rams.* [15 entries, 1 absent.]

1695 I. (£10.)—CHARLES FILE, Elham, Canterbury.

1705 II. (£6.)—HENRY RIGDEN, Etchinghill, Lyminge.

1698 III. (£4.)—WILLIAM MILLEN, Syndale Valley, Faversham.

1702 R. N. & H. C.—FREDERICK NEAME, Macknade, Faversham.

Class 211.—*Pens of Three Kent or Romney Marsh Ram Lambs.*

[11 entries, none absent.]

1715 I. (£10.)—HENRY RIGDEN, Etchinghill, Lyminge.

1712 II. (£6.)—FREDERICK NEAME, Macknade, Faversham.

1708 III. (£4.)—J. DARRELL BLOUNT, Gosport; s. Harvey's No. 20, 11668.

1717 R. N. & H. C.—THE EARL OF VERULAM, Gorhambury Park, St. Albans.

¹ Prizes given by the Kent or Romney Marsh Sheep Breeders' Association.

cxxii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 212.—*Pens of Three Kent or Romney Marsh Shearling Ewes, of the same Flock.* [7 entries, none absent.]

1719 I. (£10), & 1720 III. (£4).—CHARLES FILE, Elham, Canterbury.

1723 II. (£6).—FREDERICK NEAME, Macknade, Faversham.

1718 R. N. & H. C.—GEORGE FARMER, Leeds Abbey, Maidstone.

Class 213.—*Pens of Three Kent or Romney Marsh Ewe Lambs.*
[10 entries, none absent.]

1730 I. (£10).—FREDERICK NEAME, Macknade, Faversham.

1733 II. (£6).—HENRY RIGDEN, Etchinghill, Lyminge.

1734 III. (£4).—THE EARL OF VERULAM, Gorhambury Park, St. Albans.

1732 R. N. & H. C.—J. EGERTON QUESTED, The Firs, Cheriton, Kent.

Wensleydales.

Class 214.—*Wensleydale Shearling Rams.* [10 entries, 1 absent.]

1736 I. (£10).—LORD HENRY BENTINCK, M.P., Underley Hall, Kirkby Lonsdale, for **Blue Fashion**, bred by W. Rhodes, Lundholme, Westhouse, Kirkby Lonsdale; s. Royal York 658, *d. by* Welcome 593.

1744 II. (£6).—THE EXORS. OF THE LATE T. WILLIS, Manor House, Carperby, Aysgarth, R.S.O., bred by Chris. Smith, Howden, Keighley; s. Lord Sheffield, *d. by* Diastase.

1743 III. (£4).—THE EXORS. OF THE LATE T. WILLIS; s. Royal London 904, *d. by* Sensation 353.

Class 215.—*Pens of Three Wensleydale Ram Lambs.* [3 entries.]

1747 I. (£10).—THE EXORS. OF THE LATE T. WILLIS, Manor House, Carperby, Aysgarth, R.S.O.; ss. Royal Heir and Royal Blend, *ds. by* Estimation 487 and Royal Maidstone.

1745 II. (£6).—LORD HENRY BENTINCK, M.P., Underley Hall, Kirkby Lonsdale; ss. Royal Maidstone 2nd 905, Moore's Blue 890, and Blue Hero 854, *ds. by* Blue Beard 607 and Erl King 2nd 485.

1746 III. (£4).—EDWARD HORSEMAN, Broken Briar Farm, Richmond, Yorks.; s. Park Royal 961, *ds. by* District Councillor 865.

Class 216.—*Pens of Three Wensleydale Shearling Ewes, of the same Flock.*
[5 entries, none absent.]

1752 I. (£10).—THE EXORS. OF THE LATE T. WILLIS, Manor House, Carperby, Aysgarth, R.S.O.; s. Blue Prince 855, *ds. by* Royal York 658 and Marengo 499.

1750 II. (£6).—JOHN HARGRAVE, Wath, Melmerby, Yorks.; s. Donovan 907.

1748 III. (£4).—LORD HENRY BENTINCK, M.P., Underley Hall, Kirkby Lonsdale; ss. Moore's Blue 890, Blue Hero 854, and Blue Cap 2nd 853, *ds. by* Boy in Blue 472, Royal Manchester 657, and Welcome 593.

1749 R. N. & H. C.—LORD HENRY BENTINCK, M.P.

Class 217.—*Pens of Three Wensleydale Ewe Lambs.* [3 entries.]

1753 I. (£10).—LORD HENRY BENTINCK, M.P., Underley Hall, Kirkby Lonsdale; ss. Blue Hero 854 and Blue Bud. *ds. by* Boy in Blue 472, Welcome 593, and Woodman 525.

1754 II. (£6).—EDWARD HORSEMAN, Broken Briar Farm, Richmond, Yorks.; s. Park Royal 961, *ds. by* District Councillor 865 and Leyburn Double First 834.

1755 R. N. & H. C.—EDWARD HORSEMAN.

Dorset Horn.

Class 218.—*Dorset Horn Shearling Rams, dropped after November 1, 1903.*
[6 entries, 1 absent.]

1758 I. (£10).—E. A. HAMBRO, Milton Abbey, Blandford, for **Delcombe No. 13**, born Dec. 15, 1903; s. Delcombe No. 6. 1534, *d. by* Delcombe No. 1, 1365.

1756 II. (£6).—JAMES ATTRILL, Waytes Court, Brighstone, Isle of Wight, for **Court No. 19**, 1594, born Dec. 1, 1903; s. Bowcombe No. 24, 1348.

1757 III. (£4).—W. R. FLOWER, West Stafford, Dorchester, for **Flower's No. 110**, 1638, born Dec. 12, 1903; s. Flower's No. 101, 1440.

1761 R. N. & H. C.—FRANK J. MERSON, Farringdon, North Petherton, Bridgwater.

Class 219.—*Pens of Three Dorset Horn Ram Lambs, dropped after November 1, 1904.* [7 entries, 3 absent.]

1763 I. (£10, & R. N. for **Champion**.¹)—W. R. FLOWER, West Stafford, Dorchester, for **Flower's Nos. 111, 112, and 113**, born Nov. 20, 1904; s. Flower's No. 101, 1440.

¹ Prize of £10 given by the Dorset Horn Sheep Breeders' Association for the best Pen of Ram Lambs, Shearling Ewes or Ewe Lambs in Classes 219-221.

Dorset Horn, Devon, Dartmoor, and Exmoor Sheep. cxxiii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1764 II. (£6.)—W. R. FLOWER, for **Flower's Nos. 114, 115, and 116**, born Nov. 20, 1904; s. Romulus 1635.

1767 III. (£4.)—FRANK J. MERSON, Farringdon, North Petherton, Bridgwater, born in Dec., 1904; s. Merson's No. 1, 1556.

1765 R. N. & H. C.—E. A. HAMBRO, Milton Abbey, Blandford.

Class 220.—*Pens of Three Dorset Horn Shearling Ewes, of the same Flock, dropped after November 1, 1903.* [7 entries, 1 absent.]

1771 I. (£10, & **Champion**.¹)—W. R. FLOWER, West Stafford, Dorchester, born Dec. 12, 1903; s. Flower's No. 101, 1440.

1773 II. (£6.)—E. A. HAMBRO, Milton Abbey, Blandford, born Dec. 16, 1903; s. Delcombe No. 6, 1534, d. by Delcombe No. 1, 1365.

1775 III. (£4.)—FRANK J. MERSON, Farringdon, North Petherton, Bridgwater, born in Dec., 1903; s. Sir John 1467.

1769 R. N. & H. C.—JAMES ATTRILL, Waytes Court, Brighthstone, Isle of Wight.

Class 221.—*Pens of Three Dorset Horn Ewe Lambs, dropped after November 1, 1904.* [6 entries, none absent.]

1777 I. (£10.)—W. R. FLOWER, West Stafford, Dorchester, born Nov. 20, 1904; s. Flower's No. 101, 1440.

1781 II. (£6.)—FRANK J. MERSON, Farringdon, North Petherton, Bridgwater, born in Dec., 1904; s. Merson's No. 1, 1556.

1779 III. (£4.)—E. A. HAMBRO, Milton Abbey, Blandford, born Dec. 11 1904; s. Delcombe No. 10, 1538, d. by Delcombe No. 6, 1534.

1778 R. N. & H. C.—W. R. FLOWER, born Nov. 20, 1904.

Devon Long Wool.

Class 222.—*Devon Long Wool Rams, Shearling and upwards.*
[6 entries, 1 absent.]

1786 I. (£10), & 1785 II. (£6.)—FREDERICK WHITE, Torweston, Williton, Somerset, born in Feb., 1904.

1784 III. (£4.)—EDWARD C. NORRISH, Gays House, Coppleshone.

1787 R. N. & H. C.—FREDERICK WHITE, born in Feb., 1903.

Class 223.—*Pens of Three Devon Long Wool Shearling Ewes, of the same Flock.* [3 entries.]

1788 I. (£10.)—FREDERICK WHITE, Torweston, Williton; s. Pound Defence 1079.

1789 II. (£6), & 1790 R. N. & H. C.—FREDERICK WHITE; s. White's Fancy, 864.

Dartmoor.

Class 224.—*Dartmoor Rams, Shearling and upwards.* [3 entries.]

1793 I. (£10.)—JOHN R. T. KINGWELL, Great Aish, South Brent, Devon, for **Brent Up-to-Date**, born Feb. 25, 1903; s. Corrector, d. Mrs. Jeffrey by Curley.

1792 II. (£6.)—JOHN R. T. KINGWELL, for **Brent Tip-Top**, born March 1, 1903; s. Corrector, d. Cardiff by Devon Champion.

1791 R. N. & H. C.—JOHN R. T. KINGWELL, for **Brent Sammy**.

Class 225.—*Pens of Three Dartmoor Shearling Ewes, of the same Flock.*
[3 entries.]

1794 I. (£10), 1796 II. (£6), & 1795 R. N. & H. C.—JOHN R. T. KINGWELL, Great Aish, South Brent, Devon; s. Corrector.

Exmoors.

Class 226.—*Exmoor Rams, Shearling and upwards.* [3 entries.]

1797 I. (£10), & 1798 II. (£6.)—CHARLES N. SKINNER, Shortlands, born in April, 1904.

1799 R. N. & H. C.—CHARLES N. SKINNER, born in March, 1903.

Class 227.—*Pens of Three Exmoor Shearling Ewes, of the same Flock.*
[3 entries.]

1802 I. (£10), 1801 II. (£6), & 1800 R. N. & H. C.—CHARLES N. SKINNER, Shortlands.

¹ Prize of £10 given by the Dorset Horn Sheep Breeders' Association for the best Pen of Ram Lambs, Shearling Ewes, or Ewe Lambs in Classes 219-221.

cxxiv *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Cheviots.

Class 228.—*Cheviot Rams, Shearling and upwards.* [6 entries, none absent.]

1807 I. (£10.)—JOHN ROBSON, Newton, Bellingham, for **Marshal Oyama**, born April, 1903.

1804 II. (£6.)—JACOB ROBSON, Byrness, Otterburn, born in April, 1903.

1806 III. (£4.)—JOHN ROBSON, for **Kuroki**, born in April, 1903.

1803 R. N. & H. C.—JACOB ROBSON, for **Prince Charming**.

Class 229.—*Pens of Three Cheviot Shearling Ewes, of the same Flock.* [4 entries.]

1809 I. (£10), & 1810 III. (£4.)—JACOB ROBSON, Byrness, Otterburn.

1811 II. (£6.)—JOHN ROBSON, Newton, Bellingham.

1812 R. N. & H. C.—JOHN ROBSON, JUN., Allerybank, Bellingham.

Black-Faced Mountain.

Class 230.—*Black-faced Mountain Rams, Shearling and upwards.*

[5 entries, none absent.]

1814 I. (£10.)—JOHN DARGUE, Burneside Hall, Kendal, born April 22, 1904.

1817 II. (£6.)—JOHN ROBSON, JUN., Allerybank, Bellingham, born in April, 1902.

1815 III. (£4.)—JOHN ROBSON, Newton, Bellingham, for **Robby**, born in April, 1902.

1816 R. N. & H. C.—JOHN ROBSON, born in April, 1903.

Class 231.—*Pens of Three Black-faced Mountain Shearling Ewes, of the same Flock.* [3 entries.]

1819 I. (£10.)—JOHN ROBSON, Newton, Bellingham,

1818 II. (£6.)—JOHN DARGUE, Burneside Hall, Kendal.

1820 III. (£4.)—JOHN ROBSON, JUN., Allerybank, Bellingham.

Lonks.

Class 232.—*Lonk Rams, Shearling and upwards.* [3 entries, 1 absent.]

1823 I. (£10.)—DAVID HAGUE, Spread Eagle Hotel, Whalley, Lancs., for **Worsthorne Wonder**, born April 20, 1904, bred by Frank Ormerod, Worsthorne, Burnley.

1822 II. (£6.)—JOHN BLACKBURN, Deerplay Hotel, Bacup, Lancs., for **Deerplay Boy**, born March 28, 1903; s. Perfection.

Class 233.—*Pens of Three Lonk Shearling Ewes, of the same Flock.*

[3 entries, 1 absent.]

1825 I. (£10.)—JOHN BLACKBURN, Deerplay Hotel, Bacup; s. Perfection.

1826 II. (£6.)—DAVID HAGUE, Spread Eagle Hotel, Whalley.

Herdwicks.

Class 234.—*Herdwick Rams, Shearling and upwards.* [5 entries, none absent.]

1827 I. (£10.)—W. J. CROSSLEY, Pullwoods, Ambleside, for **King Moor 2nd**, born April 5, 1903, bred by W. Mackereth, Green Bank, Ambleside; s. Hero, d. Daisy Bell by Dreadnought.

1830 II. (£6.)—THE EARL OF LONSDALE, Whitehaven Castle Estate, for **Silver Star**, born in April, 1902, bred by W. Abbott, Mosser Mains, Cockermouth.

1831 R. N. & H. C.—S. D. STANLEY-DODGSON, Tarnbank, Cockermouth, for **Samson**.

Class 235.—*Pens of Three Herdwick Shearling Ewes, of the same Flock.*

[2 entries.]

1832 I. (£10.)—W. J. CROSSLEY, Pullwoods, Ambleside, bred by W. Mackereth, Green Bank, Ambleside; s. Hero, ds. Creamie and Gaddis by Royal Prince.

1833 II. (£6.)—THE EARL OF LONSDALE, Whitehaven Castle Estate, bred by S. D. Stanley-Dodgson, Tarnbank, Cockermouth; s. Hardisty.

Welsh Mountain.

Class 236.—*Welsh Mountain Rams, Shearling and upwards.*

[5 entries, none absent.]

1837 I. (£10.)—J. L. GRATTON, Foryd Farm, Abergele, for **Hero**, born March 2, 1903, bred by Owen Price, Nantyrharn, Cray, Brecon.

1838 II. (£6.)—OWEN PRICE, Nantyrharn, Cray, for **Twm or Nant 2nd**, born March 7, 1903; s. Twm or Nant, d. Shan by Dafydd.

1834 III. (£4), & 1835 R. N. & H. C.—W. CONWY BELL, Bryn-y-ffynon, Rhuddlan, R.S.O.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 237.—*Pens of Three Welsh Mountain Shearling Ewes, of the same Flock.* [6 entries, 1 absent.]

1841 I. (£10.)—J. MARSHALL DUGDALE, Llwyn, Llanfyllin, S.O., Mont.

1842 II. (£6), & 1843 R. N. & H. C.—J. L. GRATTON, Foryd Farm, Abergele.

1844 III. (£4.)—OWEN PRICE, Nantyrharn, Cray, Breconshire; ss. Twm or Nant and Brynmelin Chief.

Ryeland.

Class 238.—*Ryeland Rams, Two-shear and upwards.*¹ [5 entries, none absent.]

1846 I. (£10.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard, for **Park Royal**, born in March, 1902; s. Longsides.

1848 II. (£5.)—F. E. GOUGH, Bodenham, Leominster, for **Moorland Chief**, born March 26, 1903; s. Evesham, *d. by* Moorland.

1847 III. (£3.)—W. H. DAVIES, Claston and Liver's Ocle, Hereford, born in March, 1901, bred by David J. Thomas, Wainmynich, Brecon; s. Bromyard Chief, *d. by* Trebarried.

1845 R. N. & H. C.—W. T. BARNEBY, for **Duplicate**.

Class 239.—*Ryeland Shearling Rams.* [5 entries, none absent.]

1850 I. (£10), & 1851 III. (£4.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard.

1852 II. (£6.)—W. H. DAVIES, Claston and Liver's Ocle, Hereford, for **Weston Surprise**; s. Leominster, *d. by* Disturbance.

1853 R. N. & H. C.—F. E. GOUGH, Bodenham, Leominster.

Class 240.—*Pens of Three Ryeland Shearling Ewes, of the same Flock.*
[7 entries, none absent.]

1859 I. (£10.)—F. E. GOUGH, Bodenham, Leominster; s. Bodenham Star, *d. by* Moorland Wonder.

1855 II. (£6), & 1856 R. N. & H. C.—W. T. BARNEBY, Saltmarshe Castle, Bromyard.

1858 III. (£4.)—W. H. DAVIES, Claston and Liver's Ocle, Hereford; ss. Leominster and Fernleigh.

PIGS.

Large White Breed.

Class 241.—*Large White Boars, farrowed in 1903 or 1904.*

[9 entries, 4 absent.]

3186 I. (£10, & **Champion**.²)—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for **Worsley Duke 4th** 8083, born Feb. 4, 1903; s. Duke of York 4th 5935, *d. by* Worsley Queen 3rd 11802 *by* Worsley Royal 2nd 5681.

1869 II. (£6.)—SANDERS SPENCER & SON, Holywell Manor, St. Ives, for **Holywell Czech** 8607, born July 8, 1903; s. Holywell Hubert 7089, *d. by* Holywell Czarina 2nd 12552 *by* Holywell Elephant 5103.

1862 III. (£4.)—RICHARD A. AYRE, Bushey Lodge, Watford, for **Watford Wonder 4th** 8795, born May 23, 1904; s. Walton Albert 4th 7991, *d. by* Lindsey Victoria 10358 *by* Scarsdale M.P. 5199.

1868 R. N. & H. C.—R. R. ROTHWELL, Fulwood Hall, Preston, for **Fulwood Duke**.

Class 242.—*Pens of Three Large White Boar Pigs, farrowed in 1905.*

[16 entries, 5 absent.]

1875 I. (£10.)—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for pen, born Jan. 4; ss. Roger 7203 and Worsley Eclipse 6647, *ds. by* Worsley Hawthorn 7th 14900 *by* Ruddington Lad 2nd 5597 and Worsley Princess 13178 *b. by* Bottesford Long Sam 5893.

1879 II. (£6.)—T. SIMPSON JAY, Warren Farm, Wimbledon, for pen, born Jan. 7; s. Warren Eclipse 8793, *d. by* Warren Susan 2nd 14786 *by* Holywell Emperor 2nd 6401.

1872 III. (£4.)—DANIEL R. DAYBELL, Bottesford, Nottingham, for pen, born Jan. 2; s. Bottesford Arthur 8487, *d. by* Bottesford Perfection 5th 12312 *by* Borrowfield Long Sam 2nd 5869.

1876 R. N. & H. C.—THE EARL OF ELLESMERE.

Class 243.—*Large White Breeding Sows, farrowed in 1901, 1902, 1903, or 1904.*

[20 entries, 6 absent. The prize animals were disqualified through non-compliance with regulation as to farrowing before September 1, 1905.]

¹ Prizes given by the Ryeland Sheep Breeders' Association.

² Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Large White Boar or Sow in Classes 241 and 243. No. 1863 (originally R. N. for **Champion**) has succeeded to the Champion Prize by the disqualification through non-compliance with the Regulation as to farrowing before Sept. 1, 1905, of No. 1891 (First Prize in Class 243)

cxxvi *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 244.—*Pens of Three Large White Sow Pigs, farrowed in 1905.*

[14 entries, 4 absent.]

- 1912 I. (£10.)—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for pen, born Jan. 6; s. Roger 7203, d. Worsley Queen 5th 11806 *by* Worsley Royal 2nd 5681.
1913 II. (£6.)—THE EARL OF ELLESMERE, for pen, born Jan. 8; s. Roger 7203, d. Worsley Princess 6th 14922 *by* Bottesford Rufford 3903.
1911 III. (£4.)—THE EARL OF ELLESMERE, for pen, born Jan. 2; s. Worsley Duke 4th 8083, d. Sowerby Beauty 3rd 11666 *by* Wrexham Petrarch 5689.
1909 R. N. & H. C.—D. R. DAYBELL, Bottesford, Nottingham.

Middle White Breed.

Class 245.—*Middle White Boars, farrowed in 1903 or 1904.*

[7 entries, 2 absent.]

- 1922 I. (£10, & Champion.¹)—SIR GILBERT GREENALL, BT., Walton Hall, Warrington, for Walton Turret 7th 8229, born Aug. 28, 1903; s. Walton Turret 8217, d. Walton Daisy 11992 *by* Rufford Ploughboy 2nd 5311.
1926 II. (£6.)—SANDERS SPENCER & SON, Holywell Manor, St. Ives, Hunts., for Holywell Rosario 8857, born Feb. 10, 1903; s. Castlecroft Dictator 6111, d. Holywell Rosador 16324 *by* Holywell Stumpy Tail 4479.
1927 III. (£4.)—SANDERS SPENCER & SON, for Holywell Royal Viscount, born March 27, 1904; s. Holywell Viscount 8179, d. Holywell Royal Jubilee *by* Holywell Rosador 2nd 6139.
1923 R. N. & H. C.—SIR GILBERT GREENALL, BT., for Walton Turret 8th.

Class 246.—*Pens of Three Middle White Boar Pigs, farrowed in 1905.*

[8 entries, 2 absent.]

- 1932 I. (£10.)—T. SIMPSON JAY, Warren Farm, Wimbledon, for pen, born Jan. 11; s. Holywell Manchester 8855, d. Holywell Victoria Countess 13294 *by* Holywell Count Curly 5713.
1933 II. (£6.)—SANDERS SPENCER & SON, Holywell Manor, St. Ives, for pen, born Jan. 7; s. Holywell Middleton 8169, d. Holywell Curly Rose 2nd *by* Holywell Count Curly 5713.
1931 III. (£4.)—SIR GILBERT GREENALL, BT., Walton Hall, Warrington, for pen, born Jan. 12; s. Walton Dainty 3rd 8201, d. Walton Rose 13th 12000 *by* Walton Andrew 6167.
1934 R. N. & H. C.—SANDERS SPENCER & SON.

Class 247.—*Middle White Breeding Sow, farrowed in 1901, 1902, 1903, or 1904.*

[11 entries, 5 absent.]

- 1937 I. (£10, & R. N. for Champion.¹)—SIR GILBERT GREENALL, BT., Walton Hall, Warrington, for Walton Jewel 2nd 15126, born Sept. 11, 1902 [farrowed July 13, 1905]; s. Walton John 2nd 6757, d. East Craig's Jewel 9050 *by* Castlecroft Golden King 4447.
1941 II. (£6.)—LEOPOLD C. PAGET, Harewood, Leeds, for Holywell Barbara 16320, born Jan. 1, 1903 [farrowed Aug. 2, 1905], bred by Sanders Spencer, Holywell Manor, St. Ives; s. Holywell Middleton 8169, d. Holywell Curly Rose 2nd *by* Holywell Count Curly 5713.
1938 III. (£4.²)—SIR GILBERT GREENALL, BT., for Walton Rose 13th 12000, born Jan. 4, 1901 [farrowed Aug. 31, 1905]; s. Walton Andrew 6167, d. Walton Rose 8th 9130 *by* Walton Editor 4499.

Class 248.—*Pens of Three Middle White Sow Pigs, farrowed in 1905.*

[8 entries, 2 absent.]

- 1947 I. (£10.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, for pen, born Jan. 4; s. Coleshill Dandy 8119, d. Coleshill Dora 13218 *by* Castlecroft Dandy 5697.
1950 II. (£6.)—T. SIMPSON JAY, Warren Farm, Wimbledon, for pen, born Jan. 11; s. Holywell Manchester 8855, d. Holywell Victoria Countess 13294 *by* Holywell Count Curly 5713.
1952 III. (£4.)—SANDERS SPENCER & SON, Holywell Manor, St. Ives, for pen, born Jan. 7; s. Holywell Middleton 8169, d. Holywell Curly Rose 2nd *by* Holywell Count Curly.
1948 R. N. & H. C.—SIR GILBERT GREENALL, BT., Walton Hall, Warrington.

¹ Champion Gold Medal, value £5 5s., given by the National Pig Breeders' Association, for the best Middle White Boar or Sow in Classes 245 and 247.

² No. 1938 has succeeded to its present position by the disqualification, through non-compliance with the Regulation as to farrowing before Sept. 1, 1905, of No. 1943 (Third Prize in Class 247).

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Small White Breed.

Class 249.—*Small White Boars, farrowed in 1903 or 1904.* [2 entries.]

1955 **I.** (£10.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, for **Coleshill Marquis 3rd**, born Jan. 11, 1903; s. Coleshill Marquis 6763, d. Coleshill Harbury 9162 by Metchley Toy 3275.

1956 **II.** (£6.)—THE HON. D. P. BOUVERIE, for **Coleshill Marquis 4th**, born Jan. 25, 1904; s. Coleshill Marquis 2nd 8247, d. Coleshill Polly 2nd 13354 by Coleshill Royal Emperor 4521.

Class 250.—*Small White Breeding Sows, farrowed in 1901, 1902, 1903, or 1904.*
[2 entries.]

1957 **I.** (£10.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, for sow, born Feb. 6, 1904 [farrowed Aug. 22, 1905]; s. Coleshill Marquis 2nd 8247, d. Coleshill Graceful 15180 by Coleshill Jim 6761.

1958 **II.** (£6.)—THE HON. D. P. BOUVERIE, for sow, born April 25, 1904 [farrowed Aug. 28, 1905]; s. Coleshill Marquis 2nd 8247, d. Coleshill Ely 7674 by Coleshill Dick 4505.

Berkshire Breed.

Class 251.—*Berkshire Boars, farrowed in 1903 or 1904.*
[17 entries, 3 absent.]

1970 **I.** (£10, & **Champion**.¹)—J. JEFFERSON, Peel Hall, Chester, for **Peel Champion** 10527, born Jan. 10, 1903; s. Peel Swansea 2nd 8748, d. Peel Rosebud 2nd 7506 by Peel Surprise.

1964 **II.** (£6.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for **Polegate Dollar** 9809, born April 10, 1903, bred by R. B. Vincent, Compton Valence, Dorchester; s. Baron Kitchener 8403, d. Compton Primrose 9599 by Stratton Duke.

1967 **III.** (£4.)—SIR ALEXANDER HENDERSON, BT., M.P., Buscot Park, Faringdon, for **Buscot Reliance** 9722, born April 3, 1903; s. Lyneham Lad 9506, d. Nancy Mason 9503 by Loud water 8318.

1965 **R. N. & H. C.**—JULIUS A. FRICKER, Burton, Mere, Wilts.

Class 252.—*Pens of Three Berkshire Boar Pigs, farrowed in 1905.*
[16 entries, 2 absent.]

1982 **I.** (£10.)—JULIUS A. FRICKER, Burton, Mere, Wilts., for pen, born Jan. 2; s. Hightide F.B. 9373, d. Gillingham L. 9077 by Faithful Commons 6640.

1986 **II.** (£6.)—G. TALFOURD INMAN, Highmoor Hall, Henley-on-Thames, for pen, born Feb. 14; s. Manor Favourite 7831, d. Highmoor Soot 9048 by Highmoor Jack 8206.

1981 **III.** (£4.)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for pen, born Jan. 2; s. Cecil Augustus 7756, d. Polegate Day Dreams 9159 by Baron Kitchener 8403.

1980 **R. N. & H. C.**—THE DUCHESS OF DEVONSHIRE.

Class 253.—*Berkshire Breeding Sows, farrowed in 1901, 1902, 1903, or 1904.*
[24 entries, 4 absent.]

1997 **I.** (£10, & **R. N. for Champion**.¹)—THE DUCHESS OF DEVONSHIRE, Compton Place, Eastbourne, for **Polegate Dahlia**, born Jan. 8, 1903 [farrowed July 9, 1905], bred by R. B. Vincent, Compton Valence, Dorchester; s. Baron Kitchener 8403, d. Polegate Daffodil 9801 by Stratton Duke 8222.

1995 **II.** (£6.)—LORD CALTHORPE, Elvetham Park, Winchfield, for **Compton Dolly** 9604, born April 10, 1903 [farrowed Aug. 27, 1905], bred by R. B. Vincent, Compton Valence, Dorchester; s. Baron Kitchener 8403, d. Compton Primrose 9599 by Stratton Duke 8222.

2007 **III.** (£4.²)—G. TALFOURD INMAN, Highmoor Hall, Henley-on-Thames, for **Compton Rose** 9606, born April 10, 1903, [farrowed Aug. 22, 1905], bred by R. B. Vincent, Compton Valence, Dorchester; s. Baron Kitchener 8403, d. Compton Primrose 9599 by Stratton Duke 8222.

Class 254.—*Pens of Three Berkshire Sow Pigs, farrowed in 1905.*
[19 entries, 4 absent.]

2022 **I.** (£10.)—JULIUS A. FRICKER, Burton, Mere, Wilts., for pen, born Jan. 4; s. Hightide F.B. 9373, d. May Burton 2nd 5537 by Goliath 4454.

2028 **II.** (£6.)—G. TALFOURD INMAN, Highmoor Hall, Henley-on-Thames, for pen, born Feb. 14; s. Supremes Boy 9743, d. Danesfield Bluebell 8757 by Danesfield Haymaker 8236.

2026 **III.** (£4.)—R. W. HUDSON, Danesfield, Marlow, for pen, born Jan. 22; s. Baron Kitchener 8403, d. Buscot Sylvia 588 by Buscot Prince 8150.

2031 **R. N. & H. C.**—JAMES LAWRENCE, Stall Pitts Farm, Shrivenham, Berks.

¹ Champion Prize of £5 given by the British Berkshire Society for the best Berkshire Boar or Sow in Classes 251 and 253.

² No. 2007 has succeeded to its present position by the disqualification through non-compliance with the Regulation as to farrowing before Sept. 1, 1905, of No. 2006 (Third Prize in Class 253).

cxviii *Award of Live Stock Prizes at Park Royal, 1905.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Tamworth Breed.

Class 255.—*Tamworth Boars, farrowed in 1903 or 1904.*

[6 entries, none absent.]

- 2035 I. (£10.)—ROBERT IBBOTSON, The Hawthorns, Knowle, Warwickshire, for **Knowle Bounder** 8945, born Jan. 4, 1904, bred by H. C. Stephens, Cholderton, Salisbury; s. Whitacre Bounder 7511, d. Cholderton Favourite 11th 13400 by Knowle Forester 5369.
- 2038 II. (£6.)—D. W. PHILIP, The Ashes, Whitacre, Birmingham, for **Whitacre Radium** 8987, born Jan. 4, 1904, bred by H. C. Stephens, Cholderton, Salisbury; s. Whitacre Bounder 7511, d. Cholderton Favourite 11th 13400 by Knowle Forester 5369.
- 2036 III. (£4.)—ROBERT IBBOTSON, for **Knowle King Rupert** 8319, born July 2, 1903, bred by Mrs. E. Ibbotson, Gun Hill, Arley; s. Whitacre Bounder 7511, d. Gun Hill Esther 13458 by Knowle Welshman 2nd 6815.
- 2040 R. N. & H. C.—H. C. STEPHENS, Cholderton, Salisbury, for **Monsieur V.**

Class 256.—*Pens of Three Tamworth Boar Pigs, farrowed in 1905.*

[3 entries.]

- 2041 I. (£10.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for pen, born Jan. 2, bred by Mrs. E. Ibbotson, Gun Hill, Arley; s. Knowle Comus 8305, d. Gun Hill Coronation 13456 by Knowle Welshman 2nd 6815.
- 2043 II. (£6.)—H. C. STEPHENS, Cholderton, Salisbury, for pen, born Jan. 20; s. Cholderton de Cusack 7435, d. Whitacre Beauty by Whitacre Welshman 5411.
- 2042 R. N. & H. C.—D. W. PHILIP, The Ashes, Whitacre, Birmingham.

Class 257.—*Tamworth Breeding Sows, farrowed in 1901, 1902, 1903, or 1904.*

[10 entries, 3 absent.]

- 2047 I. (£10, & **Champion**.¹)—E. J. MORANT, Heathy Dilton, Boldre, Lymington, for sow, born Dec. 27, 1902 [farrowed July 13, 1905]; s. Knowle Warrior 6813, d. Dilton Mayflower by Knowle Red Coat 6811.
- 2050 II. (£6.²)—D. W. PHILIP, The Ashes, Whitacre, Birmingham, for **Whitacre Cactus** 13562, born Jan. 20, 1902 [farrowed July 23, 1905]; s. Amington Duke 5753, d. Whitacre Countess 3rd 9322 by Cliff Crystal 4923.
- 2044 III. (£4.²)—ROBERT IBBOTSON, The Hawthorns, Knowle, Warwickshire, for **Cholderton Buzzer** 13388, born July 19, 1902 [farrowed Aug. 1, 1905], bred by H. C. Stephens, Cholderton, Salisbury; s. Knowle Forester 5369, d. Cholderton Beauty 12038 by Whitacre Welshman 5411.

Class 258.—*Pens of Three Tamworth Sow Pigs, farrowed in 1905.*

[4 entries, none absent.]

- 2057 I. (£10.)—H. C. STEPHENS, Cholderton, Salisbury, for pen, born Jan. 2; s. Cholderton de Cusack 7435, d. Cholderton Beauty by Knowle Forester 5369.
- 2054 II. (£6.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for pen, born Jan. 4; s. Rolleston Victor 8375, d. Knowle Chestnut 5th 16502 by Knowle Forester 5369.
- 2056 R. N. & H. C.—D. W. PHILIP, The Ashes, Whitacre, Birmingham.

Large Black Breed.

Class 259.—*Large Black Boars, farrowed in 1903 or 1904.*

[14 entries, 1 absent.]

- 2060 I. (£10, & **Champion**.³)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for **Bodminson 1st** 959, born Jan. 5, 1903; s. Royal Bodmin 455, d. Hasketon Smut 2158 by Cornish Beau 239.
- 2071 II. (£6.)—SIR ROBERT WILMOT, BT., Bingfield Grove, Bracknell, for **Hasketon Lord 1st** 813, born in 1903, bred by C. F. Marriner, Thorpe Hall, Hasketon, Woodbridge.
- 2064 III. (£4.)—R. S. OLVER, Trescowe, Par Station, Cornwall, for **Trescowe Pride** 875, born April 23, 1903, bred by N. Stephens, Hendra Parks, Bodmin; s. Hendra Pride 509, d. Hendra Susie 2nd 2036 by Launceston Duke 395.
- 2069 R. N. & H. C.—JOHN WARNE, Treveglos, St. Mabyn, for **Treveglos Darky Jim.**

Class 260.—*Large Black Boar Pigs, farrowed in 1905.*

[13 entries, none absent.]

- 2084 I. (£10, & R. N. for **Champion**.³)—THOMAS WARNE, Trevisquite Manor, St. Mabyn, R.S.O., Cornwall, for **Trevisquite Victor**, born Feb. 20, bred by J. Bastard and Sons, St. Tudy, Cornwall; s. Whalesborough Chief 717, d. Tinten Black Bess 6th 21980.

¹ Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Tamworth Boar or Sow in Classes 255 and 257.

² Nos. 2050 and 2044 have succeeded to their present positions by the disqualification through non-compliance with the Regulation as to farrowing before Sept. 1, 1905, of No. 2052 (Second Prize in Class 257).

³ Prize of £10 given by the Large Black Pig Society for the best Large Black Boar in Classes 259 and 260.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

2075 **II.** (£6.)—HENRY J. KINGWELL, Great Aish, South Brent, Devon, for **Brent Excelsior** 1247, born Jan. 11; s. General Buller 327, d. Cornwood Lass 6th 3318 by Tinten Squire 401.

2077 **III.** (£4.)—ARTHUR S. MANN, Little Bentley Hall, Colchester, for boar, born Jan. 1; s. Usibepu 1151, d. Matilda 3rd 2076 by Duke of Devonshire 2nd 321.

2073 **R. N. & H. C.**—KENNETH M. CLARK, Sudbourne Hall, Orford, Suffolk.

Class 261.—*Large Black Breeding Sows, farrowed in 1901, 1902, 1903, or 1904.*
[19 entries, 3 absent.]

2089 **I.** (£10, & **Champion.**¹)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for **Hasketon Long Bess** 3rd 4154, born Feb. 14, 1903 [farrowed July 28, 1905]; s. Black King 545, d. Long Bess 2nd 1806 by Launceston Duke 395.

2086 **II.** (£6, & **R. N. for Cup.**)—EPHRAIM GIMBLETT, Church Town, Davidstow, Camelford, for **Davidstow Model** 1784, born June 28, 1901 [farrowed July 26, 1905]; s. General Buller 327, d. Susy 1st 1252 by Tideford Longsides 135.

2094 **III.** (£4.)—R. S. OLVER, Trescowe, Par Station, for **Trescowe Beauty** 10th 4692, born April 24, 1904 [farrowed Aug. 9, 1905]; s. Trescowe Pride 875, d. Trescowe Beauty 4th 1230 by Cornishman 53.

2093 **R. N. & H. C.**—R. S. OLVER, for **Trescowe Beauty** 9th.

Class 262.—*Pens of Three Large Black Sow Pigs, farrowed in 1905.*
[10 entries, none absent.]

2107 **I.** (£10.)—HENRY J. KINGWELL, Great Aish, South Brent, Devon, for pen, born Jan. 11; s. General Buller 327, d. Cornwood Lass 6th 3318 by Tinten Squire 401.

2113 **II.** (£6.)—THOMAS WARNE, Trevisquite Manor, St. Mabyn, R.S.O., Cornwall, for pen born Jan. 12; s. Trevisquite Longfellow 965, d. Trevisquite Careful 1828.

2111 **III.** (£4.)—R. R. ROTHWELL, Fulwood Hall, Preston, for pen, born Jan. 17; s. Westleigh St. Mabyn 975, d. Fulwood Cornish Belle 2nd 4572 by Weargifford Hero 843.

2105 **R. N. & H. C.**—KENNETH M. CLARK, Sudbourne Hall, Orford, Suffolk.

POULTRY.

By "Cock," "Hen," "Drake," "Duck," "Gander," and "Goose," are meant birds hatched previous to January 1, 1905; and by "Cockerel," "Pullet," "Young Drake," and "Duckling," are meant birds hatched in 1905, previous to June 1.

FOWLS.

Game.

Class 263.—*Old English Game Cocks.* [16 entries, none absent.]

2118 **I.** (30s.)—COLLINS & NEWALL, Newsham, Blyth.

2129 **II.** (15s.)—EDGAR WIGHT, Tedstone Court, Worcester.

2119 **III.** (10s.)—GEORGE L. COOPER, 46 Denmark Villas, Hove.

2124 **R. N. & H. C.**—WILLIAM PARK, Waverton, Wigton.

Class 264.—*Old English Game Hens.* [10 entries, 1 absent.]

2135 **I.** (30s.)—ROBERT HOLLIDAY, Laversdale, Low Crosby.

2132 **II.** (15s.)—J. HILLYARD CAMERON, Little Standen, Biddenden.

2130 **III.** (10s.)—M. BROMLEY-WILSON, Dallam Tower, Milnthorpe.

2137 **R. N. & H. C.**—MRS. JOHN C. STRAKER, The Leazes, Hexham.

Class 265.—*Old English Game Cockerels.* [7 entries, 2 absent.]

2140 **I.** (30s.)—PHILIP A. FISHER, Carhead, Crosshills, Keighley.

2144 **II.** (15s.)—MRS. R. S. MARSDEN, Bashalleaves, Clitheroe.

2146 **R. N. & H. C.**—W. PROUD, Talken, Brampton.

¹ Silver Challenge Cup, value Twenty Guineas, given by the Large Black Pig Society for the best Sow in Class 261, the Cup to become the absolute property of an Exhibitor winning it twice in succession or three times in all.

Class 266.—*Old English Game Pullets.* [5 entries, 1 absent.]

- 2148 I. (30s.)—PHILIP A. FISHER, Carhead, Crosshills, Keighley.
 2150 II. (15s.), & 2151 R. N. & H. C.—LAMBERT BROS., East View, Silsden.

Class 267.—*Indian Game Cocks.* [11 entries, none absent.]

- 2157 I. (30s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.
 2160 II. (15s.)—ROBERT N. NORMAN, The Manor Farm, Witley.
 2158 III. (10s.)—JAMES FRAYNE, Pipers Pool, Egloskerry, R.S.O.
 2153 R. N. & H. C.—WILLIAM BRENT, Clampit, Callington.

Class 268.—*Indian Game Hens.* [13 entries, 1 absent.]

- 2169 I. (30s.)—GEORGE FAULKNER, Rowton, Chester.
 2172 II. (15s.)—JAMES FRAYNE, Pipers Pool, Egloskerry, R.S.O.
 2171 III. (10s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.
 2166 R. N. & H. C.—COOPER, COOPER & CO., 289 Hoe Street, Walthamstow.

Class 269.—*Indian Game Cockerels.* [7 entries, none absent.]

- 2179 I. (30s.)—GEORGE FAULKNER, Rowton, Chester.
 2180 II. (15s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.
 2177 III. (10s.)—WILLIAM BRENT, Clampit, Callington.
 2181 R. N. & H. C.—JAMES FRAYNE, Pipers Pool, Egloskerry, R.S.O.

Class 270.—*Indian Game Pullets.* [9 entries, none absent.]

- 2186 I. (30s.)—GEORGE FAULKNER, Rowton, Chester.
 2191 II. (15s.)—WILLIAM A. MARTIN, Brendon, St. Mellion.
 2188 III. (10s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.
 2190 R. N. & H. C.—WILLIAM HAMBLY, Cutlinwith, St. Germans.

Dorkings.Class 271.—*Coloured Dorking Cocks.* [8 entries, 1 absent.]

- 2195 I. (30s.)—THOMAS HULSE, JUN., Madeley, Newcastle, Staffs.
 2196 II. (15s.)—GEORGE H. PROCTER, Flass House, Durham.
 2192 III. (10s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 2198 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.

Class 272.—*Coloured Dorking Hens.* [13 entries, 2 absent.]

- 2204 I. (30s.)—THOMAS HULSE, JUN., Madeley, Newcastle, Staffs.
 2200 II. (15s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 2206 III. (10s.)—JOHN MECHIE, JUN., Auchtermuchty, Fife.
 2202 R. N. & H. C.—J. H. CAMERON, Little Standen, Biddenden.

Class 273.—*Coloured Dorking Cockerels.* [4 entries, none absent.]

- 2213 I. (30s.)—THOMAS BRIDEN, Cononley, Keighley.
 2216 II. (15s.), & 2215 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.

Class 274.—*Coloured Dorking Pullets.* [6 entries, none absent.]

- 2217 I. (30s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 2219 II. (15s.)—A. K. CRICHTON, Estates Office, Bridge of Weir.
 2218 III. (10s.)—THOMAS BRIDEN, Cononley, Keighley.
 2221 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.

Class 275.—*Silver Grey Dorking Cocks.* [3 entries.]

- 2223 I. (30s.)—VISCOUNT DEERHURST, Dynes Hall, Halstead.
 2224 II. (15s.)—A. T. & H. PEARS, Mere, Lincoln.
 2225 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.

Class 276.—*Silver Grey Dorking Hens.* [10 entries, 2 absent.]

- 2233 I. (30s.)—C. SNEDDON, Kirkham.
 2230 II. (15s.)—JOHN MECHIE, JUN., Auchtermuchty, Fife.
 2232 III. (10s.)—HERBERT REEVES, Northlands, Emsworth.
 2226 R. N. & H. C.—THE HON. FLORENCE AMHERST, Didlington Hall, Stoke Ferry.

Class 277.—*Silver Grey Dorking Cockerels.* [6 entries, 1 absent.]

- 2236 I. (30s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 2239 II. (15s.), & 2240 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.
 2237 III. (10s.)—THE HON. FLORENCE AMHERST, Didlington Hall, Stoke Ferry.

Class 278.—*Silver Grey Dorking Pullets.* [7 entries, 1 absent.]

- 2247 I. (30s.), & 2246 R. N. & H. C.—HERBERT REEVES, Northlands, Emsworth.
 2243 II. (15s.)—THE HON. FLORENCE AMHERST, Didlington Hall, Stoke Ferry.
 2248 III. (10s.)—C. SNEDDON, Kirkham.

Class 279.—*Dorking Cocks or Cockerels, White, or any other variety.* [3 entries.]

2249 I. (30s.), & 2250 II. (15s.)—DR. HERBERT C. TITTERTON, Vine Cottage, Norwood Green, Southall. (White.)

2251 R. N. & H. C.—J. J. G. WOODCOCK, Briston, Melton Constable. (White.)

Class 280.—*Dorking Hens or Pullets, White, or any other variety.*

[4 entries, none absent.]

2255 I. (30s.)—J. J. G. WOODCOCK, Briston, Melton Constable. (White.)

2254 II. (15s.) & 2253 R. N. & H. C.—Dr. HERBERT C. TITTERTON, Vine Cottage, Norwood Green, Southall. (White.)

Sussex.

Class 281.—*Red or Brown Sussex Cocks or Cockerels.* [8 entries, none absent.]

2259 I. (30s., & Medal.¹)—DAVID ROBERTS, Hill Brow, Wallands Park, Lewes. (Red.)

2256 II. (15s.)—S. G. FROST, Dunsmore, Horeham Road.

2258 III. (10s.)—J. P. HOWARD, Glynde Mill, Glynde, Lewes.

2260 R. N. & H. C.—LORD ROTHSCHILD, Tring Park, Herts.

Class 282.—*Red or Brown Sussex Hens or Pullets.* [15 entries, 1 absent.]

2269 I. (30s., & R. N. for Medal.¹)—R. B. ROGERS, Eastwood, Hurstmonceux. (Red.)

2276 II. (15s.)—GODFREY SHAW, Heathdene, Haywards Heath. (Red.)

2278 III. (10s.)—E. J. WADMAN, New Hall, Henfield. (Red.)

2274 R. N. & H. C.—E. & H. RUSSELL, Broomham, Chiddingly.

Class 283.—*Light Sussex Cocks or Cockerels.* [3 entries, none absent.]

2281 I. (30s., & R. N. for Medal.¹)—D. ROBERTS, Hill Brow, Wallands Park, Lewes.

2279 R. N. & H. C.—WILLIAM FREEMAN, Mill House, Glynde, Lewes.

Class 284.—*Light Sussex Hens or Pullets.* [8 entries, none absent.]

2288 I. (30s., & Medal.¹), & 2286 R. N. & H. C.—E. & H. RUSSELL, Broomham, Chiddingly.

2289 II. (15s.)—W. S. TUCKER, Southover, Lewes.

2283 III. (10s.)—S. G. FROST, Dunsmore, Horeham Road.

Class 285.—*Speckled Sussex Cocks or Cockerels.* [12 entries, none absent.]

2295 I. (30s., & Medal.¹), & 2294 R. N. & H. C.—G. J. LENNY, The Retreat, Buxted.

2301 II. (15s.), & 2300 III. (10s.)—E. & H. RUSSELL, Broomham, Chiddingly.

Class 286.—*Speckled Sussex Hens or Pullets.* [13 entries, none absent.]

2313 I. (30s., & R. N. for Medal.¹)—E. & H. RUSSELL, Broomham, Chiddingly.

2306 II. (15s.)—GEORGE JOSEPH LENNY, The Retreat, Buxted.

2307 III. (10s.)—C. PAGE, Crossways House, Wilmington, Polegate.

2302 R. N. & H. C.—JOHN ADE, Grove Hill Farm, Hellingly.

Brahmas and Cochins.

Class 287.—*Brahma Cocks.* [10 entries, 2 absent.]

2324 I. (30s.)—R. W. WEBSTER, Hillside, Maidenhead.

2322 II. (15s.)—SAMUEL WILLIAM THOMAS, Glasfryn, Forest Fach, Swansea.

2318 III. (10s.)—ROBERT H. LINGWOOD, Riverside Poultry Yard, Needham Market.

2323 R. N. & H. C.—DR. H. C. TITTERTON, Vine Cottage, Norwood Green, Southall.

Class 288.—*Brahma Hens.* [7 entries, 2 absent.]

2331 I. (30s.)—J. ANDREWS SLATTER, Hill House, Somerton, Banbury.

2325 II. (15s.)—ABBOT BROTHERS, Thuxton, Norfolk.

2328 III. (10s.)—HAROLD HOLLAND, 124 St. Saviour's Road, Leicester.

2330 R. N. & H. C.—JOHN W. PROCTOR, Warford House, Great Warford, near Mobberley

Class 289.—*Cochin Cocks.* [13 entries, 1 absent.]

2340 I. (30s.)—GEORGE H. PROCTER, Flass House, Durham.

2333 II. (15s.)—J. B. GILBERT, The Red House, Winchester.

2343 III. (10s.)—ROBERT S. WILLIAMSON, The Grange, Hednesford.

2342 R. N. & H. C.—DR. H. C. TITTERTON, Vine Cottage, Norwood Green, Southall.

Class 290.—*Cochin Hens.* [8 entries, none absent.]

2348 I. (30s.), & 2349 II. (15s.)—GEORGE H. PROCTER, Flass House, Durham.

2346 III. (10s.)—J. B. GILBERT, The Red House, Winchester.

2352 R. N. & H. C.—ROBERT S. WILLIAMSON, The Grange, Hednesford.

¹ Three Silver Medals were given by the Sussex Poultry Club for the best Bird of each of the Red or Brown, Light, and Speckled varieties in Classes 281-286.

cxxxii *Award of Poultry Prizes at Park Royal, 1905.*

Class 291.—*Brahma or Cochin Cockerels.* [6 entries, 1 absent.]

- 2358 I. (30s.)—S. J. SOUTHON, Hazelhurst, Hulse Road, Southampton. (Brahma.)
2357 II. (15s.)—J. ANDREWS SLATTER, Hill House, Somerton, Banbury. (Cochin.)
2354 III. (10s.)—RICHARD JENKINSON, Wharf House, Garstang.
2353 R. N. & H. C.—MRS. A. CAMPBELL, Uley, Dursley. (Brahma.)

Class 292.—*Brahma or Cochin Pullets.* [10 entries, none absent.]

- 2363 I. (30s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury. (Brahma.)
2367 II. (15s.), & 2368 R. N. & H. C.—JAMES WALLBANK, 49 Berry Lane, Longridge, near Preston. (Brahma.)
2359 III. (10s.)—HENRY BEDFORD, St. James, Brackley. (Brahma.)

Langshans.

Class 293.—*Langshan Cocks or Cockerels.* [7 entries, 1 absent.]

- 2369 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
2375 II. (15s.)—HARRY WALLIS, Northend, Warley, Brentwood.
2372 III. (10s.)—G. FIELDER, 15 Alexandra Road, Wimbledon.
2370 R. N. & H. C.—W. H. CRANE, Great Barr Hall, Birmingham.

Class 294.—*Langshan Hens or Pullets.* [7 entries, none absent.]

- 2376 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
2379 II. (15s.)—G. FIELDER, 15 Alexandra Road, Wimbledon.
2381 III. (10s.)—HARRY WALLIS, Northend, Warley, Brentwood.
2377 R. N. & H. C.—W. H. CRANE, Great Barr Hall, Birmingham.

Plymouth Rocks.

Class 295.—*Plymouth Rock Cocks.* [8 entries, 1 absent.]

- 2389 I. (30s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
2388 II. (15s.)—H. PINCHBECK, The Elms, Burton-on-Trent.
2383 III. (10s.)—FRANK BATEMAN, The Lodge, Shinfield, Reading.
2384 R. N. & H. C.—GEORGE E. GUSH, Thuckham, Hartley Wintney, Winchfield.

Class 296.—*Plymouth Rock Hens.* [6 entries, none absent.]

- 2396 I. (30s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
2395 II. (15s.)—H. PINCHBECK, The Elms, Burton-on-Trent.
2392 III. (10s.)—GEORGE E. GUSH, Thuckham, Hartley Wintney, Winchfield.
2393 R. N. & H. C.—FRANK NEAVE, Lingwood, Norwich.

Class 297.—*Plymouth Rock Cockerels.* [18 entries, 1 absent.]

- 2408 I. (30s.)—FRANK NEAVE, Lingwood, Norwich.
2397 II. (15s.)—FRANK BATEMAN, The Lodge, Shinfield, Reading.
2400 III. (10s.)—ROBERT CARTER, Pilling, near Garstang.
2404 R. N. & H. C.—GEORGE JACKSON, Bolton-le-Sands, Carnforth.

Class 298.—*Plymouth Rock Pullets.* [18 entries, 1 absent.]

- 2425 I. (30s.)—FRANK NEAVE, Lingwood, Norwich.
2415 II. (15s.)—FRANK BATEMAN, The Lodge, Shinfield, Reading.
2416 III. (10s.)—CYRIL BOULTER, Garston Park, Godstone.
2432 R. N. & H. C.—TOM WOODCOCK, Burton Fen Poultry Farm, Lincoln.

Wyandottes.

Class 299.—*Silver Laced Wyandotte Cocks.* [8 entries, none absent.]

- 2438 I. (30s.)—HENRY PICKLES, Kayfield House, Earby.
2439 II. (15s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
2433 III. (10s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
2437 R. N. & H. C.—THOMAS LOCKWOOD, Pateley Bridge.

Class 300.—*Silver Laced Wyandotte Hens.* [13 entries, none absent.]

- 2448 I. (30s.)—J. G. MORTEN, Spondon, Derby.
2451 II. (15s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
2446 III. (10s.)—TOM H. FURNESS, The Carlton, Chesterfield.
2450 R. N. & H. C.—HENRY PICKLES, Kayfield House, Earby.

Class 301.—*Silver Laced Wyandotte Cockerels.* [3 entries.]

- 2455 I. (30s.)—MORTIMER G. GOLDSMITH, Blendworth, Horndean.
2454 II. (15s.)—TOM H. FURNESS, The Carlton, Chesterfield.
2456 R. N. & H. C.—D. H. WELLS, Tysoe, Kineton.

Class 302.—*Silver Laced Wyandotte Pullets.* [8 entries, 1 absent.]

- 2461 I. (30s.), & 2460 II. (15s.)—J. M. PHILIPSON, Fell House, Haydon Bridge.
 2458 III. (10s.)—LAWRENCE D. HOLT, High Borrans, Windermere.
 2457 R. N. & H. C.—TOM H. FURNESS, The Carlton, Chesterfield.

Class 303.—*Gold Laced Wyandotte Cocks.* [8 entries, 2 absent.]

- 2471 I. (30s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
 2465 II. (15s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 2472 III. (10s.)—JOHN PROCTER, Goosnargh Mill, near Preston.
 2470 R. N. & H. C.—HENRY PICKLES, Kayfield House, Earby.

Class 304.—*Gold Laced Wyandotte Hens.* [8 entries, none absent.]

- 2473 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 2479 II. (15s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
 2478 III. (10s.)—THOMAS C. PINNIGER, The Walnuts, Westbury.
 2480 R. N. & H. C.—JOHN PROCTER, Goosnargh Mill, near Preston.

Class 305.—*Gold Laced Wyandotte Cockerels.* [11 entries, none absent.]

- 2483 I. (30s.)—TOM H. FURNESS, The Carlton, Chesterfield.
 2484 II. (15s.)—MORTIMER G. GOLDSMITH, Blendworth, Horndean.
 2488 III. (10s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
 2489 R. N. & H. C.—JOHN PROCTER, Goosnargh Mill, near Preston.

Class 306.—*Gold Laced Wyandotte Pullets.* [9 entries, none absent.]

- 2494 I. (30s.)—MORTIMER G. GOLDSMITH, Blendworth, Horndean.
 2493 II. (15s.)—TOM H. FURNESS, The Carlton, Chesterfield.
 2499 III. (10s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
 2492 R. N. & H. C.—ARTHUR ELLETT, Waterfall Poultry Farm, Southgate.

Class 307.—*Wyandotte Cocks or Cockerels, any other variety.*

[11 entries, 1 absent.]

- 2501 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 (Partridge.)
 2508 II. (15s.)—MISS C. RILOT, Tempsford, Sandy. (Partridge.)
 2510 III. (10s.)—JAMES TURNER, Bentham Poultry Farm, Bentham. (Partridge.)
 2507 R. N. & H. C.—JULIUS G. MOSENTHAL, Staple Hall, Bletchley. (Partridge.)

Class 308.—*Wyandotte Hens or Pullets, any other variety.*

[16 entries, 2 absent.]

- 2527 I. (30s.)—HUBERT WRIGHT, Mayfield, Keighley. (Partridge.)
 2512 II. (15s.)—R. ANTHONY, Prize Poultry Farm, Euxton, near Chorley. (White.)
 2513 III. (10s.)—M. W. & C. A. ARMSTRONG, The Manor House, Farningham.
 (Partridge.)
 2514 R. N. & H. C.—W. M. BELL, St. Leonard's Poultry Farm, Ringwood. (Partridge.)

Orpingtons.

Class 309.—*Buff Orpington Cocks.* [18 entries, none absent.]

- 2528 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 2539 II. (15s.)—W. F. MORYSON, Newmarket Street, Ayr.
 2533 III. (10s.), & 2532 R. N. & H. C.—W. COOK & SONS, Orpington House, St. Mary Cray.

Class 310.—*Buff Orpington Hens.* [10 entries, 1 absent.]

- 2547 I. (30s.)—EDWARD A. CASS, Candlesby House, Burgh, R.S.O.
 2554 II. (15s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury.
 2553 III. (10s.)—W. F. MORYSON, Newmarket Street, Ayr.
 2551 R. N. & H. C.—ALFRED MORRIS, Fuller House, Ponders End.

Class 311.—*Buff Orpington Cockerels.* [19 entries, 4 absent.]

- 2556 I. (30s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 2557 II. (15s.), & 2558 R. N. & H. C.—MRS. J. ASKEW, The Nook, Caton.
 2573 III. (10s.)—JAMES TURNER, Bentham Poultry Farm, Bentham.

Class 312.—*Buff Orpington Pullets.* [22 entries, 4 absent.]

- 2585 I. (30s.)—MISS GARRETT, Wellsley Cottage, London Road, near Cheam.
 2575 II. (15s.)—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.
 2576 III. (10s.)—MRS. J. ASKEW, The Nook, Caton.
 2586 R. N. & H. C.—GOING BROTHERS, Sunnyside, Stapleford.

Class 313.—*Orpington Cocks, any other variety.* [14 entries, 2 absent.]

- 2597 I. (30s.)—W. M. BELL, St. Leonard's Poultry Farm, Ringwood. (Black.)
 2598 II. (15s.), & 2599 R. N. & H. C.—W. COOK & SONS, Orpington House, St. Mary Cray.
 (Black.)
 2608 III. (10s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury. (Black.)

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Class 314.—*Orpington Hens, any other variety.* [16 entries, 4 absent.]

- 2623 I. (30s.)—CHARLES PRESTON, Manor House, Earlsheaton, Dewsbury. (Black.)
2612 II. (15s.)—W. M. BELL, St. Leonard's Poultry Farm, Ringwood. (White.)
2625 III. (10s.)—MORRIS SMITH, Mount Road, Oswestry. (Black.)
2613 R. N. & H. C.—W. COOK & SONS, Orpington House, St. Mary Cray. (Black.)

Class 315.—*Orpington Cockerels, any other variety.* [15 entries, 1 absent.]

- 2628 I. (30s.)—WILLIAM MOORE BELL, St. Leonard's Poultry Farm, Ringwood,
2633 II. (15s.)—TOM H. FURNESS, The Carlton, Chesterfield. (Black.)
2627 III. (10s.)—FRANK BATEMAN, The Lodge, Shinfield, Reading. (White.)
2632 R. N. & H. C.—HEW CRAWFORD, Avenue Gardens, Mill Hill Park. (Black.)

Class 316.—*Orpington Pullets, any other variety.* [16 entries, 2 absent.]

- 2644 I. (30s.)—WILLIAM MOORE BELL, St. Leonard's Poultry Farm, Ringwood.
2654 II. (15s.)—W. RICHARDSON, The Bungalow, Slinfold. (White.)
2657 III. (10s.)—TOM WOODCOCK, Burton Fen Poultry Farm, Lincoln. (Black.)
2643 R. N. & H. C.—FRANK BATEMAN, The Lodge, Shinfield. (Black.)

French.

Class 317.—*Faverolle French Cocks.* [5 entries, none absent.]

- 2658 I. (30s.)—C. H. BRADLEY, Driver's Farm, Tibberton.
2659 II. (15s.)—MISS ALICE PETERS, Barnamore House, Withington.
2661 R. N. & H. C.—MRS. JOHN C. STRAKER, The Leazes, Hexham.

Class 318.—*Faverolle French Hens.* [5 entries, none absent.]

- 2665 I. (30s.)—MISS C. RILOT, Tempsford, Sandy.
2664 II. (15s.)—MISS ALICE PETERS, Barnamore House, Withington.
2663 R. N. & H. C.—C. H. BRADLEY, Driver's Farm, Tibberton.

Class 319.—*Faverolle French Cockerels.* [5 entries, none absent.]

- 2671 I. (30s.)—MISS ALICE PETERS, Barnamore House, Withington.
2669 II. (15s.)—MISS BEATRICE I. HILEY, Buckle House, Uley, Dursley.
2670 R. N. & H. C.—J. P. W. MARX, Basford, Nottingham.

Class 320.—*Faverolle French Pullets.* [5 entries, none absent.]

- 2677 I. (30s.), & 2676 R. N. & H. C.—MISS ALICE PETERS, Barnamore House, Withington.
2673 II. (15s.)—C. H. BRADLEY, Driver's Farm, Tibberton.

Class 321.—*French Cocks or Cockerels, any other variety.*
[4 entries, none absent.]

- 2678 I. (30s.)—MESDAMES HILL & MACONCHIE, Tovil House, Maidstone. (Houdan.)
2681 II. (15s.), & 2680 R. N. & H. C.—SAMUEL WILLIAM THOMAS, Glasfryn, Forest Fach, Swansea. (Crèveœur and Houdan.)

Class 322.—*French Hens or Pullets, any other variety.* [4 entries, none absent.]

- 2684 I. (30s.), & 2685 II. (15s.)—SAMUEL WILLIAM THOMAS, Glasfryn, Forest Fach, Swansea. (Houdan and Crèveœur.)
2682 R. N. & H. C.—MESDAMES HILL & MACONCHIE, Tovil House, Maidstone. (Houdan.)

Minorcas.

Class 323.—*Minorca Cocks.* [5 entries, none absent.]

- 2689 I. (30s.)—ARTHUR GEORGE PITTS, Highbridge.
2690 II. (15s.)—ALEXANDER C. RUSSELL, The Grange, Ellesmere Park, Eccles.
2686 R. N. & H. C.—ROBERT ANTHONY, Prize Poultry Farm, Euxton, near Chorley.

Class 324.—*Minorca Hens.* [7 entries, none absent.]

- 2694 I. (30s.)—EDGAR A. HOWE, Stoke by Nayland, Colchester.
2693 II. (15s.)—WILLIAM HARTLEY, Yew Trees, Wennington.
2695 III. (10s.), & 2696 R. N. & H. C.—ARTHUR GEORGE PITTS, Highbridge.

Class 325.—*Minorca Cockerels.* [5 entries, none absent.]

- 2701 I. (30s.)—MISS F. HELEN PRINCE, Dunwood, Maidenhead.
2699 II. (15s.)—TENNYSON FAWKES, Leonard Stanley, Stonehouse.
2698 R. N. & H. C.—FRANK BATEMAN, Shinfield, Reading.

Class 326.—*Minorca Pullets.* [3 entries, 1 absent.]

- 2703 I. (30s.)—FRANK BATEMAN, Shinfield, Reading.

Leghorns.

Class 327.—*White Leghorn Cocks or Cockerels.* [8 entries, none absent.]

- 2707 I. (30s.)—WILLIAM MOORE BELL, St. Leonard's Poultry Farm, Ringwood.
 2709 II. (15s.)—LAURENCE CURRIE, Minley Manor, Farnborough.
 2712 III. (10s.)—J. READER, Leghorn House, Escrick.
 2706 R. N. & H. C.—ROBERT ANTHONY, Euxton, near Chorley.

Class 328.—*White Leghorn Hens or Pullets.* [10 entries, none absent.]

- 2715 I. (30s.)—WILLIAM MOORE BELL, St. Leonard's Poultry Farm, Ringwood.
 2720 II. (15s.)—CAPT. W. H. PALMER, Fairfield, Williton.
 2723 III. (10s.)—ALEXANDER C. RUSSELL, The Grange, Ellesmere Park, Eccles.
 2717 R. N. & H. C.—LAURENCE CURRIE, Minley Manor, Farnborough.

Class 329.—*Brown Leghorn Cocks or Cockerels.* [5 entries, 1 absent.]

- 2728 I. (30s.)—STANBURY BROTHERS, Copythorne, Churston Ferrers.
 2727 II. (15s.)—GILLING BROTHERS, Lower Milton, Wells.
 2724 R. N. & H. C.—ROBERT ANTHONY, Euxton, near Chorley.

Class 330.—*Brown Leghorn Hens or Pullets.* [2 entries.]

- 2730 I. (30s.)—J. CLARKSON, JUN., The Green, Silsden, *viâ* Keighley.
 2729 R. N. & H. C.—ROBERT ANTHONY, Euxton, near Chorley.

Class 331.—*Leghorn Cocks or Cockerels, any other colour.* [7 entries, 2 absent.]

- 2731 I. (30s.)—ROBERT ANTHONY, Euxton, near Chorley. (Pile.)
 2732 II. (15s.)—ROBERT CHIPPINDALE, Hampson Green, Ellel. (Buff.)
 2737 R. N. & H. C.—COL. S. SANDBACH, Hafodunos, Abergele. (Buff.)

Class 332.—*Leghorn Hens or Pullets, any other colour.* [5 entries, 1 absent.]

- 2738 I. (30s.)—ROBERT ANTHONY, Euxton, near Chorley. (Buff.)
 2740 II. (15s.)—MORLAND HUTCHINSON, The Woodlands, Carnforth. (Black.)
 2741 R. N. & H. C.—COL. S. SANDBACH, Hafodunos, Abergele. (Buff.)

Anconas.

Class 333.—*Ancona Cocks or Cockerels.* [13 entries, 1 absent.]

- 2750 I. (30s.)—J. W. SYKES, Windsor House, Bury.
 2743 II. (15s.)—WILLIAM L. ARCHER, Ashwells Farm, Chalfont St. Giles.
 2747 III. (10s.)—EVANS BROTHERS, Tyladu Farm, Treorchy.
 2745 R. N. & H. C.—LAURENCE CURRIE, Minley Manor, Farnborough.

Class 334.—*Ancona Hens or Pullets.* [14 entries, none absent.]

- 2765 I. (30s.), & 2764 II. (15s.)—J. W. SYKES, Windsor House, Bury.
 2760 III. (10s.)—LAURENCE CURRIE, Minley Manor, Farnborough.
 2758 R. N. & H. C.—THOMAS BAULK, Carton Tower, Stoke Poges.

Andalusians.

Class 335.—*Andalusian Cocks or Cockerels.* [5 entries, none absent.]

- 2770 I. (30s.)—ROBERT ANTHONY, Euxton, near Chorley.
 2772 II. (15s.)—ROBERT LITTLE, JUN., Rokeby Cottage, Glossop.
 2774 R. N. & H. C.—F. PORTER, High Street, Bridgwater.

Class 336.—*Andalusian Hens or Pullets.* [5 entries, none absent.]

- 2775 I. (30s.)—ROBERT ANTHONY, Euxton, near Chorley.
 2779 II. (15s.)—ROBERT LITTLE, JUN., Rokeby Cottage, Glossop.
 2778 R. N. & H. C.—PERCY KINGWELL, Rosedale, Windmill Road, Wandsworth.

Any other Recognised Breeds (Bantams excepted).

Class 337.—*Cocks.* [10 entries, none absent.]

- 2784 I. (30s.)—HENRY PICKLES, Kayfield House, Earby. (Hamburgh.)
 2783 II. (15s.)—ROBERT H. LINGWOOD, Riverside Poultry Yard, Needham Market.
 (Red Malay.)
 2785 III. (10s.)—MISS C. RILOT, Tempsford, Sandy. (Black Sumatra.)
 2780 R. N. & H. C.—VISCOUNT DEERHURST, Dynes Hall, Halstead. (Poland.)

Class 338.—*Hens.* [10 entries, none absent.]

- 2797 I. (30s.)—DR. H. C. TITTERTON, Vine Cottage, Norwood Green. (Black Spanish.)
 2794 II. (15s.)—HENRY PICKLES, Kayfield House, Earby. (Hamburgh.)
 2791 III. (10s.)—EVANS BROTHERS, Tyladu Farm, Treorchy. (Silver Poland.)
 2792 R. N. & H. C.—JOHN C. HUXTABLE, 54 South Street, South Molton. (Malay.)

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Class 339.—Cockerels. [3 entries.]

- 2800 I. (30s.)—JOHN C. HUXTABLE, 54 South Street, South Molton. (Malay.)
2802 II. (15s.)—R. RIVOLTA, Willow Bank, Ryde. (Black Hamburgh.)
2801 R. N. & H. C.—HENRY PICKLES, Kayfield House, Earby. (Hamburgh.)

Class 340.—Pullets. [2 entries.]

- 2804 I. (30s.)—HENRY PICKLES, Kayfield House, Earby. (Hamburgh.)
2803 R. N. & H. C.—JOHN C. HUXTABLE, 54 South Street, South Molton. (Malay.)

Table Fowls.

Class 341.—Pair of Cockerels, pure-breed. [7 entries, 1 absent.]

- 2809 I. (30s.)—HERBERT REEVES, Northlands, Emsworth. (Dorking.)
2805 II. (15s.)—J. HILLYARD CAMERON, Little Standen, Biddenden. (Buff Orpington.)
2806 III. (10s.)—LAURENCE CURRIE, Minley Manor, Farnborough. (Dorking.)
2807 R. N. & H. C.—MURRAY LINDNER, White House Poultry Farm, Hanbury. (Jubilee Orpington.)

Class 342.—Pair of Pullets, pure-breed. [9 entries, 1 absent.]

- 2818 I. (30s.)—HERBERT REEVES, Northlands, Emsworth. (Dorking.)
2815 II. (15s.)—JAMES HAFFENDEN, South View, Warbleton. (Speckled Sussex.)
2813 III. (10s.)—VISCOUNT DEERHURST, Dynes Hall, Halstead. (Dorking.)
2814 R. N. & H. C.—P. B. GOVETT, Tideford, St. Germans. (Indian Game.)

Class 343.—Pair of Cockerels, cross-breed. [8 entries, none absent.]

- 2826 I. (30s.), & 2827 II. (15s.)—LADY WILSON, Chillingham Barns, Belford. (Indian Game and Dorking.)
2822 III. (10s.)—WILLIAM HAMBLY, Cutlinwith, St. Germans. (Indian Game and Dorking.)
2821 R. N. & H. C.—LAURENCE CURRIE, Minley Manor, Farnborough. (Indian Game and Buff Orpington.)

Class 344.—Pair of Pullets, cross-breed. [12 entries, none absent.]

- 2838 I. (30s.)—LADY WILSON, Chillingham Barns, Belford. (Indian Game and Dorking.)
2833 II. (15s.)—WILLIAM HAMBLY, Cutlinwith, St. Germans. (Indian Game and Dorking.)
2835 III. (10s.)—LORD ROTHSCHILD, Tring Park, Tring. (Buff Orpington and Red Sussex.)
2837 R. N. & H. C.—LADY A. D. WILLOUGHBY, Normanton Park, Stamford. (Game and Buff Orpington.)

DUCKS.

Aylesbury.

Class 345.—Aylesbury Drakes. [3 entries, 1 absent.]

- 2843 I. (30s.)—RUSSELL SHIPLEY, Bishopston, Bristol.
2842 II. (15s.)—FREDERICK READ, Aston Clinton, near Tring.

Class 346.—Aylesbury Ducks. [8 entries, 4 absent.]

- 2850 I. (30s.)—FREDERICK READ, Aston Clinton, near Tring.
2848 II. (15s.)—BENJAMIN HOLME, Hope, *via* Sheffield.
2851 III. (10s.)—RUSSELL SHIPLEY, Bishopston, Bristol.

Class 347.—Aylesbury Young Drakes. [2 entries.]

- 2852 I. (30s.), & 2853 R. N. & H. C.—FREDERICK READ, Aston Clinton, near Tring.

Class 348.—Aylesbury Ducklings. [2 entries.]

- 2854 I. (30s.), & 2855 R. N. & H. C.—FREDERICK READ, Aston Clinton, near Tring.

Rouen.

Class 349.—Rouen Drakes. [10 entries, 1 absent.]

- 2861 I. (30s.)—R. J. SERGEANT, Thornton Abbey, Ulceby.
2859 II. (15s.)—A. T. & H. PEARS, Mere, near Lincoln.
2862 III. (10s.)—DR. H. C. TITTERTON, Vine Cottage, Norwood Green, Southall.
2865 R. N. & H. C.—W. WOODS, Worksop.

Class 350.—Rouen Ducks. [6 entries, none absent.]

- 2871 I. (30s.)—W. WOODS, Worksop.
2866 II. (15s.)—HENRY W. BELL, Caville Hall, Howden.
2868 III. (10s.)—A. T. & H. PEARS, Mere, near Lincoln.
2867 R. N. & H. C.—WILLIAM BYGOTT, Ryehill House, Ulceby.

Pekin.

Class 351.—*Pekin Drakes.* [3 entries, none absent.]

- 2873 I. (30s.)—RUSSELL SHIPLEY, Bishopston, Bristol.
2872 II. (15s.)—FRANCIS A. MILES, Park Farm, Boughton Aluph, Ashford.

Class 352.—*Pekin Ducks.* [3 entries.]

- 2876 I. (30s.)—RUSSELL SHIPLEY, Bishopston, Bristol.
2875 II. (15s.)—FRANCIS A. MILES, Park Farm, Boughton Aluph, Ashford.
2877 R. N. & H. C.—EDGAR WIGHT, Tedstone Court, near Worcester.

Cayuga.

Class 353.—*Cayuga Drakes.* [5 entries, none absent.]

- 2879 I. (30s.)—ROBERT S. WILLIAMSON, The Grange, Hednesford.
2881 II. (15s.), & 2882 R. N. & H. C.—LADY WILSON, Chillingham Barns, Belford.

Class 354.—*Cayuga Ducks.* [5 entries, none absent.]

- 2886 I. (30s.)—LADY WILSON, Chillingham Barns, Belford.
2884 II. (15s.)—ROBERT S. WILLIAMSON, The Grange, Hednesford.

Indian Runner.

Class 355.—*Indian Runner Drakes.* [6 entries, 1 absent.]

- 2890 I. (30s.), & 2891 II. (15s.)—JACOB THOMLINSON, Tonford Manor, Canterbury.
2889 III. (10s.)—COL. S. SANDBACH, Hafodunos, Abergele.

Class 356.—*Indian Runner Ducks.* [4 entries, 1 absent.]

- 2894 I. (30s.)—DURRETT BROTHERS, The Lawn, Tuffley.
2895 II. (15s.)—JACOB THOMLINSON, Tonford Manor, Canterbury.

Any Breeds (Aylesburys excepted) or Cross Breeds.

Class 357.—*Pairs of Ducklings.* [2 entries.]

- 2898 I. (30s.)—WILLIAM BYGOTT, Ryehill House, Ulceby. (Rouen.)
2899 R. N. & H. C.—A. T. & H. PEARS, Mere, near Lincoln. (Cross-bred.)

Geese.

Class 358.—*Embden Ganders.* [5 entries, none absent.]

- 2901 I. (£2.)—THE HON. SYBIL AMHERST, Didlington Hall, Stoke Ferry.
2900 II. (£1.)—ABBOTT BROTHERS, High Street, Southall.
2903 R. N. & H. C.—MISS MARY E. CAMPAIN, Deeping St. Nicholas, Spalding.

Class 359.—*Embden Geese.* [5 entries, none absent.]

- 2905 I. (£2.)—ABBOTT BROTHERS, High Street, Southall.
2909 II. (£1.)—W. WOODS, Worksop, Notts.
2907 R. N. & H. C.—WILLIAM BYGOTT, Ryehill House, Ulceby.

Class 360.—*Toulouse Ganders.* [7 entries, none absent.]

- 2910 I. (£2.)—THOMAS ALTHAM, Clifton Arms, Little Marton.
2914 II. (£1.)—R. J. SERGEANT, Thornton Abbey, Ulceby.
2915 III. (10s.)—MRS. FRED TROUP, Denmark Cottage, Southwater.
2916 R. N. & H. C.—W. WOODS, Worksop.

Class 361.—*Toulouse Geese.* [2 entries.]

- 2918 I. (£2.)—W. WOODS, Worksop.
2917 R. N. & H. C.—WILLIAM BYGOTT, Ryehill House, Ulceby.

Turkeys.

Class 362.—*Turkey Cocks.* [6 entries, none absent.]

- 2920 I. (£2.)—W. COOK & SONS, Orpington House, St. Mary Cray. (American Bronze.)
2924 II. (£1.)—W. WOODS, Worksop.
2919 III. (10s.)—ABBOTT BROTHERS, High Street, Southall. (Mammoth Bronze.)
2923 R. N. & H. C.—JACOB THOMLINSON, Tonford Manor, Canterbury. (American Bronze.)

Class 363.—*Turkey Hens.* [4 entries, none absent.]

- 2926 I. (£2.)—RICHARD BACH, White House, Onibury. (Bronze.)
2925 II. (£1.)—ABBOTT BROTHERS, High Street, Southall. (Mammoth Bronze.)
2928 R. N. & H. C.—W. WOODS, Worksop.

Hens' Eggs.

Class 364.—*Cases of 60 New-laid Hens' Eggs, white shell.*
[6 entries, none absent.]

- 2933 I. (30s.)—HERBERT STURCH, Stawell Lodge, Richmond, Surrey. (Minorca.)
2931 II. (15s.)—WILLIAM REYNOLDS, Leigh Nook Poultry Farm, Street, S.O. (Leghorn.)
2932 II. (10s.)—STREET & DISTRICT COLLECTING DEPÔT, High Street, Street.
2929 R. N. & H. C.—THOMAS F. HORSLEY, South Grove, Highgate. (Minorca.)

Class 365.—*Cases of 60 New-laid Hens' Eggs, brown or tinted shell.*
[8 entries, none absent.]

- 2940 I. (30s.)—MRS. SMILES, Monk's Green, Fetcham, Leatherhead. (Black and Buff Orpington.)
2937 II. (15s.)—THOMAS F. HORSLEY, South Grove, Highgate, N. (Cross-breed.)
2935 III. (10s.), & 2936 R. N. & H. C.—M. C. DODDS, Denford Lodge, Raunds. (Langshans.)

Breeding Pens.

Class 366.—*Breeding Pens, any variety of Indian Game.* [2 entries.]

- 2944 I. (£2.)—FIRTH BROTHERS, Wharton Farm, Acton Vale, W.
2943 R. N. & H. C.—J. HILLYARD CAMERON, Little Standen, Biddenden.

Class 367.—*Breeding Pens, any variety of Dorking.*
[5 entries, none absent.]

- 2947 I. (£2.)—THOMAS HULSE, JUN., Madeley, Newcastle, Staffs.
2946 II. (£1.)—VISCOUNT DEERHURST, Dynes Hall, Halstead.
2948 R. N. & H. C.—GEORGE H. PROCTER, Flass House, Durham.

Class 368.—*Breeding Pens, any variety of Plymouth Rock or Wyandotte.*
[3 entries.]

- 2950 I. (£2.)—CHARLES W. DUNN, Mosley Farm, Rolleston. (White Wyandotte.)
2952 II. (£1.)—COL. S. SANDBACH, Hafodunos, Abergele. (Partridge Wyandotte.)
2951 R. N. & H. C.—MISS C. RILOT, Tempsford, Sandy. (Partridge Wyandotte.)

Class 369.—*Breeding Pens, any variety of Orpington.*
[4 entries, none absent.]

- 2953 I. (£2.)—W. COOK & SONS, Orpington House, St. Mary Cray. (Black.)
2956 II. (£1.)—COL. S. SANDBACH, Hafodunos, Abergele. (Black.)
2954 R. N. & H. C.—MURRAY LINDNER, White House Poultry Farm, Hanbury. (White.)

Class 370.—*Breeding Pens, any variety of Minorca or Leghorn.*
[2 entries, 1 absent.]

- 2957 I. (£2.)—HERBERT STURCH, Stawell Lodge, Richmond, Surrey. (Minorca.)

Class 371.—*Breeding Pens, any other variety.* [14 entries, 1 absent.]

- 2959 I. £2.—HENRY BEDFORD, St. James', Brackley. (Brahma.)
2960 II. (£1.)—J. HILLYARD CAMERON, Little Standen, Biddenden. (Spangled Old English Game.)
2962 III. (10s.)—MESDAMES HILL & MACONCHIE, Tovil House, Maidstone. (Houdan.)
2963 R. N. & H. C.—ROBERT H. LINGWOOD, Riverside Poultry Yard, Needham Market. (Malay.)

Class 372.—*Breeding Pens, any variety of White Ducks.*
[7 entries, 1 absent.]

- 2979 I. (£2.)—DR. HERBERT C. TITTERTON, Vine Cottage, Norwood Green, Southall (Aylesbury.)
2978 II. (£1), & 2977 III. (10s.)—FREDERICK READ, Aston Clinton, Tring. (Aylesbury.)
2976 R. N. & H. C.—G. NORMAN, Weston Turville, near Tring. (Aylesbury.)

Class 373.—*Breeding Pens, any variety of coloured Ducks.*
[4 entries, none absent.]

- 2983 I. (£2.)—R. J. SERGEANT, Thornton Abbey, Ulceby. (Rouen.)
2981 II. (£1.)—WILLIAM BYGOTT, Ryehill House, Ulceby. (Rouen.)
2982 R. N. & H. C.—FRANK MOODY, Ryehill, Ulceby. (Rouen.)

FARM AND DAIRY PRODUCE OF THE UNITED KINGDOM.

Butter.

Class 374.—*Kegs or other Packages of Butter, not less than 14 lb. and under 40 lb. in weight, delivered on or before Saturday, May 13, 1905.*
[7 entries, none absent.]

- 2990 I. (£4.)—URNEY CO-OPERATIVE DAIRY SOCIETY, LTD., Urney, Co. Tyrone. (Mixed breed of Cows: Mechanically separated cream, churned at about 56°, 3 per cent. salt. May 10.)
2987 II. (£2.)—LISBELLAW CO-OPERATIVE AGRICULTURAL AND DAIRY SOCIETY, LTD., Lisbellaw, Co. Fermanagh. (Cross-bred Shorthorn Cows: Mechanically separated cream, churned at 56°, salted in the grain. May 12.)

Class 375.—*Boxes of Twelve Two-Pound Rolls of Butter, made with not more than 1 per cent. of salt.* [11 entries, 2 absent.]

- 2999 I. (£4.)—SOLOHEAD CO-OPERATIVE AGRICULTURAL AND DAIRY SOCIETY, LTD., Limerick Junction. co. Tipperary.
2995 II. (£2.)—THE EARL OF LEITRIM, Mulroy, Milford, co. Donegal.
2994 III. (£1.)—IRISH CO-OPERATIVE AGENCY SOCIETY (RATHDUFF DAIRY), Rathduff, Blarney.
2993 R. N. & H. C.—GLENWILLIAM CO-OPERATIVE DAIRY SOCIETY, LTD., Ballingarry, co. Limerick.

Class 376.—*Two Pounds Fresh Butter, slightly salted, made up in Pounds.*
[57 entries, 2 absent.]

- 3002 (£2.)—MRS. GEORGE ADLAM, Bubwith Farm, Wookey Hole, Wells.
3006 (£2.)—MRS. A. A. BERE, Emmerford Cove, near Tiverton.
3015 (£2.)—JOHN GWYNNE, Kenton Grange, The Hyde, Middlesex.
3040 (£2.)—LORD ROTHSCHILD, Tring Park, Tring.
3032 (£1.)—GEORGE HERBERT MORRELL, M.P., Headington Hill Hall, Oxford.
3036 (£1.)—MRS. E. DICKSON PARK, Sedgmoor, Loudwater, Bucks.
3037 (£1.)—HON. MRS. PORTMAN, Hestercombe, Taunton.
3046 (£1.)—MRS. SMITH-NEILL, Wendover Lodge, Wendover, Bucks.
3025 (10s.)—MRS. R. LAWRENCE, Buckland Denham, Frome.
3047 (10s.)—LADY SMYTH, Ashton Court, Long Ashton, near Bristol.
3050 (10s.)—H. P. STURGES, Givons, Leatherhead.
3057 (10s.)—MRS. WILLIAMS, Warren Farm, Stanmore.

Class 377.—*Two Pounds Fresh Butter, slightly salted, made up in Pounds, from milk that has been drawn from Cows other than Channel Islands, and Cows crossed with Channel Islands Breeds.* [37 entries, 2 absent.]

- 3059 (£2.)—MRS. GEORGE ADLAM, Bubwith Farm, Wookey Hole, Wells.
3069 (£2.)—MISS M. K. HARRIS, Brownsell Farm, Stourton Caundle, Stalbridge, Dorset.
3077 (£2.)—MRS. L. R. MILDON, Higher Mead Down, Rackenford, Morchard Bishop.
3082 (£2.)—ALFRED PALMER, Wokefield Park, Mortimer, Berks.
3090 (£1.)—MRS. SMITH-NEILL, Wendover Lodge, Wendover, Bucks.
3091 (£1.)—SOLOHEAD CO-OPERATIVE AGRICULTURAL AND DAIRY SOCIETY, LTD.
3092 (£1.)—WILLIAM G. M. TOWNLEY, Hard Cragg, Grange-over-Sands.
3094 (£1.)—MRS. FRANK WARD, Burnville, Tavistock.
3062 (10s.)—MRS. A. A. BERE, Emmerford Cove, near Tiverton.
3074 (10s.)—THE EARL OF LEITRIM, Mulroy, Milford, co. Donegal.
3075 (10s.)—MRS. E. LEWIS, Pontantwn Farm, Llangendeirne, Kidwelly.
3084 (10s.)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton.

Cheese.

Made in 1905.

Class 378.—*Three Cheddar Cheeses, of not less than 50 lb. each.*
[22 entries, 1 absent.]

- 3097 I. (£8.)—MRS. C. CANDY, Temple House Farm, Doultling, Shepton Mallet.
3109 II. (£5.)—FRANK PORTCH, Clapton Dairy, Cucklington, Wincanton.
3113 III. (£3.)—HARRY TRAVERS, Sutton, Ditchat, Bath.
3104 IV. (£1.)—FRANCIS OSBORNE, Sanford Orcas, Sherborne, Dorset.
3111 R. N. & H. C.—W. C. SPENCER, North Perrott, Crewkerne.

Class 379.—*Three Cheshire Cheeses, of not less than 40 lb. each.*
[11 entries, none absent.]

- 3124 I. (£8.)—THOMAS NUNNERLEY, Bradeley Green, Whitchurch, Salop.
3126 II. (£5.)—MRS. C. SIMPSON, Tiverton, Tarporley.
3123 III. (£3.)—RICHARD MULLOCK, Guy Lane Farm, Waverton, Cheshire.
3118 IV. (£1.)—THOMAS BATHO, New Marton, Chirk.
3120 R. N. & H. C.—SAMUEL DUTTON, Burleydam, Whitchurch, Salop.

Class 380.—*Three Stilton Cheeses.* [7 entries, none absent.]

- 3134 I. (£5.)—JOHN SMITH, Gaddesby, near Leicester.
3129 II. (£3.)—BELVOIR VALE DAIRY CO., Harby, Melton Mowbray.
3130 III. (£2.)—ALBERT HULL, Frisby House, Billesdon, Leicester.
3131 R. N. & H. C.—ANDREW W. HURST, Manor House, Beeby, Leicester.

Class 381.—*Three Wensleydale Cheeses (Stilton Shape).*
[5 entries, none absent.]

- 3137 I. (£5.)—WILLIAM MASON, Swinethwaite, Leyburn, R.S.O.
3140 II. (£3.)—MRS. WILLIS, Manor House, Carperby, Aysgarth Station.
3139 R. N. & H. C.—JOHN STUBBS, Swinethwaite, Leyburn, R.S.O.

Class 382.—*Three Double Gloucester Cheeses.* [5 entries, none absent.]

- 3142 I. (£5.)—HISCOCK & CO., Stourton Farm, Stourton, Bath.
3143 II. (£3.)—C. T. PARRETT, Mitford Bridge, Shipston-on-Stour.

Class 383.—*Three Wiltshire Cheeses (Loaf or Flat), not exceeding 16 lb. each.*
[4 entries, 1 absent.]

- 3148 I. (£5.)—HISCOCK & CO., Stourton Farm, Stourton, Bath.
3146 II. (£3.)—JOHN ASHBY, Spiers Piece, Steeple Ashton, Trowbridge.

Class 384.—*Three Cheddar Truckle Cheeses.* [15 entries, 1 absent.]

- 3161 I. (£3.)—W. C. SPENCER, North Perrott, Crewkerne.
3164 II. (£2.)—J. B. WAYMAN, Brocastle, Cowbridge.
3158 III. (£1.)—HERBERT PICKFORD, Westlands Farm, Melksham, Wilts.
3156 R. N. & H. C.—WILLIAM HUNTER, Gartland Mains, Stranraer.

Cider and Perry.

N.B.—The names of the Fruits from which the Cider or Perry is stated by the Exhibitor to have been made are added after the address of the Exhibitor. In Classes 387 and 388 the date of making is also given.

Class 385.—*Casks of Cider, of not less than 18, and not more than 30 gallons, made in the autumn of 1904.* [19 entries, 1 absent.]

- 3168 I. (£5.)—HERBERT J DAVIS, Sutton Montis, Sparkford, Somerset. (Royal Chisel, White Jersey, and Cap of Liberty.)
3182 II. (£3.)—W. T. S. & H. A. TILLEY, East Compton, Shepton Mallet. (Cadbury, Red Jersey, Dabirst, and Doctor's Bitter.)
3167 III. (£2.)—JOHN BAZLEY, The Bury, Stoke Prior, Leominster. (Mixed Fruit.)
3179 R. N. & H. C.—SWANLEY CYDER CO., LTD., Wested, Swanley. (Margil and Vaughan.)

Class 386.—*One Dozen Bottles of Cider, made in the autumn of 1904.*
[30 entries, none absent.]

- 3211 I. (£5), 3210 II. (£3), & 3209 III. (£2.)—W. T. S. & H. A. TILLEY, East Compton Shepton Mallet. (New Cadbury, White Jersey, and Lady's Heart; Horner, Royal Jersey, and Gin; and Kingston Black, Red Jersey, and Cadbury.)
3186 R. N. & H. C.—RICHARD BACH, White House, Onibury, Salop. (Mixed Fruit and Strawberry Norman.)

Class 387.—*One Dozen Bottles of Cider, made in any year before 1904.*
[14 entries, none absent.]

- 3215 I. (£5), 3216 II. (£3), & 3214 (£2.)—JOHN BAZLEY, The Bury, Stoke Prior, Leominster. (Fox Whelp, 1902; White Norman, 1900; and Styres 1900.)
3225 R. N. & H. C.—JAMES SLATTER & CO., Paxford, Campden. (Fox Whelp and Kingston Black, 1903.)

Class 388.—*One Dozen Bottles of Perry.* [12 entries, none absent.]

- 3228 I. (£5.)—GEORGE BALLARD, The Lowe, Stockton, Worcester. (Oldfield, 1904.)
3235 II. (£3.)—RIDLER & SON, Clehonger Manor, Hereford. (Holmer, 1904.)
3238 III. (£2.)—SWANLEY CYDER CO., LTD., Wested, Swanley. (Butt and Huff Cap, 1904.)

Wool.

Class 389.—*Three Fleeces of Leicester or Border Leicester Wool.* [6 entries, none absent.]

- 3243 I. (£3.)—MRS. S. PERRY-HERRICK, Beau Manor Park, Loughborough. (Leicester Yearling Hogs.)
 3240 II. (£2.)—G. HARRISON, Gainford Hall, Darlington. (Leicester Yearling Hogs.)
 3242 III. (£1.)—WILLIAM LEATHES, Wern Fawr, Ruthin. (Border Leicester Yearlings.)

Class 390.—*Three Fleeces of Lincoln Wool.* [4 entries, none absent.]

- 3246 I. (£3), & 3247 II. (£2.)—HENRY DUDDING, Riby Grove, Great Grimsby. (Hogs.)
 3248 III. (£1.)—SIR JOHN H. THOROLD, BT., Syston Park, Grantham. (Yearling Hogs.)

Class 391.—*Three Fleeces of Kent or Romney Marsh Wool.* [11 entries, none absent.]

- 3252 I. (£3.)—CHARLES FILE, Elham, Canterbury. (Yearling Sheep.)
 3256 II. (£2.)—FREDERICK NEAME, Macknade, Faversham. (Yearling Rams.)
 3259 III. (£1.)—HENRY RIGDEN, Etchinghill, Lyminge, S.O., Kent. (Wethers.)

Class 392.—*Three Fleeces of any other Long Wool.* [9 entries, none absent.]

- 3268 I. (£3.)—THE EXORS. OF THE LATE THOMAS WILLIS, Manor House, Carperby, Aysgarth Station. (Wensleydale Hogs.)
 3264 II. (£2.)—ALFRED C. SKINNER, Pound Farm, Bishop's Lydeard. (Devon Shearling Ewes.)
 3262 III. (£1.)—LORD HENRY BENTINCK, M.P., Underley Hall, Kirkby Lonsdale. (Wensleydale Yearling Gimmer Hogs.)

Class 393.—*Three Fleeces of Southdown Wool.* [6 entries, none absent.]

- 3270 I. (£3), & 3271 III. (£1.)—LORD CALTHORPE, Elvetham Park, Winchfield. (Shearling Ewes; Two-shear Wethers.)
 3272 II. (£2.)—W. DOCKERAY, Kingston Court Farm, Canterbury. (Yearlings.)

Class 394.—*Three Fleeces of Shropshire Wool.* [9 entries, none absent.]

- 3277 I. (£3.)—RICHARD BACH, White House, Onibury, Salop. (Yearling Ewes.)
 3281 II. (£2.)—WILLIAM LEATHES, Wern Fawr, Ruthin. (Yearlings.)
 3282 III. (£1.)—PHILO L. MILLS, Ruddington Hall, Nottingham. (Yearling Ewes.)

Class 395.—*Three Fleeces of any other Short Wool.* [16 entries, none absent.]

- 3291 I. (£3.)—WILLIAM HENRY DAVIES, Claston and Livers Ocle, Hereford. (Ryeland Yearling Ewes.)
 3298 II. (£2.)—HENRY W. TAYLOR, Showle Court, Ledbury. (Ryeland Yearling Sheep.)
 3295 III. (£1.)—E. A. HAMBRO, Milton Abbey, Blandford, Dorset. (Dorset Horn Yearling Hogs.)

Class 396.—*Three Fleeces of Welsh Wool.* [3 entries.]

- 3302 I. (£3), & 3303 II. (£2.)—WILLIAM LEATHES, Wern Fawr, Ruthin. (Yearlings.)
 3301 R. N. & H. C.—JOSEPH L. GRATTON, Foryd Farm, Abergele.

Class 397.—*Three Fleeces of Scotch Wool.* [4 entries, none absent.]

- 3307 I. (£3.)—JACOB ROBSON, Byrness, Otterburn. (Cheviot Yearling Ewe Hogs.)
 3306 II. (£2.)—WILLIAM LEATHES, Wern Fawr, Ruthin. (Cheviot Yearlings.)
 3305 III. (£1.)—JOHN DARGUE, Burneside Hall, Kendal. (Black-faced Shearling Ewes.)

HIVES, HONEY, AND BEE APPLIANCES.¹

Class 398.—*Collections of Hives and Appliances.* [3 entries.]

- 3309 I. (£4.)—JAMES LEE & SON, 4 Martineau Road, Highbury, London, N.
 3308 II. (£2.)—ABBOTT BROTHERS, High Street, Southall.
 3310 III. (£1.)—W. P. MEADOWS, Syston, Leicester.

Class 399.—*Frame Hives, for general use, unpainted.* [6 entries, none absent.]

- 3313 I. (20s.)—JAMES LEE & SON, 4 Martineau Road, Highbury, London, N.
 3311 II. (15s.)—ABBOTT BROTHERS, High Street, Southall.
 3315 III. (10s.)—W. P. MEADOWS, Syston, Leicester.
 3312 R. N. & H. C.—C. L. GREENHILL, 80 Graham Road, Wimbledon.

¹ Prizes given by the British Bee-keepers' Association.

Class 400.—*Frame Hives, for Cottager's use, unpainted.* [4 entries.]

- 3320 I. (20s.)—W. P. MEADOWS, Syston, Leicester.
 3319 II. (15s.)—JAMES LEE & SON, 4 Martineau Road, Highbury, London, N.
 3317 III. (10s.)—ABBOTT BROTHERS, High Street, Southall.
 3318 R. N. & H. C.—C. L. GREENHILL, 80 Graham Road, Wimbledon.

Class 401.—*Honey Extractors.*¹ [3 entries.]

- 3323 I. (15s.), & 3322 II. (10s.)—W. P. MEADOWS, Syston, Leicester.
 3321 Certificate of Merit.—JAMES LEE, & SON, 4 Martineau Road, Highbury, London, N.

Class 402.—*Observatory Hives, not exceeding three Frames, with Bees and Queen.* [3 entries, 1 absent.]

- 3326 I. (20s.)—JAMES LEE & SON, 4 Martineau Road, Highbury, London, N.
 3324 II. (15s.)—SIR H. F. DE TRAFFORD, BT., Hill Crest, Market Harborough.

Class 403.—*Any appliance connected with Bee-keeping, to which no prize has been awarded at a Show of the R.A.S.E.* [6 entries, 1 absent.]

- 3329 I. (10s.)—JAMES LEE & SON, 4 Martineau Road, Highbury, N. (Uncapping Tray.)
 3331 Certificate of Merit.—W. THOMAS, 46 Rhosmaen Street, Llandilo. (Swarm Catcher.)
 3327 Certificate of Merit.—ABBOTT BROTHERS, High Street, Southall.

Class 404.—*Comb Honey.*² [8 entries, 4 absent.]

- 3334 I. (20s.)—JOHN HELME, Norton Canon, Weobley, R.S.O., Herefordshire.
 3340 II. (15s.)—J. PEARMAN, Penny Long Lane, Derby.
 3333 III. (10s.)—J. BOYES, Queen's Head Hotel, Bridge Street, Cardiff.

Class 405.—*Run or Extracted Light-coloured Honey.*² [7 entries, 2 absent.]

- 3343 I. (20s.)—W. J. COOK, Binbrook, near Market Rasen.
 3347 II. (15s.)—J. PEARMAN, Penny Long Lane, Derby.
 3345 III. (10s.)—J. JONES, Wegber Quarry, Carnforth.
 3344 R. N. & H. C.—JOHN HELME, Norton Canon, Weobley, R.S.O., Herefordshire.

Class 406.—*Run or Extracted Medium or Dark-coloured Honey.*²
[7 entries, 2 absent.]

- 3353 I. (20s.)—GEORGE M. TUNE, Woodlands, Vroneysyllte, Llangollen.
 3351 II. (15s.)—JOHN HELME, Norton Canon, Weobley, R.S.O., Herefordshire.
 3352 III. (10s.)—J. JONES, Wegber Quarry, Carnforth.

Class 407.—*Granulated Honey.*² [6 entries, 2 absent.]

- 3359 I. (20s.)—J. PEARMAN, Penny Long Lane, Derby.
 3355 II. (15s.)—J. BOYES, Queen's Head Hotel, Bridge Street, Cardiff.
 3358 III. (10s.)—JOHN HELME, Norton Canon, Weobley, R.S.O., Herefordshire.
 3356 R. N. & H. C.—A. S. DELL, The County Apiaries, Leigh, Lancs.

Class 408.—*Comb Honey.*³ [24 entries, 7 absent.]

- 3366 I. (20s.)—RICHARD BROWN, Flora Apiary, Somersham, Hunts.
 3374 II. (15s.)—CHARLES LODGE, High Easter, Chelmsford.
 3383 III. (10s.)—W. WOODLEY, Beedon, Newbury.
 3361 R. N. & H. C.—ALFRED BARBER, Comberton, Cambs.

Class 409.—*Run or Extracted Light-coloured Honey.*³ [15 entries, 4 absent.]

- 3395 I. (20s.)—CHARLES LODGE, High Easter, Chelmsford.
 3385 II. (15s.)—J. BARNES, Ivy Apiary, Burwell, Cambs.
 3387 III. (10s.)—ERIC BENNETT, Thru Hill Apiary, Methwold, Norfolk.
 3394 R. N. & H. C.—S. G. S. LEIGH, The Nurseries, Broughton, Hants.

Class 410.—*Run or Extracted Medium or Dark-coloured Honey.*³
[16 entries, 5 absent.]

- 3407 I. (20s.)—G. W. KIRBY, 17 Priory Road, Knowle, Bristol.
 3402 II. (15s.)—C. W. DYER, Compton Crossing, Compton, Berks.
 3414 III. (10s.)—E. C. R. WHITE, Newton Toney, near Salisbury.
 3410 R. N. & H. C.—FREDERICK J. OLD, Chapel Place, Piddington, Northampton.

¹ Prizes in Class 401 given by Mr. T. W. Cowan.

² Entries in Classes 404-407 limited to Bee-Keepers resident in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

³ Entries in Classes 408-411 are limited to Bee-Keepers resident in Bedfordshire, Berkshire, Bucks., Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts., Hunts., Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

Class 411.—*Granulated Honey.*³ [12 entries, 3 absent.]

- 3417 I. (20s.)—RICHARD BROWN, Flora Apiary, Somersham, Hunts.
 3423 II. (15s.)—JAMES LEE & SON, 4 Martineau Road, Highbury, London, N.
 3420 III. (10s.)—F. W. HUNT, Lanercombe Villa, Tipton St. John's, Devon.
 3425 R. N. & H. C.—E. C. R. WHITE, Newton Toney, near Salisbury.

Class 412.—*Frames of Comb Honey, for Extracting.* [10 entries, 7 absent.]

- 3437 I. (20s.)—E. C. R. WHITE, Newton Toney, near Salisbury.
 3429 II. (15s.)—RICHARD BROWN, Flora Apiary, Somersham, Hunts.

Class 413.—*Heather Honey.* [6 entries, 2 absent.]

- 3443 I. (20s.)—F. F. UPTON, 73 Church Street, Rugeley, Staffs.
 3438 II. (15s.)—JOHN BERRY, The Apiary, Llanrwst, North Wales.
 3440 III. (10s.)—WILLIAM DIXON, Belmont House, Beckett Street, Leeds.

Class 414.—*Best and Most Attractive Displays of Honey.*
 [5 entries, none absent.]

- 3444 I. (30s.), & 3445 R. N. & H. C.—RICHARD BROWN, Flora Apiary, Somersham.
 3446 II. (20s.)—CHARLES LODGE, High Easter, Chelmsford.
 3447 III. (10s.)—J. PEARMAN, Penny Long Lane, Derby.

Class 415.—*Exhibits of not less than 2 lb. of Wax, the Produce of the Exhibitor's Apiary.* [6 entries, 1 absent.]

- 3452 I. (10s.)—CHARLES LODGE, High Easter, Chelmsford.
 3449 II. (7s. 6d.)—JOHN BERRY, The Apiary, Llanrwst, North Wales.
 3454 III. (5s.)—E. C. R. WHITE, Newton Toney, near Salisbury.

Class 416.—*Exhibits of not less than 3 lb. of Wax, the Produce of the Exhibitor's Apiary.* [5 entries, 1 absent.]

- 3455 I. (10s.)—JOHN BERRY, The Apiary, Llanrwst, North Wales.
 3459 II. (7s. 6d.)—E. C. R. WHITE, Newton Toney, near Salisbury.
 3458 III. (5s.)—J. PEARMAN, Penny Long Lane, Derby.
 3456 R. N. & H. C.—J. BOYES, Queen's Head Hotel, Bridge Street, Cardiff.

Class 417.—*Half-gallons of Honey Vinegar.* [6 entries, none absent.]

- 3461 I. (7s. 6d.)—GEORGE W. KIRBY, 17 Priory Road, Knowle, Bristol.
 3460 II. (5s.)—JOSEPH GRAY, The White Apiary, Long Eaton.
 3462 Certificate of Merit.—CHARLES LODGE, High Easter, Chelmsford.

Class 418.—*Half-gallons of Mead.* [4 entries, none absent.]

- 3466 I. (7s. 6d.)—RICHARD BROWN, Flora Apiary, Somersham, Hunts.
 3467 II. (5s.)—T. H. GEARY, King Street, Enderby, Leicester.
 3468 Certificate of Merit.—J. PEARMAN, Penny Long Lane, Derby.

Class 419.—*Exhibits of a practical or interesting nature connected with Bee-culture, not mentioned in the foregoing Classes.* [5 entries, none absent.]

- Equal I. (10s.)—3473 F. W. L. SLADEN, Ripple Court Apiary, near Dover. (Appliances for Queen Rearing); and 3474 ARTHUR WOOD, 67, Park Road, Crouch End, N.
 3472 Certificate of Merit.—JOSEPH GRAY, The White Apiary, Long Eaton. (Roll Honey.)

Class 420.—*Exhibits of a scientific nature, not mentioned in the foregoing Classes, to which no prize has been awarded at a Show of the R.A.S.E.*
 [2 entries, none absent.]

[No Award.]

HORSE-SHOEING COMPETITIONS.

Light Horses. [62 entries, 1 absent.]

- 31 I. (£5.)—WILLIAM D. LANE, R.S.S., Llanvetherine, near Abergavenny.
 50 II. (£4.)—SAMUEL THOMPSON, R.S.S., 19, Cumberland Street, Luton.
 26 III. (£2 10s.)—DAVID JONES, R.S.S., Tairderwen Shoeing Forge, Brecon.
 40 IV. (£2.)—WILLIAM CHARLES NUTT, R.S.S., Harpole, Northampton.
 33 V. (£1 10s.)—THOMAS BENJAMIN LEWIS, R.S.S., Cambrian Forge, Aberystwyth.
 42 VI. (£1.)—JOHN RICHARDS, Smith Cottage, Cross Hands, Llanelly.
 59 R. N. & H. C.—JOHN HENRY WRIGHT, R.S.S., 20, Northfield Road, Reading.

HORSE-JUMPING COMPETITIONS.

(The Entry Fees received were divided equally among the prize winners in each Class, in augmentation of the prizes.)

Class A.—*Mares or Geldings, 15 hands 2 inches and over.*

[16 entries, none absent.]

- 7 I. (£20.)—F. W. FOSTER, Culland, Brailsford, Derby, for **Paddy**, bay gelding.
 14 II. (£15.)—WALTER W. GRUNDY, 30 Broad Street, Worcester, for **Triton**, chestnut gelding.
 10 III. (£10.)—WHITTINGHAM BROS., Wellington Street Stables, Burton-on-Trent, for **Starlight**, bay gelding.
 6 R. N. & H. C.—A. NIXEY SMITH, Danehurst, Nutfield, Red Hill, for **Monarch**, bay gelding.

Class B.—*Mares or Geldings, above 14 hands 2 inches and under 15 hands 2 inches.*

[6 entries, none absent.]

- 3 I. (£20.)—GLENCROSS BROS., Garth, Frome, for **Blink Bonny**, bay mare.
 6 II. (£15.)—BENJAMIN ROBINS, Lynsters, Rickmansworth, for **Sterling**, bay gelding.
 4 III. (£10.)—F. VOLLER GRANGE, Oak House, Farndon, Cheshire, for **Rufus**, chestnut gelding.
 1 R. N. & H. C.—F. W. FOSTER, Culland, Brailsford, Derby, for **Gay Lass**, bay mare.

Class C.—*Pony Mares or Geldings, 14 hands 2 inches and under.*

[8 entries, none absent.]

- 4 I. (£15.)—HARRY J. LLOYD, Brook Farm, Little Marcle, Ledbury, for **Fisherman**, bay gelding.
 5 II. (£10.)—WHITTINGHAM BROS., Wellington Street Stables, Burton-on-Trent, for **Snowdrop**.
 2 III. (£5.)—GLENCROSS BROS., Garth, Frome, for **Bampton**, bay gelding.
 6 R. N. & H. C.—WALTER W. GRUNDY, 30 Broad Street, Worcester, for **Stratford Lass**, black mare.

Class D.—*Unsuccessful Competitors in Classes A and B.*

[14 entries, none absent.]

- 13 I. (£10.)—TOM SMITH, The Red House, Worcester, for **Kangaroo**, bay gelding.
 11 II. (£5.)—GLENCROSS BROS., Garth, Frome, for **Little John**, brown gelding.
 16 III. (£3), & 22 R. N. & H. C.—WALTER WINANS, Surrenden Park, Pluckley, Kent, for **Sirdar** and **St. Olaf**, respectively, bay geldings.

 IMPLEMENTS.

Silver Medals

For articles entered as "New Implements for Agricultural or Estate Purposes."

No. in
Implement
Catalogue.

- 89 BLACKSTONE & CO., LTD., Rutland Works, Stamford, for Light Self-Acting Expanding Horse Rake.
 385 BAMFORD & SONS, Leighton Iron Works, Uttoxeter, for Chaff Cutter.
 2558 J. & R. WALLACE, Castle Douglas, N.B., for Milking Machine.
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PRIZE LIST

For DERBY SHOW, JUNE 27-30, 1906.

Total value of Prizes offered (inclusive of Champion Prizes, Cups, Medals, and Class Prizes), 6,850*l.*, of which amount 797*l.* are contributed by the Derby Local Committee, and 2,052*l.* by various Breed Societies.

CHAMPION PRIZES.

The following Champion Prizes are offered by Breed Societies :—

HORSES.

HUNTERS' IMPROVEMENT SOCIETY :—Two Gold Medals, value 10*l.* 10*s.* each, for the best Hunter Mare 4 years and upwards, and for the best Filly not exceeding 3 years old.

POLO AND RIDING PONY SOCIETY.—Two Gold Medals, value 10*l.* 10*s.* each, for the best Polo and Riding Pony Stallion or Colt, and for the best Mare or Filly.

HACKNEY HORSE SOCIETY :—Two Gold Medals, value 10*l.* each (or 10*l.* in money), for the best Hackney Stallion, and for the best Mare or Filly.

SHETLAND PONY STUD BOOK SOCIETY :—Silver Medal for the best Shetland Pony.

HACKNEY HORSE SOCIETY :—Gold Medal (or 5*l.* in money) for the best Mare or Gelding in the Single Driving Classes, the produce of a Registered Hackney Stallion.

SHIRE HORSE SOCIETY :—Two Gold Medals, value 10*l.* each (or 10*l.* in money), for the best Shire Stallion, and for the best Mare or Filly, and 5*l.* each to the Breeders of the Champion Shire Stallion, and Mare or Filly.

CLYDESDALE HORSE SOCIETY :—Two Prizes of 10*l.* each for the best Clydesdale Stallion, and for the best Mare or Filly.

SUFFOLK HORSE SOCIETY :—Challenge Cup, value fifty guineas, for the best Suffolk Stallion, the Cup to become the absolute property of an Exhibitor winning it three times.

CATTLE.

SHORTHORN SOCIETY :—Two Prizes of 50*l.* each for the best Shorthorn Bull, and for the best Cow or Heifer ; and 5*l.* each to the Breeders of the First Prize animals in the Inspection Classes for Shorthorns.

DAIRY SHORTHORN (COATES'S HERD BOOK) ASSOCIATION :—Prize of 10*l.* for the best Pedigree Shorthorn Dairy Cow or Heifer.

HEREFORD HERD BOOK SOCIETY :—Two Prizes of 10*l.* 10*s.* each for the best Hereford Bull, and for the best Cow or Heifer.

DEVON CATTLE BREEDERS' SOCIETY :—Two Prizes of 10*l.* 10*s.* each for the best Devon Bull, and for the best Cow or Heifer.

SUSSEX HERD BOOK SOCIETY :—Two Silver Medals, for the best Sussex Bull, and for the best Cow or Heifer.

WELSH BLACK CATTLE SOCIETY :—Prize of 5*l.* 5*s.* for the best Welsh Bull.

POLLED CATTLE SOCIETY :—A Gold Medal for the best breeding animal of the Aberdeen Angus breed.

ENGLISH ABERDEEN ANGUS CATTLE ASSOCIATION :—A Gold Medal for the best animal of the opposite sex to that of the animal awarded the Gold Medal of the Polled Cattle Society.

GALLOWAY CATTLE SOCIETY :—Two Prizes of 5*l.* 5*s.* each for the best Galloway Bull, and for the best Cow or Heifer.

ENGLISH GUERNSEY CATTLE SOCIETY :—Cup, value 5*l.*, for the best Guernsey Cow or Heifer.

ENGLISH KERRY AND DEXTER CATTLE SOCIETY :—Two Challenge Cups, value 26*l.* 5*s.* each, for the best Kerry Bull, Cow, or Heifer, and for the best Dexter Bull, Cow, or Heifer, each Cup to become the property of an Exhibitor winning it three years in succession.

ENGLISH JERSEY CATTLE SOCIETY :—Gold Medal (or 10*l.* in money), Silver Medal, and Bronze Medal for the three best Jersey Animals in the Butter-test Classes.

SHEEP.

SOUTHDOWN SHEEP SOCIETY :—A Gold Medal (or 10*l.* 10*s.* in money) for the best Southdown Ram ; and Silver Medal for the best Pen of Ewes or Ewe Lambs.

HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION :—Prize of 10*l.* for the best Pen of Hampshire Down Ram Lambs, or Ewe Lambs.

LINCOLN LONG-WOOL SHEEP BREEDERS' ASSOCIATION :—A Champion Medal (or 5*l.* 5*s.* in money) for the best Lincoln Ram.

DORSET HORN SHEEP BREEDERS' ASSOCIATION :—Prize of 10*l.* for the best Pen of Ram Lambs, Shearling Ewes, or Ewe Lambs.

PIGS.

NATIONAL PIG BREEDERS' ASSOCIATION :—Three Gold Medals, or 5*l.* 5*s.* in money, for the best Large White Boar or Sow, Middle White Boar or Sow, and Tamworth Boar or Sow.

LARGE BLACK PIG SOCIETY :—Prize of 10*l.* for the best Large Black Boar ; and a Challenge Cup, value twenty guineas, for the best Large Black Sow, the Cup to become the absolute property of an Exhibitor winning it twice in succession or three times in all.

POULTRY.

SUSSEX POULTRY CLUB :—Silver Medal for the best Bird in the Sussex Classes.

HORSES (£2,055).

	Prizes		
	1st £	2nd £	3rd £
HUNTERS.			
MARE, with foal at foot (13 st. and upwards)	10	6	4
COLT OR FILLY FOAL, the produce of a mare exhibited in above class ¹	10	6	4
FILLY, foaled in 1903	10	6	4
FILLY, foaled in 1904	10	6	4
FILLY, foaled in 1905	10	6	4
GELDING, foaled in 1903 ¹	10	6	4
GELDING, foaled in 1904 ¹	10	6	4
COLT OR GELDING, foaled in 1905 ¹	10	6	4
POLO AND RIDING PONIES.			
STALLION, foaled in or before 1903, not over 14 h. 2 in.	10	6	4
MARE (with foal at foot), not over 14 h. 2 in.	10	6	4
GELDING OR FILLY, foaled in 1903, not over 14 h. 1½ in. ²	10	6	4
COLT, GELDING, OR FILLY, foaled in 1904, not over 14 h. 1 in. ²	10	6	4
COLT, GELDING, OR FILLY, foaled in 1905, not over 13 h. 3 in. ²	10	6	4
CLEVELAND BAYS.³			
STALLION, foaled in 1903 or 1904	10	6	4
MARE (with foal at foot)	10	6	4
FILLY, foaled in 1903 or 1904	10	6	4
COACH HORSES.⁴			
STALLION, foaled in 1903 or 1904	10	6	4
MARE (with foal at foot)	10	6	4
FILLY, foaled in 1903 or 1904	10	6	4
HACKNEYS.⁵			
STALLION, foaled in 1903	15	10	5
STALLION, foaled in 1904	15	10	5
STALLION, foaled in 1905	10	6	4
MARE (with foal at foot), over 15 h. 2 in.	15	10	5
MARE (with foal at foot), over 14 h., and not over 15 h. 2 in.	15	10	5
COLT OR FILLY FOAL, the produce of a mare, exhibited in the above classes ¹	10	6	4
FILLY, foaled in 1903	15	10	5
FILLY, foaled in 1904	15	10	5
FILLY, foaled in 1905 ¹	10	6	4
GELDING, in hand, foaled in 1902 or 1903, over 15 h. 2 in.	10	6	4
GELDING, in hand, foaled in 1902 or 1903, over 15 h. and not over 15 h. 2 in.	10	6	4
GELDING, in hand, foaled in 1902 or 1903, not over 15 h.	10	6	4
PONIES.			
STALLION, foaled before or in 1903, not over 14 h.	10	6	4
MARE (with foal at foot), over 13 h., and not over 14 h.	10	6	4
MARE (with foal at foot), not over 13 h. ⁶	10	6	4

	Prizes		
	1st £	2nd £	3rd £
PONIES (continued).			
FILLY OR GELDING, foaled in 1903, not over 13 h. 3 in. ⁶	10	6	4
COLT, GELDING, OR FILLY, foaled in 1904, not over 13 h. 2 in. ⁶	10	6	4
SHETLAND PONIES.			
STALLION, foaled before or in 1903, not over 10½ h.	10	6	4
MARE, foaled before or in 1902, not over 10½ h.	10	6	4
MOUNTAIN AND MOORLAND PONIES.			
STALLION, foaled before or in 1902, not over 13 h.	10	6	4
MARE, foaled before or in 1902, not over 13 h.	10	6	4
RIDING AND DRIVING CLASSES.¹			
<i>Hunters.</i>			
MARE OR GELDING, foaled in 1902	15	10	5
MARE OR GELDING (Novice), foaled in or previously to 1901, up to from 12 st. to 14 st.	15	10	5
MARE OR GELDING (Novice), foaled in or previously to 1901, up to more than 14 st.	15	10	5
MARE OR GELDING, foaled in or before 1902, up to from 12 st. to 13 st. 7 lb.	20	10	5
MARE OR GELDING, foaled in or before 1902, up to more than 13 st. 7 lb. and not over 15 st.	20	10	5
MARE OR GELDING, foaled in or before 1902, up to more than 15 st.	20	10	5
<i>Polo and Riding Ponies.</i>			
MARE OR GELDING, foaled in 1902, likely to make a Polo Pony, not over 14 h. 2 in., or with registered Hurlingham certificate ²	10	6	4
MARE OR GELDING, foaled in or before 1902, not over 14 h. 2 in., or with registered Hurlingham certificate ¹	10	6	4
<i>To be driven in Harness.</i>			
MARE OR GELDING (Novice), not exceeding 14 h. ⁶	10	6	4
MARE OR GELDING (Novice), over 14 h. and not exceeding 15 h. ⁶	10	6	4
MARE OR GELDING (Novice), over 15 h. ⁶	10	6	4
MARE OR GELDING, any age, not over 13 h. ¹	10	6	4
MARE OR GELDING, any age, over 13 h. and not over 14 h. ¹	10	6	4
MARE OR GELDING, any age, over 14 h. and not over 15 h. ¹	10	6	4
MARE OR GELDING, any age, over 15 h. and not over 15 h. 2 in. ¹	10	6	4
MARE OR GELDING, any age, over 15 h. 2 in. ¹	10	6	4

¹ Offered by the Derby Local Committee.

² Offered by the Polo and Riding Pony Society.

³ £30 towards these Prizes are offered by the Cleveland Bay Horse Society.

⁴ £30 towards these Prizes are offered by the Yorkshire Coach Horse Society.

⁵ £140 towards these Prizes are offered by the Hackney Horse Society.

⁶ Offered by the Hackney Horse Society.

RIDING AND DRIVING CLASSES (continued).

	Prizes		
	1st £	2nd £	3rd £
<i>To be driven in Harness (contd.).</i>			
PAIR OF HORSES (Mares or Geldings), not over 15 h. 2 in. ¹	10	6	4
PAIR OF HORSES (Mares or Geldings), over 15 h. 2 in. ²	10	6	4
TANDEM (Mares or Geldings), any height ¹	10	6	4
SHIRE. ³			
STALLION, foaled in 1903	15	10	5
STALLION, foaled in 1904	15	10	5
STALLION, foaled in 1905	15	10	5
MARE (with foal at foot)	15	10	5
COLT FOAL, the produce of a mare entered in above class ¹	10	6	4
FILLY FOAL, the produce of a mare entered in above class ¹	10	6	4
MARE (without foal at foot), foaled in or before 1902 ¹	10	6	4
FILLY, foaled in 1903	15	10	5
FILLY, foaled in 1904	15	10	5
FILLY, foaled in 1905 ¹	15	10	5

CLYDESDALE.

STALLION, foaled in 1903	10	6	4
STALLION, foaled in 1904	10	6	4
STALLION, foaled in 1905	10	6	4
MARE (with foal at foot)	10	6	4
FILLY, foaled in 1903	10	6	4
FILLY, foaled in 1904	10	6	4

SUFFOLK.

STALLION, foaled in 1903	10	6	4
STALLION, foaled in 1904	10	6	4
STALLION, foaled in 1905	10	6	4
MARE (with foal at foot)	10	6	4
FILLY, foaled in 1903	10	6	4
FILLY, foaled in 1904	10	6	4

AGRICULTURAL.

GELDING, foaled in 1902 ¹	10	6	4
GELDING, foaled in 1903 ¹	10	6	4
GELDING, foaled in 1904 ¹	10	6	4

ASSES (£15).

(Of any breed.)

DONKEY STALLION, foaled in or previous to 1904, 13 h. and over ⁴	5	3	-
DONKEY MARE (with or without foal), 12 h. and over ⁴	5	2	-

CATTLE (£2,303).

SHORTHORN.

BULL, calved in 1902 or 1903	10	6	4
BULL, calved in 1904	10	6	4
BULL, calved in 1905	10	6	4
COW, in-milk, calved previously to or in 1902	10	6	4
HEIFER, in-milk, calved in 1903 ⁵	10	6	4

SHORTHORN (continued).

	Prizes		
	1st £	2nd £	3rd £
HEIFER, calved in 1904	10	6	4
HEIFER, calved in 1905	10	6	4
DAIRY COW, in-milk, calved previously to or in 1901 ⁵	10	6	4
DAIRY COW, in-milk, calved in 1902 ⁵	10	6	4
DAIRY HEIFER, in-milk, calved in 1903 ⁶	10	5	-
Milk Yield Prizes	10	5	3

LINCOLNSHIRE RED SHORT-HORN.

BULL, calved in 1902 or 1903	10	6	4
BULL, calved in 1904 ⁷	10	6	4
BULL, calved in 1905 ⁷	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1902	10	6	4
HEIFER, in-milk, calved in 1903 ⁷	10	6	4
HEIFER, calved in 1904 ⁷	10	6	4
HEIFER, calved in 1905 ⁷	10	6	4
Milk Yield Prizes	10	5	3

HEREFORD.

	Prizes			
	1st £	2nd £	3rd £	4th £
BULL, calved in 1902 or 1903	10	6	4	-
BULL, calved in 1904	10	6	4	-
BULL, calved in 1905	15	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4	-
HEIFER, calved in 1904	10	6	4	-
HEIFER, calved in 1905	10	6	4	-

DEVON.

	Prizes		
	1st £	2nd £	3rd £
BULL, calved in 1902 or 1903	10	6	4
BULL, calved in 1904	10	6	4
BULL, calved in 1905	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, calved in 1904	10	6	4
HEIFER, calved in 1905	10	6	4

SOUTH DEVON.

BULL, calved in 1902 or 1903	10	6	4
COW OR HEIFER, in-milk, calved before or in 1903	10	6	4
Milk Yield Prizes	10	5	3

SUSSEX. ⁸

BULL, calved in 1902 or 1903	15	10	4
BULL, calved in 1904	15	10	4
BULL, calved in 1905	15	10	4
COW OR HEIFER, in-milk, calved previously to or in 1903	15	10	4
HEIFER, calved in 1904	15	10	4
HEIFER, calved in 1905	15	10	4

¹ Offered by the Derby Local Committee.

² Offered by the Hackney Horse Society.

³ £50 towards these Prizes are offered by the Shire Horse Society.

⁴ Offered by Breeders of Asses.

⁵ Offered by the Shorthorn Society.

⁶ Offered by the Dairy Shorthorn (Coates's Herd Book) Association.

⁷ Offered by the Lincolnshire Red Short-horn Association.

⁸ £54 towards these prizes are offered by the Sussex Herd Book Society.

WELSH.	Prizes		
	1st £	2nd £	3rd £
BULL, calved in 1902, 1903, or 1904	10	6	4
BULL, calved in 1905	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, calved in 1904 or 1905	10	6	4

RED POLLED.¹

BULL, calved in 1902 or 1903	10	6	4
BULL, calved in 1904	10	6	4
BULL, calved in 1905	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, calved in 1904	10	6	4
HEIFER, calved in 1905	10	6	4
Milk Yield Prizes	10	5	3

ABERDEEN ANGUS.

BULL, calved on or after Dec. 1, 1901, and before Dec. 1, 1903	10	6	4
BULL, calved on or after Dec. 1, 1903, and before Dec. 1, 1904	10	6	4
BULL, calved on or after Dec. 1 1904, and before Dec. 1, 1905	10	6	4
COW OR HEIFER, in-milk, calved before Dec. 1, 1903	10	6	4
HEIFER, calved on or after Dec. 1, 1903, and before Dec. 1, 1904	10	6	4
HEIFER, calved on or after Dec. 1, 1904, and before Dec. 1, 1905	10	6	4

GALLOWAY.

BULL, calved on or after Dec. 1, 1901, and before Dec. 1, 1904	10	6	4
BULL, calved on or after Dec. 1, 1904, and before Dec. 1, 1905	10	6	4
COW OR HEIFER, in-milk, calved before Dec. 1, 1903	10	6	4
HEIFER, calved on or after Dec. 1, 1903, and before Dec. 1, 1905	10	6	4

HIGHLAND.

BULL, calved in 1902 or 1903	10	6	4
COW OR HEIFER, in-milk, calved in or before 1903	10	6	4

AYRSHIRE.

BULL, calved in 1902, 1903, 1904, or 1905	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
Milk Yield Prizes	10	5	3

JERSEY.

BULL, calved in 1902 or 1903	10	6	4
BULL, calved in 1904	10	6	4
BULL, calved in 1905	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, in-milk, calved in 1904	10	6	4
HEIFER, calved in 1905	10	6	4
Milk Yield Prizes	10	5	3

GUERNSEY.

Same as for Red Polled.

LONGHORN.	Prizes		
	1st £	2nd £	3rd £
BULL, calved in 1902, 1903, or 1904	10	6	4
BULL, calved in 1905 ²	6	4	-
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, calved in 1904 or 1905 ²	6	4	-
Milk Yield Prizes	10	5	3

KERRY.

BULL, calved in 1902, 1903, or 1904	10	6	4
COW OR HEIFER, in-milk, calved previously to or in 1903	10	6	4
HEIFER, calved in 1904 or 1905 ³	5	3	2
Milk Yield Prizes	10	5	3

DEXTER.

Same as for Kerry.

BUTTER TESTS.⁴

COW, of any age, breed, or cross, exceeding 900 lb. live weight	15	10	5
COW, of any age, breed, or cross, not exceeding 900 lb. live weight	15	10	5
SPECIAL PRIZES for the 3 cows in above classes obtaining the greatest number of points in the competition	20	10	5

The Prizes in the Butter Tests will be awarded according to the following scale of points:—One point for every ounce of Butter; one point for every completed ten days since calving, deducting the first forty days. Maximum allowance for period of lactation, 12 points. Duration of Test, 24 hours.

Special Milk Yield Prizes for 3 best cows in Milk Yield Classes and Butter Test.	20	10	5
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SHEEP (£1,382).

OXFORD DOWN. ⁵	Prizes			
	1st £	2nd £	3rd £	4th £
SHEARLING RAM	10	5	3	2
THREE RAM LAMBS, dropped in 1906	10	5	3	2
THREE SHEARLING EWES	10	5	3	2
THREE EWE LAMBS, dropped in 1906 ⁵	10	5	3	2
SHROPSHIRE.				
TWO-SHEAR RAM ⁶	8	4	-	-
SHEARLING RAM	10	5	3	-
FIVE SHEARLING RAMS ⁶	15	10	5	-
SELLING CLASS FOR SHEAR- LING RAMS ⁶	20	15	10	5
THREE RAM LAMBS, dropped in 1906	10	5	3	-
THREE SHEARLING EWES	10	5	3	-
THREE EWE LAMBS, dropped in 1906	10	5	3	-

¹ £20 towards these prizes are offered by the Red Polled Society.

² Offered by the Longhorn Cattle Society.

³ Offered by the English Kerry and Dexter Cattle Society.

⁴ Offered by the English Jersey Cattle Society.

⁵ Fourth Prizes offered by the Oxford Down Sheep Breeders' Association.

⁶ Offered by the Shropshire Sheep Breeders' Association.

	Prizes		
	1st £	2nd £	3rd £
SOUTHDOWN.			
TWO-SHEAR RAM ¹	10	5	3
SHEARLING RAM	10	5	3
THREE SHEARLING RAMS ¹	10	5	3
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906	10	5	3

HAMPSHIRE DOWN.			
TWO-SHEAR RAM ²	10	5	-
SHEARLING RAM	10	5	3
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906	10	5	3

SUFFOLK.			
TWO-SHEAR RAM ³	10	5	3
SHEARLING RAM	10	5	3
RAM LAMB, dropped in 1906 ³	10	5	3
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906	10	5	3

LINCOLN.			
TWO-SHEAR RAM ⁴	7	3	-
SHEARLING RAM	10	5	3
FIVE SHEARLING RAMS ⁴	15	10	5
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906	10	5	3

LEICESTER.			
SHEARLING RAM	10	5	3
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906	10	5	3

COTSWOLD.			
SHEARLING RAM	7	3	-
THREE RAM LAMBS, dropped in 1906 ⁵	7	3	-
THREE SHEARLING EWES	7	3	-
THREE EWE LAMBS, dropped in 1906 ⁵	7	3	-

BORDER LEICESTER.
Same as for Leicester.

	Prizes		
	1st £	2nd £	3rd £
KENT OR ROMNEY MARSH.			
TWO-SHEAR RAM ⁶	10	5	3
SHEARLING RAM	10	5	3
THREE RAM LAMBS, dropped in 1906	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1906 ⁶	10	5	3

WENSLEYDALE.
Same as for Leicester.

DORSET HORN.			
SHEARLING RAM, dropped after Nov. 1, 1904	10	5	3
THREE RAM LAMBS, dropped after Nov. 1, 1905	10	5	3
THREE SHEARLING EWES, dropped after Nov. 1, 1904	10	5	3
THREE EWE LAMBS, dropped after Nov. 1, 1905	10	5	3

DEVON LONG-WOOL.			
SHEARLING RAM	7	3	2
TWO RAM LAMBS, dropped in 1906 ⁷	7	3	2
THREE SHEARLING EWES	7	3	2

SOUTH DEVON.			
RAM, SHEARLING and upwards	7	3	-
THREE SHEARLING EWES	7	3	-

DARTMOOR.
Same as for South Devon.

EXMOOR.
Same as for South Devon.

CHEVIOT.
Same as for South Devon.

BLACK-FACED MOUNTAIN.⁸			
RAM, SHEARLING and upwards	10	3	2
THREE SHEARLING EWES	10	3	2

LONK.⁹			
RAM, SHEARLING and upwards	10	5	-
THREE SHEARLING EWES	10	5	-

HERDWICK.
Same as for South Devon.

WELSH MOUNTAIN.			
RAM, SHEARLING and upwards	10	5	3
THREE SHEARLING EWES	10	5	3

RYELAND.
Same as for Welsh Mountain.

¹ Offered by the Southdown Sheep Society.

² Offered by the Hampshire Down Sheep Breeders' Association.

³ Offered by the Suffolk Sheep Society.

⁴ Offered by the Lincoln Long-Wool Sheep Breeders' Association.

⁵ Offered by the Cotswold Sheep Society.

⁶ Offered by the Kent or Romney Marsh Sheep Breeders' Association.

⁷ Offered by the Devon Long-Woolled Sheep Breeders' Society.

⁸ Second and Third Prizes offered by the Black-faced Sheep Breeders' Association.

⁹ Second Prizes offered by the Lonk Sheep Breeders' Association.

PIGS (£479).

Large White ¹	} For Prizes see below.
Middle White ¹	
Berkshire ²	
Tamworth ¹	

In each of the above Breeds the following prizes will be given:—

	1st £	2nd £	3rd £
BOAR, farrowed in 1904 or 1905	10	5	3
THREE BOAR PIGS, farrowed in 1906	10	5	3
BREEDING SOW, farrowed in 1902, 1903, or 1904	10	5	3
SOW, farrowed in 1905	10	5	3
THREE SOW PIGS, farrowed in 1906	10	5	3

LARGE BLACK.³

BOAR, farrowed in 1904 or 1905	10	5	3
BOAR PIG, farrowed in 1906	10	5	3
BREEDING SOW, farrowed in 1902, 1903, 1904, or 1905	10	5	3
THREE SOW PIGS, farrowed in 1906	10	5	3

POULTRY (£207).

Prizes are offered for the best COCK, HEN, COCKEREL, and PULLET of the following Breeds:—

	s.	s.	s.
Game, Old English	20	10	5
Game, Indian	20	10	5
Dorking, Coloured	20	10	5
Dorking, Silver Grey	20	10	5
Dorking, White or other variety	20	10	5
Sussex, Red or Brown	20	10	5
Sussex, Light	20	10	5
Sussex, Speckled	20	10	5
Brahma and Cochin	20	10	5
Langshan	20	10	5
Plymouth Rock	20	10	5
Wyandotte, Gold or Silver Laced	20	10	5
Wyandotte, White	20	10	5
Wyandotte, Partridge	20	10	5
Wyandotte, other variety	20	10	5
Orpington, Buff	20	10	5
Orpington, White	20	10	5
Orpington, Black	20	10	5
French, Faverolle	20	10	5
French, other variety	20	10	5
Minorca	20	10	5
Leghorn, White	20	10	5
Leghorn, Brown	20	10	5
Leghorn, other colour	20	10	5
Ancona	20	10	5
Andalusian	20	10	5

TABLE FOWLS

(To be sent and exhibited alive).

PAIR of COCKERELS, pure-breed	20	10	5
PAIR of PULLETS, pure-breed	20	10	5
PAIR of CROSS-BRED COCKERELS	20	10	5
PAIR of CROSS-BRED PULLETS	20	10	5

¹ £105 towards these Prizes are offered by the National Pig Breeders' Association.
² £42 towards these Prizes are offered by the British Berkshire Society.
³ £24 towards these Prizes are offered by the Large Black Pig Society.
⁴ Offered by the Derby Local Committee.

DUCKS, &c.

	Prizes		
	1st s.	2nd s.	3rd s.
Aylesbury Drake	20	10	5
Aylesbury Duck	20	10	5
Aylesbury Young Drake	20	10	5
Aylesbury Duckling	20	10	5
Rouen Drake	20	10	5
Rouen Duck	20	10	5
Pekin Drake	20	10	5
Pekin Duck	20	10	5
Cayuga Drake	20	10	5
Cayuga Duck	20	10	5
Indian Runner Drake	20	10	5
Indian Runner Duck	20	10	5
Gander, Embden	30	20	10
Goose, Embden	30	20	10
Gander, Toulouse	30	20	10
Goose, Toulouse	30	20	10
Turkey, Cock	30	20	10
Turkey, Hen	30	20	10

BREEDING PENS.

Consisting of One COCK or COCKEREL, and Four HENS or PULLETS.

Indian Game	30	20	10
Game, any other variety	30	20	10
Dorking, any variety	30	20	10
Plymouth Rock	30	20	10
Wyandotte, any variety	30	20	10
Orpington, any variety	30	20	10
Minorca	30	20	10
Leghorn, any variety	30	20	10

PRODUCE (£233).

BUTTER.

Box of Twelve 2 lb. Rolls of BUTTER, not more than 1 per cent. salt. 1st 4l., 2nd 2l., 3rd 1l.

2 pounds of FRESH BUTTER, made up in pounds. } Four of 2l. each.
 } Four of 1l. each.
 } Four of 10s. each.

CREAM.

1 doz. ¼-pint jars.⁴ 1st 3l., 2nd 2l., 3rd 1l.

CHEESE.

(Made in 1906.)

	Prizes			
	1st £	2nd £	3rd £	4th £
THREE CHEDDAR, of not less than 50 lb. each	5	3	2	1
THREE CHESHIRE, of not less than 40 lb. each	5	3	2	1
THREE STILTON	4	3	1	-
THREE WENSLEYDALE (Stilton Shape)	4	3	1	-
THREE DOUBLEGLOUCESTER	4	3	1	-
THREE CHEDDAR TRUCKLE	3	2	1	-
THREE STAFFORDSHIRE or DERBYSHIRE	3	2	1	-
SIX PURE CREAM, 8 oz. each ⁴	3	2	1	-

Prizes

CIDER AND PERRY.

	Prizes		
	1st £	2nd £	3rd £
Cask of CIDER, made 1905	5	3	2
ONE DOZ. CIDER, made 1905	5	3	2
ONE DOZ. CIDER, made before 1905	5	3	2
ONE DOZ. PERRY	5	3	2

	Prizes		
	1st £	2nd £	3rd £
WOOL (of 1906 Clip). 3 Fleeces in each Entry.			
Leicester or Border Leicester	. 3	2	1
Lincoln	. 3	2	1
Kent or Romney Marsh	. 3	2	1
Any other Long Wool	. 3	2	1
Southdown	. 3	2	1
Shropshire	. 3	2	1
Any other Short Wool.	. 3	2	1
Welsh	. 3	2	1
Scotch	. 3	2	1

HIVES, HONEY, AND BEE APPLIANCES.

Offered by British Bee-keepers' Association.

	s.	s.	s.
Collection of HIVES	. 80	40	20
FRAME HIVE	. 20	15	10
Do. for Cottagers' use	. 20	15	10
HONEY EXTRACTOR	. 15	10	-
OBSERVATORY HIVE (not more than 3 frames)	. 20	15	10
USEFUL APPLIANCES.	. 10	-	-

For the purposes of Classes for Honey the United Kingdom has been divided into Two Districts:—

- Counties of Cheshire, Cumberland, Derby, Durham, Hereford, Lancashire, Leicester, Lincoln, Monmouth, Northumberland, Nottingham, Rutland, Salop, Stafford, Warwick, Westmorland, Worcester, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.
- Counties of Bedford, Berks., Bucks., Cambridge, Cornwall, Devon, Dorset, Essex, Gloucester, Hampshire, Herts.,

Hunts., Isle of Wight, Kent, Middlesex, Norfolk, Northampton, Oxford, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

HONEY, &c. (continued).

For each of the above Districts the following four Classes and Prizes, for Honey of any year, have been provided:—

	Prizes		
	1st s.	2nd s.	3rd s.
HONEY.			
12 Sections of COMB HONEY, about 12lb.	. 20	15	10
RUN OR EXTRACTED, LIGHT-COLOURED HONEY, about 12 lb.	. 20	15	10
RUN OR EXTRACTED, MEDIUM OR DARK-COLOURED HONEY, about 12lb.	. 20	15	10
GRANULATED HONEY, about 12 lb.	. 20	15	10

MISCELLANEOUS.

3 Shallow frames of COMB HONEY, for extracting	. 20	15	10
6 Jars of HEATHER HONEY, about 6 lb.	. 20	15	10
6 Jars of HEATHER MIXTURE EXTRACTED HONEY, about 6 lb.	. 20	15	10
DISPLAY OF HONEY	. 30	20	10
2lb. of WAX	. 10	7/6	5
3lb. of WAX, in marketable form, suitable for retail trade	. 10	7/6	5
HONEY VINEGAR, ½ gallon	. 7/6	5	-
MEAD, ½ gallon	. 7/6	5	-
OTHER PRACTICAL EXHIBITS	. 10	-	-
OTHER SCIENTIFIC EXHIBITS	. 10	-	-

HORSE-JUMPING COMPETITIONS¹ (£160).

	1st £	2nd £	3rd £
CLASS A.—Mares or Geldings, 15 hands 2 inches and over	. 20	15	10
CLASS B.—Mares or Geldings, above 14 hands 2 inches and under 15 hands 2 inches	. 20	15	10
CLASS C.—Consolation Class for animals which have not won a Prize in Classes A and B	. 10	5	3
CLASS D.—Pony Mares or Geldings, 14 hands 2 inches and under	. 20	10	5
CLASS E.—Consolation Class for animals which have not won a Prize in Class D.	. 10	5	2

HORSE-SHOEING COMPETITIONS (£16).

(Open to the United Kingdom.)

CLASS I. Hunters (Thursday, June 28). CLASS II. Cart Horses (Friday June 29). Prizes in each Class as follows:—1st, 3l. 10s.; 2nd, 2l.; 3rd, 1l. 10s.; 4th, 1l.

¹ Offered by the Derby Local Committee.

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Royal Agricultural Society of England.

INCORPORATED BY ROYAL CHARTER 26th MARCH, 1840.

—◆—
PRESIDENT FOR 1905-6:

MR. F. S. W. CORNWALLIS.

—◆—

Terms and Privileges of Membership.

SUBSCRIPTIONS.—1. *Annual.*—The minimum subscription of a Governor is £5 and that of a Member £1, due in advance on the 1st of January of each year, and becoming in arrear if unpaid by the 1st of June.

2. *For Life.*—Governors may compound for their subscriptions for future years by paying at once the sum of £50, and Members by paying £15. After payment of ten or more annual subscriptions, a Member may compound for future subscriptions, including that of the current year, by a single payment of £10; and after payment of twenty or more annual subscriptions, by a single payment of £5—or £25 in the case of Governors.

ELECTION OF NEW MEMBERS.—Every candidate for admission into the Society must be proposed by a Member, who must specify in writing the full name, occupation, and usual place of residence of the candidate. Forms of proposal may be obtained on application to the Secretary, who will inform new Members of their election by letter.

PRIVILEGES OF MEMBERSHIP :—

General Privileges, page II.

Chemical, pages III to V.

Zoological, page VII.

Botanical, pages VI and VII.

Veterinary, page VIII.

The Society at present consists of about 9,300 Members.

All communications as to Membership or on the general business of the Society should be addressed to the Secretary at 13 Hanover Square, London, W.

THOMAS McROW,
Secretary.

13 HANOVER SQUARE, W.

February, 1906.

Telegraphic Address: "PRACTICE, LONDON."

Telephone Number: "3675 GERARD."

General Privileges of Governors and Members.

FREE ADMISSION TO SHOWS.

The Society holds every year an Exhibition of Live Stock, Farm Produce, and Implements, to which, and to the Grand Stands at the Horse Ring, Dairy, and elsewhere, Members are entitled to free admission. The Show of 1906 will be held at Derby, from June 27-30.

REDUCED RATES FOR ENTRY OF LIVE STOCK AND IMPLEMENTS.

No entry fee is charged to Members exhibiting Implements at the Shows. Firms and Companies may secure these privileges by the Membership of one or more of their partners. Entries of Horses, Cattle, Sheep, Pigs, Poultry, Produce, &c., can be made by Members at reduced rates.

SOCIETY'S JOURNAL AND OTHER PUBLICATIONS.

Every Member is entitled to receive, without charge, a copy of the Journal of the Society, each Volume of which contains articles and communications by leading authorities on the most important agricultural questions of the day, together with official reports by the Society's Scientific Advisers and on the various departments of the Annual Shows, and other interesting features.

Copies of the Journal may be obtained by Non-Members of the Publisher, MR. JOHN MURRAY, 50A Albemarle Street, W., at the price of ten shillings per copy. Copies of the Society's pamphlets, sold at not less than One Shilling each, are obtainable by Members at half price on direct application to the Secretary.

LIBRARY AND READING ROOM.

The Society has a large and well-stocked library of standard books on agricultural subjects. A Reading Room is provided, at which the principal agricultural newspapers and other periodicals can be consulted by Members during office hours (10 a.m. to 4 p.m.; Saturdays, 10 a.m. to 2 p.m.).

CHEMICAL PRIVILEGES.

The Society makes annually a considerable grant from its general funds in order that Members may obtain at low rates analyses of feeding stuffs, fertilisers, soils, &c., by the Society's Consulting Chemist (Dr. J. AUGUSTUS VOELCKER, Analytical Laboratory, 22 Tudor Street, London, E.C.). Members may also consult Dr. VOELCKER either personally or by letter at a small fee.

VETERINARY PRIVILEGES.

Members can consult the Professors of the Royal Veterinary College at fixed rates of charge, and they have the privilege of sending Cattle, Sheep, and Pigs to the College Infirmary on the same terms as subscribers to the College.

BOTANICAL PRIVILEGES.

Reports can be obtained by Members from the Society's Consulting Botanist (Mr. W. CARRUTHERS, F.R.S., The Laboratory, 44 Central Hill, Norwood, S.E.) on the purity and germinating power of seeds, and on diseases or weeds affecting farm crops, at a fee of one shilling in each case.

ZOOLOGICAL PRIVILEGES.

Information respecting any animal (quadruped, bird, insect, worm, &c.) which, in any stage of its life, affects the farm or rural economy generally, with suggestions as to methods of prevention and remedy in respect to any such animal that may be injurious, can be obtained by Members from the Society's Zoologist (Mr. CECIL WARBURTON, M.A., The Zoological Laboratory, Cambridge) at a fee of one shilling in each case.

GENERAL MEETINGS OF GOVERNORS AND MEMBERS.

The Annual General Meeting of Governors and Members is held in London during the week of the Smithfield Club Show. A General Meeting is usually held also in the Showyard during the week of the Show.

SPECIAL PRIVILEGES OF GOVERNORS.

In addition to the privileges of Members, as described above, Governors are entitled to an extra copy of each Volume of the Journal, to attend and speak at all meetings of the Council, and are alone eligible for election as President, Trustee, and Vice-President. The minimum Annual Subscription of a Governor is £5, with a Life Composition of £50; and of a Member, £1, with a Life Composition of £15.

Governors' and Members' Privileges of Chemical Analysis.

(*Applicable only to the case of persons who are not commercially engaged in the manufacture or sale of any substance sent for Analysis.*)

The Council have fixed the following rates of Charges for Chemical Analysis to Members of the Society.

These privileges are applicable only when the analyses are for *bonâ-fide* agricultural purposes, and are required by Members of the Society for their own use and guidance in respect of farms or land in their own occupation and within the United Kingdom.

The analyses are given on the understanding that they are required for the individual and sole benefit of the Member applying for them, and must not be used for other persons, or for commercial purposes.

The analyses and reports may not be communicated to either vendor or manufacturer, except in cases of dispute.

Land or estate agents, bailiffs, and others, when forwarding samples, are required to state the names of those Members on whose behalf they apply.

	<i>£</i>	<i>s.</i>	<i>d.</i>
1.—An opinion on the purity of any Fertiliser or Feeding Stuff (so far as this can be given without detailed analysis)	0	1	0
2.—Determination of any <i>one</i> constituent in a Fertiliser or Feeding Stuff	0	2	6
3.—Commercial analysis of any ordinary Fertiliser or Feeding Stuff	0	5	0
4.—Full Analysis of any compound Fertiliser or Feeding Stuff	0	10	0
5.—Analysis of any other material in ordinary use for agricultural purposes.	0	10	0
6.—Analysis of Milk, Cream, Butter, or other Dairy produce from Members' own farms	0	2	6
(N.B.—Samples in any way connected with the Sale of Food and Drugs Acts are not undertaken for analysis.)			
7.—Analysis of Water	1	10	0
8.—Analysis of Soil—determination of Lime only	0	10	0
9.—Analysis of Soil—partial	1	0	0
10.—Analysis of Soil—complete	3	0	0
11.—Consultation by letter or personal appointment	0	5	0

Together with the analysis will be given, as far as possible, an opinion as to whether an article analysed is worth the price asked for it, or not, provided the cost of the same, together with guarantee (if any), and other particulars relating to the purchase, be given at the time.

All samples and communications, together with fees for analysis, to be addressed to—Dr. VOELCKER, Analytical Laboratory, 22 Tudor Street, London, E.C.

A pamphlet containing Suggestions as to the Purchase of Fertilisers and Feeding Stuffs, and Instructions for selecting and forwarding Samples for Analysis, will be sent to any Member on application to the Secretary, from whom also may be obtained Forms of Order for Fertilisers and Feeding Stuffs.

Instructions for Selecting and Sending Samples for Analysis.

GENERAL RULES.—(1.) A sample taken for analysis should be fairly *representative of the bulk* from which it has been drawn.—(2.) The sample should reach the Analyst *in the same condition* that it was in at the time when drawn.

When **Fertilisers** are delivered in bags, select four or five of these from the bulk, and either turn them out on a floor and rapidly mix their contents, or else drive a shovel into each bag and draw out from as near the centre as possible a couple of shovelfuls of the manure, and mix these quickly on a floor.

Halve the heap obtained in either of these ways, take one half (rejecting the other) and mix again rapidly, flattening down with the shovel any lumps that appear. Repeat this operation until at last only some three or four pounds are left.

From this fill three tins, holding from $\frac{1}{2}$ lb. to 1 lb. each, mark, fasten up and seal each of these. Send one for analysis, and retain the others for reference.

Or,—the manure may be put into glass bottles provided with well-fitting corks; the bottles should be labelled and the corks sealed down. The sample sent for analysis can be packed in a wooden box and sent by post or rail.

When manures are delivered in bulk, portions should be successively drawn from *different parts* of the bulk, the heap being turned over now and again. The portions drawn should be thoroughly mixed, subdivided, and, finally, samples should be taken as before, except that when the manure is coarse and bulky it is advisable to send larger samples than when it is in a finely divided condition.

Linseed, Cotton, and other Feeding Cakes.—If a single cake be taken, three strips should be broken off right across the cake, and from the middle portion of it, one piece to be sent for analysis, and the other two retained for reference. Each of the three pieces should be marked, wrapped in paper, fastened up, and sealed. The piece forwarded for analysis can be sent by post or rail.

A more satisfactory plan is to select four to six cakes from different parts of the delivery, then break off a piece about four inches wide from the middle of each cake, and pass these pieces through a cake-breaker. The broken cake should then be well mixed and three samples of about 1 lb. each should be taken and kept in tins or bags, duly marked, fastened, and sealed as before. One of these lots should be sent for analysis, the remaining two being kept for reference. It is advisable also with the broken pieces to send a small strip from an unbroken cake.

Feeding Meals, Grain, &c.—Handfuls should be drawn from the centre of half a dozen different bags of the delivery; these lots should then be well mixed, and three $\frac{1}{2}$ -lb. tins or bags filled from the heap, each being marked, fastened up, and sealed. One sample is to be forwarded for analysis and the others retained for reference.

Soils.—Have a wooden box made 6 inches in length and width, and from 9 to 12 inches deep, according to the depth of soil and subsoil of the field. Mark out in the field a space of about 12 inches square; dig round in a slanting direction a trench, so as to leave undisturbed a block of soil and its subsoil 9 to 12 inches deep; trim this block to make it to fit into the wooden box, invert the open box over it, press down firmly, then pass a spade under the box and lift it up, gently turn over the box, nail on the lid, and send by rail. The soil will then be received in the position in which it is found in the field.

In the case of very light, sandy, and porous soils, the wooden box may be at once inverted over the soil, forced down by pressure, and then dug out.

Waters.—Samples of water are best sent in glass-stoppered Winchester bottles, holding half a gallon. One such bottle is sufficient for a single sample. Care should be taken to have these scrupulously clean. In taking a sample of water for analysis it is advisable to reject the first portion drawn or pumped, so as to obtain a sample of the water when in ordinary flow. The bottle should be rinsed out with the water that is to be analysed, and it should be filled nearly to the top. The stopper should be secured with string, or be tied over with linen or soft leather. The sample can then be sent carefully packed either in a wooden box with sawdust, &c., or in a hamper with straw.

Milk.—A pint bottle should be sent in a wooden box.

GENERAL INSTRUCTIONS. Time for Taking Samples.—All samples, both of fertilisers and feeding stuffs, should be taken as soon after their delivery as possible, and should reach the Analyst within *ten days* after delivery of the article. In every case it is advisable that the Analyst's certificate be received before a fertiliser is sown or a feeding stuff is given to stock.

Procedure in the Event of the Vendor wishing Fresh Samples to be Drawn.—Should a purchaser find that the Analyst's certificate shows a fertiliser or feeding stuff not to come up to the guarantee given him, he may inform the vendor of the result and complain accordingly. He should then send to the vendor *one* of the two samples which he has kept for reference. If, however, the vendor should demand that a fresh sample be drawn, the purchaser must allow this, and also give the vendor an opportunity of being present, either in person or through a representative whom he may appoint. In that case three samples should be taken in the presence of both parties with the same precautions as before described, *each* of which should be duly packed up, labelled and *sealed* by both parties. One of these is to be given to the vendor, one is to be sent to the Analyst, and the third is to be kept by the purchaser for reference or future analysis if necessary.

Suggestions to Purchasers of Fertilisers and Feeding Stuffs.

Purchasers are recommended in all cases to insist on having an **INVOICE**, and to see that such invoice contains the following particulars:—

In the case of **Fertilisers**:—

- (1) The *name* of the Fertiliser.
- (2) Whether the Fertiliser is artificially *compounded* or not.
- (3) The *minimum* analysis of the Fertiliser in respect of its principal fertilising ingredients.

In the case of artificially prepared **Feeding Stuffs** for Cattle:—

- (1) The *name* of the article.
- (2) The *description* of the article—whether it has been prepared (a) from one substance or seed, or (b) from more than one substance or seed.

For example:

- (a) An invoice describing an article as “Linseed Cake” implies a warranty that the article is pure, *i.e.*, is prepared from linseed only; “Cotton Cake” (whether decorticated or undecorticated), and “Rape Cake” (for feeding purposes), would come under a similar category.

Purchasers are reminded that the use of such terms as “95 per cent.,” “Oil Cake,” &c., affords no security against adulteration. The adoption of the ORDER FORM issued by the Society is therefore strongly recommended.

- (b) In the case of a Compound Cake or Feeding Stuff, a Vendor is only compelled by the Fertilisers and Feeding Stuffs Act of 1893 to state that it is prepared from more than one substance, and he is not required to specify the particular materials used in its preparation. Purchasers are recommended, therefore, to buy Mixed Feeding Cakes, Meals, &c., with a guaranteed analysis. Any statements in the invoice as to the component parts of such Mixed Cake or Meal will take effect as a warranty, as also will any statements in an invoice, circular, or advertisement as to the percentages of nutritive and other ingredients in any article sold for use as food for cattle.

Members of the Society are strongly recommended not only to see that the invoices given to them accurately describe the goods they have ordered, but to make all their orders *subject to the Analysis and Report of the Consulting Chemist of the Royal Agricultural Society of England*. Copies of a Form of Order for this purpose may be obtained on application to the Secretary.

Attention is particularly directed to the recommendations below as to the qualities of Fertilisers and Feeding Stuffs which purchasers should demand.

Conditions of Purchase and Sale.

FERTILISERS.

Raw Bones, Bone-meal, or Bone-dust to be guaranteed “PURE,” and to contain not less than 45 per cent. of Phosphate of Lime, and not less than 4 per cent. of Ammonia.

Steamed or “Degelatinised” Bones to be guaranteed “PURE,” and to contain not less than 55 per cent. of Phosphate of Lime, and not less than 1 per cent. of Ammonia.

Mineral Superphosphate of Lime to be guaranteed to contain a certain percentage of “Soluble Phosphate.” [From 25 to 28 per cent. of Soluble Phosphate is an ordinarily good quality.]

Dissolved Bones to be guaranteed to be “made from raw bone and acid only,” and to be sold as containing stated minimum percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia.

Compound Artificial Manures, Bone Manures, Bone Compounds, &c., to be sold by analysis stating the minimum percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia contained.

Basic Slag to be guaranteed to be sufficiently finely ground that 80 to 90 per cent. passes through a sieve having 10,000 meshes to the square inch, and to contain a certain percentage of Phosphoric Acid or its equivalent in Phosphate of Lime. [The highest grades range from 17 to 20 per cent. of Phosphoric Acid; medium grades 14 to 16 per cent.; and low grades from 10 to 12 per cent. of Phosphoric Acid.]

Peruvian Guano to be described by that name, and to be sold by analysis stating the minimum percentages of Phosphates and Ammonia.

Sulphate of Ammonia to be guaranteed “PURE,” and to contain not less than 24 per cent. of Ammonia.

Nitrate of Soda to be guaranteed “PURE,” and to contain 95 per cent. of Nitrate of Soda.

Kainit to be guaranteed to contain 23 per cent. of Sulphate of Potash.

All Fertilisers to be delivered in good and suitable condition for sowing.

FEEDING STUFFS.

Linseed Cake, Cotton Cake (Decorticated and Undecorticated), and **Rape Cake** (for feeding purposes) to be pure, *i.e.*, prepared *only* from the one kind of seed from which their name is derived; and to be in sound condition. The Report of the Consulting Chemist of the Royal Agricultural Society of England to be conclusive as to the “purity” or otherwise of any feeding stuffs.

Mixed Feeding Cakes, Meals, &c., to be sold on a guaranteed analysis, to be sound in condition, and to contain nothing of an injurious nature, or ingredients that are worthless for feeding purposes.

Members' Botanical Privileges.

The Council have fixed the following rates of charge for the examination of Plants and Seeds by the Society's Consulting Botanist.

The charge for examination must be paid at the time of application, and the carriage of all parcels must be prepaid.

- 1.—A report on the purity, amount, and nature of foreign materials, the perfectness and germinating power of a sample of seed . . . 1s.
- 2.—Determination of the species of any weed or other plant, or of any epiphyte or vegetable parasite, with a report on its habits, and the means for its extermination or prevention . . . 1s.
- 3.—Report on any disease affecting farm crops . . . 1s.
- 4.—Determination of the species of a collection of natural grasses found in any district, with a report on their habits and pasture value . . . 5s.

N.B.—The Consulting Botanist's Reports on Seeds are furnished to enable Members—purchasers of seeds and corn for agricultural or horticultural purposes—to test the value of what they buy, and are not to be used or made available for advertising or trade purposes.

PURCHASE OF SEEDS.

The purchaser should obtain from the vendor, by invoice or other writing, the proper designation of the seeds he buys, with a guarantee of the percentage of purity and germination, and of its freedom from ergot, and, in the case of clover, from the seeds of dodder and broom-rape.

It is strongly recommended that the purchase of *prepared mixtures* of seeds should be avoided. The different seeds should be purchased separately and mixed by the farmer. Mixtures cannot be tested for germination.

Copies of an "Order Form and Conditions of Purchase and Sale of Seeds" may be obtained by Members on application to the Secretary, at 13 Hanover Square, London, W.

THE SAMPLING OF SEEDS.

The utmost care should be taken to secure a fair and honest sample. This should be drawn from the bulk delivered to the purchaser, and not from the sample sent by the vendor.

When legal evidence is required, the sample should be taken from the bulk, and placed in a sealed bag in the presence of a witness. Care should be taken that the sample and bulk be not tampered with after delivery, or mixed or brought in contact with any other sample or bulk.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals and the larger seeds. When the bulk is obviously impure, the sample should be at least double the amount specified. Grass seeds should be sent at least four weeks, and seeds of clover and cereals two weeks before they are to be used.

The exact name under which the sample has been sold and purchased should accompany it.

Members' Botanical Privileges—*continued.*

REPORTING THE RESULTS.

The Report will be made on a schedule in which the nature and amount of impurities will be stated, and the number of days each sample has been under test, with the percentage of the seeds which have germinated.

“Hard” clover seeds, though not germinating within the time stated, will be considered good seeds, and their percentage separately stated.

The impurities in the sample, including the chaff of the species tested, will be specified in the schedule, and only the percentage of the pure seed of that species will be reported upon; but the REAL VALUE of the sample will be stated. The Real Value is the combined percentages of purity and germination, and is obtained by multiplying these percentages and dividing by 100; thus in a sample of Meadow Fescue having 88 per cent. purity and 95 per cent. germination, 88 multiplied by 95 gives 8,360, and this divided by 100 gives 83·6, the Real Value.

SELECTING SPECIMENS OF PLANTS.

When a specimen is sent for determination, the whole plant should be taken up and the earth shaken from the roots. If possible, the plants must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstances (soil, situation, &c.) which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage prepaid) must be addressed to Mr. W. CARRUTHERS, F.R.S., The Laboratory, 44 Central Hill, Norwood, London, S.E.

Members' Zoological Privileges.

The Council have fixed the charge of 1s. for information respecting any animal (quadruped, bird, insect, worm, &c.) which, in any stage of its life affects the farm or rural economy generally, with suggestions as to methods of prevention and remedy in respect to any such animal which may be injurious.

In inquiries concerning injuries, specimens of the injury done should accompany the animal supposed to cause it.

All specimens should be sent in tin or wooden boxes, or in quills, so as to prevent injury in transmission, and must be accompanied by the prescribed fees.

Parcels or letters containing specimens (carriage or postage paid) must be addressed to Mr. CECIL WARBURTON, M.A., Zoological Laboratory, Cambridge.

Members' Veterinary Privileges.

I.—ADMISSION OF SICK OR DISEASED ANIMALS TO THE ROYAL VETERINARY COLLEGE.

1. Members of the Society have all the privileges of subscribers to the Royal Veterinary College, Camden Town, N.W., so far as the admission for treatment of Cattle, Sheep, and Swine is concerned, without being called upon to pay the annual subscription to the College of two guineas. The charges made by the College for keep and treatment are as follows :—Cattle, 10s. 6*d.*, and Sheep and Pigs, 3s. 6*d.* per week for each animal.

2. The full privileges of subscribers, including the examination of horses, and the admission of horses and dogs into the College Infirmary for surgical or medical treatment, on payment of the cost of keep, will be accorded to Members of the Society on payment of a subscription to the College of one guinea instead of two guineas per annum.

II.—FEES FOR CONSULTATIONS, ANALYSES, AND EXAMINATIONS AT THE ROYAL VETERINARY COLLEGE.

The following fees are payable by Members of the Society for services performed at the Royal Veterinary College on their behalf in cases where a visit to the locality is not involved :—

	£	s.	d.
Personal consultation with a Veterinary Professor	0	10	6
Consultation by letter	0	10	6
Post-mortem examination of an animal, and report thereon	1	1	0
Chemical Examination of viscera for any specified metallic poison	0	10	6
Chemical Examination of viscera for metallic poisons	1	0	0
Chemical Examination of viscera for vegetable poisons	1	0	0
Chemical Examination of viscera complete, for metals and alkaloids	2	0	0

(The above fees do not apply to cases which involve a visit to the locality.)

III.—INVESTIGATION OF OUTBREAKS OF DISEASE AMONG FARM STOCK.

1. In the event of an outbreak of disease among Cattle, Sheep, or Swine occurring on the farm of any Member of the Society, application should at once be made to the Principal of the Royal Veterinary College, Camden Town, London, N.W.

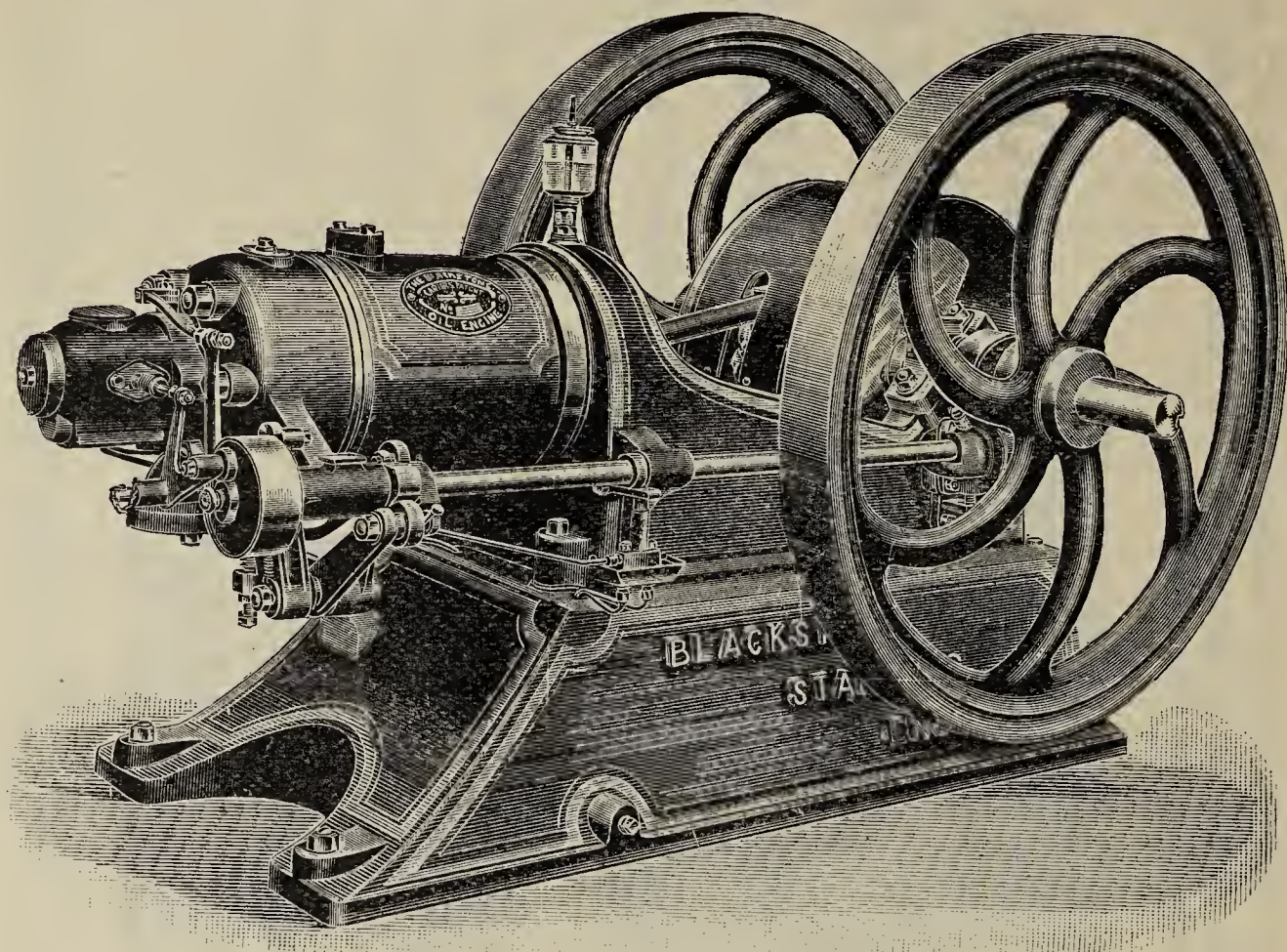
2. The Principal will then instruct an officer of the College to inquire into the outbreak and report to him. He will also fix the amount of remuneration to be paid to the Inspector, whose professional fee will in no case exceed two guineas per day, exclusive of the actual cost of travelling and maintenance.

3. When it appears on the report of the Inspector selected that the outbreak was of an important character, or of general interest, the cost of the investigation will be defrayed by the Royal Veterinary College.

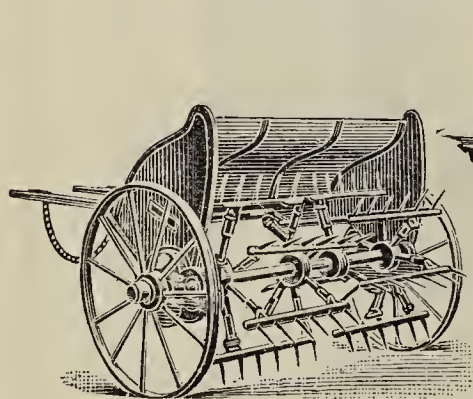
4. An annual grant is made by the Society to the Royal Veterinary College in aid of the further development of Cattle Pathology. In order to assist the authorities of the College in making the necessary investigations, Members of the Society are particularly requested to send to the College any diseased animals (cattle, sheep, or swine) which they would otherwise destroy as useless, and also any specimens of diseased parts of an unusual character. In the event of living animals being sent, it will be necessary to telegraph to the College at Camden Town the time of their arrival at a London station, so that a van may be sent to meet them. The expense of transit will be defrayed by the Royal Veterinary College.

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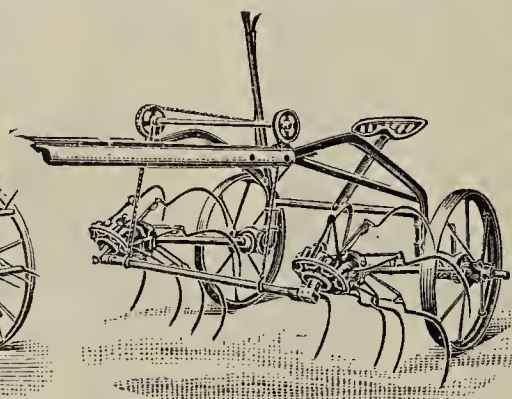
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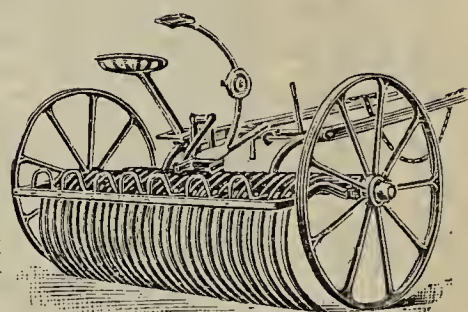
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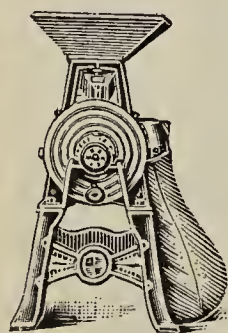
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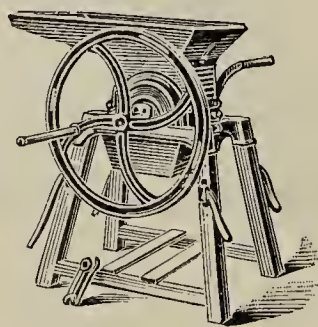
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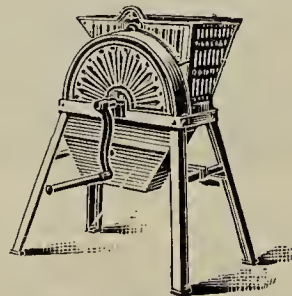
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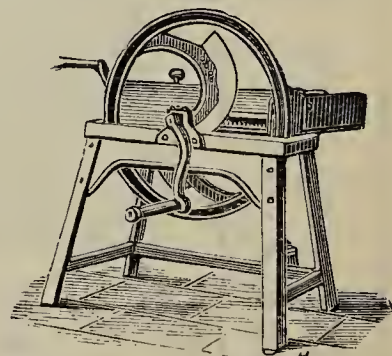
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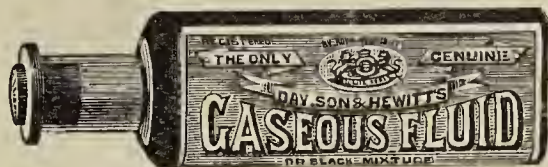
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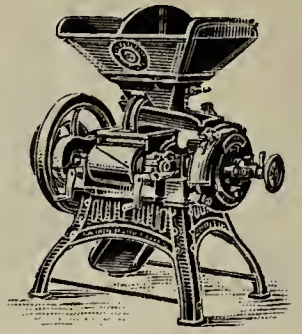
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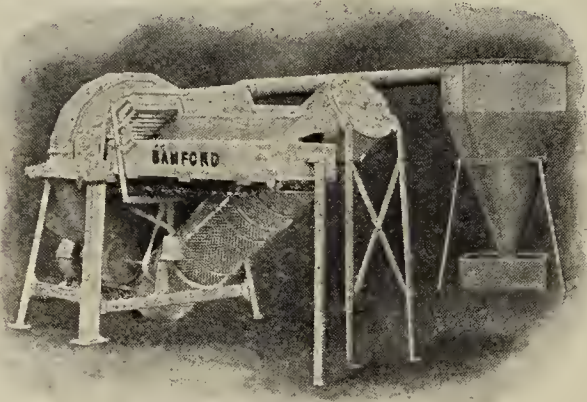
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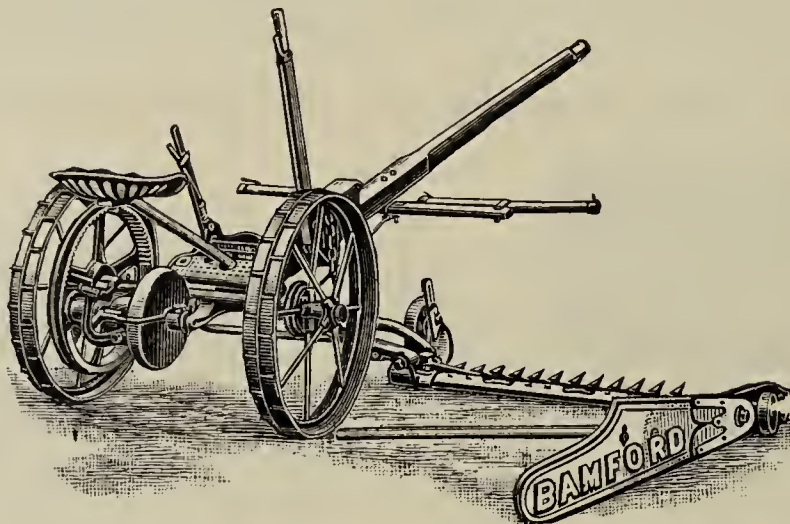
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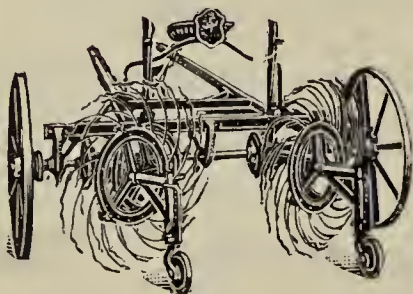


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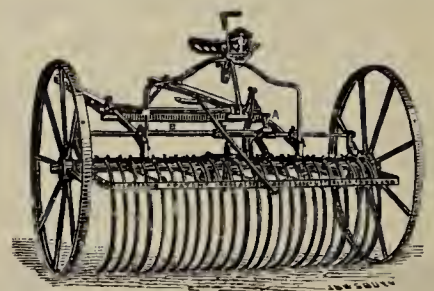
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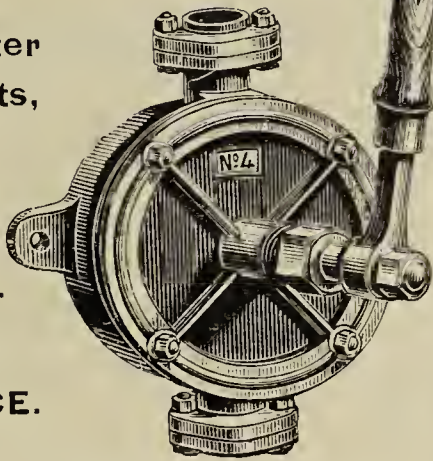
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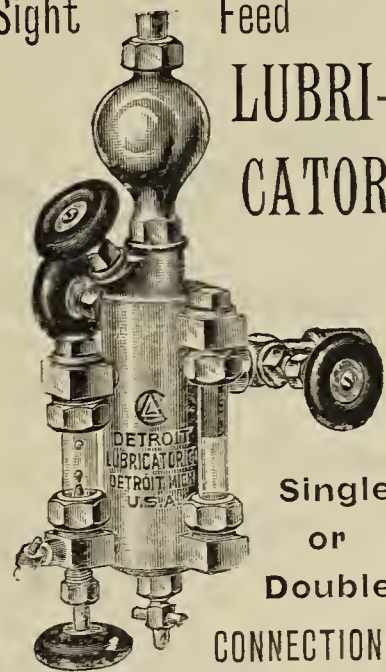
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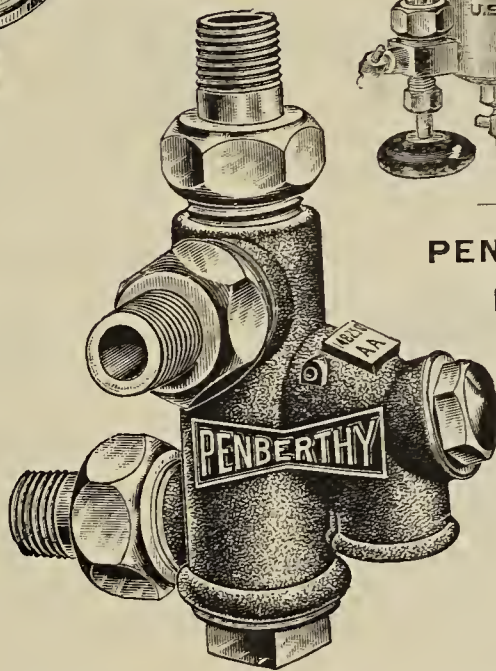
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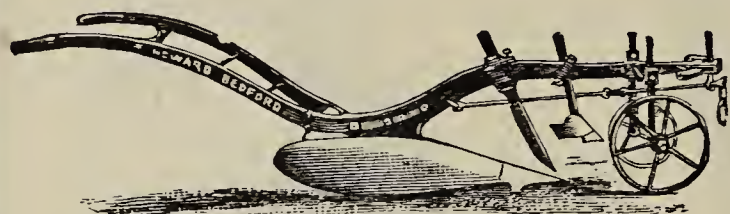
(Contains no Rubber) **LIFTS**, etc.

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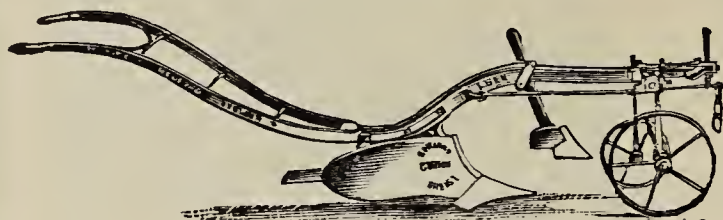
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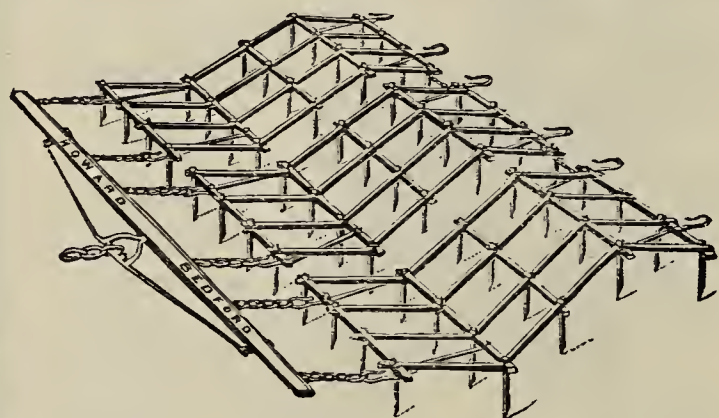
	£	s.	d.
S B. a very light pair-horse plough, weight 229 lbs.	4	12	6
J A, the famous Champion, weight 266 lbs.	5	0	0
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Skim Coulter.	5s. 6d. extra.		
Steel instead of iron breast,	3s. extra.		

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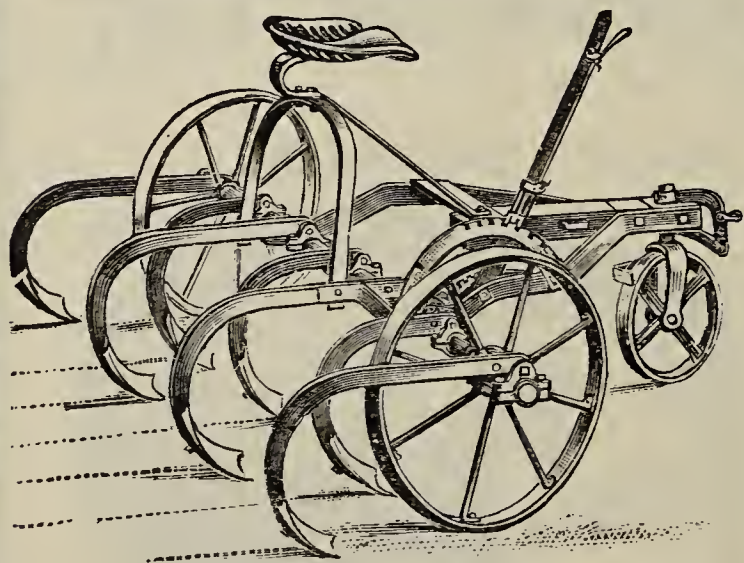
D D X. with two wheels, and skim coulter, weight 200 lbs.	4	5	0
L B X. with two wheels, and skim coulter, weight 236 lbs.	5	0	0
L B F N. with two wheels, and skim coulter, weight 236 lbs.	5	0	0

ORIGINAL HARROWS



No. 14, for one or two horses, 8½ ft. wide, weight 147 lbs.	3	7	6
No. 12, for two horses, 9½ ft. wide, weight 191 lbs.	3	15	0
No. 11, for two or three horses, 10 ft. wide, weight 247 lbs.	4	5	0

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No. 5, with seven tines, working width 4½ ft., weight 336 lbs.	8	0	0
Seed-box attached for broadcast sowing, Four Guineas.			
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Do. Holders	from 1/3 to	1	1	0
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Castrating and Spaying Knives	1/6, 2/-, and	0	3	0
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Ditto and Firing Irons	each	0	3	6
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Tail Scissors, "Reliance" (Patented)		0	12	6
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Lamb-Castrating Forceps	2/6, 4/6, and	0	6	6
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Sheep Ear Markers, various patterns	2/6 and	0	4	0
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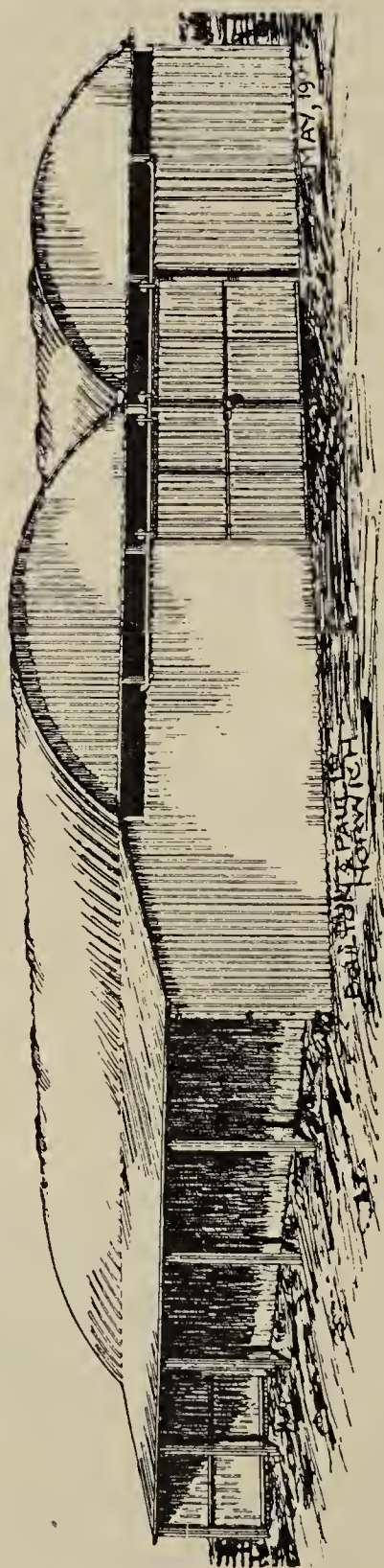
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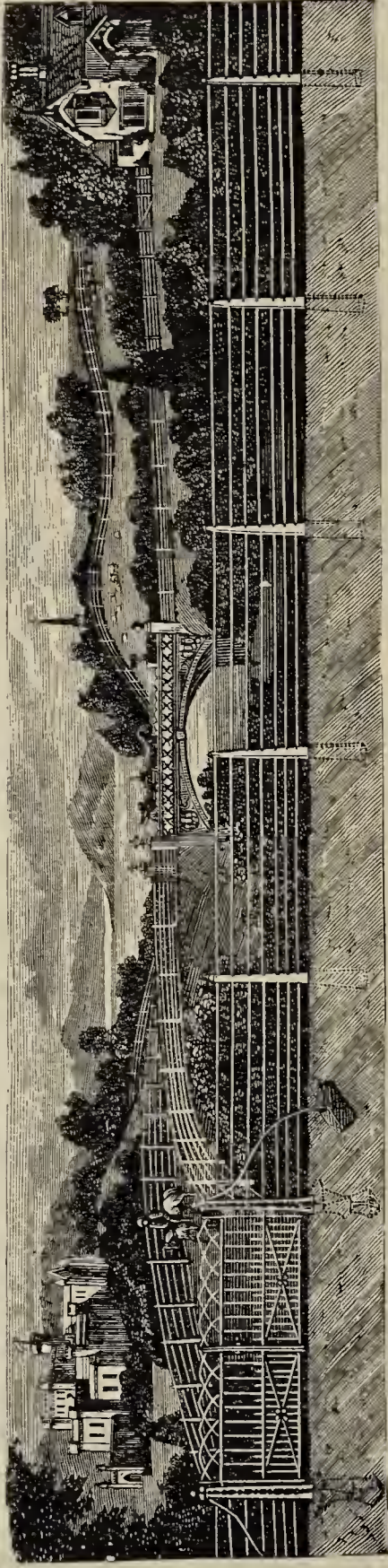
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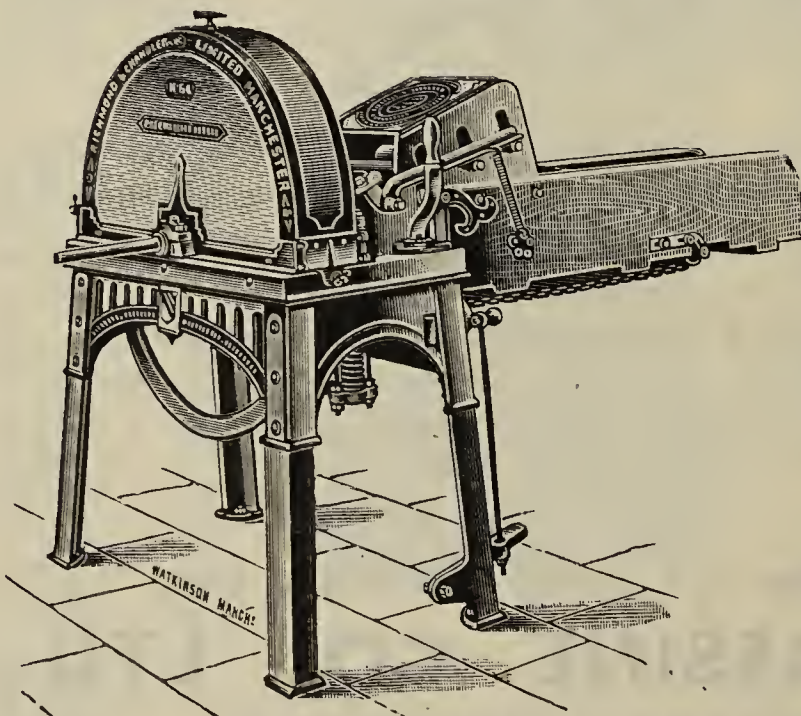
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SHEEP.

(Continued from page 16.)

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RIVERSTOWN (1890). (Vol. 17, p. 701).

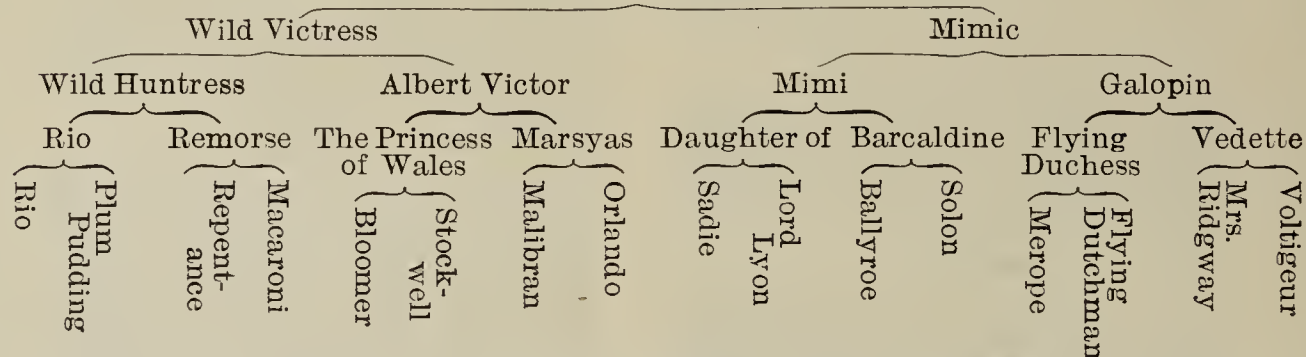
WINNER OF FIRST PRIZES, 1903:—Reigate, Southampton, and Worthing Shows.

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GULDEN (G.S.B., Vol. 20, p. 340), by Fernandez out of Groat, by Plebian out of Coinage, by Sterling out of Mirella, was placed First at Guildford, 1905.

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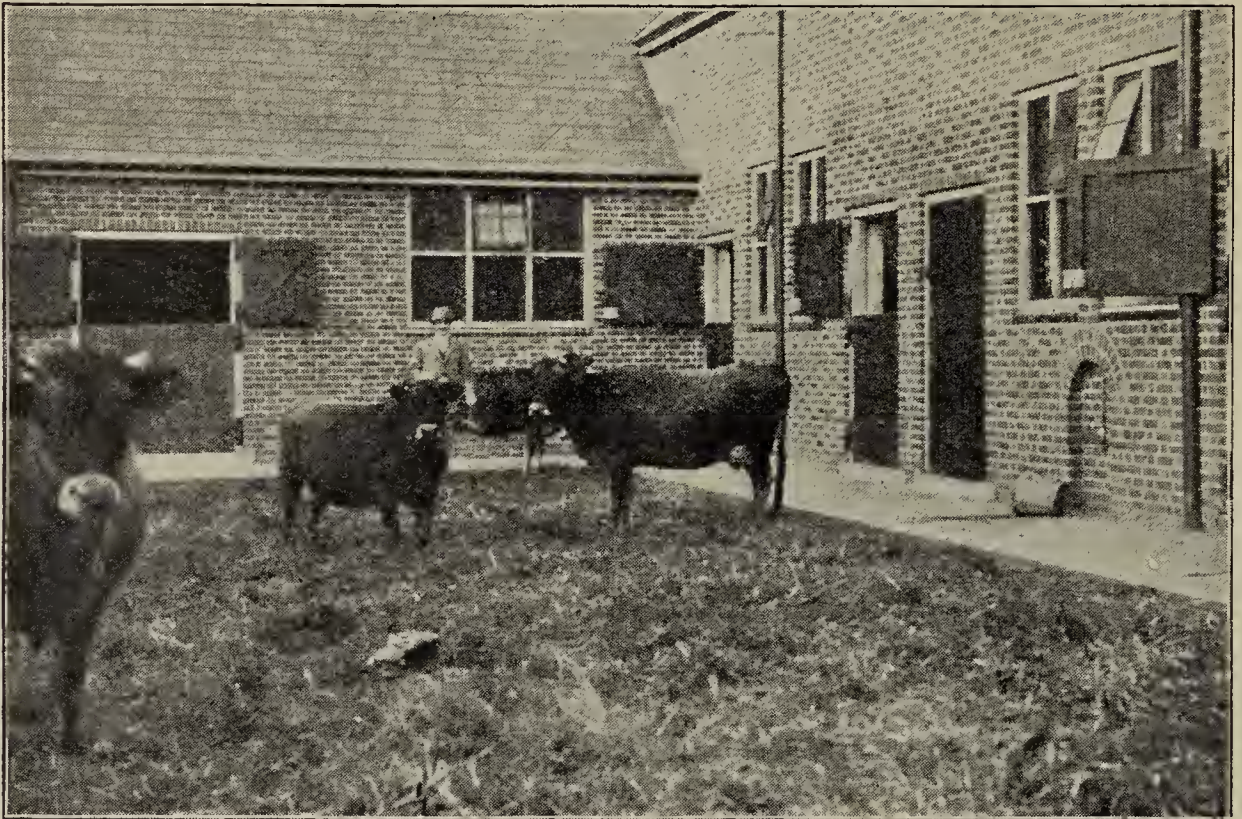
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APRIL	...	20	SEPTEMBER		21		
MAY	...	18	OCTOBER	...	26		

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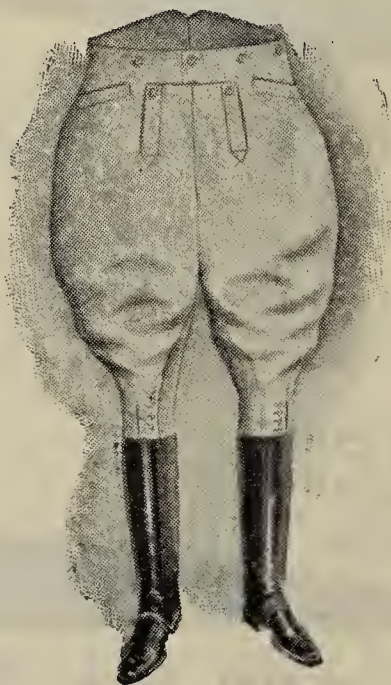
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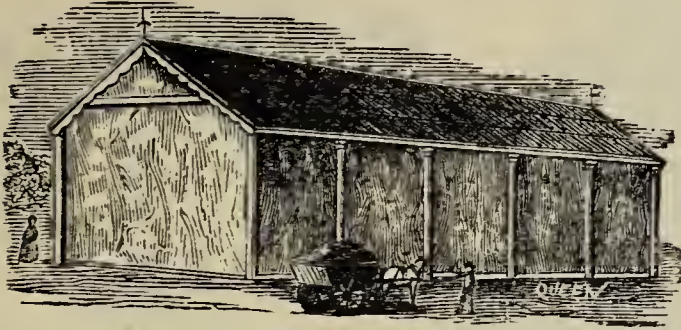
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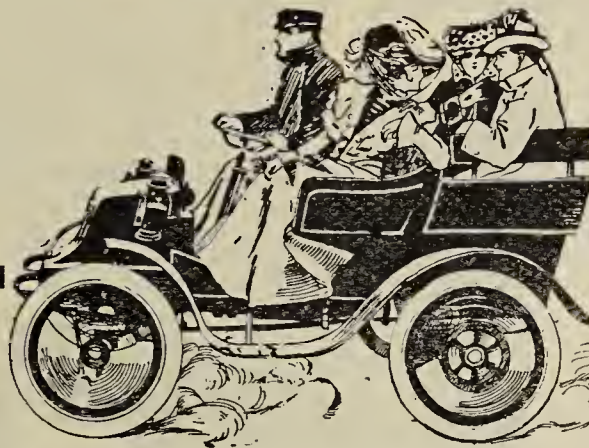
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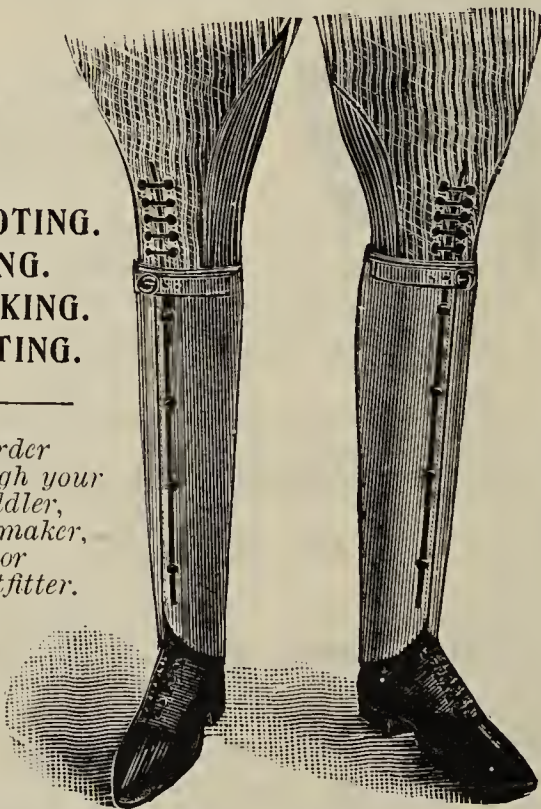
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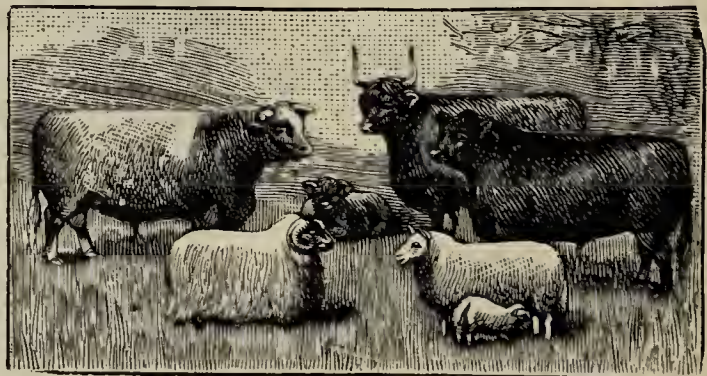
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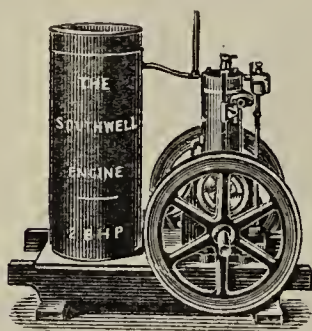
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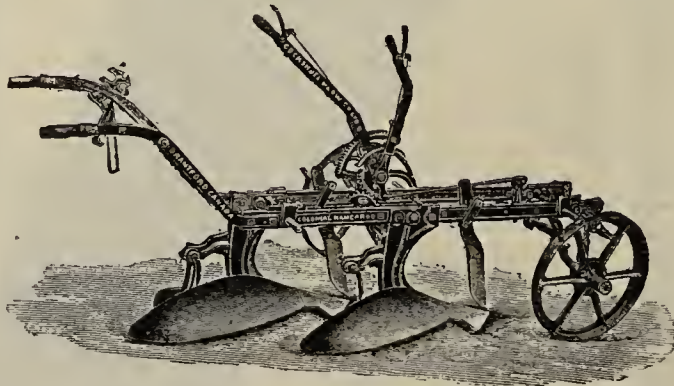
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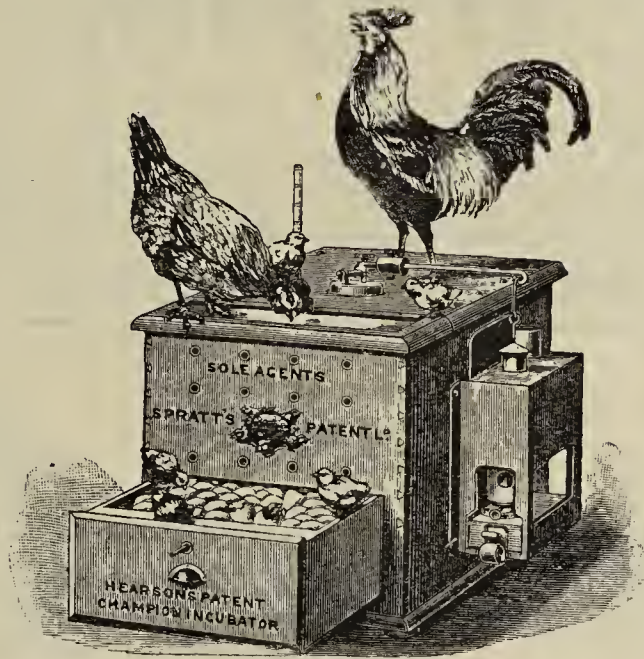


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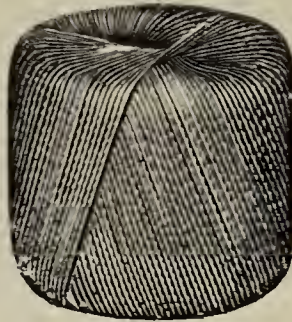
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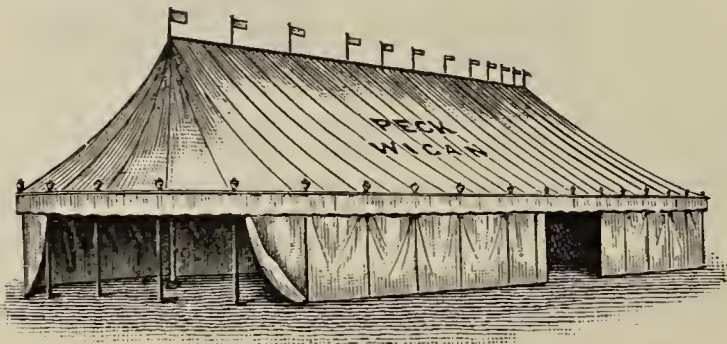
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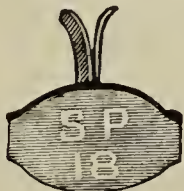
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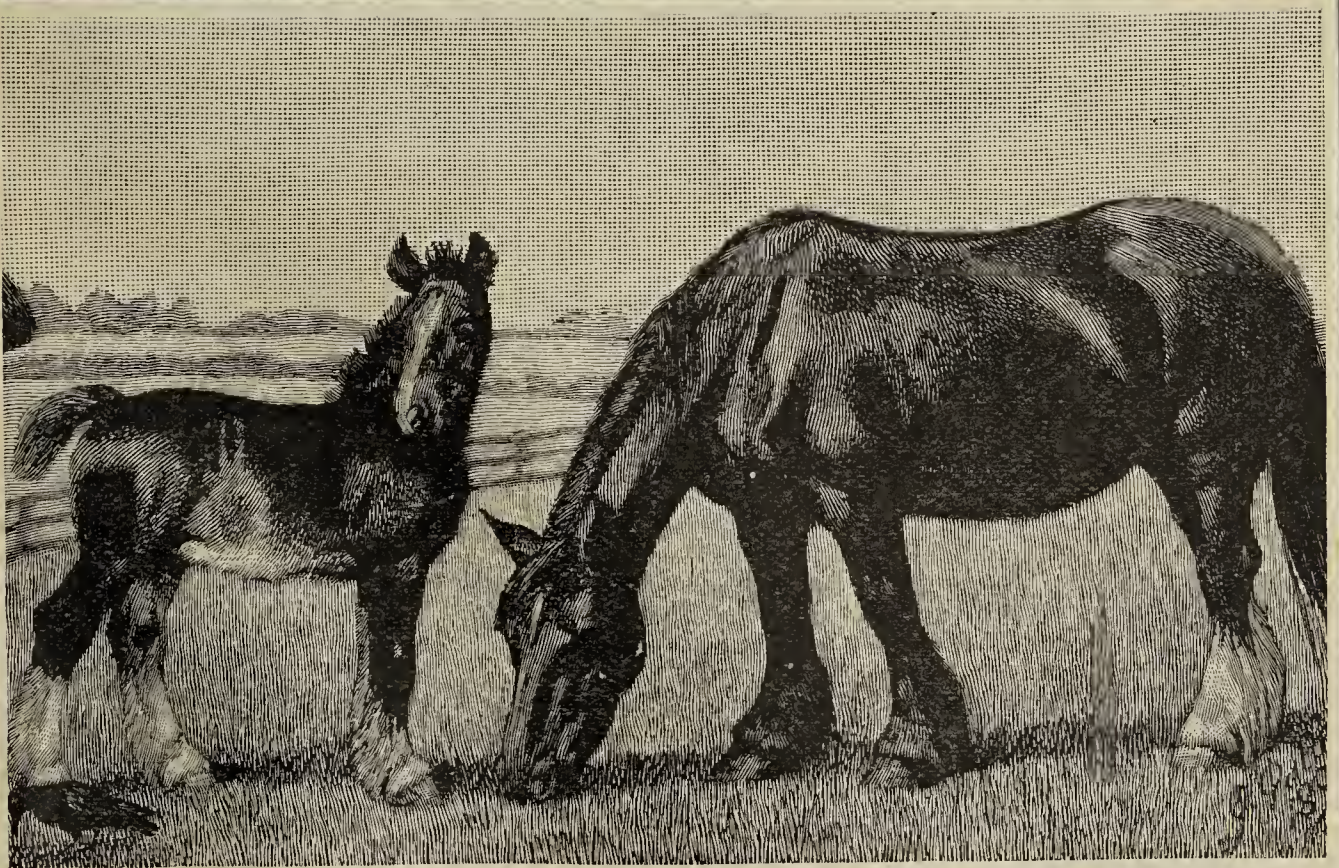
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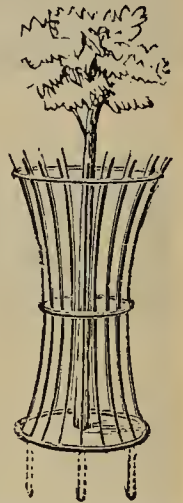
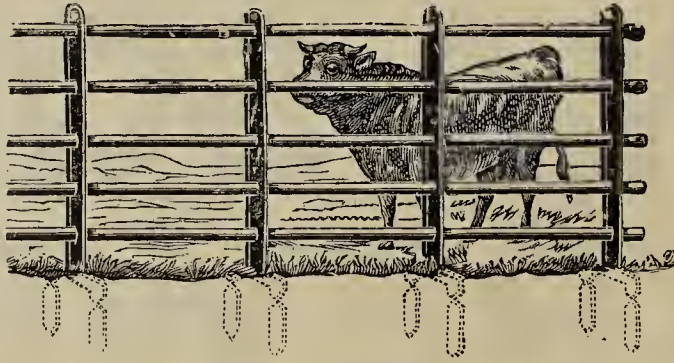
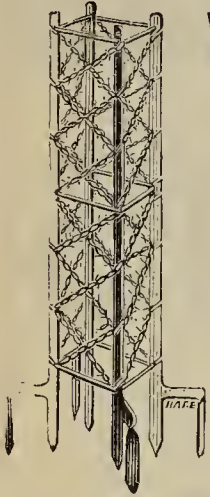
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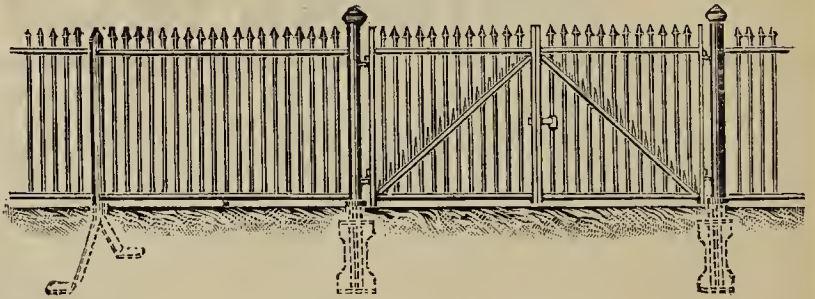
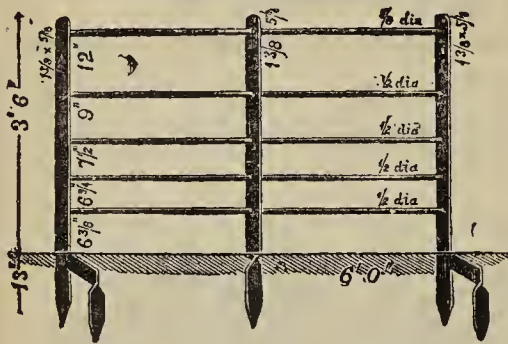
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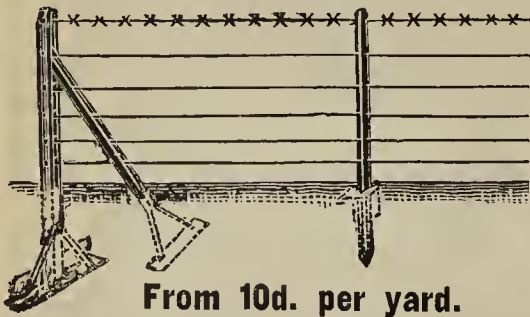


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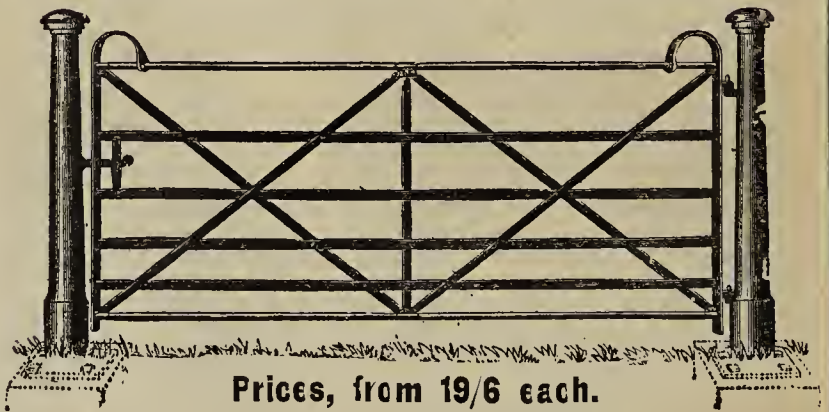
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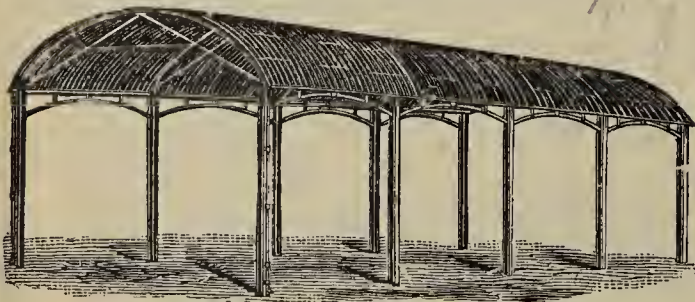
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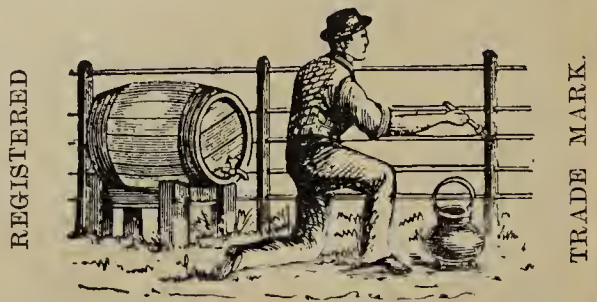
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