

THE ILLUSTRATED POULTRY RECORD

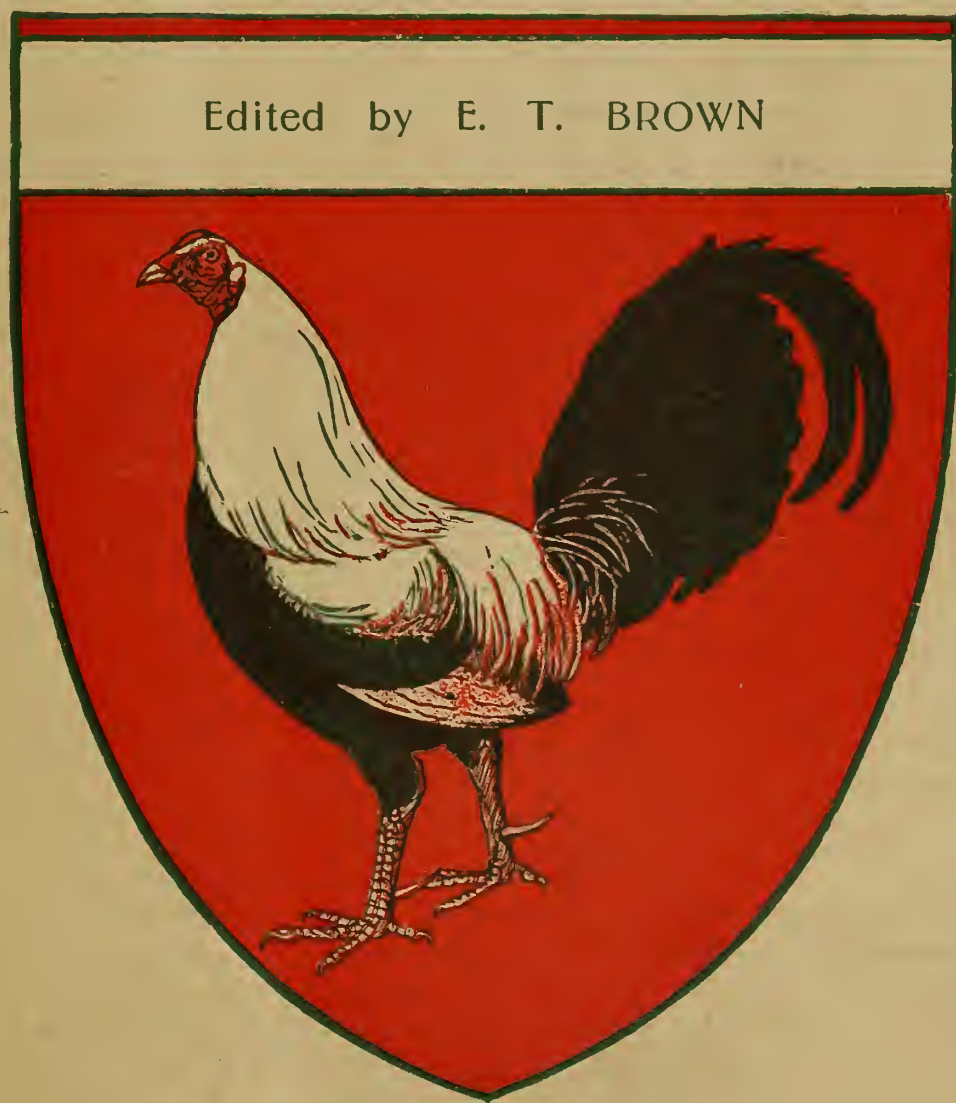
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AUGUST, 1913.

VOLUME V.

Edited by E. T. BROWN



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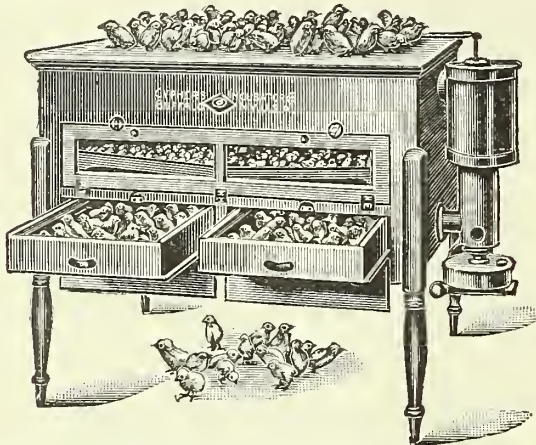
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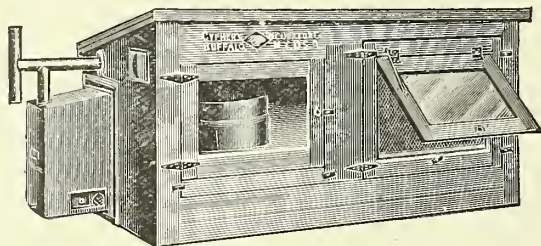
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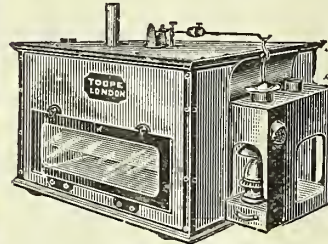
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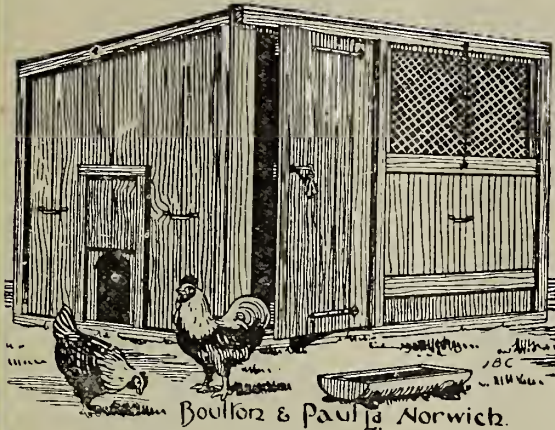


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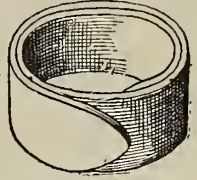
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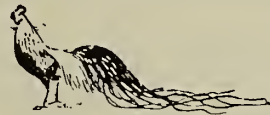
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Wednesday, Aug. 6th ...	12 35 noon	Half-day	BIRMINGHAM (5/6), Wolverhampton (5/6)
Thursday, Aug. 14th	12 15 noon	Half-day	Coventry (4/6), Leamington (4/6), Warwick (4/6)
Wednesday, Aug. 6th ...			
Thursday, Aug. 14th... ..			
Saturdays, Aug. 23rd and 30th			
Every Saturday, except Aug. 2nd	7 0 p.m.	5 and 8 days	} BIRMINGHAM District (Birmingham Races, Aug. 4 & 5) } Wolverhampton, for the Races (3/6 day, 12/- two days) } Wolverhampton, for the Races (3/6) } Shakespeare's Country—Coventry, Kenilworth, Warwick, Shottery, & Stratford-on-Avon (12/- inclusive, rail & motor) } Belfast and North of Ireland } Dublin (23/-) and South and West of Ireland } Dublin (23/-) for the Horse Show } Carlisle and Scotland } Edinburgh and Glasgow (Daylight Express Dining Car Excursion } North Wales, Central Wales, Cambrian Line Stations, Blackpool, Morecambe, Furness Line Stations, English Lake District } Isle of Man (26/6) } Chester, Southport, Liverpool } Liverpool District } Manchester, Oldham, Huddersfield, and many other Provincial Towns } Rhyl (day 12/6), Colwyn Bay (day 13/-) Llandudno (day 13/-)
Saturday, Aug. 2nd	7 20 "	3, 5, 8 days	
Monday, Aug. 4th	8 50 a.m.	1, 2, 4, 5 days	
Tuesday, Aug. 5th	9 20 "	1 day	
Monday, Aug. 18th	9 5 "	1 or 2 days	
Tuesday, Aug. 19th	9 20 "	1 day	
Every Monday, Wednesday, Thursday and Saturday	9 20 "	1 day	
Every Thursday	see Programme	16 days	
Every Friday	do.	16 days	
Tuesday, Aug. 26th	10 15 p.m.	16 days	
Every Friday	see Programme	7 or 17 days	
Every Saturday to Aug. 30th, inclusive	11 25 a.m.	8 or 16 days	
Every Friday night and every Saturday (Aug. 2nd and 9th excepted)	see Programme	3, 8, 10, 15 or 17 days	
Every Friday night and every Saturday	do.	3, 8, 10, 15 or 17 days	
Every Friday night	do.	3, 8, 10, 15 or 17 days	
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FRANK REE, General Manager.

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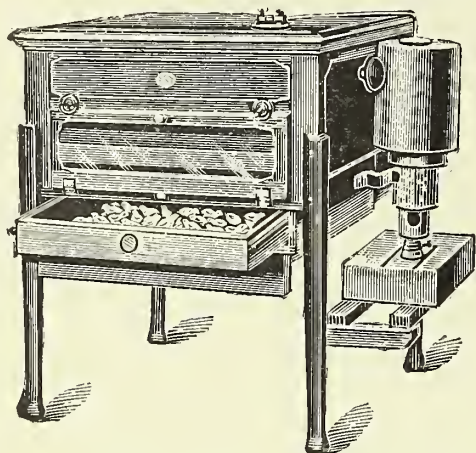
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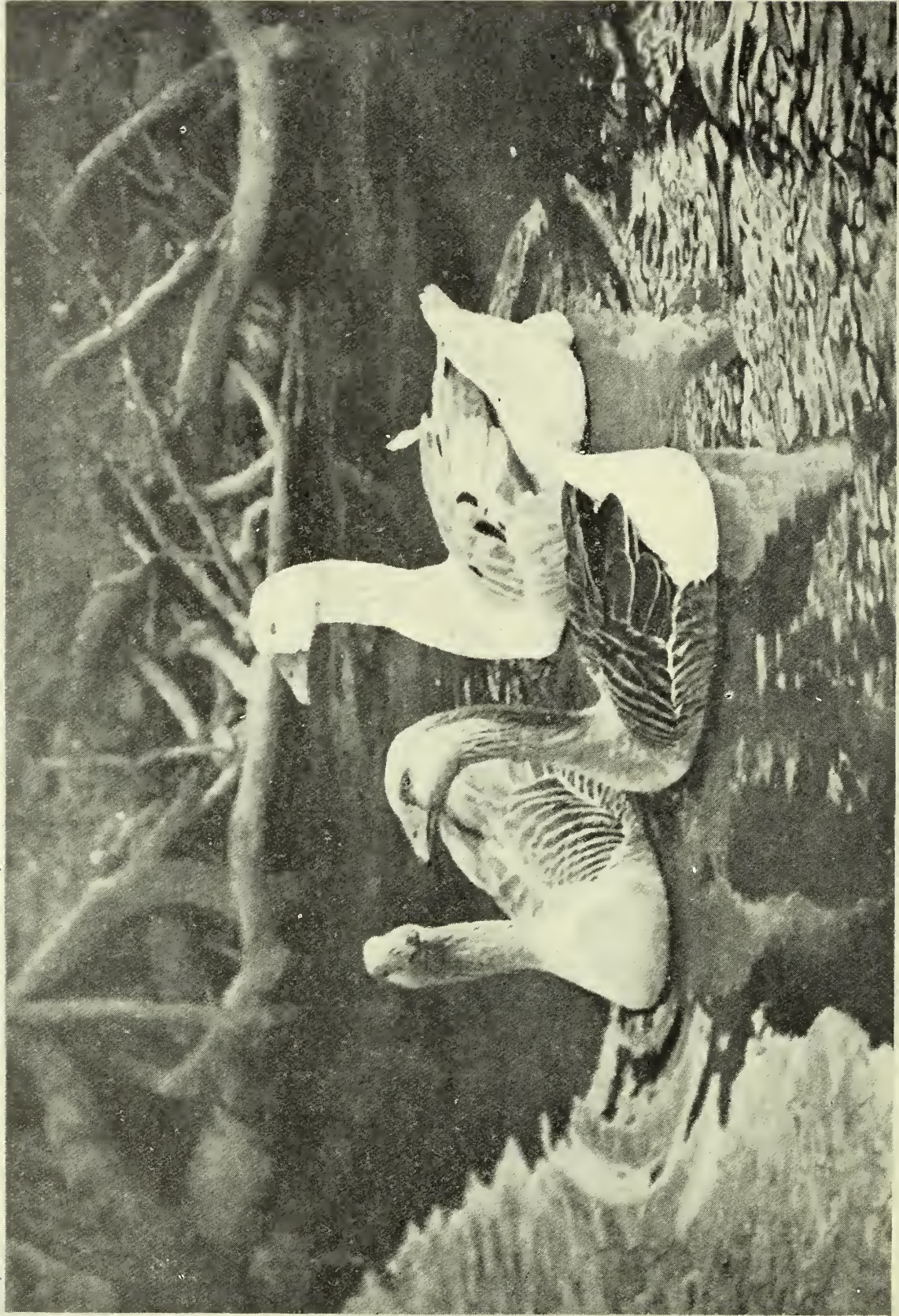
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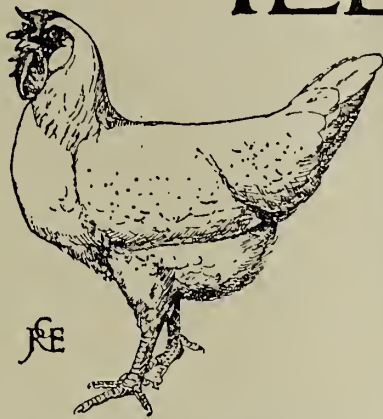
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"IN COOL AND SHADY WATERS."

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THE ILLUSTRATED POULTRY RECORD



Vol. V.—No. 11.

August 1, 1913.

Monthly, Price Sixpence.

DIARY OF THE MONTH.

EDITORIAL NOTICES.

ATLANTIC HOUSE, HOLBORN VIADUCT, LONDON, E.C.

Telegrams : " VIVACIDAD, CENT., LONDON."

Telephone : 2697 HOLBORN.

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The Editor would like to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the ILLUSTRATED POULTRY RECORD.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor.

The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

Qualifications of Poultry Instructors.

A sharp conflict has arisen between the Scottish Board of Agriculture and the Northern College of Agriculture respecting the qualifications for teaching poultry keeping of two instructresses. The College had advertised for two teachers to combine instruction in dairying and poultry, and out of several applicants had selected two, both of whom hold the National Diploma in dairying, so that in that subject the Board raised no objection to the appointments made. In respect to poultry, however, as the chosen candidates only hold the Kilmarnock Certificate, the Edinburgh authorities declined to sanction their appointment to act as teachers, in one case until the lady in question had submitted to a further examination by the Board. In the other she had sat in this manner, with the result that they required her to have six months further practical training and then be examined again. As the money for their salaries is derived from central funds the Board has a right of veto. In this direction it is only following the Irish example. The Dublin Department of Agriculture refuses to agree to the appointment of any teacher who has not passed an examination arranged by it. We only wish that was equally true in England and Wales. It is quite time colleges and local authorities were taught that a high standard of qualification is needed in this as in other subjects. Cases have been known, and even recently, when it was thought that the most superficial training was sufficient. Whatever might have been acceptable in days gone by the poultry industry has passed far beyond that stage, and needs men and women who know the subject thoroughly. We hope, therefore, that the Scottish Board will maintain its position.

The desired change in new appointments can only be brought about by pressure from the centre.

A National Diploma in Poultry.

What is needed more than ever is the establishment of a National Poultry Diploma conducted by an independent examining board, to which any and all could submit themselves no matter where trained, and which would be equal in every respect to the N.D.D. That question was discussed at the last Poultry Conference in 1907, and a resolution in support of the proposal carried. Nothing has, however, been done. The main difficulty was finance. Nobody was able or prepared to undertake the responsibility. The time has surely arrived when the two Boards of Agriculture in Britain should make a move in that direction, and it would be advantageous to secure the co-operation of the Irish Department, so that there might be no limit imposed by reason of the respective countries, which might be the case if each conducted their own examination. We do not suggest that those who already have proved their capacity should be interfered with, for that would in many instances be an injustice, but that all new appointments as teachers in poultry husbandry shall only be open to such as hold this National Diploma. That would eliminate the unfit and at once raise the status and influence of poultry teachers, preventing the selection of those who have neither the knowledge required nor the ability to impart what they know. Nothing can be imagined which would more rapidly destroy the all too common idea on the part of institutions and County Education Committees that anyone can teach poultry keeping and bring about the improvement we all desire to see.

Petrol and Tar.

It may appear a far-fetched ideal to suggest that the increase of motor traffic has any deleterious effect upon poultry, by reason of the fact that in these days few fowls are seen on the road side. Like children they find high roads are not the paths of safety. Mr. T. Toovey, however, in one of our weekly contemporaries, utters a warning about the use of road-scrapings gathered from tarred granite roads much frequented by motor cars, and states that these had adversely affected his birds when used as scratching material. He suggests that such a result is due to the combination of tar, granite, dust, and grease. We think that probably wastage of petrol, which is often very evident, has much to do with it. The statement has been made that petrol fumes, apart from

their offensiveness, are directly injurious to animal life, and that strong measures should be taken to prevent their emission. If that be true it can be realised that the liquid itself if mixed with the road scrapings will be positively harmful. As motors have come to stay, and the roads of the country are their natural sphere, we have to recognise facts as they are, and to accept the inevitable. The only thing the poultry-keeper can do is to avoid the use of scrapings from roads traversed by these vehicles.

Advisory Work.

Every poultry instructor knows that one of the most important parts of his work, exerting the greatest amount of influence, is the giving of special advice to individuals, although in the past there has been much difficulty arising. The number of questions which are received by newspapers of all grades is a further proof of the demand for help and information in this way. In fact the press has heretofore done more to help the poultry industry by replies to queries than all the institutions combined. That such has been altogether satisfactory no one could claim. Whilst advice by correspondence may be given dealing with general principles, it is evident that in all matters involving detail the question of conditions is of supreme importance. These cannot generally be understood without the advisor seeing for himself and learning more by personal enquiries than is possible by letter, and without which it is difficult to form a correct judgement. We are glad to see that the University of Leeds through its Agricultural department is systematising such advisory work, in which way the services of its staff are provided free to residents within its area, and personal visits will be paid as required. It is satisfactory to know that already considerable use has been made of this offer. We learn that the same system is to be adopted by other institutions.

A Jump in Imports.

The Trade and Navigation returns for June show a great advance in imports both of eggs and poultry. The total increase for the first six months of the current year is no less than 1,548,027 great hundreds, equal to 12,900 tons, or 19 per cent more than the corresponding period of 1912. Very much greater supplies are recorded from Russia, Denmark, and the Netherlands, and smaller from France, and other countries, with decreases from Germany, Italy and Austria-Hungary. Danish are greater by 39 per cent. In spite, however, of this huge volume of supplies, prices have been well maintained, and the total averages only show a decline of 0 $\frac{3}{4}$ d. per 120. Danish, Dutch and

French are all higher than for the first six months of 1912, and Russian but $0\frac{1}{4}$ d. per 120 below. In poultry (dead) the imports for the same period were greater by 21,236 cwts, equal to 14 per cent. This is almost entirely due to an enormous advance of supplies from the United States of America, which increased from 23,482 cwts in 1912 to 54,220 in 1913. Russia and Austria-Hungary show a considerable decline, France and other countries a smaller increase. Yet prices have advanced considerably, on the general average by 5s. $1\frac{1}{2}$ d. per cwt., and the increase in values is 25 per cent. These are surprising figures and show either home production has been very deficient, or that demand has grown more rapidly than had been thought.

The Perishability of an Egg.

That eggs are perishable is unquestionable. From the time of laying they deteriorate in quality and lose weight. It is equally true that under normal conditions the process is somewhat slow, so much so that a few hours make very little difference to the flavour or edible value. Hence we take it that they do not come within the legal interpretation of the term "perishable," which means that the course of decay is rapid, and that a few hours means either heavy loss or entire spoilage, as in the case of milk on the one hand and certain forms of fresh fish on the other. We are led to these observations owing to a case tried in the Edinburgh Sheriff Court, wherein a firm at Leith were prosecuted for not closing their shop in accordance with the Shop Act, 1912, on the early closing day, when they offered eggs for sale. Some very interesting evidence was given, but the Sheriff decided, and we think rightly, that so long as the act remains on the Statute Book, eggs do not come within the perishable degree enabling them to be sold during prohibited hours, otherwise it might be claimed that they should be sold on Sundays.

Natural v. Artificial Incubation.

In the last number of the *Monthly Bulletin of Animal Intelligence* is given a summary of an article by Mons. L. Brechemin in an Italian journal showing comparisons in results between natural and artificial methods of hatching and rearing. On the one side three turkey hens and three fowls were used and on the other a tank incubator. The results were as follows: natural, 242 fertile eggs produced 158 chickens; artificial, 243 fertile eggs produced 209 chickens. This test was continued to the next stage, all the chicks being fed identically. The naturally reared chicks were kept in open houses, and allowed a grass run about a quarter

of an acre in extent. At the end of three months out of 158 chicks hatched 132 were alive, whilst of those raised artificially in a heated brooder, at the same age, there were 194 alive out of 209 hatched. So far as the former are concerned the greatest mortality had taken place where turkey hens were used. The results enumerated are so different from our past experience that further evidence is desirable. It would also be desirable if any readers have comparative records in the same way. Probably it might have been different if only fowls had been used and not turkeys. The writer states that, "though natural incubation and rearing are perhaps to be recommended for small poultry breeders, and for raising breeding birds, the resulting chickens being more robust, artificial methods are preferable in the case of large poultry farms."

Official Tyranny.

The Times has rendered a valuable service in an article recently published, which we reproduce in our present issue, in advocating the need for encouraging under proper conditions the keeping of fowls in London and other great centres of population, condemning the action of local officials who are only too prone to abuse their position by, to use the expression of one of these, "routing them out as speedily as possible." The moral and economic factors are totally ignored. Upon such an aspect of the case it is unnecessary to do more than express hearty concurrence with what is stated by our contemporary. Our present purpose is to suggest whether some organised steps could not be taken by poultry clubs and societies to defend the interests of such smaller poultry-keepers, to which end it might be desirable to call a meeting of the central clubs and every local society within the metropolitan area. Those people who keep poultry under unsuitable conditions, who are negligent in management, and thus become a nuisance as well as a danger to their neighbours, ought to be punished, and deserve no sympathy. In all other cases, and these form the great majority, prohibition is not only illegal but official tyranny which ought to be resisted. We can realise the position of any small urban poultry-keeper summoned for such an offence, unable to afford legal advice, strange to the ways of a Court, an easy victim to the brow-beating of officials, and scarcely listened to by the magistrates. If, by organisation, they had the co-operation and assistance of others, more especially in securing witnesses as to the manner in which their birds are kept, an end would be put to actions of this nature. As isolated units they are powerless. In combination they would be powerful.

State Competition.

It is satisfactory to note that the action of the Scottish Board of Agriculture in establishing breeding centres for distributing cheap sittings of eggs, and of subsidising from state funds a few poultry-keepers, in other than congested areas, is almost universally condemned. Several of the leading northern papers have made reference to this subject, and, apart from all political considerations, appear to be unanimous in their views. That, however, is not enough. Government departments either do not read newspapers, or are so far of the genus pachyderm, that they need more than a few criticisms of this nature to pierce their hide. Unless something more is done and that speedily, the system will have been firmly fixed and take

Poultry Raising in Nova Scotia.

Farmers generally in Nova Scotia are doing well in poultry raising, and the custom of adding fowls to the stock of the farm is rapidly increasing. "The Agricultural College at Truro" says the *Journal of Commerce*, "has a poultry department in connection therewith, at which white and brown Leghorns, white Wyandottes, barred Rocks, Pekin ducks, and other breeds are kept. Mr. J. P. Landry is in charge, and is building up pedigree laying strains of the leading varieties by means of trap nest records. A large number of eggs from these good laying strains are sold to the farmers every year, as well as the pure bred cockerels, at very moderate prices. Poultry are found on the fruit farms. Fifty hens will furnish all the fertilizer an acre of orchard requires. Mr. Manning K. Ells, of Port Williams, in the Cornwallis Valley, states that he had an



A mixed Flock of General Purpose Fowls.

[Copyright.]

much more effort to dislodge. There is the hope that as the Scottish Board is new it will be more sensitive to public opinion, in which case we can forgive when retraced this youthful or amateurish indiscretion, by reason of the other good work for poultry it is doing. This is a question of common justice, not of vested or personal interests. As the *Dundee Courier* wisely says: "State aid was never intended for those who are well able to help themselves, and was never intended to militate against legitimate industry." If Scottish M.P.'s were bombarded with protests against this policy, and Scottish papers gave voice to the wide-spread objection which exists, the false step taken would be reversed.

orchard of 100 trees on which no fertilizer except the hen house had been used for five years. The trees are in a healthy and vigorous condition, and the apple crop sells for £200 a year."

Artificial Oxygen.

Some time ago in America the addition to incubators of carbonic dioxide was advocated. Now we have the opposite element, namely, oxygen. Advertisements are appearing of an "Oxygen Vitalizer," which, according to testimonials, solves the problem of bad hatches and white diarrhoea. The last named, in accordance with physiology, seems preferable to the former.

THE SEVEN PHASES OF THE POULTRY INDUSTRY.

BY WILFRID H. G. EWART.

—o—

VII.—THE DEALER.



OUR review of the poultry industry in its seven distinct phases now brings us to the final subject—the poultry dealer. As an industrial factor, the poultry dealer is quite a latent product having emerged from the progress of poultry-keeping generally. To-day if not a necessity he is at least a convenience because he acts as intermediary between the different departments of the industry. At the same time he is a non-productive element and as such deserving of less consideration than the producer of eggs and table poultry. No doubt he is almost essential as the go-between, the fetcher and carrier in regard to which offices he gets well paid for his trouble. But his profits are obtained as much by his wits as by any peculiar technical skill, as much by the power to bargain and haggle as by any productive or positive ability. Nor can we forget that by the nature of his job he too frequently filches a proportion of the rightful profits of the breeder and rearer while at the same time adding to the price demanded of the consumer. Nor can we forget again that he is sometimes rather a sharp kind of man with an elastic view of business methods and a narrow appreciation of the fact that every shilling saved is a shilling gained to him. For all this, however, the dealer is an inevitable factor in commerce as at present constituted and his profession is by no means an unprofitable one given the right qualities of thrift, judgment, perspicacity and technique.

THE FANCIER DEALER.

The most profitable and also the highest form of the business is the dealing in fancy poultry which has come so much to the fore of late years. With the astonishing development of the fancy which has taken place, accompanied by a great increase of values, all during the last decade, there has arisen this new class of man who with a comparatively small stock-in-trade, takes his team from show to show, sweeps the board in most classes and then sells his winners to the defeated amateur at considerably more than they cost him. The value of a win as a means of getting an inflated price for a bird—considerably more probably than its actual worth—is not lost upon these gentry whose business is to get what they want as cheap as possible and dispose of it for as much as possible.

Some of the largest “teamsters” in the coun-

try who are little more than dealers conduct their business from a holding of only two or three acres. Little breeding is done or such as is done is left to farmers in the locality. Very likely the concern is a family one, the father or brother staying at home and dealing with the correspondence and orders, the son or other brother going about with the show team. What would be the outlay and establishment for such a concern? There would have to be a good exhibition house and wash-house, the former with accommodation for at least thirty birds. Then there would have to be proportionate accommodation for drying on the hot-air method, everything being thoroughly up-to-date in these respects. The two or three acres of land would be laid out in smallish runs of the breeding pen type, with an American scratching shed open fronted along the the whole of one side. The runs should be fruit-planted and well-boarded to two feet up the wire-netting. A range of cockerel pens such as all poultry farmers now possess would complete the essential equipment.

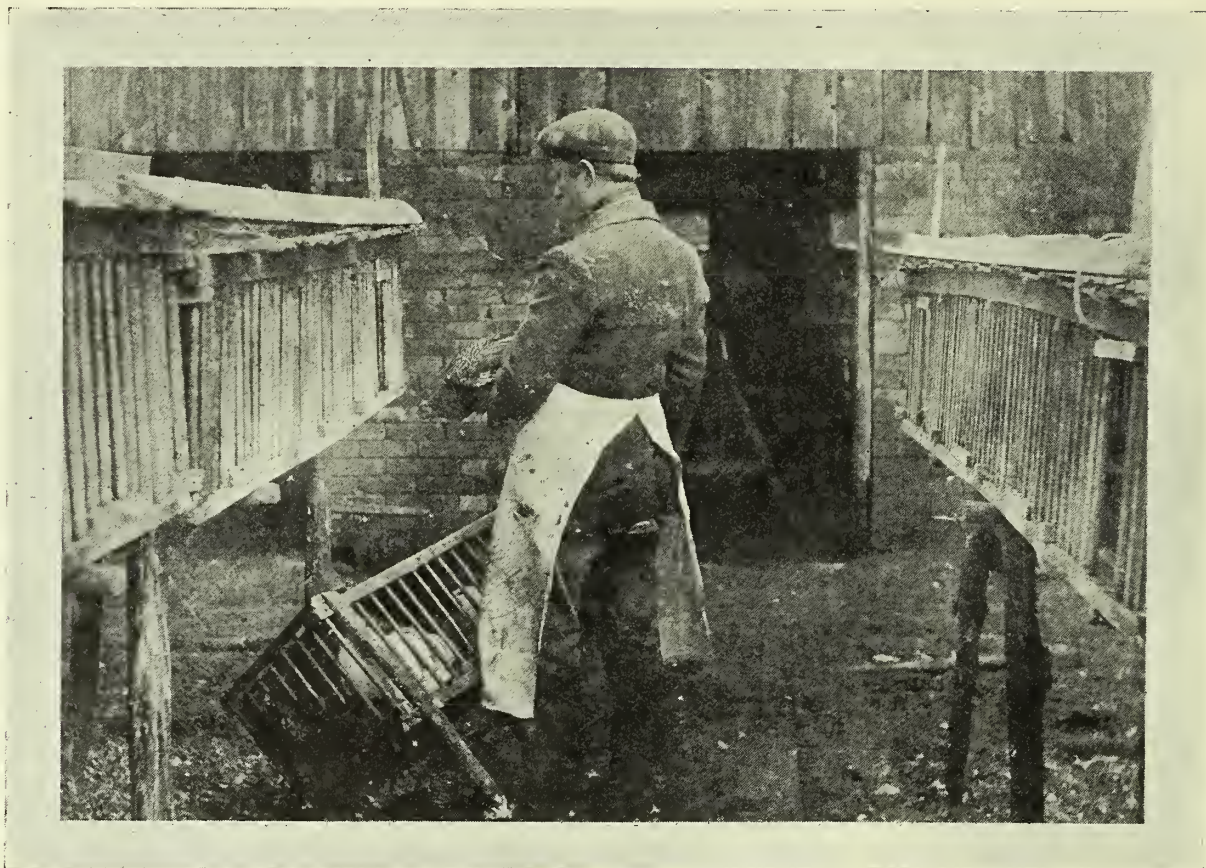
So far as plant goes no great amount of capital is needed, but then on the other hand the fancy-dealer's business is one that demands special qualifications—it is not one that the novice could take up with a brief training. To pick birds out of selling classes and turn them into classic winners is rendered possible only by an almost lifelong experience, and to buy and sell at a profit every time can only be obtained by the same route. Some of the biggest winners one can remember were picked out from the yards of small backyard fanciers (chiefly in the North of England) by men of the exhibition dealer type and resold at a handsome profit. Decksweeping in itself of course is by no means a method of making money, though probably the larger men manage to recoup their expenses by it. The real business is transacted at shows or rather at refreshment bars over drinks.

THE VILLAGE POULTRY-DEALER.

There remains to be considered next the ordinary village poultry-dealer sometimes known as the “higgler”—usually a disreputable looking fellow who drives about a cart loaded with crates and who generally follows a variety of occupations as well. The higgler is not, as some suppose, confined to Sussex. He is found in every part and in most villages of England, and in his muddling slipshod way he is a prosperous

man. His idea of the value of a fowl, good, bad or indifferent is half-a-crown except for old hens, for which he will give eighteenpence. Keeping himself twenty or thirty head of stock birds for laying on his holding, he is also well provided with coops in which he fattens for a fortnight or so the cockerels he has picked up in the rough. If he makes tenpence or a shilling profit from the retailer on each of these he will be doing well enough and it is just here of course that the careless producer, the farmer, loses money. The "higgler" comes along and takes the raw material straight off the stubble or pasture, paying a price down and giving the

aply suggests the man's avocation. Not that in point of fact much bargaining goes forward between the collector and the henwife in the fattening districts, because practically a uniform rate throughout the year has been fixed by custom. Where, however, the business is not a regularly established one "higgling" correctly denotes what goes forward during most of the working day. There are, however, other varieties of dealer. There is the Jew poultry dealer who has established a regular colony in the East End of London and who handles chiefly consignments of old hens sent up by large poultry farmers at the close of the hatching season. For



THE DEALER.

The proceeds of a deal.

[Copyright.]

farmer no further trouble as to marketing or ought else. But again this convenient individual does not confine himself to dead poultry; he will be usually found ready to purchase—at his own price—an odd lot whether of pure bred stock or of appliances which he can dispose of at a profit through his own mysterious channels. The skinflint prices offered by the fraternity are of course a byword, but so long as producers elect to dispose of their stuff through dealers they cannot complain about that. If the dealer paid more than he does pay he would very soon go to the wall.

HIGGLERS AND OTHERS.

The very word "higgler" as applied in Sussex

these he pays a shilling each alive and resells them at a profit of sixpence or so in the market. It is curious in this instance to what strange ramifications the poultry industry leads. It brings us into that curiously cosmopolitan throng which frequents the Brick Street market in Whitechapel early every morning. Here may be seen numerous crates of dilapidated looking fowls of all ages, sizes and sorts. Then, of course, there is the shop dealer who deals in poultry as a live commodity and stocks many backyards with the rubbish he too often sells. In this connection a case I actually met with shows the gullibility of the cockney in matters of the kind. A man bought half-a-dozen fowls from a dealer which were supposed to be last

year's pullets shortly due to come on to lay. At the time he showed them to me he had had the creatures a fortnight and was slightly suspicious of their bona fides. Three were immature cockerels and the rest very elderly hens!

The Leadenhall salesman who is another branch of the dealing profession is a type by himself. While, of course, purely a business man concerned to secure as much as possible from the retailer and to pay out as little as possible to the producer, he occupies a curiously autocratic position in the scheme of things. Until co-operation takes its share in commercial poultry production, he will continue virtually to dominate thus the London market and the farmer, cottager and smallholder will remain in his hands.

THE FUTURE.

Universal co-operation would of course entail serious consequences for the dealing profession. It would mean that instead of large quantities of farm poultry finding its way wastefully into the hands of the dealer and a considerable margin of profit remaining with the latter, the produce would be graded and sold in bulk and

the profits thereof drafted to those who earned them. That would result in direct and immediate gain to the producing class, for the cost of co-operation could not approximate to the amount now appropriated as "middle profit" by the dealer in fattened poultry. All the trend of industrial poultry production as in many other branches of commerce, is nowadays in the direction of combination with a view to cheapening, standardising, and neutralising the harvest of the "middleman." Such co-operation would narrowly affect six out of the seven phases of the poultry industry which have been dealt with in these articles. It is all part of a movement which, going steadily forward, promises in due course of time to place egg production almost in the forefront of our agricultural programme and to place the production of table poultry not very far behind while the Fancy, consisting of breeding, exhibiting and exporting the best class of stock might even earn particular recognition from the State. That day is not yet but forces are at work which under wise guidance may be diverted very greatly to the profit of those who cultivate fowls.

BREEDING POULTRY FOR INCREASED EGG PRODUCTION.

BY DR. RAYMOND PEARL

(Biologist of the Maine Agricultural Experiment Station, U.S.A.).

THERE are fundamentally but two general methods known to the breeder for the amelioration of plants and animals. These are selection on the one hand and hybridization on the other hand. The practical breeder uses now one, now the other and not infrequently a combination of these two methods according to the nature of his material and of the ends which he desires to gain. While both of these methods are of great importance, selection far outranks hybridization in the generality, or indeed, universality, of its use by practical breeders all over the world. To the subject of selection in breeding our attention will be confined in the present paper.

The fundamental idea involved in the practice of improving organisms by selective breeding is an extremely simple one. It is merely to allow the race to be propagated or reproduced only by those individuals bearing desirable qualities. Any other individuals are allowed no part in this general process. The idea which underlies this selective procedure in breeding is that it is to be expected that the progeny of individuals possessing desirable qualities will in turn be more likely to be possessed of similar qualities than will the progeny of individuals which had at the start only undesirable or less desirable characteristics. In short it is held that "like produces like."

This is undoubtedly a very ancient doctrine of breeding. It can hardly be said to have acquired a definite scientific status, however, until the publication of Darwin's work. He developed the idea of selection to account in general for all "improvement" (i.e., progressive evolutionary change) amongst organized beings. We need not stay over the enormous influence which this reasoning of Darwin has had on thought in all lines. It should be pointed out, however, that the taking by Darwin from the practical agricultural breeders of the selection idea and, with such far reaching results, applying it to all organic nature, had an interesting and important effect upon the viewpoint of the practical breeders themselves in regard to their own work. This effect was in large degree to stifle for many years any attempt to further investigate and improve the theory and practice of selective breeding. With the establishment of the selection idea on a scientific basis the last word regarding it was apparently thought to have been said.

In the last decade the principles and practice of selective breeding have been made the subject of particular investigation once more, and with results of great significance. These investigations regarding the effect of selection, have in the main been carried out with plants as objects of experi-

mentation. Epoch making work has been done in this field by Nilsson of the Svalof Experiment Station, Johannsen in Denmark, and DeVries in Holland. The broad general result reached by these workers may be briefly stated as follows: From a mixed "general" population it is possible by a single selection to isolate pure strains (variously called "pure lines," "homozygote strains," or "pure races") which will breed true and not revert to the mean of the general population from which they were isolated, regardless of whether further selection is practiced or not. It is impossible to demonstrate any cumulative effect of continued selection *within* the pure strain. Continued breeding from the extreme individuals of such a pure strain (that is "fluctuating" variants) does not change the mean of that strain. From these considerations it follows that it will be difficult or impossible to make any definite and permanent changes in the mean of a general population simply and solely by the continued selection of extreme individuals, because in the vast majority of cases such individuals will be extreme fluctuating variants rather than mutants.

It may fairly be said that up to the present year practically all of the evidence which has been adduced in support of the view regarding the possibilities of selection just stated has come from the study of plants. It is obvious that in the light of these results of the plant breeders many of the supposed foundational facts of animal breeding need to be critically re-examined. In a very modest way we have attempted to make a beginning in this direction in our poultry breeding work at the Maine Station. It is my purpose to discuss here the results of two separate but supplementary experiments. These are:

I. An experiment in the continued selection of fluctuating variations in egg production.

II. An experiment regarding the inheritance of fecundity.

In the year 1898 there was begun at the Maine Station an experiment to determine whether the average egg production of the domestic fowl could be definitely increased by the continued selection of the highest producers as breeders. The plan of this experiment was to make, from a then superior strain of Barred Plymouth Rock hens, which had been pure bred for a long time, a continuous close and intensive selection with reference to egg production. The practice in breeding was to use as mothers of the stock bred in any year only hens which laid between November 1 of the year in which they hatched to November 1 of the following year, 160 or more eggs. After the first year, all male birds used in the breeding were the sons of mothers whose production in their first laying year was 200 eggs or more. Since the normal average annual egg production of these birds may be taken to be about 125 eggs, it will be seen that the selection practiced was fairly stringent.

In 1907, the experiment described above, having led to definite results, was brought to an end.

There was planned for 1908 a new experiment designed to test from another standpoint the conclusions which had been tentatively reached from the earlier one. In the conducting of the long selection experiment the females used as breeders were grouped into two classes, viz., (a) "unregistered" or birds laying from 160 to 199 eggs in the pullet year, and (b) "registered" or birds laying 200 or more eggs in the pullet year.

It had been noted that the daughters of the so-called "registered" hens (namely hens that had produced 200 or more eggs each in the pullet year) did not usually make high egg records. The "200 egg" birds which make up the "registered" flock came, in most instances, from "unregistered" mothers.

The second experiment was planned to answer the following questions:

1. Will the daughters of high laying hens ("200-egg" birds) on the average produce more eggs in a given time unit than will birds of less closely selected ancestry?

2. What data do the performance records of such selected birds afford regarding the inheritance of fluctuating variations in egg producing ability in the domestic fowl?

Let us pass now to a discussion of the results. In considering the results of the long selection experiment, the three following questions present themselves as of first importance. These are:

1. What is the general character of the variation exhibited in first-year egg production (fecundity) of the domestic fowl? Do we have here typical fluctuating variability?

2. Did the mean or average annual egg production per bird increase or decrease or remain unchanged during the course of the intensive and long continued selection practiced in this experiment?

3. Was there any definite change in the variability of the flocks in respect to egg production during the course of the experiment? Did the birds come truer to type in respect to egg production at the end of the experiment than they did at the beginning?

It will be impossible in the space which is here available to present the detailed evidence on which the answers to these questions rest. Anyone who wishes to examine this evidence will find it in the complete reports which have been published regarding these experiments. As a matter of fact, the results obtained give definite and unequivocal answers to the questions raised. In the first place a study of the very extensive statistical data which we have collected shows beyond any question that in the differences in egg production between different birds in large flocks we are dealing in the main with ordinary fluctuating variability. One finds all degrees of departure from the mean or average condition of the flock and these departures are distributed in the manner which biometrical work has shown to be characteristic of fluctuating variability in general. This being the case it is

apparent that any results which may be obtained from the study of the effect of selection on egg production will have direct bearing on the general theoretical question as to whether there is a cumulative effect of the selection of fluctuating variations.

In the second place in this selection experiment the mean or average annual egg production per bird showed no definite, steady tendency to increase during the period of selection. On the contrary, an actual decrease in the average egg production per bird was observed. Making the most liberal allowance possible for disturbing environmental effects no indication of a tendency towards a cumulative effect of selection can be found in this case. The plain and definite result obtained was that the practice of simply selecting the best layers as breeders did not improve the egg production of the flock.

In the third place there was very little change in the variability of the flocks in regard to egg production during the course of the selection experiment. It was to be expected, if there be a definite cumulative effect of the selection of fluctuating variations, that the birds in the later generations included in this selection experiment would breed truer to type (that is, show less variability in respect to egg production) than did the birds at the beginning. As a matter of fact the figures show that this was not the case. So far as there was any change at all in the variability in regard to egg production during this long period of intensive selection it was an actual increase. No stress of course, is to be laid upon this slight increase observed. The significant thing is that the variability in egg production did not decrease.

Putting all the results of this long continued selection experiment together it will be apparent to anyone familiar with the earlier work of the Svalof Experiment Station in breeding cereals that our results very closely parallel what was found in that work. The expected cumulative effect of

continued selection failed to materialize. It is not the place here to go into the question of why there failed to be an increase in average egg production during this experiment. It has been suggested that this result was due to a progressive weakening of the strain as a result of incubator hatching and the rearing of the chickens in brooders. As a matter of fact, we are in possession of definite and conclusive evidence that this was not the case. The real reason for the decline in mean egg production is, we believe, of a totally different kind and is one which cannot be entered upon in the limited space at our disposal here.

The second experiment which it is desired to report upon here was in the first instance instituted to answer the question as to whether the daughters of extremely high laying birds ("200-egg" hens) will on the average produce more eggs in a given time unit than will birds of less closely selected ancestry fed and treated in all respects in exactly the same way, hatched in the same incubators and reared in the same brooders. The data which have been collected again give a definite and unequivocal answer to this question. The daughters of



Feeding time on a Northern Poultry Farm.

[Copyright.]

"200-egg" hens were not so good producers as were birds similar in every respect except their ancestry and given the same treatment. Our results show that on the average the daughters of birds laying from 150 to 190 eggs in the year laid much better than the daughters of "200-egg" hens. This result is obviously of great importance in its relation to the general question of the effect of selection for increased egg production. It is the result of a crucial test of the "German" or Dar-

winian method of selection in breeding. It was to be expected, of course, that the daughters of "200 egg" hens would not average to be such high layers as their mothers, but it was not to be expected on the current theory of selective breeding that they would not be such good producers as the daughters of less closely selected birds.

In connection with this experiment regarding the daughters of "200-egg" hens the data accumulated throw light on the general question as to whether and under what circumstances different degrees of fecundity are sensibly inherited in the domestic fowl. Of course, a great deal more work needs to be done before the question of the inheritance of fecundity in this animal can be conclusively settled, but it is significant that the fairly extensive material which has already been collected indicates very strongly that in the end it will be found that there is not any sensible inheritance of so-called "fluctuating" variations in egg producing ability. This, of course, does not mean in the least that other kinds of variation in egg producing ability may not be very definitely inherited in particular lines (or homozygote strains).

Altogether it appears that the results of the work which has been done at the Maine Station in breeding for egg production are essentially similar to those which have been obtained by certain of the plant breeders in their investigations, and which were outlined at the beginning of this paper. The facts obtained in the 11 years work give little encouragement to one who would attempt to increase egg production simply and solely by the selection of extreme (fluctuating) variants. This

must not, however, be taken to mean in the slightest degree that the writer would maintain that egg production in the domestic fowl cannot be improved by breeding. It simply means that we have learned that one particular method of breeding is unsuited to attain this result. The obvious suggestion is to turn to the method of selection which practices the isolation of pure homozygote strains and which has been so successful in the hands of the plant breeders. This, as a matter of fact, is being done at the present time at the Maine Station with results which, while as yet of course not conclusive, are still very promising. Of course, it hardly needs to be said that with a sexually reproducing animal like the domestic fowl it is impossible to carry through this method of selection with the same ease and precision that can be maintained in the case of plants which may be self-fertilized. This, however, is a matter of technical detail which need not be gone into here.

The general result of the 11 years work at the Maine Experiment Station in breeding poultry for egg production may be summarily stated in this way: It has been definitely and conclusively shown that the mere selection of high laying birds (that is, of fluctuating variations) as breeders without paying attention to any other matters in the breeding does not bring about the expected cumulative improvement in the egg producing qualities of the stock. Work going on at the present time, however, indicates that another method of selective breeding will in all likelihood reach this desired end. This work will be continued, and its results will be critically tested in every way which we are able to devise.

"PURELY SCIENTIFIC ENDS."

BY EDWARD BROWN, F.L.S.

"It was one of his foremost articles of social faith that it was to the labours of the man of science, working for purely scientific ends and without any thought of the application of his doctrines to the practical needs of mankind, that mankind would be most indebted as time went on."

THE quotation given above is extracted from a speech made by the Right Hon. A. J. Balfour, at the opening of the National Physical Laboratory at Teddington. It succinctly expresses the thought of a limited number of people; those who, like the speaker, are of a philosophical turn of mind. The claim made is a very large one, totally incapable however of proof in the lifetime of anyone at present on the earth, and lacking in experience of the past for its justification. It is a pious opinion and nothing more. That we owe much to the researches of men who could be termed "pure scientists" is unquestionable. They have probed into the hidden mysteries and occasionally stumbled upon great discoveries. But that there is justification from what they have done, as compared with men of less exalted ideals, for the statement made by Mr. Balfour, is not apparent. It may be all a measure of mental equilibrium. The measure-

ments of a theologian are peculiar to himself. What is of greatest importance to him has a less relative value to ten thousand of his fellows, who are, and must be, mainly concerned in the things of this mundane world.

It must not be thought that there is any aversion or objection to those who strive for the attainment of pure scientific ends. On the contrary, their work is welcomed as contributory to the advancement of human knowledge. They have a place, and withal one far in excess of numerical proportions, in the scale of progress. It is alone, in so far as what they are able to discern is applied by themselves or others to ordinary life, that the value of their work consists. They open out avenues of action which their followers explore, and in that respect are to be regarded as scouts in the great army of progress. Whether their labours prove of value or not is dependant upon how far use is

made of what they discover in relation to "the practical needs of mankind."

May it not be, in this connexion, that we have to recognise there is really no such thing as "purely scientific ends," and that even those who may be regarded as working on these lines have objects in view which are essentially practical? Applied knowledge, that is applied by and to someone or purpose whether by the original investigator or another, is alone helpful or useful. By that standard everything is finally tested. The discovery of radium was scientific; the use of that metal has made such discovery worth the effort. A hundred instances could be cited in support. Therefore, attempts to separate one from the other are in my judgement misleading and harmful in the extreme. Advance is made by unity, even though individual leaders are required.

So much as is stated above may be regarded as inapplicable to the poultry industry. Such, however, is not the case. There are few fields of thought and action which we cannot bring into our service in one way or another, not perhaps directly but suggestively. And it is often true that the direction from which least was expected proves to be most fertile. Openness of vision and willingness to learn are more than ever required equally in the scientific and practical spheres.

With our pursuit, however, practical aims must ever occupy the frontal position. That is the case in whatsoever is mainly concerned with the business of life and of living. For a considerable period of time the efforts of breeders were chiefly in experiments designed to improve the external appearance of races of poultry, although prior to that time the old cock fighters worked on other lines. Within recent years attention has been given to the problems involved on what may be termed the economic side, which would appear to present much greater difficulties. So far as these are concerned we are only at the beginning. Every step taken reveals how little we know. Whilst it may be true, therefore, that the work of the highest scientific experts should be sought for and cordially welcomed, even when the value is not apparent, that can never take the place of experimental work for solving problems as they present themselves to the ordinary poultry keeper, any more than applied eugenics can prevent the effects of bad environment. A perfect knowledge of physiology will not check indigestion if the food eaten be unsuitable or too rich. The further we enter into the question before us the more evident is it that the practical end is the dominant factor. Many a splendid invention has been patented, for ingenuity and skill standing in the foremost ranks, but these proved to be non-economic, and therefore were of no real value.

How and where are we to start in this work? If the thesis suggested by Mr. Balfour were accepted we should begin with the pure scientist, allowing him to theorise and speculate, to wander over the field in the hope of stumbling on or patiently working out some new truth. Sometimes he

would make a great discovery or find a new element or combination of elements, which might be or not be of ultimate value. All that is to the good, though it does not lead us far. For instance, unless it had been known that certain liquids and gases expanded at varying temperatures, Mr. Chas. Hearson would never have thought of enclosing these in a metal capsule, and thus enable him to secure uniformity of regulation in his incubator. My point, however, is that the need for such



A Buff Orpington cockerel. [Copyright.

A winner of many prizes at Portugese shows. The property of M. J. A. Monteiro, a well-known Portugese exhibitor.

regulation was the compelling force which led to his invention, aided, of course, by knowledge already gained from others. So it is in nearly all cases. "Necessity is the mother of invention" and of discovery. Medical men study the diseases which they have to treat after the preparatory process. A doctor in Soho does not speculate as to sleeping sickness, but with the complaints to be found in every street. In all such cases it is the practical need which points the way for scientific research. When we are considering a bread and butter pursuit like poultry-keeping that is specially true. A striking example is to be found in connexion with the system of cold storage. When first introduced with the object of preserving food

products from one season to another, nearly everyone, scientists and practitioners, producers and traders and consumers, thought that the problem had been solved, that by means of cool chambers, times and seasons would probably be annihilated. Science at that time had nothing to say except in securing a simpler and better application of the process. What, however, has been the result? Actual test and demonstration have shown that changes take place which research had not contemplated, that new forms of bacteria and moulds develop at low temperatures, and that whilst cold storage has manifold advantages, it has also severe limitations. Only by practice could these facts be revealed. Then it is that science is called in to resolve difficulties and solve problems unknown before. Some of these may never be removed. They may be inseparable from adoption of this method. If that be the final conclusion of scientific research the knowledge will be a great gain. Once more we have an example that the truest service which can be rendered is for the end in view, when investigation is undertaken, to be of a nature that can be applied to the terms and conditions of ordinary, every-day life. Such means an enormous increase of opportunity to those engaged in this work.

A valuable instance of the fact that practical aims should lead the way is in connexion with the main experiments in relation to the fertility of hens, conducted for something like a dozen years. Begun by the late Professor Gorvell, who adopted and applied the generally accepted view as to how this could be improved, namely, by breeding from the best laying hens, and mating with sons of highly productive females. For a time it appeared as if he were on the right track. Then came reactive influences and failure. Mr. Gorvell was not and never claimed to be a scientist. Dr. Pearl now took the matter up, and as a skilled biologist his investigations assumed another form. He sought for the factors, for the reason why certain results followed. The results we all know. Whether his later conclusions will stand the test of time, or prove to be unreliable, as have those adopted previously, remains to be seen when tested over a prolonged period and in different hands. Upon these questions I am expressing no opinion.

If ever the day comes when experiments of a practical nature have been exhausted, which will never be the case, for every new development brings further problems, we may leave to science the field of speculative investigation. Even then an ultimate aim must be application to some useful purpose. As it is there are a thousand and one questions which concern poultry and poultry keepers awaiting experimental work and research. The whole gamut of our ideas and practice requires reconsideration in the light of modern knowledge. Many of our methods are resultant from times when the conditions were totally different, and in breeding especially, to totally divergent purposes. It is in this direction that science can and should be the

hand maid of the fellow worker with practice. At the present time the two sections are too standoffish with each other, for which both are to blame. On the one side some scientists are disposed to treat practical men as if they knew nothing; and on the other only too many practitioners regard scientists as mere theorists. The fact is both possess knowledge of the greatest value with which neither can dispense. One fact impressed me greatly during my visit to America, namely, the way in which Agricultural Colleges and farmers of all grades were working together, the mutual confidence being apparent on all sides. The explanation is that the practical goal is always kept in view. There is much less patronage than is the case with us.

For the scientist, as for all other workers, the value of having a clear, practical end in view must be great in the extreme. Nothing is more conducive to persistent and determined effort than the accomplishment of a more or less definable purpose, whatever that may be. Even the pursuit of a "will o' the wisp" inspires effort on the part of the pursuer. When that is the case there is less danger of getting away on side issues. Such is the line of successful achievement. It may be that the majority of great inventions and discoveries have been due to practical men in the first place, and that it was not until a later stage they brought into operation scientists, though owing much to such science as was available to them. The fact is there can be no clear cut line. Science to be really valuable must be practical, and practice to accomplish its purpose must be scientific. It is not a matter of book knowledge or highly trained intelligence and experience, but of application.

On the other hand those engaged in poultry-keeping as a business must be open to the influence of knowledge wherever and whenever available. They have not the time or the opportunity for investigational work, even if they possessed the necessary ability, which can seldom be the case. As difficulties arise, as problems unknown and unrealised before present themselves for solution, the wisest course is to go to those who by their training and habits of thought are best able to seek for the causes, and in this way discern how to avoid a repetition. In the majority of cases they will not be able to do this at once, except in simpler questions, but frequently they will be very glad indeed to have suggested lines of investigation, which is not merely a duplication of something that has been worked out previously. As new fields are opened men will present themselves, capable of undertaking the work, and their advent will be accelerated by demand for their co-operation and services. With the large sums of money which are now being granted from National funds to public institutions, every poultry-keeper has a right to services of the kind named, and his asking for these will not only prove, in many cases of immediate benefit, but also make for greater benefit in the future.

COCCIDIOSIS IN POULTRY.

BY HAROLD LEENEY, M.R.C.V.S.

THE alarming increase of the disease known by the above term to pathologists, and as blackhead in America among turkeys and other feathered stock, calls for some action on the part of the Board of Agriculture and Fisheries. It is now some years since representations were made to the Veterinary Department, of whose good will to the poultry industry there can be no doubt, but of the department's capacity to deal with it, is another matter. Meanwhile a devastating malady has spread year by year to this district and to that, until all the counties of England and Wales are affected.

Ireland has been fortunate; only a few cases occurring here and there, or at least brought to our cognisance. There are special difficulties attaching to the suppression of avian diseases which do not apply to quadrupeds, as will be seen when we come to deal with the methods of infection.

The history of the affection is modern in-as-much as we have no scientific data earlier than 1878, when Rivolta in Italy, described it as affecting fowls, blackbirds, and some of the passerines. Coccidiosis in the pheasant has been described by Sir John Macfadyen and by S. Jobring, and in America by Theobald Smith Salmon, Cooper, Curtice and others have studied it in the turkey; its great victim. The turkey industry as readers are aware is a very large and important one in the U.S.A., and so prevalent did blackhead become a few years since that Rhode Island and other famous rearing districts were threatened with ruin. The findings of Fantham were not in accordance with the Grouse Commissioners as he attributed the greatest fatality in grouse chicks to coccidia, while they considered that strongylosis was "the grouse disease" or sportsman's *bête noir*. Coccidiosis is found in all the continents of the World. Mr. Henry Gray, in his exhaustive monograph on the subject, says "it is commonly encountered in all species of birds in the United Kingdom, where the investigation of bird diseases is generally left to those absolutely ignorant of pathology and bacteriology, thanks partly to the commercial spirit of the avian press, and partly to the apathy of the veterinary profession," a rather strong indictment this, and written in forgetfulness of the Grouse Commissioners investigation, and of his own valuable contributions to our knowledge of avian pathology. The casual organism is still in dispute, various authorities giving it as the *Eimera* (coccidium) avian psorospermium, and amoeba meleagridis. The last named is believed

by Theobald Smith to be the casual organism of the blackhead disease of turkeys and re-sembles the amoeba of dysentery in man. Cole and Hadley regards Smith's amoeba as the schizont stage of coccidium. They induced the disease experimentally in turkeys, chickens, and sparrows, by ingestion of the diseased material from the bowel of turkeys. Importance attaches to the fact that sparrows and other wild birds may be infected, as they become carriers.



A Black Orpington Cock.

A Winner of many Prizes. [Copyright.]

The life cycle of the coccidium is completed in from eight to ten days from the intaking of the organism to the extrusion from the cloaca of cysts capable of infesting other birds.

The spread of the disease is to be accounted for in a variety of ways, and when these are enumerated the poultry keeper may well despair of keeping his yard clean, unless he is prepared

to take extraordinary pains as well as keep constant vigil. The greatest source of infection is the diseased bird. It may have the appearance of health when purchased and yet may be passing oöcysts in thousands upon the ground where fowls are fed, and the food contaminated.


Eggs not only carry the infection on their shells but the organisms have been found in the albumen within. On all sorts of poultry appliances the germ may be carried, upon the boots and clothing of men, and upon the wheels of the corn merchant's cart, as well as by the sparrows and other wild birds. Many of the turkey and other chicks we have examined have shown such advanced lesions at two and three weeks old, that we can only assume their infection in the shell or with their first meal.

Symptoms vary with the age of the bird as well as with the degree of infection, the season, and doubtless other factors as yet unknown. Thus in very young chicks a fatal collapse is common without any special diagnostic signs during life. The little one may be dull and droop his wings and unable to follow his companions; or develop a restlessness which is not due to hunger, for he will over-run food offered, and continue to utter a melancholy cry. The poultry man need be on his guard and kill the first chick to fail, and make a post mortem examination. In the early days of coccidiosis some rather misleading remarks were published by which we are led to expect scouring or diarrhœa as an early symptom of the disease. Further experience—or possibly a greater virulence—goes to prove that more chicks die of collapse before there is time for diarrhœa to be established than with that sign of bowel trouble. Rearers are often deceived in this matter and leave sick birds in contact when they would otherwise remove them instantly, if suspecting the dreaded blackhead disease. Half grown and adult birds bear the invasion better, but generally succumb to complications. They lose their gloss and the featherless skin shows anæmia or want of red blood and the muscles waste. The appetite is not always affected, but the desire for water is almost invariably increased. Unless handled, the early signs of failure may not be observed—and it is most important that they should be. Orange coloured evacuations and adherent fæcal matter in the region of the cloaca should attract the notice of the attendant. This discolouration is due to the secondary infection of the liver, the functions of which are at first exalted but presently fail, when the organ is more seriously invaded. The balling around the vent of the recently hatched chick must not be mistaken for the disease under consideration, as it is often accidental and formed upon a little nucleus of egg shell

which has adhered to the first somewhat adhesive evacuations. With the advance of the disease in grown birds or those past the shooting of the red, or in such as fall into a chronic condition, the wasting of the flesh and falling of the tail, and darkening of the head must be distinguished from asthenia or the disease known to poultrymen as "going light," and attributed by many to tuberculosis although none of the lesions of that malady can be found on post mortem examination. These are easily read. In the very young bird whose death has occurred before any great changes can take place we may find only an inflamed bowel, but in many of only two or three weeks of age the cæca or blind guts are more or less filled with a creamy or soft cheese-like matter, and the membrane shewing all the signs of inflammation. The material is so different from what is usually found there, that the novice could hardly mistake it. In older birds the lumen is completely blocked with the matter, which becomes increasingly dense as time goes on. The lesions of the liver are different from those of any other disease, and appear as rounded depressions or ulcers on the surface, of a more or less bright yellow or orange in contrast to the natural colouration of the organ.

Treatment. It was too hastily assumed by early investigators that a disease producing such serious organic changes would not be amenable to drugs, and this view was emphasised by the importance of stamping out, by the sacrifice of a few chicks of comparatively little value, rather than risk the health of the flock. Such weeding out is still advised, but for older birds of greater value and in flocks where it is impossible to tell certainly which are infected and which not, isolation and treatment of the sick or doubtful may prove the best thing to do. In Canada much success has attended the administration of dilute hydrochloric acid in the proportion of half an ounce to the gallon of drinking water. In this country, and on the continent, cures are confidently claimed for iron sulphate, and for catechu, in the proportion of ten to twenty drains to each gallon of water; the patients not being allowed to drink any other while having a fortnight's treatment. Birds subjected to this medication have been examined daily, and the number of oöcysts in the fæces observed to decrease until none could be found. Then a period of quarantine has been imposed, and if no germs again appeared they have been considered as cured. It is well perhaps to never again allow association with the flock, because it is ascertained beyond doubt that of all methods of infection that by food soiled by the droppings is the most frequent.

IMPROVEMENT OF THE POULTRY INDUSTRY IN IRELAND.

 IRELAND affords many advantages as a country for the production of poultry; the holdings are small, the climate and soil are generally suitable, and the markets of Great Britain are all within easy reach. Nevertheless, until recent years the poultry industry in Ireland was in anything but a flourishing condition, nor was it difficult to trace some of the causes which checked expansion. Indiscriminate in-breeding, the practice of keeping birds beyond the age of economic productiveness, the absence of facilities for obtaining fresh blood, indifferent methods of housing, feeding, and general management, as well as unsatisfactory methods of

In 1900 the Department of Agriculture and Technical Instruction undertook the work of improving the methods of poultry production throughout the country, and after reviewing the conditions existing at that time the Department decided that organisation and education were essential if adequate and lasting improvement was to be effected.

Fowls.—A scheme was formulated which (1) provided for instruction in the principles and practice of economic poultry-keeping, and (2) provided a means of supplying cottagers and small farmers in all parts of the country with facilities for improving their stock.



An Irish Poultry Instructress and her Pupils. (see article on this and following pages.) [Copyright.]

marketing, placed the industry under serious disadvantages.

About twenty years ago the Congested Districts Board made an effort to improve the stock in certain areas by introducing and distributing cockerels, but this scheme was subsequently abandoned in favour of the establishment of egg-distributing stations. Selected persons were provided with a limited flock of pure-bred birds, from which they distributed eggs for sitting to cottagers and farmers in the neighbourhood, taking in exchange an equal number of the eggs of those who applied for sittings and receiving in addition a subsidy of 1d. for every egg distributed.

In order to attain the first of these objects a body of suitable teachers was necessary, for the success of such instruction must depend on the personality and qualifications of the teacher. Not only was there at that time serious difficulty in obtaining qualified teachers in Ireland, but the means of providing suitable training for those who had personal qualifications and practical experience were also lacking. By instituting short courses of instruction and selecting the most promising candidates for further training in England this difficulty was partly overcome, while, subsequently, in the Munster Institute, at Cork, a suitable centre with adequate accommodation and equipment was

provided in Ireland for the training of girls in poultry-keeping, butter-making, and rural domestic economy, and from this centre in recent years the great bulk of the teachers have been drawn.

In order to utilise the services of these teachers so as to benefit all classes of the agricultural community, a scheme was presented for adoption by the agricultural committees of the various counties.

This scheme provided that a county should be divided into convenient circuits, in each of which the teacher should work for a period of about four weeks and deliver a course of four lectures in the evening at each of five centres in the circuit, while during the day-time visits should be paid to cottages and farms in the neighbourhood.

The scheme was accepted by only a few counties at first, but as suitable teachers became available it was put into operation throughout the length and breadth of the country, so that there was in a comparatively short time, a regularly organised educational system operating throughout Ireland for the improvement of the practice of poultry-keeping. This early "pioneer" work was of very considerable value; the lectures aroused criticism and interest, and they formed an agency through which the instructress was brought into contact with producers, and more especially small producers. Lectures opened the way for visits, and these visits were the means of effecting definite improvement in the practice of poultry-keeping among farmers and cottagers.

This work was a necessary preliminary to more systematic instruction, and after a period of about five years tutorial classes took the place of lectures in this scheme. These classes were attended by girls and women, who received two hours' instruction daily during a period of a fortnight or three weeks. Here theoretical instruction occupied but a small portion of the student's time. Notes were taken on the subject under consideration, and then practical demonstrations were given in connection with such matters as the selection and preparation of food, the killing, plucking, and trussing of poultry, the packing of eggs, the study of the internal structure of the fowl, the appearance of the internal organs in health and disease, and the cultivation of resource and handiness in adapting available material for use in providing efficient home-made appliances. But the instruction was not confined to demonstration; so far as was possible, the students actually carried out all the operations themselves, the class became a *practical* class, and a growth of interest and enthusiasm in the work was the result. Simple, but adequate equipment was provided, and might include illustrations of the different breeds of poultry, models of poultry-houses and coops, a simple arrangement for testing eggs, boxes for packing eggs and poultry, trussing boards, knives and needles, an incubator and simple rearer, and samples of meals and grain.

Side by side with this instructional work,

provision was made in the scheme for improving the stock of poultry in the country. The County Committees of Agriculture allocated a sum of money for the purpose of providing premiums in connection with the establishment of egg distribution stations. Applications were invited from persons who were willing to maintain such stations, and applicants were selected with a view to securing an even geographical distribution of the stations. Each selected applicant was required to procure thirty hens and three cocks of an approved pure breed, to house them suitably, and to provide them with an adequate run. Save under exceptional circumstances, no other fowls were permitted to remain on the holding. From this pen of pure-bred birds the selected persons were required to distribute 80 sittings of eggs at a price fixed by the County Committee, usually 1s. per sitting, to stamp the eggs so issued, to replace infertile eggs when returned, and to record the name of the person to whom the eggs were supplied. The period fixed for the distribution of eggs extending from December 1st to May 31st. When the Committee and the Department were satisfied that the conditions of the scheme had been fulfilled, the station-holder received a premium of £5. It was within the discretion of the County Committee to allocate a limited sum of money to assist newly-selected station-holders to procure suitable birds and *portable* houses.

Ducks.—Provision was also made for the distribution of sittings of eggs from approved breeds of ducks, and a pen of these birds might take the place of some or the hens at the egg-distributing station.

Geese.—A similar scheme provided for the distribution of sittings of Embden goose eggs, but in this case the number of birds kept was small, the premium was £2, and stations were only located in areas suitable for the raising of geese.

Turkeys.—In order to improve the breed of turkeys, premiums of £2 were offered to selected applicants who were willing to purchase and maintain suitable pure-bred American bronze cocks. These birds were available at a fixed fee for the service of a limited number of hens.

A careful system of supervision and inspection, both of the conduct of the teaching and of the egg-distribution stations in the counties, was carried out by the Department.

This outline of the means which have been adopted to improve poultry production in Ireland will indicate the chief features of the work, but efforts have not been confined to the provision of a cut-and-dried county scheme. There has been no tendency to regard the original scheme as final; in fact, suggestions for alterations and improvements are invited each year from each County Committee of Agriculture. There is a constant endeavour to improve and extend its usefulness, and experimental schemes are initiated by the Department with a view to further this object. Much has been done independently to encourage the production of



A Typical Black Orpington Cock.

[Copyright.]

finished table birds and to train those who were desirous of taking up this branch of work. The practice of using trap nests for ascertaining the actual egg yield of pure-bred and cross-bred birds kept under ordinary conditions has been assisted and encouraged, and a number of breeders in Ireland are now keeping reliable records. Attention is paid to the requirements of the English market, and it is generally admitted that as a result of effort in this direction a great improvement has taken place in the marketing of Irish poultry produce. Co-operative principles have been applied to the collection and marketing of eggs in some districts with success, and while the tangible results in this direction are not comparable with those obtained in regard to the manufacture of creamery butter, there has been a large amount of

pioneer work done which has led the small producer to realise the possibilities of development in this direction.

Poultry production in Ireland is primarily a women's industry, and its regeneration has been effected in no small degree through the agency of women; during the past twelve years the educational work has been carried out almost exclusively by women teachers. The success of this systematic attempt to improve the conditions of poultry-keeping in Ireland may be gauged to some extent by a consideration of the increase in exports. During the period from 1904 to 1910 the average yearly increase in the value of the eggs, poultry, and feathers exported from Ireland amounted to £720,000. (*The Journal of the Board of Agriculture*).

PRICES AND QUANTITIES OF IRISH EGGS.

By "STATISTICIAN"

THE "Return of Prices of Irish Agricultural Products" for 1912, recently published by the Department of Agriculture and Technical Instruction for Ireland, contains some very interesting tables and diagrams, showing the prices and quantities of eggs in that year. These are well worthy of study, but I prefer to shew the returns in my own way, which will probably indicate the points in a clearer manner. The return in question records that "Irish eggs fetched most satisfactory prices in 1912—the average price for the year being 9s. 3½d. per 120, the highest annual average recorded in this series of returns." For the quarter ended 31st March, the average per 120 was 9s. 8¾d., as against 9s. 3¾d. in 1911; the average for the quarter ended 30th June was 7s. 6¼d., as against 7s. 4d.; for the quarter ended 30th September the average price was 9s. 4½d. in 1912, as against 9s. in 1911; in the last quarter ended 31st December, the average price in 1912 was 13s. 4d., as against 14s. 2d. per 120 in 1911. Thus there was an advance in all the terms named except the last.

The first table to which attention may be called is that on page 62, in which are shown prices of eggs in selected centres of the provinces of Leinster, Munster and Connaught from the year 1893 to 1912, together with the averages, highest and lowest prices reported. Unfortunately the Ulster figures are only given from 1893 to 1896, so that section must be left out of consideration.

In Leinster the lowest average was in 1897 (6s. 6¼d. per 120), and the highest 1912 (9s. 11½d.) The minimum year for highest price was 1903 (9s. 1d.), and the maximum 1911 (18s.). The

lowest price recorded was in 1905 (4s. 9d. per 120), and the best year in this respect was 1909 (7s.).

In Munster the lowest average was also in 1897 (6s. 6¼d. per 120), and the highest 1911 (8s. 10d.) The minimum year for the highest price was in 1894 (7s. 7¾d. per 120), and the maximum 1911 (18s. 6d.) The lowest price recorded was in 1896 (3s. 3¼d. per 120)—surely the lowest ever known, as that represents a fraction above three a penny, and the best year in this respect was 1904 (6s. 11¾d.).

In Connaught the lowest average was again in 1897 (6s. per 120), and the highest 1912 (8s. 5d.) The minimum year for highest price was

Table I. *Average Values of Irish Eggs, with Index No's., 1893 to 1912.*

Year.	Average price per 120		Index No's.
	s.	d.	
1893	7	8	100·00
1894	6	6	84·78
1895	7	0	91·31
1896	6	5	83·69
1897	6	1	79·34
1898	6	5½	84·24
1899	6	7¾	86·68
1900	6	7¾	86·68
1901	6	8	86·95
1902	6	7½	86·14
1903	6	10¾	89·94
1904	7	1½	92·93
1905	7	8½	100·54
1906	8	0¼	102·44
1907	8	4	108·69
1908	8	4¾	109·5
1909	9	0	117·39
1910	8	9¾	114·93
1911	9	0¾	118·19
1912	9	3¼	120·92

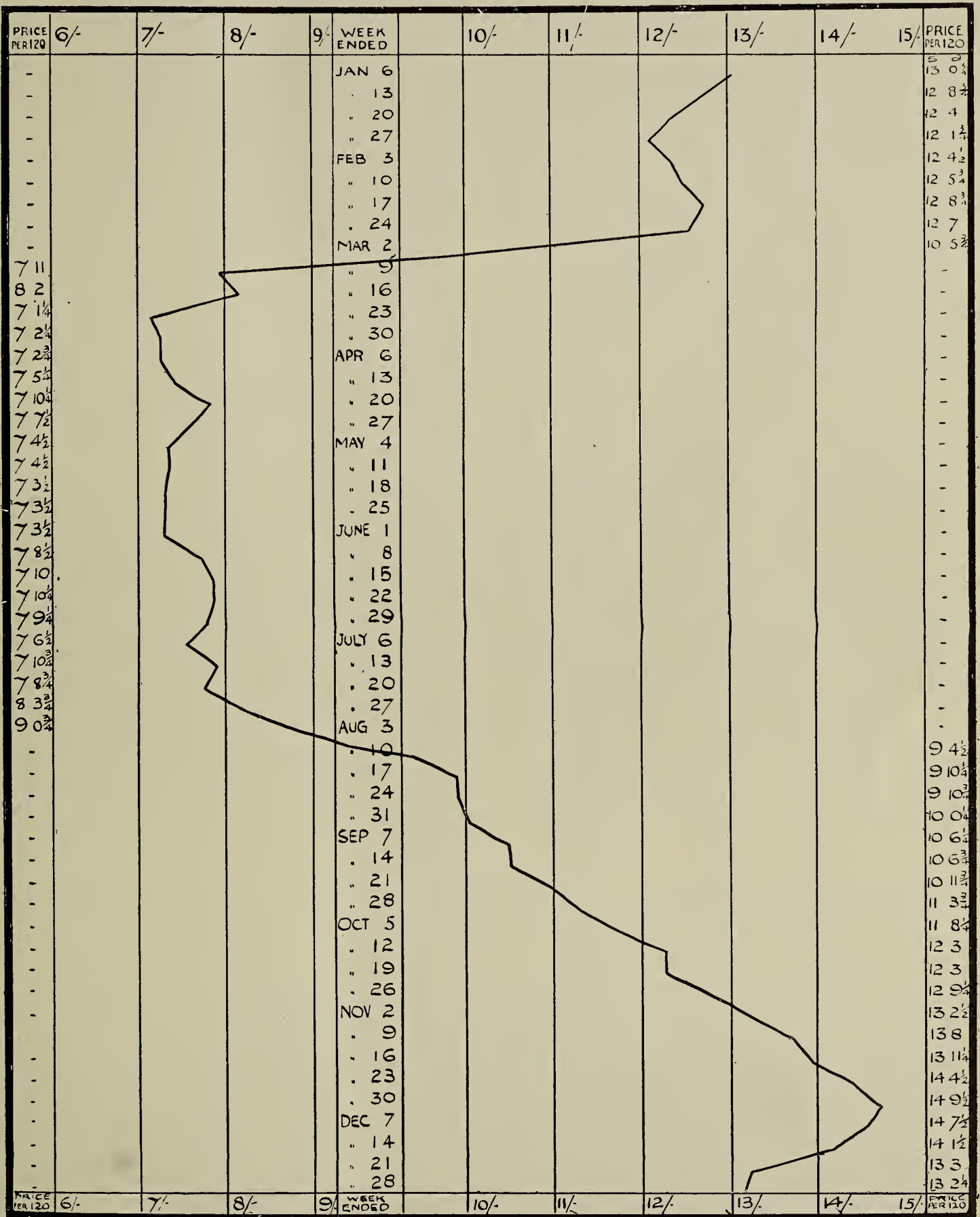


Diagram showing Ranges of Prices of Irish Eggs for each week in 1912.
 (The column of dates is placed at the average point for entire year—9/3 1/4 per 120).

1896 (8s. 0½d. per 120), and the maximum 1911 (18s.) The lowest price recorded was in 1905 (4s. 6d. per 120), and the best year in this respect was 1902 (6s. 7½d.)

We take it that the highest and lowest are the average records of individual weeks in the respective years, and not merely for lots of eggs. If that be so the variations are remarkable.

Table No. 2. Average quantity returned during each week of 1912, with index numbers.

Week ended.	Quantities in 120's.	Index Nos.
January 6	3,625	100·00
" 13	3,552	97·98
" 20	3,951	108·98
" 27	4,066	112·16
February 3	4,555	125·65
" 10	4,638	127·94
" 17	4,531	124·99
" 24	5,320	146·75
March 2	10,013	276·22
" 9	9,955	274·62
" 16	12,421	342·64
" 23	12,778	352·49
" 30	13,181	377·96
April 6	13,986	385·82
" 13	12,439	343·14
" 20	9,955	274·60
" 27	11,111	306·51
May 4	11,399	314·45
" 11	10,147	279·91
" 18	9,685	267·17
" 25	8,707	240·19
June 1	8,733	240·91
" 8	7,465	205·79
" 15	7,540	208·00
" 22	8,359	230·59
" 29	6,390	176·27
July 6	6,354	175·28
" 13	5,503	151·80
" 20	5,838	161·04
" 27	5,320	146·75
August 3	5,822	160·60
" 10	5,202	143·50
" 17	5,441	150·09
" 24	4,487	123·77
" 31	4,560	125·79
September 7	5,561	153·40
" 14	6,204	171·14
" 21	4,636	127·88
" 28	4,414	121·76
October 5	3,824	105·48
" 12	4,228	117·18
" 19	3,921	108·16
" 26	3,738	103·11
November 2	3,026	83·47
" 9	2,820	77·79
" 16	2,616	72·16
" 23	3,035	84·55
" 30	3,173	83·53
December 7	3,755	103·58
" 14	3,259	89·90
" 21	3,297	90·95
" 28	1,777	49·02

In the same table are given the averages for the whole of Ireland from 1893 to 1912, so that at a glance may be seen the changes that have taken place, I give the actual prices

recorded for each year, and making 1893 the Index year (100) the second column will indicate the variations and the steady rise in values during the last decade.

The year 1893 appears to have been abnormal—why I do not know—as the price recorded was higher than in the eleven succeeding periods 1894 to 1904. Had the minimum year 1897 been taken (6s. 1d. per 120), 1912 would have shown an advance in average values of 48·28 per cent, instead of 20·92 per cent over 1893. The advance from 1905 is 20·38 per cent.

Another table (page 63) gives the weekly totals of eggs sold (I suppose in the markets recorded) and the prices. Again using index numbers on the basis of the first week of 1912 (January 6th) will be seen the variation in supplies. I assume that these tables apply only to Irish eggs. These are shown in Table 2.

The minimum week, omitting December 28th, which was a holiday time, was November 16th, and the maximum was April 6th. In the latter five eggs were sold to one in the former.

With this is given a diagram indicating the variations in prices for each week of 1912, from which the remarkable range is seen at a glance. The date column represents the average values for the complete year, namely, 9s 3¼d. per 120, and it is shown that in twenty-two weeks prices were below, and thirty weeks were above the average, from which fact it is evident—though I have not worked out the figures—that quantities as well as prices are regarded. Such is the only true basis for obtaining a correct average. Nineteen of the lowest weeks were in the 7-8 shilling radius. The rapid slump from February 24th to March 9th was due to abnormal values in February, 1912 and to the railway strike in March. The line of increasing values is practically continuous from July 20th to November 30th. One striking feature however, is the low prices in June and July, of which eight weeks were below 8s. per 120.

“BACKYARD LONDON.”

The Keeping of Poultry in Urban Areas.

FROM *The Times*.

THE traveller passing into or out of London by any of the great railway routes must frequently have noticed the remarkable conditions prevailing on either hand. Beneath the railway embankment and between this and the interminable row of dingy tenement houses are yards and “gardens” (if the term may be used) of rectangular shape to which the eye would give a measurement of some 20 yards by ten. Of these it is to be noted that apart from their rather squalid drapery of washing and their

washtubs and their domestic paraphernalia, almost all contain live animals of some kind. In one there is a roughly-constructed pigeon-cote, from which the vari-coloured birds fly and soar and upon which they settle; in another there is a pen of fowls; a third is occupied by bantams, a fourth contains rabbits, a fifth guinea-pigs, and so on. Nor are the occupants the most interesting feature of these strange places. Their pens, their houses, and their hutches are constructed with a truly admirable ingenuity. Thus, it is observed, a packing case reversed has been converted into an efficient poultry house; a cube sugar box affixed to the top of a pole forms an excellent pigeon-cote; while a covered run has been made by drawing a length of wire netting across the further end of the yard and stretching a piece of light canvas from this to the garden wall. Corners, angles, and niches have been adapted by divers clever means, and to the intelligent observer these aspects of "backyard London" are an object-lesson of painstaking thought and ingenuity.

THE OFFICIAL ATTITUDE.

Indeed, when it is realized to what an extent of trouble and resource the citizens of London will go in order to keep a few live things behind their homes it will appear that there is in the English nature a profound passion for animal life rarely to be found in foreigners. This is a distinguishing characteristic of the British race. All the more regrettable, therefore, is the attitude of local authorities in some London districts towards this pastime of keeping livestock. The case of a man who some time since was fined three guineas and costs at the North London Police Court for keeping ten fowls in a backyard at Holloway will serve as a typical instance of this attitude. "Many tenants in the poorer parts of London keep fowls in restricted places," remarked the magistrate, "but it

is indefensible to do so in a place like this with walls all around it. One or two bantams might not have mattered so much." To which the medical officer of health for Islington added that "Many fowls and animals are kept in Islington, but we are routing them out as speedily as possible;" while the owner of the fowls declared that almost every resident in the neighbourhood kept fowls, rabbits, or pigeons. In this particular case it is quite possible that too many birds were kept within a small area, or that they were kept in such a way as to be offensive. The by-laws issued by the Local Government Board are fairly plain upon the matter:

The occupier of any premises shall not keep any swine (or poultry, pigeons, rabbits, &c., but in such cases a distance smaller than in that of pig-keeping may suffice) within the distance of—feet (a matter for local adjustment, distance not specified in model by-laws) from any dwelling-house, unless the sty or place in which such swine (or poultry, pigeons, rabbits, &c.) are kept be maintained in a cleanly and wholesome condition.

And Clause 14:—

The occupier of any premises shall not keep any cattle or swine or deposit the dung of any cattle or swine in such a situation or in such a manner as to pollute any water supplied for use, or used, or likely to be used, by man for drinking or domestic purposes or for manufacturing drinks for the use of man, or any water used or likely to be used in any dairy.

And again among the provisions of Clause 15:—

The occupier shall once at least in *every week* remove, or cause to be removed, from the receptacle provided in accordance with the requirements of this by-law all dung, manure, soil, filth, or other offensive or noxious matter produced in or upon such building or premises and deposited in such receptacle. (The receptacle, it should be noted refers alone to horses, cattle, or swine, but the spirit of the regulation at least includes smaller livestock.)

The penalties for offences against any of the foregoing by-laws are for every such offence a fine of not more than £5, and in the case of a continuing offence 40s. for each day after the serving of a notice.



In a Yokohama Poultry Yard.

[Copyright.]

It is undoubtedly legal to keep fowls in London providing the aforementioned regulations are observed, and in spite of official opinion it is possible to conform to those regulations even between surrounding walls in the very heart of London.

The magistrate's remarks in the case quoted were indefinite and the medical officer of health's, one may urge, ill-judged. Nevertheless they represent to a large extent the official view of livestock-keeping in urban areas, a view which if carried out would mean an unjust persecution of all those myriad city workers whose lives are brightened by the companionship of a few fowls, rabbits, or pigeons. "We are routing them out as quickly as possible." Far from adopting this attitude, one might even recommend local authorities to encourage the thing they condemn, wherever possible. Instead of being concerned to exterminate here and prosecute there, we may suggest that the medical inspector or kindred official in a district like Islington, where practically every resident is an owner of livestock, should be in a position to instruct the residents as to how to conform with the by-laws in regard to number of animals kept, manner of housing, method of cleaning and management, and so forth. The officer would then be not merely doing his duty in supervising the sanitary and hygienic conditions of his district, but he would be serving an additional useful purpose—if so qualified—in helping slum-dwellers towards a better conception and realization of their hobby.

THE BENEFITS OF THE HOBBY.

While it is insufficiently realized to what an enormous extent live stock-keeping has spread in great provincial towns as well as in London, the wide and practical and personal benefits to every English home of a wholesome recreation of this kind are further underestimated. It is the custom of labouring men having sunk some small amount of capital—a few pounds—in a pen of poultry or a pair of pigeons, to devote the greater part of their leisure time to the care of these. Coming home some summer's evening or Saturday afternoon wearied from his daily toil, the artisan or the mechanic turns with a rare delight to the feeding of his birds, the collecting of their eggs, the cleaning of them, or the whitewashing of their house; if it be winter, he takes up his plane, saw, and hammer by lamplight and constructs the new breeding-hutch, the nest-box, coop, feeding-trough—all manner of ingenious articles. Such things are a vivid distraction and interest to a working man. In this interest the whole family shares, the wife eking out scraps of bread and potato and greenstuff from the domestic "pot" and boiling them up with a little meal for the fowls, the children assisting in divers ways, learning the manifold benefits of healthy industry, learning to love and handle animals, to be active, ingenious, and thrifty.

Nor do these signal benefits stand alone. There

is a very practical side both to poultry-keeping and to pigeon culture which must commend itself to every careful householder. What a fine thing it is for a working man with his anæmic wife and large family to be provided with a constant supply of new-laid eggs as good as any laid in a farmyard, an occasional "squab"! What a difference it would make to the physique of our town-dwellers if a few laying hens could be installed in every single backyard! Further than this, the writer can speak of more than one working man who reckons infallibly to pay his whole rent by means of the surplus eggs produced by eight or nine fowls kept in a pen behind his house, in addition to providing his family with much good food at little cost; and of men who for many years made quite an income by breeding, selling, and selling the eggs of, fancy stock. The Urban livestock fancier has increased very largely of recent years, as is evidenced by the sturdy fabric of "fanciers' societies" which has risen in London and the big provincial towns. It is a gratifying object-lesson to attend any one of the many shows of livestock promoted by such societies and to note the enthusiasm to win a prize and the keen interest in each other's poultry, pigeons, and rabbits displayed by these working men.

Yet another aspect of this interesting matter deserves mention. There have appeared in the daily Press various articles calling attention to the extreme difficulty of obtaining new new-laid eggs in our great towns and the imminent danger of their being placed beyond the reach of the working classes. It may be suggested now—and not unreasonably in view of existing conditions—that the simplest solution of the problem would be for the working classes to provide some part of their eggs themselves. It could be done to a considerable extent—it could be done to a far larger extent than it is done to-day. And that surely would be a national benefit towards which local authorities might be expected to co-operate as making for the health and better physique of the teeming millions under their care.

But yet it is towards the ideal of a contented people that the keeping of small livestock in the purlieus of our great cities should be chiefly encouraged. We hear much of the hectic influence on our working population of watching instead of playing football matches. But they cannot play who have no playground. We hear more still of the loafing at street-corners and the frequenting of public-houses which go on of Saturday afternoons and Sundays in big manufacturing towns. From these laxities arise most of the crime and destitution and misery which lurk in such haunts to-day. But it is surely by State encouragement of comelier attractions rather than by suppression of those already existing that squalid homes may be made to bloom "as a garden beautiful" and a burden of reproach lifted from modern society.

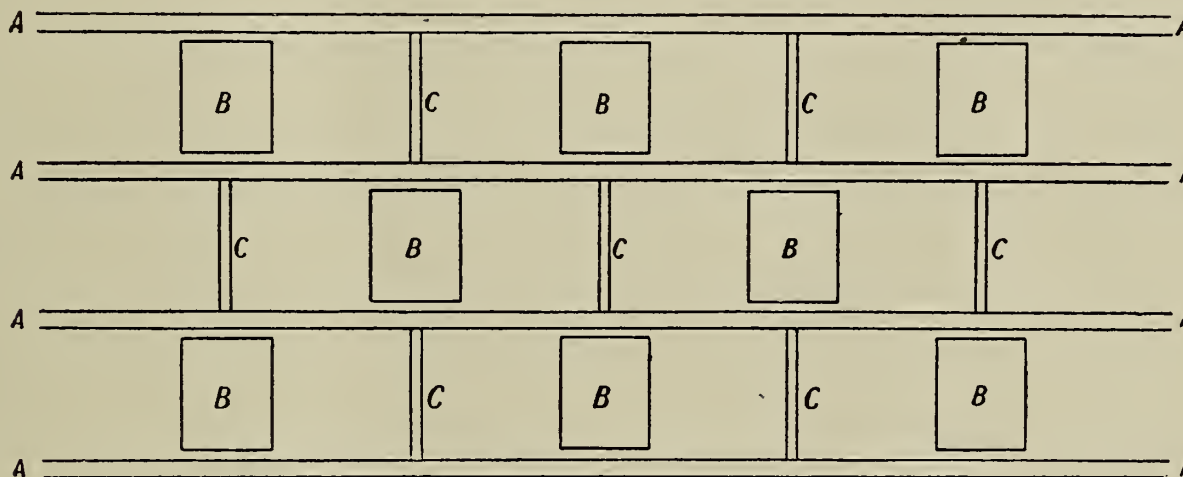
THE REARING OF OSTRICH CHICKS.

Some interesting notes are given by Mr. F. G. Long, in a recent issue of *The Agricultural Journal of the Union of South Africa*, from which we cull the following ;

“As soon as the chicks arrive, if the weather be cold, let them remain in the incubator or under the hen for the first twenty-four hours, then as soon as the sun is warm enough, put them out. Any draught or cold at this early stage of their lives is fatal. See, therefore, that they are in the sun out of the wind. If the sun is too hot, make an awning for them out of some sacks ripped up and sewn together, and laid on three or four staves let into the ground. Whether food should be given them during the first two or three days of their existence is a matter of opinion. Personally I am in favour of feeding them, but great care should be taken to

have plenty of exercise. One of the greatest secrets of success in chick raising is keeping them warm at night, and at the same time giving sufficient ventilation. The shed in which they sleep should, of course, be devoted to chicks and nothing else. I have seen chicks put in boxes on a cold cement floor, and an iron roof unceiled above, in harness-rooms, stone-rooms, even cow-houses and stables.

A chick-house should be portable, with an earth floor, and the roof of iron must be lined to keep out that cold which comes an hour or two before dawn. The best I ever used was an unlined, flat roofed wood and iron hut, 12ft. by 14ft. I lined it inside with sailing, roof included, and stuffed it with lucerne hay, having ventilation spans which could be closed at will. This made an excellent warm room and cool during the day. Quite the best plan for keeping chicks warm at night is to have paraffin tins filled with hot water the last thing at sundown.



AA are long deals, BB paraffin tins, CC wooden partitions.

see they get food they can digest. If Lucerne be chopped up, only the leaves should be given, cut very finely. On no account let the tough stalks be cut up too. Messrs. Spratts turn out a very useful food for young chicks named “Egfo,” a few handfuls thrown amongst the birds is sufficient. Finely ground bone and shell should also be scattered amongst them. The third day have them carried to the Lucerne land and let their herd take charge. Like everything else, there is a right and wrong way even in carrying chicks about. I use a light strong box with rope handles, large enough to hold thirty and forty birds, which two men can carry. The less a young chick is handled or shaken the better, so the box should be carried slowly and carefully. See that plenty of finely crushed bone is given them, and provide shade from the mid-day sun. When possible, put chicks on a land that has not been grazed by ostriches the previous season, their sleeping quarters being built near by. Do not let the birds graze on Lucerne for more than four hours at the most each day. Too much Lucerne and rich food with no exercise leads to congested liver. Let them be taken to the veld and

Cork them, tie a sack round each one and arrange them as illustrated, allowing, say, six chicks or less according to size, to nestle against each tin. I have kept chicks warm on the coldest nights by this method, the water remaining hot for over twelve hours.

Every morning as soon as the birds are turned out, the herd should remove all the deals, tins, etc., and thoroughly brush the floor, wheeling in a barrow all the droppings to some place to which the chicks can have no access. Clean sand should be thrown on the floor and all ventilators opened. Periodically, Jeyes’ fluid or carbolic dip should be sprinkled about.

A novel view.

Mr. F. L. Platt, writing in the *Reliable Poultry Journal*, submits a new idea, in that he says :

“Because of the abuse of storage, many people are prejudiced against anything that comes out of storage ; this forces marketmen actually to deceive the buying public in order to hold their trade.”

CINNERETTAS AND ECLIPSE PLUMAGE IN YOKOHAMAS.

BY MRS. L. C. PRIDEAUX.

IN April last there was a slight stir caused by the name of "Cinneretta" appearing in the Poultry World. I made enquiries and discovered that the Cinneretta was nothing but the duckwing Yokohama. But it remains a mystery how this name cropped up.

The description I received of the birds in question was: "The hens are in form rather like a game fowl, and the colour of Dorkings. The cocks are unusually handsome. The feathers on the neck and back are long, and pale yellow colour, the wing coverts are a sort of bronze, the breast is black, and the tail also black. The tail feathers curve over and trail on the ground for about 10 or 12 inches. The history of them as given to me is, that they were brought over from Japan by a gentleman who used to live in this neighbourhood. They are good layers and sitters."

I sent the owner a description of my birds, and illustrations, and in reply I received this: "Thank you for your interesting letter with the illustrations of Yokohamas. You have quite convinced me that the fowls I have are of that breed. When I get an opportunity I will enquire how they came to be called 'Cinnerettas.'"

That concludes the case for Cinnerettas as far as it goes.

Now, a fresh bomb is thrown in our midst, equally enigmatical.

In *The Field*, of December 14th, 1912, appears a short letter—signed: R. J. Pocock—who refers to a letter of his in an earlier issue of the same paper, where he points out that "2 species of jungle fowl, *Gallus sonnerati* and *Gallus bankiva*, have an 'Eclipse' plumage in the Autumn, whereas, as far as I know, none of the domestic breeds of fowls, all of which are believed to be descended from *G. bankiva*, retained any of the traces of this state of plumage, the chief character of which consists in the neck hackles being replaced by short black feathers. However, my friend Dr. Heinroth, of the Berlin Zoological Gardens, writes me that he has observed this change to take place in the Japanese long-tailed fowl, and it would be interesting to hear if fanciers of this variety have noticed it in this country. When we consider that it does not occur in those domestic varieties of poultry which bear a very close resemblance to their prototype, it is extraordinary that such a specialised variety as the Japanese long-tailed fowl should have retained this wild character."

I was in correspondence at the time with M: P. A. Pichot, Sec. Jardin d'Acclimatation in Paris, and he writes thus to me on the foregoing subject:

"I have never, for my part, observed anything of the kind, nor have some breeders of long-tails whom I interviewed on the subject. Of course at moulting time the hackle and saddle feathers are shorter than when the birds are in full plumage, but that cannot be called an eclipse plumage like

the Autumn plumage of the *Bankiva* and *Sonnerat*."

In reply, I wrote to M. Pichot telling him that in the 15 years that I have bred Yokohamas, I had never seen any of them wear eclipse plumage, but I ventured to suggest that Dr. Heinroth might have noticed that the neck hackles, when growing out of the moult, appear black at the tips—that is when they are but 1 to 1½ in. long, and the black gradually lengthens out as the feather grows and becomes the normal colour, on the duckwing birds, a black vein through the cream-white hackle. M: Pichot writes in answer to this:

"I see that your observations accord with mine, relating to a so-called eclipse plumage of the Yokohamas. One cannot call eclipse plumage the short hackle feathers during growth, after the usual moult, it is nothing like the eclipse plumage of the Mandarin duck, the Weavers, Fondi, etc., which has to be moulted again before the birds assume their breeding dress."

I wrote, as I had already written to M: Pichot, to Mr. Pocock, and in reply received a most courteous letter from Mr. D. Seth-Smith, Curator of Birds at the London Zoological Gardens, to whom Mr. Pocock had referred my letter. He says: "I am very interested to hear that you have found no sign of eclipse plumage in the Yokohama fowl. I have had similar reports from other breeders, since that note appeared. I merely stated what Dr. Heinroth had told me, but it struck me at the time that it was very remarkable for one breed of domestic fowl to possess this character of their wild ancestors, while others showed no trace of it."

It would be interesting to know if anyone will bear out Dr. Heinroth's testimony that Yokohamas do put on eclipse plumage, such as is recognised amongst many wild birds.

Hens in Hongkong.

A proposal has been made to establish at Hongkong a society for the promotion of poultry breeding. *The Hongkong Telegraph* says: "As regards poultry, the average hen in this part of the world is small and weakly, and most unsatisfactory as an egg-producer. Our informant is not merely an enthusiast; he speaks from long experience in rearing fowls, and he knows what he is talking about. The ordinary Hongkong hen, he tells us, lays about 40 eggs in a year, and the average weight of one of those eggs is half an ounce. Against that, he has proved that a well-bred and well-fed Leghorn hen produces 250 or 260 eggs in a year, each weighing about two ounces; in other words, the imported hen, when looked after by Europeans, lays more than six times as many eggs as the local bird, each egg weighing four times as much as that of the China hen. The poorness of the birds, he says, is due to improper feeding. The good maize and meal on which a hen fattens at home is here represented by rice and scraps containing fifty per cent. less of nourishing constituents. To the same cause—together with continual and unchecked inbreeding—he attributes the small eggs."

SHOWING CHICKENS.

THE season of chicken shows is now upon us with all its doubts, questionings, and difficulties. So much has been written upon the subject that we need not concern ourselves further with its rights and wrongs. Showing chickens is difficult enough in itself—indeed, there is probably no branch of the poultry industry which offers so great opportunities for genuine technical skill. On this account the novice justifiably considers himself at a disadvantage. It is all very well for professional fanciers to say—as one is reported to have said the other day—that the new-comer stands at no disadvantage, being often a good deal more artful than the professional himself. Facts do not show the alleged artfulness to be attended by success, while it surely stands to reason that men of long practice and experience must hold an advantage over the beginner.

Size and bulk are, I think, the chief stumbling-block. All question apart of hatching before the proper date, it is no easy matter to get a bird actually big enough—putting merit aside—to do himself justice in the show pen. And let me scotch at once the idea that mere precocity is the same thing as forwardness and growth. The latter can only be obtained by skilful rearing; the former may be achieved in many ways.

Nobody can doubt that the secret of rapid growth is feeding. We are not considering the early days of rearing which are past. Nor do the birds at that stage lack for care and attention. It is when, having reached the cold-brooder, they are rapidly feathering, the real show preparation begins. And this is where the inexperienced make mistakes. The main ideal should be to give frequent small feeds and to give only real growth-promoting stuff. A diet of this sort cannot, I believe, be beaten for three-months chickens destined for the show-pen: 6 a.m., mash composed of fine biscuit meal scalded, and mixed with finest Scotch oatmeal, sharps, and bone-meal; 9, bread-and-milk in troughs; 12 mash afore-mentioned; 4, oatmeal, sharps, and bone-meal mixed with skim-milk; 6-30 p.m., good whole small wheat. At the first and last feeds, give as much as the birds will eat, otherwise about half a dozen handfuls will suffice for a flock of thirty.

Let me add that such a diet as the one named cannot be adopted permanently, partly on account of expense and partly because of its richness. It will, however, be found to promote not only growth and bone, but also "condition," which is hardly less important. I am convinced of the necessity of milk-feeding show-chickens from their very early days. Not only will they eat bread-and-milk with the utmost pleasure, but, in my experience, this certainly acts as an appetiser. Another way of creating that all important thing—a good appetite—is to let the soft food stand covered over for twenty-four hours before using it. This should not be done, however, if it is made with milk.

Green-cut bone at mid-day is another great thing; but the whole question of feeding is bound up with condition, which is a more important asset to a young bird than to an old one. I believe grass plays a large part here. The fresh, young grass of early summer seems to have a certain vivifying effect upon the plumage and health. Of course, the young birds must be shaded at this time, especially whites. Give them their liberty, however, up to 10 a.m., and after 4 p.m. Keep the cockerels out of sight of pullets if possible, and never let them intermix. At three months one can usually tell whether a bird will be fit or good enough to show a few weeks hence; a promising specimen will often be much benefitted by a preliminary wash. This gets rid of much sap and quill-dust, thereby offering a freer passage to the young feathers.

Then there is the question of training. How many novices' chickens are spoilt by awkwardness and wildness in the show-pen, whereas an admirable *savoir faire* characterises the professional's exhibits. Plenty of handling and practice in the training-pen is really the only "secret" used by the latter. Beginning a fortnight from the show, pen the youngsters for three hours daily. Do this when they are hungry, and they will very quickly learn to come to the front, and, what is even more important, hold themselves up. A most necessary thing at this time is to check any desire—especially seen in Plymouth rocks, Langshans, and Minorcas—to "stand in" at the hocks. Always entice the birds with small pieces of meat when in the pens, and while they reach for these knock the hocks apart quite lightly with a judging-stick. Done repeatedly, this will have the desired effect.

The actual exhibiting of a chicken demands simply the same care and thoroughness as that given to a fowl, and need not be dwelt on here. A good way of polishing a bird up is, first, to rub over the plumage a slightly oiled rag, then to groom the feathers with silk. If a silk handkerchief be folded round a square of cotton wool, a handy pad will be the result. Let me, by-the-bye, remind the exhibitor that under the Poultry Club rules no ring or cirlet other than that provided by the Club (*i.e.*, the Conference Ring), may be worn; toe-punching marks are, however, permissible. Many a novice has forgotten these disqualifications, and so lost a prize.

While the main points in showing and in preparing chickens for show have been enumerated, a great deal of the art of the thing lies in picking the right bird at the right time. When you have a flock of chickens of more or less the same size and quality running together, it is no easy matter to determine which will come to hand at the required moment. One thing, never choose a bird because of its precocious ways or head-points. Rather pick something in the bloom of health, with plenty of substance, breadth, and bone for this is invariably the sort that wins.

FANCIERS AND FANCY MATTERS.

BY WILLIAM W. BROOMHEAD.

Death of Mr. W. Smith-Lambert.

It is with profound regret I have to announce the death, on June 25th, of Mr. W. Smith-Lambert, of Drabble House Farm, Silsden, in his 51st year. Into the painful circumstances in which deceased met his end there is no need to enter; suffice it that the decapitated body of a man was found by the side of the Midland Railway line between Steeton and Eastburn at an early hour on that day, and that the body was subsequently identified by Mr. Joseph H. Lambert as that of his father, William Smith-Lambert. The entire Fancy will mourn his loss, since he was probably the greatest of all poultry exhibitors. The tragic occurrence has thrown a gloom over the show community, since few have been at any time so widely known and respected as the late Mr. W. Smith-Lambert.

It was known to most of us that the deceased had not been in his usual robust health since last autumn, when he contracted a severe attack of influenza, between the holding of the Dairy and Crystal Palace Shows, and from the effects of which he never fully recovered. From time to time I heard, from his second son Tom, that his health was very far from satisfactory, but no mention of the fact was published in the press. The late Mr. Lambert had put in an appearance at a few shows this season, but it was obvious that he was suffering in health; and although he invariably said he was feeling better when friends asked after his condition, his appearance belied his words. The interment took place at Silsden Churchyard on June 28th, amid a scene of deep sympathy, and in the presence of innumerable friends and fanciers. Many had travelled long distances to pay a last tribute of respect to one who, by his kindly nature, had become endeared to such a wide circle of fanciers.

Better known to his friends as "Little Billy," never a more popular exhibitor put a bird in a show pen. I have known him for many years, and always as a keen fancier and "one of the best." In my capacity as Judge I have often had to pass sentence on birds he had staged; but although there have been occasions—rare, certainly, since he showed to win—on which he did not get the red ticket, I never knew him to complain. He was one of the few who could see, aye, and acknowledge when a better bird had beaten his, and one, too, who could overlook a genuine slip on a judge's part, knowing as he did, since he was a most competent "wielder of the wand," that judges are not infallible. A fancier from his boyhood days, and brought up, as he was, in the atmosphere of Hamburgs, that breed was his first and his last love, and his greatest fancy was a Silver Spangled Hamburg cock. With other breeds, however, he had made a name, and these included, among others, Cochins, Dorkings, Polands, Wyandottes,

Orpingtons, and Game and variety Bantams of most kinds.

The late Mr. Smith-Lambert began his Fancy career as poultry lad to Mr. William Cannon, who then owned a particularly fine stud of show birds; and it was while in the employ of that great fancier he became initiated into the ins and outs of successful poultry exhibiting on a large scale. Subsequently he entered the services of Mr. Edwin Walton, as manager, to attend to his team of bantams, and he achieved a wonderful success while there. Following this he engaged himself to Messrs. W. & J. H. Heys; and then for eighteen months or so he exhibited on his own behalf, and had a remarkable team of bantams and Buff Cochins. Ultimately he entered the service of Mr. O. F. Bates, when that gentleman was residing at Harlow Court, Harrogate, and when Mr. Bates decided to relinquish the poultry Fancy he made Smith-Lambert a present of the whole stock and plant. Then it was that Mr. Lambert went to the Drabble House Farm, Silsden, his native place, and together with mixed farming set out once more on his own account. Again success attended his efforts; he bred the champion chickens and won all the leading championships of the past season.

In his time Mr. Lambert had won numerous prizes and trophies at all the leading shows, including the Dairy and the Crystal Palace for many successive years. As an exhibitor he had no equal; every distinguished bird was summed up by him, and he knew when, where, and by which it had been beaten. He had, in the capacity of judge, officiated at many of the leading shows up and down the country; but he was never anxious to fill the position, since he was wont to declare that one made more enemies than friends by judging. He was, indeed, this late fancier, a truly great little man in poultry exhibition circles. He has left a blank that will be hard to fill. Words cannot convey to his wife and family the amount of sympathy his many friends and acquaintances feel towards them in their sad bereavement. They will miss him; and we who knew him in the Fancy will for a long time to come look round in vain at the shows for his cheerful presence. I knew no better than "Little Billy."

Hatched in 1913.

Although with this issue of "THE ILLUSTRATED POULTRY RECORD" only seven months of the year have gone—and up to the time of writing these notes only six and a half—many birds have already made their "bow to the public" in classes for chickens hatched in 1913, while some half-dozen or more have been successful at two or three events, and two of them at least have gained the red ticket on two occasions within a week. From reports to hand of the May and June shows, it is interesting

to note that, with very few exceptions indeed, the reputed slow-growing breeds have headed the lists, unless the non-sitting kinds have been particularly catered for, i.e., having classes to themselves. Thus, analysing the exhibitions I find the particulars I have given in the following paragraphs.

At Harpenden (Herts.) show on Whit-Monday, a class for chickens (pair) hatched this year resulted in 13 entries, and the winning birds were White Orpingtons first, Rhode Island Reds second, White Wyandottes third. On the same day at Stretford (near Manchester) show there were no less than four classes provided for this season's birds. In that for Minorca, Leghorn, Plymouth Rock, Indian Game, or Wyandotte cockerel there were 7 entries, and the birds which won were Barred Plymouth Rock, White Wyandotte, and White Plymouth Rock, while in the pullet class, with a similar number of entries, Barred Plymouth Rocks won first and third prizes, and a White Wyandotte second. In the 'any other variety' classes at the same fixture White Orpingtons were awarded first and third prizes in cockerels, and second and third in pullets, the other successful chickens being a Blue Orpington cockerel and a Black Orpington pullet. At Southport (Lancs.) show two days later there were again four classes, but two of them were for bantams. Here the winners were, in large chickens cockerels, twelve in the class, a Black Wyandotte, a Black Orpington, and a spangled Old English Game, while in pullets, numbering fifteen, the prizes went to Barred Plymouth Rocks first and third, and a Spangled Old English Game second. Pile Modern Game won five of the six prizes for bantam chickens—consisting of nine cockerels and six pullets—the other being a White Plymouth Rock pullet, which secured third prize.

During the following week the Devon County show opened at Barnstaple, on May 21st, with a modest class for chickens of either sex and any variety; and this, with nineteen entries, proved to be the biggest chicken class of the month. Here was a good assortment, but the winners were a Croad Langshan, an Indian Game, and a White Wyandotte—breeds which are not exactly record-breakers in the way of rapid maturity! In the last week of the month the 'Bath and West' opened at Truro, on May 27th, with an extensive classifica-

tion for chickens. In the class for Cochin, Brahma, Plymouth Rock, Orpington, Langshan, Sussex, or Dorking cockerel, there were eleven entries, and the winning birds were a Croad Langshan, a Dark Dorking and a White Plymouth Rock, while of the sixteen pullets a Buff Orpington gained first prize, a Black second, and a Sussex third. In the third and fourth classes, for Minorca, Wyandotte, Leghorn, Hamburg, Faverolles, or French, consisting of eighteen cockerels and seventeen pullets, White Wyandottes were selected for five of the six prizes,



A NASSAU COCKEREL.

[Copyright.]

A breed of good economic qualities about which little is known in this country.

and the only other variety that got a look in was a Golden Wyandotte cockerel, placed for a third prize. Indian Game won four of the six prizes, and in each case first and second, in the two classes for any other variety—containing ten cockerels and nine pullets—while in each class the third prize

went to Spangled Old English Game.

There were two classes for chickens at the county show at Huntingdon on May 28th, consisting of thirteen cockerels and a similar entry of pullets, the prizes in the former class going to a White Orpington, a Blue Red Old English Game, and a Buff Orpington, and in the pullets to a Partridge Wyandotte, a Black Orpington, and a Blue. At the county show at Leicester, held on the same day, there were five chicken classes for either sex, but in each case pullets gained the prizes. The first class was for Orpingtons or Plymouth Rocks, seven entries, and the winners were a Barred Plymouth Rock, a Buff Orpington, and a White. In the next, for Wyandottes, and with nine entries, Whites won first and second prizes, and a Silver third, while in the "any other variety" class of nine entries, first prize went to a Speckled Sussex, second to a Single-combed Rhode Island Red, and third to an Old English Game. The two other classes were for local exhibits and consisted of eight cockerels and eleven pullets. Then at Prescott (Lancs.) on May 29th, there was a class of thirteen cockerels, any variety, and one of ten pullets, in the former the winners being a Barred Plymouth Rock, a Black Orpington and an Indian Game, and in the latter a White Wyandotte, a Buff Orpington, and a Partridge Wyandotte.

The first show of any importance to provide chicken classes in June was the county event at Hereford on the 3rd, 4th, and 5th, and in the two, of eight cockerels and twelve pullets, the winners were a White Wyandotte, a Dark Brahma, and a Barred Plymouth Rock, a White Wyandotte, a Barred Plymouth Rock, and a White Orpington respectively. On the 4th and 5th also, the Northampton County Show came off at Towcester, and here a couple of classes for any variety resulted in an entry of eleven cockerels and fifteen pullets; in the former the prizes going to a Barred Plymouth Rock, a White Wyandotte, and a White Leghorn, and in the latter to a White Wyandotte, a Silver Grey Dorking, and a Barred Plymouth Rock. At Thorne (Yorks) on June 11th, there were twelve cockerels, an Indian Game, a White Wyandotte and a White Plymouth Rock gaining the prizes, while the best of the pullets were a Partridge Wyandotte, and a couple of White Plymouth Rocks. Then at Blackawton (Devon) on the same day, there were eighteen entries in the one class for birds hatched in 1913, the three prizes going to White Wyandottes, cockerels gaining first and second, and a pullet third.

Undoubtedly the best classification of the month, and certainly one of the most important of the early season, was that given at the Royal Counties' Show held at Windsor on June 11th, 12th and 13th. The section consisted of a round dozen of classes, and the entries were as follows:—Dorking cockerel 8, pullet 7; Old English or Indian Game cockerel 9—all prizes to Indians—and pullet 10—first and third to Indians and second to an Old English; Leghorn or Minorca cockerel 12, pullet 12; Wyandotte

cockerel 20, pullet 22; Orpington cockerel 31, pullet 39; any other variety cockerel 20, pullet 26—a total of 216 and a very fine average. On June 12th was held the first of the Irish shows providing classes for chickens, viz., Strabane, June 12th, there being a couple for any variety and drawing a half-dozen of each sex. Here the winners were an Indian Game, a White Wyandotte, and a Speckled Sussex in cockerels, a Buff Orpington, a White Faverolles, and a Sussex in pullets. During the following week, at Ballymena (Ireland) on the 18th, a somewhat extensive classification was scheduled for birds of the year. Orpington, Plymouth Rock, and Wyandotte cockerels had 9 entries, the winners being a Buff Orpington, a White, and a White Wyandotte, while the best of the 8 pullets were a White Wyandotte, a White Orpington and a Buff. There were 5 Sussex entered, and the prizes went to a Speckled cockerel, a pullet of the same colour, and a Light, while of the 7 any other variety cockerels an Indian Game and a couple of Dark Dorkings gained the prizes, and the best of the 5 pullets were a White Leghorn, a Dark Dorking and a Minorca.

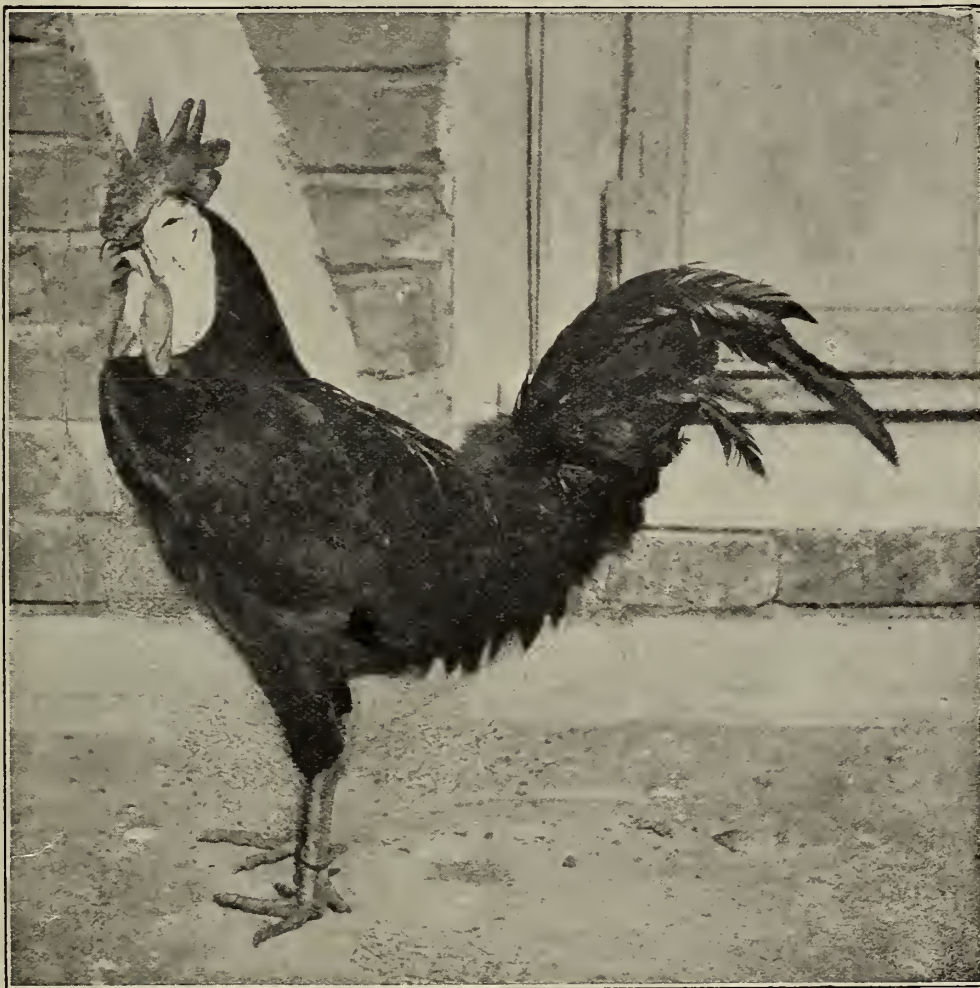
On the same day, at Scunthorpe (Lincs.) the one class for chickens had 14 entries, and the winners were all pullets, a Barred Plymouth Rock, a White, and an Ancona. At Sheffield on June 19th, the best of the 6 cockerels were a Barred Plymouth Rock, a White Wyandotte and an Ancona, and of the 12 pullets a White Wyandotte, a Black Orpington, and a Rhode Island Red. At Bandon (Ireland) on the same day there was a class for pairs with 5 entries, a White Wyandotte cockerel and pullet gaining first, a couple of Sussex pullets second, and Buff Orpington pullets third. At Killkenny, also held on June 19th, there were 8 cockerels and 11 pullets, and a Light Sussex and an Indian Game (partially dubbed) won in the former, and a White Orpington and a couple of Sussex in the latter. The first of the Scottish events catering for chickens was Alloa, on the 21st, but the cockerel class had to be cancelled, while there were only 4 pullets forward, the best being a couple of White Wyandottes, first and third, and a Light Sussex. On the previous day there were two classes at Newry (Ireland); only two birds were entered in the class for non-sitters—White Leghorn pullets—but there were 9 of the sitting breeds, and the prizes went to a Buff Orpington, a Speckled Sussex, and a White Wyandotte. On the 21st, too, at Mottram (Cheshire) the winning cockerels, of which there were 9, were a White Wyandotte, an Indian Game, and a White Leghorn, and the prizes in the pullet class, consisting of 13 entries, went to a White Wyandotte, an Indian Game, and a Black Orpington.

At Londonderry, June 24th and 25th, the classification was for "laying breeds, except Wyandottes" and any other variety. In the first class there were 9 cockerels, and the winners were a Dark Dorking, a Rhode Island Red, and a Buff Orpington, while of the 8 pullets, Dark Dorkings gained first and second places and a Buff Orpington. This is surely

one of the very rare occasions—I recollect its once happening at a Scottish event a year or two back, in connection with a special prize—where Dorkings have been placed as layers! In the other two classes for chickens at Londonderry, there were 10 cockerels and 9 pullets, the winners in the former being a White Wyandotte, a White Leghorn, and a Speckled Sussex, and in the latter a White Wyandotte, a Speckled Sussex, and a Light. On June 25th and 26th at Mallow (Ireland) the best of the cockerels were a White Wyandotte, a White Orpington, and a Speckled Sussex, and of the pullets (12) a White Orpington, a Speckled Sussex, and a White Wyandotte. The two last shows of the month were Yorkshire events, Ripon on the 27th, and Keighley

thirds to Whites. In the any other variety classes, the best of the 8 cockerels were a Barred Plymouth Rock, a Black Orpington, and a White Leghorn, and of the 15 pullets an Indian Game, a Barred Plymouth Rock, and a White Orpington.

It seems passing strange, to say the least of it, to find such breeds as the foregoing—with the exception, admittedly, of the non-sitters and bantams, which, however, have figured so rarely—sufficiently furnished as to be able to win prizes ere they are six months old; and there must be more in strain, as well as in feeding and general management than appears to have been generally understood in former years. I must say that those chickens which I have seen and handled at some of this year's



A Black Spanish Cockerel.

[Copyright.]

on the 28th. The six classes at the former were for Langshan or Orpington, 9 cockerels and 8 pullets, Plymouth Rock or Wyandotte, 9 and 12 respectively, any other variety cockerel, 12, a Silver Grey Dorking, a Minorca, and a Houdan, and pullet, 10, an Ancona, an Indian Game, and, quite a novelty for such competition, a White Frizzle bantam. At Keighley, three of the five chicken classes were for Wyandottes; in that for Columbians there were 10 entries, and pullets gained the prizes, while in both classes for any other colour, 4 entries each, the first prizes went to Partridges, and the seconds and

shows were indeed remarkably forward specimens: so despite the complaint in certain quarters that the hatching and rearing season this year has not been a good one, many fanciers have been able to bring some of their birds to an excellent state of perfection in the short period from January 1st. Very few birds have been described by the several critics as "raw and unfurnished," and I admit that I have not seen many, if, indeed, any, among those which have gained the prizes. It must be proof, then, that more attention is being paid these days to early and late feeding during the growing stage,

and particularly in the case of such slow featherers as, for instance, Dorkings, Brahas, Black Orpingtons, Indian Game and one or two other breeds mentioned above. One can understand the active little non-sitters forging ahead with just ordinary treatment; but it must mean hard work and constant attention to get the others to such a high pitch of perfection, hence all credit to those breeders who have been able to do so. It would be interesting to know whether the judges, in making their selections adopted the Poultry Club bone test, the flight feather sign of youth, or the "take-it-for-granted" test. Methinks the first is about as dead as mutton now-a-days, while few of the old hands among the judges place much, if any, reliance on the feather method adopted by the Bath and West executive. NO; a chicken is as old as it looks and feels on handling, and no man living can guarantee its exact age unless he has bred, rung, and recorded it. I have been to the "Royal" and seen more excellent chickens, and as I write I am looking forward to the "Great Yorkshire," at York, and to the "Wells," both of which events clash, unfortunately, this year. There should, however, be rare good entries of youngsters at these and other shows this season; but, more of them anon.

Ireland for the Irish.

No, this is not going to be a discussion on political questions. Such are barred in these notes, and rightly so. It has to do with the subject of competition at Irish poultry shows. There is a movement on foot this year to confine competition at these events to exhibitors residing in the Emerald Isle; and, as far as I can gather, there will be very few exhibitions indeed where the classes will be open to fanciers in the United Kingdom. I have seen several Schedules of forthcoming fixtures, but at only one is competition to be open. Belfast, as usual, was open to all, but maybe by next year it will come into line. Certainly it has given the "confined to Ireland only" plan a trial, but the result was not exactly a success. Still, the Fancy in Ireland has advanced since then, so mayhap stronger entries will be the outcome. The latest show to announce the confined competition is the winter fixture of the Royal Dublin Society, to take place in December next. Here the open classes for poultry are to be solely for Irish exhibitors—residing in their native land—English and other exhibits being eligible only for the selling and auction class. It will be pretty certain, therefore, that not many, if any, birds will cross the water to compete, since there are always plenty of opportunities for sales at home.

Admittedly, the best of the Irish Shows have been a happy hunting ground for English and Scottish fanciers, and chiefly for the former, and teamsters into the bargain. More than one has found it very profitable to cross the channel with a string of birds and return with the pick of the prizes. Not that the island is lacking in good poultry; many such are bred there, aye, and some have been sent

to a few of the classic events in this country and been very successful. Nevertheless, for some reason or other, as past events have demonstrated, a strong team from this side, in charge of its owner or his poultryman, can generally give a good account of itself. When all is said and done, as an old Scottish friend of mine was wont to remark, "We're a' human," and it is not surprising to hear that some Irish exhibitors resent the lion's share of the prizes going across the water. The opinion of a well-known Irish fancier and judge on the subject is worth repeating. "The Irish entries" says he "should be greatly increased; but I cannot help thinking that the Show will lose a great deal of its interest if our English friends are not present." It will be interesting to see how the new departure works out.

Candidly I cannot help thinking that it will not give the results which appear to be anticipated. I have watched the Irish Fancy for some years now, and particularly as regards the exhibition aspect. And while admitting that it is unquestionably on the increase in the matter of Shows, it is advancing along the same old lines. One has only to glance at the reports of these events to see the truth of this statement. The number of prominent exhibitors in Ireland is not a great one, and if it is put at a dozen it will not be very wide of the mark. Thus one finds at the best shows, and where competition is not restricted to those within a small radius or a county, a repetition of the same names in the prize lists. I could mention two, or perhaps three, in each of the popular breeds who are always in the front rank and whose birds are rarely beaten. Teamsters, of course, are almost unknown in Ireland, at any rate to such an extent as we get them here. There have been one or two; there may be some yet, although I doubt it. Granted, there are reasons for this, and chief among them perhaps is the lack of good railway facilities, since at most of the Irish Shows the prize-money is tempting enough. However, while "deck-sweepers" may not exist to spoil competition there are fanciers in Ireland who can "go the rounds" and be certain of winning a good share of the prizes, cash and cups as well. That the best Shows will lose a great measure of their interest is an open question. That they will do so to the "top sawyers" over there I firmly believe, since they like nothing better than keen competition and welcome a trial with the pick of the English and Scottish birds. Nevertheless, it is the rank and file after all who fill the classes, and they apparently are anxious for confined competition. As I say, I will keep an eye on the new departure and see how it works out.

Belgian Co-operative Egg Society.

Chasse et Peches states as one result of the recent Poultry Congress held at Ghent is that a co-operative society is in course of formation for the sale of eggs direct to consumers.

A CHEAP FARM POULTRY HOUSE.

THE plan of poultry house illustrated and described in this chapter is about as cheap a poultry house as can be built with equal advantages. While this house is intended to hold 100 fowls, there are many poultry keepers successfully housing in a similar space as many as 150 fowls, and some even more. Much depends upon the care they get and the experience of their owner.

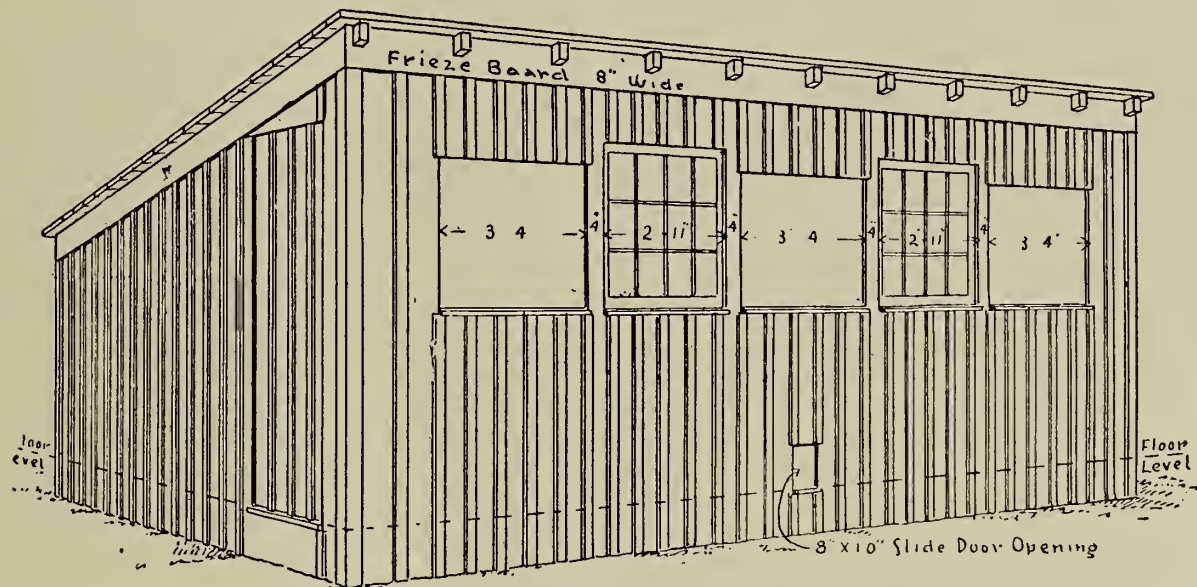
If the farmer wishes to get eggs during the winter when they are high priced, he must keep his fowls comfortable. There is no need to spend a lot of money to do this.

The best plan is to build one or more houses which will hold 100 to 150 fowls each—not more, until you have experience with this number, and not less, because it is economical to have at least 100 in a house. Such a house may be called a commercial poultry house; its object is to accommodate the layers on a money making plan.

The whole of the floor space should be available for scratching in order to keep down the cost of building; therefore the roosts are placed along

the foremost roost. Straw for scratching may then be scattered over the entire floor, including the space beneath the roosts. The droppings will settle down through the straw to the floor as the fowls move around, and their plumage and feet will remain clean, so that no dirt will appear on the eggs in the nests. In case this plan is followed, the space under the roosts should be cleaned once a week or so, depending upon the condition of the droppings. The feed should be scattered in the front part of the house and raked forward now and again towards the windows. (Don't be afraid of putting too much straw on the floor). The use of droppings boards is recommended. It saves labor, and by dispensing with the board set on edge on the floor, it gives the fowls more liberty and scratching space.

There are two good ways of ventilating a poultry house; and ventilation is absolutely necessary. I do not believe in ventilating with pipes. The simpler ways are better. The best ventilation that has ever been discovered in my opinion is the



PLAN OF A CHEAP FARM POULTRY HOUSE.

(Described on this and following page).

back wall and high enough for the hens to scratch beneath them. The down-to-date method is to have wooden droppings boards beneath the roosts to catch the droppings and prevent their falling to the floor. In a long narrow house this is a most convenient equipment. Where all the floor space is needed for the hens—where every foot of it should be light and not shaded, the boards must be as high as the style of house advocated will admit. The roof at the back is low, so the roosts will not be too high for the fowls. If you don't want to go to the expense of providing droppings boards, a go-between method may be adopted by running a four or six inch board on edge on the floor the full length of the house and about six inches in front of

old fashioned method of piling straw on top of cross pieces for a ceiling, with open ventilating slats in the upper wall or roof. The main objection is that the straw accumulates dust and perhaps lice.

The down-to-date way is to ventilate with cotton cloth (muslin) windows. These windows are not intended to take the place of glass, but are in addition to the regular glass windows. The best plan in a long house is to adopt alternate glass and cotton windows, if the climate is not too severe in winter, otherwise the ventilating windows should be one to every two or three glass windows. The milder the winter climate the more ventilation you should have. I have recommended in the plan

adopted here, a smaller amount of cotton cloth ventilation than is usual, because in a farm yard it is likely the hens will be outside on the manure heap, and the door will be open oftener than on a poultry farm pure and simple where the outside conditions are not so inviting, but if the door or windows are not frequently open you will need more cotton.

The house which is here illustrated is less solidly built than on a fancier's poultry farm, where double walls and matched lumber are generally used. So in this case more or less air will probably be admitted through the walls. The object of my plan for a farm poultry house is to keep down cost and keep up utility. I shall leave the details of the buildings to be settled by the circumstances which govern. Some farmers may wish to use matched siding outside, and a second wall inside, with the space between filled or not, according to their inclination; but that is not what I am describing here. I must hold carefully to the text of my chapter and keep the cost down. That means that my house in this instance will be built of rough inch boards battened on the outside. That is the cheapest way. It is necessary to avoid draughts, and a bare wall with battens over the cracks is not the best in the world, but I would rather take chances with that than with an air tight, non-ventilated house. I recommend, however, that even where low cost is the aim, a second batten should be nailed on the inside, with strips of heavy building paper underneath. This should be done at the back—behind the roosts. If you want to do better still, the interior may be covered with heavy building paper or tar paper—something you can spray or whitewash without fear of its tearing. This may be put on with laths or light battens, which should run up the cracks between the boards and on top of the paper, of course. Laths may be used to hold the edges of the paper tightly in place. They are cheap and as good as anything else.

The house should be no higher than is necessary to walk around in comfortably. Its exact height will need to be governed by the height of the floor, which, in some locations, must be raised either by boards or filling in to avoid dampness, as dampness is one of the worst conditions you can have in a poultry house. In all cases the floor must be at least a little higher than the surrounding ground. The back part of the house (which has a shed roof) is quite low, to save lumber.

The equipment of the house need not be expensive. You can use common boxes for nests, setting them up on a platform, or build special nests with platform made to take down for cleaning. The nests will need to be taken down and sprayed with lice killer every spring and fall at least; also the roosts. The nests are placed along the front walls under the windows. They should have a slanting board above them to prevent the hens roosting on them, and to shade them from the light. Some

folks prefer to locate the nests under the front edge of the droppings boards, the hens entering from the rear; but that location interferes with the light and sun striking the back part of the house; nevertheless, I have shown on the plan how to so locate them if desired. This plan also requires more work keeping down lice.

If you adopt the dry feed method of feeding in hoppers, place the hoppers high enough from the floor to be out of the way of the litter. The dry feed method is a good one if not practiced to extremes. Hens need to scratch; they need a variety of whole grain thrown in the litter, but it is a good plan to guard against giving them insufficient by using dry feed hoppers in which one kind of dry mash is kept before them at all times. The kind of mash should not be changed too often, or they will eat too much of it. This plan of hopper feeding helps, too, if you should be away from home until after the hens have gone to roost. You will be sure that they have at least had a feed of dry mash.—*Farm Poultry, U.S.A.*

Florida Grass—a new green food for Poultry.

Mr. R. Bourlay, the esteemed Government Poultry Expert for the Transvaal province, has been good enough to send us the following:—"On about the 15th of January, 1913, we planted Florida grass in two of the poultry runs at the Experimental Farm, Potchefstroom, as an experiment, with the object of ascertaining whether the birds would consume it readily, and also to see whether, with care and watering, it would keep green during the winter. The roots were planted after a good rain, while the ground was thoroughly moist and loose, each of these being about four inches apart. The runs were empty at the time, and no fowls were placed in them until the middle of April, by which time each block which had been planted was one mass of lovely green fine grass. This the birds eat readily, and appear extremely fond of. At the time of writing, although the area of grass in each run is but a small one, and the birds spend most of their time on it, it is still quite green and is growing well, in spite of the absence of rain or irrigation. Shortly it is intended to commence watering the grass every week, and this will be continued during the dry winter months with the object of ascertaining whether a supply of green food can be maintained through the winter, and results of this experiment will be published in due course, but whether or not this latter part of the trial gives the desired result, there can be no doubt that Florida grass is eminently suitable for planting in poultry runs, as it is fine in texture, very tender and sweet. The best time for planting it is during the spring; the ground should be well loosened and watered; the birds should not be allowed to use it until it has had a chance to get thoroughly established."—*Farmers' Weekly* (Bloemfontein).

RECENT EXPERIMENTS.

Digestion Experiments with Poultry (*Maine Agric. Expt. Sta., Bull. No. 184.*)

The fact that the digestibility of feeding-stuffs in the case of ruminants, horses and pigs, had received considerable attention, but that few experiments had been made with poultry, suggested the investigations described in this bulletin.

The difficulty of carrying out experiments of this nature was considerable owing to the fact that the urine and the solid dung of fowls are excreted together.

Experiments were first undertaken with year-old hens, chiefly with a view to gaining experience as to the best methods to be adopted, and the result of the work done with these birds was not very satisfactory as they were nervous and lost condition; cockerels proved the most satisfactory subjects for experiment.

Two rooms were set apart for the birds; in one they were kept during the resting period; in the other, cages were provided for their reception. Precautions were taken to arrange for the provision of feeding and drinking dishes which would prevent the food being spilled. The duration of the experiments was 12-14 days, divided into two periods, a preliminary period of 5 to 7 days, when the amount the bird would eat was determined and the alimentary canal freed from other food, and a collection period when the fæces were collected. As it was impossible to tell how much water the birds actually swallowed, no record was kept of the weight of water consumed.

The birds were fed at regular hours and the fæces collected at the same time; at the end of the collection period the fæces were taken to the laboratory, air-dried, and submitted to analysis.

The results obtained from these experiments indicated that the digestion co-efficients of most foods for poultry are not materially different from those which obtain in the case of other farm animals, save that, unlike ruminants, poultry digest very little crude fibre.

Maize gave a higher digestibility than any other grain tested. Wheat-bran gave a low digestibility. A mixture of equal parts of maize meal and finely cut early clover was sufficiently bulky to feed with concentrated food, and was more digestible than bran. The results confirm those of other investigators in showing that maize is a most valuable grain for poultry. It cannot be given alone, as it is too concentrated a food, and is deficient in protein, but in combination with foods rich in protein, and some bulky material such as cut clover, it makes a most desirable ration.

Poultry in South Australia. (*South Australia, Report of the Poultry Expert for the year 1910-11.*)

The report deals with the general progress of the poultry industry in South Australia during the year ended June 30th, 1911.

Attention is drawn to the increasing tendency of White Leghorns to become broody. Of 61 pens of Leghorns and Minorcas entered in a laying competition only nine pens finished the year without any cases of broodiness.

Autumn and Spring Chicken Rearing (*Harper Adams Agric. Coll. Report on Field Expts., 1912.*)—Experiments were conducted in 1910-11-12, in order (1) to determine the cost of rearing autumn-hatched chickens to a killing age; (2) to note the rate of increase in weight week by week for food consumed; (3) to compare the cost of autumn and spring rearing.

Feeding.—In both experiments the feeding was the same. For the first twelve weeks they were fed entirely on dry food, and from twelve weeks old to the time of selling they were given soft food during the day, and whole barley for the evening feed.

	Autumn Rearing Experiment, 1910.			Spring Rearing Experiment, 1912.		
	£	s.	d.	£	s.	d.
Initial Cost of Eggs	0	5	2	0	8	4
Cost of Oil for Incubator and Brooder	0	1	1	0	2	0
Cost of Grain and Meal	1	5	5½	2	10	0
Total	1	11	8½	3	0	4

Number of Chickens... ..	16	50
Average Cost per Chicken ..	2s. od.	1s. 2d.
Market Value per Chicken...	3s. od.	2s. 6d.

The results showed that in a normal season the rate of growth is much more rapid and less costly in spring than in autumn.

Cost of Producing 1 lb. Weight:—

Autumn, 1910	6.4 pence
Spring, 1912... ..	4.1 pence

The Utility Poultry Club's Twelve Months' Laying Competition.—The competition has now been running for seven months, and the figures for the seventh period, which ended on April 29th, are available. The position of the leading pens is as follows:—

Order.	Pen No.	Breed.	Total Eggs for Seven Months.	Total Money Value.
1	86	Buff Rock	676	£ 3 17 2¾
2	60	White Wyandotte	711	3 15 11¼
3	32	" "	666	3 8 7¼
4	45	" "	638	3 5 9¼
5	24	Black Leghorn	608	3 3 11½
6	40	White Wyandotte	604	3 3 0¼
7	35	" "	623	3 2 8¾
8	80	Buff Orpington	602	3 2 7¼

The highest score of the month was secured by the Silver-laced Wyandottes in Pen 62, which produced 163 eggs. A slight decrease in the total number of eggs laid during the month—10,684 as against 11,292 laid the previous month—is attributed to broodiness.

THE TEXAS "TURKEY TROT."

By J. P. BRIDGES.

"FORWARD MARCH!" This was the word passed along the line of 18,000 turkeys assembled at Packing House Hill, just outside the city limits of Cuero, Texas, at 11 o'clock, Tuesday morning, November 26th.

And it was the signal for the 100 herders and the 20 mounted aides to swing the great flock into an orderly procession to fall in behind Governor O. B. Colquitt of Texas and his bedecked military staff, in a parade down the main streets of the "Turkey Capital" on the second day of the far-famed Cuero Turkey Trot.

This turkey trot had nothing to do with people

The droves were assembled through the offer of the Cuero Commercial Club of cash prizes for the largest droves.

The big prize was carried off by Egg Brothers, of Meyersville, whose big flock numbered 8,115 birds. It was started from Meyersville, 14 miles from Cuero, on Sunday, November 24th, and arrived at Cuero on Monday afternoon. It was driven in four sections approximating 2,000 each. Egg Brothers drive in an average of 10 flocks to Cuero each season, ranging in number from 900 to 2,300. These birds, with thousands of others brought in that day, were all weighed and thrown into one



White Orpingtons on Major Barnes' Farm near Ipswich.

[Copyright.]

and the sometimes-called immodest dance they indulge in, under the name of "turkey trot," but it was a performance of the birds themselves, demonstrating before throngs of people what the turkey industry means in southwest Texas.

The droves were assembled at some pains on the part of the regular dealers, who annually market large flocks in Cuero. The large drove for the occasion represented about one-eighth of the annual receipts of Cuero during a season, and the aggregate weight of the fowls that marched calmly down the streets of Cuero that day was more than 100 tons.

great drove, where they remained over night and were all ready for the celebration the next day.

When the effort was made to swing the great flock, which covered several acres of ground, into line, there was some hesitation at first, but a little corn scattered temptingly before the leaders put the line in action and the drive was made with all the ease of cattle, the other turkeys falling in behind the leaders like sheep. The sight will be remembered for many years by all who saw it, and wherever the film companies reproduce it, it will create a feeling of awe on the part of the spectators. The great sea of brown, with the streaks and dots

made by the plumage of the white, yellow and grey turkeys, with the red heads rising just above the bodies, apparently as thick as an oat patch ready for the sickle, and with the appearance of a field of poppies, mingled with the bright plumage of the turkeys and bright uniforms of the governor of the big state of Texas and his brave staff. Sometimes the mounted part of the parade would drift ahead of the divisions of the big herd, and then the modest little turkey hens would be struck by the whips of the drivers and would give a real imitation of where the turkey trot dance came from. It is an easy matter to get the hens to do this, when they can't decide which way to go, but no gobbler over six months old will do the dance before crowds. The dance consists in drooping the wings, unfolding the tail and dancing up and down, a sight all persons familiar with turkey raising have often seen about poultry yards. (In one of the pictures, a white turkey hen in the foreground is seen doing this trot.) So the parade continued for blocks, along the city streets, until the packing houses were reached, when the large force of 800 turkey pickers began the slaughter.

CUERO'S TURKEY INDUSTRY.

The killing is done in a very simple way. A sharp knife is thrust down the turkey's throat and the jugular vein severed. Never are the heads severed, as they must stay on the body to prove to the northern buyer that the turkey was in good health when he met his fate. An ordinary tin can is fastened securely over the head, which catches the blood and prevents it from mussing up the floor of the packing houses. While the turkey is yet in his death struggles, the negro pickers get busy, and by the time his struggles are over he is entirely stripped of plumage. The negroes sometimes pick in squads, dividing the day's profits equally; others pick by partnerships, two negroes working together and dividing the receipts; but the expert negro turkey picker works alone, and his earnings from a day's work at 5c. a turkey will run up as high as \$4. With men, women and children picking, the average daily earning is \$1.25. A turkey-picking bunch of negroes will give a more correct idea of the slavery times than anything else, as they work without restraint, giving full freedom to the negro characteristics, such as loud laughter, boisterous talking, and the singing of the old plantation negro melodies, which are just musical without any sense to the wording.

After being stripped of plumage, the dressing of the turkeys is complete. They are allowed to remain in the open until the animal heat leaves the body and then they are put into cold storage and frozen for shipment in car lots to the north, where they form the basis of Thanksgiving and Christmas dinners for the middle west, the north and the east.

Seven or eight years ago there was no market here for turkeys, and there was no turkey industry. A few were permitted to raise themselves on the

farms adjacent to Cuero, but the farmer did not care to raise many more than his family could consume. When such was the case, however, he would bring a few to town, and peddle them out at 50c. for a gobbler and 25c. for a hen. Oftentimes he would go to many houses before disposing of his offerings, and sometimes he would have to cut his prices before he could find a purchaser. Many times a farmer with a few turkeys left would give them away rather than take them home with him. In those days there was no thought of the development of a market here where all the fowls that could be raised would find a ready and highly profitable sale.

The business was given its first impetus by the establishment of a cold storage and packing plant at Houston about eight years ago. Houston was made the concentration point for the state, buyers were stationed at different points and the turkeys were shipped to that city, where they were slaughtered and put on cars for the northern and eastern markets. But Houston was too far from the centre of the turkey raising section of the state, the transportation charges were too heavy to make the industry a profitable one—that is, in the matter of shipping them on foot to the point of slaughter. It was soon learned that the slaughtering houses and cold storage plants must needs be located nearer the seat of production, so plants were opened in Cuero and the farmers turned their attention to turkey raising, with the result that this city has become known over the world as the turkey centre of the United States.

When the slaughtering and cold storage plants were first opened in Cuero the birds were selling for about 3c. a pound; to-day they bring on an average 10c. a pound, and there is a constant demand here from about the first of November, when the slaughtering plants are ready for operation, to the last of January, and during that time the plants in this city—there are two of them—are in operation 24 hours a day; buyers are sent out to near-by towns and communities, where the turkeys are bought and expressed in to the Cuero plants where they are dressed and put in cold storage and then forwarded in car load lots to the northern and eastern markets. This year Cuero turkeys will be feasted upon in the homes of the people of New York, Philadelphia, Boston and San Francisco, carload lots having been shipped to those points.

Here are some figures that form the meat of the Cuero turkey industry—the predication of Cuero's fame; they give the readers something to conjure with and are interesting as well as instructive.

Last year there were shipped out of Cuero 32 cars of turkeys—dressed and frozen, each containing an average of 2,200 turkeys, totalling 22,000 pounds; or, in other words, last year alone there were shipped from this point 70,400 turkeys, making an aggregate of 704,000 pounds, slaughtered and

prepared for market by two dressing plants located in Cuero.

Now here is where the producer comes in: Of the 70,400 fowls marketed in Cuero last year the average weight per head was 11 pounds; the price paid per pound for the birds on foot averaged 10c., the money paid for turkeys here during the season approximating \$71,440.

This year the industry will assume even greater proportions, 27 cars having already been shipped (December 10th) from Cuero, and the total number expected to reach at least 40 cars before the season closes.

The business here is in the hands of the Cuero Packing Company, of which A. D. Edson, of Philadelphia, is president, and the Cuero Turkey Dressing Plant, of which Emil Leonardt is president and active manager. The two plants do about an equal business, one shipping 17 and the other 15 cars last season. The business men of Cuero buy turkeys from their patrons and sell to these plants, and the plants also buy direct from the farmers and from the numerous country merchants in the Cuero territory.

Aside from the profit in handling the turkeys, there is nice money in the sale of feathers. Cuero offers a most inviting field for the establishment of a feather industry, as, in addition to the turkeys handled at this place, Yoakum and Yorktown, both in this county, and within 15 miles of Cuero, ship 12 to 15 cars each of dressed turkeys.

In addition to being a great turkey country, the Cuero country is especially adapted to the production of other poultry, and eggs. The short, warm winters, making it possible for the raising of green feed, make egg production large throughout the year. Then, being close to Houston and San Antonio, we find a ready market for our surplus, and when these cities are supplied our two trunk railroad lines and our cold storage plants make it possible for us to ship refrigerator cars to New York or other sections of the country. Poultry raising in almost every case is a side line on the farms of the county and is considered practically all profit, the hens laying, sitting and brooding their chickens to the marketing age from the waste products left from feeding horses, cattle and hogs. With green range and the grain that would otherwise go to waste, biddy finds a high living for her family and the poultry is plump and fat when the demand for fryers comes.

While the poultry industry seems to have assumed large proportions here, it is really only in its infancy, and the eyes of the world are being opened to the great profits to be derived from the industry in the Gulf Coast country, where conditions are favourable and disease is hardly known.—[*The Egg Reporter.*]

THE VALUE OF THE MIDDLEMAN.

Under our present conditions, and by the general methods of marketing, undoubtedly the services of the middleman cannot be easily dispensed with. He is the connecting link between the producer and the consumer, and until a more perfect system of direct communication between buyer and seller is attained this link must exist. There are many products that can wait for practically any length of time within reason, without losing either in quality or in price; as a matter of fact a rising market may be awaited. The owner of an article of commerce can pick and choose his customer, and select his own time of delivery and be quite independent of a middleman or intermediary.

With eggs, or any other perishable product, the case is entirely different, and if a speedy outlet is not secured direct, the middleman steps in and saves the situation. Of course, as in every other business, there are good and bad individuals; there are middlemen and middlemen; many of them deal in a most straightforward and honest manner, while others, in certain districts, having a monopoly, unscrupulously take full advantage of the fact that there are few competitors and thus offer ridiculous prices, which the unfortunate seller has no option but to accept. Such methods of dealing are, however, now few and far between; since poultry keeping is becoming such an important item on the farm that the disposal of eggs receives more attention, and the producer is not so easily beguiled into parting with his wares for whatever price the middleman cares to offer.

There are many districts in England where co-operative methods are adopted, and organised systems of collection are doing excellent work. There are also hundreds of poultry keepers who have a direct outlet by means of private trade, while there are others who take their eggs to the open market and dispose of them to retail customers. To such producers nothing further is necessary. It is in districts,—and they are very numerous,—where there is no system of organisation, and no combination among poultry keepers, many of whom are long distances from a railway station, or a market town, that the middleman renders inestimable service. Were it not for his intervention it is more than probable that the means of transport of eggs to market—and frequently back again—would be the village carrier. Were he to act as middleman by purchasing the eggs outright from the producer, and disposing of them to the best advantage to himself, he would very soon realise that to secure an advantage the eggs must be in the consumers' hands as soon as possible after they are laid, and while they still possess the bloom of freshness. Instead of adopting this plan, the carrier merely acts as carrier by taking the eggs to market, for which a small charge is made, whether they are sold or not. If the price were not as high as that at which he was instructed to sell them, he has no compunction about their return, since when they

POULTRY KEEPING AS A HOBBY.

By FRED W. PARTON, (The University, Leeds.)



HERE are very few people who have not some sort of hobby or recreation, some other interest, as it were, apart from their daily occupation. This does not only apply to one class of the community, but rich and poor alike indulge in recreation of one kind or another. The keeping of live stock, and poultry especially, appeals to large numbers of town and suburban dwellers, and for the man whose occupation is of a sedentary nature, and whose days are spent in the close atmosphere of office, shop, or factory, what more healthy and interesting hobby could there be than that of keeping a few fowls? He is getting exercise out in the open air, there is the pleasure of watching the gradual improvement of his charges, to say nothing of the delight of providing fresh eggs for his breakfast table. This hobby is within the reach of all who have the fortune to possess a garden, or can rent a plot of land in close proximity to his house. No great amount of knowledge in poultry matters need be

never enter into the calculations of the man who has extensive space. The latter may keep any breed for which he has a preference, whereas the former—although he has a large number of breeds from which to choose—cannot, or ought not, to keep certain varieties. Undoubtedly the birds that are likely to give the greatest pleasure to the owner who has only a very small amount of land are bantams. There is indeed not much pleasure or satisfaction in keeping fowls that are compelled to exist under conditions that make their lives a burden. Bantams will thrive and be perfectly contented and happy in a house and run that would be quite inadequate for one-fourth the number of their larger brethren.

Therefore, the man who has limited space is wise in his choice when selecting bantams, since these lilliputians are excellently adapted for such conditions. As a matter of fact they do very much better when so kept, as they grow large and coarse—and lose that fineness so dear to the fancier's



A View on Hill Crest Poultry Farm, Duncans, Vancouver Island, Canada.

400 birds are kept to the acre, all in one large house with alternate yards. 900 birds are shewn in the photograph.

[Photo by S. G. Hanson, the old Down, Basingstoke].

acquired before undertaking the work on the small scale which, of necessity, the townsman's operations must be. There are, however, several fundamental principles that should be understood if the hobby has to yield all the pleasure that it is possible to get from it.

It must be remembered by the poultry-keeper who has only a very limited run, that he has restrictions and other matters to consider that need

heart—when given too much liberty, which is fatal to the rearing of the best specimens of these birds. The popularity of bantams is largely due to their being taken up by such vast numbers of fanciers and hobbyists who have not sufficient room to do justice to bigger breeds. The dimensions of the house need not be larger than $3\frac{1}{2}$ to 4ft. square, and 3ft. high to accommodate half a dozen bantams. A covered run, say, 6ft. long and $3\frac{1}{2}$ to 4ft. wide—the

same width as the house—will answer the purpose admirably. This, however, is the smallest amount of space that should be given, and more if circumstances will allow.

When it is intended to keep one or other of the larger breeds there are plenty from which to choose, since practically any breed may be kept except Indian Games and Dorkings, and others of the purely table varieties. Preference may be given to such breeds as Plymouth Rocks, Wyandottes, Orpingtons, and those of similar type. We must not, however, omit to mention that the non-sitting breeds will also give satisfactory results in a restricted area, although not perhaps quite so good as the less energetic breeds already mentioned.

Whatever be the breed that is kept in confinement, whether bantams or the larger type, everything must be done that is possible to keep them in health, and sanitation must be rigidly observed. It is quite a mistaken idea to imagine that plenty of space and liberty are the only means by which a clean bill of health can be maintained. It is the management, and not the area—up to a certain point—that is responsible for health. In this connection exercise, a regular supply of green food, and cleanliness, all play very important parts. There is really only one way of securing the former of these three essentials, and that is, encouraging their natural propensity for scratching, by throwing their corn among litter, but it is absolutely imperative that the litter be kept dry. The way to ensure this is by having a covered run. The advantages of this cannot be overestimated, and it is difficult to see how fowls can be kept healthily and profitably—I say profitably, since those who keep poultry purely as a hobby, usually have the main chance in view—in an open run that is very small, and where no other run is available. The corn may be thrown among the litter when it is peat moss, chopped straw, chaff, or withered leaves, but when sand or dried earth is used, the corn should be spaded in. Of course, it is only hard food that can be supplied in this way. The morning mash should be very stiffly mixed and fed to them in a trough, raised on a sort of platform six or seven inches above the litter; otherwise, after a very few minutes it would be difficult to distinguish litter from mash. Water and grit should be given respectively in a hanging fountain, and a box hanging to the wall of the shed. Dry bran is excellent for fowls that are kept under these cramped conditions, and may also be supplied in a box (a constant supply always within reach) attached to the wall. Green food must be plentiful, since it is easy of digestion and is an important factor in the maintenance of health.

Overcrowding must be studiously avoided by every poultry keeper, whether his premises consists of several acres of land, a garden plot, or a back yard. If under the latter conditions, say four laying hens could be kept, to attempt to keep six or eight would be fatal to success, and exactly the same holds good with the larger operation of the man who owns several acres of land.

POULTRY COOKERY.

CHICKEN SOUPS AND PUREES.

Taking it for granted that a good supply of white stock is on hand, made from the bones and all odd pieces left over from birds which have been utilised in various ways for table purposes, the making of the following soups and purees is, comparatively speaking, a very simple matter, and in households where even a moderate quantity of poultry is used there is no reason whatever why a large bowl of this most valuable item should not always be available.

SOUP No. 1: Put five pints of stock into a stewpan with some roughly chopped flavouring vegetables and a bunch of savoury herbs, and after boiling point has been reached simmer gently and steadily for half an hour; then strain the soup carefully into another stewpan, add more seasoning if required, four ounces of bread-crumbs which have been soaked in milk, or white stock, until fully swollen out, and two or three ounces of lean cooked ham or bacon cut in small dice, or julienne strips, and bring gently to the boil; add just at the last a pint of cream which has been made quite hot, stir for a minute or two longer, then serve in a well-heated tureen accompanied by toasted dice neatly arranged on a small hot dish paper. *Note:* If cream is not available or is considered rather too expensive, some fresh egg yolks beaten up with a small quantity of milk can be used instead but, of course, in that case the soup will not be quite so rich.

No. 2: Cook in the usual way some carrots and turnips, French beans, a large sound cauliflower, a small head of fresh crisp celery, a medium sized Spanish onion, a small firm cucumber and some green peas; then when well drained, cut the carrots and turnips into small dice, the French beans into lozenge shapes, the onion and celery into short fine shreds, and the cucumber into rather thick quarter slices, the green peas being kept unbroken and the cauliflower divided into very small neat sprigs. Put all these items into a stewpan with the requisite quantity of clear white stock which has already been well flavoured, and bring slowly to boiling point when the soup is ready for serving.

No. 3: Cut off the red parts of a dozen large sound carrots in very thin slices and put these into a stewpan with three or four onions peeled and sliced, a little celery broken up into small pieces, a bunch of savoury herbs and two quarts of good chicken stock, and boil gently until all the flavour has been extracted from the vegetables and herbs. Have ready some rice boiled as for curry and rather highly seasoned, and place it in a hot tureen, then strain the soup over this, stir well, and serve. If a little extra expense is not objected to this soup can be rendered still more dainty and nutritious by the

addition of a small quantity of cream, or a few beaten egg yolks, but in this case the soup must not be allowed to boil after any of these items have been added.

PUREE No. 1: Put half-a-pound of fine pearl barley to soak over night in cold water, then next morning drain off the water and put the barley into a stewpan with two quarts of chicken stock and a good supply of carrots, turnips, celery, onions, &c., all properly prepared and cut up small, and a bunch of savoury herbs, and boil gently and steadily until the various items are quite soft, then remove the herbs and rub everything else through a sieve and return to the stewpan; add half-a-pint of cream, or three or four fresh egg yolks beaten up with a little milk, and two tablespoonfuls of finely chopped parsley, and stir constantly until the soup boils again when, if properly prepared, it should be of a thick creamy consistency and quite smooth.

No. 2: Thoroughly cleanse four or five heads of fresh crisp celery and cut them up into pieces about an inch long, then put them into a saucepan with a pint of good chicken stock, two ounces of fresh butter and four ounces of lean ham or bacon, and cook gently for twenty minutes, after which add two quarts more stock, more salt if required, a bunch of herbs and a pleasant flavouring of nutmeg, or mace, and boil very gently for an hour. When ready reject the bunch of herbs and pass everything else through a sieve; then return the purée to the saucepan, add a pint of cream, or the substitute already referred to, and stir until boiling point has been reached, then serve at once accompanied by small cheese croûtons neatly arranged on a hot dish paper; or, if preferred, tiny cheese balls, or a liberal grating of cheese may be added to the soup just immediately before serving, in which case plainly toasted or fried dice, or sippets of toast, nicely made and quite crisp, should be served separately.

No. 3.: Cut in slices three or four large freshly-cut cucumbers then spread them out on a large flat dish, sprinkle lightly with salt, and set them aside for an hour or two, after which drain off the liquid and put the cucumbers into a saucepan with a large breakfast cupful of finely chopped onion and a sprinkling of salt and pepper and fry for a few minutes over a moderate fire, using as little fat as possible for the purpose. When this has been done add two quarts of chicken stock and boil gently until the vegetables are quite soft, then pass the whole through a sieve and return to the saucepan; add sufficient ground rice or arrowroot mixed to a smooth paste with a little cold stock, or water, to bring it to the desired consistency and continue to boil gently for twenty minutes, then draw the pan on one side, stir in the yolks of three or four fresh eggs beaten up in a little cold stock or milk, and when thoroughly hot without reaching boiling point again, add a good sprinkling of finely chopped parsley, and serve in a well heated tureen.

SUSSEX GROUND OATS.

By S. G. R.

IT is surprising that a food which is extensively used around the great chicken fattening centres of South-Eastern England should be but a name to so many poultry-keepers in other parts, even if it is not quite unknown, or confused with "oatmeal." A few words on the genuine "Sussex ground oats" may therefore prove of interest to some readers.

It may be said at the outset that the great distinction between this food and oatmeal lies in the fact that the latter is the kernel only of the oat, ground into meal; whereas the former consists of the whole oat, husk and all, ground into a fine, smooth powder between specially dressed stones, "set very low," in millers' parlance—*i.e.*, close together. Inferior grades generally contain considerable admixtures, more or less, of other meals, and may be bought fairly cheaply. But even the "pure" Sussex ground oats of the best quality, costing about £10 per ton, contain a little barley meal, not for purposes of adulteration, but simply because the great dryness of the barley assists the perfect grinding of the oats. The usual proportion is one sack of the former to eight of the latter. The oats principally employed are carefully selected Russian oats, which are naturally drier than those grown in Britain, and are therefore more suitable for very fine grinding.

Many millers in Sussex and Kent make a speciality of grinding these oats, and employ men entirely for this work. Considerable skill is required to properly "dress" the stones for the purpose, and the art is often handed down from father to son. It is costly also, as one pair of stones takes two days to finish, and they will only grind thirty to forty sacks of oats without redressing. The actual operation of grinding is, perforce, very slow, the output being only about four bushels per hour, and 10-12-h.p. is required to drive a single pair of stones.

Those who wish to produce the finest fatted table-poultry find that it undoubtedly pays to use the genuine Sussex ground oats, even if they have to pay the carriage from Sussex or Kent, which would average, roughly, 2s. per cwt., and less for a larger quantity. It does not pay, however, to purchase inferior ground oats from these counties, as they are either poor in quality or contain an admixture of other meals, on which carriage will then have to be paid—obviously a useless waste of money. It is better, if a mixture be required (and for a second-class trade this is more profitable than using the pure article), to purchase a smaller quantity of the pure Sussex ground oats and then to mix with this what other meals may be desired.

A very useful mixture for fattening poultry would be one consisting of half ground oats and half barley meal; a cheaper, but inferior, one is: one part ground oats, one part barley meal, one part maize meal.

Pure Sussex ground oats can always be recognised by their appearance, taste, and smell; also by handling them. In appearance they are somewhat similar to barley meal, but in the best qualities the meal is of one fineness throughout, without any of the little bits of husk characteristic of barley meal. The taste is an almost infallible guide, and should closely resemble that of oatmeal, a clean, "nutty" flavour; the smell is also like that of oatmeal. When handled, Sussex ground oats have a distinctive "silky" feeling, and if a small quantity be crushed up in the hand it adheres together slightly.

Sussex ground oats, besides producing the finest quality flesh on fattening fowls, are also a splendid food for rearing chickens on, as the finely-ground husks can be assimilated, and help to build up a strong and well-developed frame; while the kernel of the oat is, of course, one of the most nourishing of foods, and, containing a high percentage of albuminoids, is particularly suitable for growing stock of all classes.

"Entered the Ministry."

Senator Gore attended a recent Methodist convention at St. Joseph, and when addressing the delegates told the following story:

"Once there was an accomplished hen with a brood of chickens—five roosters and five pullets—down in Oklahoma. The chickens matured and went their various ways, while the mother hen busied herself with a new brood.

"In the course of time Methodists came into the vicinity of 'Chickenville' to hold a conference, and, as might be expected, the five young roosters—fat, yellow-legged and tender—were feasted upon by various and sundry preachers. The young pullets, left behind, were met by the mother hen a day or two later.

"'My children,' she asked, 'where are your brothers?'



A Large Laying House on an American Egg Farm.

[Copyright.]

What numbers may do.

"We have encountered a good deal of resentment," says the *New Zealand Poultry Journal*, "because of our warning notes, but we still think there is a sense of greed prevailing amongst poultrymen. We like to see a good layer, and know what hens can do, but we can see nothing but a whole crop of penalties in front of us, if we continue the mad chase for numbers."

"'They have entered the ministry.'"

"Bracing herself from the shock of disclosure, a look of resignation spread over bidd's countenance as she replied:

"'Well, my dears, perhaps it is all for the best. They would not have made very good lay members, anyway.'"

POULTRY-KEEPING FOR FARMERS.

Room for Expansion in the Industry.



POULTRY-KEEPING as a department of farming was the subject of an address by Mr. William Bruce, of the Edinburgh and East of Scotland College of Agriculture, to the members of the Galashiels Farmers' Clubs at their meeting this week. The lecturer, who was fully reported in the *Scotsman*, said he did not feel called upon to deal with the often repeated question, "Does poultry farming pay?" He would endeavour to look at the subject from a farmer's point of view, and as one who had experience particularly in poultry keeping on the farm for the production of eggs. This branch, he thought, was best suited to the circumstances, time, and skill of the ordinary farmer. Although recent years had witnessed a great development in the poultry industry; and organisation and increased attention to it in all directions had resulted in greatly increased production and better marketing of the products, yet there was no evidence of over-production. During the last few years there had been a well-marked increase in prices, and eggs and poultry had been dearer during the past two years than they had ever been before. Indeed there was great room for expansion in the industry. From his own experience, and also from that of others, he was quite prepared to combat the dictum that "all hens die bankrupt," although he would not dispute that it might be true of not a few as kept at the present time. The performance of the ordinary farmyard fowl no doubt, in many cases, would not appeal to the farmer, but neither did the dairy cow whose yield of milk was limited to 400 or 500 gallons. Neither of these units furnished one with any idea of the returns from well-managed poultry-keeping or dairy-farming. Recent investigation had provided sufficient evidence to show that well selected and properly managed fowls might be expected to produce, at least, twelve dozen eggs per annum, and also that a hen might be kept at a cost of about 6s. per annum for food. The amount of profit would depend essentially on the number of eggs produced in the season when they brought a good price. With intelligent management in this direction, the poultry department on a farm could be made to yield profits proportionately larger than those usually obtained from any other branch of farming.

CHIEF POINTS FOR CONSIDERATION.

The chief points to which attention should be directed was to secure a good strain of some breed that was suited to the locality. Having got this, breed from the best only. Success could only be expected by pursuing the methods adopted in breeding the larger animals of the farm. But for winter eggs the right kind of fowl was only one

factor. To get eggs in winter, hatching must be vigorously prosecuted in March and April; then the chickens must be kept growing and healthy. The pullets required comfortable quarters in winter, and in many cases in our climate would be much more profitable industriously working for their living in a properly kept scratching shed. There was much truth in the old adage that if they wished hens to lay they should keep their feet dry. During the last two winters he had known of fowls that were kept scratching among moss litter in an old byre without being out for six months; they produced over five eggs per head per week. They were, of course, working under high pressure, but after that performance they could depart this life feeling that in return for high living they had done their duty. Farmers had special opportunities for keeping poultry profitably during spring and summer. The ideal system of housing during the greater part of the year was that known as the colony system. A well-known authority held that fifteen hens per acre might be kept on grass land without displacing any other kind of stock. The arable farmer had his tillage fields, which could be greatly benefited by a run of the hens till the crops were put in, and even in some cases after they were in the damage was more apparent than real. Again, in harvest and the back-end of the year fowls could get a great part of their food for nothing (for weeks on an arable farm) and besides get into fine condition for a hard winter's work in closer quarters. On a farm cropped up to the doors one thing was absolutely necessary, and that was proper and properly kept quarters, for hens did not require expensive housing. Sanitary housing, sufficient room, and shelter were really all that were necessary, and it was wonderful how much of this could be erected by a handy man at little expense if set about on the right lines. An important point in planning such premises was to provide proper facility for attending to the stock and keeping the quarters sweet and clean with a minimum amount of labour. The necessity of organising so as to make all farm work as light and agreeable as possible was never more imperative than at the present time. The very existence of successful farming in this country was, he thought, closely related to this. Another point of great importance in egg production was to systematically keep the fowls young. A fowl more than 2½ years should be a *rara avis* among farmyard poultry. Food was another very important factor. Feeding of fowls was worth as much consideration as the feeding of bullocks, and in its own way was very much more profitable. The principles of feeding poultry were very similar to those of feeding dairy cows. Get the right kind of food, and keep an eye on their comfort and health.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDING JULY 19, 1913.

ENGLISH POULTRY—LONDON MARKETS.					FOREIGN POULTRY—LONDON MARKETS.									
DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.		COUNTRIES OF ORIGIN.	CHICKENS. Each.	DUCKS. Each.	DUCKINGS. Each.	GEESE. Per lb.	TURKEYS. Per lb.
	Each	Each	Each	Each	Each	Each	Each	Each						
Surrey Chickens	3/6 to 4/6	3/3 to 4/0	3/0 to 4/0	2/9 to 4/0	Russia	10d. lb.	—	—	—	—	—	—	—	—
Sussex	3/6 " 4/6	3/3 " 4/0	3/0 " 4/0	2/9 " 4/6	Belgium	—	—	—	—	—	—	—	—	—
Boston	2/0 " 3/3	2/0 " 3/6	2/0 " 3/3	1/9 " 3/0	France	—	—	—	—	—	—	—	—	—
Essex	2/3 " 3/6	2/0 " 3/6	2/0 " 3/3	1/9 " 3/3	United States of America	11d. lb.	—	—	—	—	—	—	—	—
Capons	5/0 " 6/0	5/0 " 6/0	5/0 " 6/0	5/0 " 5/6	Austria	—	—	—	—	—	—	—	—	—
Irish Chickens	2/0 " 3/3	2/0 " 3/0	2/0 " 3/0	1/6 " 3/0	Canada	—	—	—	—	—	—	—	—	—
Live Hens	1/9 " 3/0	1/9 " 3/0	1/6 " 2/9	1/6 " 2/6	Australia	—	—	—	—	—	—	—	—	—
Aylesbury Ducklings	3/0 " 4/0	3/0 " 4/0	2/6 " 3/6	2/6 " 3/6										
Ducks	2/6 " 3/6	2/9 " 3/6	2/9 " 3/0	2/9 " 3/0										
Geese	5/0 " 6/6	5/0 " 6/0	5/0 " 6/0	5/0 " 6/6										
Turkeys, English	—	—	—	—										
Guinea Fowls	—	—	—	—										

ENGLISH GAME—LONDON MARKETS.					FOREIGN GAME.						
DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.		COUNTRIES OF ORIGIN.	PRICE EACH DURING MONTH.	DECLARED VALUES.
	Each.	Each.	Each.	Each.	Each.	Each.	Each.	Each.			
Grouse	—	—	—	—	—	—	—	—	Russia	1/2	Poultry. £469
Partridges	—	—	—	—	—	—	—	—	France	1/3 to 2/0	£3,399
Pheasants	—	—	—	—	—	—	—	—	Austria-Hungary	1/0 to 1/4	£210
Black Game.	—	—	—	—	—	—	—	—	United States of America	—	£4,175
Hares	—	—	—	—	—	—	—	—	Other Countries	—	£8,253
Rabbits, Tame	1/0 " 2/0	1/0 " 2/0	1/0 " 1/9	1/0 " 1/6					Totals	—	£155
" Wild	—	—	—	—							
Pigeons, Tame	—	—	—	—							
" Wild	—	—	—	—							
Wild Duck	—	—	—	—							
Ptarmigan	1/2	1/2	1/2	1/2							
Sand Grouse	1/9	1/9	1/9	1/9							
Hazel Hens	1/0	1/0	1/0	1/0							

ENGLISH EGGS (Guaranteed New-Laid).					IRISH EGGS.					FOREIGN EGGS.										
MARKETS.	Per 120.		Per 120.		Per 120.		Per 120.		DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.		COUNTRIES OF ORIGIN.	QUANTITIES IN Gt. HUND.	DECLARED VALUES.
	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.		Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.	Per 120.			
LONDON	9/6 to 10/0	9/6 to 10/6	9/6 to 10/6	9/6 to 10/6	Irish Eggs	8/9 to 10/3	8/9 to 10/3	9/0 to 10/3	9/6 to 11/0	Russia	1,339,353	£478,188								
Provinces.	Eggs per dozen.	Eggs per dozen.	Eggs per dozen.	Eggs per dozen.	French	8/9 " 10/3	8/9 " 10/3	9/0 " 10/3	9/6 " 11/0	Denmark	309,264	£135,240								
CARLISLE	1/0	1/0	1/0	1/0	Danish	8/9 " 10/3	8/9 " 10/3	9/0 " 10/3	9/6 " 11/0	Germany	9,348	£3,618								
BRISTOL	1/11	1/0	1/0	1/0	Italian	8/6 " 10/0	8/6 " 10/0	9/0 " 10/0	9/3 " 10/3	Netherlands	84,708	£38,610								
					Austrian	6/9 " 8/0	6/9 " 8/0	6/9 " 8/0	7/0 " 8/3	France	66,038	£28,955								
					Russian	6/9 " 8/3	6/9 " 8/3	6/9 " 8/3	7/0 " 8/6	Italy	68,400	£29,409								
										Aust.-Hungary	19,704	£7,460								
										Other countries	65,463	£23,461								
										Totals	1,962,278	£744,941								

WANT OF METHOD IN MARKETING.

One of the worst features of farm poultry keeping was the want of method in marketing, not only of the eggs but of surplus stock. To keep poultry profitably required a heavy annual and timely renewal, which meant a double draft of surplus stock. Nature so arranged matters in the poultry yard that those with matronly instincts were, as in other realms, frequently outnumbered, and the males had to be got rid of. Timely hatched and pushed on by generous feeding in separate quarters as soon as their sex betrayed them, the cockerels would in most cases bring more between 3 and 4 months old than they did at the Christmas sales when more than double this age. He did not know what the butchers would think if they were to send them sheep or cattle without any preparation, but this was what was commonly done with farm poultry. In conclusion, Mr. Bruce suggested that a happy means of dealing with the farm poultry in many cases would be to place them specially in charge of some member of the farmer's family, who in the first instance had had a course of instruction on the subject. Poultry seldom did much good unless someone was made responsible for them, and a strict account of the direct expenditure and produce should be made. This tended to keep the business on right lines. Poultry keeping on the farm should, under present conditions, be able to hold its own with any other branch, and if it did not, one should find out the reason why. Assistance had now been brought within the reach of everyone, and it was the farmer's loss if he did not make use of it.

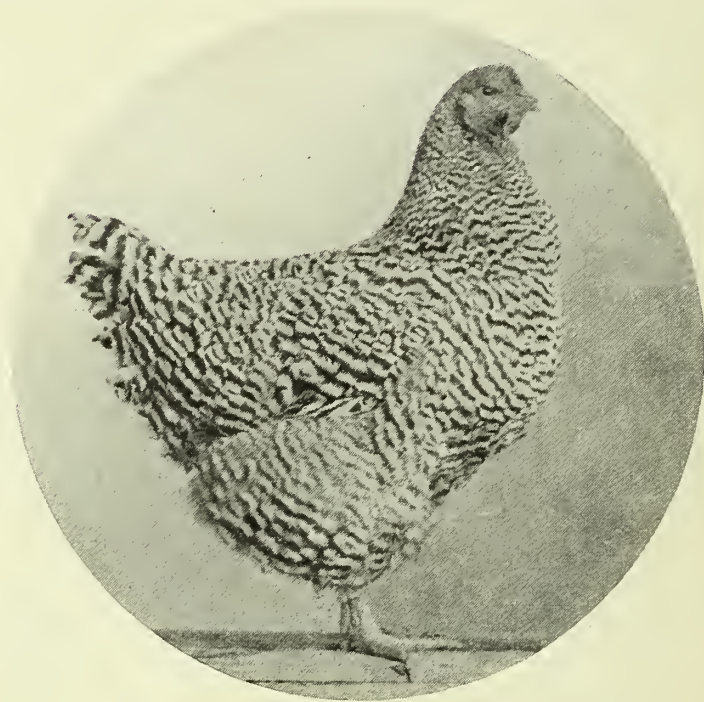
SOME EXPERIENCES OF A TOWN POULTRY-KEEPER.

CONFESSION, we are told, is good for the soul. Let me say at once that my confession is made in the hope that it may be of service to others, that they may profit by my mistakes. For there is no greater truism than that we learn by our failures, and assuredly this applies to the amateur poultry-keeper more than to anyone else. In the first blush of the hobby we scorn good advice. As to young people, it seems that all that is necessary to start a home is a man and wife, so to the amateur poultry-keeper does it seem that all that is required to procure eggs is a few fowls. It is self-evident that this is a very rash view. Nevertheless I have found fowls kept in all manner of unsuitable places, from a rabbit-hutch in a bedroom to a corner of a cellar. When one finds fowls kept in a cellar one cannot help slyly wondering whether the owner is trying to procure a set of new coloured eggs; but that by the way. I won't insult the intelligence of my readers by enlarging on the unsuitability of both places.

But it is undeniable that the difficulties which confront the would-be poultry-keeper in a large town are no light ones, and it is for this reason

that I think a brief account of my own trials will be acceptable. It is so often urged that poultry cannot be made to pay unless they are kept in the country. I cannot agree with the contention. Observe common-sense rules, profit by the experience of others, and fowls in a town garden more than pay their way, besides providing a delightful hobby.

To come to my own experience; like most others, I took up poultry-keeping to save money and to derive pleasure. Eggs had always seemed dear in town, and the supply obtainable very seldom ministered to the weakness I freely admit I have for the rich dark variety. But if I wanted rich dark eggs, what easier than to get a farmer, at a little cost, to allow me to have the pick of his basket, place them under a hen, and hatch out chicks which would eventually supply me with the class of eggs I desired. The idea was too good to miss. To cut the story short, I hatched five out of twelve eggs. Two of the chicks turned out to be cockerels, and there was not a pure-bred in the quintette.



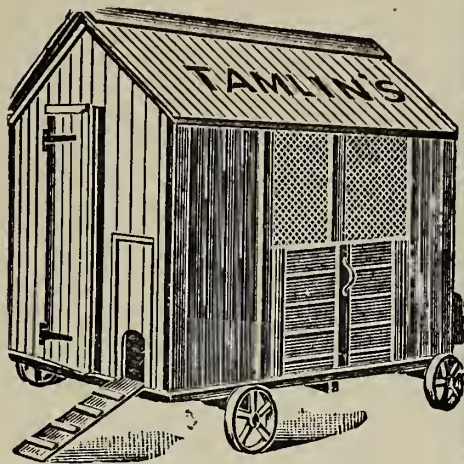
A Plymouth Rock hen. (Copyright.)

I was not discouraged, however, and when at length a brown egg came there was a great rejoicing in the camp.

Following the advice of a friend, I had just before bought a couple of Buff Orpingtons and two Buff Plymouth Rocks. They cost me 10s. a pair, and let me at once say that it was a very wise speculation. They gave splendid returns, and helped considerably to pay back the expense I had been put to; whilst my mongrels, although laying splendid eggs, could not be considered as wholly satisfactory from a profit-making point of view.

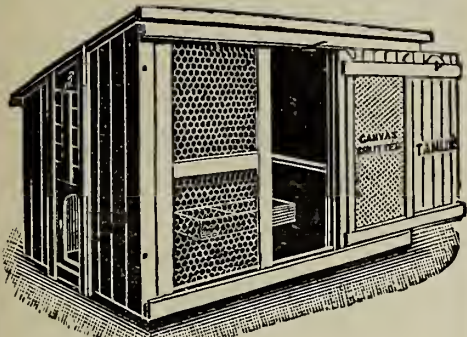
I have never been able to give my fowls very much exercise. Grass fields have been an unknown luxury, but I have, as often as possible, given them some loose grass. They have had a covered run, plenty of scratching exercise, a breakfast of pollard

THE "SURBITON"



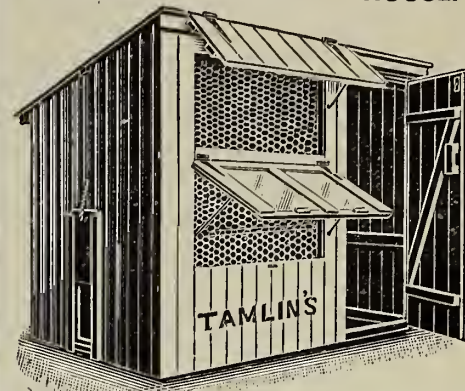
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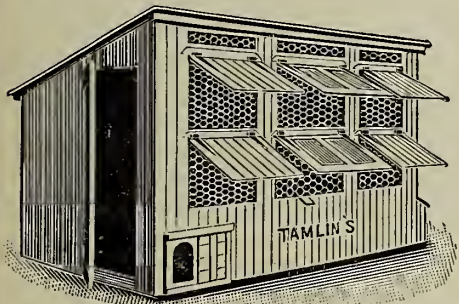
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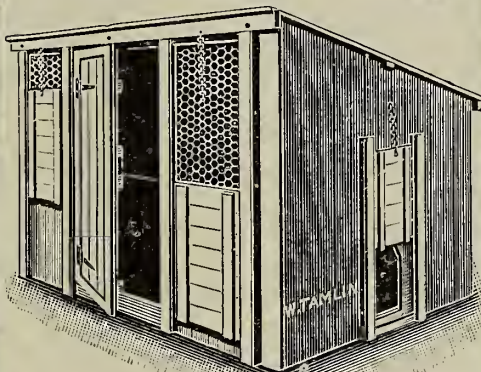
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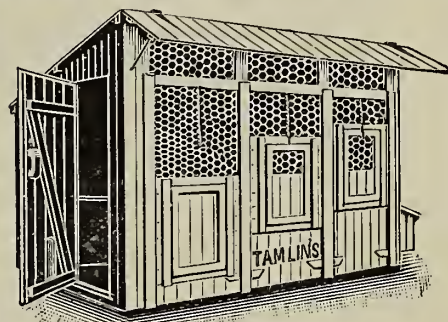
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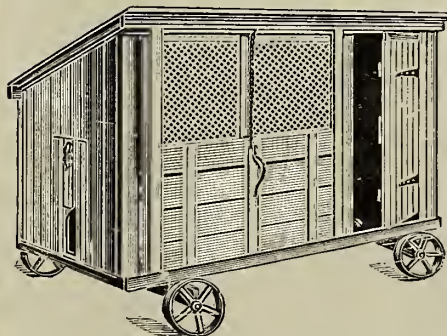
POULTRY HOUSE & SCRATCHING SHED.
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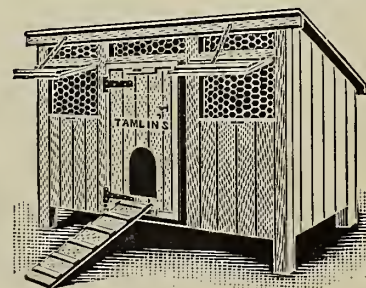
Fitted with dropping board. Size, 6ft. long, 4ft. wide, 3ft. 6in. high, carriage paid, **22/6**.

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 Without wheels and floor, Price, No. 1, **34/6**;
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mixed, as often as possible, with water in which the household meat had been boiled; a midday meal of mixed corn given at the rate of a handful to each fowl, a good supply of clean water, and a box of grit nailed up to the side of the run. I have not used trap-nests. For nests I get an orange box of three compartments (price 3d). This provides three nests. A little clean straw and a pot egg is all the encouragement I give, and all, so far as my experience goes to show, that is necessary.

The nett result of my observations during a year was this: The town poultry-keeper should aim above everything else at getting winter eggs. Here he has an advantage over his country competitor from the fact that the town yard is more sheltered, and the scraps from the house (which are very effective as egg-producers at this season) can be doled out with a more lavish hand to each hen, as they are fewer in number. It is in winter, when eggs are six for a shilling, that one realises the profit of wise poultry-keeping; it is in summer that one derives the pleasure. Combine the two, take the one with the other, and keep an eye to profit, and you will find it difficult to meet with a more lucrative or satisfactory hobby.

HINTS TO PRODUCERS OF EGGS IN NORTH WALES.

(Published by the North Wales Section of the Agricultural Organisation Society, in conjunction with the National Poultry Organisation Society).

1. The North Wales eggs have been hitherto notoriously unreliable, owing to unsatisfactory methods followed by producers and a bad system of marketing. As a consequence, traders have refused to deal with them except as cookers, and prices compared unfavourably with those obtained in other districts. An opportunity is now afforded of placing the business on a better footing, and of increasing the returns obtained.

2. The object of the North Wales Section of the Agricultural Organisation Society is, by the establishment of Collecting Depots on a Co-operative basis, to obtain for producers the highest possible price, which however, can only be realised by improvement of quality, by securing more rapid collection and marketing, by careful selection and grading, and by increasing the quantity, more especially during the winter months.

3. Eggs are a highly perishable product, rapidly losing their quality, and decrease in value every day after they are laid. The object should be to sell them so that they may reach the consumer when in the best condition.

4. Appearance counts for much. Dirty eggs, washed eggs and small eggs should be eaten at home. They depreciate the value of any consignment. Hens laying small eggs should be got rid of. Dirty eggs are the fault of the owner, not that of the hen.

5. A "new laid egg" is one not more than three days old. These have a value of their own on our markets, commanding twenty per cent. more than even good eggs three or four days older. There is practically no competition from abroad in these eggs, which must be produced within a reasonable radius of the point of consumption. If eggs are marketed in good condition and of the right size within forty-eight hours of being laid this additional price can be secured. Neglect to do so means loss of extra profit. The best markets want new laid eggs. North Wales can supply them.

6. Traders like a fair proportion of brown eggs, which help to sell the others; hens that lay these are usually

the better winter layers. Then the prices are highest. A hen that lays in winter pays for three or four times the cost of her food. If not laying she has to be fed all the same. That is so much loss.

7. The value of an egg is determined by the condition in which it is when delivered to the consumer. Producers have to bear the loss arising from bad methods. The consumer never does.

8. In spring and summer eggs should be removed from the nest at least twice a day, once in cooler weather will suffice. A broody hen sitting on an egg for a few hours spoils it for the best trade. It will no longer pass the test for a new-laid egg. When taken from the nest, eggs should be kept in a cool place until sent to the depot. Eggs left in the nest during wet weather soon get dirty.

9. Producers can only obtain the best prices by attention to detail, by rapid marketing, and by co-operation. The Society's managers cannot restore lost quality.

10. What should always be kept in mind are—(a) loyalty to those who are working for the general good, (b) delivering all eggs of good quality, winter and summer, to the depot, except those consumed at home or used for hatching, and refusal to sell to anyone else no matter what prices are offered, (c) by improving and conserving the quality of eggs, as suggested above, (d) by keeping the nests and houses scrupulously clean and, therefore, securing clean-shelled eggs—a most important point, and (e) by careful storing in a cool, sweet place. Eggs are as easily contaminated as milk.

11. Depots can only obtain the best prices if they are supplied with the best eggs. Traders and consumers know the value as well as producers.

12. Eggs are tested for freshness and quality at the Depot before they are sent out. Bad eggs will be returned. It does not pay to send stale or doubtful eggs.

13. There is an unlimited demand for eggs of the best quality. These can be readily sold at good prices. Inferior eggs realise from 20 to 50 per cent. less, and compete with low grade foreign supplies.

14. Owing to increased demand in Germany and other countries supplies from abroad have fallen considerably, and are likely further to decrease. There never has been so favourable a time for the Welsh producer, if he will improve his methods and increase his output.

15. Depots work on a very small margin of profit. It is only by obtaining the best quality eggs in hundreds of thousands that success can be assured, and the best markets supplied.

16. Never leave eggs in the nests as nest eggs, but use china eggs. The Depot will supply these at cost price.

17. What has been done elsewhere can be accomplished in Wales. Enhanced returns mean greater profits and enlarged comforts. These will result from better methods.

Chickens Dead in Shell.

"Dead in shell" is the bugbear of the incubator operator. It is a common complaint with all classes of incubators, whether of the hot air or hot tank model. The lack of moisture was at one time thought to be the primary cause of this complaint, but that fallacy has been clearly demonstrated, since incubators are now manufactured without moisture tanks and appliances. There is no doubt, however, that the steady high temperature has a lot to do with it, as it must naturally have a hardening effect on the membranes and linings of the egg, thus preventing the embryo chick from pecking its way out of its shell confines. An enterprising firm has now applied for a patent for an egg-cap which is put on the air space end of the egg, to prevent the air chamber and membrane at the head of the chick from being subjected to the constant heat.—*Scotsman*.

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POULTRY CLUB.

The Monthly Meeting of the Council was held on Friday, the 11th July at 2 p.m., at the London Chamber of Commerce, Cannon Street, London, E.C.

There were present, Mr. W. Clarke in the chair, Dr. S. E. Dunkin, Capt. Ralph R. Allen, and Messrs. William Rice, Ernest E. Doughty, Harold Corrie, P. H. Bayliss, Albert Smith, W. J. Golding, J. Carlton Bunting, and T. Threlford, Hon. Sec.

Minutes of the last Meeting were read and confirmed. The following new members were duly elected:—

Recommended by the Derbyshire Branch—

Mrs. Alfred Swinglor, Smalley Hall, Derbyshire.

Recommended by the Essex Branch—

Captain W. J. Toozes, Avondale Poultry Farm, The Rise, Cold Norton.

Mr. A. P. Shave, "Runton," Harold Wood.

Recommended by the Middlesex Branch—

Mr. Hoad, Wood Lane, Stanmore.

Recommended by the Sussex Branch—

Mr. Leslie H. Bacchus, Brookfield, Ifield, Crawley.

Recommended by the Worcestershire Warwickshire and Staffordshire Branch—

Mrs. F. Seal, Berkswell, Coventry.

Mr. L. J. Baxter, Chorlton House, Pershore Road, Edgbaston.

Mrs. A. L. Mason, Marlborough Farm, Yardley.

Recommended by the Yorkshire Branch—

Mr. M. Broomhead, 11, Carr Street, Brighouse.

Mr. Herbert Garlick, Main Street, Kirkby Lonsdale.

Mr. Walter Wright, Burton, Westmoreland.

Mr. D. Griffiths, Rosemount House, Llanelly, Carmar.

The following societies were duly associated—

Ipswich and District Working Men's Poultry Club, Hon. Secretary, Mr. H. R. Makinson, 10, Kembal Street, Ipswich.

The Sicilian Buttercup Club, Hon. Secretary, Mr. W. J. Toozes, Avondale Poultry Farm, Cold Norton, Essex.

The following shows announced to be held under Club Rules were granted specials—

Merionethshire Agricultural Society, the Machynlleth Poultry and Horticultural Show, the Charlton Kings Agricultural Society, Stratton, Bude and District Fanciers' Association, and Radstock and District Fanciers' Association, St. Blazey, Berkswell and Madresfield.

Middlesex Branch. The Committee of this branch forwarded a resolution passed at a meeting held on June 5th, regretting that the Council had dropped the idea of holding a show and expressing their opinion that one should be held in London with a Committee of two members from each county branch, such members of the Committee to be responsible for organising the show amongst the members of the county appointing them.

The Committee further reported that they had gone into the dispute between Mr. Mercer and the Bush Hill Park Fanciers' Society as regards the appointment of a new Secretary to that Society, and had come to the following decision: "That the members of the Bush Hill Park Fanciers' Society acted rightly in appointing a new secretary at the Special Extraordinary Meeting that was held, but that the same should be confirmed at a General Meeting of the society."

Worcestershire, Warwickshire, and Staffordshire.—The consideration of a report from this branch was adjourned until the next meeting for further evidence.

Club Benefits.—Mr. P. H. Bayliss on behalf of the sub-committee reported that the postcards received in answer

to the scheme for extending the benefits of the club had been very favourable, and that the figures received would be of great assistance to them in drafting the scheme. However, as many replies had not been received, the sub-committee would await them before finally reporting to the Council.

Haywards Heath Show.—The two Poultry Club Challenge Trophies, the Marx Cup, and the New Members Cup were granted for competition at this show.

The next meeting of the Council will be held at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., on Friday, August 8th, at 2 p.m. All prospective members' names must reach the Hon. Secretary on or before July 31st, and if residing in a county having a branch, through the Secretary of same. T. Threlford, Hon. Secretary and Treasurer, St. Luke's Square, Victoria Docks, London, E.

TWO USEFUL BROCHURES.¹

From the office of *Poultry* we have received two handy booklets dealing respectively with "The Orpington Fowl" and "Plymouth Rocks," each of which is the work of a writer who is well able as a result of practical knowledge to deal with the breed he takes in hand. Both are nicely got up, well arranged, printed on good paper, and illustrated. In the last-named point they are less satisfactory than the others, but that may be forgiven for the quality of the text.

Mr. W. W. Broomhead gives a very clear and valuable history of the Orpington in all its varieties. So far as the two colours first introduced, the black and the buff, that has often been recounted, but it is of deep and perennial interest as indicative of the evolution of which is probably our most popular breed. So far as the other and more recent varieties we do not remember to have seen their origins described in this form so completely. Nothing can better show the skill of fanciers than what is here stated, for which reason this little book should find a large circle of readers. Whilst the main study relates to the exhibition aspect of breeding the practical or utility value is not forgotten, though the contribution in that direction to the wide-spread favour of Buff and White Orpingtons is scarcely recognised to the extent it deserves.

The work relating to Plymouth Rocks, by Mr. Fleming, deals mainly with its exhibition values, although the success of Buffs in recent laying competitions is naturally claimed as an asset. Attention is specially called to the differences between English and American types of the Barred variety, which raises questions of considerable moment. It is of interest to note that the author prefers single to double mating, which latter is a barrier to many ordinary poultry keepers, tending to limitation of breeding to a comparatively few who are well-to-do in this world's goods. On the historical side little is said, but in the sections that concern management there are many points which cannot fail to be of use.

¹ The Orpington Fowl, by W. W. Broomhead, 122 pp., illustrated, 1s. paper cover; Plymouth Rocks, by A. A. Fleming, 72 pp., illustrated, 1s., paper cover. London: 10, Essex Street, Strand, W.C.

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RAILWAY ANNOUNCEMENTS.

The Cornish Riviera.

The Great Western Railway Company has arranged an extensive programme for August Bank Holidaymakers, at the favourite haunts of the Cornish Riviera and other places on its extensive system. Visitors can book cheap excursion tickets to such attractive holiday resorts as Bath, Bristol, Stroud valley, Gloucester, Hereford, Cheltenham, Ross, Chester, Liverpool, Taunton, Exeter, Dawlish, Teignmouth, Torquay, Paignton, Plymouth, Clevedon, Weston-super-Mare, Newbury, Devizes, Dorchester, and Weymouth.

August Bank Holiday on the Continent.

The South-Eastern and Chatham Railway Company issues special excursion tickets to Paris *via* Folkestone and Boulogne by a special service from Victoria at 2.45 p.m. on Saturday, August 2nd, also by the ordinary express services *via* Folkestone and Boulogne. They will also be available by the night mail service from Charing Cross at 9 p.m. each evening from July 31st to August 4th inclusive *via* Dover and Calais. The visitor can return from Paris at 8.25 a.m. or 3.20 p.m. *via* Boulogne or at 9.20 p.m. *via* Calais any day within fifteen days. Cheap tickets to Brussels by the Calais, Boulogne, and Ostend routes will be issued available for fifteen days. A special service will leave Charing Cross at 4.30 p.m. for Dover, Calais, Wimille-Wimereux, Boulogne, St. Cécile, and Le Touquet on Friday, August 1st. Cheap excursions are also available to Amsterdam and Scheveningen, The Hague, and other Dutch Towns. Week-end tickets are issued to all the famous south-east coast resorts.

The Great Eastern Railway.

Cheap return tickets available for fifteen days will be issued to Ghent for its international exhibition *via* Harwich, Antwerp, and Brussels. Special facilities are offered for visiting Holland and the Amsterdam Shipping Exhibition by the British Royal Mail Harwich-Hook of Holland route. From there through carriages and restaurant cars run to The Hague, Amsterdam, Cologne, Bale, Hamburg, Halle (for Harz Mountains), Dresden, and Berlin.

A Wide Choice.

For the many thousands who will take advantage of the August Bank Holiday for a desirable change the Great Central Railway has just published a most varied choice of excursion facilities to all parts of its system. A perusal of the special A B C programme reveals the extensiveness of the arrangements offered to over 300 holiday resorts and towns in the midlands, Yorkshire, Lancashire, and the north of England. Copies of the special holiday programme may be obtained free at Marylebone Station, G.C.R. agencies, or by post from Publicity Department, 216, Marylebone Road, N.W.

RUNNING MATCHES FOR DUCKLINGS.

[We find among our papers a short but most interesting note, which as yet has not been published, from our lamented friend and contributor, the late Louis Vander Smickt, and shows his marvellous versatility.—EDITOR I.P.R.]

Some years ago I made a proposition that had been considered as very foolish. I mean to organize running matches for ducklings. It is a certain thing that the most commonest duckling for our meadows is the hardest; that can the best support the cold, the fastest grower, (precocious) and the fastest runner after water or worms.

So my conclusion is: for egg production, cock crowing matches; for good, big, table fowls, fighting, but not for killing with spurs, for endurance, and between heavy weights; for winter ducklings, running matches.

I have thought in the beginning that the Indian or Canadian runner was a newly made bird, out of a Huttegem and a Penquin duck after a chart of Felch—for link breeding was better known 500 years ago than now. The Huttegem has on the head the same marking as the runner; is also regularly marked in black or blue but otherwise, and so I think that both came directly from India or China. But the Huttegem has been crossed several times with Rouens, Duclair, (of which the blues are called Swedish) and ameliorated with the Blue or Termond Giant. This is not strange for after each war between Audmarde and Ghent or others the pure breed must have been nearly exterminated. So it was with the Giant de Vermonde blue that must have been introduced in Belgium many centuries ago, and is nearly exterminated now. I think it was the same breed we have seen in St. Peterburgh 10 years ago—a blue and a buff as large as geese. I have seen bred or judged in Holland and Belgium at least ten pure breeds of ducks that are quite forgotten now. When in 1870 I discovered the first Pekin ducks at M. Philip Castangs he sold them under the name of "White Penguin ducks." In 1871 or 72 I sold a fine pair to Mr. Orthepp in Magdebourg. He obtained out of that pair different specimens with frills, manes, and such things on the head. I suppose they have been regarded as weeds and killed.

Duck breeding, especially giants and dwarfs have been much neglected since I was a boy.

Professor C. K. Graham.

Of the two brothers Graham, Mr. C. K. has been less known in connection with poultry than Mr. W. R. of the Ontario College, Guelph, whose visit to the United Kingdom last year will be well remembered. For some time the former was in charge of the poultry department at the Storrs Agricultural College, Connecticut, where he did excellent service. Since his appointment as Director of the Agricultural Department at the Hampton Institute, Virginia, his efforts have been on a broader basis. We are glad to know that he has arrived in this country, accompanied by Mrs. Graham, and know that he will receive a warm welcome from all.

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Tamlin's Employees Annual Outing.

The Annual Outing of the Employees of Tamlin's Incubator and Poultry Appliance Works at St. Margarets was held on Saturday last the 19th, Margate being visited.

The party left St. Margarets just after 6 a.m. in several special saloon coaches and travelled direct through to Margate which was reached at 9.30. Here plenty was found to amuse the various members of the party till lunch. This had been provided at the "Imperial Hotel," where a fine menu was served which everyone thoroughly enjoyed.

In proposing the success of the firm, Mr. Fitzpatrick referred to the strides again made in the advancement of the business in all its branches, and went on to say he felt sure everyone present was pleased to have Mr. Tamlin once again with them on the occasion of their outing, and not only the pleasure of his company, but to know he was now fully restored to his normal health.

In replying Mr. Tamlin said he was indeed pleased to again be at the Annual Outing after a lapse of one year which he was compelled to forfeit owing to ill health, but he was glad to say that during his absence the business had been attended to and conducted in a satisfactory manner. Thanking Mr. Fitzpatrick for the health proposed and drunk to him he sincerely hoped he would be able to attend many more of the same kind of gatherings in the time to come.

Mr. Heath proposed the health of Mr. Towning (Mr. Tamlin's friend) and felt sure everyone was again pleased to see him, having accompanied Mr. Tamlin on several previous outings.

Mr. Towning replying, remarked that he having known Mr. Tamlin for some 15 or 16 years past, was only too pleased to be once again with him and his party, especially this particular occasion, so that he had the opportunity of joining with all in drinking the continuance of health and success to him.

In the afternoon Margate afforded in every way plenty of amusement till the train left for home at 8.45. St. Margarets was reached soon after 11.30 p.m., all having spent a most enjoyable day.

TRADE ITEMS.

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Mr. Tamlin's Exports.

The following is a list of W. Tamlin's exports for June, 1913: Four 60-Incubators and 12 Foster Mothers to Albert Newcomb & Co., Agents for New Zealand; one 100-Incubator and one 100-Foster Mother to Alexis Komyakoff, Russia; one 200-Incubator and one 100-Foster Mother to Paul Devaux, France; six 60 and six

100-Incubators, six 100-Foster Mothers to Jno. F. Marshall, Agent for the Transvaal, S. Africa; one 60-Incubator to H. A. Ambrose, New Guinea; one 60-Incubator and one 60-Foster Mother to Mr. C. J. Evans, Peru; one 100-Incubator and one 60-Sunbeam Rearer to Mrs. C. Victor, S. Rhodesia; one 30-Incubator to Mr. C. K. West, Madeira; one 100-Incubator to Mr. E. Harris, Alexandria, Egypt; one 60-Incubator and one 60-Foster Mother to Mr. T. E. Salter, Tasmania, Australia; two 100-Incubators to Mr. A. Wrigley, Queensland, Australia; one 100-Incubator to W. Saunders, Perth, Western Australia.

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