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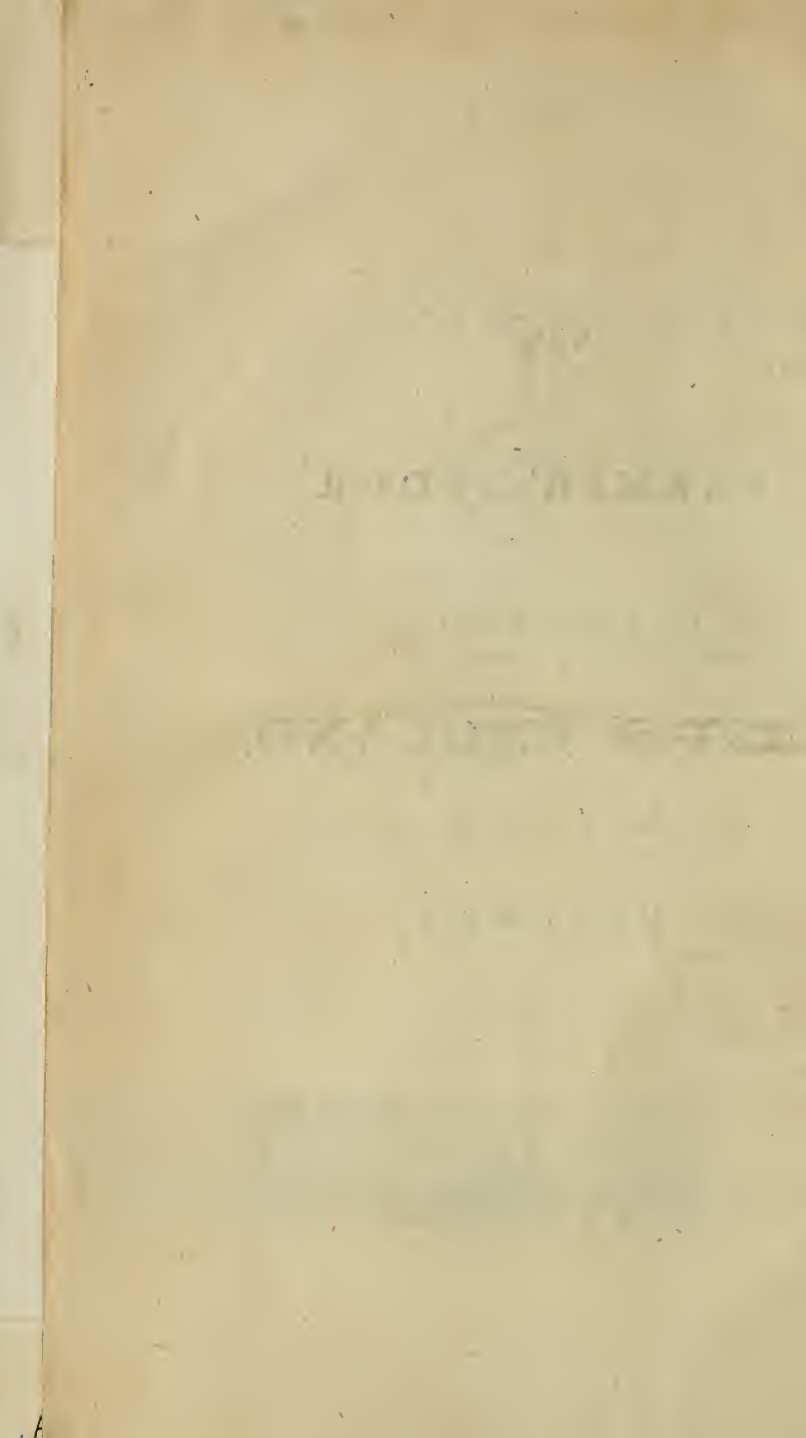
FRANK L. EMANUEL · 1897

OF APPLEDORE · KENT · WHILEST I LIVE · I'LL CROW

4 vols

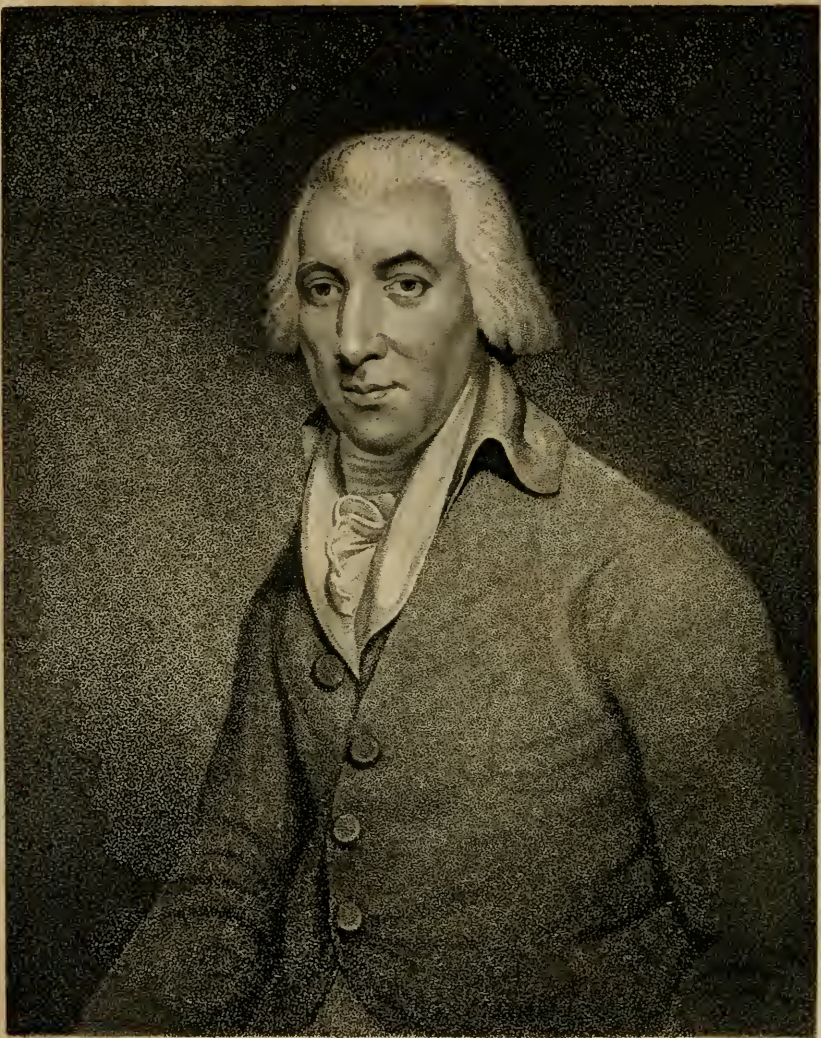
The Times March 16th 1896.

ARTHUR YOUNG'S CHINA AND MINIATURES.—
A correspondent writes :—" I should like to bring to
the notice of the general public an interesting sale to
be held at Messrs. Christie's on the 19th inst. of old
china and miniature. In the early part of this cen-
tury the name of Arthur Young, F.R.S., agriculturist and
traveller, was well known. He is not yet quite for-
gotten, and still is often quoted. It is his collection of
china and his family miniatures that are to be sold in
consequence of the recent death of the only survivor of
his family, Mr Arthur John Young, of Bradfield-hill,
near Bury St. Edmunds. Among the china is a curious
Wedgwood tea service made to order for, and presented
to, Arthur Young by the Emperor of Russia, with a
design of agricultural implements."





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J. Hussey Pinx.

W. Hinton Delin. Sculp.

Arthur Young Esq^r F. R. S.
Secretary to the
HON^{BLE} BOARD of AGRICULTURE.

Published July 23. 1795. by J. Sewell, Cornhill.

. T H E
F A R M E R ' S T O U R
T H R O U G H T H E
E A S T o f E N G L A N D .

B E I N G

The Register of a Journey through various Counties
of this Kingdom, to enquire into the State
of AGRICULTURE, &c.

C O N T A I N I N G ,

- | | | |
|---|--|---|
| I. The particular Methods of cultivating the Soil. | | the Soil, and its Division into Farms, with various Circumstances attending their Size and State. |
| II. The Conduct of live Stock, and the modern System of Breeding. | | |
| III. The State of Population, the Poor, Labour, Provisions, &c. | | V. The Minutes of above five hundred original Experiments, communicated by several of the Nobility, Gentry, &c. |
| IV. The Rental and Value of | | |

W I T H

Other Subjects that tend to explain the present State of
E N G L I S H H U S B A N D R Y .


By the Author of the FARMER'S LETTERS, and the
TOURS through the North and South of England.

I N F O U R V O L U M E S .

V O L . I .

L O N D O N :

Printed for W. STRAHAN; W. NICOLL, No. 51. St.
Paul's Church-Yard; B. COLLINS, at Salisbury;
and J. BALFOUR, at Edinburgh.
M D C C L X X I .



TO SUCH OF THE
NOBILITY, GENTLEMEN, FARMERS,
AND OTHERS,

AS WERE PLEASED TO GIVE
INTELLIGENCE TO THE AUTHOR
DURING THE COURSE OF HIS
TOUR,

THIS REGISTER OF IT
IS INSCRIBED,

*BY THEIR OBLIGED,
MOST OBEDIENT, AND
DEVOTED SERVANT,*

BRADMORE FARM,
MAY 1, 1771.

ARTHUR YOUNG.

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C O N T E N T S

OF THE

FIRST VOLUME.

L E T T E R I.

*S*TATE of Husbandry from North Mims to Northampton.—Vale of Aylebury.—Stow Gardens. - Page 1 to 45.

L E T T E R II.

*H*usbandry from Northampton to Loughborough.—Grazing.—Wood.—Sir James Langham. — Mr. Afby. — Mr. Booth's Experiments. — Mr. Bakewell's excellent management, - - 46 to 134.

L E T T E R III.

*H*usbandry from Nottingham to Derby.— Mr. Cope's Experiments on Carrots. — Lord Byron's at Newstead-Abbey. — Mr. Kendal's Experiments, 135 to 157.

C O N T E N T S.

L E T T E R I V.

Husbandry from Derby to Bawtry. — Mr. Munday. — Col. Pole. — Mr. Coke's Oxen in Harnesfs. — Sir Robert Burdett's Cabbages. — Akeover. — Ilam. — Dovedale. — Earl of Scarfsdale's at Keddleston. — Matlock. — Duke of Devonshire's at Chatfworth. — Great Improvements in the Peak. — Elden Hole. — The Peak Hole,
158 to 234.

L E T T E R V.

Col. St. Leger's Experiments in Husbandry,
235 to 296.

L E T T E R VI.

Mr. Mellish's Experiments in Planting and Husbandry, - - 297 to 339.

L E T T E R VII.

Mr. Wharton's Experiments in Husbandry,
340 to 355.

L E T T E R VIII.

Mr. Stovin's Experiments. — Society of Agriculture in the Weft Riding. — Candidates for Premiums on Cabbages. — Mr. Cooke's

C O N T E N T S.

Cooke's Trials. — Broadsworth. — *Mr. Hall's Experiments.* — Wombwell. — *Mr. Moody's Trials on fattening oxen with Oil-Cake, Carrots, &c.* — *Mr. Brown's Experiments.* — *Duke of Newcastle's at Clumber.* — *Duke of Kingston's at Thoresby.* — *Proposed Improvements in the Husbandry of Nottinghamshire,*
340 to 432.

L E T T E R IX.

Husbandry from Lincoln to Sleaford. — *Sir Cecil Wray's Experiments,* 433 to 461.

L E T T E R X.

Husbandry through the Fens and rich grazing Country. — *Mr. Wallet.* — *Col. Coney's Trials,* - - 462 to 495.



P R E F A C E.

IN the year 1767, I took a journey through several of the southern counties, the register of which was published under the title of the *Six Weeks Tour*.

Describing the husbandry of the kingdom, by registering minutes on the spot, was a new undertaking, having never been executed either in this or any other country of *Europe*: a novelty that engaged a more favourable notice than the merit of the work could claim; and induced me, in 1768, to take a more extended tour through the northern counties. I advertised the intention, requesting information, and was favoured with much that I found valuable. The minutes of that journey were published, under the title of *A Six Months Tour through the North of England*.

The reception that work met with (uncommon for so humble a subject as farming)

farming) animated me to continue the plan I had begun, with a view to complete the kingdom.

With this idea, I published the intention of another tour, and the numerous letters I received in consequence, and the very important communications that were the result, gave me the greatest satisfaction, as they appeared a fresh proof, that my labours were not unacceptable to persons, who have approved themselves to be such good judges in husbandry.

The minutes of this journey, performed last year (1770) are what I am now to lay before the publick. Did the world consist only of an impartial publick, there would be very little occasion for a preface; but as there are men, who read with no other view than to calumniate, and whose opinions doubtless are taken on trust by some others, a writer has not always the chance of a fair trial in those points, on which the generality of critics lay their hands. A writer of husbandry should be tried by a jury of real farmers; instead of which he too often falls into the hands of a motley crew, that peremptorily decide on matters whereof

whereof they are utterly ignorant; and when they find that such decisions meet only with neglect, they endeavour to become important by abuse. I have experienced this from more quarters than one, having been represented, among other assertions, as a *pretended* farmer, that published experiments without having land to try them on; although, from twenty years of age, I have never farmed less than 100 acres.

Others assert very gravely, that all I have written in numerous volumes might be comprised in a single moderate one; although the mere experiments communicated by various gentlemen, which I have introduced, would alone fill several.

Others again assure the world, —that I make experiments and go tours only for profit, having a view not to an honest fame, but only to more *solid* advantages. I am not peculiar in receiving this kind of abuse; it is pretty common from critics by profession (especially if they are nameless) on all they disapprove: But I am extremely easy under such illiberal attacks; because of whatever utility my humble
endea-

endeavours to serve my country may prove, I can very safely say they were not undertaken with a view to profit, for had I not known an experiment, or that there was such a machine as a press, I should at this day have been at least a thousand guineas richer than I am; and yet I have not experimented or written merely to make presents to book-fellers, any more than other authors I have heard of, whose fortunes are twenty times greater than mine. I do not wonder however that monthly critics, who must say something on all books, should, when they meet with one on a subject they do not understand, transfer their criticism from the *book* to the *author*. It is like their dropping the agriculture of a *book of husbandry*, to carp at the language, and condemn the author as writing for profit. These gentlemen, who never travel beyond their elbow chairs, can easily conceive that journeys of two or three thousand miles are to be travelled for a trifle, that farms may be left without loss, and that experiments cost nothing but ink, brains, and paper. Such uncandid insinuations can answer no purpose, unless to
make

make people believe that I am a mere upstart, indebted to my family for nothing but *learning to write*, and unpossessed of fortune till I began to publish. I disdain such unworthy treatment, and should be unhappy indeed, to address a publick that could be influenced by such illiberal criticisms. I have the satisfaction of finding, however, that it is not my case; for the world in general receive the books, which I have hitherto published favourably; and what is of much more consequence, they meet with the approbation of those persons, whom I most wish to please, *the true practical farmers*. Thus encouraged, I shall continue as I have begun, and prosecute this plan till it is completed.

These accusations seem to have been founded on my publishing several books in a few years, from whence has arisen another, that of my *writing too fast*; but I may observe, that the subject of those works have been my employment for near *ten* years, although they have been all published in *four*; and the very nature of the subjects, and the manner in which they were written, plainly mark the time of their composition,

and if considered ever so slightly will shew, I apprehend, how ill founded these malevolent accusations are.

I farmed in *Suffolk* from 1762 to 1767, keeping a register of my experiments, and all my business, which register was the original of my *Course of Experimental Agriculture*, being little more than a transcript of my memorandum book and ledger; every page of that work denotes, I will not say the years, but almost the days on which it was written; the prices of cattle, &c. products, the rates of labour, the weather, and an hundred other circumstances, are such as would be confirmed past any doubt, had others in the same neighbourhood been employed in a similar manner*. Hence it appears, that this large
publi-

* I cannot but smile at the *Monthly Reviewers* condemning the above work, and *insinuating*, a want of integrity in it. A man must be a princely fool indeed to forfeit his integrity without adding to his profit, his pleasure, or his fame. For what purpose should I impose on the world? Was it my interest to misrepresent the result of my trials? Are they so marvelously successful, as to shew me ambitious of being the founder of a system? Not one class in the whole book. I have been exceeded by other experimenters in many articles of which I treat. Of what use to render them more unprofitable than the real fact? None. And as to reputation
of

publication is not to be ranked in the class of works, which require time for that polishing, and accurate idea of expression, which works of reasoning or the detail of the events of human life require.

While I was thus engaged in Suffolk, I corresponded occasionally with the *Museum Rusticum*, a periodical work on husbandry then in the course of publication. That work being discontinued, I had several essays in MS. which I had intended for it; some of my friends, who read them, thought they were worthy of publication; and several correspondents of the *Museum Rusticum*,
entire

of good husbandry, the book proves me to be faulty in my management, I may say, at least, as often as judicious: should a man be ridiculed for being candid? Is there no use in trying experiments, which a man thinks cannot possibly answer? None, say the reviewers; but the practical farmer, who reflects on the recommendations, which several writers throw out, nay, on the trials for which societies offer premiums, will be of a very different opinion; and will not be long in comprehending, that those experiments, which *prove* the notions of some men to be really romantic and absurd, and such as cannot possibly answer, may be as useful to the world as the most brilliant registers of unvarying success.—Having mentioned these critics, I shall just request my readers, when they see my writings and myself abused in an illiberal manner, to reflect, that those who

entire strangers to me, having requested my extending further some of the subjects on which I had written; these inducements contributed to make me form my *Essays* into regular volumes, which I published at different times, under the titles of *the Farmer's Letters*, and *Rural Oeconomy*.

Upon my leaving *Suffolk*, in 1767, and searching for a farm (in consequence of an advertisement I had thrown out for one) viewing I believe an hundred, and hiring two, formed a train of business, which really gave birth to the *Farmer's Guide in Hiring and Stocking a Farm*, for
I made

in an office, at best ungracious, shew a thorough want of candour, and an inclination only to find fault, will be very keen in the discovery of error; a book therefore that is so reviewed, must either have uncommon merit, or the facts of the author will be proved in general false, and his reflections absurd; bad language, harsh expressions, small errors and absurdities, these are the foibles of *Alciades*, not his vices. And the monthly critics will much sooner espy the loss of my dog's tail, than the weak part of my husbandry; for I could in two minutes point out more blunders, than these miserable cavillers can in twice as many years. They can dwell upon their *ifs* and *ands*; but will not be quick to tell me, if in this dry season my barley should be ploughed or harrowed in? Pray, Mr. *Reviewer*, shall I sow my *Pondfield* on one earth or two? I have an excellent farming man now with me, and we are in dispute.

I made numerous minutes, and memorandums of points to be attended to, which I found of no slight use to me, and I hope that work may be of some to others.

As to my *Tour through the North of England*, the present work, and the *Six Weeks Tour*, they require very little apology in the point I am speaking of at present: they carry proof in every page of the time when they were written: the principal part is executed during the journey, recording intelligence on the spot, and at the moment; or minuting at night the transactions of the day: indeed the method in which these journeys are executed is so very simple, and have so little appearance of author-craft, of writing journeys in a garret; or engaging in the expence and absence of journeys for profit, that I shall never through such caution (while my private affairs allow it) omit any opportunities of completing my plan of travelling the three kingdoms; a business which I have now made so much progress in, that I am eager to conclude it.

Thus have I run through my various publications, and endeavoured to shew, that

although they are more numerous than it will be in my power to make them in future, still are they not those fugitive productions of a day, which uncandid critics would wish to have them appear.

If it is asked, why I take the trouble of replying to objections started by the Lord knows who, I reply, that my design is to be of some service to *British* agriculture, an object I cannot possibly succeed in, except by publishing; and it is very clear, that whatever imputations are thrown on me of this sort, can only tend to counteract the effect I wish: it is merely for this reason that I enter into details of so uninteresting a nature, which a man, who looks only to literary reputation, will ever avoid: but I never will be backward in the cause I think right, nor ever flinch from thoroughly explaining those points, which invidious criticism may lay to my charge.

To come to particulars; my conduct in the *Northern Tour* has met with objections, of which it is necessary I should take some notice, before I make the following one publick.

First.

First. That there should be no descriptions of houses or gardens:—this has been remarked by various of my friends, while others have been of the direct contrary opinion, thinking them a means of rendering the papers more general, and of course more useful. I think the same; but what has decided me in this matter is, these descriptions having introduced me to some of my most valuable husbandry articles; much intelligence in agriculture in this work, which the reader will allow to be important, would not have been there had I rejected all matters foreign to agriculture: however, that each subject may be unmixed with the other, I have thrown all such descriptions into notes, that they may not the least interrupt the mere farming reader.

Secondly. That I inserted the particulars of too many farms.—It would be too much to publish a work that consisted of nothing else; but I will venture to assert, that such an one would be a most important object, and display the state of the kingdom in every thing concerning the soil and agriculture. If the particulars of every farm in the nation were thus known,

the political world would not be in the dark concerning the value and income of the land, its products and population. However, in this article I have acted contrary to my own opinion, and inserted fewer farms than in the former, though I have retained a great number for my private use.

Thirdly. That I formed too many calculations and tables at the end of the journey, whose only character was *prolixity*.—This objection has not come from any persons, of whose judgment I have the least opinion; but on the contrary those deductions have been esteemed as necessary to render the work useful by the greatest part of my readers. I mention it here chiefly to observe, that a very considerable part of the common intelligence is taken merely with a view to drawing the averages at last, and comparing them with attendant circumstances; without such deductions, the work would be, to me, much easier; for that part is much more difficult than any other.

These are the principal objections made to the *Tour through the North*: a more artful writer might have passed over the whole, without

without notice; this might be political, but it is not candid; and he who, with a good cause, means well, will not fly from *defence* into *recrimination*.

In prosecuting my last journey, the intelligence I received from numerous gentlemen much surpassed my expectations, and has been in itself so very valuable, that I am little more than the channel that conveys it to the publick. My *Northern Tour* was unavoidably unequal, from travelling some hundred miles in the return without communications from gentlemen; but in the present I have been so fortunate, that throughout the whole journey I have seldom travelled thirty miles without such advantages; the consequence of which is, that I have received more numerous experiments and observations than before, and been in most places able to gain such valuable accounts of common management, as I could wish. While so many gentlemen have done every thing in their power to promote the undertaking, if the work does not prove of real utility, all the blame rests on me, and I must have

deserved every reprehension in the power of criticism to bestow.

The reader will perceive, that in several points I have enlarged my enquiries; the principal is in respect to the profit of planting, in which I have had some very valuable information.

In the article of implements I have been particularly fortunate, having met with many admirable tools, of which engravings had not been taken before. I believe the reader will find them executed in a more satisfactory manner than in my former Tours, having been favoured with some accurate drawings; and those which I took myself are better, as custom makes me more accurate in an art, which convenience alone induced me to practise.

It is here necessary to mention a remark, that has been made to me more than once in the course of the Tour, viz. that I pass through certain districts much quicker than I ought—that I should forbear mention of any such tracts, unless I had been more particular. But in answer to this, I must beg leave to explain the nature of the undertaking, which those who make this
objection

objection do not seem perfectly to comprehend. In answer to the advertisement of an intended tour, I receive many letters; a great number from certain counties, and very few from others. Before I set out, I minute all the gentlemen, from whom I receive invitations. Who can suppose, that I do not allot my time in proportion to such minutes? I consequently pass thro' some quicker than others, and thus draw on myself the imputation of haste, which is certainly no fault of mine. I received several letters from *Derbyshire* and *Nottinghamshire*; of course I make a longer stay, and give a better account of their husbandry, than of the following county of *Lincoln*, from whence I had but one or two. In *Norfolk*, I had particular advantages of the same sort: I there dwell on numerous particulars; whereas, receiving but one or two letters from *Kent* and *Suffex*, I pass hastily on to *Hampshire* and *Dorsetshire*, from whence there came a dozen; and in this manner I was obliged to manage throughout the whole. But had I spent as much time in *Suffex*, from whence I had

had

I had only two letters, or *Somerſetſhire*, from whence I had but one, or *Wiltſhire*, from whence I had none, as in others that afforded me numerous ones, what would have been the conſequence? Why, undoubtedly, I ſhould have employed ſo much of my time in thoſe places which afforded few *previous* invitations, that little would have remained for others that I was certain yielded numerous ones; which would have been utterly improper. From hence, I hope, thoſe gentlemen, who think I haſtened too quickly through certain parts of the tour, will not attribute it to me, but rather to themſelves, as I ſhould certainly have allotted a due portion of time, if, inſtead of perſonal invitations, after my route was fixed, I had received letters from them; then I ſhould have named fewer counties for the tour, as my chief intention is to examine perfectly thoſe I travel; and accordingly, when I found numerous letters in anſwer to my advertisements, I cut off ſix or eight I originally deſigned, foreſeeing that there would not be time for all. But they who ſuppoſe I muſt be ſilent on all counties, which I do not traaverse in every

every part, should recollect, that it has never been my practice to speak of tracts of country which I do not view; and although I offer, on some occasions, general remarks on the agriculture of particular counties, it is only of those, concerning which my intelligence is very complete, and through which I travel many miles. If I pass directly through part of a county, I confine my minutes to the part I see; never presuming to praise or condemn in general, but when I have seen much, and had good information. Thus much in explanation to those, who think I divide my attention unequally.

These are the principal points, which have required my speaking to here; there only remains the pleasing task of acknowledging my obligations to those, who have assisted me in the undertaking, by giving all the information in their power.

I am much obliged to GEORGE ASHBY, Esq. for the particulars I gained through his means of the management of the rich grazing parts of *Northamptonshire*; as well as the friendly reception I met with at *Hazelbeach*.

Sir

Sir JAMES LANGHAM, Bart. favoured me with an account of the culture of woad, which has been much practised on his estate.

I am indebted to JAMES BOOTH, Esq. for the husbandry about *Glendon*, and the particulars of several valuable experiments.

I am obliged to SHUKBRUGH ASHBY, Esq. for a much better account than I could otherwise have gained, of the husbandry around *Quenby-hall*.

Mr. AYER, of *Tilton*, gave me several particulars in grazing, for which he has my thanks.

The uncommon value of the intelligence I received from Mr. BAKEWELL, jun. of *Disbley*, merits every return in my power to make: I cannot but observe that the incomparable state of his farm, in almost every particular of good husbandry, does him great honour.

———— COPE, Esq. of *Arnold*, will allow me to thank him for the valuable minutes he gave me of some experiments on carrots.

It is with the utmost satisfaction that I acknowledge the friendly politeness of
Colonel

Colonel POLE; no person could wish better to my undertaking, or interest himself more in gaining me the best accounts of husbandry around *Radburn*. I shall not cease to remember, with pleasure, the week I agreeably spent at that house.

I beg leave to thank ——— MUNDEY, Esq. for the civilities I received at *Marion*.

I am indebted to Sir ROBERT BURDETT, Bart. for an account of the *North American* cabbage, which rises to 60 and 80*lb*. It is a curiosity in husbandry which is but coming into culture.

I hope the Earl of SCARSDALE will allow me to express my acknowledgments for his favouring me with a catalogue of the paintings, and other particulars, in his magnificent edifice at *Keddleston*.

The particular attention, with which Colonel ST. LEGER promoted my undertaking, demands every return I can make. Besides the friendly reception I met at *Parkbill*, he omitted no care that was requisite for gaining me the best intelligence of common husbandry; and I need not add, that his own experiments are truly valuable.

I am

I am indebted to friend EDDISON, of *Gateford*, for a very curious account of improving a bog, and other particulars. He is an excellent farmer.

I am much obliged to the Earl of SCARBOROUGH for shewing me his fine seat and grounds at *Sandbec*.

WILLIAM MELLISH, Esq. must allow me to acknowledge how much indebted I am for his very obliging attention, to render the article of BLYTHE as complete as possible. He omitted nothing to gain me the best information. The noble spirit with which he has improved and adorned extensive wastes, by numerous plantations, new farms, and good husbandry, demand a more flattering tribute than I can give — the gratitude of his country.

The extensive farms, which ANTHONY WHARTON, Esq. keeps in his own hands, enabled him to favour me (which he did in the most friendly manner) with several curious experiments. His crops on the rich sands of *Doncaster*, I believe, are as great as any in the kingdom; and his culture of potatoes complete.

JAMES

JAMES STOVIN, Esq. of *Doncaster*, gave me the particulars of some trials, for which I am much obliged to him : that on the oil compost is the only one yet laid before the publick ; and his experiment to decide the value of carrots, by fattening pigs, is very accurate.

I am indebted to ——— COOK, Esq. of *Wheatley*, for the particulars of some experiments.

The Rev. Mr. HALL must allow me to thank him for the minutes of several very important husbandry undertakings ; his culture of lucerne, and of white clover, his original practice of transplanting old hedges, which may in so many cases be useful, and the clear proof he has given of the benefit of soiling horses, are instances among others of excellent management.

The intelligence I received from Mr. JOHN MOODY, of *Retford*, on fattening oxen with oil cake and carrots, and on the culture of that root and potatoes, deserve an hearty acknowledgment : his ox-house is worth riding many miles to view ; he is more accurate and attentive in this business,

ness, than most of the graziers I have met with.

JOHN DAVIS, Esq. will allow me to thank him for the intelligence I received at *Lincoln*.

It is with great pleasure I recollect the attention, which Sir CECIL WRAY, Bart. gave to my undertaking; I am indebted to him for very exact intelligence concerning the husbandry around *Summer Castle*, as well as several valuable experiments: his trials on sainfoine and burnet are decisive.

I am obliged to Mr. WALLET, of *Long Sutton*, for some information in grazing. No person in *England*, I apprehend, has been so remarkable for fattening oxen of a large size.

I desire that SPELMAN SWAINE, Esq. of *Leverington*, will accept my thanks for the friendly manner, in which he gave me some useful intelligence.

I am much indebted to Colonel CONEY for the same favour at *Runcton*. His improvement on the methods of his neighbours deserves attention; particularly the experiment in claying.

Mr. CARR, of *Massingham*, gave me a very sensible account of the culture of the fine marled lands in his neighbourhood, for which I am obliged to him; his being one of the men, who have carried the *Norfolk* culture to that high degree of perfection, to which it has attained, renders his information the more valuable.

It is with pleasure I mention that NICHOLAS STYLEMAN, Esq. enabled me to prosecute my undertaking at *Snettisham*; by his means I gained some important information.

The value of the intelligence I received from Sir JOHN TURNER, Bart. demands the sincerest acknowledgments; no person could assist me in a more obliging manner, both in the common husbandry around *Warham*, and the very interesting experiments he has himself made. His trials on lucerne and sainfoine are very valuable; his cultivation of weak arable land, excellent; the introduction of the use of sea ouze as a manure, will probably have the most beneficial consequences. In planting likewise, he has made great exertions.

NOCKOLD THOMPSON, Esq. of *Norwich*, gave me an exact account of husbandry near that city, and also a relation of some useful experiments, for which I desire he will accept my thanks.

The Rev. Mr. HOWMAN merits the like return for the civilities and assistance I received at *Bracon-Ash*.

THOMAS BEVOR, Esq. will permit me to mention the politeness, with which he gave me some intelligence at *Ethel*. His composts and farm-yard management shew him to be an excellent farmer.

— ROGERS, Esq. of the same place, has my thanks for an account of a crop of cabbages, &c.

I was fortunate in being introduced to so attentive a planter, and so good a farmer, as WILLIAM FELLOWES, Esq. of *Shottesham*, the particulars in both which he was pleased to give me are valuable.

I am indebted to JOHN RAMEY, Esq. of *Yarmouth*, for an account of the *Flegg* husbandry, and his own experiments. His comparison of mowing clover for soiling, with eating it in the field, is curious.

The

The spirit with which NATHANIEL ACTON, Esq. prosecutes his husbandry, is equalled only by the candour and accuracy, with which he gave me an account of it. His experiments on draining, carrots, cabbages, &c. deserve no slight attention.

The Rev. Dr. TANNER was so obliging as to give me a continuation of his very valuable experiment on lucerne, mentioned in the *Six Weeks Tour*, for which I am much indebted to him.

The Rev. Mr. ASPIN, of *Cockfield*, favoured me, in a very friendly manner, with an account of some particulars of husbandry, for which I desire he will accept my thanks.

I am obliged to the Rev. Mr. CURTEEN, of *Bradfield*, for an account of his curious hand-mill for grinding wheat.

The attention with which DAVID BARCLAY, of *Youngsberry*, practises agriculture, enabled him to give me some important intelligence in common husbandry, and also the relation of several experiments he has made. It was done in so accurate and candid a manner, as to add much to the obligation.

Mr. DUCKET, of *Petersham*, has my thanks, not only for shewing me his farm, but also in the name of the public, for the neat and husband-like manner in which he keeps it. The implements he has invented do him honour.

If ever the labours of an individual were exerted in agriculture, for the benefit of a nation, they are those penetrating and spirited ones of JOHN ARBUTHNOT, Esq. of *Ravenbury*; of whose husbandry it is much too little to assert, that in many circumstances it was never equalled, much less exceeded. Never were exertions more accurate, than this gentleman's culture of madder. The new husbandry he has practised on a larger scale than most, and, what is more, with almost uniform success; nor let me omit remarking, that the incomparable implements he has invented and perfected, are equal proofs of genius and application. The rules he has laid down for directing wheelwrights in the construction of ploughs, form one of the most interesting, and truly useful memoirs in practical husbandry, that ever were published. It is an original and admirable thought.

Some

Some very useful intelligence was given me by——JACOB, Esq. of *Feversham*, in planting, &c. for which I am much obliged to him.

Mr. CROWE, of the same place, has cultivated madder with such uncommon success, that his example will have the greatest effects throughout that neighbourhood. I am much indebted to him for the account he gave me of it.

Sir THOMAS HALES, Bart. will permit me to express my acknowledgments for the friendly manner in which he received me at *Howlets*, and for communications of importance; particularly concerning hops.

The Rev. Mr. TAYLOR, of *Bifrons*, favoured me with the minutes of some very accurate experiments, for which I beg he will accept my thanks. He is an excellent farmer.

Mr. JOHN REYNOLDS, of *Addisbam*, prosecutes his husbandry with more than common spirit. *Kent* owes to him, first, turnips, and now the cabbage turnip. He has the true lively activity of an old farmer; the intelligence he gave me, for which I am much obliged to him, is valuable.

Mr. HARRISON, of *Preston*, has my thanks for the particulars he gave me concerning madder, &c.

I am indebted to Mr. EDWARD PETT, of *Minster*, for several circumstances in the *Isle of Thanet* husbandry, where he figures among its best farmers.

This Tour possesses not a more important experiment than that on carrots, with which I am favoured by EDWARD LEGRAND, Esq. of *Ashe*. His culture of that root is excellent, and proves in the clearest and most accurate manner, how much attention it well deserves.

It is with pleasure I remember the politeness with which JOHN BAKER HOLROYD, Esq. favoured my undertaking: he omitted nothing to gain me a just account of husbandry around *Sheffield Place*.

I desire to return my thanks to — POOLE, Esq. of *Hook*, for the particulars of several very curious experiments.

RICHARD NASH, Esq. of *Walberton*, gave me an account of the common management around that place; for which I am much obliged to him.

NICHOLAS TURNER, Esq. of *Bignor*, has tried some points in agriculture with attention, and has several valuable implements of his own invention. The friendly manner in which he promoted my undertaking demands more than this slight return.

I hope that ROBERT BULL, Esq. will allow me to thank him for the civilities I received at *Chichester*. His management of grass-land is perfect.

Mr. KNOWLES, of *Newport*, in the *Isle of Wight*, gave me some particulars concerning the useful implements he has invented; for which he has my thanks.

I desire JOHN STEVENS, Esq. will accept my acknowledgments for the friendly reception I met at *Cowes*; and for the intelligence he procured me.

The particulars of some experiments made by JAMES RODNEY, Esq. of *Abresford*, with which he was so kind as to favour me, are of great utility.

WILLIAM MITFORD, Esq. in a very friendly and obliging manner promoted my plan, by giving me many important experiments in planting, and an accurate account of the husbandry round *Gilbury*.

It is with pleasure I return him my sincere thanks.

I cannot easily express my acknowledgments to HUMPHREY STURT, Esq. for the uncommon attention with which he procured me all the information in his power. Those who know the truly executive spirit in which this gentleman prosecutes every undertaking, will easily conceive the value of such assistance. The island of *Brownsea* will be a lasting monument of his taste and his activity.

It is with great pleasure I remember the reception I met with from JAMES FRAMP-TON, Esq. no one could desire more to procure me the best authority for every particular I mention, of the husbandry around *Moreton*. His successful improvements of land reputed barren, and the systematic conduct of his watered meadows, shew him to be a true friend to agriculture.

CORNWALLIS MAWDE, Esq. favoured me with the particulars of some experiments, for which I desire leave to thank him.

Had it not been for the most obliging assistance of JOHN DAMER, Esq. of *Came*, I should have missed much very important information

information concerning the sheep of that famous tract of country around *Dorchester*. I beg he will allow me to express my thanks for the ample intelligence he gave me; his own undertakings merit the same return from his country.

I am indebted to EDMUND MORETON PLEYDELL, Esq. for some valuable particulars.

LORD MILTON, I hope, will honour me with the acceptance of this slight mention of acknowledgments for my reception at *Milton Abbey*; and more particularly for the important information he procured me. No person could be more anxious for my being well and accurately informed of every thing in that neighbourhood. *Dorsetshire* owes much to his lordship, as a planter, a farmer, and an improver.

I cannot omit returning my sincere thanks to HENRY CORNISH HENLEY, Esq. of *Leigh*,* for the very friendly assistance he gave me, in the prosecution of
my

* Of Sandringham in Norfolk.

my Tour through that neighbourhood, particularly by numerous recommendations, which would have been of great use, had I been more fortunate in finding some gentlemen at home. Fixing a sensible *Norfolk* farmer on his *Dorsetshire* estate, was an excellent thought; but the obstinacy of his neighbours has defeated the good effects which might naturally have been expected from it.

The Rev. Mr. ROYSE gave me some farming intelligence, for which I am much obliged to him.

The experiments of R. P. ANDERDON, Esq. of *Henlade*, have unusual merit; none can be more accurate; nor should I forget to acknowledge the friendly manner in which he received me at *Henlade*.

I am much obliged to —— BAMPFIELD, Esq. for shewing me his beautiful grounds at *Hestercomb*.

I desire that J. PETIT ANDREWS, of *The Grove*, near *Newbury*, and FREDERICK COWSLADE, of *Donnington*, Esqrs. will allow me to make the slight return of thanks for their intelligence and other civilities.

The

The attention which WILLIAM CLAYTON, Esq. has given to husbandry, is sufficiently manifest in his experiments; but I cannot miss this opportunity of repeating how much I am obliged to him for the accuracy with which he gave the particulars; and the interest he took in gaining the best intelligence of common husbandry around *Harleyford*.

I am indebted to Sir JOHN HOBY MILL, Bart. for a satisfactory experiment on carrots, &c.

The experiments which EDMUND BURKE, Esq. of *Beconsfield*, favoured me with, are extremely important; if his trials on carrots, which are conducted with the utmost spirit, are brought fully to succeed, they will shew that that root may be profitably cultivated on soils not at present thought of. *Buckinghamshire* will be much indebted to the attention this manly genius gives to husbandry; whose slightest ideas are the forerunners of brilliant success.

It is with the utmost satisfaction that I reflect on the encouragement I met with from the EARL OF HOLDERNESSE. I viewed with pleasure the lands which his
lordship

lordship has laid down to grass at *Sion*; a part of husbandry, in which none can be more accurate or attentive. They were all done *without corn*, a method which he much recommends.

Having endeavoured in this slight and inadequate manner to thank my numerous contributors, I must apologize for not travelling through all the counties I at first named: finding more business than I expected, I thought it would be better, totally, to delay a part of the route, than execute it in a too hasty manner. I beg leave, however, to return my acknowledgments to several other persons; some I missed by accident—others I was so unhappy as not to find at home, and the rest were out of the extent of the Tour.

I was so unfortunate as not to receive the invitation with which the DUKE OF RICHMOND honoured me, till long after I left *Suffex*; under the patronage of so illustrious a nobleman (whose husbandry I had been informed, is excellent) my account of that county would have been more complete.

The letter which I was favoured with from JOHN BOURNE, Esq. of *Dalby* in
Lincoln-

Lincolnshire, I did not receive till after I had passed that county.

I am much obliged to the HONOURABLE CHARLES HAMILTON of *Paine's Hill*. THOMAS ERLE DRAX, Esq. of *Charborough*, in *Dorsetshire*, and HENRY COMPTON, Esq. of *Bisfern*, in *Hampshire*, for their respective letters. I had a great loss in not finding them at home.

LORD MONTFORT honoured me with an invitation to *Horfe Heath*; and I had the favour of letters from the Rev. Mr. HARRINGTON, *Powderham*, in *Devonshire*. JOHN CULME, Esq. *Totbill*, near *Plymouth*. JOHN LLOYD, Esq. *Smithfield*, *Warwickshire*. SAMUEL GARBETT, Esq. of *Castle Bromwich*, near *Birmingham*. DAVID ROBERTS, Esq. *Sontly*, in *Denbighshire*. THOMAS HALL, Jun. Esq. of *Candover*, in *Hampshire*; and from Mr. JOHN BAILEY of *Peterborough*; to all whom I beg leave to return sincere thanks; the places were much out of my route; but I shall esteem myself happy in waiting on them in my next Tour, with which I hope to complete the kingdom.

I shall

I shall conclude this preface with requesting the candid reader to excuse those inaccuracies of stile, almost unavoidable in the register of such a journey; perhaps there may be found other errors, though I think not many that are material; but in travelling near three thousand miles, minuting above five hundred experiments, and perpetually shifting the scene of common intelligence, some excuse for small mistakes may be admitted.

The great intention of the undertaking is to make public as much useful knowledge as possible; by bringing various cultivators, scattered about the kingdom, acquainted with what is executing by their brother farmers; my Tours should therefore be considered as an office of intelligence; for I pretend to be nothing more than the vehicle of useful information: that I may, even in this capacity, have committed many errors, is certainly probable, but an exemption from them, is what I am far enough from pretending to; nor can I think that a book should be condemned for errors and absurdities, if it contains other matter that is useful. It is human nature

ture to produce such inequalities, and that composition which is perfectly free from them, must be the production of a man who aimed not at great utility.

Let me here repeat what I mentioned on a former occasion, that the mere return of thanks is too trivial for the numerous obligations I am thus laid under. I wish my situation in life would allow me to be of the public use I desire; but whatever is in my power, either in giving intelligence, not sufficiently minute in the register of the Tour—procuring implements—men, &c.—as far as my ability reaches, I shall always esteem myself happy in such opportunities of promoting the good cause in which I think I am embarked.

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In order that the Tours through this kingdom may, when completed, pass through every part of it, that the averages of the particulars may come the nearer to the exact medium of the whole, it is next intended to set out towards *Tunbridge*; from that part of *Kent*, to turn off towards *Petersfield*

in

in *Hampshire*; then to *Basingstoke*—*Salisbury* and *Exeter*, to the *Land's End*; returning through the northern parts of *Cornwall* and *Devonshire*, to *Bristol* and *Gloucester*; then through *Herefordshire* and *Shropshire* to *Chester*, &c. Returning through *Warwickshire*, cross *Northamptonshire* to the counties of *Rutland*, *Huntingdon*, and *Cambridge*; which line will cut through all the parts of the kingdom not yet travelled. The Author begs leave to request all persons who intend him the honour of communications, to inform him of it as early as convenient, that he may have a clear idea of his route before he sets out, and be able to portion his time accordingly.

North Mims,
March 1, 1771.

THE
FARMER'S TOUR
THROUGH
ENGLAND.

THE plan I have laid down for continuing my *Tour* through *England*, is to travel as different a rout as I can from that of the former journies; so that they may in general include as many and various tracts of country as possible: by this means the whole kingdom will be travelled, and the conclusions drawn from the particulars of the journies, come the nearer to the exact averages of the whole nation. I now set out to prosecute the design first through the central counties.

From *North Mims*, passing through *St. Albans*, I took the road to *Berkhamstead* by *Hempstead*. This line of country is pretty rich, and well cultivated, and lets on an average at 10s. an acre. The husbandry

2 THE FARMER'S TOUR

around *Hempstead* is very good, I believe the best in *Hertfordshire*: the farms rise from 20*l.* to 400*l.* a year. The soil various, and not ill described by *Ellis* in several of his works. There are some clays, chalky loams, and also stony loams, with some of the round blue pebbly land, which they justly reckon the worst soil a farmer can occupy. The rents rise from 5*s.* to 20*s.* an acre, but the average is about 10*s.* Their course of crops; various; among others,

1. Turnips
2. Wheat
3. Pease
4. Oats.

Also,

1. Turnips
2. Barley
3. Clover
4. Wheat.

Also,

1. Turnips
2. Wheat
3. Tares.

Likewise,

1. Tares
2. Turnips
3. Wheat

} In one year.

4. Pease

4. Pease
5. Oats
6. Clover and ray grafs.

- And
1. Fallow
 2. Wheat
 3. Turnips, &c.

They plough four times for wheat, when sown on a fallow, but after turnips only once, the turnips being always fed off by sheep for this purpose; and this husbandry is very common here. They sow $2\frac{1}{2}$ bushels, or 3, from a week before *Michaelmas* to *Christmas*, and gain on an average about 25 bushels; rye is almost unknown to them.

For barley they give three or four earths, sow 4 bushels, generally in *March*, and gain upon an average 5 quarters. For oats they stir according to circumstances once or twice, sow 4 bushels, and reckon the mean produce at 6 quarters. They plough but once for pease, sow 3 bushels, never hoe, and get in return about five and twenty.

They cultivate very few beans; and know but little of rape or cole-seed.

4 THE FARMER'S TOUR

For turnips they plough three or four times, hoe them once, and feed them all by sheep. Two guineas *per* acre the average selling price. Clover they sow with barley or oats; always mow it, and generally twice; get at two mowings from 3 to 4 $\frac{1}{2}$ loads of hay *per* acre, (18 *Cwt.*) The best farmers make it a rule to spread about 50 bushels *per* acre of ashes from *London* over it in *March*. Three loads an acre have been known the first mowing; ashes they find, from long experience, to be the best manure for this grass; and they are well persuaded that no husbandry answers better than so to use them.

Tares, which they call Thetches, and Vetches, are a very capital crop with them. They use both the winter and spring tare, but reckon the former better; they both feed and mow them; sometimes for horses in the stable, and at others for hay; a good acre they reckon will keep 5 horses above a month from the 1st of *May*. Of hay, an acre will yield 2 or 3 load. The best farmers spread 50 bushels *per* acre of *London* ashes over them in *March*, and find the im-

provement very great: after the mowing they are fed, or broken up for turnips.

Upon this husbandry let me remark, that it is undoubtedly excellent. To sow tares on one ploughing at *Michaelmas* on those fallows designed for turnips, to sow ashes on them, the beginning of *March*, and by the end of *April* or beginning of *May*, to have a tolerable swarth ready for soiling horses at the rate of 5 to an acre, to continue this for a month, and then throw in a good strength of teams to get the land ready for turnips, are all together a most admirable system of husbandry, and ought to be strongly recommended to the attention of all the farmers in the kingdom. These intelligent men justly observe, that the mowing the tares in *May*, cuts off numerous weeds before they seed, and leaves the land in as clean order for turnips as the most costly fallow. Five horses a month, at 2 s. 6 d. a week, are 50 s. an acre: a very different account from the barren expence of a mere fallow.

Sainfoine is sown in this neighbourhood in considerable quantities: I walked into

6 THE FARMER'S TOUR

several fields and made particular enquiries concerning this valuable article of our husbandry: they find it thrives well on all light loams on chalk; but what is much more worthy of remark, they sow it likewise with great success on their stony loams on clay: some of the fields I saw were peculiar in soil; a dark loam full of brown dirty looking flints, 18 inches deep; and then a strong red clay 10 feet thick, before you come to the chalk. On this soil they sow sainfoine with great success, get above a load an acre the first year, the second year two loads, and afterwards from two to three. About the third year they manure it with coal ashes from *London*, 50 bushels *per* acre, which they spread in *March*: after mowing they feed it with horses: it lasts 20 years. When worn out, they plough it up for oats, of which they get very large crops, and then sow turnips.

The principal point in this husbandry is the soil; it is very different from what is generally supposed requisite for this grass: for although the farmers here sow it on their chalky soils, yet the venturing

turing it in a loam on a stiff clay, is utterly contrary to all the common ideas we have heard concerning fainfoine. Eighteen inches of surface are nothing: the roots presently get deep into the clay, and it is very evident from this experience that they receive no damage by so doing. Hence it appears that the husbandmen in many parts of the kingdom might cultivate fainfoine on soils often esteemed improper.

In manuring their lands, the farmers around this place depend chiefly on their farm-yard dung, and the sheep-fold; but they bring coal ashes from *London* for their clover and fainfoine, and foot for their wheat, which they sow over it, 30 or 40 bushels *per* acre, in *March*, and find it a very great improvement.

The fences throughout this country consist of plashed hedges, with scarcely any ditches: these are excellently worked; they have a most neat and husband-like appearance, and would, with the assistance of good ditches, form most impenetrable fences.

As to grass lands, the quantity of meadow and pasture is very trifling, but they have

8 THE FARMER'S TOUR

some which lets from 20 to 40s. an acre; they use it chiefly for cows, which they generally suckle.

The flocks of sheep rise from small parcels to 2, or 300; they reckon the profit about 14s. a head, feed them in winter on turneps.

In their tillage five horses are necessary for 100 acres of arable land: they use 4 or five in a plough, and do an acre a day; sometimes an acre and an half. The price 7s. an acre, and the depth about 5 inches. The annual expence of a horse they calculate at 15*l.* Their stubbles they do not break up till after *Christmas*. The only plough they in general use, is the great *Hertfordshire* wheeled plough.

The hire of a cart, four horses, and a driver, 10s. a day.

In the hiring and stocking farms, 400*l.* they reckon necessary for one of an hundred a year.

Land sells from 26 to 30 years purchase. Tythes in general compounded. Poor rates from 1s. to 1s. 6*d.* in the pound. The employment of the poor people chiefly lace making;

THROUGH ENGLAND. 9

making; which has much increased within the last ten years.

LABOUR.

In harvest, 2*s.* a day and board.

In hay-time, 1*s.* 6*d.* and beer.

In winter, 1*s.* and ditto.

Reaping, &c. wheat, 7*s.* to 8*s.* an acre.

Mowing barley, 2*s.*

———— Oats, 1*s.* 8*d.*

———— Grass, 2*s.* 6*d.* to 3*s.*

Hoeing turnips, 4*s.* to 5*s.* an acre.

Plashing a hedge, 2*d.* $\frac{1}{2}$ and 3*d.* a pole.

Thrashing wheat, 2*s.* a quarter.

———— barley, 1*s.* 3*d.* and 1*s.* 6*d.* ditto.

Making hedge faggots, 3*d.* a score.

Amount of a labourer's annual earnings,
18*l.*

Head-man's wages, 8*l.* to 10*l.*

Next ditto, 5*l.*

Maid's, 4*l.* 10*s.* to 5*l.*

Value of a man's board, washing and
lodging, 12*l.*

IMPLEMENTS,

A waggon, 20*l.*

A cart, 10*l.*

A plough

10 THE FARMER'S TOUR

A plough complete, 2*l.* 2*s.*

A scythe, 3*s.* 6*d.*

A spade, 3*s.*

PROVISIONS.

Bread, - - - 1*d.* a pound.

Cheese, - - - 4 $\frac{1}{2}$

Butter, - - - 7

Beef, - - - 3 $\frac{3}{4}$

Mutton, - - - 4

Veal, - - - 4

Pork, - - - 4

Candles, - - - 7 $\frac{1}{2}$

Labourer's house-rent, 45*s.*

The following are the particulars of several farms in the neighbourhood.

600 Acres in all	He has
540 Arable	100 Acres wheat
60 Grass	100 Turnips
£.250 Rent	80 Fallow
16 Horses	200 Barley and oats
6 Cows	80 Pease, beans,
4 Young cattle	thatches, &c.
300 Sheep.	8 Men
	6 Labourers.

Another:

THROUGH ENGLAND. 11

Another :

200 Acres in all	20 Fallow
180 Arable	40 Turnips
20 Grass	20 Pease, beans,
£. 100 Rent	and thatches
10 Horses	3 Men
6 Cows	1 Maid
200 Sheep	1 Boy
50 Acres wheat	2 Labourers.
50 Barley and oats	

Another :

120 Acres	60 Sheep
100 Arable	20 Acres wheat
20 Grass	20 Barley, &c.
£. 80 Rent	20 Turnips
6 Horses	20 Fallow
2 Cows	20 Pulse.

Another :

160 Acres in all	80 Sheep
150 Arable	30 Acres wheat
10 Grass	40 Barley
£. 70 Rent	10 Oats
8 Horses	40 Turnips
3 Cows	20 Fallow
2 Young cattle	10 Thatches.

12 THE FARMER'S TOUR

From *Hempstead* to *Tring*, the soil continues in general a loam on chalk, and lets at 10*s.* an acre. Towards the latter place, farms rise from 20*l.* to 300*l.* a year; they have some clays, and various loams, average rent 10*s.* Among other courses they pursue the following :

1. Fallow
2. Wheat
3. Oats
4. Pease.

Also,

1. Turnips
2. Wheat
3. Barley
4. Pease.

Likewise,

1. Turnips
2. Barley
3. Clover
4. Wheat.

And

1. Thetches
 2. Turnips.
 3. Wheat.
- } In one year.

For wheat they plough thrice; sow $2\frac{1}{2}$ bushels of seed *per* acre, about *Michaelmas*, and reap upon an average twenty-five. For
barley,

barley, they stir two or three times; sow 4 bushels an acre in *March*, and gain 3 quarters at a medium. They give but one earth for oats, sow from $3\frac{1}{2}$ to 4 bushels before barley seed time; the mean product 6 quarters.

For pease they plough but once, sow 4 bushels in *March*, and gain upon an average twenty. The better sort of farmers use *Marlborough* greys, which they sow in drills equally distant, 2 feet asunder; hand hoe them twice, and get in this manner from 30 to 40 bushels, besides cleaning the land so well, that wheat always follows. This contrast to the common pea culture, both in crop and preparation, should induce them to extend the drilling of pease. For beans they also give but one earth, sow three bushels of seed the beginning of *March*, never hoe, and reap thirty. It is astonishing that these farmers should see the excellence of hand-hoeing pease, and yet never extend the culture to beans, a crop that requires it much more.

They plough thrice for turnips, hoe them once, and feed them off with sheep; the average value 2*l.* 10*s.* per acre.

Clover

Clover they sow with barley and oats, generally mow twice for hay, of which they get very great crops; up to 5 loads *per* acre, at two mowings, often four. Tares they cultivate for mowing green for their horses, reckon them extremely profitable, and that one acre of good ones will feed 5 horses a month; they manure them with ashes in the spring, about 50 bushels an acre, and find the utility of it great.

Sainfoine they commonly sow on their chalky hills; it lasts from 12 to 15 years, mow it every year, and get from 2 to 3 load of hay an acre.

In the management of their manure, they have merit; they foot their green wheat, 20 bushels *per* acre, in *March*, and sow that quantity of ashes on their clover; their hay they stack all at home; and litter their yards well with wheat stubble.

Grass inclosures let at 20*s.* an acre: they use them for cows, but they are scarce.

The profit of flocks of sheep they reckon at 10*s.* a head: feed them in winter on turnips; 4 pound the average fleece.

In

THROUGH ENGLAND. I.

In tillage, they reckon 5 horses necessary for 100 acres of arable land; use 4 in a plough, and do from 1 acre to $1\frac{1}{2}$ in a day, stir from 5 to 8 inches deep: The price *per* acre 5*s.* Their stubbles they do not break up till *Christmas*. They use both wheel and swing ploughs.

In hiring and stocking their farms, 400*l.* they think sufficient for 100*l.* a year; but some use 450*l.*

LABOUR.

In harvest, 35*s.* a month, and board.

In hay-time, 1*s.* 6*d.* a day, and beer.

In winter, 1*s.* and beer.

Women, in harvest, 6*d.* to 8*d.* a day, and board.

———— in hay-time, 6*d.* and beer.

Reaping wheat, 6*s.* 6*d.* *per* acre.

Mowing barley, 1*s.* 6*d.*

———— oats, 1*s.*

———— grafs, 2*s.*

Hoeing turnips, 4*s.* 6*d.* to 5*s.*

Plashing hedges, 2*d.* $\frac{1}{2}$ *per* pole.

Ditto, and ditching, 8*d.*—the ditches very paltry.

Threshing wheat, 3*d.* a bushel.

Threshing

16 THE FARMER'S TOUR

Threshing barley, 1*s.* 6*d.* a quarter.

————— oats, 1*s.* ditto.

————— pease, 1*s.* *per* 5 bushels.

————— beans, 1*s.* a quarter.

Head-man's wages, 8*l.* to 10*l.*

Next ditto, 4*l.* to 6*l.*

IMPLEMENTS.

A waggon, 25*l.*

A cart, 6*l.*

A plough, 1*l.* 10*s.*

Laying a share, 8*d.*

————— coulter, 5*d.*

PROVISIONS.

Bread, - - 1*d.* *per* pound.

Cheese, - - 4½

Butter, - - 7½

Beef, - - 4

Mutton, - - 4

Veal, - - 4

Pork, - - 4

Bacon, - - 7

Milk, - - ½*d.* a pint.

Candles, - - 7½ *per* pound.

Labourer's house-rent, 2*l.* 2*s.*

————— firing, 1*l.* 10*s.*

————— tools, 15*s.*

BUILDING.

BUILDING.

Bricks, 15 s. per 1000.

Tiles, 1 l. 10 s. per ditto.

Oak, per foot, 2 s.

Ash, ditto, 1 s. 4 d.

Elm, ditto, 1 s. 6 d.

Beech, ditto, 1 s.

A carpenter a day, 1 s. 6 d.

A mason, ditto, 1 s. 6 d.

A thatcher, ditto, 1 s. 6 d.

The following particulars of farms will shew the general oeconomy.

60 Acres in all	10 Turnips
50 Arable	10 Pulse
10 Grass	1 Boy
£ 40 Rent	1 Labourer
3 Horses	1 Waggon
2 Cows	3 Carts
100 Sheep	1 Plough.
25 Acres wheat	

Another :

600 Acres	8 Cows
100 Grass	4 Young cattle
500 Arable	300 Sheep
£ 300 Rent	100 Acres wheat
17 Horses	50 Barley

18 THE FARMER'S TOUR

40 Oats	3 Boys
100 Pulse	2 Maids
100 Turnips	12 Labourers
60 Clover	2 Waggon
40 Fallow	6 Carts
1 Man	4 Ploughs.

From *Tring* to the conclusion of the chalk hills, about four miles from *Aylesbury*, the soil and husbandry continues the same; but in the vale it becomes richer; it is a good clay, but all in open field land; many beans, but all full of weeds, and none hoed. Here I first remarked the broad crooked ridges arched up in the middle: It is also to be remarked, that in this strong clay vale, the great *Hertfordshire* wheeled plough is quite changed for a light swing one; of a better construction than common, for the mould-board is curved; but the ear or head for regulating depth, has the common fault; and the junction of the share to the front of the plough forms a sharp angle, which is another common fault: such angles increase the friction of the plough greatly. From the point of the share to the beam, should be a gentle curve.

From

From *Aylesbury* I took the road to *Buckingham*, going thro' a part of the vale; for four or five miles from the town, the soil ranks among the richest I ever saw; it is a black, putrid clay, quite mellow, and crumbling when in tillage. I made several enquiries into the husbandry of it, and, from the products, found it almost as bad as the land is good. Nearly the whole country is open field land; and all lies in broad high crooked ridges. Lets all at 14*s*. The course pretty general, is,

1. Fallow
2. Wheat
3. Beans.

Also,

1. Fallow
2. Barley
3. Beans.

They fold the wheat fallows, and manure the barley ones with farm-yard dung. But their tillage is miserable, scarcely ever stirring above 3 or 4 inches deep, and sometimes not more than 2, although they plough with four or five horses at length, with a swing plough, and never use less than three: they give from three to five stirrings.

The farm-yard dung they spread on the barley fallows in *June*.

Of wheat, their crops have of late years been very bad : but the general average is not above 15 bushels *per acre* : some farmers asserted not more than 12. Of barley, they get at a medium 16, and of beans, $3\frac{1}{2}$ quarters. This crop they never hoe, but feed off the weeds with sheep. Their flocks do not pay them above 3*s.* 6*d.* a head clear profit.

In no part of the kingdom have I met with husbandry that requires greater amendment than this : such products are, their soil considered, contemptible. Improvement must be treated under two heads : first, the management while the land is in its present state, which is the farmer's business : and secondly, the inclosing it, which is the landlord's.

The poverty of the crops is chiefly owing to a want of draining ; for the country being totally flat, and very few ditches in it, the water settles in the deep furrows, so that the tops of the ridges are the only part of the land in a proper state for yielding
corn.

corn. Those fields in which property is very much intermixed, would be difficult to drain, but wherever one man had several pieces contiguous, or only two, he might certainly dig a drain between them; covered ones would be most adviseable; this conduct is absolutely necessary, for the idea of paying 14s. an acre for land, much of which, crop and all, are soaked in water throughout the winter, is itself one would think sufficient, without any argument.

Next to draining, I shall recommend a change of course by common consent; let them substitute the following:

1. Fallow
2. Wheat
3. Beans
4. Wheat;

and so on for 7 years at least; a fallow oftener would be absolutely useless. The land is excellent for beans, which crop generally pays them better than any other, notwithstanding it is the last in the course, and never hoed: What therefore would it do under a better management? Let the beans be at least hand-hoed well, twice or

thrice; but so as to keep them as clean as a garden; if they would drill and horse-hoe them, the crops would be greater, and the expence less. Let all their dung be laid on for them, either at *Michaelmas*, or in hard frosts: their present system of laying dung on in *June* for a crop that is not sown till *April* following, is a piece of absurdity: so managed, dung is a mere pulveriser. By ploughing it in at *Michaelmas*, the land would work at bean sowing admirably mellow; the succeeding hoeings would kill all weeds, and the wheat then could not fail of being excellent. It is folly to talk of the necessity of fallowing every third year; I know just such land, in more places than one, that has never been fallowed at all. But if they will not change their course, at least let them hand-hoe their beans; if they would keep them perfectly clean, their crops would be much greater, and the wheat on the following fallow, find the advantage of it.

I would further recommend to them to have nothing to do with barley; they can grow as much wheat *per* acre as barley, or
within

within a bushel at a medium; to cultivate it is therefore all loss.

Another circumstance highly worth their consideration, is the number of horses they plough with: 4 or 5 at length are *custom* not *draught*: I saw many pieces ploughing for the second and third time, (dunged before) with 4 horses; a pair would have been fully sufficient.

As to the landlords, what in the name of wonder can be the reason of their not inclosing! All this vale would make as fine meadows as any in the world: I observed along the road, and on the head lands, that the white clover came naturally, not as we see it in most soils, a dwarf covering; but such a thick luxuriant growth, that a vast produce of that alone would be mown: I would undertake to let the whole vale at from 25s. to 30s. an acre; and many parts of it at 30s. at the lowest. How well therefore can they afford to be cheated by their attorneys, over-reached by their commissioners, and to squabble among themselves! Sixteen shillings an acre the return!

Upon the whole, this famous vale has received ample gifts from nature, but the

efforts of art are all yet to be made: the landlords have 14*s.* where they might have 30*s.* and the tenants reap bushels, where they ought to have quarters.

About *Hockston* there are many new inclosures, particularly in the estates of the Earl of *Chesterfield*; the soil is a gravelly loam, pretty rich. Farms rise from 50 to 400*l.* a year. Rents about 16*s.* on an average. Their course in general,

1. Fallow
2. Wheat
3. Beans,

which is the old open field course; some farmers are getting into a greater variety, but very slowly. They get about 3 quarters *per* acre of wheat on an average; 2 quarters of barley, and 3 of beans. Grass land lets from 20 to 30*s.* an acre: they apply it chiefly to feeding cows for the dairy. Some of their new inclosures I observed laid down to grass; but all upon the old crooked ridge and furrow work: And what is a curious piece of ill husbandry, they lay down with common clover and ray grass; and trust the white honey-suckle coming
of

of itself, which, after some years, it does pretty tolerably. I cannot omit advising these farmers to plough down their ridges, and lay the land perfectly level; and then to sow white clover and trefoile, which they may do at very small expence, and on such excellent land they would immediately come into a most profitable meadow. From three to four gallons of milk, the quantity the cows give at an average. One farmer here has 80 which he milks: He keeps only two dairy maids, besides his wife; but has milkers besides, one to every 12 cows.

They use 4 or 5 horses at length in a plough, and do an acre a day.

Towards *Winslow* the country is chiefly open, with the old husbandry of 1. Fallow; 2. Wheat; 3. Beans; but that parish is now inclosed: the rents before were 14s. but now arable land lets to 28s. an acre; none under a guinea; and grafs from 40s. to 3l. all tythe free. This rise of rents on inclosing justifies my observation on the expediency of inclosing the vale of *Aylesbury*. Poor rates here are 3s. in the pound.

It is observed, that some of the new rents are dropping, from the inability of

26. THE FARMER'S TOUR

the farmers to pay them : The mention of this doubtful circumstance made me enquire particularly into it : I found the instances very rare, and then wholly owing, as was agreed on all hands, to the farmers cropping their land every year with little judgment, till they run it quite out of heart. The soil is a very fine rich fertile clay. Now on such land there cannot be a doubt but they may take a crop *every year*, and yet keep the soil as clean and in as fine heart as ever it was ; and at the same time be very able to pay the new rents. But this depends on their changing bad husbandry for good. I must observe that all this country is terribly pinched in winter for food for their cattle, both sheep and beasts : the land is too moist for turnips. This circumstance considered, let me recommend to them the following course :

1. Cabbages
2. Oats
3. Beans
4. Wheat
5. Cabbages
6. Barley
7. Clover
8. Wheat,

All

All their manure to be laid on for cabbages or beans. The cabbages to be on 5 feet ridges arched up; horse-hoed thrice or four times; and hand-hoed twice. The beans to be drilled and kept *perfectly* clean from all weeds. I would risque my life on the success of this husbandry on their land; and I think barley in this course would prove more successful than common with them at present.

To *Buckingham* much open land, and all thrown into the course of

1. Fallow
2. Wheat
3. Beans.

- Or,
1. Fallow
 2. Barley
 3. Beans.

Lets at an average at 15 s. an acre the open field. Their mean crops;

Of wheat, 2 quarters.

Of barley, 2 ditto.

Of beans, 3 ditto

The soil a fine black crumbling clay. As a proof how well it is farmed in the broad ridge work, let me observe that the furrows

furrows were under water: if so in *June*, what must they be in winter? The unaccountable poverty of the crops through this country so rich in soil, must be owing to a want of draining.

From *Buckingham* to *Towcester*, the principal part of the country is occupied with *Earl Temple's* park* and woods; and *Whittlebury Forest*, the Duke of *Grafton's*.

From

* *Stow*, the celebrated seat of that nobleman, is well situated in a spot, much more beautiful than any of the surrounding country. The house is large; it extends in one line of front 900 feet.

The *Hall* is 36 feet by 26. The saloon 36 by 22; out of the former is an handsome apartment of two dressing-rooms and a bed-chamber, each about 20 by 16.

The *Chapel* is richly fitted up in cedar, and ornamented: the altar-piece the *Resurrection*, by *Tintoretto*.

In the *Grenville Room*, 36 by 25, are many modern portraits of the family.

The *Dining-room*, 43 by 25, is very handsomely fitted up and furnished: here are three pieces of statuary that deserve attention; a *Narcissus*, whose attitude is easy, and the figure elegant. *Vertumnus* and *Pomona*, by *Schemacher*; and *Venus* and *Adonis*, by *Delveau*. The marble is veined so much with blue, that they appear to disadvantage: the *Venus* is delicate and beautiful.

The

From that town I took the road to *Northampton*; first, through the estate of lord *Pomfret*, admirable rich land; none of which lets at less than 20*s.* an acre, and much of it from 30*s.* to 40*s.* But the roads are a disgrace to the country. About *Blisworth* the soil is not equal to that nearer *Towcester*; it is chiefly a red gravelly loam, and some binding clays; the open fields let at 8*s.* and the inclosures from 12*s.* to 20*s.*

Farms

The *Drawing-room*, 30 by 25.
Paul Panini. Ruins.

In the *Waiting-room*.

Guerchino. *Cymon and Iphigene*: a fine and expressive picture; her figure good, but an odd posture.

Albert Durer. *Joan of Arc*: a curious piece; her countenance well designed, musing on her expedition.

Poussin. Gold pouring into the mouth of *Crassus*.

Gas. Poussin. Two landscapes.

Holbein. Two heads: good.

Unknown. Two portraits, that of the man a good one.

In the *Breakfast-room*.

Rubens. Boys; copied from him, pretty.

Albert Durer. *St. Catherine*.

Corn. Johnson. A head: very fine.

Le Saur. Young bachanals.

30 THE FARMER'S TOUR

Farms rise from 30*l.* to 150*l.* a year. Their course, 1. Fallow. 2. Wheat. 3. Beans. And 1. Fallow. 2. Barley. 3. Beans. They plough four times for wheat; sow 2½ bushels of seed, about *Michaelmas*, and reckon the average crop at 2½ quarters. For rye they stir four times, sow 2 bushels of seed before wheat, and gain 3 quarters on a medium. For barley they give four earths,

In the *Private Drawing-room*.

Rembrandt. *Samson*; very great and strong expression.

Horizonti. Two large landscapes.

Poussin. *Moses burying the Ægyptian*: fine. The drawing appears to be good.

A port. Good.

Guido. *St. Stephen*: the hand excellently done.

St. Laurence. The face and hands finely done.

Mille. *Acis and Galatea*; a landscape. A pleasing spirit in the figures.

Claud Loraine. Landscape.

P. Brill. Ditto.

Primacitio. *Chriseis*. Her drapery not so good as the design required.

Rape of *Helen*. Good.

Vulcan forging armour for *Æneas*.

Rubens. His first wife: an instance of the fatality of his making his wives the models of his females. A painter should either be gay, or marry nothing but beauties.

earths, sow 5 bushels as early in the spring as they can on clay lands, the crop about $3\frac{1}{2}$ quarters. For oats they plough but once, sow $5\frac{1}{2}$ bushels after barley sowing; and the last on light land; the crop 5 quarters. For pease and beans mixed, they stir once, sow 4 bushels in *March*: nor do they give more tillage for beans alone, of which they sow 5 bushels, never hoe them, the crop about $3\frac{1}{2}$ quarters.

They

Vandyke. The duke of Sully.

Basan. The marriage of *Cana*.

Guerchino. *Samson* and *Dalilah*. Dark, but well designed.

Tintoretto. A dance at the marriage of the Duke of *Mantua*.

Old Richardson. *Oliver Cromwell*.

Rubens. Sileno. Admirable expression.

The *Gallery*, 70 by 25, and 22 high, is a beautiful room: The proportion extremely pleasing. It is hung with *Brussels* tapestry; representing the triumphs of *Bacchus*, *Venus*, *Ceres*, *Mars*, and *Apollo* I think. The ceiling is stuccoed in compartments, and ornamented with medallions, and paintings in *obscura*. The chimney-pieces, polished white marble, ornaments trailed on *siena*. The pier glasses are handsome, and the slabs of *siena* marble.

In

32 THE FARMER'S TOUR

They plough four or five times for turnips, which they sow only in the inclosures, hand-hoe them once, and feed them all off with sheep: the crops on an average 40*s.* per acre. Clover they sow with both barley and oats; mow and feed it; sow oats, &c. after; and reckon the crop better after feeding than mowing.

They cultivate some tares, which they mow green for their horses, but not so commonly

In the *Dressing-room*, 35 by 30, the chimney-piece of white marble polished. The ceiling scrolls of gold on a bluish lead ground.

Titian. *Venus* blinding *Cupid*: the same, if I recollect right, as that which Mr. *Strange* has engraved. It is fine, but the figures as lusty as if by *Rubens*: The shoulders are not those of *Venus*.

Flemish School. Four conversation pieces.

The *State Bed-chamber*, 50 by 25, is as handsome as I remember to have seen. It is magnificently furnished with crimson damask, and gold ornaments: the glasses are fine; and the slabs of Siena.

But the ornamented grounds at *Stow* are more peculiar than the house. They were for many years the admiration of all that viewed them, not only for their real beauty, but the scarcity of other improvements of the same kind
in

monly as they ought, letting too many stand for feed. An acre of good ones will keep 5 or 6 horses a month.

There are many woods in this country; and they reckon the value of an acre, at 13 years growth, to be about 9*l*.

In respect to manuring; they fold their sheep on the lands for wheat and barley. Their farm yards they litter with straw and stubble. Dung is to be had at *Northampton* for

in the kingdom. I should observe, that they were sketched at first quite in the old stile of broad straight gravel walks and avenues of trees; with regular waters: but many of these circumstances are much changed, and the grounds modernized as much as they would admit. As I do not quote any particular part of these gardens for particular purposes, I shall offer the few observations I made on them in the order I viewed them.

From the temple of *Bacchus*, there is a pleasing view down on the water in the vale; the temple of *Venus* on its banks, with some wood behind it: but the effect would be better were it quite backed with the dark shade of a thick wood. Passing a cave, or rather a root house, dedicated to *St. Austin*, the walks lead to the pavilions at the park gate, from which the water is seen differently winding, in a very natural taste, at

34 THE FARMER'S TOUR

for 2*s.* a load, but they reckon 5 miles too far to bring it.

Some good farmers hollow drain their wettest lands, but the number is very small; they fill with thorns or stone.

Good grass land lets at from 25*s.* to 30*s.* an acre; they apply it to feeding cows, and fattening sheep; an acre will about carry a cow through the summer. The breed is the long horned; a good one will give 5 gallons

the bottom of several pastures: it is here as just an imitation of a real stream as can any where be seen.

From Queen *Caroline's* pillar, the wood and water appear to advantage, and the portico of one of the pavilions on the south side of the gardens, is caught among the wood in a most agreeable manner.

Moving down to the water, a common bench commands a view of a building, that terminates the water, which is here large; but observe a small grass lawn scattered with trees, on the opposite banks, which breaks from the water into the wood: it is extremely picturesque; and the best part of this view.

Advancing to the temple of *Venus*, the landscape is very fine; the water fills the valley, (tho' rather too regular in the bend) and the opposite hill is well spread with thick wood:

The

gallons of milk a day ; and in total product about 6/. They keep many hogs, one or two, and sometimes more to every cow. They reckon a dairy maid can take care of 20 cows. Their winter food hay alone ; about a load and a half, or two loads *per* cow. In rearing their calves do not suck above 3 or 4 days.

They fat their hogs from 18 to 25 score pounds.

The

The rotunda beautifully placed on a point of ground, with a projecting wood behind it ; and to the left the temple of *Bacchus*, quite embosomed in a thick grove.

From the shepherd's cave, the view of the rotunda is extremely picturesque. From hence the path winds by the water ; but the termination of it ornamented with statues, and the regularity of the cascades, are in a very different stile from the rotunda, which is as happily placed as the most cultivated taste could imagine.

From the first pavilion, the view of the lake is very pleasing : it gives a bend, which forms a promontory of a beautiful verdure scattered with trees, through the stems of which you command the water. Gardening seldom offers a more beautiful object ; nor can it well be employed without success. The extreme beauty of this part of the view, will draw off your atten-

The flocks of sheep generally from 60 to 160, reckon the product of lamb and wool at 10s. the winter food hay; their lambs on turnips: the fleeces rise from 5 to 8 pound.

In their tillage they reckon 6 or 8 horses necessary for 100 acres of arable land; use 3 or 4 at length in a plough, and do from 1 acre to $1\frac{1}{2}$ a day; stir 3 inches deep; the price *per* acre 5s. They calculate the
annual.

tion from the regular lawn that leads up to the house.

From the temple of *Friendship*, the view of that of *Antient Virtue* in a thick wood is fine; and when the wood is enough grown to hide the house, it will be yet better.

The Palladian bridge is taken from that at *Wilton*; the water here winds through natural meadows in a just taste.

From thence as you mount the hill, the view to the left is extremely fine; the water winds through the valley; one of the pavilions on the banks, very prettily scattered with wood; and above the whole, the distant country terminates the scene. From the bench at the top of the hill, the same view, but varied; with the *Corinthian* arch, in an excellent situation: a proof that ornamental buildings may sometimes be nearly distinct from wood; tho' the connection between them is so seldom broken without damaging the beauty of a view.

From.

annual expence of a horse at about 10*l*. when they are in full work, they give them 2 bushels of oats a week. They do not break their stubbles till after spring sowing. They use both wheel and swing ploughs.

The hire of a cart, 3 horses, and a driver, 8*s*.

In the hiring and stocking farms, they reckon that 3 or 400*l*. is necessary for one
of

From the front of the *Gothic* temple, the views are admirably rich. On one side, the portico of the temple of *Concord* is beautifully seen in the wood. On the other, the ground has a varied slope into the valley, where the water winds in a very pleasing manner, the pavilion beautifully situated on its banks. In front, a dark wood bounds the scene. Query, should the spires, &c. of the house be seen here?

Passing lord *Cobham's* pillar, from whence is a view through wood of the temple of *Concord*, you come by winding walks to the banquetting-room, from whence is a fine varied prospect; the *Corinthian* arch appears to advantage.

From hence you are conducted to the temple of *Concord* and *Victory*, and in the way, pass a most beautiful winding hollow lawn; the brows of all the surrounding slopes, finely spread with woods, thick in some places, and in others scattered so as to open for the eye to follow the bends

38 THE FARMER'S TOUR

of 100*l.* a year; but if well done, it will take more; they calculate as follows:

6 Horses,	-	-	-	£. 60
7 Cows,	-	-	-	70
100 Sheep,	-	-	-	50
Swine,	-	-	-	3
2 Waggon,	-	-	-	40
3 Carts,	-	-	-	30
2 Ploughs,	-	-	-	2
				<hr/>
Carry over	-	-	-	£. 255

of the lawn, which is every where different. The temple excellently situated on the brow of one of the hills: it is a very fine building; an oblong totally surrounded by a colonade of well proportioned pillars. The architecture light and pleasing. In it is a room 42 by 25, ornamented with a statue of Liberty and several medalions in the walls, some of which are extremely well executed; tho' the performance of a self-taught artist, once a poor boy in lord *Temple's* stables.

The walk leads next to a sequestered winding vale, finely surrounded with wood; and a small water takes its course thro' it, broken by woody islands, and a various obscured shore; at the head is a grotto of shells, &c. which looks down on the water in a pleasing manner; and must be particularly beautiful when the woods and water are illuminated; which they are when lord *Temple* sups in it. Here is a statue of *Venus* rising from the bath; a pleasing statue, and the attitude naturally

THROUGH ENGLAND. 39

Brought over	-	-	£. 255
3 Pair of harrows,	-	-	3
A roller,	-	-	1
Harnes,	-	-	7
Sundry implements,	-	-	5
Furniture,	-	-	80
Rent,	-	-	100
Tythe,	-	-	12
Town charges,	-	-	12
Housekeeping,	-	-	50
2 Men,	-	-	14
1 Boy,	-	-	3
3 Labourers,	-	-	50
1 Maid,	-	-	5
Seed,	-	-	20
			<hr/>
			£. 617
			<hr/>

naturally taken; tho' not well imagined for exhibiting the person to advantage.

The grove on which the grotto looks, leads you to that part of the garden, called the *Elysian-fields*, which are beautiful waves of clove shaven grass; breaking among woods, and scattered with single trees; bounded on one side by thick groves, and shelving on the other down to the water, which winds in a very happy manner; and commanding from several spots, various

40 THE FARMER'S TOUR

But by buying things at second hand, and going as near to work as possible, some farms are taken with much less sums.

Land sells at 30 to 35 years purchase.

Tythes in general 3s. 6d. an acre. Poor's rates 1s. in the pound, doubled in 10 years: their employment spinning, and some lace-making: all drink tea.

No leases.

They carry their corn 5 miles.

LA-

landscapes of the distant parts of the garden. From the temple of *Antient Virtue*, you look down on a very beautiful winding hollow lawn, scattered with single trees in the happiest manner, through the stems of which, the water breaks to the eye in a stile admirably picturesque. Near to this temple in a thicket is the well known satire, the temple of *Modern Virtue* in ruin.

The ground continues extremely various and beautiful, till you come to the Princess *Amelia's* arch, from which you at once break upon a scenery truly enchanting; being more like a rich picturesque composition, than the effect of an artful management of ground and buildings. The lawn from the arch, falls in various waves to the water, at the bottom of the vale: It is scattered with trees, whose spreading tops unite, and leave the eye an irregular command among
their

LABOUR.

In harvest, 35 s. and board a month.

In hay-time, 1 s. 3 d. a day and beer.

In winter, 1 s. and ditto.

Reaping wheat, 6 s. an acre.

Mowing barley and oats, 1 s.

————— grafs, 2 s.

Hoeing turnips, 5 s.

Ditching, 5 d. to 6 d.

Threshing wheat, 2 s. a quarter.

Threshing

their stems of a double wave of the lake. The smooth green of the lawn, obscured in some places by the shade of the trees, in others illuminated by the sun, forms an object as beautiful as can be imagined; nor can any thing be more picturesque than the water appearing through the fore ground of the scene, thus canopied with trees. A break in the grove presents a compleat picture above these beautiful varieties of wood and water: first, the Palladian bridge, backed by a rising ground scattered with wood; and at the top of that a castle. The objects of the whole scene, tho' various, and some distant, are most happily united to form a complete view, equally magnificent and pleasing; the richest that is seen at *Stow*.

The arch is a light and well designed building.

Upon the whole, these gardens have much to please the spectator. The new parts have a very
happy

42 THE FARMER'S TOUR

Threshing barley, 1*s.* 2*d.*

————— oats, 10*d.*

————— pease, 1*s.* 2*d.*

————— beans, 1*s.* 2*d.*

Making faggots, 2*s.* *per* 100.

Amount of a year's earnings of a labourer,
about 17*l.*

Day labour used to be only 4*s.* a week in
winter.

Head-man's wages, 8*l.*

Next ditto, 5*l.*

Lad's, 3*l.*

Maid's, 5*l.*

Women a day in harvest, 8*d.* and board.

————— in hay-time, 6*d.* and beer.

IMPLE-

happy variety of ground; much of the wood is old and fine, consequently the shade where wanted is quite dark and gloomy; a great effect, and scarcely to be gained by young plantations. The water (tho' not perfectly cured of its original stiffness) winds at the bottom of fine falling vallies; and its shores are well spread with wood; an advantage so great, that an instance is not to be produced of a lake or river that is beautiful without an intimate connection with wood. The buildings are more numerous than in any grounds I know, and most of them are in a good taste.

IMPLEMENTS.

- A waggon, 20*l*.
- A cart, 10*l*.
- A plough, 1*l*.
- A pair of harrows, 1*l*.
- A roller, 1*l*.
- A scythe, 3*s*. 6*d*.
- A spade, 3*s*. 6*d*.
- Laying a share, 8*d*.
- coulter, 4*d*.
- Shoing, 2*s*.

PROVISIONS.

- Bread, *per* pound, 1*d*.
- Cheese, - - 4 $\frac{1}{2}$
- Butter, - - 5
- Beef, - - 4
- Mutton, - - 3 $\frac{1}{2}$
- Veal, - - 3 $\frac{1}{2}$
- Pork, - - 3
- Bacon, - - 6
- Milk, a pint, - $\frac{1}{2}$
- Labourer's house-rent, 1*l*.

BUILDING.

- Bricks *per* 1000, 1*l*. 1*s*.
- Oak timber, 1*s*. 6*d*. to 2*s*. a foot.
- Ash, 1*s*. 2*d*.

Elm,

44 THE FARMER'S TOUR

Elm, 1 s. 4 d.

A carpenter a day, 1 s. 6 d.

A mason, 1 s. 6 d.

A thatcher, 1 s. 6 d.

The farm houses principally built with stone. The particulars I gained of a farm as follow :

100 Acres in all	1 Boy
70 Arable	1 Labourer
30 Grass	1 Maid.
£. 60 Rent	He has annually
6 Horses	20 Acres wheat
5 Cows	20 Beans
50 Sheep	20 Fallow
1 Man	10 Oats, &c.

The view of *Northampton* from the hill at the *Towcester* entrance, is very fine; it is built on an easy slope, and shews itself to great advantage. It is in general well built; contains many good houses; and several streets that are straight and broad: the market place is a fine one, but by no means the best in *England*.

The moment you leave the town on the *Leicester* road, the country begins to improve greatly. You have every where a
fine

fine command of wide spreading fields, all waving on the sides of gentle hills; and to the left, a range of inclosures beautifully fringed with trees. The soil for some miles is a fine red loam, excellent turnip land; the worst lets at 20s. an acre; and much up to 40s. Near *Northampton* the Earl of *Strafford* has a seat, the gardens finely situated: they are ornamented with several temples in a very light and elegant stile. The grounds are well wooded.

But as I shall soon enter the rich grazing land of *Northamptonshire*, I shall here conclude this letter.

I am, &c.

L E T T E R II.

FOR the following account of the state of husbandry around *Haselbeech*, I am obliged to Mr. *Ashby* of that place, who sent for the most intelligent of his tenants to give me the particulars.

The country is chiefly cut into grazing farms, which rise from 100 and 200*l.* a year, to 1000*l.* a year; but the open field farms are much smaller; down to 30 and 40*l.* a year. The soil in general is a rich clay; but they have some of the lighter red land, which is a fine loam. The grass lets from 15*s.* to 25*s.* an acre; but the open fields are some of them so low as 2*s.* 6*d.* The open field courses are,

1. Fallow
2. Wheat or rye
3. Beans.

And,

1. Fallow
2. Barley
3. Beans.

These courses have been the regular ones for open fields since I left *Hertfordshire*,
nor

nor could there well be more unprofitable ones. In the inclosures they have variations; particularly,

1. Turnips
2. Barley
3. Clover for 2 or 3 years
4. Oats;

which is an excellent one.

They plough four times for wheat, sow $2\frac{1}{2}$ or 3 bushels about *Michaelmas*; and get on an average 12 bushels. For rye they give the same tillage as for wheat, sow 3 bushels, which is a monstrous quantity; the produce better than that of wheat; about 16 bushels. For barley they also give four stirrings, sow 2 bushels an acre, which are as little as of rye they sow much: they generally begin to sow it in *March*: the average crop about 3 quarters *per* acre. They plough but once for oats, sow 6 bushels *per* acre, and get scarcely so much as of barley. Of pease and beans mixed, they sow 6 bushels, and gain about 12.

Some cole-feed is sown in the inclosures, which they feed in *November* with large ewes; they keep it till near *Candlemas*, and then

then plough it up for barley. They reckon it very fine sheep feed; but an acre produces little in quantity compared with turnips. These they hand-hoe twice: and feed them all off with lambs.

Relative to their conduct in manuring, they fold all their sheep in the open fields, but never in the inclosures. They litter their yards with straw and stubble; but their hay they stack and feed in the fields. About this country, and I believe through all *Northamptonshire* (and I observed much of it in *Buckinghamshire*) they have a most execrable custom of collecting all the cow dung from the fields, and kneading it up with short straw to burn instead of coals. They daub it in lumps on all the walls of their houses, barns, stables, &c. to dry, and from thence take it to their chimnies: any traveller would suppose the country a colony from the wild *Irish*, who burnt their dunghills. Will ye believe me, ye farmers of *Norfolk*, *Suffolk*, *Essex*, *Kent*, and *Hertfordshire*, that this is the constant practice, not only of the cottagers, but of the farmers themselves! *No*; you will say: *it is impossible*;

sible; there cannot be such an application of manure any where but among the Hottentots.

I looked attentively at the inhabitants; to see if the guts and garbage of the cows were not very capital ornaments of their persons.

The farmers have been used to that rational system; we are not therefore to wonder at them; but what say the landlords to it? How do they approve of this perversion of dung? Pretty white cottages and farm houses are in some strange places thought ornamental to an estate; but the gentlemen of *Northamptonshire* are of a different opinion; they approve better the *useful* than the *agreeable*: they *lawn* their *hundred good acres of wheat* for a view of black dunghills, instead of white cots: and the idea of the *fertility* they occasion gilds with peculiar brilliancy such pleasing eye-traps.

In respect to fences, this country possesses such as they find sufficient for turning an ox or a great heavy sheep; as to hogs, they are never fed in the fields. The plashing method is what they pretend to; but practise in so slovenly a manner, that I am amazed they have any quick left in the

county: they let the old stubs grow to a great size, to the height of 4 or 5 feet, and never cut them; the shoots that proceed from them are rather sprawled about, than plashed; bent every way, and at such a height from the ground, that hogs would find many ready made gaps every ten yards of fence. The raggedness of the hedges near the ground, is owing to their letting the thorn stems grow to such a size: as soon as they come to the size of a man's arm, they should be cut off close to the bank, and other stems left in their room. As to ditches, I saw nothing that deserved the name.

The best grass land lets at from 20s. to 25s. an acre, and it is chiefly applied to grazing; and this in so extensive a stile, that few parts of *England* exceed it. The beasts they purchase, are chiefly *Shropshire* long horned ones; many *Welch*; and some from *Herefordshire*. They will have nothing to do with *Holderness* short horned beasts, under the conviction from experience that they are not near so profitable; and particularly in the hides. Mr. *Austin Johnson*
fold

fold a long horned craven beast, the hide of which fold for 4*l.* 5*s.* the beast not a large one, the price not exceeding 11*l.* The general value about 25*s.* They give from 6*l.* to 9*l.* Can, and some to 10*l.*; they purchase in the spring; and very often fodder them with hay before they turn out, which is generally about the 12th of *May*; and they are drove to *Smithfield* in *October*, and *November*. The profit upon them is in the proportion of buying at 9*l.* and selling at 12*l.* The grass inclosures are very large, generally from 40 to 100 acres; and what is peculiar to this part of the kingdom, they turn in a proper stock in the spring of beasts and sheep, and keep them there till all are fat; never changing them from one close to another: they have on an average of seasons a very good guess what the field will maintain, and proportion the stock accordingly.

Upon a medium they turn in at the rate of a large ox, and 2 $\frac{1}{2}$ sheep to every two acres: the sheep are very large, of their own breed, generally wethers, that are bought in at about a pound apiece, and

pay from 8 to 10s. a head. This is the summer system; but they have besides, a winter one: it is that of buying two shear sheep out of the fields at *Michaelmas*, and keeping them all the winter in the fields, let the weather be what it may, sell them fat from the latter end of *May* to the end of *June*: this is winter fattening; and it certainly will appear to the farmers of many parts of the kingdom, a most extraordinary proof of excellent land. So it undoubtedly is; but at the same time I may remark, that these sheep being kept till *May* or *June*, must be little more than *maintained* during the winter, and fattened in the spring on the young grass, which part of the management cannot possibly be good; for they are fattened on the young shoots, which ought to be reserved for the summer stock. Probably the latter might be turned in a week or two sooner, if it was not for this winter fattening, which keeps back the spring growth. Upon the whole, we may cast the account of this country grazing in the following manner for two acres of grass:

THROUGH ENGLAND. 53

Improvement of an ox,	-	£. 3	0	0
Ditto, of 2 $\frac{1}{2}$ sheep,	-	-	1	0
Suppose the winter fattening one sheep to the two acres, and the profit,	-	-	0	8
			<hr/>	
Total,	-	-	4	8
			<hr/>	
Which is <i>per</i> acre,	-	-	2	4
Rent,	-	1	1	0
Town charges,	-	0	2	6
Labour,	-	0	1	0
			<hr/>	
			1	4
			<hr/>	
Remains profit,	-	£. 0	19	6
			<hr/>	

This may not be exact to the truth; but if the graziers do not make this by their business, they are very badly off indeed; nor could they afford to carry on the business, interest of money and accidents considered.

There cannot be a finer sight than the view of the closes throughout this country. You see in every one the preceding proportion of stock, and as they are in general large, the quantity of great oxen and sheep

is very noble ; it is very common to see from 40 to 60 oxen, and 200 sheep in a single field ; and the beasts are all of a fine large breed, well made, good skins, and form all together an appearance greatly striking. This effect is owing in no slight degree to the nature of the country, which is wholly composed of gentle hills, so that you look over many hundred acres at one stroke of the eye, and command all the cattle feeding in them in a manner nobly picturesque. Stock in a flat is lost ; but to see numerous herds of fine beasts spread over the sides of waving hills, is a sight that cannot fail of delighting the spectator.

Sir *James Langham* at *Croftwick*, near *Hafelbeech*, has one close joining to his park of 212 acres : it is always stocked with upwards of 100 great oxen and 400 large sheep. I never beheld a more noble view. The field waves over the side of a hill, and the herds spread to the eye more like those of a patriarch of old, than a modern farmer.

But having thus stated the grazing husbandry of this country in general ; let me observe, that all this fine grass on so excellent

lent a foil, lies all in the broad ridge and furrow, amazingly over-run with thistles, —full of ant-hills, —and with numerous wet places, but none drained: in a word, the management as bad as can be conceived. I have not a doubt but that an eighth of the whole is waste land; the thistles are so numerous that it is the common custom of the country to mow them as regularly as a crop of hay, and 3*d.* the annual expence of it *per* acre: now if it be considered, that these weeds draw the nourishment from the grass, but yield no food for cattle, it will certainly be allowed that these farmers are strangely deficient in their husbandry in not extirpating them. The ant-hills are in amazing numbers, and these boobies insist very gravely, that they are an advantage to the fields, by varying the bite of the cattle; and yielding a food nearly as valuable as the rest of the close. There are opinions so truly absurd, that to attempt a refutation in form, would be preposterous. But I will venture to assert, that if this country was managed to the best advantage, it would yield the landlord thirty shillings

an acre rent, with more profit to the tenant than it now pays 20s.

Hogs fat throughout this neighbourhood to a vast size; those of the parish of *Naseby* fat on an average to about 20 score, but some have lately risen to 36 score. About *Daventry* in this county, they also fat to a very great size—even to 40 score. They buy the *Naseby* hogs, and keep them a year longer than their own farmers. They fat with beans totally; and reckon that a large hog will eat 3 or 4 quarters. The general management of the stock swine they are very attentive to in every point but that of feeding them with clover: many of the farms have cisterns for containing all the dairy wash; which they mix in them with bran, grains, &c. The breed is all white; they think any black or other mixture, an indication of a much worse breed.

The flocks of stock sheep are kept only in the open country, and rise to 200; but the fattening and breeding flocks in the inclosures, rise to many thousands. The winter keeping is grass alone, except for lambs; their winter stock, one sheep *per* acre fat
and

and lean. Their fleeces generally about 9 pound from a wether.

Relative to the proportion of horses to arable land, a just idea cannot be formed, because the breeding of black horses is here a considerable branch of business: they keep all mares, and sell the colts at 2 year old at *Harborough* fair; 10 or 12*l.* a common price: they are now so curious in their breed, that many farmers have their mares covered at two guineas each.

They use from 3 to 5 in a plough at length, and do an acre a day, the depth about 4 inches: they do not plough up their stubbles till after *Christmas*.

Land sells from 30 to 32 years purchase. Tythes are taken in kind. Poor rates 1*s.* in the pound; the employment of the women and children spinning jerseys. All drink tea, but no drams.

There are very few leases.

Besides this general husbandry, here is another not so common; it is that of cultivating woad for the dyers. This is done by travelling people, called woad-men, who hire closes of old grass for two years to take
a crop

a crop of woad. They give 4*l.* 4*s.* an acre *per ann.* for the two, if the land is choice; but get much at 3*l.* 12*s.* They plough it up as deep as possible, and sowing the woad, keep it perfectly clean by hand weeding; all expences are supposed to run at about 12*l.* *per* acre, and the produce is about a ton, in value 25*l.* When they have taken up the crop, the old tenant re-enters the land, and ploughs for two years more, for which he pays two guineas an acre, but is to lay down the land to grass with the second crop. The first he takes is barley, and the second oats, with which oats he sows about 10 pound of white clover, and $\frac{1}{2}$ a bushel of ray grass *per* acre, sometimes on a single ploughing, and so leaves the turf to come again; always in the old form of ridge and furrow.

There is throughout this country a current idea that woading land is very pernicious; and is never allowed of but through eagerness to get a sudden extra rent, which if the standing rate is 20*s.* an acre, will amount in the whole to 8*l.* 8*s.* *per* acre, if the woad-men pay four. So that a landlord
 raises

raises 800*l.* for every 100 acres thus managed, and this they reckon may be done every twenty-two years. Now as the tenants after woading, pay the same rent as before, one cannot wonder at landlords making use of such an easy method to raise money: but it is the tenants that quarrel most at it; they assert the land to be 7*s.* an acre the worse for it; here then lies the enquiry.

The system stated above, of taking two crops of spring corn, and laying down with the last, perhaps on one or two beggarly ploughings, and scattering a small portion of white clover with $\frac{1}{2}$ a bushel of ray-grass, and this on land which they are immediately to pay 20*s.* an acre for——is all together as barbarous a management as ever I heard of——it is truly congenial with burning their dunghills. Under such a conduct, it is no wonder that woading is thought pernicious: I should apprehend that a landlord's thus breaking up a considerable part of a farm, would be sufficient to ruin a rich tenant: the true case of woading therefore does, not in the least appear from the practice of this country, which is utterly contrary to all common sense,

60 THE FARMER'S TOUR

Let me observe, that all the grafs here lies in ridge and furrow; and throughout nine tenths of the fields I rode over, the furrows in various places, for the breadth of a yard at least, nothing but rubbish and rushes—the number of ant-hills incredible—and all the grafs, even that of 25s. an acre, so full of thistles, that it is a regular work to mow them annually.—Such being our data, may we not assert, that ploughing such land *might* be admirable husbandry? There cannot be a doubt of it; and as the woad-men will pay so good a rent for it, certainly it is highly adviseable to woad it. But I shall beg leave to recommend a different system of after management.

If the woad-men can be prevailed on to plough down the ridges, they ought; but of this I am not a judge. The tenant should, after the crop is taken off, have it but one year, and lay down to grasses in that. He should be obliged to lay the whole surface of the field *perfectly level*. With his crop of barley or oats, the landlord should, at his own expence, sow the
grafs

grafs feeds. This I apprehend is essentially necessary; for tenants will never be curious in their feeds——nor sow enough of them. Let him sow 16 pound an acre of *Dutch* clover, 8 pound of trefoile, 5 pound of rib grafs—and 2 or 3 bushels of clear hay feeds——not the sweepings of a hay-loft, but dressed feeds from *Yorkshire* or high *Suffolk*. The field with such management would become an excellent pasture the very first year; and would soon much exceed the state of it before woading.—But another very necessary operation remains; which is that of draining. The only reason given for the present ridge and furrows is their being dry——the tops of them certainly are so; but the furrows are as surely worthless. Instead of such, the whole should be hollow drained with a draining plough, and filled with bushes or stone, and the earth then thrown in again. This (with a plough) is not expensive——it lasts for ever, and would leave the fields as fine pastures as any in *Europe*, for none can be of a better soil. The profit to the landlord of the woading would more than pay all the expences——

of

62 THE FARMER'S TOUR

of which a flight calculation will prove the truth.

Extra rent for woading, -	£. 6	6	0
Ditto for one crop of corn, -	1	1	0
		<u>7</u>	<u>7</u> 0
16 pound of clover, -	£. 0	8	0
8 pound trefoile, - -	0	2	8
5 pound rib grafs, - -	0	2	6
3 bushels hay feeds, - -	0	12	0
Suppose 5 extra ploughings, at the landlord's expence, -	1	15	0
Draining suppose - -	1	10	0
		<u>4</u>	<u>10</u> 2
Extra rent, - - -	7	7	0
		<u>4</u>	<u>10</u> 2
Remains clear profit, - -	£. 2	16	10

Here is an end of hills and holes—
rushes—ant-hills—thistles—nettles
—and all the et cetera's of flovenlinefs;—
a little attention after this will preserve the
land in the same husbandlike and neat
order that pastures are in other counties.

LABOUR.

From *Midsummer* to *Michaelmas*, 6*s.* a week and board.

In winter, 5 or 6*s.* and beer.

Hoeing turnips, 5*s.*

Hedging and ditching, 1*s.* 8*d.* to 2*s.* *per* acre.

Threshing wheat or rye, 2*s.* to 2*s.* 6*d.* *per* quarter.

———— barley, 1*s.* 8*d.*

———— oats, 9*d.* or 10*d.*

———— beans, 1*s.* 6*d.*

Making faggots, 10*d.* a score.

Head-man's wages, 8*l.*

Next ditto, 5*l.* 5*s.*

Lad's, 3*l.* 10*s.*

Maid's, 3*l.* 3*s.* to 3*l.* 10*s.*

Women *per* day in harvest, 6*d.* and board.

In hay-time, 6*d.* to 8*d.* and beer.

Only ten years ago, labour in winter was but from 6*d.* to 8*d.* a day, and no board.

IMPLEMENTS.

A waggon, 20*l.*

A cart, 10*l.* 10*s.*

A plough, 15*s.*

A pair of harrows, 15*s.*

A roller,

64 THE FARMER'S TOUR

A roller,	1 l. 1 s.
Harnes, <i>per</i> horse,	1 l. 5 s.
A scythe,	3 s. 6 d.
A spade,	3 s. 6 d.
Laying a share,	11 d.
Ditto a coulter,	11 d.
Shoeing,	1 s. 8 d.
A remove,	1 d. $\frac{1}{2}$

PROVISIONS.

Bread, massin, two parts wheat to one rye,		
<i>per</i> pound,	-	1 d.
Cheese,	- -	3 $\frac{1}{2}$
Butter,	- -	5
Beef,	- -	3 $\frac{1}{2}$
Mutton,	- -	3 $\frac{1}{2}$
Veal,	- -	2 $\frac{1}{2}$
Pork,	- -	3
Milk, a pint,	-	0 $\frac{1}{2}$
Potatoes <i>per</i> peck,		4
Candles <i>per</i> pound,		6 $\frac{1}{2}$
Soap,	- -	6 $\frac{1}{2}$
House-rent,	-	20 s. to 40 s.
Firing,	- -	40 s.
Tools,	- -	5 s.

BUILDING.

Bricks <i>per</i> 1000,	1 l. 1 s.
Oak timber <i>per</i> foot,	1 s. 2 d.

Ash timber, *per* foot, 9*d.*

Elm, 1*s.*

A carpenter, 1*s.* 2*d.* and beer:

A mason, 1*s.* 6*d.* and board.

A thatcher, 1*s.* and board.

Mud walls, the workmanship 7*d.* to 8*d.* a yard.

In *Naseby* field are 6000 acres—300 cows—300 horses, and 3000 sheep; in *Clipston* field nearly as much*.

The

* Mr. *Ashby* has built at *Haselbeech*, a very good house in a fine situation; from whence he commands an extensive prospect; and from the opposite hills, the house (of white stone) appears beautifully surrounded by a full grown dark wood. One instance among many others of the advantage of placing a white building on an elevated situation in front of a dark shade.

Sir *James Langham*, at *Croftwick* in the vale, has made many great improvements: the house contains several spacious and well proportioned apartments, fitted up in the modern manner; the new chimney-pieces are elegant, and the stuccoed ceilings in a neat taste. There are several very good pictures, by masters of the *Flemish* school.—The grounds are totally altered; the woods are in some places opened so as to let in views of the country, and also of a winding lake now making. Contiguous to the park, and

The country from *Haselbeech* to *Kettering* is chiefly grazing inclosures; generally large ones. I counted 70 large oxen in one, besides a great number of sheep; and these graziers, like those of *Haselbeech*, never change their stock till fat. The peculiar beauty of this country is the possession of such rich land on hills—most of the pastures are spread over high ground that contain very few level acres: in such, the cattle appears to wonderful advantage; and sometimes these pastures really exhibit scenes of this sort, that are truly noble; absolutely unrivalled by the richest lands in *Europe* if on a flat.

About *Glendon* near *Kettering*, farms rise from 60 to 500 *l.* a year; but are generally about 150 *l.* The soil is a red earth; the red loam, light, and rich, and of a good

separated from it by a sunk fence, in full view of the house, is the noble pasture above-mentioned; in which you see above an hundred large oxen, and 400 fatting sheep; a stroke of the eye commands above two thousand pounds worth of live stock, feeding on the waving slopes of a hill most happily situated to enrich the views from the house.

depth;

depth; excellent turnip land—it will yield noble crops of that root without any dung. The average rent about 10s. an acre: the courses of crops are,

1. Fallow

2. Wheat

3. Pease.

Also,

1. Fallow

2. Wheat

3. Beans.

For wheat they plough threetimes, sow from 2 to 3 bushels, and gain about 15 in return. They plough four times for barley, sow 4 bushels about *Lady-day*, and gain 4 quarters on a medium. They stir but once for oats, sow 5 bushels, and gain 2 quarters on an average. They also give but one ploughing for pease, sow 5 bushels, never hoe; and get about 4 quarters in return. For beans they plough but once, sow from 4 to 5 bushels in *February*, never hoe, and gain upon an average 4 quarters.

They give two or three earths for turnips, hoe them once, and feed all off with sheep: the average price 42 s.

They do not sow any clover.

Tares they sow for a crop of seed, which they give their horses. Lentils they sow also for seed, $1 \frac{1}{2}$ bushels *per* acre, and get 3 quarters.

All sheep are folded, even the fattening ones, but it is only in the open fields. The farm-yard dung they lay on to fallows in *June*, for wheat the *Michaelmas* following.

Draining they practise with much more spirit than common: their wet pastures they drain with very large ploughs, drawn by 10 or 12 horses; they cut 16 inches deep; 16 wide at top, and as much at bottom. The ploughs belong to the parishes; if they omit it, their sheep are sure to rot. Their hedges are managed in the plashing method, but the ditches very small.

Good grass land lets at 22s. an acre: they use it for cows and sheep. An acre will carry a cow through the summer, and be of assistance to the sheep besides. The breed of cattle is all long horned. Their cows give about a gallon and a half of milk a day; and the annual product 5*l.* each. They keep from 10 to 20 swine to every 10 cows. A dairy maid will take care

care of 10; the winter food hay, and sometimes a few turnips; generally keep them in the fields, but sometimes in stalls. Calves suck from 3 days to a week.

Hogs they fat to 35 score, but not common; generally about 25.

The flocks of sheep rise to 500: the profit by lamb and wool about 9 or 10*s*. The winter keeping, of the breeding flock, is in the fields alone: but the lambs on turnips. Folding is valued, from being sometimes let; the price 3 or 4*s*. for 200 a week. The average fleece, 5*lb*.

In their tillage they reckon 9 or 10 horses necessary to 100 acres of arable land, They use from 3 to 5 in a plough, do an acre a day. The depth $2\frac{1}{2}$ or 3 inches; at from 6 to 10*s*. an acre. The annual expence of a horse they reckon at 10*l*. While in work they allow them a peck of oats a day, and cut straw into chaff for them; they do not break up their stubbles till after *Christmas*; they use both wheel and swing ploughs.

The hire of a cart, 3 or 4 horses, and driver, a day, 9*s*.

70 THE FARMER'S TOUR

In the hiring and stocking farms, they reckon that 1000*l.* is necessary for one of 100*l.* a year; but some are taken with half that sum.

Tythes run at 4 or 5*s.* an acre for all the farms.

Poor rates rise to 5*s.* in the pound in towns; but in villages about 1*s.* Their employment spinning worsted. All drink tea twice a day.

The farmers carry their corn from 2 to 11 miles.

LABOUR.

From *Midsummer* to *Michaelmas*, 4*l.* and board.

In winter, 1*s.* a day.

Thrashing wheat, 1*s.* 6*d.* to 2*s.* 6*d.* a quarter.

———— barley, 2*s.*

———— oats (if reaped) 6*d.* a quarter.

———— pease, 9*d.* to 1*s.*

———— beans, ditto.

Making faggots, 4*d.* a score.

Amount of a year's earnings, 17*l.*

Head-man's wages, 7*l.* 7*s.*

Next ditto, 5*l.*

Lad's,

Lad's, 3*l.*
 Maid's, 3*l.* to 4*l.*
 Women per day in harvest, 1*s.* and board.
 In hay-time, 6*d.* and 8*d.*

IMPLEMENTS.

A waggon, 26*l.*
 A cart, 9*l.* to 10*l.*
 A plough, 1*l.* 1*s.*
 A harrow, 1*l.* 5*s.*
 Harness per horse, 2*l.* 16*s.*
 Laying a share, 1*s.*
 Ditto a coulter, 1*s.*
 Shoeing, 2*s.*

PROVISIONS.

Bread, <i>per</i> pound	$\frac{3}{4}$ <i>d.</i>	part barley.
Cheese, - -	4 $\frac{1}{2}$	
Butter, - -	6	
Beef, - -	4	
Mutton, - -	4 $\frac{1}{2}$	
Bacon, - -	6	
Milk, - -	$\frac{1}{2}$ <i>d.</i>	a pint.
Potatoes, - -	3 <i>d.</i>	a peck.
Candles, - -	6	a pound.
Soap, - -	6	ditto.
Labourer's house-rent,	20 <i>s.</i> to 40 <i>s.</i>	
----- firing,	1 <i>l.</i> to 3 <i>l.</i>	

72 THE FARMER'S TOUR

Coals, 40*s.* a chaldron.

Labourer's tools, 5*s.*

BUILDING.

A carpenter a day, 1*s.* 4*d.*

A mason, 1*s.* 4*d.*

A thatcher, 1*s.* 2*d.*

The general oeconomy of the country, will be nearly seen from the following particulars of farms,

£. 50 Rent	10 Acres oats
8 Horses	5 Pease and beans
8 Cows	6 Turnips
10 Fat beasts	10 Fallow
10 Young cattle	3 Men
130 Sheep	1 Boy
20 Acres wheat	1 Maid
20 Barley	2 Labourers.

Another :

80 Acres arable	8 Acres oats
20 Grass	10 Pease, &c.
£. 40 Rent	5 Turnips
6 Horses	30 Fallow
6 Cows	2 Men
2 Young cattle	1 Boy
100 Sheep	1 Maid
20 Acres wheat	1 Labourer.
6 Barley	

Mr.

Mr. *Booth* of *Glendon*, near *Kettering*, has greatly improved on this system of husbandry, which will appear sufficiently clear by stating the particulars of his management. His course of crops is,

1. Turnips
2. Barley
3. Clover 2 or 3 years
4. Oats.

He cultivates very little wheat, but when he does sow it, ploughs four times; sows 2 bushels *per* acre, and gains something more than the common farmers. For barley he ploughs from once to four times, generally three: Sows $2\frac{1}{2}$ bushels about *Lady-day*, and gets seven quarters in return; a vast improvement on the farmer's *three*. He ploughs the clover land but once for oats, sows $3\frac{1}{2}$ bushels, and reaps on a medium nine quarters. Pease he has tried in drills, and hand-hoed; they turned out but middling, not above $1\frac{1}{2}$ quarter *per* acre. For beans he gives three or four ploughings; sows 4 bushels *per* acre, and reaps 5 quarters. Coleseed he has cultivated for sheep; eats it off in *November*, and then ploughs up the land.

74 THE FARMER'S TOUR

For turnips he gives 5 or 6 earths; hoes them twice, and feeds them off with sheep. All his clover he feeds with rams. Tares he cultivates for hay, which he gives to his sheep.

In respect to manure; he has tried lime, lays 6 quarters *per* acre for turnips, to which it was visibly of service, and also to the barley. His farm-yard dung he carts on to compost heaps; mixes it with ant-hills, and spreads the whole on his meadows. He cuts the hills with a plough. (See Plate I. fig. 1.) Pigeons dung he lays on both grass and corn, 2 cart loads *per* acre; it is very strong, but lasts only 2 crops; it is best spread in the spring on poor wheat.

Mr. *Booth* drains his wet pastures in the same manner as the farmers.

In his fences he is very curious; there is a very bad practice in this country of leaving old thorn stubs of a large size, to the height of about two or three feet, so that the bottoms of the hedges are quite ragged — These Mr. *Booth* cuts off close to the ground, and sees if the roots will shoot out again;

again; if they do, he leaves them, if not, takes them out and plants fresh quick in the places; and secures such places by a dead hedge on each side.

Mr. *Booth* is curious in his breed of cattle, which are the *Lancashire* sort: he has several fine bulls for breeding, which he values much. His cows give 2 gallons of milk each *per* day; this, and many other instances I have met with, seems to prove that the curious breeds of stock for fattening, are no friends to the dairy. In winter he feeds on hay alone; keeps them in the fields.

His sheep are of a much finer breed than common among his neighbours; the average fleece about 8 *lb*.

In his tillage he is very solicitous to plough deep; uses so many as 8 horses in a plough, for three or four earths; but afterwards only 2. Considering the lightness of the soil, I am much surprized that such a number should ever be used, and the more as Mr. *Booth* has a *Rotheram* plough, which much exceeds the common ones of the country: a strong plough of that construction,

76 THE FARMER'S TOUR

struction, would with 4 horses stir a great depth. He does an acre a day: The first earth 12 inches deep, but afterwards from 4 to 6.

The particulars of his farm are as follow:

350 Acres	20 Acres oats
£.350 Rent	25 Turnips
10 Horses	14 Clover
15 Cows	1 Man
500 Sheep	2 Boys
20 Acres barley	20 Labourers.

This gentleman has for several years cultivated cabbages as food for cattle. He has three pieces of ground, which in their turn are appropriated to them, for he disapproves planting cabbages two years together in the same ground; one year in three being the proper introduction.

He usually sows three or four sorts, *viz.* a large round heavy cabbage, which he procured some years ago from *Holland*, very sweet, and sheep very fond of it — the *Savoy* — the *Anjou* kale — and the boorcole. The seed is sown at two different seasons, that they may not come into use together: the early raised ones are apt to burst, and when the wet weather sets in, it

it decays them ; but as they grow much the largest, Mr. *Booth* is tempted to plant them ; besides, they are put into the ground at a much less charge, as they are planted out early in the season, before the dry weather sets in, and whilst the ground is moist, so that they seldom want watering ; whereas those sown in the spring, are almost constantly watered at the planting ; and sometimes, if the weather is very dry, a second time. Mr. *Booth* has observed, that if the land is not in very good tillage and made fine, the roots of the plants lye hollow, by which means they frequently die ; and take much more water to make the plant strike. He sows in *August* in a garden, on a bed of fine rich earth ; and when they have got eight leaves, he pricks them out in warm beds under a south wall if he can, at the distance of about 4 inches square, where they remain till *March*, when they are set into the field in exact squares of two feet, taking advantage for this work of cloudy weather, and a prospect of rain. They will require no further attendance, unless the land should be foul and productive of weeds, in
which

which case they must be hoed. Of this sort Mr. *Booth* plants no more than sufficient for one month's use, on account of their bursting.

The other season for sowing is the latter end of *February*, or the beginning of *March*; he pricks them out before planting, which is in *May* or *June*; the distances 2 feet from row to row, and $1 \frac{1}{2}$ from plant to plant. Mr. *Booth* has observed, that when more room is given they throw out luxuriant leaves, but don't turn in so well for cabbaging.

In the preparation of the ground, he gives it a year's fallow, and always ploughs it 12 inches deep in *October*, with 8 horses, laying it up in very high ridges for the winter, the furrows deep, and kept clean thro' the winter. As soon as he can in the spring, he ploughs again with 6 or 8 horses, and harrows it. Immediately before the last earth, he manures with 40 loads an acre of rotten dung, and turns it in, having two men to attend the plough, to put as much dung at a time into the furrow as the width will allow; by which means it is all covered,
and

and the harrow brings none up.—He endeavours to bring up fresh earth every ploughing, more particularly in that of *October*. He finds that a strong soil is the best for them; but it should be hollow drained, as water at root is death to a cabbage.

He feeds sheep on them, and those only rams, which eat them on the ground they grow on; but trample down most of the loose leaves. They will eat the cabbaged part very clean, and scoop the stalks down to the ground; which *Mr. Booth* thinks the most heartening part of the plant. The sheep, while at cabbages, have always a rack of hay, or barley or oat straw to go to, which is always necessary for those at turnips. The cabbages generally decay in *January*, or else the outside leaves get rotten, when the sheep don't care to eat them, unless the rotten part is rubbed off, which is attended with expence.

Mr. Booth sows the *Savoys*, boorcole, and *Anjou*, in *March*, and plants them into the field one foot square. Some of the *Dutch* cabbages come to 40 *lb.* weight.

Such has been this gentleman's culture of cabbages for these twenty years : It varies in many particulars from received notions ; but comparative experiments can alone decide the merit of different methods.

It is but justice to observe in general, that Mr. *Booth's* lands are in excellent order ; his crops of barley and oats as fine as ever I saw ; his fences neat and in good repair ; in a word, numerous marks of a correct and spirited husbandry.

Returning to *Haselbeech*, I took the road through *Harborough* to *Quenby Hall*,* the
feat

* It is an old house, built in the reign of *Elizabeth*, but what is very extraordinary, in an admirable situation, being on a very high eminence, finely wooded, that commands all the country : it was formerly the taste to place their seats in the lowest, and most unpleasant situations of a whole estate. Mr. *Asby*, when he came to the estate, found the house a mere shell, much out of repair, and the offices in ruin. He has in a few years brought the whole into complete order ; fitted up all the rooms in a stile of great propriety ; his furniture rich, and some of it magnificent— and his collection of prints an excellent one. His library superbly filled with the best and most expensive books in several languages ; the bindings remarkably elegant. Around the house is a
new

seat of *Shukbrugh Ashby* esq. through whose attention in sending for a most intelligent grazier and farmer, one of his tenants, I am enabled to give the following account of the husbandry of the neighbourhood.

The principal part of the country is grazing farms, which rise from 100*l.* to 900*l.* a year; the open field arable farms, from 50*l.* to 80*l.* a year. The soil is all a strong

new terrass, which commands a great variety of prospect. On one side, very extensive, over a distant hilly country, and even to the mountains of the *Peak*. On the other side, a beautiful landscape of hanging hills, with scattered wood, shelving into a winding valley, so low, that you look down upon it in a very picturesque manner: — the sides of the hills all cut into rich inclosures. Besides various offices, and a very complete kitchen ground, this gentleman has also erected three new farm-houses, and a parsonage, in a neat and substantial manner, of brick and tile; and some cottages in the same manner; and placed them at the entrance of his village, — in such a manner that they have a most agreeable effect: These works are very noble; they ornament a country, encourage industry, — promote that useful circulation which should ever attend the residence of a man of fortune, and are sure to acquire that fame, which is due to so just a species of patriotism.

32 THE FARMER'S TOUR

rich clay; letting (inclosed) from 10s. to 30s. an acre; on an average about 18s. The open fields to 10s. The course of crops in the open field, is,

1. Fallow—2. Barley or Wheat—3. Beans.

In the inclosures:

1. Turnips, drawn and fed on grass. 2. Barley
3. Wheat or oats.

This is a wretched course.

Sometimes,

1. Turnips 3. Clover 2 years
2. Barley 4. Wheat.

They plough for wheat four times in the open field, but only once or twice in the inclosures: sow 2 bushels an acre; and gain about 3 quarters on an average. For barley they stir four times in the open land, but only once or twice in the inclosures; sow 4 bushels in *April*, and gain in the open field 4 quarters, and $4\frac{1}{2}$ in the inclosures. For oats they give but one ploughing, sow 7 bushels, and gain 8 quarters in return. They plough but once also for beans; sow 5 bushels an acre; never hoe; the average crop 3 quarters.

For turnips they give three or four earths, hoe them once or twice, and feed many on the land with sheep. The mean value 45 s.

an acre. Clover they mow for hay; but much white *Dutch* is sown, which is always fed with sheep from 5 to ten years: an acre will fat from 4 to 7 large sheep; and nothing feeds them better.

As to manuring; here is very little sheep folding. They break up grafs by paring and burning, which is done for 24s. an acre: and the ashes are such rich fertilizers, that turnips they sow on it are always great; also the barley which succeeds; and then oats the same. They use lime as a manure; lay 10 or 12 quarters an acre, which cost 50s. by the time it is on the land; it lasts 8 or 9 years: It opens and mellows these rich clays greatly.—Their farm-yards they litter with rubbish of all sorts, rushes, weeds, and stubble, which they chop: But they stack their hay about their fields. They find that draining and pigeon's dung will, together, completely kill all rushes.

They drain the wet places in their inclosures in the hollow method, filling with black thorns.

The plashing of hedges is always practised.

Good grafs land they value at 25*s.* an acre, apply it to the fattening of cows and ſheep; an acre will fat a cow, but not more; or four ſheep. The breed of cattle, all the long horned: Their cows give on an average 3 gallons of milk a day: The total product 5*l.* The winter food hay; in quantity about 2 ton each, which they have in the fields: A vile cuſtom, that ſhould every where be exploded.

The ſyſtem of grazing here, is to buy cows in *Lancaſhire* in *April*, at 3, 4, or 5 years old, to fodder them with hay till about the 12th of *May*, and then to turn to grafs. But as they cannot in this way know which are with calf, they run that chance; in which caſe, as ſoon as they ſpring much, they ſell them. 100 good acres will fatten 50 cows and 120 ſheep; and they praſtiſe the method noticed already in *Northamptonſhire*, of proportioning the ſtock to each large cloſe, and leaving them in it till fat in *November*. The ſheep are all wethers, bought in lean from 19*s.* to 24*s.* and ſold from 26*s.* to 32*s.*; the wool worth 4*s.* a head. They give for the cows, from 5*l.* to 7*l.* 10*s.* and ſell them fat, at
from

from 7*l.* to 11*l.*; reckon 35*s.* a head a middling profit.

- The mean value of a cow's hide, about 20*s.*

They fatten their swine from 12 to 24 score.

Flocks of sheep rise in the open fields from 40 to 120; in the inclosures they are in vast numbers. In the former they reckon the profit at 8*s.* 9*d.* that is, lamb 6*s.* 6*d.* and wool 2*s.* 3*d.* In the open fields the lambs are in winter kept on hay; but the ewes in the field alone. In the inclosures, the fleeces rise from 7 to 14*lb.*

In their tillage, they reckon 7 horses necessary to 100 acres of arable land: use four in a plough, and do an acre a day; the depth about three inches; and the price *per* acre 8*s.* They calculate the annual expences of keeping a horse at 12*l.* They do not break up their stubbles till after *Christmas*. Use only swing ploughs.

The hire of a cart and horses and driver, 7*s.* 6*d.* a day.

In the hiring and stocking farms, they reckon 1000*l.* necessary for a farm of 200*l.* a year; and in general, that five rents will

86 THE FARMER'S TOUR

stock grazing farms. An open field one, five rents.

Land sells at from 30 to 35 years purchase. Tythes are taken in kind, but grazing is tythe free.

Poor rates 1s. to 4s. in the pound; 20 years ago they were 3d. Fifteen years ago the rates of this parish were 9l. a year; now they are 140l. to 150l. and this vast rise they attribute much to the excess of tea drinking; the lowest of the poor drink it twice a day, while their children have not bread to eat. It is not owing to an increase of numbers, for they had as many poor 15 years ago as now, and their pay, which is now 10d. was then only 8d. The employment is spinning jerseys for stockings.

Few leases granted.

The farmers carry their corn 8 miles.

LABOUR.

From *Midsummer* to *Michaelmas*, 6s. a week and board.

In winter 10d. a day, besides carriage; and board at times: all together 1s.

Reaping wheat, 5s. 3d.

Mowing barley, &c. 1s. 6d.

Mowing

Mowing grafs, 2*s.*

Hoeing turnips, 5*s.* 6*d.*

Hedging and ditching, 2*s.* an acre. They lay some earth to the quick, but most of it on to the brow banked up; which they do to keep the sheep out of the ditches. The latter 4 feet wide, 2 or 3 deep, and 1 wide at bottom.

Thraſhing wheat, 2*s.* or 2*s.* 3*d.* a quarter.

———— barley, 1*s.* 6*d.*

———— oats, 1*s.*

———— peafe and beans, 1*s.*

Making faggots, 2*s.* 6*d.* per 100.

The amount of a year's earnings, 20*l.*

Head-man's wages, 10*l.*

Next ditto, 7*l.*

Lad's, 5*l.*

Maid's, 4*l.*

Women a day, in harveſt, 7*d.* and beer.

In hay-time, ditto.

Value of a man's board, waſhing and lodging, 4*s.* 6*d.* a week.

IMPLEMENTS.

A waggon, 23*l.*

A cart, 10*l.* to 12*l.*

A plough, 14*s.*

A pair of harrows, 21*s.*

G 4

A roller,

88 THE FARMER'S TOUR

A roller, 30s.

Harnes, *per* horse, 40s. to 50s.

Laying a share and coulter, 1s. 6d.

Shoeing, 1s. 8d.

PROVISIONS.

Bread,	<i>per lb.</i>	1 d.
Cheese,	- -	3 $\frac{1}{2}$ to 4 d.
Butter,	- -	6
Beef,	- -	3 $\frac{1}{4}$ to 4 d.
Mutton,	- -	3 $\frac{1}{2}$ to 3 $\frac{1}{4}$
Veal,	- -	3 $\frac{1}{2}$
Pork,	- -	3 $\frac{1}{4}$
Bacon,	- -	5
Milk,	- -	0 ^s d. a pint,
Candles,	- -	6
Soap,	- -	6

Labourer's house-rent, 1 l.

———— firing, 1 l. 10 s.

———— tools, 7 s. 6 d.

BUILDING.

Bricks, 17s. *per* 1000.

Oak, 1s. 6d. to 2s.

Ash, 1s. to 1s. 2d.

Elm, 1s. to 1s. 1d.

Soft woods, 8d. to 10d.

A carpenter a day, 1s. and board.

A mason, 1s. 6d. and ditto.

A thatcher,

A thatcher, 1s. and ditto.

Walls, mud, 6d. to 7d. a yard for workmanship.

The general œconomy of the country will be seen from the following particulars of farms.

150 Acres in all	5 Acres of wheat
35 Arable	10 Ditto barley
115 Grass	4 Pease and
£.102 Rent	beans
6 Horses	2 Men
10 Cows	1 Boy
9 Fattening beasts	1 Maid
160 Sheep.	1 Labourer.

Another:

600 Acres in all	6 Cows
6 Arable	100 Fattening beasts
594 Grass	600 Sheep
£.400 Rent	3 Men
8 Horses, 4 of	1 Boy
them brood	1 Maid
mares	3 Labourers.

Another:

550 Acres in all	£.330 Rent
6 Arable	4 Horses
544 Grass	4 Cows
	110 Fattening

90 THE FARMER'S TOUR

110 Fattening beasts	2 Boys
600 Sheep	2 Maids
2 Men	2 Labourers.

In the whole parish of *Hungerton* are,

4000 Acres	650 Fattening beasts
16 Farms	3000 Sheep
200 Acres wood	£. 2600 Rent
50 Labourers	£. 140 Rates.
60 Cows	

The farmers of this neighbourhood reckon that the *Lancashire* cows are much the best for the dairy, as well as for fattening: they are bought in, from 7*l.* to 10*l.* each. Mr. *Knowles* of *Nelson*, not far from hence, has dairy cows which he values at 20*l.* apiece, and some which he would not take 30*l.* for. He has a bull which he bought of Mr. *Walsh* of *Lancashire*, for above 60 guineas. He sells bull calves as soon as born for 10*l.* each, and rams, from 10*l.* to 50*l.* each, but generally lets them at from 5*l.* to 20*l.* the season.

The common breed of sheep in this country, much exceeds that of *Lincolnshire*; inasmuch that they sell their 2 years old, for more than the *Lincolnshire* do at 3. Mr.

Butlin, one of Mr. *Asbby*'s tenants, has fold fat wethers, $2\frac{1}{2}$ years old, at 3*l.* each.

Let me remark in general, that the rich graziers of this country manage their pastures in a most slovenly manner: Many of them are all over-run with ant-hills,—with thistles, nettles, &c. all are in ridge and furrow, and some wet without being drained: a considerable man among them, who is reckoned to be worth a few thousand pounds, told me with much gravity, that it was impossible to extirpate thistles: Says he, “It would cost all I am worth to clear “my farm of them.” I believe 1*s.* an acre annually increasing rent till all were gone, would be an argument of wonderful efficacy in answering such ideas. Let me here observe *en passant* that if a landlord had a mind to have his estate brought into perfect order, he need not say in an arbitrary manner, *You shall pay me so much more rent, or quit*: but make it conditional, *You shall pay me 2 s. an acre more than at present, till I ride over your farm, and find not an ant-hill left. Also;—You shall likewise pay 1 s. an acre more, till I find all the thistles*
gone.

gone. To another he says, *I raise your rent 2s. 6d. an acre, till all your fences are brought into as good order as that between A and B.* He may recommend improvements forty years before *John* flirs one jot; but *John* can take a hint of this sort, as quick as his neighbours.

From *Quenby*, I passed to *Tilton on the Hill*, where Mr. *Ayer*, a considerable grazier, gave me some particulars of the husbandry of the neighbourhood, as follow.

Farms rise from 40*l.* to 500*l.* a year: but the whole country on a medium not more than 100*l.* a year. The soil is various, chiefly rich clay; some red loams and loamy gravels. The inclosures let at 14*s.* an acre, old ones at 16*s.* The husbandry of the open fields (of which there are but few) is much the same as that already described at *Quenby Hall*. When they break up pasture land, it is in the paring and burning way, which costs about 24*s.* an acre; they sow turnips on it, of which they get great crops; and then oats and barley, all which are exceedingly good.

The application of their grass is principally to grazing; their closes rise from 30
to

to 60 acres. They turn the stock in, in *April* or *May*, and seldom change it to any other. The rate of stocking is in many fields, 1 beast and a sheep to 2 acres; in others, 1 beast and 2 sheep; also 1 beast and 1 sheep to $1\frac{1}{2}$ acre. There is one close of 35 acres that keeps 26 beasts, 1 horse, and 17 sheep.

They fat in general cows, which they buy in *February* or *March*, and fodder them till the grass is ready, which is not till the middle of *May*. The difference fat and lean is, in an ox, about 50s.; and in a cow 30s. The sheep are wethers, a year and a half old, worth lean about 1l.; fat, 1l. 10s. The wool, 8lb. They do not sell to *Smithfield* directly out of the grass, but send them (as do also the *Quenby* graziers) to turnips in *Hertfordshire*, generally about *St. Alban's* or *Hatfield*, which they buy for that purpose.—They keep 1 sheep *per* acre in winter.

The only breed of cattle approved here, is the long-horned, which they find from long experience will fat better, are hardier, and more profitable: the difference in the

hide alone of a long or short horned beast, is 15s. and in winter, they can keep 40 of the former to 30 of the latter.

The average quantity of milk given by their cows, 3 gallons a day; but there are but few dairies. The total product 5l. a head: the winter food hay alone. Their swine fat on an average to 16 score.

The flocks of sheep are various; some persons have above 1000. The average fleece 8 lb.

Mr. *Ayer*, as well as his father and grandfather, all very attentive graziers, have ever observed, that the rot of sheep has been owing merely to floods, and feeding on fallows, but not at all owing to land usually wet from springs or otherwise.

In the stocking of farms, they reckon that 1000 l. is necessary to hire a farm of 300 l. a year; but in dear times it will take 1200 l.

The price of labour has risen within 20 years a third, and poor rates doubled: they are 1s. in the pound in villages; up to 4s. or 5s. in stocking towns; as they are at *Melton* and *Hinkley*.—All the poor drink tea.

I shall

I shall here observe upon the *Leicestershire* grazing in general, that less is made of their rich pastures than might be on various accounts. First, from the manner in which they lay; which is the high ridge and furrow way; the latter are generally waste ground unless drained, which is not very commonly done. Mr. *Ayer* however is very attentive to this part of husbandry, for he drains well, and especially some boggy pieces which used to be of little value, but are now quite reclaimed, and more useful in a dry season than any of his lands. Secondly, the innumerable ant-hills that occupy a very great proportion of the surface. Thirdly, the suffering weeds to grow in such abundance, thistles, nettles, &c. Mr. *Ayer*, in these particulars also, is much more attentive than common among them, and has found from experience that cutting the thistle into the ground, with what is called a *spud*, effectually kills them, as appears very clearly in several of his fields.

These circumstances lower the value of grazing lands much: If all waste spots, and all the growth of such rubbish could be
 seen

seen together in one part of each field, I should apprehend the farmers would be frightened at the idea of paying rent for such crops.

But there is another circumstance of much importance, and which operates strongly throughout all this country. It is the want of some arable land to each farm, and of knowing what to do with it if they had it. The landlords in general will not allow an inch to be ploughed; but such a restriction is absurd, and works against their own profit as well as the tenants. We have found, that these graziers are all forced to sell their beasts at *Michaelmas*, the cheapest time of the year, whether they are fat or not, for want of winter keeping: and are forced to buy turnips for their sheep near an hundred miles off. They buy in their cattle in *February* and *March*, and are obliged to fodder them at a great expence with hay till the grass is ready. These circumstances speak for themselves too strongly for the case to be doubted of a moment. They certainly ought to be allowed to plough a small proportion of their farms.

“ But

“ But then, say the landlords, begins our danger——we shall have our grafs converted to arable, and the heart ploughed out——whereas they cannot damage grafs.”

There can be no object in letting a farm but permanent profit: this is their motive for keeping all in grafs; but the tenants would undoubtedly give more rent, were they allowed to plough a part, than ever they would for all in grafs. Respecting the husbandry into which they threw the land, I entirely agree with the landlords, that the estate would suffer if they were left to themselves. They would soon see crops of turnips on clays, which is actually the case about *Quenby*; but there cannot be more pernicious management.

As arable fields in this country should be absolutely subservient to the grazing business—I should advise the landlords to allow of no more land being broken up than was necessary to turn *that* to the most profit; which would be of course in the raising winter food for their cattle; but as the culture of turnips is quite unadvisable on this soil, the tenants must be confined to cab-

bages. The want of winter food is so great here, that I am fully of opinion they would cultivate this plant were they allowed. However, if they refused it, they should by all means be left in their present situation — or rather with as great a rise of rent as any would give for leave to plough for turnips or straw alone. For such blind obstinacy cannot be too severely punished.

The reasons why I recommend cabbages so greatly in preference to turnips, are, *first*, their growing above ground, and making no holes for the retention of water; *secondly*, their coming to at least four times the weight; consequently they are conveyed off the land with much less poaching. *Thirdly*, They are planted in rows on narrow ridges, in such a manner that the land lies perfectly dry and sound all the winter: turnips drilled on the tops of such ridges, and the large round sort chosen that roots only by a tap root, would do very well in this respect, but no such operation as drilling must be expected or thought of from a tenant. *Fourthly*, Cabbages are to be recommended for being of use for the spring foddering
long

long after turnips are rotten and gone, to the great saving of hay, and consequently to the increase of grazing. *Lastly*, They yield a vastly greater produce *per* acre than turnips; consequently the less arable land will be necessary for the winter keeping the stock.

No crops should be allowed more than the division of the new arable into three parts; one under cabbages for spring use of the beasts; another under the same for the sheep in autumn; and a third in barley or oats, for raising some straw. The method should be this: 1st, Cabbages to be eat late in spring; 2d, Cabbages to be eat in autumn; 3d, Spring corn. Those for spring use cannot be gotten off the land time enough for spring corn; therefore a second crop is planted to be eat in autumn, a season that allows time sufficient for preparing for oats or barley. I am well persuaded that this would prove the most rational system of the arable, and maintain the stock so well that the profit of grazing would be doubled.

But here let me farther remark, that had I an estate in the condition which most of

the grafs in this country lies, I would plough every inch of it—not for converting to arable farms, but to lay it level, and deſtroy the quantities of rubbiſh that over-run it. Exactly the above ſyſtem of cabbages and ſpring corn ſhould be executed, with this variation; every year a third, that is for the firſt crop of cabbages, ſhould be freſh broken up; and another third every year laid down again to grafs: that is, with the ſpring corn. Suppoſe upon a very large farm 30 acres always arable; 10 broken up for cabbages every year, and 10 laid down with grafs ſeeds. The latter on every account to be found by the landlord, and not to be ſown on leſs than 4 clean ploughings and 6 harrowings. Let them conſiſt of white clover, trefoile, and rib grafs, unleſs *clean* hay ſeeds are gained.

The conſequence of this conduct would be 10 acres of the farm every year converted to that neat and truly huſband-like ſtate in which the grafs lands are ſeen in the beſt cultivated countries: perfectly level—free from ant-hills—no thistles—or other weeds. Such a ſight, the conſtrast of the preſent,
muſt

must surely please any landlord. The new grafs laid down after two crops of cabbages could not fail of being perfectly clean and fine.

On account of the foul state (as well as for other reasons) of the old surface, which is full of the feeds and roots of weeds, it should be broken up by paring and burning: which would destroy them all.

The general prejudice against breaking up rich grafs land is the seeing so often the arable land so gained kept in tillage till it is quite out of heart, and then perhaps laid down again, as it is called, with clover and ray-grafs: the consequence of which is a crop of trumpery of all sorts. Tenants ought never to be allowed to break up grafs, but under minute restrictions: the propriety of the measure is then indubitable in numerous instances. In the method I have just stated, the new lays would maintain more and larger stock than the old grafs: the sweet and fattening nature of the white clover is well known in this country; there is no grazier here that would not trust to it for fattening a beast sooner than an old

lay. For the richness of this soil brings it forward in such a luxuriance of growth, that it yields a noble bite for the largest of cattle.

Upon the whole, I cannot but recommend to the landlords of this country to allow their tenants of grass farms, the liberty of ploughing a small proportion of their pastures for the purpose of raising a supply of winter food for their stock: the profit of their business will thereby be much greater; and the tillage under proper management will be the means of bringing the whole country into a much superior grazing one to what it is at present, not only in utility, but also beauty.

From *Tilton* the country continues in general a rich grazing one to *Leicester*, and also from thence to *Loughborough*; lets on an average at 16s. an acre.

About *Dishley*, farms rise from 20*l.* to 400*l.* and 500*l.* a year, but in general about 80*l.* to 120*l.* The soil is various; some rich clays; some sandy loams; and others quite sand. Lets from 14s. to 18s. an acre. The course of crops is,

1, Turnips

- | | |
|------------|-------------------|
| 1. Turnips | 3. Clover 2 years |
| 2. Barley | 4. Wheat. |

Which is an excellent good one.

For wheat they plough once, sow two bushels, and get $3\frac{1}{2}$ quarters *per* acre. For barley they stir once or twice, sow 4 bushels the beginning of *March*, and gain $4\frac{1}{2}$ quarters in return. They give but one stirring for oats, sow 5 bushels, and get 6 quarters. They sow a few beans, plough for them but once——never hoe——the mean crop 3 quarters.

For turnips they plough thrice; hand-hoe them once; and feed them all off with sheep. The average value 3*l.* an acre. Their clover they always mow.

In manuring they do not depend on the sheep-fold, as that is quite confined to the open fields. They pare and burn for turnips on cold land, at the expence of 1*l.* 1*s.* *per* acre. Lime they use in common, lay 10 quarters *per* acre, 1*s.* 4*d.* *per* quarter at the pit: they generally spread it for turnips; sometimes for wheat. It does good to the turnips, but more to the barley, clover, and wheat. The stubbles they chiefly

H 4

plough

plough in ; and they stack their hay about the fields.

Marle it is apprehended has been used in former times very much, for there are many immense pits in every parish : the remaining earth about them they now call marle, though it appears more of a red sandy loam ; has not the least effervescence with vinegar ; nor does it crack at all or sparkle in the fire. Some small quantities of it have been used by way of experiment, and benefit accrued from it, but not enough to induce any farmer to use it in large. I cannot conceive the present earth on the sides of the pits, to be the same as was dug out of them, if they were made for manuring ; possibly real marle was found in these pits, and the veins exhausted ; or else the farmers carried it on to their land by way of fresh earth, without regarding the quality : Its being so very sandy, is a most unfavourable symptom. The oldest man living throughout the neighbourhood, never heard of the least tradition of the time, when these vast pits were made : though they have ever been called *marle* pits, and a general idea current, that marle was dug
out

out of them for manuring. They must be extremely antient; for there remains not the least trace of such husbandry in any part of the country. They could not be dug for either chalk, gravel, clay, or limestone; as there are none in the pits. We must rank them among the *pits of old time*, which *Fitzberbert* in *Henry the seventh's* reign, speaks of in his *Boke of Husbandry*. In what degree agriculture flourished while the kingdom was the prey of a pack of rapacious plundering barons, we do not exactly know, but not probably to the perfection of marling: those pits must therefore have been much more antient.

The plashing method of fencing is here common, but not done in the most perfect way. The new inclosures are all formed by quick, planted on the level ground, and a ditch by the side of it, the earth out of which is laid upon a ridge on the brow of it, and then a post and double rails are set on both sides; the whole occupying from 11 to 13 feet of ground in width: the loss of land in this method is not only great, but the expence is very high. I should apprehend,

by means of deep ditches, both evils might be remedied, but certainly a cheaper fence might be made, and at a less expence of reparation. Suppose two ditches, each 4 feet wide at top, 3 deep, and 1 wide at bottom, all the earth thrown on to a bank between them, the base of which to be 4 feet, the top of the bank to be flat, and planted with quick; this would take up no more land than the present method, and would alone be a fence against every thing that would not leap a high bank, and a ditch against them; but if a string of feathers was run along from stakes on the top of the bank, nothing would attempt the leap, not even deer. The whole expence would not amount to half the present.

The best grass-land lets at 30s.: they mow most of it. The breed of cattle here is all the long-horned: a cow gives on an average 6 or 7 gallons of milk *per* day; and in annual product, about 5*l.* 10s.; the winter food is hay, some give it in the yard, others in the field. Calves for rearing do not suck at all. The value of an ox-hide 2*l.* on an average.

Hogs fat to 20 score.

The flocks of sheep rise from 80 to 120.

The profit of lamb and wool :

Lamb,	-	-	-	-	10s.
Wool,	-	-	-	-	3
					13s.

They are kept in winter on grafs alone.

The average fleece 6 or 7 *lb.*

In their tillage, they reckon 10 horfes necessary to 100 acres of arable land; they use from 4 to 7 in a plough; and do on an average better than half an acre a day: This woeful system on fuch light land, beats I think any management I have yet met with. Had I an estate here, I think I would make it an article in my leases, that every farmer should plough with never less than all his teams in one plough, let the number be what it might. They do not stir above six inches deep: The price *per acre* 7s. 6d. They reckon the annual expence *per horse*, at 10*l.*: Their stubbles they break up in *March* after sowing. Only swing ploughs used here.

108 THE FARMER'S TOUR

In the stocking farms, they reckon that 550*l.* is necessary to stock one of 150*l.* a year.

Land sells at 30 years purchase.

Poor rates in the villages up to 3*s.* in the pound; but twenty years ago not 1*s.* In market towns they rise to 7 and 8*s.* The employment is spinning worsted for the stocking weavers.—All drink tea; those that are three fourths maintained by the parish, have it twice a day.

Very few leases granted.

The farmers carry their corn 6 miles.

LABOUR.

In harvest, 7*s.* a week and board.

In hay-time, 7*s.* ditto and beer.

In winter, 10*d.* and 1*s.* a day.

Reaping wheat, 6*s.* 6*d.*

Mowing grass, 2*s.*

Hoeing turnips, 6*s.* to 8*s.*

Hedging and ditching, 10*d.* per acre of 28 yards.

Threshing wheat, 2*s.* to 2*s.* 6*d.* per quarter.

———— barley, 1*s.* to 1*s.* 6*d.*

———— oats, 8*d.* to 1*s.*

Head-man's wages, 7*l.* to 10*l.*

Next ditto, 7*l.*

Lad's,

- Lad's, 4*l.*
 Maid's, 3*l.* 10*s.* to 4*l.*
 Women *per* day in harvest, 8*d.*
 ————— in hay-time, 6*d.*
 Amount of a labourer's earnings in the year,
 18 *l.*
 Rise of labour in 20 years, a third.

IMPLEMENTS.

- A new waggon, 16 to 20*l.*
 A cart, 9*l.*
 A plough, 16*s.*
 A pair of harrows, 1*l.*
 Harness complete *per* horse, 30 to 40*s.*
 Shoeing, 1*s.* 4*d.*

PROVISIONS.

- | | | | |
|------------------------|---|---|---|
| Cheese, | - | - | 3 $\frac{1}{2}$ <i>d.</i> <i>per</i> pound. |
| Butter, | - | - | 6 $\frac{1}{2}$ |
| Beef, | - | - | 3 $\frac{1}{2}$ |
| Mutton, | - | - | 3 $\frac{1}{2}$ |
| Veal, | - | - | 4 |
| Pork, | - | - | 3 $\frac{1}{2}$ |
| Bacon, | - | - | 6 |
| Milk, <i>per</i> pint, | - | - | $\frac{1}{2}$ |
| Potatoes, | - | - | 7 <i>per</i> peck. |
| Labourer's house-rent, | - | - | 10 to 20 <i>s.</i> |
| Their firing, | - | - | 20 <i>s.</i> |

BUILDING.

Bricks *per* 1000, 13*s.*

Oak *per* foot, 1*s.* 8*d.*

A carpenter *per* day, 1*s.* 6*d.*

A mason ditto, 1*s.* 8*d.*

A thatcher, 1*s.* and board.

Mr. *Bakewell* of *Dishley*, one of the most considerable farmers in this country, has in so many instances improved on the husbandry of his neighbours, that he merits particular notice in this journal.

His breed of cattle is famous throughout the kingdom; and he has lately sent many to *Ireland*. He has in this part of his business many ideas which I believe are perfectly new; or that have hitherto been totally neglected. This principle is to gain the beast, whether sheep or cow, that will weigh most in the most valuable joints:—there is a great difference between an ox of 50 stone, carrying 30 in roasting pieces, and 20 in coarse boiling ones—and another carrying 30 in the latter, and 20 in the former. And at the same time that he gains the shape, that is, of the greatest value in the smallest compass; he asserts, from long experience, that he gains a breed
much

much hardier, and easier fed than any others. These ideas he applies equally to sheep and oxen.

In the breed of the latter, the old notion was, that where you had much and large bones, there was plenty of room to lay flesh on; and accordingly the graziers were eager to buy the largest boned cattle. This whole system Mr. *Bakewell* has proved to be an utter mistake. He asserts, the smaller the bones, the truer will be the make of the beast—the quicker she will fat—and her weight, we may easily conceive, will have a larger proportion of valuable meat: *flesh*, not *bone*, is the butcher's object. Mr. *Bakewell* admits that a large boned beast, may be made a large fat beast, and that he may come to a great weight; but justly observes, that this is no part of the profitable enquiry; for stating such a simple proposition, without at the same time shewing the expence of covering those bones with flesh, is offering no satisfactory argument. The only object of real importance, is the proportion of *grass* to *value*. I have 20 acres; which will pay me for those acres best, large or small boned cattle? The lat-

ter fat so much quicker, and more profitably in the joints of value; that the query is answered in their favour from long and attentive experience.

Among other breeds of cattle the *Lincolnshire* and the *Holderness* are very large, but their size lies in their bones: they may be fattened to great loss to the grazier, nor can they ever return so much for a given quantity of grass, as the small boned, long horned kind.

The breed which Mr. *Bakewell* has fixed on as the best in *England*, is the *Lancashire*, and he thinks he has improved it much, in bringing the carcass of the beast into a truer mould; and particularly by making them broader over the backs. The shape which should be the criterion of a cow, a bull, or an ox, and also of a sheep, is that of an hoghead, or a firkin; truly circular with small and as short legs as possible: upon the plain principle, that the value lies in the barrel, not in the legs. All breeds, the backs of which rise in the least ridge, are bad. I measured two or three cows, 2 feet 3 inches flat across their back from hip to hip—and their legs remarkably short.

Mr.

Mr. *Bakewell* has now a bull of his own breed which he calls *Twopenny*, which leaps cows at 5*l.* 5*s.* a cow. This is carrying the breed of horned cattle to wonderful perfection. He is a very fine bull—most truly made, according to the principles laid down above. He has many others got by him, which he lets for the season, from 5 guineas to 30 guineas a season, but rarely sells any. He would not take 200*l.* for *Twopenny*. He has several cows which he keeps for breeding, that he would not sell at 30 guineas apiece.

Another particularity is the amazing gentleness in which he brings up these animals. All his bulls stand still in the field to be examined: the way of driving them from one field to another, or home, is by a little swish; he or his men walk by their side, and guide him with the stick wherever they please; and they are accustomed to this method from being calves. A lad, with a stick three feet long, and as big as his finger, will conduct a bull away from other bulls, and his cows from one end of the farm to the other.

All this gentleness is merely the effect of management, and the mischief often done by bulls, is undoubtedly owing to practices very contrary—or else to a total neglect.

The general order in which Mr. *Bakerwell* keeps his cattle is pleasing; all are fat as bears; and this is a circumstance which he insists is owing to the excellence of the breed. His land is no better than his neighbours, at the same time that it carries a far greater proportion of stock; as I shall shew by and by. The small quantity, and the inferior quality of food that will keep a beast perfectly well made, in good order, is surprizing: such an animal will grow fat in the same pasture that would starve an ill made, great boned one.

In the breed of his sheep, Mr. *Bakerwell* is as curious, and I think, if any difference, with greater success, than in his horned cattle: for better made animals cannot be seen than his rams and ewes: their bodies are as true barrels as can be seen*; round,
broad

* The following is an account of two sheep of Mr. *Bakerwell's*, measured in the wool.

“ I this

broad backs; and the legs not above six inches long: and a most unusual proof of kindly fattening, is their feeling quite fat; just within their fore legs on the ribs, a point in which sheep are never examined in common; from common breeds never carrying any fat there.

In his breed of sheep, he proceeds exactly on the same principle as with oxen; the fattening in the valuable parts of the body;

“ I this day measured Mr. *Bakewell's* three years old ram, and found him as follows :

	<i>Feet.</i>	<i>Inches.</i>
His girt, - - - - -	5	10
His height, - - - - -	2	5
His collar broad at ear tips, - -	1	4
Broad over his shoulders, - - -	1	11 $\frac{1}{2}$
Ditto over his ribs, - - - - -	1	10 $\frac{1}{2}$
Ditto his hips, - - - - -	1	9 $\frac{1}{2}$

Disbley, 17th March, 1770.

H. SANDFORD.

“ This day measured a two year old barren ewe:

	<i>Feet.</i>	<i>Inches.</i>
Height, - - - - -	1	11
Girt, - - - - -	5	9
Breast from the ground, the breadth of 4 fingers.		

N. B. I would have measured her breadth, but for a fall of snow.

Disbley, ut sup.

H. S.

and the living on much poorer food than other sorts. He has found from various experience in many parts of the kingdom, as well as upon his own farm, that no land is too bad for a *good* breed of cattle, and particularly sheep. It may not be proper for large stock, that is large boned stock, but undoubtedly more proper for a valuable well made sheep than the usual wretched sorts found in most parts of *England* on poor soils—such as the moor sheep—the *Welch* ones—and the *Norfolks*.—And he would hazard any moderate stake, that his own breed, each sheep of which is worth several of those poor sorts, would do better on those poor soils than the stock generally found on them: A good and true shape having been found the strongest indication of hardiness, and what the graziers call a *kindly* sheep; one that has always an inclination to feed.

He has an experiment to prove the hardiness of his breed which deserves notice. He has 5 or 6 ewes, that have gone constantly in the highways since *May-day*, and have never been in his fields: the roads are
narrow,

narrow, and the food very bare; they are in excellent order, and nearly fat; which proves in the strongest manner, the excellence of the breed. And another circumstance of a peculiar nature is his flock of ewes, that have reared two lambs, being quite fat in the first week of *July*; an instance hardly to be paralleled.

The breed is originally *Lincolnshire*, but Mr. *Bakewell* thinks, and very justly, that he has much improved it. The grand profit, as I before observed, is from the same food going so much farther in feeding these than any others; not however that Mr. *Bakewell's* breed is small; on the contrary, it is as weighty as nine tenths of the kingdom; for he sells fat wethers at three years and an half old at 2*l.* a head. Other collateral circumstances of importance are the wool being equal to any other; and the sheep standing the fold better. He sells no tups, but lets them at from 5 guineas to 30 guineas for the season.

Relative to the rot in sheep, Mr. *Bakewell* has attended more to it than most men in *England*: He is extremely clear, from

long attention, that this disorder is owing solely to floods—never to land being wet, only from rains which do not *flow*, nor from springs that *rise*. He conjectures, that the young grass which springs in consequence of a flood, is of so flashy a nature that it occasions this common complaint. But whether this idea is just or not, still he is clear in his facts; that floods (in whatever manner they act) are the cause. Perhaps the most curious experiment ever made on the rot in sheep, is what he has frequently practised: When particular parcels of his best bred sheep are past service, he fats them for the butcher; and to be sure that they shall be killed and not go into other hands, he rots them before he sells; which from long experience he can do at pleasure. It is only to flow a pasture or meadow in summer, and it inevitably rots all the sheep that feed on it the following autumn. After the middle of *May*, water flowing over land is certain to cause it to rot, whatever be the soil: he has acted thus with several of his fields, which without that management would never affect a sheep in the least:

the

the water may flow with impunity all winter, and even to the end of *April*, but after that the above effect is sure to take place. Springs he asserts to be no cause of rotting, nor yet the grass which rises in consequence; unless they *flow*: Nor is it ever owing to the ground being very wet from heavy rains, unless the water *flows*. This theory of the rot upon the whole appears satisfactory; and that part of it which is the certain result of experience, cannot be disputed*.

In the breed of stallions for getting cart-horses, Mr. *Bakewell* is also very attentive: he has those at present that he lets at from 25 to 150 guineas the season. He conceives the true make of a cart horse, to

* Let me remark, that Mr. *Bakewell* has several comparisons between other breeds of cattle and his own, which I purposely omit taking any notice of, because such experiments are impossible to be accurate from the great difference in certain beasts in feeding, fattening, &c. Besides, supposing such accuracy, still other people, and particularly those of the countries compared, would never give credit to such comparisons, unless the very best breeders in the very best countries *themselves* chose certain beasts to represent their breed in the trial: Nor does Mr. *Bakewell's* breed want any such experiments to recommend them.

be nearly that described above for an ox—thick and short bodies, and very short legs. He makes them all particularly gentle: and apprehends that bad drawing horses, can be owing to nothing but bad management. He has one stallion that leaps at 5 guineas a mare.

Mr. *Bakewell* is remarkably attentive to the point of wintering his cattle; all his horned beasts are tied up in open or other sheds all winter through, from *November* till the end of *March*, feeding them according to their kind, with straw, turnips, or hay; all the lean beasts have straw alone: he never litters them, on account of making the straw go as far as possible,—that it may be eaten up perfectly clean. Young cattle, that require to be kept quite in a thriving state, have turnips; and also fattening ones: and late in the spring, when turnips are gone, hay is wholly their substitute.

The conveniencies for tying up beasts, which Mr. *Bakewell* has built at his own expence, are a remarkable instance of spirited husbandry; he has formed such numbers of stalls for them, by building new sheds, and converting old barns and
 other

other places into standings for cows, that he has more than once wintered 170 beasts of all sorts; and all in the house.

The floors on which the beasts stand, are paved, and 6 or eight inches higher than the level of the yard: they are just broad enough for a beast to stand on with some difficulty; the consequence of which is, that his dung falls beyond his standing, and on the lower pavement, and when he lays down, he draws himself up on to the higher pavement, and is clear of it——by this means, they are kept quite clean without litter; and the men who are employed on purpose, keep the whole constantly swept down, and barrow the dung into the area of the yard, that is surrounded by the sheds, and then pile up the dung in a square clamp.

By using no straw in litter, he makes it go so far in wintering cattle, that he much reduces the expence of winter feeding them: and this has occasioned his adopting a new system in the management of his horned cattle. He used to draw with teams of oxen; and found that he must keep double the number worked, to

have, in the common manner, one set coming into work, and another going out; and then he had his cows bulled at two years old, consequently they were wintered on hay when three years old. But now he has changed his system; he draws all with cows; they live on straw at three years old; when they are bulled, and work till four years old; hence one winter at hay, is changed to two at straw, which, from Mr. *Bakewell's* management, is a great saving, and the work all gained at the same time: and let me observe further, that the calves bred from a cow rising from 3 to 4, must far exceed those from cows rising from 2 to 3: the latter age is too early to breed, both for the calf and the dam.

I saw the teams of cows at work, and they were to the full as handy as oxen; and Mr. *Bakewell* finds, that they draw just as well as oxen of the same size.—He would not have taken 120*l.* for one of his teams of 6 cows.

He has water in cisterns in his farm-yards, and all the beasts are let loose to drink once a day, except those on turnips, which do not want it.

He

He prefers, in the raising of manure, the dung arising from cattle that eat a given quantity of straw, to any manure to be gained from such quantity of straw by littering——inasmuch, that if he had more straw than he could eat, he would not litter with it, but take in his neighbour's cattle to eat it, for nothing; and would give them the same attendance as his own. This is a particular idea, which may very probably be just; but experiment alone can prove it,

Mr. *Bakewell* very justly considers the raising dung as one of the most important objects of husbandry; and for this purpose, his vast stock of cattle is of noble assistance. The proportion of his stock to his land, will shew, not only the excellence of his management, but also the hardiness of his breed; for no tender cattle could be kept in such quantities. His farm in all consists of about 440 acres, 110 of which are arable, and the rest grass. He keeps 60 horses, 400 large sheep, and 150 beasts of all sorts: and yet he has generally about 15 acres of wheat, and 25 of spring corn; the turnips not more than 30 acres. If the
degree

degree of fatness, in which he keeps all these cattle, be considered, and that he buys neither straw nor hay; it must at once appear, that he keeps a larger stock on a given number of acres, than most men in *England*: the strongest proof of all others, of the excellence of his husbandry.

He makes his turnips go as far as possible, by carting every one to his stalls, in which manner, one acre goes as far as three; his straw, I before observed, he makes the very most of, by giving it all to his lean beasts, not in litter,—or as food in quantities at a time, but keeps the cattle hungry enough to make them eat clean; giving but a small quantity at a time.

Of his hay he is also very choice; and the means he has taken to command as large a quantity as possible, are perhaps to be reckoned amongst the rarest instances of spirited husbandry ever met with among the common farmers of *England*. It is that of watering his meadows that lie along a small brook which runs through one part of his farm. This improvement was begun by his father, now living, and carried on and finished by himself.

These

These meadows, amounting from 60 to 80 acres, were all like the rest of the country in ridge and furrow; over-run with ant-hills, and disfigured by various inequalities of surface. They were all ploughed up; kept clean of weeds for a crop or two; tilled in a very perfect manner, and laid down again to grass perfectly level, with a view to improvement by water: This operation is a proof that unlevel pastures may be ploughed down without any injury by burying good land and bringing up bad, according to the common vulgar notion. As soon as this work was done, he cleansed the brook in a manner peculiar to himself; his design was to keep the banks always clean and neat, and the water every where of an equal depth: and this he did, and continues to do when wanted, by throwing the sand and earth, driven in heaps and ridges by the stream, into the holes formed by it; never throwing any on to the banks, by which method the water is always kept to a level, with half the expence of the common manner of throwing the earth out, which enlarges the holes, but fills up none. When
 this

this point was gained, the next business was to examine every where the courses of the ditches; all in a proper direction were much deepened and enlarged, for conveying the water to the meadows that do not join the brook, and others done in the same manner for taking the water away after it had flowed over the land. Besides these, several new cuts were found necessary to be made near as large as the brook itself; and, strange to tell, not a few to prevent the water running over the meadows of his neighbours. They totally disapprove the plan; and have insisted on all proper precautions being taken by making cuts, and raising mounds for the water, that none of it may ruin them, which is the idea they have of it; notwithstanding many years experience of its amazing efficacy in the fields of Mr. *Bakewell*.

Besides all these cuts and ditches, numerous sluices are substantially erected at his own expence, to stop the water and make it overflow at pleasure; and close to each a small brick house, for holding the doors, boards, bolts, &c. when not in use; the whole perfectly well executed.

By means of all these works, he floats at pleasure from 60 to 80 acres of meadow, and finds the improvement of the most undoubted kind; fully answering an annual manuring of any other sort: fine level crops of hay are now the view, instead of ridges, furrows, hills, holes, thistles, and other trumpery. Upon the whole, this system of watering is not only executed with spirit, but much exceeds any thing of the kind. I have yet seen in the hands of landlords themselves. Our farmer has expended large sums in these uncommon undertakings—he richly merits the enjoyment of their profit.

In another part of husbandry, Mr. *Bakewell* is extremely attentive; which is the raising good fences: he has subdivided several of his fields, and always does it by planting regular rows of white thorn on one side of a ditch, the earth of which is laid up in the manner of the country on a narrow ridge on the opposite side; and then a post and double rail on each side the whole; which is certainly doing it most completely. But what he is more minute in than any farmer

farmer I ever saw, is the keeping his quicks clean; they all grow in the middle of a well dug slip of land, with not a weed to be found in them: this conduct has so good an effect, that his thorns at three or four years old much exceed those of the farmers in general at twice that age. In all his old fences he mends gaps and decayed places in the same manner, clearing away all rubbish, planting new quick, and securing it with a ditch, and a double rail and post.

As the principal object of Mr. *Bakewell's* attention was the keeping great stocks of cattle, he has found it necessary to lay down much arable land to grass; I walked over several of the fields, and found the herbage of an excellent sort, with a perfect carpeting of white clover. I enquired into his method of laying, and found it not common. He sows two crops of turnips successively, for the purpose of making the land as clean as possible from weeds; then, with the barley that follows, he sows 10 *lb.* common broad clover, and $\frac{1}{2}$ a bushel ray-grass, for the future meadow. I was much struck with this; which appeared to me extreme
bad

bad husbandry, and enquired into the effect. The first year he has a very fine crop of clover in the common manner; the spring following he manures it richly with very rotten dung, and always finds that half the broad clover disappears that year; the third year it is quite gone; and the pasture ever after is not to be known from the best common meadows; the herbage consisting of good grasses, and a thick covering of wild white clover.

Mr. *Bakerwell* has compared this method with sowing white clover and trefoile, instead of the broad sort, and finds that the effect after the second year is exactly the same, but the two first give him a much greater profit under the common clover than the white.

I shall observe upon this system, that the peculiarity consists in the broad clover being immediately succeeded by white honey-suckle and natural grasses of a good sort; with the general management it is succeeded by couch, twitch, or other trumpery, in at least as great plenty as by wild clover; and this I apprehend is owing to the preparation

of the land; it certainly would be the same with Mr. *Bakerwell* if he did not previously make the land as clean as a garden: it is therefore a compendious easy way, which on certain soils and with excellent management answers well, but in hands that will not give such attention to it, I am persuaded it would be a most pernicious practice: I well remember it being the method in some parts between *York* and *Beverley*; and the grafs left are straggling plants of clover, with great plenty of couch and weeds.

Another part of rural œconomy of very great importance to every farmer, is the number of horses he uses in a plough. Horses are kept at such an expence, that the using no more than necessary is one of the most material concerns of the farmer. The general practice of this neighbourhood is to use from 4 to 7 in a plough, and stir little more than half an acre a day; never more than three roods, and this on a sandy loam: on the contrary, Mr. *Bakerwell* never uses more than two in a plough, and without any driver. He has nothing but *Rotherham* ploughs; they answer perfectly well; and

and do an acre a day with ease: this, at a very moderate computation, is doing four times the work of his neighbours, with the same strength. But not one of them has yet followed him in this obvious improvement.

Mr. *Bakewell* has generally a small field of potatoes, which he plants after the plough, and keeps perfectly clean of weeds: he finds them to answer greatly.

This year he has a crop of the great *notch* cabbage, for the first time, planted in *June*; they appear thriving and healthy, and will I doubt not answer perfectly well; he proposes to extend the culture for saving hay, by which means he shall be able to keep larger stocks of cattle.

For feeding colts, or any horses that run fat, he has a contrivance which merits notice. It is a small house on 4 wheels for carrying hay and oats. Plate I. Fig. 2. is the sketch I took of it.

From 1 to 2. two feet 6 inches.

2 to 3. three ditto 6 ditto.

3 to 4. one ditto 8 ditto.

4 to 5. three ditto 3 ditto.

132 THE FARMER'S TOUR

From 5 to 6. six ditto 6 ditto.
 6 to 7. four ditto 7 ditto.
 9 to 10. two ditto 1 ditto.
 10 to 11. one ditto.
 12 to 13. six ditto.
 14 to 15. two ditto.
 14 to 16. five ditto 9 ditto.
 2. projects 21 inches from 17.

From the ground to 10, four feet one inch

The wheels 7' inches diameter: The cost complete 3*l.* 10*s.* Four horses eat hay and oats in it at once, for the four projections from the center are equal: it is moved every day, that they may not poach and tread the grass, ever the effect of a fixed rack and manger, or house. In dry time it may be set on wet land, and in wet times on dry land. Another very great use is, when the teams go double journey at plough, they are baited in the field very handily without bringing home.

Mr. *Bakewell* is particularly curious in providing proper watering places for his pastures; and in this he has a contrivance which I do not remember to have seen practised

practised by any body else. He has from experience observed many inconveniences to attend ponds in which the cattle are allowed to go in and lie down; for in hot weather, they not only make the water muddy, but colts going in when quite hot, and lying down, are apt to catch very dangerous colds: to prevent this, he first railed off the ponds, leaving them only room to come with their heads at the water; but this he has lately changed to a better way, which is to let the watering contain no more water at a time, than a small trough would hold. Plate I. Fig. 3. will explain the nature of the work.

From 1. to 2. is the bottom of the banks: the space between those lines, and also 3 and 4, form a small paved trough, about 2 feet long and 1 broad, through which the water runs, or remains, if the supply comes from a stagnated pool.

From 5. to 6. a ridge of stone work, which separates the water from the horseway.

From 7. to 8. the top of the bank.

From 8. to 9. } the length of the banks,
 9. to 10. }

11. Posts and rails,

12. The way down to the water ; paved.

I cannot conclude these observations on this very spirited farmer's undertakings, without expressing the satisfaction I felt at viewing them ; No where have I seen works, that do their author greater honour : they are not the effect of a rich landlord's determining to be a good farmer on his own land, but the honest, and truly meritorious endeavours of a tenant, performing great and expensive works on the property of another. It is true, he is fortunate in a generous and considerate landlord ; and much do I wish, that such excellent farmers may always meet with the same encouragement. A truly good farmer cannot be too much favoured, a bad one cannot have his rent raised too high. Let me exhort the farmers of this kingdom in general, to take *Mr. Bakewell* as a pattern in many points of great importance ; they will find their account in it, and the kingdom in general be benefited not a little.

L E T T E R III.

FROM *Dishley* to *Nottingham* the land is chiefly inclosed and good; lets at about 16*s.* on an average*.

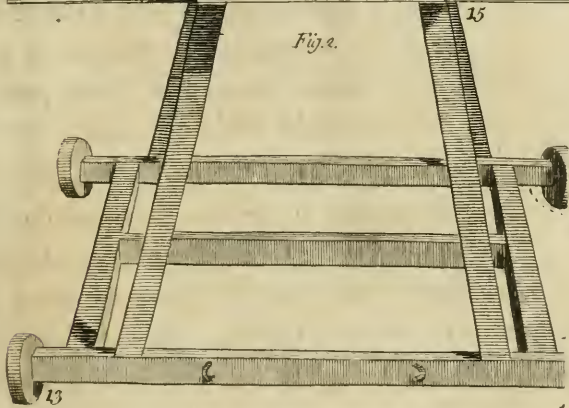
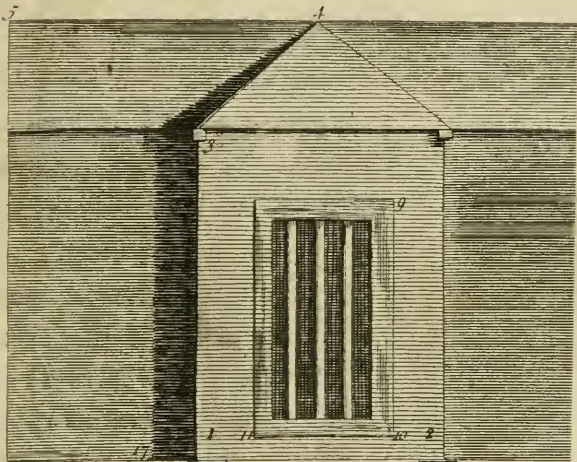
About four miles north of the town, at *Arnold*, some uncommon improvements have been lately carried on, particularly in the carrot culture. — *Cope*, esq; of that place has entered with particular spirit into this husbandry, and was so kind as to give me the following account. The soil is a fine, rich, deep, dark coloured sand: I run my riding cane three feet deep in it with ease; it yields great crops of every kind, and lets on an average at about 18*s.* an acre: a better soil for the culture of carrots can hardly be imagined. Mr. *Cope*, in 1767, began with one acre. In 1768, he had three acres and an half. In 1769, he

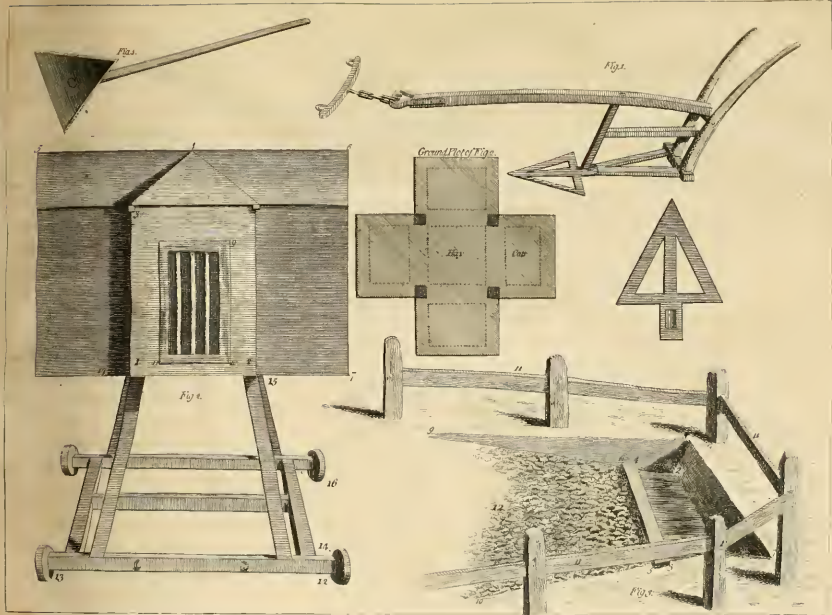
* From the castle of *Nottingham* is a very fine view of a most extensive and rich vale, with the *Trent* (here a very noble river) winding through it, bounded by a vast range of inclosures, and much distant prospect.

had 9 acres; and this year he has 3 acres. He has not varied in his method of culture, which is as follows.

In *October* he ploughs the land twice in a furrow, to the depth of 12 inches. In about a month after, he stirs it again in the same manner, and to the same depth: In *February* the same again; then he harrows once, and sows 4 *lb.* per acre, at 1 *s.* per *lb.* of seed, and covers by another harrowing. He manures before the last stirring, either with foot, pigeons dung, sheep's dung gathered on the forest of *Shirewood*, or rotten farm-yard dung, at about the expence of 50 *s.* or 3 *l.* an acre. The carrots seldom come up before *April*; as soon as they are to be clearly distinguished from the weeds, they are hand weeded, in order to prepare for hoeing, which operation they perform with a very handy effective tool. It is a hoe, which I do not remember to have seen used any where in fields, a triangular one. See Plate I. Fig. 4. The weeding and hoeing comes from 30 *s.* to 50 *s.* an acre, according to the season. Sometimes Mr. *Cope* ploughs up the crop, and sometimes digs them up; if the latter, he pays 2 *s.* 6 *d.*

per





per cart load, of two ton, for raising them, and throwing into the cart. His crops have usually risen from 18 to 25 tons *per* acre of the roots.

They can be sold to *Mansfield* at 6 *d.* a strike, for feeding horses, &c. in any quantities: but Mr. *Cope* uses his at home in feeding cows and sheep,—fattening beasts and hogs,—and keeping horses. No milk, cream, or butter, can possibly be finer than what he gets from carrots all through the winter and spring, quite to *June*, and in large quantities. He gives his cows each 2 bushels a day. He has fattened a great number of hogs with them; up to from 12 to 14 stone (14 *lb.*): Gives them raw, and finds that no food will carry a hog on quicker, or fat him better; some he has finished with corn, others completely on carrots, and does not find any difference: they fat wholly upon them, as well as with the change; and the pork is as fat and as saleable, and boils away not a jot more, than that of the corn fed hogs. Cows and oxen he has often fattened completely on them, and finds it a very profitable application of the crop: for they feed remarkably

2

quick,

135 THE FARMER'S TOUR

quick, and as finely as on any food in the world; he has fold cows fattened entirely on carrots, at 12*l.* 12*s.* each, and oxen up to 20*l.* His horses do extremely well on them; but he gives them a few oats at the same time; about a fourth or a sixth of their usual allowance, and they do the better for them. His sheep eat them very greedily; and they are of admirable use after turnips are gone. Mr. *Cope* depends on them for his flock, throughout the months of *April* and *May*; and since he has cultivated them, he has never been the least distressed for spring food for his sheep: All which applications of the crop, prove sufficiently clear, that they are one of the most useful and important that can be introduced into field husbandry. The expences, according to the preceding *data*, may be calculated as follows:

Rent,	-	-	-	-	£.	0	18	0
Tythe and town charges,	-					0	5	0
Seed,	-	-	-	-		0	4	0
Sowing,	-	-	-	-		0	0	6
Six ploughings,		-	-	-		1	10	0
Two harrowings,		-	-			0	1	6
Carry over	-	-			£.	2	19	0

THROUGH ENGLAND. 139

Brought over	-	-	-	£.2	19	0
Cleaning,	-	-	-	2	0	0
Taking up,	-	-	-	1	5	0
Manuring,	-	-	-	2	5	0
Total,				£.8	9	0

Product.

Suppose a strike to weigh 45 lb.; 21 ton at that rate are 1045 strike; which suppose at 9d. including the profit made by those who buy them at 6d.

it is	-	-	-	39	3	0
Expences,	-	-	-	8	9	0
Clear profit <i>per</i> acre,				£.30	14	0

But I have myself found carrots to pay 1s. 1d. *per* strike in feeding horses and fattening hogs; the profit may therefore be carried much higher. On the contrary, Suppose the crop sold at 6d.

it comes to	-	-	-	£.26	2	0
Expences,	-	-	-	8	9	0
Clear profit,				£.17	13	0

If

If these accounts do not prove the immense profit of cultivating carrots on these rich sands, nothing can.

Mr. *Cope* always sows turnips after them; they are so late in the ground, that spring corn will not do; but the land is in excellent order for turnips, and these two hoeing crops coming together, so clean and enrich the land, that vast crops of barley are gained after them, generally from 6 to 10 quarters *per* acre; and the clover which follows that is incomparably fine.

All Mr. *Cope's* crops were extremely good; and proved how well he cultivates his land. Among others, he has tried buckwheat; and finds it answers in a surprising manner on the poorest land: He has had 40 bushels from 3 roods, which are 6 quarters 5 bushels *per* acre.

From *Arnold* by *Newstead** to *Mansfield* is all *Shirewood* forest: waste land, but
highly

* *NEWSTEAD ABBEY*, the seat of Lord *Biron*, is situated in a vale in the midst of an extensive park, finely planted; on one side the house a very large winding lake is making, which, when finished,

highly improveable; for the sand, though light, is not devoid of fertility. To *Alfreton* it is all inclosed and rich; lets at near a pound an acre. About that place the soil is various; a hazel loam, between sand and marle, on a stone bottom. Very dry land; in some places it is more inclinable to clay; lets on an average at 20s. an acre. Farms rise from 50 *l.* to 300 *l.* a year. The courses of crops,

1. Fallow

finished, will be a noble water; on the other side is another very fine lake, which flows almost up to the house; the banks on one side are fine woods, which spread over the edge of a hill, down to the water; on the other shore, scattered groves, and park. On the banks are two castles washed by the water of the lake, they are uncommon, tho' picturesque: it seems rather unfortunate that the cannon should be levelled at the parlour windows.

A twenty gun ship, with several yachts and boats lying at anchor, throw an air of most pleasing chearfulness over the whole scene. The riding up the hill leads to a *Gothic* building, from whence the view of the lakes, the abbey and its fine arch, the plantations and the park, are seen at once, and form a very noble landscape.

In the house is a collection of paintings by many of the best masters: among others the following.

In

142 THE FARMER'S TOUR

1. Fallow—2. Wheat—3. Oats:

Also,

1. Fallow	3. Clover two years
2. Barley	4. Wheat.

For wheat they plough four times ; and reckon the average crop at about 30 bushels. For barley they stir twice, and get about 35 bushels:

They plough thrice for turnips, hoe once or twice ; and feed them in general off

In the *Hall*.

Snyders. A garden-piece ; the figure by *Rubens*. Admirable expression : many things in this piece are nature itself.

Rubens. Lions and tygers. Amazingly spirited. Life itself.

Ditto. Lions in a den. The attitudes and fullen expression of their countenances incomparably fine.

Snyders. Poultry, &c. Damaged ; but good.

De Vofs. Foxes, &c. spirited.

Snyders. Two dogs. Very natural.

Ditto. A stag hunt ; spirited.

Ditto. A boar hunt. Ditto.

De Vofs. Wolf, deer, and dogs. Fine.

Snyders. Dog and cat : drolly expressive.

In the *Green Withdrawing-room*.

M. Angelo. *Holophernes*. Fine.

Canaletti. *The Rialto*.

Holbein.

off with sheep, tho' some few draw them for beasts : the average value of the crop 3*l*. Their clover they feed first, and then mow it, and get two loads an acre.

Lentils they sow among oats, and find the crop and the straw both the better for them.

As to manuring, they never fold their sheep. On new broken up land they depend chiefly on the ashes of the paring and burning,

- Holbein.* Duke of *Somerset*. Fine.
- Unknown.* The binding our Saviour. Very fine.
- Brower.* Old man reading. Extremely expressive.
- Rubens.* The sending away of *Hagar*. *Abraham's* and the dog's heads excellent ; but *Hagar* a very mean figure.
- Unknown.* A crucifix. Nothing more pleasing than the colours, and the group.
- Miens.* A lady. Fine colouring.
- Teniers.* A farm. Very fine.
- Unknown.* *Herodias* bringing *John Baptist's* head. *Herodias* a most inimitable figure ; grace, ease, and elegance itself——a perfect contrast to her employment. The king a fine figure. The group in general——the airs of the heads——the attention ; all fine. The expression and colours very pleasing.
- I *Schalken.*

ing, which is the common method practised here; the price from 18 s. to 20 s. an acre; after it they sow turnips or wheat, but are sure of a great crop of either. Lime they use pretty much, lay it on for wheat on cold land: about two cart loads *per* acre, at 6 s. a load. Their stubbles they chop both for thatching and littering, but stack their hay about the fields.

They

- Schalken.* A candle-light. Very fine.
Hulsdonc. Basket of fruit. Finely done.
Kabraat. A battle. Expressive.
Unknown. A man playing on a flute. The colours good.
Borgognone. A battle. Great expression. In the *Red Withdrawing-room.*
Panini. Ruins. Fine. The figure holding a spear, and the woman with her back to you, both spirited.
Miens. A conversation. Admirably fine.
Cassali. *Judith* and *Holophernes.* Pleasing.
Raphael. A man offering a purse to a woman. A copy by *Vanderman.* Very fine.
Vandyke. Apostles bearing a dead *Christ.* Admirable drawing and expression.
Unknown. Triumph of *Bacchus.* Fine.
Raphael. *Christ, the Virgin, and St. John.* A copy by *Dominichino.* Admirably fine; a tenderness in the tints extremely pleasing.

P. Veronese.

They are pretty attentive to the draining their wet lands, with covered drains, and find the service they do very great.

The plashing method of hedging yet continues, and some hedges I observed that were pretty well done.

The best grass land lets at 30s. an acre; they use it chiefly for cows; an acre will feed one thro' the summer. In the sorts of cattle they have both long and short horned, but

P. Veronese. Rachael and Laban. Very fine.

Flemish School. A woman wiping a child's back-side. Pity the Dutchman was ever employed in any other business. This subject was abundantly more fertile in his imagination, than the Graces attiring Venus.

Titian. Diogenes. Incomparable.

Ditto. A half length. The colouring most excellent.

Raphael. Jacob and Esau.

Unknown. St. Jerome. The minute expression very great.

Hondius. A man with dogs. Good.

De Neff. Two insides of churches. Fine.

In the Gallery.

Unknown. Dead game. Natural.

Titian. A half length. Admirably fine. The colouring of the face, life itself.

but reckon the former much the best. The average quantity of milk about three gallons, and the total product of a cow 7*l*. They have very little idea of keeping swine in consequence of cows. A dairy-maid can take care of 9 or 10. The winter food hay; sometimes a few turnips; also malt grains. They keep them in the yard in winter more than in the fields.

Swine fat up to 22 stone (14 *lb*.)

Their

- Ricci*. Triumph of *Venus*. Very pleasing.
And. del Sarto. Christ, the Virgin, and St. *John*. Amazingly finished.
Vanbagen. A storm. Fine.
Raphael. Virgin and Child. The colours extremely fine; and the relief, especially of the child, admirable.
Bassan. Adoration of the shepherds. Fine in this stile of execution; but the Virgin's countenance a vulgar expression.
Terg. Sea pieces. Done in an uncommon stile.
Rubens. A candle-light. The shades, and the cast of the eyes and countenance, strikingly fine.
Morciks. A man pressing a woman's breast. Excellent; but his laugh not that of his situation.
Marconi. The raising of *Lazarus*. Fine. A great number of figures.

Rubens.

Their flocks of sheep rise in general from 60 to 140; the value of the fleeces, 4 s. on a medium.

In their tillage they reckon 8 horses necessary for 100 acres of ploughed ground. They use 3 or 4 in a plough, and do an acre a day: the depth 4 inches, and the price *per acre* 6 s. The annual expence of a horse they calculate at 10 l. They cut straw into chaff for them. *Christmas* is the time of
 breaking

Rubens. An old woman's head. Very great expression.

And. del Sarto. Charity. Good.

Unknown. The marriage of St. Catherine. The relief very noble.

Titian. The attitudes. The flesh soft, and pleasingly done.

Unknown. *Christ* taken down from the Cross. The figures, expression, and colours, very great.

In the *Dressing Closet* to the *Oval Room*.

Unknown. Lady *Biron*. Very pleasing.

In Lord *Biron's Dressing-room*.

Titian. A lady dressing. Good.

Unknown. *Nell Gwyn*. A beautiful neck; but the eyes asleep, not *sleepy*.

Unknown. Beggar boys. Expressive.

In Lady *Biron's Dressing-room*.

Unknown. An old man reading. A fine head.

148 THE FARMER'S TOUR

breaking up their stubbles. All swing ploughs used.

In stocking their farms, they reckon that 300 *l.* will do for one of 100 *l.* a year. Poor rates 1 *s.* in the pound.

LABOUR.

In harvest, 1 *s.* and board.

In hay-time, 10 *d.* and ditto.

In winter, 1 *s.*

Reaping wheat, 5 *s.* an acre.

————— oats, 4 *s.* ditto.

Mowing

Unknown. Monkeys. Truly grotesque.

Ditto. *Mary Queen of Scots.* Very fine.

Ditto. *The Blacksmith Painter's wife.* Minute expression.

In the great *Dining-room*, 63 by 27.

Unknown. A half length with a chain across the shoulder; the countenance and face greatly done.

Ditto. *St. Sebastian.* Fine.

Vandyke. *King Charles* on horseback. The famous picture. Very noble.

Unknown. An old woman weighing money. Great expression in the countenance.

In the common *Dining-room*.

Rottenhamer. *Diana, &c.* Pleasingly delicate.

Unknown. *Hercules* and *Dejanira.* Noble attitudes.

Vandyke. A feast of painters.

THROUGH ENGLAND. 14,

- Mowing barley, 1 s. 6 d.
 ———— grafs, 1 s. 6 d.
 Hoeing turnips, 5 s.
 Hedging and ditching, 5 d. a rood of 7
 yards.
 Threshing wheat, 1 s. 8 d.
 Making faggots, 2 s. per 100.
 The rise of labour within 20 years 1 s. 6 d. a
 week.
 Head-man's wages, 9 l.
 Next ditto, 7 l.
 Lad's, 3 l.
 Maid's, 3 l.
 Women per day in harvest, 8 d. and board.
 ———— in hay-time, 6 d. and ditto.

IMPLEMENTS.

- A waggon, 20 l.
 A cart, 10 l.
 A plough, 20 s.
 A pair of harrows, 15 s.
 A stone roller, 5 s.
 Harness per horse, 20 s.

PROVISIONS.

- Bread, (oat cakes) 14 lb. for 11 d.
 Cheese, per lb. 4 d.
 Butter, - - - 6
 Beef, - - - 3 ½
 L 3 Mutton,

150 THE FARMER'S TOUR

Mutton, *per lb.* 4*d.*

Veal, - - 3

Pork, - - 3 $\frac{1}{2}$

Bacon, - - 7

Milk, *per pint,* - $\frac{1}{2}$

Potatoes, *per peck,* 3 $\frac{1}{2}$

Candles, - 7

Soap, - - 6

Labourer's house-rent, 30*s.*

Their firing, - 10*s.*

Coals, 4*s.* a ton at the pit.

Wear of their tools, 5*s.*

BUILDING.

Bricks, *per 1000,* 11*s.*

A carpenter a day, 1*s.* and board.

A mason, 1*s.* and ditto.

A thatcher, ditto.

Something of the general œconomy will be seen from the following particulars of farms.

100 Acres in all	6 Young cattle
50 Arable	4 Fattening beasts
50 Grass	60 Sheep
£. 100 Rent	20 Acres of wheat
8 Horses	10 Barley
9 Cows	16 Oats
	4 Pease

THROUGH ENGLAND. 151

4 Pease and beans	3 Men
3 Turnips	1 Boy
20 Fallow	1 Maid
4 Clover	1 Labourer.

Another :

50 Acres in all	2 Barley
30 Arable	6 Oats
20 Grass	1 Pease and
£. 50 Rent	beans
4 Horses	2 Turnips
4 Cows	6 Fallow
6 Young cattle	2 Clover
2 Fattening beasts	2 Men
30 Sheep	1 Boy
4 Acres wheat	1 Maid.

Another :

40 Acres in all	12 Cows
4 Arable	2 Young cattle
36 Grass	1 Boy
£. 40 Rent	2 Maids.
1 Horse	

The principal farmer in this neighbourhood is Mr. *Kendal*, of the *Peacock* inn, near *Alfreton*; he has in several instances deviated from the common practices of the country, and much improved on them.

The farmers of this country know nothing of sainfoine, notwithstanding the soil is a fine dry hazel loam, on stone quarries : Mr. *Kendal* introduced it 9 or 10 years ago, and has found great success from it ever since ; but has not been followed by any one neighbour. His first trial was on six acres, which remains yet in perfection. He has since sown more, so that he has 20 acres in all. His method being uncommon, I shall state it. He does not sow it broadcast, but in drills equally distant, 2 feet asunder, struck on a field sown with broadcast barley and clover, with a hand-hoe, and being sown with 6 pecks of sainfoine seed, it is covered by one harrowing. The clover lasts thick but one year ; the second, much of it is gone, and all disappears the third ; then the sainfoine gets up and flourishes well : He always mows it once. The first year he gets of clover and sainfoine 3 loads of hay an acre ; less the second year ; but afterwards the crop is about 2 loads. It keeps itself clean of rank weeds without any hand-hoeing, but much natural grass comes. The aftergrowth he eats with sheep and beasts, and finds no damage to
his

his crop from the latter. Nothing fattens all sorts of cattle better : his cows give more milk on it than on any other grass, but it tastes. Upon this culture of sainfoine, I shall observe, that Mr. *Kendal* has much merit in introducing it at all, but he would certainly have found greater success, had he sown it broad-cast over the whole field, 4 bushels to the acre ; and omitted the red clover. It is impossible that the young sainfoine should be choaked up in three loads an acre of clover without damage. It is certainly a present profit, but the question is, if it be not to a future loss. I would however recommend the trial to him.

Potatoes he cultivates in large quantities. In 1768, he had 8 acres : In 1769, 14 acres ; and 16 this year. The following is his method of cultivating them. He first ploughs the land at *Christmas* ; then lets it lie rough all winter. Harrows it in the spring, and ploughs again ; in this earth he opens double furrows 1 foot from each other ; and then leaves an interval 9 feet wide ; and so on throughout the field. The potatoe slices, 8 bushels to the acre, are dropt after the plough, 5 inches deep, and

1 foot asunder. After this the intervals are ploughed twice or thrice for turnips, which are sown broad-cast and harrowed in. The potatoes are earthed up the ploughings, besides which, they have some earth thrown with spades from the edges of the turnip bed, to the space between the rows. The crop is taken up with forks; the produce in this manner, without dung, amounts to 100 bushels at 1 s. or 5 l. *per* acre. The turnips are hand-hoed once or twice, and are always worth 2 l. an acre.

But besides this way, he plants some acres every year in the common method all over the land, in which way he gets very large crops, up to 30 l. an acre, at 1 s. a bushel; which is 600 bushels *per* acre.

He uses all his crops for fattening brawns. First, they are washed,—and then boiled in a copper, 20 bushels at a time; it is filled with potatoes, and then as much water put to them as the copper will hold. When boiled soft, they are all ladled into large tubs to cool, in which they are mixed with barley or rye meal; in the proportion of 2 bushels of meal to 20 of potatoes: and as soon as the mixture is cool, it is ready to
give

give to them. It fattens them better than any other food; faster than corn alone. His lean swine he also keeps on potatoes, but only boils them, mixing no corn with it.

Sometimes he fallows the spaces between the rows for wheat, and gets the best crops thus in the country.

Cabbages Mr. *Kendal* has cultivated with success. In 1768, he had half an acre; in 1769, two acres; and this year has one acre. He ploughs for them at *Christmas*, and again in *March*, when he plants the ground with beans in single rows 4 feet asunder; soon after he plants a row of cabbages between them: the culture he gives while the crops are growing, is to earth up both; and keep them quite clean of weeds. When the beans are reaped, then the cabbages spread; some of them rise in weight to 23 *lb.* He gives them to his cows, and the effect is their yielding vastly more milk than on any other food, and the cream and butter have not the least bad taste. He gets in quantity 20 cart loads *per* acre, worth

3

about

156 THE FARMER'S TOUR

about 6 *l.* He gives half a cart load *per diem* to 7 or 8 cows that run in the pasture.

The following particulars of Mr. *Kendal's* farm will shew that he practises on a large scale.

420 Acres in all	30 Oats
250 Arable	10 Pease and
170 Grass	beans
£.420 Rent	16 Turnips and
16 Horses	potatoes
9 Cows	20 Sainfoine
16 Young cattle	6 Men
4 Fattening beasts	6 Boys
120 Sheep	2 Maids
50 Acres wheat	4 Labourers.
20 Barley	

About half a mile from the *Peacock*, is a very unusual thing in the hands of a common farmer; about a rood of lucerne, on very good land, in equally distant rows, 2 feet asunder, but so over-run with weeds that the experiment can be of no value; the lucerne, from its great luxuriance of growth in the midst of such enemies, would evidently thrive to uncommon profit on this land,

land. How such a trial should come into the head of a little farmer, I cannot conceive.

Taking the road to *Derby*, you come in about two miles to a spot that commands a very beautiful landscape to the right: It is a winding valley bounded every where by hills; the whole cut into inclosures, waving one beyond another, and finely scattered with trees. Several villages appear, and a small winding river breaks upon the eye in several places.

But it is time to conclude this letter: you must allow me to assure you how much I am, &c.

L E T T E R IV.

DERBY is a considerable town, consisting of five parishes; well built and full of manufactures: the principal are those in the stocking branch, which employs many hands; who earn in general from 1 s. to 2 s. a day, but 1 s. 4 d. on an average. The silk mill employs many women and children, whose earnings are some of them so low as 2 d. a day. There is also a porcellane manufactory, something in the stile of the *Worcester*, but inferior. Land about *Derby* lets at an high rate; such as is at all convenient, so high as 50 s. and 3 l. an acre; but Mr. *Mundy* has a very considerable estate lying a part of it within a mile of the town, of which none rises so high as 30 s.; but little to 25 s. and is upon an average tythe-free at 16 s. grass and arable; notwithstanding its being cut by turnpikes—close to market—and also to manure for purchase; the soil exceeding good. All these circumstances considered, there cannot be a doubt of the value being a guinea

an

an acre, for all such land within three or four miles of *Derby*. I suspected their fields being under-let, from the sufficient crops of thistles and nettles to be seen through their richest grass; 5*s.* an acre more rent, would presently wipe out such a disgrace to their management. Their arable inclosures are new ones; and they are so capitally stupid as to adhere to the old course, to which they were tied down when the land was open field; that is,

1. Fallow—2. Wheat—3. Beans or Pease; which is the old barbarous story that has travelled with me regularly from *Buckinghamshire*. I will venture to assert, that they could not have pitched upon a more unprofitable course for inclosures. The beans are sown on one ploughing, and never receive any hoeing; you might as well recommend an Orrery to their inspection as a hand-hoe; some turnips are sown, but not hoed. With this management, they are able to pay 16*s.* an acre tythe-free; at which I must confess I am surprized, for I should esteem 10*s.* tied down to such a conduct, a very high rent. Let me ask any modern farmer accustomed to the practice

tice

tice of the best husbandry, whether he could not pay 30 s. an acre by means of the following courses, much easier than 16 s. by that of the *Marton* farmers.

- | | |
|--------------------------|-------------------------------|
| 1. Turnips, twice | 3. Clover |
| completely hand-
hoed | 4. Wheat on one
ploughing. |
| 2. Barley | |

Also,

- | | |
|-------------------|-------------------------------|
| 1. Beans, thrice | 3. Clover |
| completely hoed | 4. Wheat on one
ploughing. |
| 2. Barley or oats | |

Never any fallow: I will engage that he would grow rich with these courses, at 30 s. an acre, much sooner than he would get 50 l. clear, at 16 s. an acre, with fallow, wheat, beans.

But is it not surprizing that landlords will overlook their interest so much, as to sit down contented with their estates being so cultivated?

They say their tenants are blockheads—slovens—and that they know nothing of their business. I very readily subscribe to the whole; but these epithets do not add one shilling to their rents——nor will they extirpate a single thistle. Let them raise
their

their rents to a common height, supposing the husbandry good: if the farmers chuse to pay it from their present culture, it will only prove that the rate *per* acre is still too low. If they do not, or cannot, then bring farmers from other countries who know what husbandry is.

“ But the world will clamour—we shall be abused at such an alehouse—and thought very hardly of at another.”—Here lies the fact; and to do these very moderate gentlemen justice, I allow this is a rational plan, because they do not lose the money, without (what they please to think) the money’s worth. If rents were raised, they would have hats off with *God bless your honour*, but twice where they now have it thrice: and on rent day, a bow 6 inches lower than common with a long scrape, is far preferable to a blunt entrance; and then it sounds very prettily in riding through their fields to hear, *How rare a landlord the squire is*; and what crowns the whole, half a dozen tenants meeting at a hedge alehouse, and nothing disrespectful to their landlord passing. This is certainly popularity; and as

great minds have in every age been much flattered by possessing it, we are not to wonder that landlords find it more captivating than *5s. per acre per annum*.

In this case we often see an extravagant son of *White's* of ten times more use to his country than the gentleman of regularity and moderation: his rents fly with the dice; down he comes into the country, and raises to the utmost. No farmers will agree for a rent they cannot pay, they are too good calculators for that—the consequence is, that his estate is let at its highest value: this is but another word for good husbandry, for that which is bad will not pay great rents. Thus is the dice-box in this instance of ten times more value to the nation than the sleeping, dronish state of vegetation in which so many landlords are content to drawl on, and not raise rents, because their grandmothers did not.

Mr. *Munday* has been very curious in his breed of cattle; he has sold cows at *25l.* apiece; and has at present several head of valuable cattle; but he remarks, that this curious breed is by no means favourable to
milking,

milking, $4\frac{1}{2}$ gallons *per* day being the utmost he has arrived at.

I should give the farmers of this neighbourhood credit for three circumstances: they buy dung, &c. at *Derby* at 2 s. 6 d. or 3 s. a load; they form composts of lime and earth for grass lands; and a spiky roller is a common implement among them.

For the following particulars of the husbandry about *Radbourn*, the seat of Colonel *Pole*, I am indebted to that gentleman, who took every measure for procuring me the best intelligence.

The soil is a fine rich mellow clay, either red or black; falls in the weather in such a degree as to shew that it is not too adhesive; and from the vast crops of thistles yielded by it, on the fallows, we may be clear in its fertility.

Farms rise from 20 l. to 150 l. a year, but generally from 70 to 100 l. The courses of crops are,

1. Fallow—2. Wheat—3. Beans.

Also,

1. Fallow—2. Barley—3. Beans.

Likewise,

- | | |
|-----------|--------------------|
| 1. Fallow | 3. Clover, 2 years |
| 2. Barley | on strong land. |

And,

1. Fallow—2. Wheat—3. Oats or pease.

They plough four times for wheat, sow 2 bushels, and gain 23 on an average. For barley they give the same tillage, sow 4 bushels before *Lady-day*, and gain $5\frac{1}{2}$ quarters on an average. They stir but once for oats; sow $4\frac{1}{2}$ bushels; and reckon the mean crop at 6 quarters.

They plough but once for beans, sow 4 bushels an acre, never hoe them; the crop $3\frac{1}{2}$ quarters.

They sow a few turnips, but, shame be unto them, never use a hoe.

In respect to manuring, it is at a very low pass; they never fold their sheep, know nothing of chopping stubbles, and stack most of their hay about the fields; with such management it is impossible that the farm-yard should yield any thing considerable. Lime they seem most to depend upon, they lay from 2 to 3 waggon loads an acre, at 14s. a load the cost, and 15s. carriage;

so that the total expence is about 3*l.* 10*s.* or 4*l.* *per* acre. It lasts good 7 or 8 years.

Draining is very little known.

The hedges are done in the plashing method, and some of them neatly, but their ditches are contemptible.

Good grafs lets at 16*s.* an acre, and as the tenant pays taxes, it amounts to near 20*s.* They apply it to mowing, grazing, milking, and horses.

My information ran that 2 $\frac{1}{2}$ or 3 acres are necessary for feeding a cow through summer; but this is exaggerated; I know from viewing the fields that no such quantity is requisite. The breed of cattle is all the long-horned *Lancashire*. The average quantity of milk about 2 gallons.

The profit of a good cow they lay as follows:

1 Cow, 3 cwt. cheese, at 30 <i>s.</i>	4	10	0
Butter, - - -	0	10	0
Calf, - - -	0	7	0
	<hr/>		
Per cow, - -	£. 5	7	0
	<hr/>		

In the breeding way, they usually rear by turning cow and calf to grafs together; but

they put two calves to one cow. The value of ox hides vary, but are generally at $3d. \frac{1}{2}$ a pound. Colonel *Pole* has sold them of $184 lb.$ being $2l. 14s. 8d.$

The flocks of sheep are inconsiderable; the profit they reckon at $3s.$ lamb, and $1s. 6d.$ wool: but they keep them in winter on grass alone. The weight of the fleeces from $2 \frac{1}{2}$ to $6 lb.$ Respecting the rot, it is here observed, that limestone rots much; it is asserted positively, that you may make any land rot sheep by liming it: they have sheep sometimes rotted at home; the land perfectly free from springs.

In their tillage they use 5 horses in a plough; do 3 rood a day, about 4 inches deep: the hiring price $7s.$ an acre. The annual expence of a horse they reckon at about $9l.$ Cutting straw into chaff is very well known. They never break up their stubbles till after spring sowing, and use only swing ploughs; rather too heavy, but of a better construction than many in the kingdom.

In the hiring farms, they reckon four rents necessary to stock.

THROUGH ENGLAND. 167

Land sells at from 35 to 40 years purchase.

Tythes are compounded *per* acre; wheat pays 5 s. barley 5 s. oats 2 s. 6 d. grafs 1 s. 2 d.

Poor rates 9 d. in the pound; the employment spinning flax: All drink tea twice a day. The farmers carry their corn 11 or 12 miles.

LABOUR.

In harvest, 1 s. 3 d. and board.

In hay-time, the same.

In winter, 1 s. and beer.

Reaping wheat, 7 s. to 8 s.

Mowing barley and oats, 1 s. 6 d.

———— grafs, 1 s. 6 d. and beer.

Ditching, 7 d. a rood.

Threshing wheat, 2 s.

———— barley, 1 s. 6 d.

———— oats, 1 s.

———— pease, 1 s. to 1 s. 2 d.

Amount of a year's earnings, 17 l.

The rise of labour half in twenty years.

Head-man's wages, 9 l. to 10 l.

Next ditto, 7 l.

Lad's, 4 l.

Maid's, 4 l.

Women *per* day in harvest, 1 s. and beer.

168 THE FARMER'S TOUR

Women *per* day, in hay-time, 8*d.* and beer,
 _____ in winter, 8*d.*

IMPLEMENTS.

A waggon, 20*l.*
 A cart, 8*l.*
 A plough complete, 1*l.* 1*s.*
 A pair of harrows, 1*l.* 1*s.*
 A roller, 7*s.* to 8*s.*
 Harness *per* horse, 3*l.*
 Laying a share, 8*d.*
 _____ coulter, 8*d.*

PROVISIONS.

Bread,	<i>per lb.</i>	1 <i>d.</i>
Cheese,	- -	4
Butter,	- -	6
Beef,	- -	3 $\frac{1}{2}$
Mutton,	- -	3 $\frac{1}{2}$
Veal,	- -	3
Bacon,	- -	6
Milk,	- -	0 $\frac{1}{2}$ <i>d.</i> a pint,
Potatoes,	- -	6 <i>d.</i> a peck,
Candles,	- -	6 a <i>lb.</i>
Soap,	- -	6 ditto.
Labourer's house-rent, 20 <i>s.</i> to 40 <i>s.</i>		
_____	firing,	1 <i>l.</i> 10 <i>s.</i>
_____	tools,	7 <i>s.</i> 6 <i>d.</i>

BUILD-

THROUGH ENGLAND. 169

BUILDING.

Bricks *per* 1000, 12 s.

Tiles, 16 s.

Oak *per* foot, 1 s. 4 d. to 1 s. 8 d.

Ash, 1 s. 4 d.

Elm, 1 s.

A carpenter a day, 1 s. 4 d. and board.

A mason, ditto.

A thatcher, 1 s. and board.

The following are particulars of farms.

£. 100 Rent	7 Oats
10 Horses	20 Pease and beans
27 Cows	20 Fallow
10 Young cattle	3 Men
40 Sheep	1 Maid
12 Acres of wheat	2 Labourers.
6 Barley	

Another :

6 Horses	5 Barley
20 Cows	8 Oats
10 Young cattle	8 Pease and beans
50 Sheep	1 Boy
5 Acres of wheat	1 Maid.

Another :

£. 240 Rent	100 Sheep
12 Horses	20 Acres of wheat
50 Cows	30 Oats
40 Young cattle	20 Pease and beans
	10 Fallow

170 THE FARMER'S TOUR

10 Fallow

2 Maids

9 Men

6 Labourers.

1 Boy

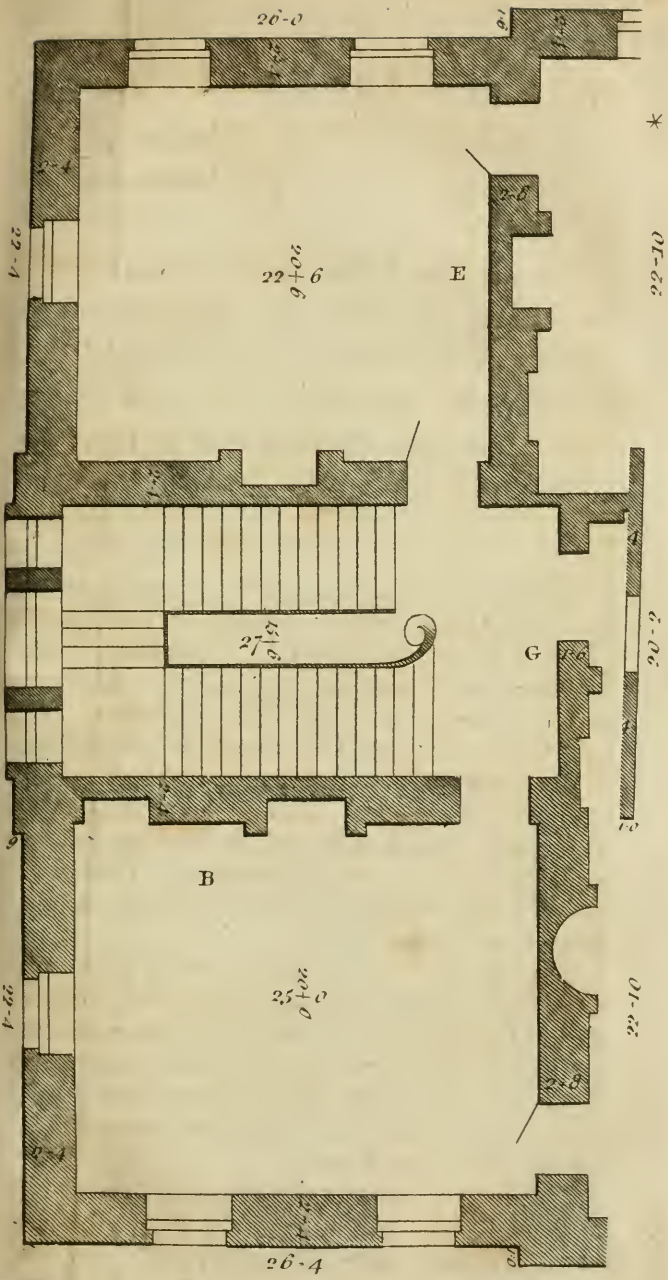
Colonel *Pole* * has been for some years attentive to his breed of cattle: he keeps only the fine *Lancashire* long horned kind, of which he has some cows, and young cattle of his own breeding that do him credit;

* *RADBURN*, the seat of that gentleman, is very beautifully situated on one of the highest grounds in the south parts of *Derbyshire*; commanding very extensive views into *Leicestershire*, *Warwickshire*, *Staffordshire*, *Cheshire*, &c. and from being well sheltered by plantations, and very fine woods, it is not at all bleak. The house is an excellent living one; remarkably well contrived; as will appear from the following disposition of the apartments. The body of the house, exclusive of offices, forms an oblong of 90 feet by 65.

The hall (A) is 37 feet by 30, and 19 high; opposite the door are four *Ionic* pillars, which reduce the area to 30 square. It is neatly fitted up in stucco.

It opens on the left into a breakfast room (B), 25 by 20; and on the right into the library (C), of the same dimensions; these three rooms forming one side of the house.

The hall in front opens into the saloon (D) or dining-room, 35 by 23, and that to the left into a drawing room (E) $22\frac{1}{2}$ by $20\frac{1}{2}$: on the right



20-0

1-8

*

22-4

22+6/9

E

22-22

2-8

27+2/3

G

2-0-2

B

25+0/0

1-0

22-10

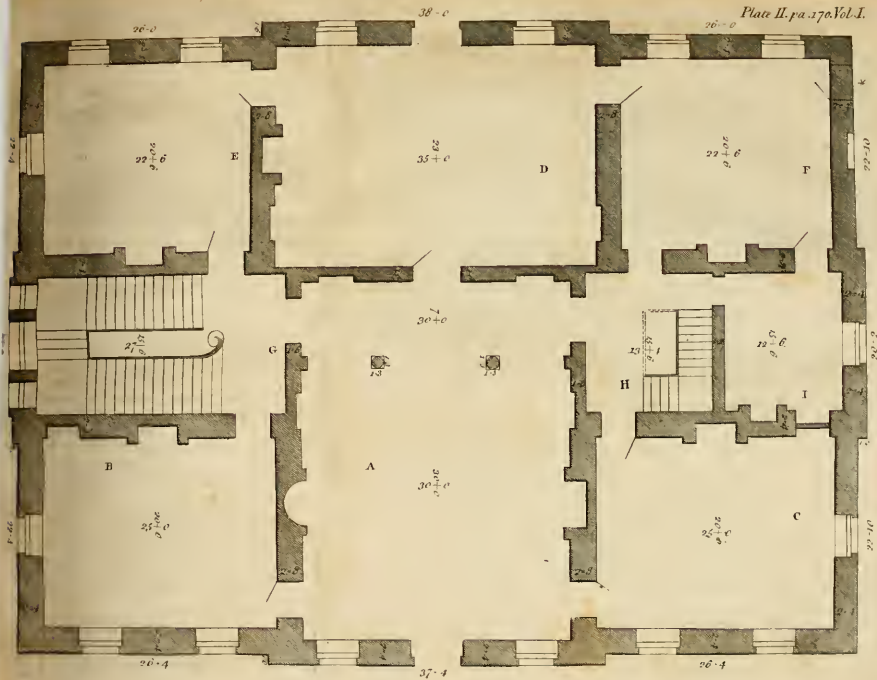
2-8

26-4

8

22-4

2-4



dit; he keeps the cow calves for stock, and the others for oxen to fat, of which he has generally several that are very fine; but he finds that this breed, so much valued at present, is by no means favourable to the dairy, for the quantity of milk given by the finest cows is very trifling. I must
here

right it opens into Mrs. *Pole's* dressing-room (F), of the same size.

The space on the left side, between the drawing-room and breakfast-room, is occupied with the principal stair-case (G), the area 27 by 15; and that on the other side between the library and the dressing room, by a back stair-case (H); and a bed-chamber (I), $12\frac{1}{2}$ by $15\frac{1}{2}$. From hence it appears that the disposition of the rooms renders the house perfectly convenient:—the hall communicates with every room on the floor. The bed-chamber opens on one side to the dressing-room, and on the other to the study; and the former also to the dining-room, and so to the drawing-room.

The communication with the offices is by the back-stairs, which are close to the dining-room; and the dressing-room opens by a corridor at * to servants chambers, &c. &c. The annexed plan will shew this clearly; I insert it for the use of those who are at a loss in the contriving new houses; which may often be supposed the case, from the numbers we see that are full of faults. See Plate II.

here be allowed to observe, that the Colonel's wheat crop was as fine as any I saw in that part of *Derbyshire*, and much better than his neighbours: He is preparing for 4 acres of cabbages by much tillage and plenty of manure; and is determined to take every means for extirpating ant-hills and thistles, not only from his own fields, but also from his tenants*.

At *Longford* in this neighbourhood, the seat of *Wenman Cooke*, esq; I had the uncommon
fatis-

* It was an observation made in the last century, that the attention given to husbandry by the officers who had led so active a life during the civil wars, was what advanced the husbandry of this kingdom in an uncommon manner: something of this is observable in many military gentlemen, who made a conspicuous figure in the late glorious war. A country life of idleness ill succeeds the hurry and spirit of so many campaigns; no employment more proper than husbandry, which in all ages has been the business of heroes. Colonel *Pole* is an honourable instance of a change from war to agriculture; he has long trod the field of *Mars* with spirit: I have little doubt but he will now sacrifice to *Ceres* with equal ardour. Six campaigns in *Flanders*;—six more in *Germany*:—shut up with Lord *Blakeney* in the castle of *St. Phillip's*, and present in the suppression of the rebellion of 1745—have been to this galant officer hot scenes of action: Shot through the head at *Fontenoy*; and twice wounded on the plains of *Minden*, have left him the honourable marks of bravery exerted in the service of his country.

satisfaction of seeing a team of oxen in harness. That gentleman, who is one of the most spirited farmers in *Derbyshire*, is the first who has drawn them in this manner; he uses sixteen; and finds that they draw with much greater power than in yokes, the method in which he first tried them; they move much faster, and are more handy and convenient: he executes all his ploughing and home carting with them, at much less expence than the same could be performed by horses, or by oxen in yokes: a striking proof of this, is his ploughing as much land in a day with 3 oxen, as the farmers do with 4 or 5 horses; a disproportion so amazingly great that it decides the point at once, and in the clearest manner. He feeds them in summer on grass alone; and in winter on straw, on which he works them moderately; but if hard, then they have hay, or some turnips. The harness is much the same as that for horses, excepting the collars opening to be buckled on, and also to their being worn in the contrary manner to horses, that is, the narrow end of the collars which open, being downwards,—and as the chains are fastened to

them

them in the same direction as in horse harness, the beasts of course draw much higher than horses: the line of the chains is almost up to their backs; but much above the chest; this variation Mr. *Cooke* thinks necessary from the different shape of horses and oxen; and it is a circumstance deserving attention from all who may be inclined to follow this very useful example. I saw a team drawing a heavy load of bricks; and observed that not one horse team in ten out-walked them. The drivers assured me that they worked much better than yoaked, drew a greater weight, and were far more easily managed. One great benefit of this method, exclusive of the increased power, is the placing them in a single line instead of a double one, which in some sorts of ploughing is extremely useful: Indeed, in general, the nearer the team is to the weight, the greater its power; but this is not the case with oxen yoaked, owing merely to that awkward untoward way of drawing; for it is well known to all ox drivers, that the beasts cannot exert their full force, from the inequality between the couples, as it is common for one beast to make its fellow

draw

draw all ; an inconvenience totally removed in Mr. *Cooke's* method.

I cannot but earnestly recommend this very great improvement to all who are desirous of working oxen ; and particularly to those who imagine, but falsely, that they cannot move as fast as horses ; that they cannot draw an equal weight—and that in ploughing they *trample* the land more. All which ideas, however true they might be in respect to the yoaks, are undoubted mistakes if applied to the harnessed beasts.—Mr. *Cooke* deserves much of his country for the introduction of so excellent a method ; which I should apprehend sufficient with unprejudiced persons to give the preference to oxen, notwithstanding all the common ideas in favour of horses.

Mr. *Cooke* has built a very convenient farm-yard ; and offices of all sorts for wintering cattle : there are several divisions in it for different sorts ; all surrounded with open sheds, under which they have their hay, or turnips ; and in the area straw is given in cribs : by these means the quantity of manure raised is very great. His conveniencies for hogs are also very useful ; a
stream

stream constantly runs thro' the flies; and the meat is given thro' the wall, without going in among them, from a cistern at one end of the outward yard.

There is one circumstance worthy the observation of all who build farm-yards; and which does not seem to have been perfectly attended to in the contrivance of this: all the divisions are on one slope, for carrying off all water: but the urine of cattle is the most valuable part of their manure; rain will always prevent the keeping it among the dung; because the reservoir will run over; but a yard should always have a slope to the middle to retain much, and the overflowings should be conducted to a well, to be pumped at pleasure on to a large compost within the reach of a long trough turning under the mouth of a pump on a pivot. Conducting it by a kennel to a pasture to overflow it is very insufficient, for parts of such pasture will have ten times too much, other parts too little, and some none at all. It is a very good way to accelerate the putrefaction of the yard dung to have one well within reach of the compost in the middle of the yard so as, at pleasure, to throw it
back

back through the mass of dung; this will very much quicken the rotting; and it will be better still, if a layer of marle or turf be spread in the yard in autumn.—I may also remark that the attention to the cleanliness of the hog-sties, of carrying a stream through them, washes away the best part of their manure; they may by plenty of straw be kept clean without it.

Mr. *Cooke* has given much attention to the introduction of the *Norfolk* husbandry in *Derbyshire*; and particularly to the culture of turnips, with proper hoeing: this very important object, he has taken the proper method to render general; he practises it himself: sows large quantities, and hand-hoes them perfectly, which is a stroke much beyond the farmers of this part of *Derbyshire*: but the vast benefit this root is of to their landlords, cannot fail of opening their eyes by degrees.

The forming composts this gentleman attends particularly to; he carts lime and farm-yard dung into his marle pits, and there mixes them with marle; and afterwards spreads the heap on his grass land; from which he finds great benefit: but I

should observe, that the excellence results principally from the dung and lime; for as to the red loam, here complimented with the title of marle, it is a mere loam: it has none of the qualities of marle; has not the least effervescence with acids, and does not crack or sparkle, when thrown into the fire: not having syrup of violets, I did not try it in the changing of colour: but it is certainly mere loam.

Mr. *Cooke* merits much of his country from his constant attention to these matters; which cannot fail of having by degrees a beneficial influence on the husbandry of *Derbyshire*.

Sir *Robert Burdet*, at *Formark** south of *Trent*, has made some experiments in husbandry

* Sir *Robert* has lately built a large house at that place: It is an oblong; the corners projecting enough to form bow windows, and are domed: in the center of the principal front, is a portico supported by four *Ionic* pillars. It commands an extensive prospect over the vale through which the *Trent* runs; and being well united with some fine woods, has a good effect. The back front (which is very light and handsome) looks on some hanging hills crowned by distant plantations;

bandry that deserve attention : He last year planted a rood of cabbages, on a rich gravelly loam, perfectly well manured with lime and dung, and dug 2 spits deep. They were set the first week in *April*; in squares three feet every way; and kept quite free from weeds by hand-hoeing: they came to a very large size, many of them to 50 *lb.* and in general from 30 to 40 *lb.* The use of them proved the immense quantity. In
October

plantations; some of them are young, but in a few years will shew themselves to great advantage.

The hall is 52 feet by 26. It opens on one side into the principal apartments; consisting of a dining-room, 30 by 21; a drawing-room, 28 by 21; and another, 34 by 21: on this side of the hall is likewise the great stair-case. These rooms are handsomely fitted up: the chimney-pieces very elegant.—On the other side, the hall opens into the common parlour, 30 by 20, and that into the library, 20 square. Here is a very good picture of the Holy Family of the school of *Raphael*; the colours are brilliant; the group good; and the air of the old man's head fine. Also some *Dutch* pieces; the attitudes in which are very natural. It communicates with the bed-chamber of the same dimensions; and that opens into the lady's dressing-room, 20 by 21, united on the other side to the hall by an anti-room, 12 by 10, adjoining to which is another

October he began to cut them for eight large oxen, that had been fattening through the summer; they were given in a grass field, but so bare of food that the cabbages were the only subsistence; they lasted them two months; nor did ever beasts finish their fattening quicker or better. Some sheep were put to them, but they did not like them, however, being afterwards put into the cabbage inclosure, they eat the scattered leaves clean,

stair-case. The family apartment is therefore distinct on one side the hall, and perfectly well contrived for convenience; and the principal suite of rooms on the other. The height of all the floors 16 feet: over it are eight bed-chambers, 20 square.

The pleasure ground (which is not yet completed) is very beautiful. A winding walk leads from the house through a wood of very fine oaks, down a falling valley to the banks of the *Trent*, and turns up a cliff of rock and wood, which is one of the greatest curiosities in this country; the river has nowhere so bold and romantic a shore. The rocks are perpendicular and of a good height, and the intermixture of wood extremely romantic; hanging over the cliffs in some places in a striking manner, and almost overshadowing the water. The walk is to be conducted along the edge of the precipice, and will look down on the river winding beneath,

clean, and pared away the very stalks down to the ground. We may calculate the value of the crop as follows :

8 oxen, at 3 <i>s.</i> per head, per week,	9	12	0
Suppose the sheep	-	-	0 5 0
			<hr/>
Total,	-	-	£. 9 17 0
			<hr/>
Which is per acre,	-	-	£. 39 8 0
			<hr/>

The vastness of the produce made me very solicitous to know the *sort* ; it is the great

through the scattered wood in a very fine stile : a noble prospect of the surrounding country well diversified by villages, will break upon the eye through natural openings among the trees. It is to run quite through this woody precipice, and leading along a vale at the end of it thickly planted ; will then mount a bold hill free of rocks, and wind thro' a plantation thick enough to exclude the view of the river, &c. until it arrives at the summit, which is a very fine projection ; here it will open at once from the dark wood into a temple, instantly commanding, as by enchantment, one of the richest views in the world. Beneath you at a great depth, the *Trent* makes a very bold sweep, and winding through the valley, all richly inclosed, and of a fine verdure, it appears at different spots in the most pleasing manner. To the left you command a fine bend of it, which leads to a village with a

great *North American* cabbage. Sir Robert's crop was not near equal to several others which he named; who had them in common up to 60, 65, and even 70*lb.* weight *per* cabbage. Among others, he mentioned Mr. *Milner*, of *Seckington, Warwickshire*, and I heard a similar account in *Northamptonshire*. Sir Robert has this year planted the same rood again with them; which I viewed, nor do I ever remember to have seen such plants; they were (the first week in *July*) quite joined, and some of them so enormously large, and spreading in immense leaves, that they extended near 6 feet over; nor has he any doubt of many coming to 70*lb.*; which, from the appearance of the plants, I do not think improbable. What an acquisition will this plant prove in husbandry, to yield so astonishing a quantity of food!—But I should here remark, that these

white church rising from the midst of it: and at some distance beyond, it again is caught among the inclosures, beautifully fringed with trees and hedge-rows. You also look back on the rocky steep of wood, rising picturesquely from the water's edge. There are few views finer than this, from hence, the plantations unite with others that conduct you again to the house.

these very large cabbages were all in perfection the beginning of *October*; nor will any of the crop last longer than *January*. This in all probability is owing to being planted so early as *April*; if set at *Midsummer*, it would then be seen how late in the spring they could be had: of the *Scotch* fort, the crops on fine land are nearly equal; if so with the *North American*, the acquisition will be yet greater. Sir *Robert* intends trying this point.

In his breed of cattle, Sir *Robert Burdet* is very curious. His sheep are much finer than any I saw in this country: he gave 20 guineas for the hire of a ram for only 36 ewes; and has by that means gained a very fine breed; he has a ram got by him, which will ensure him an excellent breed in future.

His cows are all of the pollard fort, that is, without horns; which breed he chose, to save the plantations: they are very fine cows, and the pollard bull the finest I remember to have seen: But it is to be remarked, that this breed does not give the quantity of milk as the *Lancashire* long horns: Sir *Robert* has one of the latter which yields more than any of the pollards;

$4\frac{1}{2}$ gallons a day are the highest quantity of this particular cow.

Here let me observe, that the quantity of milk given by these fine cows, of whatever breed, is a real satire on *breeds* for a dairy. I had cows in *Suffolk*, not worth 5*l.* a head, that gave four gallons a meal, that is, 8 a day, regularly through the height of the season; and $4\frac{1}{2}$ are here reckoned extraordinary. It is evident that improving the breed for fattening and hides, is mischievous to milking. And a very strong corroborating circumstance is the well known fact in *Cheshire*, that a cross by a *Lancashire* bull is hurtful to their dairies. The *Cheshire* breed is much like the *Suffolk*; a very poor ill looking cow, but great milkers.

Sir *Robert* is very curious in his fences; they are all of white thorn clipt, and feathered close to the ground.

Respecting the common husbandry of this neighbourhood, it is remarkable that the farmers far exceed those abovementioned, about *Radburn* and *Marton*: and that in many essential particulars.—One would almost think that crossing the *Trent* lead into a different country, from the variation

THROUGH ENGLAND. 185

riation in husbandry. The meadows let at 20s. an acre: all other inclosures at 15s. on an average. Farms from 80*l.* to 200*l.* a year. The course of crops is excellent.

- | | |
|------------|-----------|
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Wheat. |

There cannot be a better for a found loam, that is dry enough for turnips: that crop is worth upon a medium 50s. an acre. The barley yields 5 quarters an acre; the clover is worth 4*l.* per acre; and the wheat produces 3 quarters. These circumstances all prove the goodness both of land and husbandry; let me form a slight calculation from these *data*.

Expences of an acre of land through the course.

5 Ploughings for turnips,						
at 5s.	-	-	-	-	£. 1	5 0
3 harrowings,	-	-	-	-	0	1 6
Seed and sowing,	-	-	-	-	0	1 0
Hand-hoeing,	-	-	-	-	0	7 6
					1	15 0
Rent,	-	-	-	-	0	15 0
Town charges,	-	-	-	-	0	2 0
					2	12 0
					2	12 0

186 THE FARMER'S TOUR

Barley.

2 ploughings,	-	-	-	£.	0	10	0
Harrowing,	-	-	-		0	1	0
Seed and sowing,	-	-	-		0	8	3
Mowing and harvesting,	-	-	-		0	4	6
Threshing,	-	-	-		0	5	0
					<hr/>		
					1	8	9
Rent,	-	-	-		0	15	0
Town charges,	-	-	-		0	2	0
					<hr/>		
					2	5	9
					<hr/>		

Clover.

Seed and sowing,	-	-	-		0	5	3
Mowing, making, and stacking,	-	-	-		0	5	0
Rent and town charges,	-	-	-		0	17	0
					<hr/>		
					1	7	3
					<hr/>		

Wheat.

1 ploughing,	-	-	-		0	6	0
Harrowing,	-	-	-		0	1	6
Seed and sowing,	-	-	-		0	10	3
Weeding,	-	-	-		0	1	6
Reaping,	-	-	-		0	6	0
Harvesting,	-	-	-		0	2	0
Threshing,	-	-	-		0	6	0
					<hr/>		
Carry over,					1	13	3

THROUGH ENGLAND. 187

Brought over,		1	13	3
Rent and town charges,	-	0	17	0
		2 10 3		
Turnips,	- - - -	2	12	0
Barley,	- - - -	2	5	9
Clover,	- - - -	1	7	3
Wheat,	- - - -	2	10	3
Add for manuring,	- -	2	0	0
		10 15 3		

Produce.

Turnips,		2	10	0
Barley, 5 quarters, at 16s.	-	4	0	0
Clover, the proportion of 4 loads hay,	- - - -	6	0	0
Wheat,	- - - -	6	0	0
Straw and chaff of wheat and barley,		1	0	0
		19 10 0		
Deduct expences,		10	15	3
		8 14 9		
Remain profit,	- -	8	14	9
Or, <i>per ann.</i>		£. 2 3 8		

So that the occupier of 100 acres, makes neat *per annum* 218*l.* Sir *Robert Burdet* is of opinion, that these men pay the utmost the land is worth.

If it is said, that according to this account the farmers must make fortunes:—No; I reply: here is such a prejudice for little paltry farms, that, let the soil or culture be ever so good, still they must be poor. How is a farmer of 50*l.* or 80*l.* a year to grow rich? Suppose they do not make so much; this only proves that the farms are too small, and that larger farmers (that is, richer men) would convert the land to greater profit. But a deduction from the preceding account is sometimes to be made on account of the bad husbandry, of sowing the wheat on the barley stubble, after the slight eating of the clover after harvest.—How common this is I know not.

The excellence of the meadows in some seasons, may be guessed from Sir *Robert's* once selling 700*l.*'s worth of hay, from one field of 70 acres.

The upland pasture in this country, being on a very dry found gravelly loam, is apt in hot seasons to burn: I should apprehend

head sainfoine would be a very great improvement; but it is certainly highly deserving the trial. Sir *Robert* has had lucerne both in drills and broad-cast, and it failed*.

The

* At *AKEOVER*, near *Ashborn*, to the west of *Radburn*, late the seat of ——— *Akeover*, Esq; is a very famous picture of the holy family, by *Raphael*, for which fifteen hundred guineas have been refused; and what is remarkable, it was found among some old lumber; hid, as supposed, during the civil wars. It is wonderfully fine; there is such a diffusion, grace, ease and elegance over the whole piece, that it strikes the spectator the moment he enters the room. The grouping of the Virgin and the two children is as happy, as imagination can conceive: the attitudes surprizingly caught. The turn of the Virgin's head grace itself. The expression of the boys, particularly *Christ*, is full of animation; and tho' not natural to the age, yet is it consistent with the idea of the artist, and uncommonly pleasing. The warmth and tenderness of the colouring cannot be exceeded; the mellow tints of the flesh are an animated representation of life; and the general harmony of the whole piece, admirable.

In the same room are,

Unknown. The seeking *Christ* at the tomb. The draperies fine, and the colours pleasing.

Raphael. Copied from him. *Christ* bearing the cross. The airs of the heads in this piece are very finely varied.

Rubens.

The earl of *Scarsdale*, at *Keddleston*, five miles from *Derby*, has not only ornamented the country in a very noble manner, by raising a very magnificent mansion with considerable offices and other buildings, but

Rubens. The unjust steward. Some expression; but the airs of the heads vulgar.

Titian. *Venus.* Exceedingly pleasing; the softness of the flesh, and particularly the breasts, fine; the attitude very easy, and the turn of the head graceful.

Titian. *Isidorus, Ignatius, and St. Francis Xavier.* One would think from this picture, that the painter could never succeed in a group; every figure is a distinct portrait, regularly arranged like chessmen on a board; but the heads are greatly executed; and the hands very fine.

The chimney-piece in this room is very handsome. The ground, of statuary marble, polished; in the cornice, which is supported by Doric pillars of *Egyptian* marble, are bas-reliefs.

About three miles from *Akeover* is *Ilam*, the seat of — *Port, Esq.*; the gardens of which are as romantic as most in *England*. They consist of a small vale bounded by very high and rather steep hills, totally covered with wood; forming a complete amphitheatre. A rapid stream washes the bottom of them on one side, and on the other is a walk, from whence you command the whole sweep, in a very great stile; a nobler range of wood

but in the disposition of his grounds, and the dressing his park and environs, has at the same time worked a vast improvement of the soil; lands that were so wet, as almost to be boggy, are by draining converted
 into

wood hanging almost perpendicular can no where be seen. The walk at the entrance of the valley winds up a rocky cliff, from which you look down on the river in some places, and in others only hear the roar of it over broken rocks; at the end of the vale, on the side of the water, is a bench which commands the whole, and looks full on the entrance of the ground, which seems quite blocked up by a distant mountain called *Thorpe cloud*, of a very regular coned shape, blunt at top: The effect fine. You look also upon a bridge thrown over the river, which perhaps hurts the view; it is small, and not at all in unison with objects of such magnificence, as these vast woods, and the hill which rises so boldly above it: there should be no bridge in sight; or it should be a single lofty arch, to unite in effect with the rest of the scene.

Under the rock in the garden, two rivers rise; one is the *Manifold*, which runs under ground seven miles; chaff thrown in at *Wetton* rises here; it boils up like a vast spring, and soon after falls into the *Dove*.

At a small distance from *Ilam* is a valley called *Dove-dale*, which is a narrow winding glen among a variety of hills and rocks, through which the
 river

into excellent pasture; and various other tracts of a barren or inferior quality, are now improved to the utmost, so that you no where see any land that is not clothed with a fine verdure. This is one great national advantage of the nobility and gentry improving the environs of their houses—
they

river *Dove* takes its course for about two miles. It is bounded in a very romantic manner by hills, rocks, and hanging woods; which are extremely various; and the hills in particular of a very bold and striking character; they spread on all sides in vast sweeps, inexpressibly magnificent, and are much more striking than any thing else at *Dove-dale*. The rocks are in some places very romantic; rising in various shapes from banks of hill and wood, and forming a wild assemblage of really romantic objects; but they are much exceeded in magnitude by others in different parts of the kingdom. The course of the river is various, from a gentle current to great rapidity over broken rocks: and in some places falls, but not in a bold manner: The fragments of rock in it, with branches of wood growing from them, are truly romantic and picturesque.

It is upon the whole, very well deserving a traveller's attention; but he will not find any thing in it so striking as the hills, which without bulging into abrupt projections, spread forth vast plains that hang almost perpendicular to the river, and are very noble.

they are excellent farmers, whether they design it or not*.

I was

* KEDLESTON is one of the finest houses in the kingdom: the principal front is beautiful; it extends 360 feet, consisting of a center, and two wings, or pavilions: the portico is light; it consists of six very fine pillars; which support the tympanum, at the points of which are statues; the area of this portico appears to be very narrow, when you are in it, but not at a distance: the center front is 130 feet long. The garden front is a very uncommon one, but light; the center has no windows in it; but four pillars project from the wall, and support as many statues; between them are niches with statues in them also.

The *Hall*, 60 by 30, within the columns; 67 by 42, within the walls; and 40 high: 20 Corinthian columns of alabaster, 25 feet high, 2 feet 6 inches diameter. It is a very noble room, the proportion uncommonly pleasing: the range of pillars is very magnificent: between them in pannels there are to be twenty Sacrifices in *chiaro oscuro*. Here are two statues:

Apollo, Belvidere.

Meleager, of Paulo Piccini.

One chimney-piece of statuary marble. The tablet represents the rape of the *Sabines*, by *Michael Angelo Buono Rotti*.

Another, the same. The tablet, the continuation of *Scipio*, by *Michael Angelo*.

The *North Music-room*, 36 by 24, and 22 high; finished with stucco, an *Ionic* entablature,

I was agreeably surprized to find the country from *Derby* to *Matlock* in general inclosed and cultivated. *Derbyshire* being generally reputed as waste a county as any in *England*; I was led to expect large tracts of

antique ceiling, compartments, and ornaments. The chimney-piece of statuary marble. The tablet in the frieze an Epithalamium, from the *Adm. Rom. in basso relievo*. Here are,

Cornelius Johnson. Prince Henry, son to *Char. I.*
Guido. Bacchus and *Ariadne*. Amazingly fine.

The figure of *Ariadne* is ease and grace itself.—Her attitude pleasing; and the drapery thrown across her arm with infinite taste, and falls without the least stiffness. The soft delicacy of the flesh is charming. *Bacchus* is a fine figure; and well contrasted to that of *Ariadne*. The whole picture is extremely capital.

Viviano. Temple of *Flora*.

Vandeist. Landscape.

Horizonti. } Landscape with figures.

Ditto.

Baptiest. Flowers. Fine.

Ditto. Flowers and fruit. Ditto.

Gaspar Ocbiali. Port of *Naples*.

Giovanni di St. Giovanni. Horses, figures, &c.

Bassan. Milking cows, &c.

Luc. Giordano. Triumph of *Bacchus*. Fine and spirited; but the grouping does not strike: the colouring is good.

of uncultivated country in every quarter of it; but all the southern parts of it are rich: in this track are some un-inclosed commons, but they bear no proportion to the cultivated land. For several miles from *Derby* rents

Vandeist. Shipping, &c.

Rembrandt. Old man's head. Astonishing expression.

Signora Pozzi. Roman charity.

Tempesta. Arm of the sea, thunder storm, &c.

The *Withdrawing-room*, 44 by 28, and 28 high; hung with blue damask: antique ceiling, coved and very elegant; exceedingly well executed. A *Venetian* window, and the door-cases finely finished with *Corinthian* columns in alabaster. The chimney-piece of statuary marble. The cornice supported by two whole-length female figures, very neatly executed. The tablet in the frieze, Virtue rewarded with riches and honour, in *basso relievo*. Here are,

An. Caracci. *Olympia* and *Orlando*. Great expression, the attitudes strong; and the colouring fine.

Paul Veronese. } *Alexander*, &c. Fine. The
Ditto. } figures are in the portrait stile.

Francesco Bolognese. Landscape.

Cuyp. Landscape. Admirably brilliant and pleasing.

Andrea del Sarto. Salutation of *Eliz.* and *Mary.*

Mich. Ang. Bamboccia. Thieves gaming. Excellently done.

196 THE FARMER'S TOUR

rents run at 16s. on an average; near *Matlock*, the inclosures do not let in general higher than from 8 to 12, but some to 20s. They here plough with oxen in stiff work, 6 or 8 in a plough, but they sometimes

Raphael. Death of the Virgin. There is an unusual brilliancy in this piece; and the attitudes are odd: done in his first manner.

Andrea Sacchi. *Jupiter* and *Io*.

Annibal Carracci. *Magdalen.* Good.

Guido. Holy family. A most pleasing group: the old man's head fine.

Zuccarelli after *Vandyke.* *Festa Floralia.*

Polemberg. Holy family in landscape.

Ben. Lutti. *Christ* and the woman with the box of ointment. A fine picture; but the expression of *Christ's* countenance, mean.

Bernardo Strozzi. { Scripture history. Strong
Ditto. { expression, but in an odd
style.

Claude Loraine. A landscape, agreeably done.

Raphael. Holy family. Very fine; the colouring extremely pleasing. The attitude of the Virgin is simply elegant; the boys very fine: and the general harmony of the whole pleasing.

Dom. Fetti. *Adam* and *Eve.*

Benedetto Lutti. *Cain* and *Abel.* Strong expression, but dark, and the lights strangely diffused.

Tintoret. Holy family.

times plough with 2 oxen and 1 horfe, and accidentally with only 2 oxen; they do an acre a day. It is observable, that here I first found a change in the ploughs. About *Derby*, they use a long beam to their fwing plough,

- Gioseppe Chiari.* Holy Family: pleasing.
Guido. Sleeping *Cupid.* Very fine.
Nic. Berritoni. Holy family.
Parmegiano. Virgin and child. This piece is done quite in the statue stile.

The *Library*, 36 by 24, and 22 high; the ceiling mosaic. The chimney-piece of statuary marble, *Doric* columns, with bases to support the cornice. In the frieze a tablet, from plate X. of *Raphael's Cupid and Psyche*, in *basso rilievo*; the ground of the whole *Siena* marble.

- Lucca Giordano.* *Diogenes*, &c. Very fine heads.
Carlo Lotti. *Adam and Eve.* Strange attitudes.
Ditto. *Lot* and his daughters. Ditto.
Rembrandt. *Daniel* interpreting to *Nebuckadnezzar.* Extremely fine; the grouping and colours excellent; *Rembrandt* is to be traced strongly in several of the heads, but that of *Daniel* has an air rather comic and vulgar.

- Guercino.* Man's head. Spirited.
Ditto. Man in armour. Ditto.
Andrea Sacchi. Figure of winter. Expressive.
Salvator Rosa. Old man's head. Very fine.
Nic. del Abbatti. Holy family.
Nic. Poussin. *Rinaldo* and *Armida.*

198 THE FARMER'S TOUR

plough, and the whole machine rather heavy; but here I found, for the first time, *Rotheram* ploughs in common use; and at a blacksmith's shop, one with the *Suffolk* cat head; but I apprehend it belonged to a gentleman;

Guido. *Andromeda* chained to the rock. Fine; but modesty forces the drapery where it could not remain of itself: it has not the ease of that of *Ariadne*; no expression in her countenance.

The *Saloon*. A very elegant room; a circle, 42 feet diameter; 54 feet 6 inches high, to the top of the dome; and 34 feet 6 inches, to the top of the cornice; there are four large niches, 11 feet diameter.

A land-storm, after *Rubens*.

A sea-storm, after ditto.

A rural scene, after ditto.

A boar hunting, after ditto.

Four *Basso Relievos*.

STATUES.

Santa Susanna, of *Fiamingo*.

Antinous, of the capitol,

Priestess of *Isis*.

Flora, of the capitol.

Venus, of *Medicis*.

Dancing Faun.

Muse *Urania*.

Ganimede, of the *Villa Medici*.

Venus, of *Medicis*.

Dancing Faun.

Mercury.

The Idol.

gentleman ; no-body was near, or I should have enquired. Soon after I perceived they were all with the common *Rotheram* heads. Whatever waste land is found in this country, would do admirably well for sainfoine.

It

The *Anti-Chamber*, 24 by 12, and 20 high.
Nic. Pouffin. Landscape.

The *Principal Dressing-room*, 24 by 24, and 20 high ; hung with blue damask. The glasses elegant.

Hone. Lord and Lady *Scarsdale*. Very pleasing attitudes.

Vandyke. King *Charles I.* Fine.

Sir Godfrey Kneller. Prince *Rupert's* daughter.

Guercino. Landscape.

Sir Peter Lely. Two whole-length portraits.

Cimeroli. Landscape.

Ditto. Landscape.

The *State Bed-chamber*, 30 by 22, and 20 high ; hung with blue damask.

Richardson. Sir *Nathaniel* and Lady *Curzon*.

Sir Peter Lely. Two whole-length portraits.

Ditto. Dukes of *York*.

Vandyke. Sir *Peter Rycout*.

Ditto. *Mad. d'Aubigné*.

The *Wardrobe*. 22 by 14, and 20 high ; hung with *India* paper.

Griffier. Ruin.

Dominichino. Landscape.

Swaneveldt. Landscape.

200 THE FARMER'S TOUR

It is a light loam on rock; and would give vast crops of that grass.

When the road leads to the edge of the high country, you look down at once on
Wirksworth

Cofens. Matlock high Tower.

Ditto. Vale near Matlock.

Salvator Rosa, copy after, Soldiers, &c.

Unknown. Turkish Port.

The Dining-room, 36 by 24, and 20 high; finished with stucco; the ceiling painted, and very elegant.

In the Circles, *Europe—Asia—Africa—America.*
 In the middle Circle, Love embracing Fortune.

In the oblong Squares,	{ The four Seasons expref- fed by }	A Triumph of <i>Venus.</i>
		———— of <i>Apollo.</i>
		———— of <i>Bacchus.</i>
		———— of <i>Æolus.</i>

The whole executed in a very neat and elegant manner. The chimney-piece of statuary marble. *Thermes* of *Bacchus* and *Ceres.* Tablet, an ancient repast. The glasses elegant; the slabs of Siena marble. A nich for the side-board, 12 feet diameter.

Snyders. Hawks and ducks. Fine and natural.

Ditto. Dead game. Ditto.

Cerri Ferri. Hagar and Ishmael.

Ditto. Ditto.

Zuccarelli. Landscape from *Milton's Allegro.*
 Brilliant and pleasing.

Ditto. Landscape from *Milton's Allegro.*

Wirksworth beneath, almost in another region; quite on to the tops of the houses and church. It is situated in a very fine valley, bounded

Schiavoni Andr. Landscape. Beautiful perspective; and the water inimitable.

Fyfe. Game and dogs. Spirited.

Romanelli. *Herodias* and *St. John.* Expressive and fine.

Theodoro. Merry-making.

Zuccarelli. *Porfenna.* Admirably grouped; much taste and elegance in the figures, but they are merry too; it is as riant as his landscapes.

Claude Lorraine. Landscape.

Two sacrifices to *Hygeia.*

The *Great Stair-Case*, 31 by 20, and 49 high; to be finished with paintings in *Chiaro Oscuro*, and pictures.

Carlo Maratti. *Madonna* and *Christ.*

Hamilton. *Paris* and *Helen.*

Old Stone. *Diana*, *Calista*, &c.

Morland from *Boccacio.* *Nov. Sett. Giornata 2da.*

The *Bacchus* of *Sansovino.*

The *Apollo* of the *Villa Medici.*

Venus drawing a thorn from her foot.

Camillus of the capitol.

In the *Family-Pavilion*, are an *Anti-room*; then a *Breakfast-room*, 18 feet square, finished with fresco paintings and antique ornaments, after the Baths of *Dioclesian.*

Lady Scarsdale's Dressing-room, 24 by 18, hung with blue paper. Here are several landscapes.

bounded every way by high hills. Turning to the right, the road leads on the edge of a precipice which commands the valley
in

Lady Scarsdale's Bed-chamber, 18 square, hung with blue paper.

Lord Scarsdale's Dressing-room, 24 by 18, hung with blue paper, and coloured prints upon it.

Carlo Maratti. Venus and Cupids. A Cartoon.

The stables are very spacious and well built; and peculiar in one circumstance, which is having a range of vaults under ground across a paved yard in their front, with a door into each opposite to those of the stables; these are receptacles for the dung, which is moved here in barrows as fast as made, quite out of the way, and the yards kept perfectly clean; the dung is also more valuable as a manure, from not being exposed to the rains: but gutters should have been made into them from the stables for the conveyance of the urine: or if it was found to fill them too much, then into a reservoir with a pump; and his Lordship would find the watering his lawns (in the same manner the roads are watered at *London*) from such reservoir, would improve them in a very high degree.

Kedleston is upon the whole a very noble house; the architecture light and pleasing; and the hall, drawing-room, and dining-room excellent, and of just proportions.

The environs are finishing in a manner equal to the building: in front of the house, for a considerable extent, is a fine winding vale, which is

in a most romantic manner. You look immediately down on a fine variety of inclosures, trees, houses, rocks, lead-mines, all
in

converting into a river, forming in sight an island which is made into a pleasure ground: the lawns hang very well to the water; and are bounded by woods of noble oaks, in a most pleasing manner. The approach from *Derby* is through one of these woods, and the road leaving it, you gain an oblique view of the house: by entering another very fine wood it is lost; but on coming out of the dark grove, you break at once on the house backed with spreading plantations, which when they all get up, will have a noble effect. The water winds before it through the vale in the most agreeable manner; you command both the reaches that form the island; and move up to the house over a fine bridge of three large arches. The line of approach being exceedingly well varied, without betraying any marked design of pursuing fashion at the expence of every thing else.

From the garden front *Lady Scarfsdale* has traced with great taste a pleasure ground; a winding lawn decorated with trees, shrubs, and knots of wood, and a gravel walk through it: It winds up the vale between two hills to the right; parted from the park on each side by a sunk fence; and as the scattered trees and clumps are prettily varied, they let in, as the walk rises on the hill, very picturesque views of the lake, and the adjoining woods. It rises to the summit,
and

204 THE FARMER'S TOUR

in picturesque confusion, and bounded in some places by hills; either spread with inclosure, or bare and scar'd with rocks and ruins.

About *Matlock* * land inclosed lets dear; many grass fields at 40s. an acre, and down
to

and there commands a very noble prospect of all the adjacent country. You look down into the park vale, with a large river winding through it, accompanied with spreading lawns; and bounded by very noble woods of oak: around the whole a vast range of waving hills broken into inclosures of a good verdure; and hanging to the eye in various sweeps. The walk from hence, with its attendant decorations, is to be carried through many plantations quite around the south side of the park, from whence it will command another prospect not at all inferior to the former one; with the addition of the town of *Derby* being full in view. It is then to lead through other woods down to the water, and follow its shore to the garden; a very beautiful design, which will, when executed, render *Kedleston* very complete.

* The environs of *Matlock* Bath are superior in natural beauty to any of the most finished places in the kingdom. They form a winding vale of above three miles, through which the river *Derwent* runs; the course extremely various; in some places the breadth is considerable, the stream smooth; in others it breaks upon the
rocks

to 25 s. and not a little arable so high as 30 s. The unimproved country is a light loam on limestone;

rocks and falls over the fragments; besides forming several slight cascades. The boundaries of the vale are, cultivated hills on one side; and very bold rocks with pendent woods on the other.

The best tour of the place is to cross the river near the turnpike, and then take the winding path up the rock, which leads you to the range of fields at the top, bounded this way by the precipice; along which I walked, and would advise whoever goes to *Matlock* to do the same, for it is without exception the finest natural terrass in the world. At the top, turn to the left, till you come to the projecting point called *Hag rock*. From this spot you have a perpendicular view down a vast precipice to the river, which here forms a fine sheet of water, fringed with wood on the opposite side: it falls twice over the rocks, the roar of which adds to the effect of the scene. The valley is small, and bounded immediately by the hills which rise boldly from it, and are cut into inclosures, some of them of a fine verdure; others scar'd with rocks; and some full of wood; the variety pleasing. This whole view is very noble.

Advancing along the precipice, the views caught as you move through the straggling branches of the wood which grows on the edge of it, are very picturesque; in some places down on the water alone; in others into glens of wood dark and gloomy; with spots here and there quite

limestone; applied only to feeding sheep; but all of it excellent land for sainfoine, which

quite open, which let in various chearful views of the dale and the cultivated hills. These continue till you come to an elm with divided branches growing on the rocky edge of the precipice: it forms a natural ballustrade, over which you view a very noble scene. You command the river both ways, presenting several fine sheets of water, and falling four times over the rocks. To the left, the shore is hanging wood, from the precipice down to the very water's edge, but the rocks break from it in several places, their heads beautifully fringed with open wood; as if the projection was to exhibit a variety of shade on the back ground of the wood. At the top of the rocks, and quite surrounded with wood, two small grass inclosures are seen, divided by straggling trees—Nothing can be more beautiful. The opposite side of the vale is formed by many hanging inclosures; and the higher boundary a great variety of hill cut in fields. To the right, the scene is different; the edging of the water is a thick stripe of wood, so close that the trees seem to grow from the water; they form a dark shade, under which the river is smooth: above this wood appears some houses surrounded by several grass fields, beautifully shelving down among wild ground of wood and rock. Above the whole a very noble hill, bare, but broken by rocky spots.

One cannot view this striking landscape, without wishing that some attention was given to show

which would thrive here to very great advantage.

Matlock

show it to the best advantage; if a walk (not a fine shaven one like those of a flower garden, but a mere passage along the precipice) was made through a small but thick wood, so as to lead at once to the elm, that this amazing scene might break upon the eye by surprize, the effect would be much greater; and not exceeded by many views in *England*.

Advancing, you come to a projecting point edged with small ash-trees, from which you have a smooth reach of the river through a thick dark wood; a most pleasing variation from the preceding scenes. And above it to the right, a vast perpendicular rock, 150 feet high, rising out of a dark wood; itself quite crowned with wood. The whole magnificent:—and turning another wave in the edge of the precipice, an opening in the shrubby wood presents a reach of the river with a very noble shore of hanging wood; the rock partly bare, but all in a dark shade of wood. A house or two and a few inclosures, enliven the spot where the river is lost; all closely bounded by the great hill. This view is a complete picture.

Proceeding further, the woody edging of the rocks is so thick as to prevent any views, but the river falling over some rocks beneath, the roar of it renders this circumstance advantageous: It is the *keeping* of the general picture.—It leads to a point of rock higher than any of the preceding; and being open, presents a full view
of

Matlock is by no means a disagreeable spaw to spend a short time at, for viewing the

of all the wonders of the valley. To the left, the river flows under a noble shore of hanging wood; and above the whole a vast range of inclosures, which rise one above another in the most beautiful manner: This point of view is high enough to command likewise a new vale behind the precipice: this ridge of rocky hill shelving gently down, is lost in a fine waving vale of cultivated fields of a pleasing verdure; and bounded by the side of an extended bare hill.—This double view renders the spot amazingly fine.

A few yards further we turned on to the point of a very bold projection of the rock, which opens to new scenes; the river is seen both to the right and left, gloriously environed with thick wood: on the opposite hill four grass inclosures of a fine verdure are skirted with trees, through the branches of which you see fresh shades of green; a pleasing contrast to the rocky wonders of the precipice.

From hence the wood excludes the view for some distance, till you turn on to a point with a seat, called *Adam's bench*; and as the rock here projects very much into the dale, it consequently gives a full command of all the woody steeps you have passed: And a very noble scene it is. The range of hanging wood, almost perpendicular from the lofty rocky points down to the very water, is striking: The bare rocks in some places bulge out, but never without a skirting of

the country around, and for very agreeable walks and rides. Each person pays 1 s. for dinner,

of open wood, the light through branches so growing from such lofty cliffs, has an effect truly picturesque. The immediate shore on the other side is wood, and higher up varied inclosures. In the whole, a nobler union of wood and water scarcely to be imagined.

Leaving the precipice, a walk cut in the rock leads to the bottom, where is another made along the banks of the river, but parted from it by a thick edging of wood and quite arched with trees; it is waded in gentle bends in as true taste as I remember any where to have seen; where the wood is so thick as to be quite impervious. The roar of the falls in the river is fine; in other spots the grove to the water is thin enough to let in the glittering of the sun-beams on the river, which in such a dark sequestered walk, has a very pleasing effect. But are not these things wonderful, when I tell you, that these walks, the steps up the rock, and the bench at top, are all the work of the boot-ketch at the bath; who has likewise built a pleasure-boat on the river: such industry, and at the same time so much taste are highly commendable, and entitle the poor fellow to the encouragement which I hope he meets with. He is the only embellisher *Matlock* has had.

This shaded walk leads to a bench in view of a small cascade on the opposite side of the river; but I would advise my friend *Boots* to clothe his cascade a little; it wants wood about it. Soon

dinner, as much for supper, and 8 *d.* breakfast. Servants in proportion; and horses at the

after is an opening to the right to a fine swell of wood; and then another to the left against the great hill, which is here fine.

The next place to which I would advise you to go is to the high rock, which is at a small distance; the way to it is an agreeable walk, which gives several views. The rock is 450 feet perpendicular; the river directly below; a fine smooth stream, giving a noble bend: opposite, a vast sweep of hill, which rises in the boldest manner; with a picturesque knot of inclosures in the middle of it: on one side, a steep ridge of rock; on the other, a varied precipice of rock and wood. You look down on the old bath with a fine front of wood; many varied waves of inclosures bounded by distant hills.

Further on, on the same eminence, you come to a point of bare rock, from which you look down a precipice of 500 feet absolutely perpendicular; the river breaking over fragments of the rocks, roars in a manner that adds to the sublimity of the scene. The shore of wood very noble.

From hence, following the edge of the precipice, you come to another point, from whence you have a double view of the river beneath, as it were in another region: to the left, the great rock rises from the bosom of a vast wood in the boldest stile imaginable. Sinking a little to the right, you have one of the most noble views imaginable: the river gives a fine bend through
a narrow

the common price: the rooms gratis. There are billiards and music. I took the road to *Chatworth* through a country wholly inclosed, that lets from 10 s. to 20 s. an acre *. But nearer to *Chatworth* none lets

a narrow meadow of a beautiful verdure; the boundaries of the vale, woods hanging perpendicularly, and scar'd with rocks. In the center, a round hill rising out of wood in the midst of a vast sweep of inclosures, which hang to the eye in the most picturesque manner, has an effect astonishingly fine. In one place a steeple rises from a knot of wood; and a variety of scattered villages in others unite to render this scene truly glorious.

Matlock on the whole cannot fail of answering greatly to whoever views it. It is different from all the places in the kingdom. Several exceed it in particular circumstances: the rocks at *Keswick* are infinitely bolder, the water there and at *Winander Mere*, far superior: the beauty that results from decoration is met with every day in a much finer stile; for here is nothing but nature. But the natural terrafs on the edge of the precipices, with the variety of views commanded from it, is in that stile exceeded by nothing I have seen.

* A little beyond the seventh mile stone I remarked some hills to the left, one of them cut into inclosures to the top, the rest sheep walk: it is a strong instance of the vastly superior beauty of a cultivated hill, to others that are bare.

lets lower than 15 s. except the new inclosed hills; much land rises from 20 s. to 35 s. They break up old turf by paring and burning. All *Rotheram* ploughs used*.

From

* There are several very fine woods about *Chatsworth*; and the river in the front of the house is very fine; exclusive of them there are not many circumstances very striking: as to the water-works, which have given it the title of *Versailles* in miniature, they might be great exertions in the last age; but in this, the view of *Nilus's* leaky body, dolphins, sea-nymphs, and dragons vomiting water, trees spirting it from their branches, and temples pouring down showers from their roofs—such fine things as these are now beheld with the utmost indifference—one feels not the pleasure of surprize unmixed with disgust, especially when conducted to four handsome lions, spouting in the full view of the reach of a broad river, whose natural course should eternally silence such *hocus pocus* gewgaws.

The grand front of the house is an handsome one: The hall is 60 by 27, stair-case 30 by 24. The chapel is spacious and very handsomely fitted up.

A bed-chamber, 30 by 22.

Drawing-room, 36 by 30.

Dining-room, 50 by 30.

The gallery, 100 by 22.

An anti-room, 18 by 30.

In the Attic story;

A bed-chamber, 30 by 30.

Dressing-room, 35 by 35.

From *Chatsworth** to *Tiddswell* the country is nineteenths of it inclosed and cultivated; this surprized me, as I expected to find the chief part of the *Peak* waste land; but such great improvements have been carried on in this country, that even sheep-walks too rocky to plough, let at 5*s.* an acre. Much grafs and arable up to 30*s.*
 Of

Another, 50 by 30. Here are several pieces of very fine carving.

The next room, 36 by 30.

Over the chimney-piece some carving, admirably fine.

The next, 36 by 30. Here are eight family portraits, some of them fine; the carving over the chimney-piece, elegantly executed.

A bed-chamber, 34 by 30. The carving fine.

A closet, 15 by 20. Here are several pictures.

Another closet; among other pictures are, a Lady's head, the finishing admirably fine: also, a Knight of the Garter: fine.

A bed-chamber, 21 by 21.

The painted-room, 30 by 20.

* It will not here be improper to warn the traveller against depending on the Inn at *Edensor*, as a quarter from whence to view *Chatsworth*: He will there find nothing but dirt and impertinence. If he passes a night there, these attendants will more than balance the viewing a much finer place than that seat.

Of wheat they reckon the average produce from 30 to 36 bushels on their good land; of barley 24. Turnips hoed, are worth 4*l.* *per* acre.—Farms are various, some so low as 10*l.*; but from 30 to 60 in general, and a few of 100*l.* They use much lime, having vast rocks of lime-stone; they lay 12 horse loads on for wheat, the cost 6*d.* each besides carriage. It does great service on grit stone land, but not on lime-stone soils.

Around *Tiddswell* for many miles, there has been worked as great improvements as in any part of *England*: all this country was a black ling but a few years ago, and common land. It is now all inclosed by act of parliament. As this improvement is very curious, and practised I believe in no other country, I was particular in my enquiries, being very desirous to know the means of effecting such profitable undertakings.

The soil is a dry light loam on rocks, either of grit or lime-stone: the depth various; land of the same quality, not inclosed, lets at 2*s.* 6*d.*; some at less. The first work was the inclosure, which was done at the landlord's expence, but no more than the ring fence; the subdivisions were made
by

by the tenants: it is all done by dry walling; the stones taken out of pits, the total expence of getting, carriage, and workmanship, 4*s.* a rood of 7 yards by 1. Running measure of the wall, 6*s.* a rood. It lasts 20 years before any repairs are necessary. Landlords, as soon as the ring fence is done, raise the rent to 12*s.* an acre.

The next business is to lime it, which they do in proportion to the land; on that which is quite covered with ling, they lay vast quantities, thinking it cannot well be overdone; but the quantity named in particular is 360 bushels *per* acre; but on whiter land, they spread from 160 to 280 bushels. The expence is 1 *d.* *per* bushel spread on the land; 360 at that rate come to 2*l.* 5*s.* *per* acre. It is laid on in the spring and early in the summer; on the better sort of land, the ling all dies away (burnt by the lime) at *Michaelmas*, and nothing more is ever seen of it; but natural grasses, with plenty of white clover, come up instead of it: On some fields it is from one to two or three years before the new turf comes in any great degree. The grass they use for sheep or young cattle; and

some for dairies. Some of them keep regular stocks of sheep; the fields that were white land, will fatten sheep or cows; but the ling soil won't for some time after the improvement. On an average it takes 2 acres to summer feed a cow.

Another method of improvement practised here on this land, is to pare and burn it, and sow turnips on one earth, which they never hoe, but get from 2*l.* 10*s.* to 4*l.* *per* acre for them; then they take always two crops of oats, each generally from 8 to 10 quarters *per* acre; and with the last lay down with hay-seeds, 4 quarters *per* acre: Some use white clover and ray-grass, but hay-seeds are in general preferred. Some farmers, more slovenly than the rest, will take 3, 4, or 5 crops of oats, and lay down with the last.

As soon as it is laid, they lime it, from 150 to 250 bushels *per* acre; this brings it exceedingly fine for feeding; but if it is intended for the scythe, then they lay lime and dung, or lime and earth, but never lime alone.

In some parts they meet with black boggy places, and I do not find that they left such waste, but aimed at the improvement of all.

all. If the bog does not exceed the depth of 2, or at most 3 feet, they lime it in the same manner as the rest, after a very slight draining. It generally turns out excellent pasture; the liming lasts good 20 years.

These improvements are also carried on all the way to *Castleton*, and around that town. In the road from *Tiddswell* by *Elden Hole* are many very large closes of good grass, gained in this manner from the moors; all of which are full of very large herds of cows fattening; which is the general use to which they apply all the hilly country; and it is very remarkable, that the grass is equally good to the tops of the highest mountains. At the summit of *Mam Tor*, which is the highest mountain in *Derbyshire*, is an excellent pasture. They buy in cows for fattening the beginning of *May*, at 5*l.* and sell them fat in autumn for about 8*lb.* A good acre and an half will fatten one; but of some it takes two acres. Some farmers, besides their cows, keep many sheep. All these hills have been improved in the manner above mentioned with lime alone: none of them in the worst tracts let for less than 5*s.* many
for

for 10*s.* and 12*s.* The whole country around *Castleton* at an average 15*s. per acre.*

Mr. *Hall* of that town has brought some into culture by paring and burning, and after turnips, sowing hay-seeds and white clover with oats, and the grass thus gained has much exceeded that in the common way.

These improvements of moors are carried on to great extent in the *Peak*; they reach to *Bowden*, *Middlecale*: about *Outer-set* many hundred acres are done. From *Tiddswell* to *Bakewell* all improved. From *Buxton* to *Chapel*, much is done; but in the country from *Tiddswell* to *Sheffield* much remains to do.

Rents throughout the *Peak* are raising every day; in particular the duke of *Devonshire* is advancing his estates to a much higher value than formerly.

Upon this whole system of improving waste land, I shall venture a few remarks. In the first place it is to be observed, that the rise of rents on inclosing is uncommonly great, from 2*s. 6d.* to 12*s.* is a much quicker rise than I remember to have heard of; nor is it for good land already in culture, but for waste land to be improved,
and

and at the tenants expence : the subdividing walls, with from 30*s.* to 45*s.* *per* acre in lime, are very heavy charges, to come with a rise of 8*s.* or 10*s.* on land, much of it as black as night with ling. Moors have been enclosed, and are private property ready for inclosing in many parts of the north of *England*, without a mortal's thinking of the work ; but here the whole country is improved at once by an inclosure.

I attribute this in a very great degree to the raising rents. How it came to pass that the landlords of this country set so high a value on their land, I know not ; but when they valued it so much, and let it accordingly, tenants did the same, and found it was impossible for them to live without going quickly to work with improvements ; this raised a spirit of industry ; land at 1*s.* 6*d.* an acre is not valued by a tenant ; a few straggling sheep will pay the rent ; no other use will ever be made of it : but raise it to 10*s.* such slovens conduct then will not do, the soil must be applied to some other use, or the farmer starves. In the north of *England*, I have rode over tracts of moors as good as any of these :

these: and though the landlords have a right of inclosing whenever they please, yet no improvements are thought of. This is owing to the land being let at 1 s. or 2 s. an acre: were those landlords to raise the moors to 10 s. we should soon see them improved. I made these remarks, and reasoned in the same manner in the register of my *Tour* through that country, and I have now the satisfaction of producing as strong an instance as possible of the truth of those sentiments. — Land for which little is paid, of whatever kind it be, will be little considered by a tenant; but that for which much is paid, *must* be well managed, or he goes to jail: a most feeling argument. What a rise is it from 2 s. 6 d. to 12 s. rent, besides walling, and 40 s. liming! Tracts of land formerly inclosed, have actually been in possession of several tenants in this country, and made no more of than the commons; that of feeding a few sheep: but on the general rise of rents on the new inclosures, these old ones have been raised in the same manner; *then*, and *not till then*, have they expended the 40 s. an acre in lime! So that raising the rental to near six

times its former height, only induced the tenant to lay out in one year more money than he would have expended in five centuries.—And it is here well known, that they make more money with their new rents, than ever they did with their old ones.

Respecting the management of their improvement, there is no reason to think it so advantageous as it might be with the assistance of paring and burning: the farmers here omit that husbandry, rather to save expences than for any other reason: lime they have so great an opinion of, that they would not vary their conduct in that manure. Mr. *Hall's* trials shew that paring is highly advisable: Lime alone, is some time before it brings the grass in any great perfection; the first year it is slight; and the second much inferior to what it is afterwards; whereas in the paring method, a great crop of turnips is sure to be gained, which are infallibly followed by a very considerable one of oats, 9 or 10 quarters at an average *per* acre: with those oats the grasses are sown, while the land is in high order for the ashes; if the proper choice of
 feeds

seeds be taken into the account, there cannot be a doubt but a moderate quantity of lime then applied, will contribute in a superior manner to bringing a good pasture than in the method here followed; while the two crops of turnips and oats, will much more than pay the whole expence of the improvement; and leave a considerable profit besides: and that the grass will be much better, is allowed by the most knowing farmers in this country; a fact that is the result not of reason alone, but of experience.

But in this work of these farmers, their neglect of sainfoine is unpardonable. I rode over many extensive tracts of their hills, the soil a fine light dry loam on a shivering limestone. The grass on it in some places good, but in others full of old ant-hills, covered 6 or 8 inches deep with moss, so that you seem, in walking over them, to tread on velvet: The product and profit of such grass, I am very confident, is not a third of what sainfoine would yield: No land could be more adapted to this noble grass; which would here yield 2 ton of hay an acre, and an after-grass worth 7 s.

6 d. or

6d. or 8s. an acre. I cannot avoid recommending this article of culture to the *Peak* farmers; they would find it particularly profitable.

Farms around *Tiddswell* are generally from 30*l.* to 60*l.* a year; some few from 100*l.* to 200*l.* The soil is a light dry loam on lime-stone. Old inclosures let all from 20s. to 25s. an acre, the new ones at 12s.

The courses of crops,

- | | |
|------------|------------------------|
| 1. Turnips | 4. Oats |
| 2. Oats | 5. Laid down to grafs; |
| 3. Oats | or else fallow. |

A more execrable round of crops can hardly be found. Some sow clover with No. 5. which lasts 1 year: then

6. Wheat or oats.

They plough for wheat (of which grain however they sow very little) three or four times; sow 3 bushels *per* acre, and reap on a medium 25 bushels. For barley they stir thrice, sow 4 bushels, and gain at an average 5 $\frac{1}{2}$ quarters. For oats they give but one ploughing, sow 7 bushels an acre, and reckon the average crop at 7 quarters.

They give four ploughings for turnips,
never

—never hoe; use them for beasts and sheep fed on the ground: but some farmers draw them and lay on grafs for them. The price rises from 50s. to 4*l.*

Potatoes are pretty much cultivated, and in several methods, both in the lazy bed way, and also on a fallow. They have no general rule about the slicing them, being used both in slices and also whole sets. All are in rows, and they are kept tolerably clean. The crops rise from 300 to 500 bushels; of the value of 40*l.*: After them they sow turnips or corn, and are sure of excellent crops.

In the management of their matures, they attend most to lime, as mentioned above. They never fold their sheep. Paring and burning is executed at the expence of 20s. an acre. They never chop their stubbles, and they stack much of their hay in the fields. They house their cattle.

Good grafs lets from 40s. to 50s. an acre: and they reckon that quantity sufficient for summer feeding a cow. The breed of cattle is the long horned. The cows give 2 gallons of milk a day, but some up to 5. The winter food, hay and straw.

They

They fatten their swine to from 12 to 40 stone.

Flocks of sheep rise to 1000; about *Derwent* and *Hope*, &c. in the woodland, they have flocks up to 4000;—no folding. The profit is lamb and wool; the first 4*s.* 6*d.* the latter 1*s.* 6*d.* Their winter food hay or turnips. They know scarcely any thing of the rot.

In tillage, they reckon 10 horses necessary to 100 acres of ploughed ground: use 2 or 3 at length, without a driver, and do 1 acre a day. The depth they plough is from 3 to 4 inches: The price 6*s.* an acre. The annual expence of a horse 6*l.* They plough their stubbles at *Candlemas*: Use all swing ploughs.

They did use oxen, but they are now left off.

In the stocking farms, they reckon 400*l.* necessary for one of 100*l.* a year.

Land sells at 30 years purchase. Most of the country tythe-free.

Poor rates 1*s.* an acre; in some places 3*s.* The rise within 15 or 20 years has been doubling.

The employment of the women and chil-

226 THE FARMER'S TOUR

dren is chiefly in the lead mines. All drink tea.

LABOUR.

In harvest, 1*s.* and board.

In hay-time, 1*s.* 6*d.*

In winter, 1*s.*

Head-man's wages, 9*l.*

Next ditto, 7*l.*

Lad's, 5*l.*

Maid's, 4*l.*

Reaping wheat, 4*s.* 6*d.* per acre.

Mowing barley or oats, 1*s.* 6*d.*

————— grass, 2*s.*

Threshing wheat, 7*d.* three bushels.

————— barley 2*s.* a quarter.

————— oats, 1*s.* ditto.

Women in harvest, 6*d.* and board.

————— in hay-time, 6*d.*

————— in winter, 6*d.*

PROVISIONS.

Bread, - - 1*d.* per lb.

Cheese, - - 4

Butter, - - 6

Beef, - - 4

Mutton, - - 4

Veal, - - 3 $\frac{1}{2}$

Pork, - - 3 $\frac{1}{2}$

Bacon

Bacon,	-	-	6 $\frac{1}{2}$ d.
Potatoes,	-		4 $\frac{1}{2}$ per peck.
Labourer's house-rent,			1 l. 2 s.
Their firing,			40 s. to 50 s. *

In my return from the *Peak*, I took the road to *Chesterfield*. From *Middleton* thither, is some waste land; a black moor, but not many miles across. I remarked some fields of corn taken from the moor, with the large grit stones left in them; the expence of removing would be great; but the inconvenience

* ELDEN-HOLE, between *Tiddswell* and *Kinder-scout Mountain*, is reckoned one of the wonders of the *Peak*: It is a great chasm in a rocky hill, down which you look perpendicularly among clefts of rock; the depth is very great: but you do not see above sixty or seventy feet. A large stone thrown down, sounds for exactly half a minute; the measure by sound and the noise not gradually dying away, proves very clearly that the common tales of its being immensely deep, are mere vulgar errors; or at best but ideal.

The *Peak's-hole*, commonly called the *Devil's A.* by no means answered to me; the mouth of it is a very fine cavern; and that part of it within where longest, the same; the natural arches are also curious, but all the rest has very little striking in it; a poorer subject for a poem could scarcely be found, or treated in a poorer manner than by *Cotton*.

venience of leaving them is not so great as that of scattered trees, as neither roots nor branches damage the corn.

About *Chesterfield* the soil is in general a hazel loam; with some tracts of clay. The average rent about 17 s. an acre; the country has been raised much, except the estates of Mr. *Clarke of Sutton*: I had not an opportunity for particular examination; but I conclude of course, that that gentleman's estate is cultivated in a more slovenly manner than the lands of his neighbours, who have acted differently. Their courses of crops are chiefly these.

1. Fallow

Leaving *Castleton* towards *Tiddswell*, the prospect from the hill, over which the road leads, is amazingly fine; you look down on a valley totally cut into inclosures, beautifully scattered with trees, and the verdure very pleasing. The hill forms so high and steep a precipice, that the view is absolutely perpendicular, commanding the whole vale quite in a region below. It is enlivened by villages, and single houses; and bounded on every side by extreme bold hanging hills. There are not many prospects more striking.

Middleton-dale has been mentioned as a fine scene of rocks: but it is so much exceeded by various other places already described, that particular mention is needless.

- | | |
|-----------|------------|
| 1. Fallow | 4. Pease |
| 2. Wheat | 5. Turnips |
| 3. Oats | 6. Barley. |

This introduction of a fallow on land that will do for turnips is very bad husbandry.

- | | |
|-----------|-------------------------|
| 1. Fallow | 4. Clover for one year, |
| 2. Wheat | dunged or limed |
| 3. Oats | 5. Wheat. |

They plough five or six times for wheat; sow 10 pecks, and reap 26 bushels at an average. For barley they stir once or twice, sow 4 bushels, and gain $4\frac{1}{2}$ quarters. They give but one earth for oats, sow $4\frac{1}{2}$ or 5 bushels; and reckon the mean produce at 6 or 7 quarters. For pease they plough but once, sow $3\frac{1}{2}$ or 4 bushels; never hoe them; the crop about 20 bushels.

For turnips they plough 5 or 6 times, hoe them twice or thrice, and eat them on the land with sheep; but the largest roots they sometimes draw, and give them to beasts on grass fields: Others give them under cover with hay or straw to eat, and well littered: Slicing them, that the beasts may feed the quicker, is not uncommon.

230 THE FARMER'S TOUR

The average price of the crops from 35 s. to 40 s.

Their clover they mow once, and feed once.

For potatoes they plough four or five times; and manure the land at the rate of 20 loads of long dung *per* acre; the soil they chuse, the light hazel loam: Their crops are generally great; oftentimes so high as 30*l.* an acre. Barley they sow after them; and get very great crops.

In respect to manuring, their chief dependance is on lime, which they lay on for every thing; a common quantity is 100 bushels *per* acre, at the expence of 30 s. the effect of it very good. They never fold their sheep. Their hay they stack at home; but never chop their stubbles. They sometimes form composts of dung, lime, and earth, for grass lands: and they reckon coal ashes good for turnip land.

Covered drains filled with stones are often made in this neighbourhood.

The best grass land lets at 25 s. an acre; they use it chiefly for milch cows; 1 $\frac{1}{2}$ acre sufficient to summer feed one. The breed,
all

all long horns; and the quantity of milk given in a day by good cows, from 4 to 6 gallons. The annual product of each 6*l.*: As to hogs, they keep none, on the account of cows. The winter food hay alone, in the house.

Swine they fatten from 18 to 30 stone.

The general management of sheep is to buy them off the commons at *Michaelmas*; and sell the lamb and ewe fat: they buy at 10*s.* and sell the couples at 20*s.* The winter food, grafs and hay. The fleeces 4*lb.* each. The rot is common here, and they attribute it to the quick luxuriant growth of grafs from rains, and also from springs: but no springs will rot in a dry season.

In respect of their tillage; the teams are hardly to be separated from their brood mares: a farmer with 50 acres of ploughed ground will generally have 4 mares and 4 colts.—They plough with 3 at length, and do an acre a day; the depth 3 inches, and the price 6*s.* Only swing ploughs are used. The annual expence of a horse they reckon at 6*l.* 10*s.* Stubbles for a fallow are not broken up till the spring sowing is

over, and in that work they use five horses in a plough.

The hire of a cart, 4 horses and a driver, 10s. a day,

They reckon 400*l.* necessary to stock a farm of 100*l.* a year.

Tythes are generally compounded.

Poor rates 2s. in the pound; which is double what they were twenty years ago. The employment of the women and children, spinning; all drink tea.

There are but few leases granted in this country. The farmers carry their corn 5 miles,

LABOUR.

In harvest, 1s. 6*d.* and board,

In hay-time, ditto.

In winter, 1s. and beer.

Mowing grass, 2s. and beer.

Hoeing turnips, 6s. and beer, the first time;
the second is done by the day.

Threshing wheat, 8*d.* a load of 3 bushels.

———— barley, ditto,

———— oats, 6*d.* ditto.

Head-man's wages, 10*l.*

Next ditto, 6*l.*

Lad's, 4*l.*

Maid's,

Maid's, 2*l.* 10*s.* to 5*l.*

Women a day in harvest, 8*d.* and board.

———— in hay-time, 8*d.* and ditto.

———— in winter, 6*d.*

The rise of labour of late years one third.

IMPLEMENTS.

A waggon, 20*l.*

A cart, 11*l.*

Harnes per horse, 1*l.* 1*s.*

Shoing, 1*s.* 4*d.*

PROVISIONS.

Bread, per lb. 1*d.*

Cheese, - - 4

Butter, - - 7

Beef, - - 3

Mutton, - - 3 $\frac{1}{2}$

Veal, - - 3

Pork, - - 3 $\frac{1}{2}$

Milk, - - 0 $\frac{1}{2}$ *d.* per pint.

Potatoes, - - 4 per peck.

Candles, - - 6 per lb.

Soap, - - 6

Labourer's house-rent, 2*l.* to 3*l.*

Coals, 5*s.* 6*d.* a ton, carriage included.

The town of *Chesterfield* has nothing to entertain a traveller, unless he chuses to admire

234 THE FARMER'S TOUR

admire the ingenuity of a crooked steeple. Their architect, full of *Hogarth's* idea of the line of beauty, thought no form so proper for a spire as a crooked billet: in which he has very happily succeeded, to the great improvement of taste in that neighbourhood.

I remain, yours, &c.

LETTER V.

THE following account of the husbandry around *Lawton* near *Bawtry* in *Yorkshire*, I have gained by the very obliging attention of Colonel *St. Leger* * of *Park-Hill*.

Farms rise from 20*l.* to 150*l.* a year; the average about 60*l.* The soil is in general a light hazel loam on grit, and lime-stone; but they have some clay. The rent 8*s.* an acre on a medium: Their courses of crops as follow:

- | | |
|--------------------|-------------------|
| 1. Fallow | 3. Beans or oats: |
| 2. Wheat or barley | |

This is the open field course.

In the inclosures,

- | | |
|------------|-----------|
| 1. Turnips | 3. Beans |
| 2. Barley | 4. Wheat. |
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Wheat. |
| 1. Fallow | 3. Clover |
| 2. Barley | 4. Wheat. |

They plough from four to six times for wheat; sow 10 pecks *per* acre; and gain at a medium 18 bushels. For barley they stir from four to six times in fallowing; but after turnips only once: sow 3 bushels *per* acre about the end of *March* or the beginning of *April*: the mean crop they reckon 3 quarters. For oats they give but one earth, sow four bushels, generally in *February* or the beginning of *March*, and gain in return about 4 quarters. They stir but once for pease, sow 10 pecks; never hoe them; the crop 22 bushels.

For beans they plough no more than for pease; sow 4 bushels; and gain in return 21 bushels on an average.

Rape they sometimes sow; prepare for it by fallowing; the produce 5 quarters an acre of seed; they sow wheat after it, and seldom fail of good crops.

For turnips they plough from four to six times; very few of them hand hoe; only here and there a farmer, who is much beyond his neighbours; about enough to prove by the purchasing price, that an acre hoed, is worth two unhoed. They feed them on the land by sheep and beasts;
some

some few are tied up to fatten on them; in which method they find the crop to go much the farthest: one acre will finish the fattening of four beasts, each of 40 stone. The selling price *per* acre, is on an average 35 s.

Their clover they commonly feed first; and then mow it for seed, of which the crop is about 3 bushels *per* acre: of hay from 1 to 2 $\frac{1}{2}$ tons.

In respect of manuring, they find none exceeds paring and burning the old swarth, sowing either wheat or turnips after it. Sometimes they get forward crops of the latter, and feed them off time enough for wheat, in which method they never fail of great crops. The paring and burning cost 15 s. an acre.

They confine their cattle pretty much to the farm-yard; but have no idea of chopping their wheat stubbles for littering them.

Pigeon's dung they sometimes spread on their barley lands, about 3 quarters *per* acre, at 8 s. a quarter.

The best grass land lets at 20 s. an acre, they generally mow it; an acre and half about sufficient for summer feeding a cow.

238 THE FARMER'S TOUR

Their breed of cattle, all long horned: the average quantity of milk *per diem*, $2\frac{1}{2}$ gallons, but the best cows give six gallons. Mr. *Mathewmans* of *Grampton* has had 15 *lb.* of butter a week from one cow. The average of total products *per cow* 4 *l.* but good ones rise to 6 *l.* They are not well acquainted with the husbandry of making their dairies maintain great numbers of swine; but to ten cows they keep in the proportion of about two sows. Their cows are in winter kept chiefly in the house. Their swine fatten up to 25 stone: 20 the average.

Flocks of sheep from 80 to 100; their food in winter hay. The average fleece $4\frac{1}{2}$ *lb.*

In their tillage they reckon 6 horses necessary to 100 acres of arable land: use three or four in a plough; and do an acre a day; from 2 to 6 inches deep. The price of ploughing 5 *s.* an acre.—They reckon the annual expence of a horse to amount to 7 *l.* They know nothing of cutting straw into chaff.

Some oxen they use, generally four in a plough; and assert that they will do as

much or more than the same number of horses; and yet their horses are good ones.

The time of breaking stubbles for a fallow, extends from *November* to *May*. The ploughs are all *Rotheram* ones.

The hire of a cart, three horses, and driver, a day, 6 s.

In the hiring and stocking farms, they reckon that 400 l. is necessary for one of 100 l. a year; but that 500 l. is requisite to do it thoroughly well; they divide that sum in the following manner:

Six horses,	-	£. 72	0
6 Cows,	- - -	36	0
10 Young cattle,	- . .	30	0
100 Sheep,	- . .	30	0
Swine,	- - -	2	10
2 Waggon,	- - -	30	0
3 Carts,	- - -	20	0
3 Ploughs,	- - -	3	3
5 Pair of harrows,	-	4	0
2 Rollers,	- - -	1	10
Harnes,	- - -	9	0
Sundry small implements,		5	0
Household and dairy furniture,		100	0
Rent,	- - -	50	0
		<hr/>	
Carry over,		393	3

240 THE FARMER'S TOUR

Brought over,	-	-	393	3
Town charges,	-	-	10	0
House-keeping,	-	-	30	0
1 Man,	-	-	8	0
2 Boys,	-	-	10	0
1 Maid,	-	-	3	0
Labour in hay and harvest,			10	0
Seed,	-	-	20	0
Cash in hand,	-	-	15	17
			<hr/>	
			£. 500	0
			<hr/>	

Land sells at 35 years purchase.

LABOUR.

In harvest, 9s. a week and board.

In hay-time, ditto.

In winter, 1s. 2d. a day.

Reaping wheat, 4s. 10d. to 5s. and 6d.

Mowing barley, and binding into sheaves,
3s.

————— grass, 1s. 2d. to 1s. 6d.

————— sainfoine, 1s. 4d. to 1s. 8d.

Hoeing turnips, 6s. the two hoeings.

Plashing a hedge, and repairing the ditch,
10d. an acre of 28 yards.

Thrashing wheat, 3d. a bushel.

————— rye, 2d. ditto.

Thrashing

THROUGH ENGLAND. 241

- Thrashing barley, 1 s. 3 d. *per* quarter:
 ————— oats, 1 s. ditto.
 ————— pease and beans, 7 d. the three
 bushels.
- Making faggots, 1 s. a hundred:
 Wages of first man, 9 l.
 Ditto of the next, 8 l.
 Lad's, 6 l.
 Dairy-maid's, 3 l. 10 s.
 Other ditto, 3 l.
 Women *per* day in harvest, 1 s.
 In hay-time, 6 d. and beer.
 In winter, 4 d.
 Value of a man's board, 3 s. a week; his
 washing, 1 l. a year.
 Rise of labour, a fourth in 10 years.

PROVISIONS.

Bread, <i>per</i> pound,	1 d.
Cheese, - -	4 $\frac{1}{2}$
Butter, - -	6 $\frac{1}{2}$
Beef, - -	3 $\frac{1}{2}$
Mutton, - -	3 $\frac{1}{2}$
Veal, - -	3 $\frac{1}{4}$
Pork, - -	4
Bacon, - -	7
Milk, - -	$\frac{1}{2}$ d. a pint.
Candles, <i>per</i> pound,	7 $\frac{1}{2}$

Soap, *per* pound, 6 *d.*

Labourer's house-rent, 1 *l.*

Coals, 15 *s.* 6 *d.* for 35 *cwt.*

BUILDING.

Oak timber, 10 *d.* to 2 *s.*

Ash, 8 *d.*

Elm, 6 *d.*

A carpenter a day, 1 *s.* 4 *d.*

A mason and thatcher, ditto.

Stone walls in mortar; workmanship, 3 *s.* 6 *d.* a rood, 7 yards long by 1 high, and 18 inches thick; getting the stones 1 *s.* and lime 6 *d.* in all 5 *s.*; that is, 10 *s.* for a wall 6 feet high, besides leading.

Farm-houses all of stone and slate.

There are many worse systems of husbandry than the preceding; tho' it is by no means free from objections. The crops in general are not so considerable as they ought to be on a hazel loam; this is much owing to their not hoeing their turnips, which certainly affects, not only the crop itself, but all that succeed in the course. Beans they never hoe, and yet make them a fallow crop, following them with wheat;—this is running the land too much: the idea of *fallow crops*, such as turnips and beans, being

being equal to fallows, is founded on their admitting the hand-hoe (which wheat, barley, &c. will not)—so that the ground may be kept as clean as the farmer pleases. If beans and turnips are well hoed, they ought to be esteem'd fallows—but it is very pernicious to rank unhoed crops in the same class. Wheat 18 bushels *per acre* is not answerable to the other particulars of the husbandry; nor are 3 quarters of barley or 4 of oats to be mentioned under circumstances that would so much increase them. But the contrast between the hoed and unhoed turnips, is sufficiently striking:—the value of the former being double to that of the latter, speaks clearly the absolute necessity of that practice being universal among them.

: A light hazel loam being ploughed with more than two horses is preposterous; this is a point that should be remedied undoubtedly. Colonel *St. Leger* set them a better example, which one would apprehend must have effect in time: their comparison between horses and oxen is very decisive, and yet they use the former chiefly: it is difficult clearly to account for this.

A much better husbandry would be found among them if the farms were larger: they are too small for any spirited husbandry.

At *Gateford*, four miles from *Park-Hill*, are some variations which deserve noting.

Farms are of much the size with those just minuted. The soil, sand—clay—and lime-stone land:—the parish borders on *Shirewood* forest; and includes some of it; all which is a light sand. The rent of the forest land is 3 s. an acre; of the old inclosures 12 s. 6 d.; average of both 10 s.

The course of crops,

- | | |
|------------|------------------|
| 1. Turnips | 3. Clover 1 year |
| 2. Barley | 4. Wheat. |

For wheat they plough five times, sow 10 pecks, and reap on a medium from 18 to 26 bushels. For rye, after wheat, which is sometimes practised, they stir but once: sow 2 bushels, and reap 24. They stir but once for barley; sow 3 bushels, and gain on an average $4\frac{1}{2}$ quarters. For oats they plough but once, sow 4 bushels; the crop 5 quarters. They give but one earth for pease, sow 10 pecks; never hoe; the mean produce 22 bushels.

They sow no beans,

For turnips they plough from four to six times; some are hoed, but very badly; none done completely, and yet the hoed are better by 30*s.* an acre than the common crops. On the sands they feed them with sheep, &c. sometimes they draw for fattening beasts. One acre will, in stall feeding, fatten 5 or 6 beasts. The average price *per* acre about 50*s.*; but they rise to 4*l.*

Clover they mow twice for hay, and gain 4 $\frac{1}{2}$ tons *per* acre.

Tares are but little cultivated. But Mr. *John Eddison* of *Gateford* has sown them; the first crop he feeds; and has ploughed the second in, as a dressing for wheat: He has also fed his horses with it.

Waste land, that is the forest, is sometimes improved in this place. Their method is, first, to stub the whins, &c. then they plough it, and leave it for a whole year; on two earths they then sow rye or maslin; and get good crops; after this crop of rye, they take another of oats, and with them lay down with ray-grass for sheep. These two crops of corn together are very bad husbandry; they can be had merely from the old turf; and in so bad a

246 THE FARMER'S TOUR

method as ploughing it, and doing nothing more for a twelvemonth, these crops must nearly exhaust the soil, and leave it in a bad state to lay down: the first crop certainly ought to be turnips, fed on the land; and then oats or barley and the grass seeds.

Lime they use commonly; lay a chaldron *per* acre, at the expence of 11 s. carriage included; for turnips, they find it of very great service; it lasts 3 or 4 years. They do not chop their stubbles; but their cattle they keep in the yard chiefly. They buy a good deal of manure at *Workshop*, from 2 s. 6 d. to 3 s. a load; lay 12 loads *per* acre, and find it lasts three crops.

The best grass lets at 35 s. an acre; they mow it, or feed cows: an acre and quarter are sufficient to carry a cow through the summer. The breed of cattle is the long-horned. The average quantity of milk *per* cow 3 gallons. Mr. *Eddison* has had some that gave 9 gallons a day. The annual product 7 l. To 10 cows they keep 2 sows. In winter they keep them in the house.

Their swine fat up to 25 stone; 16 the average.

Flocks of sheep rise to 2000. The profit they

they reckon at 5 s. a head: which is so scandalously low, that it much behoves more spirited farmers to set in earnest about gaining a better breed; for more profitable sheep might certainly be kept at the same expence; this is proved clearly enough by the sheep of Mr. *Eddison* above-mentioned, who has gained a very good and profitable breed by hiring a tup of Mr. *Bakewell* of *Disbley*; and he finds that his new sheep are kept on the same food and at as small an expence as his old forest stock: an instance of which is his turning the same number as before on to a stunted common, and finding them to thrive just as well as the inferior breed.—The forest sheep are commonly kept in winter on what they can find, with scarcely any assistance from hay or turnips. The average fleece is 3 lb.

In their tillage they reckon 6 horses necessary for 100 acres of ploughed land: use two in a plough, and do an acre a day; the depth about 5 inches, and the price 5 s. an acre. Harrowing 1 s. The annual expence of a horse they reckon at 10 l. They in general know nothing of cutting straw

248 THE FARMER'S TOUR

into chaff; but Mr. *Eddison* has practised it for some time.

Their stubbles they plough before *Christmas*: The *Rotheram* plough the only ones used.

The hire of a cart, three horses, and a driver, a day, 6 s.

In the hiring and stocking farms, they reckon 1000 *l.* necessary for a sand farm of 200 acres, 100 *l.* a year; and they divide that sum in the following manner; supposing the farmer a spirited man, and to aim at improvements.

10 Horses,	-	-	-	£. 130
12 Cows,	-	-	-	84
20 Young cattle,	-	-	-	60
500 Sheep,	-	-	-	200
A tup hired,	-	-	-	25
Swine,	-	-	-	8
3 Waggon,	-	-	-	45
4 Carts,	-	-	-	30
4 Ploughs,	-	-	-	5
5 Pair of harrows,	-	-	-	5
Rollers,	-	-	-	3
Stumps,	-	-	-	20
Various small implements,	-	-	-	10
				<hr/>
Carry over,				625

THROUGH ENGLAND. 249

Brought over,	625
Furniture of house and dairy,	150
Rent, - - - -	50
Town charges, - -	15
Housekeeping, - -	100
1 Man, - - - -	10
1 Boy, - - - -	5
2 Maids, - - - -	6
2 Labourers, - -	40
Extra labour, - -	36
Seed, 40 Acres wheat,	20
— 20 Barley,	10
— 20 Clover,	6
— 20 Turnips,	1
Total, - - -	<u>£. 1074</u>

But such farms are often taken with three or four hundred pounds; the consequence of which is, the execrable husbandry so common here.

Mr. *Eddison*, mentioned as a good farmer in this account, more than once has proved himself such by some other particulars. His improvement of a bog is, I believe, original; it is certainly curious. The field contains eight acres, was rented at 3 s. an acre: Mr. *Eddison* began the improvement of it
by

by cutting some open drains, at the expence of 5 *d.* and 10 *d.* *per* acre of 28 yards; the whole came to 7 *l.* 7 *s.* He then carted on to it 1003 loads of sand and earth, 40 bushels each; they were carried 300 yards; the expence 10 *s.* 6 *d.* *per* 40 loads. After this he carted on 400 loads of twitch grass, at 1 *s.* each, 20 *l.* This article of improvement must sound so very odd, that a little explanation is necessary: the country is chiefly sand, and the weed most common on all the sands of this country is twitch. The quantity of it is truly astonishing: You hear the farmers talk of 2 or 300 loads of twitch picked off their land in a familiar manner, as if it was not at all extraordinary:—this is so much the case that I was induced, after I had been in the country a short time, almost to think it a necessary evil: but the whole is certainly owing to bad husbandry, for I found that the best cultivated fields had the least of it; and Mr. *Eddison* assured me, that the closes which he had gotten into good order, were perfectly free from twitch: It is the running two or three crops together that fills the land with this weed: some very capital flo-
vens

vens assert that twitch is a very good friend to the farmer; and that they should not be able to get any corn if the land was not full of it. To attempt to reason with such fellows, is an absurdity. I was inclined to seize a hedge-stake, in order to break it about the bones of one who gave me this intelligence.

Mr. *Eddison*, on coming to his farm, found this blessed commodity so much the staple of his farm, that he had ample materials for improvement. The twitch takes root and forms a matted net-work of roots on the bog, so that it is bound quite into a firm surface; and what is extremely remarkable, the twitch vegetates in its new situation no longer than just to produce that effect; for a fine carpet of white clover presently rises, and likewise other valuable grasses, so that in the following crops of hay the twitch is scarcely perceptible, and soon quite disappears. The effect is so great that the meadow is now such as would let for a guinea an acre; I saw the crop of hay, and found it a very good one. The adjoining close is now a bog, and almost
 fwallows

swallows up the calves turned on it; the only stock they venture on.

One spot of about half a rood was covered with 56 bushels of lime; or above 400 *per* acre. The effect was making the surface sound, but the grass, the second and third year, not so good as that from twitch the first.—Lime alone, Mr. *Eddison* does not recommend as profitable, for want of the twitch binding the surface first. Mixed with earth it is much better. The field is now very well worth a guinea an acre; Mr. *Eddison* would not take that rent for it; the white clover is very thick and luxuriant in many parts of it. In dry, burning seasons, he finds it of particular use, for it supports cattle well when he has no other food. This year he fed it from the 14th of *April* to the 21st day of *May*; which he values at 10 s. an acre alone; and it now yields a ton of hay an acre, after that late feeding.

The expence of the improvement he calculates in the following manner :

THROUGH ENGLAND. 253

1003 Loads of sand, at 10s.

6d. per 40.	-	-	£. 13	2	6
400 Loads of twitch, at 1s.			20	0	0
Draining,	-	-	7	7	0
			<hr/>		
Total,	-	-	40	9	6
			<hr/>		
Which is per acre,	-		£. 5	1	2
			<hr/>		

The return, if it amounts to only 1l. 10s. per acre, is a profit 30 per Cent. on the capital employed.

There can be no doubt, from this very useful experiment, but that twitch may be employed to a very profitable purpose; but as I much hope that few will be able *thus* to improve bogs, let me remark, that there is reason to conclude it not altogether necessary. The draining is here considerable; I viewed the cuts, and found them numerous and deep; these, with 8 quarters of lime on $\frac{1}{2}$ a rood, worked a great improvement, tho' not equal to that of sand and twitch: but Mr. *Eddifon* observed that lime and earth did well; that is, the increased *weight* did well: I am convinced that weight alone will improve a bog; the draining begins the work, and then the
 pressure

pressure of 125 load of sand *per* acre nearly effected the rest: 50 load of twitch makes the weight yet greater, and consequently must be of great service: and when it rots, it certainly becomes a good manure. The white clover is by no means brought by the twitch, but the sand; an effect found before. The great utility of pressure on a bog, is seen in that improved by the Duke of *Bridgewater*, at the head of his navigation, by carrying large quantities of refuse stone on it.

Mr. *Eddison's* method of improving forest lands is, first, to pare and burn the ling, and sow turnips, which he hand-hoes clean; after these he takes another crop, which are worth from 40 s. to 3 l. an acre: then barley or oats; and then turnips again. After this crop he sows barley or oats with ray-grass and clover: this system of tillage so completely eradicates the ling and fern, that none of it rises again. The grass thus gained would let for from 10 s. to 15 s. an acre.

In feeding his teams, this attentive farmer has practised a method which promises to be very successful; he has built a whin mill. See Plate III. fig. 1.

1. The path of the horse.

2. The

2. The groove in which the whins are laid; and on which the wheel rolls.

3. The wheel.

4. A post fixed in the center of the floor, to which the wheel is fastened.

When there is only a waste to have recourse to, nothing must be taken but the young shoots of the whins; and with such trouble one man can feed 6 horses. But if an acre was well cropped with them, he is confident it would winter 6 horses; at 3 or 4 years growth, the whole crop should be taken, cut close to the ground, and carried to the mill; in which the whins are to be bruised, and then given to the horses. They all prefer them even to corn; and will eat neither that nor hay while you let them have whins: they are further a very wholesome food, and remarkably hearty. In hard drawing work, they will do as much, and stand it as well as any horses fed in the common manner. Four acres should be planted; that one may be used each year at the proper age to cut. Feeding in this manner he reckons worth 5*s.* a week *per* horse; it is a saving of all the corn and nine tenths of the hay.

256 THE FARMER'S TOUR

Six horses fed 25 weeks,

at 5s. - - - £. 37 10 0

The fourth - - - £. 9 7 6

which is the product *per acre, per annum*, of whin land thus applied. I asked him particularly about the number of horses. He told me at first 10; but upon my calculating the value, he replied, "*I don't think I am above the mark, but to obviate objections, set it down at six.*"—This improvement, it must be allowed, is of a most important kind; and certainly reduces the expence of horse-keeping more than any other practice ever heard of. The poorest land does well for whins; 2s. an acre rent will yield vast crops; and after the first planting, which costs but little, for the feed is cheap, will require no other expence or trouble than the cutting for the horses. A horse may certainly be thus well kept the six winter months for 2s. 6d. labour excluded.

Mr. *Eddison* keeps his cattle in the farm-yard during winter; and gains thereby 12 loads of dung for every head of cattle wintered, horses or horned cattle.

A method of feeding with hay, practised
by

by him, is worthy of attention: he has erected a house, of which Plate III. Fig. 2. is a representation: the horses feed on the outside from racks, which are filled on the inside either from a chamber over the body of the house, or from the house in general, in case it is all filled with hay: In a field it is but an improvement of bad husbandry—without such a house in the center of a farm-yard would be of excellent use.

a. The body of the house.

b. The roof.

c. c. The projecting roofs, under which the horses feed.

d. d. The racks.

I proceed with great pleasure to the register of Colonel *St. Leger's* husbandry, which is not only truly experimental, but embraces so many objects, that it cannot fail of being particularly valuable to the publick.

SAINFOINE.

Experiment, No. 1.

In 1765, three acres of a thin lime-stone soil, let at 5*s.* an acre, were sown with sainfoine the beginning of *April*, 4 bushels

258 THE FARMER'S TOUR

of seed *per* acre, and 2 *lb.* of trefoile, among barley. The land had been twice cropped with turnips, both times fed by sheep. After the barley was harvested, the sainfoine, &c. was left un-fed by any cattle.

1766.

The following year it was mown for hay; the produce two loads an acre, but chiefly trefoile. In the after-grass the sainfoine principally came, and it was worth 10 *s.* an acre.

1767.

This year the trefoile disappeared; and two loads and an half of sainfoine *per* acre were cut. The after-grass again was worth 10 *s.*

1768.

The latter end of *January* the field was harrowed with three horses, twice in a place, across, to clean the sainfoine plants from natural grass, and some weeds that had risen: the effect was completely answered, and without any damage to the crop. Two loads an acre were cut; the after-grass valued at 10 *s.* an acre.

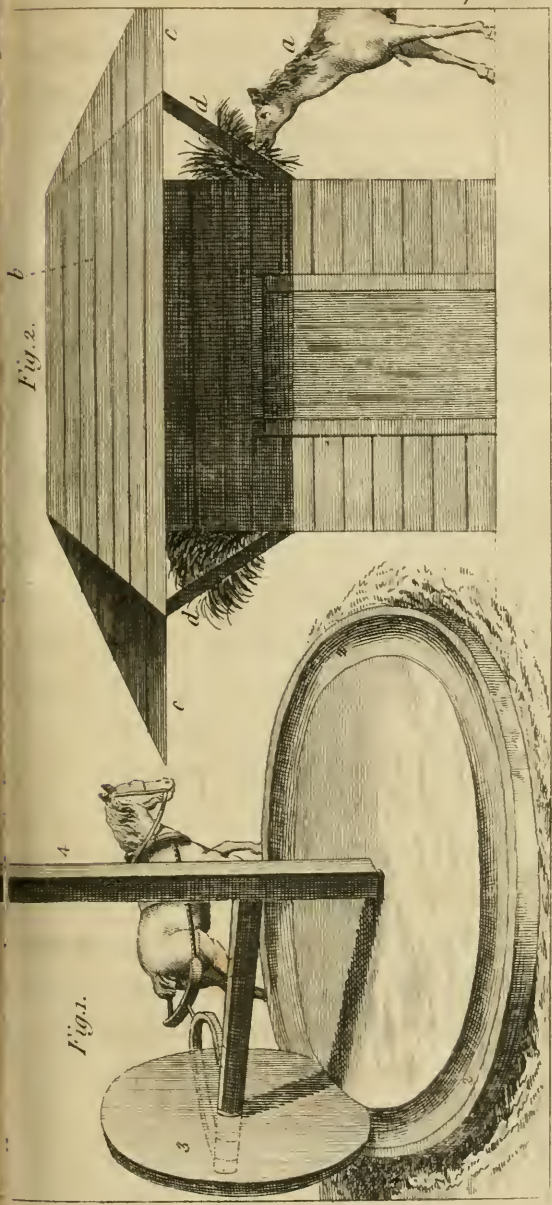
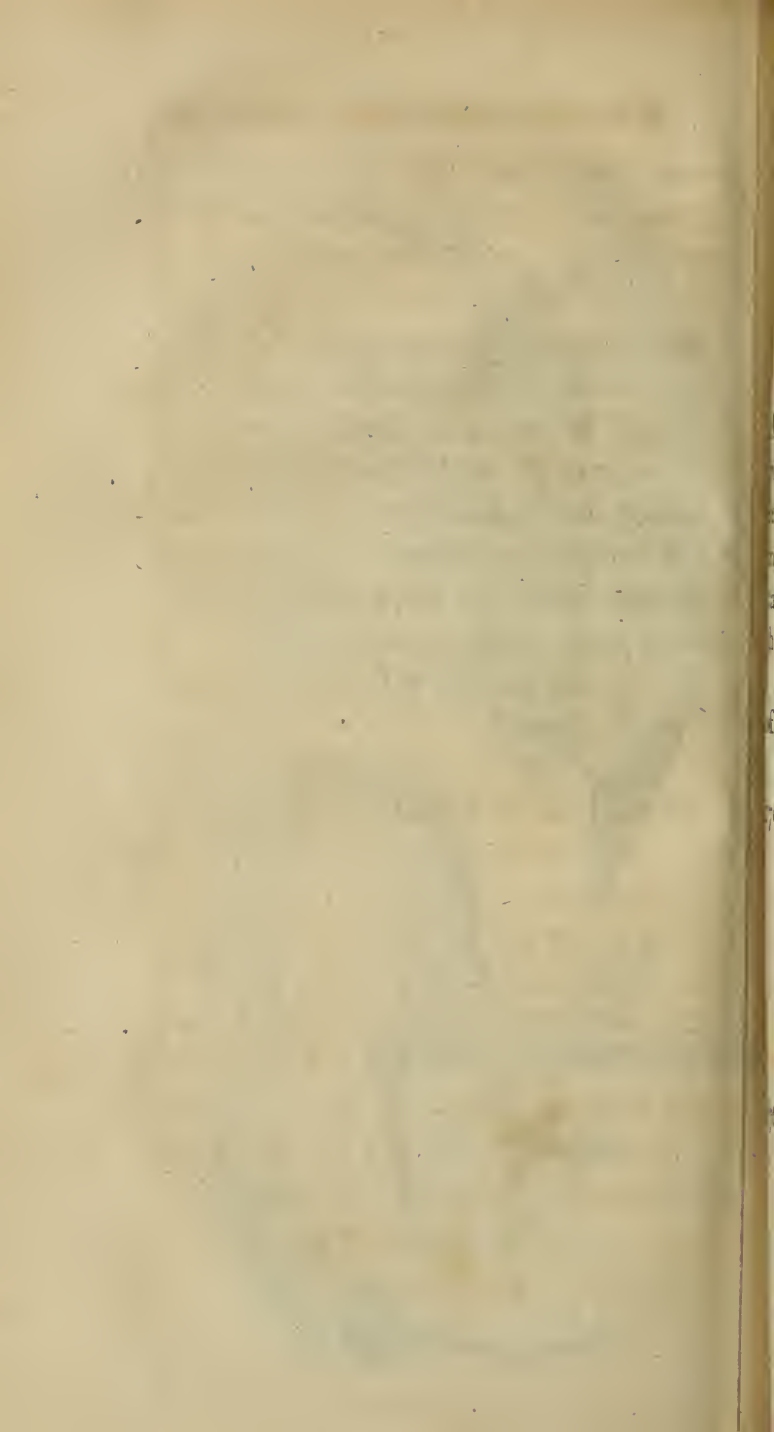


Fig. 2.

Fig. 1.



THROUGH ENGLAND. 259

1769.

This year it produced one load and an half of hay; and an after-grass of 10 s.

1770.

This year one load an acre is cut.

The reason of the product declining is the want of manure; sainfoine will not yield large crops on this soil without being refreshed once in four years with a manuring of some sort or other. It is to no other cause that the crops have fallen off; for there is great plenty of roots.

A slight calculation will shew the profit of this experiment.

Expences per acre.

1765. Seed 4 bushels, at 4 s. 6 d.	£.	0	18	0
2 lb. Trefoile,	-	-	0	0
Sowing,	-	-	0	0
Harrowing, at 1 s.	-	0	2	0
3 Earths,	-	-	0	15
Rent,	-	-	0	5
			<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	0
			2	1
			0	0
1766. Mowing, mak-				
ing, &c.	£.	0	7	6
Rent,	-	0	5	0
			<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	0
			0	12
			6	6
			<hr style="width: 50%; margin-left: auto; margin-right: 0;"/>	0
Carry over,			2	13
			6	6

S 2

260 THE FARMER'S TOUR

	Brought over,	£.2	13	6
1767. Ditto,	- - -	0	12	6
1768. Four harrow-				
ings,	- £.0	4	0	
Mowing, &c.	0	7	6	
Rent,	- 0	5	0	
		<hr/>		0 16 6
1769. Mowing, &c. and rent,		0	12	6
1770. Ditto,	- - -	0	12	6
		<hr/>		
Total in 6 years,	-	5	7	6

Produce.

1766. Two loads of hay, at 30 s.		3	0	0
After-grafs,	- -	0	10	0
1767. Two and half				
loads,	- 3	15	0	
After-grafs,	0	10	0	
		<hr/>		4 5 0
1768. Two loads and after-grafs,		3	10	0
1769. One and a half				
load,	- 2	5	0	
After-grafs,	0	7	6	
		<hr/>		2 12 6
1770. One load,	1	10	0	
After-grafs, sup-				
pose,	- 0	5	0	
		<hr/>		1 15 0
		<hr/>		
Total product,	£.15	12	6	

THROUGH ENGLAND. 261

Total product,	-	-	£. 15	12	6
Expences,	-	-	5	7	6
			<hr/>		
Profit in 5 years,			10	5	0
			<hr/>		
Which is <i>per annum</i> ,			£. 2	1	0
			<hr/>		

The profit would have been much greater had the land been manured at the end of the third year; but still the profit is extraordinarily high for such poor land, that under any other management would yield a most insignificant advantage, as may be gathered from the rent of 5 s.—And let me further observe, that the rent at which this sort of land under sainfoine will let, which is 25 s. an acre, though it seems so amazing a rise, is yet strongly confirmed by this estimate; for this field was undoubtedly worth that rent; and would appear yet more so, had it been manured.

This trial is a striking proof of the great excellency of sainfoine on these lime-stone soils: they are in every other application most unprofitable land; but by means of this excellent grass, are advanced without expence to a par with the richest meadows.

Experiment, No. 2.

In 1764, six acres of the same soil as the preceding trial were cropped with wheat; it had been so badly managed that the land was quite run out of heart.

1765.

This state of it determined Colonel *St. Leger* to give it a complete fallow: it had five earths; and was manured with 50 loads of old rotten dung.

1766.

In this preparation barley was sown, 3 bushels *per* acre; and with it 4 bushels *per* acre of sainfoine, and 2 *lb.* of trefoile. The barley produced 4 quarters *per* acre.

1767.

The crop was mown for hay: it produced (chiefly trefoile) two loads an acre. The after-grass was worth 10 *s.* an acre.

1768.

Cut it again; produce the same as last year.

1769.

Cut it the third time; produce the same.

1770.

1770.

Harrowed it the beginning of *January* eight times; four times one way, and then four more across. After the harrowing, manured it with farm-yard compost mixed with ashes, 5 loads an acre. The crop of hay 2 loads an acre; it would have been much more considerable, had the harrowing been later; the succeeding frosts and a cold spring kept it backward. It promises however extremely well; and will last good eleven years longer.

Experiment, No. 3.

Six acres of the same land, the rent 4*s.* per acre, were fallowed in the year 1766 for turnips; and manured with 10 loads per acre of rotten dung: they were fed on the land, and in

1767.

followed by barley, 3 bushels an acre seed, 4 bushels of sainfoine, and 2*lb.* of trefoile.

1768.

The first year the crop of hay amounted to 2 loads an acre; and the after-grass, 10*s.* and has continued ever since to produce the same quantity. What a vast profit is it to

S 4

gain

gain 3*l.* 10*s.* *per ann.* from land of 4*s.* an acre! I do not think the whole range of husbandry can produce any improvement greater than this! And let me observe, that the valuation of 30*s.* a load for sainfoine hay is extremely low;—I know scarcely any country in which it would not be worth more money. This crop will last 12 years longer; but it must be manured once in four years.

Colonel *St. Leger* finds from repeated experience, that the proper soil for sainfoine is the fine dry loams on lime-stone; but it will not grow on rocks in solid strata, without those numerous interstices which are generally found in beds of lime-stone: This is owing to the solid rock not admitting the roots to shoot deep through it; they can only spread on a smooth surface; whereas in lime-stone it runs along on the solid parts till it meets with crevices, and immediately follows them in the search of nourishment. None is ever sown here without a rock under the surface of loam. It will do very well where the soil is not above 4 inches deep, but thrives better where it has 9 or 10. The culture Mr. *St. Leger* recommends

mends is, to take two crops of turnips successively; to manure the land for the first, and to prepare it well by ploughing: both crops to be well hand-hoed; and fed on the land with sheep. Then 3 bushels of barley or oats to be sown, and with them 4 bushels of sainfoine, and 2 *lb.* of trefoile. This is a practice in which the Colonel is original, and it is undoubtedly a most excellent one; for the sainfoine the first year is of little account, but the trefoile yields its full produce; and then dying away, the sainfoine succeeds in vigour. I am sensible it may be objected to this, that the growth of the trefoile must be prejudicial to the young sainfoine; but in answer to this it is very justly observed by Colonel *St. Leger*, that the enquiry is not, whether the land should be occupied by sainfoine alone, but whether weeds or trefoile be preferable. For he has regularly found in all crops, that the land will be occupied by something; if you don't sow for a crop, the soil will feed itself with weeds; and the latter will be to the full as prejudicial to the young plants, as any crop of trefoile can be.

After three crops are taken, the land is to be

be harrowed twice across, and then manured with fine sifted coal ashes, about 200 bushels *per* acre; or else with foot, 70 bushels *per* acre. If neither of these can be had, rotten dung mixed with earth will be a very good compost, 8 loads an acre, at 4 s. a load, all expences included. If near a town, scavengers manure is best of all, 8 loads an acre, all at the expence of about 30 s. an acre. The manuring must be repeated once in four years; and always preceded by harrowing. There is no other objection to mowing it twice in a season, except the after-grass not yielding a bulk sufficient for hay.

If it is sown without trefoile, then it may be fed through the first year; but if the trefoile is fed, it will not die.

This gentleman is very well convinced, that it is weeds and grass only that kill sainfoine; if kept perfectly clean, it will prove a true perennial.

With this system of management, crops of hay of 2 loads each may be expected, and an after-grass worth 10 s. an acre.

When you break up a sainfoine lay, it should be by paring and burning for tur-
nips;

turnips; and if the land is to be again laid down to fainfoine, then sow barley—then pease; then two more crops of turnips both well hand-hoed, and after them barley and the fainfoine. It is a common notion that this grass will not do again on the same land; but Colonel *St. Leger* attributes this idea to the land being again sown too soon after the last crop; in which case he conceives it may fail, from the crevices in the strata of rock being all so full of the old roots, that the young ones cannot find an entrance; but if you keep the land in the above course of tillage, they will all be rotten and prove a manure for the new roots, instead of being any prejudice to them. That fainfoine will succeed on old fainfoine land, he knows by experience; for the six acres registered above, Experiment, No. 2, were cropped with it, some years before he sowed them.

BURNET.

Experiment, No. 4.

Two acres of a rich loamy soil two feet deep with no rock in it, the rent 1 *l.* 1 *s.* per acre, were well limed and dunged at the
 expence

expence of 5 *l.* an acre for turnips, which were fed on the land; it was then by ploughing and harrowing, made as fine as a garden, in *April*, and burnet sown on it, 12 *lb.* of seed *per* acre, at 2 *s.* a *lb.* without corn. It came up very well and thick. By the latter end of *May*, it wanted weeding. As this was the first trial of burnet in this part of the country, and the character of the plant at that time very high; Colonel *St. Leger* very laudably determined to give it as fair a trial as possible, that he might be able to ascertain its real value; if useful, to extend the culture in the neighbourhood; but if it proved otherwise, to prevent it. The weeds throughout the summer came in such quick succession of crops, that it required perpetual attention to keep the burnet clean; it was however done; and the expence of this alone, amounted to 10 *l.* an acre: It yielded nothing the first year, neither hay nor food.

It was left the following year for seed, and mown the latter end of *June*: the crop very considerable in quantity. Ten pounds worth of it were sold at 1 *s.* a *lb.* but for want of a further market the rest was of no value.

value. The straw from the two acres amounted to 5 loads, but it was coarse; in the following winter it was given to the cattle in the farm-yard; they eat it, but not without waste; preferring oat-straw. The after-grass arose well, and was a considerable crop at *Michaelmas*; all sorts of cattle were then turned in: all eat it at first, but soon fell to the young shoots of the hedges; nor would they touch it any more, but pined and fell off in their looks: they were taken out; and the growth left for spring.

It vegetated through most part of the winter. In *February* some fattening sheep were turned in; but they would not touch it, they were therefore taken out, and the burnet left for hay: It was mown the latter end of *May*; the produce two loads an acre: It was of a good quality; and the horses and cattle eat it very well and freely; the value calculated at 25 s. a load. Various cattle were again turned into the after-grass; but they all again refused to eat it. Mr. *St. Leger* being convinced from these trials, that it was good for nothing but hay, and sainfoine in that respect far exceeding it,

270 THE FARMER'S TOUR

it, determined to plough it up; and is equally determined never to have any thing more to do with it. He sowed wheat on the ground, and had 24 bushels an acre.

These two acres were the half of a field of 4: the soil exactly the same; both parts were equally manured and ploughed for the turnips. After the turnips, this half was sown with barley, which yielded 7 quarters an acre; and were sold at 1 *l.* a quarter. With the barley, clover was sown for a comparison with the burnet: It was mown twice for hay, yielded 3 $\frac{1}{2}$ tons; value 4 *l.* 7 *s.* and then wheat was sown, the produce 30 bushels, at 5 *s.*

As both parts of the field were the same to the end of the turnip year, we may from that time draw a comparison:

		2 Acres Burnet:		
Rent,	-	-	-	£. 2 2 0
Seed,	-	-	-	2 8 0
Sowing,	-	-	-	0 1 0
Ploughing,	-	-	-	0 10 0
Harrowing,	-	-	-	0 6 0
Weeding,	-	-	-	20 0 0
				<hr/>
First year,	-	-	-	25 7 0
				<hr/>
				Rent,

THROUGH ENGLAND. 271

Rent,	-	-	-	-	£. 2 2 0
Mowing, drying, thrashing, &c.					
suppose,	-	-	-	-	1 10 0
<hr/>					
Second year,	-	-	-	-	3 12 0
<hr/>					
Rent,	-	-	-	-	2 2 0
Mowing, making, &c.					1 1 0
<hr/>					
Third year,	-	-	-	-	3 3 0
<hr/>					
<i>Produce.</i>					
Seed,	-	-	-	-	10 0 0
5 Loads of straw,					1 15 0
4 Loads of hay,					5 0 0
<hr/>					
					16 15 0
<hr/>					
Expence,	-	25	7	0	
<hr/>					
	-	3	12	0	
<hr/>					
	-	3	3	0	
<hr/>					
					32 2 0
Product,	-	-	-	-	16 15 0
<hr/>					
Loss,	-	-	-	-	15 7 0
<hr/>					
The other 2 Acres.					
Rent,	-	-	-	-	2 2 0
Barley feed,					0 15 0
Sowing,					0 1 0
Ploughing and harrowing,					0 12 0
<hr/>					
Carry over,					3 10 0

272 THE FARMER'S TOUR

Brought over, -	£. 3	10	0
Mowing and harvesting, -	1	0	0
Thrashing, - - -	0	14	0
Carrying, - - -	0	14	0
		5	18 0
Rent, - - -	2	2	0
Clover feed, &c. - -	0	6	0
Mowing, making, &c. twice,	1	1	0
		3	9 0
<i>Produce.</i>			
14 Quarters barley, -	14	0	0
Straw, suppose - - -	1	10	0
Clover hay, - - -	4	7	0
		19	17 0
Expences, - 5 18 0	5	18	0
- 3 9 0	3	9	0
		9	7 0
Profit in 2 years, -	10	10	0
Loss by the burnet in 3 years,	15	7	0
		25	17 0
Superiority of the common husbandry, - - -	25	17	0
Add to this, the difference of 6 bushels of wheat, at 5s.	1	10	0
		27	7 0
		27	7 0
			And

And as only 2 years of one is taken against 3 of the other, this circumstance would add considerably in favour of the common husbandry; but the comparison is decisive enough without it. Nor should it be forgotten that the produce of burnet seed of 10*l.* was absolutely accidental; and belonging only to this crop: extend the culture, and that would at once disappear.

SPOTTED TREFOILE.

Experiment, No. 5.

This plant, which I never heard of being cultivated in common, would, beyond a doubt, be a very great acquisition in husbandry: on good land it grows 2 feet high, very thick and luxuriant. It is a perennial; in each of the three leaves is a small black spot: the blossom is yellow: It branches greatly, and roots strongly. A small piece of land sown with it, yielded at the rate of two loads and an half of excellent hay: Colonel *St. Leger* apprehends that it will bear a dry summer better than any other species of the trefoile.

COCK'S FOOT GRASS.

This gentleman finds from some experiments on this grass, that it is one of the earliest we have, and one of the first that sheep eat; it yields a vast burthen of hay, but coarse: Upon all lime-stone soils large quantities grow spontaneously——when grown to any height, cattle will not eat it readily, for the leaves then are almost as rough as a file. It yields a large quantity of seed; but is chiefly to be recommended as an early food for sheep.

BROME GRASS.

Experiment, No. 6.

Six acres of this grass were sown in 1766, with corn, on a clean fallow; the soil a strong, deep, lime-stone clay; 10*lb.* of white clover mixed with it. It came up well, and was mowed the first year, produce 2 ton of hay *per* acre: the mixture of the white clover made the hay good; but the broom grass bad; it makes coarse, soft hay; but cattle will eat it very well: It was mown early the second year, and the land manured; but little of it arose afterwards; the land being left almost under white clover alone.

COW GRASS.

Experiment, No. 7.

Colonel *St. Leger* having observed that this clover is perennial, and well affected by cattle, sowed 5 acres this year, with corn, mixed with two bushels of ray-grass.

It bears a spiral leaf; and a blossom like the common red clover. It yields a great burthen of hay, and also of after-grass; it springs earlier than red clover; and most sorts of cattle are very fond of it.

It appears to be better adapted to feeding than for mowing; particularly as it lasts longer in vigour eaten than mown.

YELLOW BLOSSOMED VETCH.

This plant is a perennial, the yellow blossom distinguishing it from the annual sort, which yields a blue flower; cultivated on strong land, it yields a large produce of hay, remarkably fine for all sorts of horned cattle or fattening beasts; and is excellent for hard worked horses. It is likewise an admirable good grass (if we may so call it) in pastures fed. Two pecks of seed is the proper quantity for an acre. Mr. *St. Leger*

276 THE FARMER'S TOUR

procures as much of the seed as possible; but not under half a guinea a pint.

WILD BLUE BLOSSOMED VETCH.

This plant is found on trial to possess the same virtues as the yellow blossomed, but is only annual.

WINTER VETCHES.

Experiment, No. 8.

Ploughed up four acres of lime-stone land in *September, 1764*; gave it a complete summer fallow. In *November, 1765*, ridged it up by trench ploughing it. In spring 1766, harrowed it down; ploughed it twice more, and the beginning of *October* sowed winter vetches, one bushel of seed *per acre*. The crop proved extremely great; they were so thick on the ground, that they rotted at bottom; which was pernicious to the quantity of corn; had they been mown for hay, the produce would have been at least three tons *per acre*. The land was then ploughed once, and wheat sown; never any soil turned up in a finer—more mellow—or complete order—it was quite

quite in a putrid fermentation from the thick shade of the vetches; the crop 28 bushels *per* acre; which is very extraordinary on this land; It is from this account very evident, that winter vetches are one of the most profitable crops that can be cultivated: but I should remark, that fallowing the preceding year is not necessary. They may very well be made the fallow crop, like turnips.

LAYING LAND TO GRASS.

Experiment, No. 9.

From several years experience, Colonel *St. Leger* finds the following to be the most profitable method of laying land to grass on his soils.

First, pare and burn the old turf; take two crops of turnips; hand-hoe them both well, and feed them both on the land. Let the second crop of turnips be eaten by the beginning of *February*: then plough it; and let it lye till the end of *March*; after that, harrow it once or twice as necessary, and on this tillage plough again, and harrow in barley, and seeds; 8*lb.* of white clover, 4*lb.* of trefoile, and 2 quarters of

278 THE FARMER'S TOUR

hay-seeds *per* acre. The first year let it be fed: It will be a very fine pasture the beginning of *April*; and yield a large quantity of food throughout the year. A large field laid in this manner is now feeding for the second year, and the quantity of cattle maintained, has been extraordinarily great.

Experiment, No. 10.

Another method tried is, to sow 14 *lb.* of meadow fescue with 10 *lb.* of white clover on the above-mentioned preparation. It was mown for hay the first year; yielded two loads an acre; and a very fine after-grass. This year (the second) it is pastured, and is exceedingly good.

Upon the whole, Colonel *St. Leger* prefers the method of No. 9.; but it is at the same time more expensive.

DRILLED BEANS.

Experiment, No. 11.

In 1766, five acres of a deep loamy soil, fallowed through the year 1765, and ridged up in the winter, were harrowed down in the spring, and dibbled with beans in double rows, 8 inches asunder, with 18
inch

inch intervals. They were hand-hoed twice, and earthen up once. The year was very bad and unfavourable, but the produce, large: vastly superior to what is ever gained in this country by the common culture. They were succeeded by wheat on two ploughings; the product 27 bushels *per* acre, which is much more than was ever known on that land.

It is from this trial extremely evident, that the drill culture of beans would be highly advantageous on the better sort of land in this country: not that a previous fallow is necessary; it would answer extremely well on all their stiff lands, to make drilled beans the fallow crop; to keep them perfectly clean, and follow them by wheat.

DRILLED TURNIPS.

Experiment, No. 12.

In 1769, one acre was finely prepared; drilled on thin lime-stone land, the rent 1 s. 4 d. an acre, with a barrel drill plough with Dr. Gale's manure hopper. The rows equally distant, 18 inches asunder; and a manure shed on the seed from the hopper—

a compost of lime, earth—charcoal ashes—and rotten dung—mixed together, and turned over several times during two years: none of the plants missed, tho' in an adjacent piece broad-cast many places were without turnips for half a rood together. The crops were equal; excepting the deduction from the broad-cast of the spots that failed,

CABBAGES.

Experiment, No. 13.

Three acres of a thin lime-stone land, quite worn out, and not worth more than 2 s. 6 d. an acre, were planted with the great *Scotch* cabbage on a summer fallow, in 1767. The land was ploughed six times, and manured with ten loads an acre of rotten dung. The rows 4 feet asunder, and the plants 20 inches from plant to plant. Part of the seed was sown in *September*, and part the end of *February*. Those sown in *September* were pricked out of the seed bed the end of *October*—once more in *April*—and the beginning of *May* in the fields. The *February* sown ones were set directly from the seed bed into the field, at the same time

as the other. They were hand-hoed once, and then horse-hoed; and afterwards earthed up by the plough. They were begun to be cut in *November*, and were finished by the middle of *February*: they were wanted, or would have lasted longer.

They were given to dry cows, calves, and sheep; who all did exceedingly well on them; and the crop answered perfectly well, for one acre was more than as good as three of turnips: In one respect they are particularly superior on this soil: It is very apt to bake when made fine, with a hot sun after rain, insomuch that the young turnips can scarcely get through; and when they do, are of so slow a growth, that the fly have time to make many attacks on them. Cabbages are free from this great evil; which is a circumstance extremely favourable to them. Barley was sown after this crop, and it yielded a finer produce than ever Colonel *St. Leger* knew on this land, *viz.* $3\frac{1}{2}$ quarters *per* acre. With it grass seeds were sown; and it has since continued better pasture than common on this soil.

PARING and BURNING.

This husbandry on thin soils has been by so many persons thought injurious, that I was desirous of knowing the opinion of so attentive a cultivator on this disputed point. Colonel *St. Leger* has practised it for several years: he always breaks up old turf in that manner, however thin the soil may be. He pares it as thin as possible, because it is the roots that make the good ashes, not the earth. He is extremely clear that it does not at all diminish the soil; for on various lime-stones in this neighbourhood, where the soil is not four inches thick, it has been regularly practised for many ages; insomuch that had it been attended by such an effect, the whole staple of the soil would long ago have totally disappeared. And he has constantly found that with good management it ensures very great crops. The reason of its being disliked by some persons in this country, he attributes to the succeeding bad management of the farmers. They generally take four or five crops after it; all of corn; and with the last sow any vile rubbish called hay-seeds: many of them do not sow any thing, but leave the soil to turf itself.

self.—Thus it lies for a sheep-walk 20 or 30 years; and then they pare and burn again with the same blessed system following.

It is certainly requisite to distinguish between the effects of general bad husbandry, and those of a particular practice that happens to be mixed in it. Paring and burning is by no means the necessary cause of those ill effects so often seen to follow it: Were the tenants allowed to do as they please, precisely the same effects would follow, a present of 40 loads an acre of rich dung: they would, in consequence of such an acquisition, crop the land until it became nearly a *caput mortuum*, through eagerness to get all the advantage of it as soon as possible: the land would probably be reduced to a much worse state than before the manuring: Now ought we from thence to conclude, that a rich dunging was pernicious? Granting the possibility of paring and burning being hurtful to the soil.—yet I reply, that the evils attributed to it from the management of common farmers are by no means to be received as proofs of such supposed prejudice: they are effects of bad husbandry in
2
exhausting

exhausting the land by successive crops of corn; not of paring and burning.

Colonel *St. Leger*, from experience, recommends the pared and burnt land always to be sown with turnips; to be kept in tillage 7 years, in a good course of crops; and then to be laid down again to grass, with great plenty of good seeds; and soon after to be well manured. If a farm consists of twenty fields, it is an excellent system to pare and burn one every year—and also to lay one down: by that time the turf will be formed thick enough of reason to admit the paring; the soil will never be diminished, always kept in good heart—and the crops continually great. Nor will any reasonable objections be made to the practice while it is conducted on such principles.

CLEARING LAND FROM RUBBISH.

Colonel *St. Leger*, on beginning his husbandry, found his farm * strangely overrun with what, in this country, are called *Reins*; that is wide hedge-rows; which in a long process of time had gained so much

* Above 300 acres.

on the cultivated land, as to usurp more than half of it: He showed me many of his tenants fields (and it is much the same throughout the country) that were actually three parts in four thus over-run: the grass or arable in narrow slips between wide spaces of stunted shrubby wood, bushes, and briars: a more slovenly wretched sight can hardly be imagined. He determined to extirpate all this rubbish as soon as possible from his farm, and has accordingly made great progress in it: he grubs up all the bushes, &c. and removing the beggarly ill-shaped trees, levels the whole surface with the rest of the fields; then ploughs the whole, and as soon as in order, lays them down either to natural grass or to sainfoine. One circumstance has made this improvement very tough work: The fields being stony, the farmers have for some ages picked them off; and to save trouble, threw them in heaps about the hedge-rows and there left them: so that both the grubbing and levelling have been performed in a quarry above ground; and vast quantities of the stones carried away for various purposes: But difficult as the

work has often been, yet he finds it to answer greatly. He calculates that he gains the new land at the expence of only eight years purchase. Before the improvement the soil is absolutely waste: Coals are so cheap, that faggots will scarcely pay for tying; and none of the wood would ever rise to any other use. The quantity of land thus lost, would surprize a stranger: In many fields 16 or 18 acres out of 30; in some 8 out of 12: so that the farmers absolutely paid double the nominal rent for the land. Suppose 20 acres let at 5*l.*; ten of them being waste, the rent of the other ten is doubled, that is, from 5*s.* to 10*s.* an acre; which is therefore the old rent of the cultivated land: Now, after the landlord has improved the waste, he may certainly let the whole at 10*s.* without raising the rental one penny. The tenant will pay in the exact proportion of his old rent——So amazingly improveable are estates thus over-run!

DRAINING.

The method of draining, to which this gentleman has principally confined himself,
is,

is, that of covered drains. He cuts them 18 inches deep; 16 wide at top, and 3 wide at bottom. These he fills with stones too large to sink to the bottom; and then lays on some of the earth. The expence:

Digging, <i>per</i> acre of 28 yards,	£. 0	1	3
Carrying the stones,	-	-	0 1 0
Filling,	-	-	0 0 2

	£.	0	2 5

The stones near the spot.

Others he cuts in the form represented in Plate IV. Fig. 1.

a. to b. — 9 inches.

b. to c. — 14 ditto.

c. to d. — 4 ditto.

d. to e. — 10 ditto.

The drain below the shoulders, 6 inches wide at top, and 2 at bottom.

These are only for soils that have a stratum of clay under them; the first cut, that is, a. to b. to be through the loam, or the surface earth whatever it is—so that the shoulders may be clay; this is necessary, for if they are not of very stiff adhesive earth, they will not bare the covering. This he always makes of slate, such pieces being chosen

chosen as will about fit the top part of the drain so as to rest on the shoulders: on this slate it is filled up:

The Colonel very justly observes, that loose soils on clay admit the water as deep as the clay—but there it stops, and being retained, occasions the wetness of the land: the business is therefore to make a cut that will take it clear away from the bottom of the surface soil. It is not necessary to make the upper part of the drain deeper than the loam; and care should be taken not to cover the slate with clay, because the water then will not gain admission into the drain: while the slate only rests on the clay shoulders, the water runs freely under it, and through the numerous crevices. These drains receive no damage from the tread of the heaviest cattle. If no slate can be had, they should then be filled with thorns. This method of draining is done in a cheaper manner than those first described.

Experiment, No. 14.

Eighteen acres were drained in this manner; the value of the land 6*s.* an acre; but has ever since been well worth 20*s.*

In

In other fields, good crops of corn have been reaped after draining, in which a plough before could hardly have stirred.

THE FARM YARD.

Mr. *St. Leger* carries earth into his farm-yard in *October*; that which arises from draining, and also other sorts: he spreads it over the yard and fodders his cattle all winter on it. He also litters it with stubble; when the frost has rendered it brittle, he narrows it up, and carts it to the yard. This is much better than leaving it on the land, but much inferior to the regular mowing it after harvest and before bad weather destroys it. As soon as spring corn sowing is over, he carts it all on to a heap, which is turned over once; and is then in proper order for wheat land.

LIME.

Experiment, No. 15.

This gentleman, in order to be satisfied of the virtue of lime, as a manure for grass and, formed a very judicious experiment; he spread it at the same time in various quantities on plots of grass in a mowing field;

field; the result was, that the lime did no manner of service; none of the quantities were the least beneficial.

Experiment, No. 16.

But having in *Derbyshire* seen the great use of this manure, in laying it in heaps on the field in *September* to slack, he sent into that county 35 miles at a large expence for two waggon loads, to try it at *Park-Hill*. One part of the field he manured at the rate of 180 bushels *per* acre in heaps left in the *Derbyshire* manner. Another piece adjoining he manured in the same proportion, but spread directly out of the carts. On another part it was spread out of the carts; 32 bushels *per* acre. The rest of the field was slightly dressed with rotten farm-yard manure. The result is (I viewed the crop of hay) the dunged part of the field yields half as much again as any of the rest; and the parts spread out of the carts, better than that on which the heaps were laid: this is directly contrary to the effect in *Derbyshire*.

BONE DUST.

Experiment, No. 17.

Colonel *St. Leger* bought this manure at *Sheffield* at 11*d.* a bushel; spread 35 bushels an acre on a grass field: the soil a limestone clay. It turned out much inferior to common yard dung laid on at the same expence.

HARTSHORN SHAVINGS.

Experiment, No. 18.

This manure, at 11*d.* a bushel from *Sheffield*, was spread on the same field, and the effect was exactly the same as of the bone dust; inferior to an equal expenditure in dung.

CUTLERS BONES.

Experiment, No. 19.

This manure from the same place, was spread on the same field, at the same expence, 35 bushels an acre, rolled in; the effect quite imperceptible—no more benefit than if nothing had been spread.

Experiment, No. 20.

In an arable field one division was manured with compost of bone dust and horn

shavings, 40 bushels *per* acre, and the rest of it with farm-yard dung, 12 load an acre. The first crop was much the better after the dung, but the second was superior after the compost.

SOAP ASHES.

Experiment, No. 21.

Four acres of grass on a lime-stone clay were manured in *October* with soap-ashes, 40 bushels *per* acre, at the expence of 1*l.* 1*s.* 6*d.* all charges included. The result in one word was—no kind of improvement—not perceptible where laid.

Experiment, No. 22.

Harrowed in soap-ashes with barley seed; the benefit was visible—though not very great.

Experiment, No. 23.

Harrowed in soap-ashes, 60 bushels *per* acre, with turnip seed, on part of a field; the use of them extremely apparent—the turnips much better than where no manure was laid.

COMPOST.

Experiment, No. 24.

A compost was formed of the following materials.

8 Loads of lime

40 Ditto yard dung

42 Ditto pond mud

10 Ditto charcoal ashes

100

They were mixed well together, and often turned over during 2 years. It was tried both on grass land and also for barley, being harrowed in with the seed—the effect excellent; answered much better than any common manuring.

SPIKY ROLLER.

The lime-stone clays bake so hard with the sun, that they cannot be ploughed at pleasure, without this machine; but with the use of it, the tillage of them never is at a stand. Colonel *St. Leger* has experienced some dry springs in which he could not have got in his barley without it.

BROOM.

Experiment, No. 25.

This shrub is so bad a weed on many of the lands in this country, that the Colonel was solicitous to discover the best methods of destroying it; he tried several ways; particularly cutting it close to the ground at various seasons. In the winter the operation had no effect, but little in autumn or early in the spring, but he found that all cut while the broom was in full luxuriance of growth, was quite destroyed: and since he found this method of destroying it, he has had little difficulty in keeping his lands clear of it. But he has observed, that the land laid to grass after killing the broom, though it keeps free of it, yet produces a full crop when converted again to tillage.

MEADOW FESCUE.

Experiment, No. 26.

A grass field of deep soil was broken with the paring spade and ploughing united; first, the turf was cut thin, and turned over, then the *Rotheram* plough followed in the same tract, and buried it under new molds. Pease were harrowed in; the crop uncommonly

monly great. Next, it was ploughed up for barley, and the old swarth came up quite black and rotten, and fell into powder; 2 pecks of barley *per* acre were sown, on five ploughings, and a good manuring; with it, white clover and meadow fescue; it has for some years been an excellent pasture; but was a very poor one before breaking up.

Upon these useful experiments, and Colonel *St. Leger's* husbandry in general, I shall observe, that his country is much indebted to him for attending so minutely to the improvement of the agriculture of a neighbourhood that wants it not a little. The country around *Park Hill* will soon be a garden in comparison to what it was: the clearing away the old hedge-rows, and laying the land down to sainfoine, are as real and great improvements as can any where be seen; and have advanced the value of the soil much more than ten-fold. The trying various other grasses—different manures—improving the system of the farm-yard—and draining wet fields, are all likewise objects of no trifling importance, which strongly prove the merit of this

gentleman's agriculture. It is very correct; and cannot fail of having many useful consequences. His country is indebted to him for those fruits of his undertakings, which it will undoubtedly reap.

A few experiments have been tried by — *Stanniforth*, Esq; at a small distance from Colonel *St. Leger*'s, which deserve noting. He sowed 8 acres of burnet on a clean fallow; and kept it so for three years. No cattle would touch it, but broke perpetually into very bad grass to satisfy their hunger, and yet the crop was good.

Lucerne he had much better success with. On a piece of rich light loam on lime-stone he drilled it four years ago, the rows equally distant, 18 inches asunder: and transplanted some at 3 feet 4 inches. It has been kept in general clean of weeds, and the drilled has regularly maintained at the rate of 5 horses *per* acre through the summer of six months: it is cut and given in the stable, and does instead of oats and part of their hay. The transplanted not so good by half.

Sainfoine Mr. *Stanniforth* has cultivated for many years. He finds the average produce to be $1 \frac{1}{2}$ load of hay an acre for 16 years.

LETTER VI*.

THE town of *Blythe*, and the country around it for several miles every way, belongs to *William Mellish*, esq; of that place: It is owing to his very obliging and friendly attention, that I am able to give the following account of the husbandry of the country.

The

* The Earl of SCARBOROUGH at *Sandbec*, within three miles of *Park-hill*, has built a large house, and ornamented his park in the new taste; it is a place which should by no means be overlooked by those who are fond of viewing the improved seats of the nobility and gentry. The house is built out of a quarry of his Lordship's at *Roche Abbey*; the stone is whiter than the Portland; it quite dazzles ones eyes to view it when the sun shines. The back front is very light and pleasing; and the portico of the principal one, spacious, but light, the pediment supported by ten magnificent pillars of the composite order. There is a double rustic throughout this front, which lifts the portico higher than common.

In the *Great-room*, 60 by 22, is a chimney-piece by *Wilton*, extremely elegant. Statuary marble on a ground of verd antique, with bas-reliefs

298 THE FARMER'S TOUR

The soil is in general sand or gravel; and lets at the average rent of 10s. an acre. Their courses of crops are,

- | | |
|------------|------------------|
| 1. Turnips | 3. Clover 1 year |
| 2. Barley | 4. Wheat. |

And,

- | | |
|------------|-----------|
| 1. Turnips | 3. Pease |
| 2. Barley | 4. Wheat. |

They plough but once for wheat, sow 3 bushels, and gain on an average 24 bushels;

relieves in the frieze; the cornice supported by figures. The ceiling is coved; the ornaments executed with great lightness in stucco. The cove is decorated with bass relieves in oval and circular pannels, the center in compartments. In this room are, among other pictures;

Unknown. Two large landscapes in a peculiar stile; but the figures touched with great spirit.

Ditto. A battle. Spirited.

Poussin. Two landscapes; one on each side the chimney. Very fine: Chaste, but strong execution; and the keeping excellent. The grouping, and the figures in that to the right are admirable.

Rubens. A history piece; (over the chimney). Strongly done.

Unknown. Holy family. The attitude of the Virgin and the child very pleasing.

bushels; on the best sand farms 33, and on forest lands 18. For rye they give two ploughings, sow 3 bushels an acre; and reap 24 on a medium: that is, 30 on the good sand, and 20 on the bad.

They give two ploughings for barley; sow three bushels an acre in *March*, and gain 4 quarters in return; six on the rich lands, and only 3 on the forest.

For

Unknown. Portrait of a woman with a dog in her arms. Very fine.

In the *Dressing-room*.

Ditto. A Madona. Very fine. The expression of the countenance, and the pressure of the hands on the breast, are noble; the colouring good.

In the *Dining-room*, 48 by 24; with a projecting center to a large bow 32 feet. Here are,

Salvator Rosa. Two large landscapes. Good.

Unknown. Two cattle pieces. Fine.

Ditto. Two large landscapes. Pleasing.

Ditto. Two ovals of horsemen; spirited, and the colouring very good.

Here are two slabs of granite in edgings of Siena: The carving (gilt) throughout the house executed in a very light and elegant taste.

The grounds are ornamented with very great judgment. A vale floated with water is surrounded

300 THE FARMER'S TOUR

For oats they stir but once; sow 3 bushels an acre; 5 quarters the average crop; 8 on the best sands, and 4 on the forest. 10 quarters an acre on the former are often gained. They do not hoe their turnips: feed them all off with sheep. The average price 40 s. an acre: 3 l. on the rich sands, and 30 s. on the poorer.

Their clover they mow twice for hay, and gain at the two mowings, 2 loads of
hay

rounded by some fine falling slopes, very happily crowned by thick woods: a gravel walk waves around it through a stripe of garden lawn very prettily varied by new plantations; in some places clump'd—in others straggling and broken by single trees: the spotted scenes are very judiciously varied by a proper use of planting. In some places the lake spreads to the eye in large sheets; in others, it is broken by the hanging lawns, and seems to wind into rivers in different directions. Creeks run up into thick wood, and are lost. Sometimes the trees are scattered about the banks, to let in a view of the water through their branches; at others, they thicken into dark shades; a fine shore of wood.

The walk in one place leads to a point of a hill which commands a fine view of the house, the park, lake, and woods: The house of such a pure whiteness, in the midst of spreading plantations, and backed by a noble wood of 500 acres, has a
fine

hay an acre: $2\frac{1}{2}$ on the better land, and $1\frac{1}{2}$ on the inferior.

Respecting manure, the first circumstance to be noted is their never folding their sheep. Lime they much depend on: lay a chaldron *per* acre; the expence, by the time it is on the land, about 16s: the effect lasts for two years; some few good farmers mix it with earth and dung, in which management it is more durable, at
 the

fine effect; the lawns and the water appear also to great advantage.

His lordship has sketched a very fine riding for several miles, which he intends to execute: It will command many varieties of prospect, and lead to the ruins of *Roche Abbey* in a most romantic situation. Here is to be a pleasure ground.

The spot at present is one of the most striking that is to be seen: It is a narrow winding valley full of wood; a stream takes an irriguous course through it over a bed of stones and fragments of rock shivered from the steep cliffs that bound the vale on either side; in the middle of it are the ruins of the abbey.—A few massy buttresses remain, with some lofty arches; trees have grown from the rubbish, and spread their branches among the ruin'd columns; the walls are half covered with ivy, which breaks in some places from its support, and hangs among the trees in thick groups of foliage; the surface of the vale
 is

the same time that the effect is greater. Their system of the farm-yard may be guessed from their never cutting their stubbles.

The plashing of hedges is here practised; but they make no ditches.

The best grass-land lets at 30 s. an acre. They mow most of it for hay. An acre of such they reckon sufficient to summer feed a cow. The breed of cattle is a mongrel, between

is half covered with thorns and briars; irregular and broken—with here and there a rocky fragment that has forced its way through them—the stream murmurs over the rock—and the cliffs, which hang almost perpendicular over the vale and look down on the ruin, are spread with thick woods that throw a solemn gloom over the whole; and *breathe a browner horror* on every part of the scene—all is wild, and romantic: every object is obscure;—every part unites to raise melancholy ideas; perhaps the most powerful, of which the human soul is capable.

Improvements of this noble spot are in contemplation; twenty pounds laid out in removing *a few* of the difficulties of gaining the heights of the cliffs—in destroying a mill—and in obstructing the stream rather more than at present to make the noise something greater, would be improvements—but expend fifty, and the whole will be ruined. A gloomy melancholy is the present

between the long and short horns. Cows give three gallons of milk a day; and the average product of one *per annum*, is about 6*l.* 6*s.*: They do not keep above one pig to every cow. A dairy-maid will take care of ten. They get their winter food in the fields.

They fat swine to 16 stone on an average.

Flocks of sheep rise to 5 or 600. The profit about 9*s.* a head: the winter food
turnips,

present impression of the scene; raise a cheerful idea, and it will be pernicious. Lay the sacrilegious hand of *dress* on the vale—convert the thorns, briars, and broken rocks—into a lawn or a smooth sheep pasture—expose more of the ruin to view—and throw the brilliancy of a smooth sheet of water over the rest of the vale—the sublime is at once converted into the beautiful: the present strong emotion, the effect of uniform causes, will be changed into a mere divided attention—there may be many fine things to look at, but none that will, in one irresistible impression, seize the mind of the spectator, and command its admiration.

Another very strong reason against beautifying *Roche Abbey*, is the great beauty of the ornamented grounds at *Sandbec*, which are laid out with real taste, and in perfect conformity to the genius of the place. The contrast at present between the two is great; and where not possessed, much to be envied.

turnips, and a little hay. The average fleece 4 *lb*.

The rot is quite unknown.

In their tillage, they reckon 6 horses necessary to 100 acres of ploughed land; they use 2 in a plough, and do an acre and a quarter a day. The price 4*s*. an acre. The annual expence of a horse 13*l*. the depth of ploughing 5 inches. They know nothing of cutting straw into chaff; nor in general of the use of chaff; for they throw away all that arises from their crops. They break their stubbles in autumn; use none but *Rotheram* ploughs.

In the hiring and stocking farms, they take them with three rents; but the best farmers reckon that ten are necessary: they calculate the stock of 200 acres in the following manner:

Rent at 12 <i>s</i> . 6 <i>d</i> .	-	-	£, 125
Town charges,	-	-	15
8 Horses,	-	-	100
6 Cows,	-	-	50
10 Young cattle,	-	-	40
40 Sheep,	-	-	30
			<hr/>
Carry over,	-	-	360

THROUGH ENGLAND. 305

Brought over,	-	£. 360
Swine,	- - - -	5
Waggon,	- - - -	20
2 Carts,	- - - -	20
4 Ploughs,	- - - -	6
3 Pair of harrows,	- - - -	4
Rollers,	- - - -	4
Sundries,	- - - -	10
Harnes,	- - - -	15
Furniture,	- - - -	60
Housekeeping,	- - - -	100
2 Men,	- - - -	20
2 Boys,	- - - -	10
Extra labour,	- - - -	50
2 Maids,	- - - -	6
Seed for 40 Acres wheat,		20
———— 40 Barley,	- - - -	15
———— 40 Clover,	- - - -	10
———— 40 Turnips,	- - - -	2
Cash in hand to answer incidental demands,	- - - -	100
Total,	- - - -	<u>£. 837</u>

The annual account of such a farm, they reckon as follows.

306 THE FARMER'S TOUR

Produce.

6 Cows,	-	-	-	£. 30
10 Young cattle,	-	-	-	30
40 Sheep,	-	-	-	20
Swine,	-	-	-	5
40 Acres of wheat,	-	-	-	200
30 Ditto barley,	-	-	-	120
30 Ditto turnips,	-	-	-	60
				<u>£. 465</u>

Expences.

Rent,	-	-	-	£. 125
Town charges,	-	-	-	15
Labour,	-	-	-	86
Seed,	-	-	-	47
Wear and tear,	-	-	-	50
House-keeping and cloaths,				50
				<u>£. 373</u>
Product,	-	-	-	465
Expences,	-	-	-	<u>373</u>
The farmer's profit,				<u>£. 92</u>

Land sells at 40 years purchase; poors rates 1s. in the pound; twenty years ago were but 6d; and twenty before that were nothing at all. The employment of the women

women and children, generally drinking tea with white bread and butter twice a day; —an extremity that may surely be called luxury in excess! No wonder rates are doubled.

The following particulars of farms will shew the general œconomy of this country.

403 Acres in all	£.82 Rent
350 Arable and forest, which is ploughed now and then	6 Horses 8 Cows 12 Young cattle
56 Grass	260 Sheep.

Another :

681 Acres in all	8 Cows
500 Arable and forest	16 Young cattle 400 Sheep
180 Grass	3 Men
£.139 Rent	1 Maid
8 Horses	1 Labourer.

Another :

50 Acres in all	3 Cows
24 Arable	6 Young cattle
36 Grass	1 Boy
£.21 Rent	1 Maid.
2 Horses	

308 THE FARMER'S TOUR.

Another :

190 Acres in all	12 Young cattle
57 Grass	100 Sheep
133 Arable	1 Man
£. 126 Rent	2 Boys
6 Horses	1 Maid
6 Cows	1 Labourer.

Another :

121 Acres in all	6 Young cattle
24 Grass	1 Man
97 Arable	1 Boy
£. 84 Rent	2 Maids
8 Horses	1 Labourer.
6 Cows	

Another :

112 Acres in all	6 Young cattle
20 Grass	1 Man
92 Arable	2 Boys
£. 74 Rent	2 Maids
8 Horses	2 Labourers.
4 Cows	

Another :

853 Acres in all	£. 325 Rent
400 Arable	16 Horses
180 Forest	10 Cows
273 Grass	20 Young cattle

500 Sheep	4 Maids
3 Men	4 Labourers.
4 Boys	

Another :

985 Acres in all	10 Young cattle
664 Forest	500 Sheep
70 Grass	1 Man
257 Arable	2 Boys
£.192 Rent	1 Maid
8 Horses	2 Labourers.
6 Cows	

Mr. *Mellish* in his attention to the œconomical management of his estate, has made such enquiries into husbandry, as were necessary for enabling him to improve the culture and value of it ;—and he has also tried some experiments of a very important nature : That he hints nothing of this sort without the foundation of experience, will best appear from the particulars of the land he keeps in his own hands.

764 Acres	£.240 Rent
120 Grass	12 Farminghorses
400 Forest and plantations	9 Other ditto
244 Arable	10 Cows
	600 Sheep.

Such a space of land has well enabled

him to make observations of a truly useful nature.

PROFIT OF CULTIVATING DIFFERENT SOILS.

The two great distinctions of soil around *Blyth*, are the rich sands, and the forest sands. The first are let at 16, 17, and 18s. an acre; but the latter produce no more than from 2s. to 4s. an acre. The difference of rent is so great, that to some the cheapest land is always best.

Culture, Expences, and Produce of an acre
of the best sand during four years.

First; Turnips.

Rent and town charges, -	£. 1	0	0
Four earths, at 4s. - -	0	16	0
Three harrowings and rolling,	0	2	0
Seed and sowing, - -	0	1	6
Harrowing and hand-hoeing,	0	6	6
Preparing the dung in the yard; carriage, and spreading 10 loads; 4 horses, 2 carts, 4 men, 15 loads a day.	0	10	0
	<hr/>		
	2	16	0
	<hr/>		

THROUGH ENGLAND. 311

Second; Barley.

Rent, &c.	-	-	-	£. 1	0	0
Two ploughings,	-	-	-	0	8	0
Harrowing,	-	-	-	0	2	0
10 Pecks feed,	-	-	-	0	6	6
Sowing,	-	-	-	0	0	6
Mowing and harvesting,	-	-	-	0	8	0
Thrashing,	-	-	-	0	6	0
				<hr/>	2	11 0
				<hr/>		

Third; Clover.

Rent, &c.	-	0	-	1	0	0
Seed and sowing,	-	-	-	0	6	0
Mowing, making, &c. once cut	-	-	-	0	8	0
				<hr/>	1	14 0
				<hr/>		

Fourth; Wheat.

Rent,	-	-	-	-	1	0	0
1 Ploughing,	-	-	-	-	0	4	0
Harrowing and rolling,	-	-	-	-	0	2	6
Seed,	-	-	-	-	0	12	6
Sowing,	-	-	-	-	0	0	3
Reaping and harvesting,	-	-	-	-	0	10	0
Thrashing 30 bushels,	-	-	-	-	0	7	6
				<hr/>	2	16	9
				<hr/>			

312 THE FARMER'S TOUR

Expences.

Turnips,	-	-	-	£.2	16	0
Barley,	-	-	-	2	11	0
Clover,	-	-	-	1	14	0
Wheat,	-	-	-	2	16	9
				9 17 9		

Produce.

Turnips,	-	-	-	3	0	0
Barley, 6 quarters,	-	-	-	5	0	0
Clover,	-	-	-	2	10	0
Wheat, 30 bushels, at 4s. 6d.				6	15	0
				17 5 0		
Total produce,	-			17	5	0
Total expences,	-			9	17	9
				7 7 3		

Which is <i>per acre per ann.</i>				1	16	9 ³ / ₄
Or, <i>per 100 acres,</i>	-			183	15	0
<i>per 500 ditto,</i>	-			918	15	0
<i>per 1000 ditto,</i>				1837	10	0

Culture, Expences, and Produce of an
acre of forest land during four years,

First; Turnips.

Rent, &c.	-	-	-	0	5	6
Tillage, &c, as before,	-			1	16	0
				2 1 6		

THROUGH ENGLAND. 313

Second; Barley.

Rent, &c.	-	-	-	£.0	5	6
Tillage, &c.	-	-	-	1	4	6
Seed,	-	-	-	0	10	0
				<hr/>		
				2	0	0
				<hr/>		

Third; Clover.

Rent,	-	-	-	0	5	6
Sundries, as before,	-	-	-	0	14	0
				<hr/>		
				0	19	6
				<hr/>		

Fourth; Oats.

Rent,	-	-	-	0	5	6
One ploughing,	-	-	-	0	4	0
Harrowing and rolling,	-	-	-	0	2	6
Seed,	-	-	-	0	8	0
Sowing,	-	-	-	0	0	3
Mowing and harveſting,	-	-	-	0	8	0
Thraſhing 5 quarters,	-	-	-	0	5	0
				<hr/>		
				1	13	3
				<hr/>		

Expences.

Turnips,	-	-	-	2	1	6
Barley,	-	-	-	2	0	0
Clover,	-	-	-	0	19	6
Oats,	-	-	-	1	13	3
				<hr/>		
				£.6	14	3
				<hr/>		

Produce.

Turnips, - - -	£.2 0 0
Barley, 4 quarters, -	3 12 0
Clover, - - -	1 10 0
Oats, 5 quarters, - -	4 0 0
	<hr/>
Total produce, -	11 2 0
Total expences, -	6 14 3
	<hr/>
Profit, - - -	4 7 9
	<hr/>

Which is <i>per acre per annum</i> ,	1 1 11
Or <i>per 100 acres</i> , -	109 11 8
Or <i>per 500 ditto</i> , -	547 18 4
Or <i>per 1000 ditto</i> , -	1095 16 8
	<hr/>

Profit <i>per acre</i> on the rich sand, - - -	1 16 9 $\frac{3}{4}$
Ditto on the forest sand,	1 1 11
	<hr/>

Superiority of the former,	0 14 10 $\frac{3}{4}$
Which is <i>per 100 acres</i> ,	74 9 7
<i>Per 500 acres</i> , -	372 7 11
<i>Per 1000 ditto</i> , -	744 15 11

Before any remarks are offered on this account, it will be necessary to explain the rent of the forest land. It is supposed in one piece, with a ring fence around it, done

at

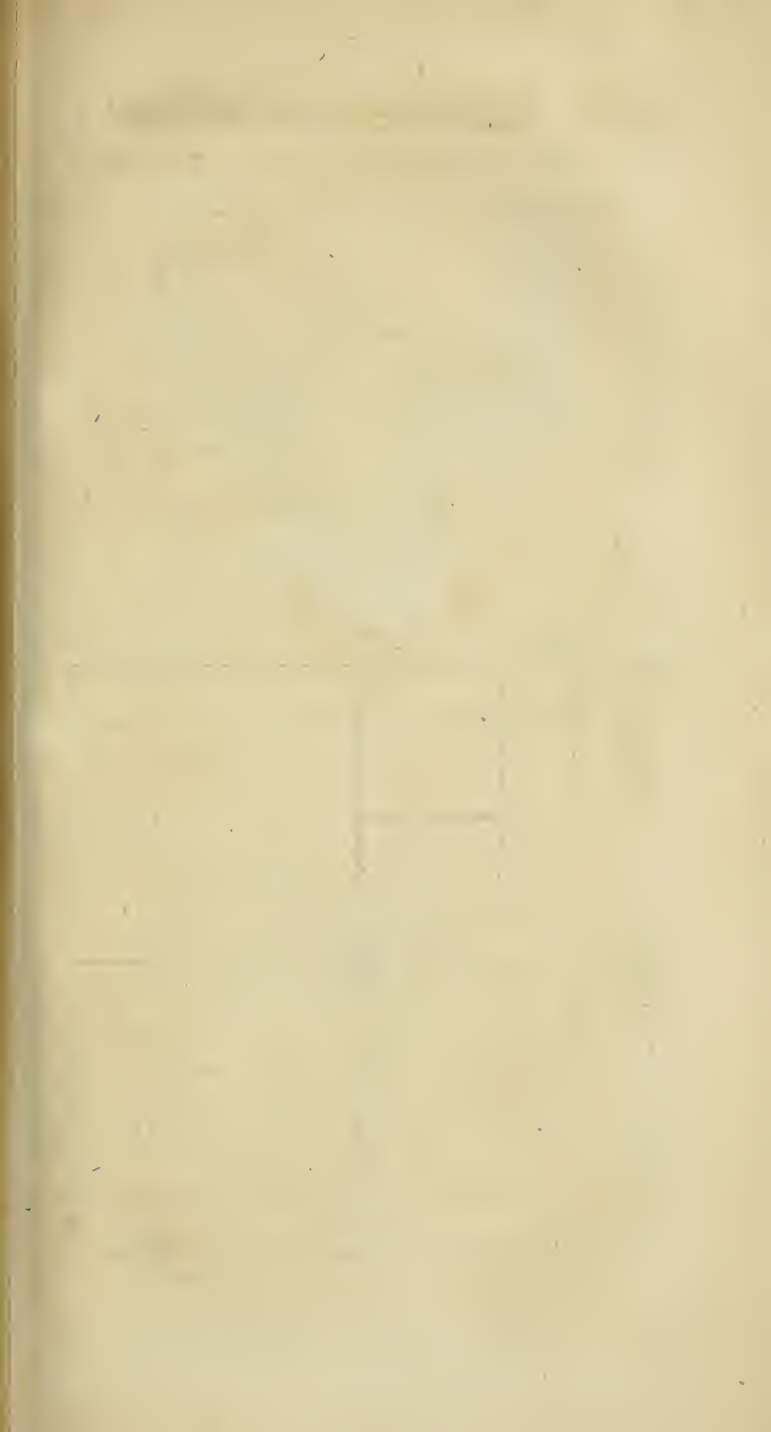


Fig. 1.

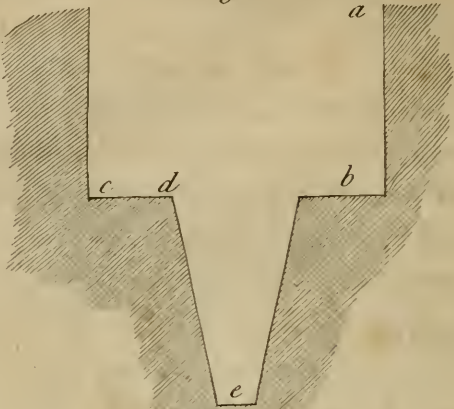
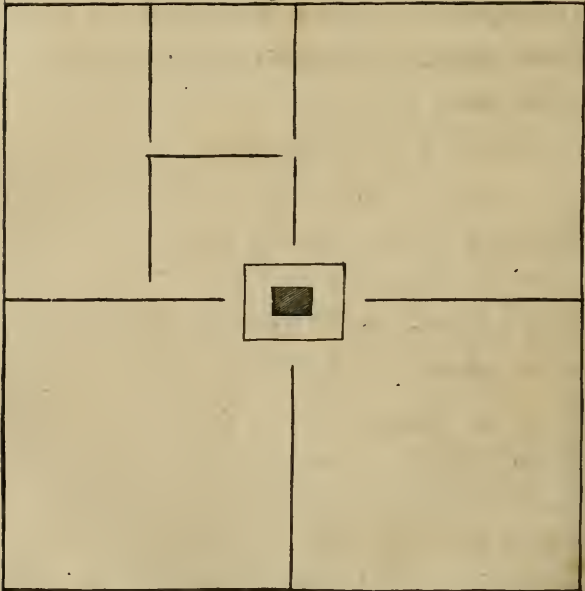


Fig. 2.



at the landlord's expence; also the necessary buildings erected. The tenant subdivides it, and grubs up the whins, broom, or other trumpery that may be scattered about it; the rent of the land is 3 s. the other 2 s. 6 d. is the interest at 8 per cent. of the money he first expends; of which the account is as follows.

The sides of the square, in Plate IV. fig. 2. are just $\frac{1}{2}$ a mile in length; the contents 160 acres: suppose the ring fence of such a farm done by the landlord; the remainder for the tenant to perform so divided, in the northern measure, amounts to 85 acres, at 28 yards each.

85 Acres, at 1 l. 1 s. A bank with quick; a ditch and double hedge of dead wood; the materials of which reckoned at 15 s. a load on the spot, - 89 5 0

The division of the 1 l. 1 s. is;

Making the hedge,	-	2 s.	
Bank and ditch,	-	2	
Wood,	- - -	15	
Quick, 224 in an acre,		1	
Planting,	- -	1	
			<hr/>
Carry over,	-		89 5 0

316 THE FARMER'S TOUR

Brought over,	-	-	£. 89	5	0
Eight gates,	-	-	10	0	0
Reparation to bring up the quick,					
at 18s,	-	-	76	0	0
Stubbing and clearing 160 acres,					
at 10s.	-	-	80	0	0
<hr/>					
1 <i>l.</i> 11 <i>s.</i> 9 <i>d.</i> <i>per</i> acre,	-	-	£. 255	5	0
<hr/>					

Interest, at 8 *per cent.* 20*l.* 8*s.* or 2*s.* 6*d.* an acre.

This is certainly the proper method of a tenant's calculating his expence on entering a farm in which improvements are to be carried on: it is imagined that a man cannot reckon less than 8 *per cent.* for money which he lays out thus on a lease of 21 years. These expences amount nearly to the rent of the land.

In respect to the fencing, there are several methods pursued; but the exact propriety of them, or degree of comparative cheapness, duration considered, are not clearly understood. Instead of dead wood hedges on each side the quick, sod banks are sometimes made, with ling laid along the top,
and

and fixed by a row of stakes: the expence as follows:

	<i>s.</i>	<i>d.</i>
1 Acre, double banking,	2	8
Getting ling, - - -	3	0
Setting ditto, - - -	2	0
Carriage, - - - -	4	0
Value of ling and stakes,	1	8
Quick, - - - -	1	2
	<hr/>	<hr/>
	14	6
	<hr/>	<hr/>
Reparation, - - -	5	0
	<hr/>	<hr/>

This fence cannot be had every where; but where the ling can be got easily, the quick may be raised with a double bank and ditches, and the ling in faggots set astride on the bank, and fixed down with stakes, and kept in repair for 19*s.* 6*d.* an acre, which is much lower than the wood fence.

If fields are divided that are always so cropped, that cattle never feed in them, they may, in this country, be fenced with three rows of quick alone for 6*s.* an acre, as no hedge or bank is wanting to defend it.

The comparison between the two sands is extremely decisive; 14*s.* 10*d.* *per* acre superiority of profit is very considerable; and amounts,

amounts, as before observed, to a considerable income when extended to 500 or 1000 acres. This should be a lesson to all farmers ever to choose the best land at a fair rent, in preference to what is commonly called the cheapest soil: in this country there are large tracts of the best sand, but not extensive enough to admit the supposition of a farmer's hiring as much of it as he pleases. The case is different with the forest land; and this is a circumstance very favourable to it. There is such plenty of it, that any calculation might at once be realized. Mr. *Mellish* has one close of 700 acres of it let at 2 s. an acre tythe free; besides many others of a smaller size. If the various advantages of such great extent, and the compactness of such farms are considered, it will be found that they are more advantageous than the above comparative account allows. The enquiry thus stated is not therefore, whether 1000 acres of rich sand are more advantageous than 1000 of forest; because the latter may be had, but not the former: could they be gained, the former comparison would here be decisive: but the grand point relative to the forest land is the profit

profit of cultivating a tract of waste where a man may have as much as he pleases. The account before given sets this matter in a clear light; it appeared that the clear profit of farming these soils is above a guinea an acre: hence it is evident that these lands lying waste are a real nuisance to the public; the profit resulting from them by maintaining sheep is on comparison with this, too inconsiderable to mention. The previous improvement of 1*l.* 11*s.* 9*d.* *per* acre, expended in fencing and clearing, is not high; not to be compared with various other methods of reducing waste land to cultivation.

The above *data* are drawn from experience; Mr. *Mellish* has found the expence, product, and profit to be as there stated—and I should observe upon it, that these forest lands cannot be so bad as the farmers in this country think them: for a guinea an acre is not a low profit in much richer countries. The rent of 5*s.* 6*d.* an acre is trifling when compared with the crops—turnips worth 40*s.* an acre; barley 4 quarters—clover 30*s.*—and oats 6 quarters, all speak a rent much higher: I know
many

many tracts of country, that do not produce so much, let at from 10 to 12s. an acre; which is a strong proof that these sands are not of that mean nature the farmers of this country esteem them.

CARROTS.

In 1768, Mr. *Mellish* caused three acres to be twice trench ploughed; one plough following the other in the same furrow. In *February* sowed it, 4 *lb.* of seed *per* acre: The plants arose very favourably; were hand-hoed twice; and weeded as often; all which operations cost two guineas *per* acre; but they were not thinned sufficiently; however the carrots throve extremely well, and were upon the whole a favourable crop. They were taken up as wanted; beginning at *Michaelmas*. Horses, cows, pigs, and other cattle, were fed on them, and with most uncommon success. The product amounted to 20 tons *per* acre exclusive of the tops; from the most attentive observation which Mr. *Mellish* could make on the expenditure of the crop, in saving oats for horses—feeding cows—and fattening hogs—he is clearly of opinion that the value of them is about 20s. a ton.

Expences of the three acres.

Rent, &c.	-	-	-	£.3	0	0
Ploughing and harrowing,	-			2	8	0
Seed,	-	-	-	0	12	0
Hoeing and weeding,	-			6	6	0
Taking up,	-	-	-	3	0	0
Carting home,	-	-		3	0	0
				<hr/>		
				18	6	0
				<hr/>		

Produce.

60 tons, at 20s.	-	-		60	0	0
Expences,	-	-	-	18	6	0
				<hr/>		
Profit,	-	-	-	41	14	0
				<hr/>		
Which is <i>per acre</i> ,	-			£.13	18	0
				<hr/>		

Great as this crop is, Mr. *Mellish* imagines that they may be cultivated to greater advantage; he has been prevented by various undertakings from having any carrots since, but now he has finished several great works of building, and improving the environs of his seat, he is determined again to sow carrots, and have a regular crop of them every year.

After the carrots on the above three acres, barley was sown, without manure; and the produce was seven quarters an acre; which was more considerable than an adjoining piece of the same soil yielded, after turnips well manured for: a very strong proof of the excellent quality of carrots in cleaning and ameliorating the ground. These rich sands will ever be found to produce vast uncertain crops of carrots; and that without the assistance of dung: the clear profit of 13*l.* an acre on a crop which answers all the ends of the best fallow, and is substituted instead of it; at the same time saving that manure which turnips would require, and raising, in the expenditure of the crop, a vast quantity of dung for other lands; all together forming a system of profitable husbandry, hardly to be equalled by any other management. Potatoes Mr. *Mellish* has also found uncommonly advantageous—they produce immense crops on the best sands; and with dung, exceedingly beneficial ones on forest land. The following course of crops, with the introduction of these very profitable roots, will shew how requisite they are to carrying the profit of husbandry to the highest pitch.

EXPENCES.

First; Carrots.

One third of the total above inferred of 18l. 6s.	£. 6	2	0
Add for manure, - - -	1	0	0
	<hr/>		
	7	2	0
Second; Barley: total as at page 311, - - - -	2	11	0
Third; Clover: at ditto, -	1	14	0
Fourth; Wheat: at ditto, -	2	16	9
	<hr/>		
	14	3	9
	<hr/>		

Produce.

Carrots, - - - -	20	0	0
Barley, (see page 312) -	5	0	0
Clover, ditto, - - - -	2	10	0
Wheat, ditto, - - - -	6	15	0
	<hr/>		
Total produce, -	34	5	0
Total expences, -	14	3	9
	<hr/>		
Clear profit, - - -	20	1	3
	<hr/>		
Or <i>per acre per ann.</i> -	5	0	3 $\frac{3}{4}$
	<hr/>		

Another course strongly to be recommended, is;

324 THE FARMER'S TOUR

First; Carrots, expences,	£.	7	2	
Second; Barley, ditto,				11
				9 13
Produce. Carrots,				20 0
———— Barley,				5 0
				25 0
Total produce,				25 0
Total expences,				9 13
				15 7
Profit,				15 7
<i>Per acre per ann.</i>				7 13

I must be allowed to recommend the cultivation of carrots in some course of this for to all farmers possessing any sandy soils especially such as are rich: But undertakings of this nature require great spirit and much money; the culture is expensive and the purchasing cattle to consume the crops, would require large sums of money.

Another course to be recommended, is,

- | | |
|-------------|-----------|
| 1. Carrots | 4. Barley |
| 2. Barley | 5. Clover |
| 3. Potatoes | 6. Wheat. |

Expences.

Carrots,	£.	7	2	
Barley,				11
				9 13
Carry over				9 13

THROUGH ENGLAND. 325

	Brought over	£. 9	13	0		
Potatoes—Rent,	£. 1	0	0			
Manure,	1	0	0			
3 Earths,	0	12	0			
Harrowing,	0	2	0			
Planting,	0	10	0			
20 Bush. fetts,	1	10	0			
Hoeing,	1	0	0			
Taking up,	0	10	0			
Carting,	1	0	0			
		<hr/>	7	4	0	
Barley,	-	-	2	11	0	
Clover,	-	-	1	14	0	
Wheat,	-	-	2	16	9	
			<hr/>	23	18	9

Produce.

Carrots,	-	-	20	0	0	
Barley,	-	-	5	0	0	
Potatoes, 300 bushels, at 1s.			15	0	0	
Barley,	-	-	5	0	0	
Clover,	-	-	2	10	0	
Wheat,	-	-	6	15	0	
			<hr/>	54	5	0
Total produce,	-		54	5	0	
Total expences,	-		23	18	9	
			<hr/>	30	6	3
Profit,	-	-	30	6	3	
Or <i>per acre per ann.</i>	-		<hr/>	5	1	0

CABBAGES.

In the year 1766, Mr. *Mellish* had three acres and an half of the great *Scotch* cabbage; the soil his rich sand, ploughed for the first time in *October*; and manured in the spring with 12 loads an acre of farm-yard compost: The seed was sown in *February*; and the plants set into the field the latter end of *May*, in rows planted 2 feet asunder every way, and kept clean hand-hoed. They were cut and given to sheep on grass land; eighty sheep were bought at 14s. each, and put to them to fatten; and sold from them at a guinea apiece; which is a profit of 28l.; or 8l. an acre produce for the crop. The same ground was planted the year following; and managed in the same manner, but not manured again: It fattened 60 sheep; the profit the same, which is 6l. *per* acre.—The average of the two crops 7l. It is observable, that the sandy soils have not been recommended as the proper ones for cabbage crops; but yet Mr. *Mellish's* products are very considerable, and far exceeding any thing ever known from turnips.

LAYING LAND TO GRASS.

This gentleman has found from repeated experience, that the best way of laying land to grass, is to fallow well for turnips, and to feed the crop on the land with sheep early enough for sowing rye; with which he sows part of the grass seeds, and harrows in the remainder of them on the rye in the spring. If he lays with hay seeds, he sows 2 quarters an acre, and 10*lb.* of white clover. If no hay seeds, then 10*lb.* white clover, 10*lb.* trefoile, and 10*lb.* narrow leaved plantain, called rib-grass. The first year he feeds the grass; but the second, mows from 2 to 2 $\frac{1}{2}$ tons of hay *per* acre.

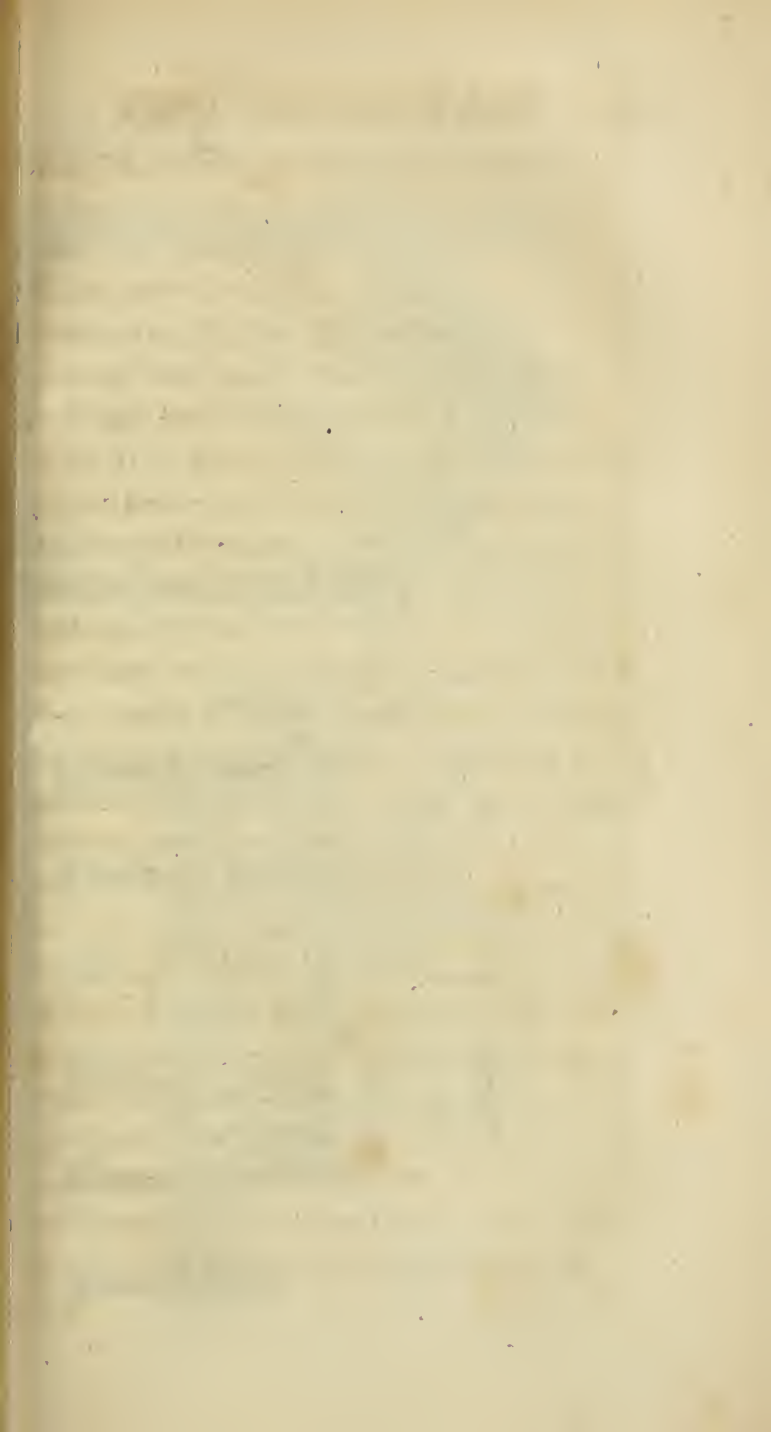
In 1766, ten acres of gravelly sand, a whin cover, were sown with turnips; and the crop eat off with sheep; the value 2*l.* 2*s.* *per* acre; after these turnips it was summer fallowed: and at *Michaelmas* sown with rye; which proved a very good crop. 2 quarters of hay seeds and 10*lb.* of white clover *per* acre were sown on the rye. This pasture was mown the first year, and produced 2 tons of hay *per* acre: the second year it was fed.

The rent of this land before was 5*s.* 6*d.* an acre, but now it is worth 12*s.*

Sometimes the broom and fern will come again in grafs fields laid down from forest land: In this case, Mr. *Mellish* has found it necessary to plough it up for turnips, which are harrowed and rolled on one earth, and fed on the ground. If they prove a good crop, then he limes and dungs for barley: but if they are indifferent, the manures are spread for a second crop of turnips; which are likewise fed on the land; and succeeded by barley and red clover: on the latter, wheat is sown; and after that turnips again, to be fed off time enough for rye and grasses to be sown on it. Such a tillage course will totally clear the land of all rubbish.

TURNIP HOEING.

Mr. *Mellish* having found a great difficulty in procuring turnip hoers—and being disgusted at the idea of the slovenly management too common among the farmers, made use of a machine for executing the work, which seems much better adapted to it than any I remember to have seen.



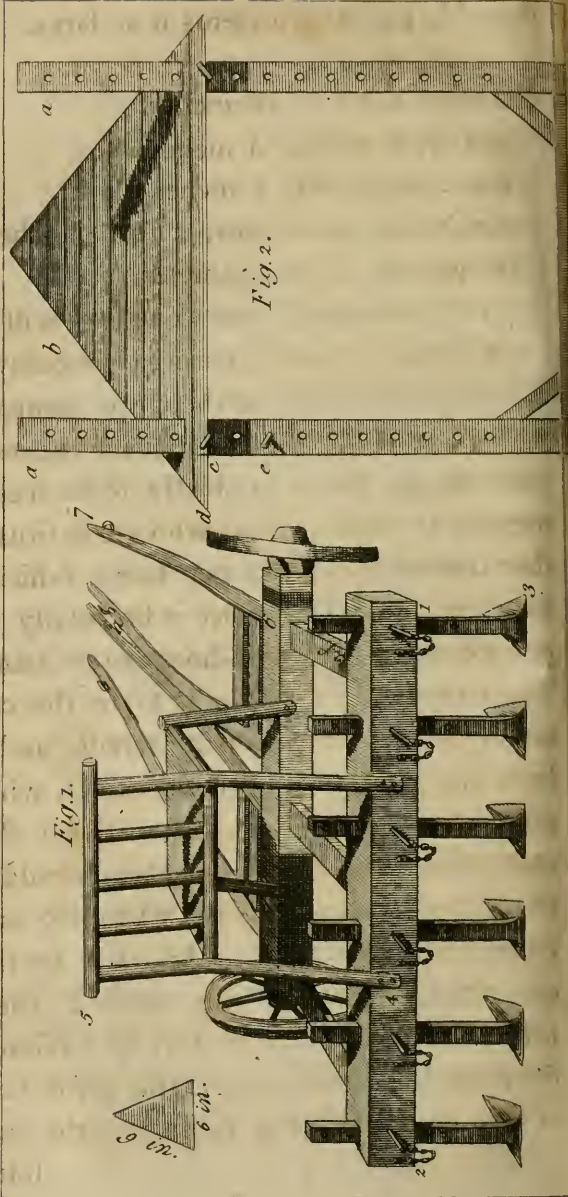


Fig. 1.

Fig. 2.

Plate V. Fig. 1. represents it at large.

1 to 2. six feet.

1 to 3. one foot 10 inches.

4 to 5. three feet 4 inches.

6 to 7. eight feet 6 inches.

Length of share irons, 2 feet 4 inches.

Wheels 21 inches diameter.

This machine I can conceive will by cross cutting do much service; probably to doubling the value of the crops compared with those unhoed at all: but let it ever be understood, that it is chiefly to be recommended to those persons who are so situated that they really cannot get hoers sufficient for their crops—never let it be totally depended on, when hand-hoes can be gained. The true turnip culture, is to set the crop out *regularly*; to cut up *all* weeds, and to leave the plants every where distinct, which no machine will near effect. But I shall readily allow that such a machine would be of great use in any country when the crop grows rather too fast for the hoers to thin the plants, and give the weeds a check before they begin: or by way of loosening the earth in cutting deep: the great fault of the common turnip hoeing is, the men

skimming over the surface, just cutting off the weeds, but loosening the earth, especially in loam, very little. This machine may, by the backbands of the horses, be made to cut any depth, and so far exceeds any hand-hoe. It would probably be of great benefit to precede the hand-hoeing in any country.

PLANTING.

Mr. *Mellish* has, for many years, raised numerous plantations, which are a very great ornament, not to his estate only, but to the whole country. In this noble pursuit, he has gained much experience in planting sandy soils, especially from trying various methods, and different sorts of trees. Some pieces of forest land he has cleared from the spontaneous rubbish, in the same manner as for corn, and ploughed it once in the common manner, upon which he set the trees: Others he trench-ploughed, and set them; and, upon some other pieces, he did not plough at all, and cleared no more than necessary to make the holes to plant them in. The result of these various trials was indeterminate, each nearly equal; but, if

any difference, those planted after clearing and ploughing, were the best. The sorts tried were *Scotch* and spruce firs, larch, oak, ash, chestnut, beech, birch, &c. the whole mixed. *Scotch* and spruce firs have grown much faster than any of the rest, and they have all so generally succeeded, that scarcely one in ten thousand have failed. The soil he has chosen is forest sand of 3 s. an acre.

The number he has generally set on an acre is 5000; the expence of enclosing, raising the trees, and planting, is 3 l. an acre. In five years they require thinning: the value of the wood taken out about pays for the labour: * the number taken out about 1000.

In five years more they are thinned again, when another thousand trees are taken out, which make very good hedge wood and hedge stakes. The value about 5 l. more than what pays the labour.

After these thinnings, 3000 are left, which Mr. *Mellish* has found from experience to be then worth 6 d. each, on an average,

* Firs should always be cut the middle of summer, in full turpentine: they are as good again.

rage, as they stand, and clear of all expences, if sold. At this time another thousand should be taken out.

Two thousand are therefore left, which, at 30 years growth, will be worth, as they stand, 1 s. each; and, at 40 years, they will be worth 2 s.

This is the state of the planting produce on the poor forest lands; but Mr. *Mellish* has many *Scotch* firs, planted 35 years ago on good land, which are now worth 40 s. each, and very many from 25 s. to 35 s.

Upon these *data* we may easily calculate the profit of planting at different periods.

Account of an acre of firs at the end of the fifth year.

First inclosing,* raising, planting,			
fencing, &c.	-	-	£. 3 0 0
Interest of the above sum for			
five years,	-	-	0 15 0
Rent,	-	-	0 15 0
			<hr/>
			4 10 0
			<hr/>

* This price is for a large field of 10, 15, or 20 acres, and not a single acre. It is the proportion of the whole.

In five years more.

Reparation of the fences,	£. 0	5	0
Interest of 4 <i>l.</i> 10 <i>s.</i> for 5 years,	1	26	
Allow for compost interest,	0	15	0
Rent, - - - - -	0	15	0
		<u>2</u>	<u>17</u> 6
First five, - - -	4	10	0
		<u>7</u>	<u>7</u> 6
Expence at the end of ten years,	7	7	6
Received for thinnings, -	5	0	0
		<u>2</u>	<u>7</u> 6
Excess, - - - - -	2	7	6

At the end of twenty years.

Rent, - - - - -	1	10	0
Reparation of fences, -	0	10	0
Interest, - - - - -	1	0	0
		<u>3</u>	<u>0</u> 0
Received for 1000, at 6 <i>d.</i>	25	0	0
Value of 2000 remaining, at same rate, - - - - -	50	0	0
		<u>75</u>	<u>0</u> 0
Deduct, as above, 3 0 0			
Excess at end of 5 years, 2 7 6			
		<u>5</u>	<u>7</u> 6
Clear profit in 20 years,	69	12	6
Which is <i>per acre per annum</i> ,	3	9	1

334 THE FARMER'S TOUR

But, supposing the 2000 trees left ten years longer, the account will stand as under.

Received for 1000, at 6d.	£. 25	0	0
Deduct, as above,	-	5	7 6
		<hr/>	
Profit, in 20 years, exclusive of trees remaining,	-	19	12 6
		<hr/>	
Which, <i>per acre per annum</i> , may be called,	- - -	1	0 0
		<hr/>	

At the end of thirty years.

Rent,	-	-	1 10 0
Fences,	-	-	0 10 0
Interest,	-	-	1 0 0
			<hr/>
			3 0 0
			<hr/>

Supposing the plantation then cut down, the 2000 trees, at 1s. bring,

-	-	100	0 0
Deduct, as above,	-	3	0 0
			<hr/>
Profit,	-	97	0 0
			<hr/>

THROUGH ENGLAND. 335

First ten years expence,		£. 7	7	6
Second ten ditto,	-	3	0	0
Third ditto,	-	3	0	0
		<hr/>		
Total expence,	-	13	7	6
		<hr/>		
Received second thinning,		5	0	0
Third ditto,	-	25	0	0
The 2000 remaining,	-	100	0	0
		<hr/>		
Total,	-	130	0	0
Expences,	-	13	7	6
		<hr/>		
Clear profit in 30 years,		116	12	6
		<hr/>		
Or <i>per acre per annum</i> ,		3	17	1
		<hr/>		

At the end of forty years.

Expences, as before,		3	0	0
		<hr/>		
Received for 2000 trees, at 2s.		200	0	0
Ditto, first and second thinnings,		30	0	0
		<hr/>		
Total,	-	230	0	0
Deduct expences, as				
before,		13	7	6
Ditto,	-	3	0	0
		<hr/>		
		16	7	6
		<hr/>		
Clear profit in 40 years,		213	12	6
		<hr/>		
Or <i>per acre per annum</i> ,	-	5	6	1
		<hr/>		

This account of the expences, produce, and profit, of planting forest land, at 3*s.* an acre, shews the amazing profit of such undertakings. Plantations have, in general, been raised with a view merely to beauty, or else through a very noble patriotic motive of being serviceable to the country; but it is evident, that they may be undertaken with very different views: with those of profit. So that a man may cut down the trees he planted himself, and expect to reap, in so doing, very considerable profit.

If he cuts all down at the end of 20 years, and leaves not a single tree, he gains a profit clear of near 70*l.* an acre, which is 3*l.* 9*s.* *per acre per annum* from the first planting. Let me ask the most skilful farmers of this country, how they will exceed such a profit, by any system of common husbandry, on such poor land? It before appeared, that common good husbandry, after some improvements, would yield but 1*l.* 1*s.* 11*d.* *per acre* profit: so that the planting, to cut in 20 years, is more than thrice as beneficial, and certainly much less exposed to accidental losses.

But supposing the trees left 30 years, in
that

that case the thinnings pay, for the first 20 years, 1*l.* per acre per annum; and, at the end of the 30th, the account, from the first planting, is 3*l.* 17*s.* 1*d.* per acre; and, in 40 years, 5*l.* 6*s.* 1*d.* After which time they may be supposed to decline in quickness of growth, and consequently had better be cut down, in point of profit.

If beauty of situation is not, in some respects, commanded, we seldom see plantations of quick-growing trees; but it is evident, that poor soils should be planted upon the mere view of profit: a crop of firs, instead of a crop of wheat, barley or oats, at 20 years growth, which so many men may expect to see out in perfection, they turn out far superior. One of the most profitable farms would be a thirty years lease of such land, with liberty to plant and cut down. One of twenty years, which is a shorter period than the generality of long leases, would, thus applied, exceed common husbandry on such soils.

Mr. *Mellish* has a waste, inclosed with a ring fence of 700 acres, which he would lett at 3*s.* an acre, tythe free. Suppose a person hired it under a lease of 30 years :

338 THE FARMER'S TOUR

The raising, planting, &c. &c. would come to,	-	-	£. 2100
Rent of 700 acres, for thirty years,			3150
Reparation of fences, suppose,	-		50
Interest of 2100 <i>l.</i> for 30 years, at 4 <i>per</i> <i>cent.</i>	-	-	2520
			<hr/>
Total expence,	-	-	7820
			<hr/>
Produce—Thinning, in ten years, at 5 <i>l.</i> an acre,	-		3500
— Ditto, in 20 years, 1000 <i>per</i> acre, at 6 <i>d.</i> 25 <i>l.</i>	-		17500
— Cut down at 30 years, 2000 <i>per</i> acre, at 1 <i>s.</i> or 100 <i>l.</i> <i>per</i> acre,			70000
			<hr/>
Total produce,	-	-	91000
Total expences,	-	-	7820
			<hr/>
Clear profit,	-	-	83180
			<hr/>

This account is stated in the stile of a common farm: the first expenditure called stock, and compound interest not calculated. It is very evident, that no man, possessed of such soils, who can hire them for 20 or 30 years, under a planting lease, need ever to be distressed at the idea of younger children's fortunes, or raising large sums of money in future. A moderate expenditure will, by planting

planting, secure the certain possession of any sum that may in future be wanted.

Mr. *Mellish* has, besides these various improvements, executed other undertakings, which shew an activity not often exceeded. He has made ten miles of road, at his own expence, and a river four miles long, and ten yards wide, as a drainage to a large extent of low land, in the center of his estate, capable of being made as fine meadow as any in *England*. He has also built several farm-houses, and above thirty cottages, all in the most substantial manner, of brick and tile: works of the noblest tendency, that will ever carry their own eulogy! *

* This gentleman has added a very magnificent apartment to his house, (before an exceeding good one) a withdrawing-room, 40 feet long, 12 broad, and 18 high, with a circular bow of 11 feet span. The proportion very agreeable. The chimney-piece elegant; *Ionic* pillars of *Egyptian* granite, fluted with stripes of white marble, support the frieze, in which is a tablet, an ancient sacrifice. The furniture is extremely rich, the chairs and carpet crimson velvet, embroidered with yellow silk. From the windows of most of the rooms you command a fine water, which winds through the lawn for a mile and half; the breadth from 50 to 70 yards.

He has also built a large and handsome pile of stabling, and ornamented his estate with 200 acres of thriving plantations.

L E T T E R VII.

FROM *Blyth* I took the road to *Doncaster*, and made enquiries into the state and culture of the rich sands near that town.

Farms rise from 30*l.* to 70*l.* a year, and the land lets, on an average, at 50*s.* an acre.

Their crops of wheat are, on an average, about 30 bushels, of rye 34, of barley 6 quarters, of oats 10, and of rape half a last. They never feed this crop.

Their turnips they never hoe; but the value does not rise higher than 40*s.* an acre.

Their manuring consists in little else than buying *Doncaster* dung, which all the farmers, within four or five miles, regularly practise.

Their pastures are very good: an acre will summer feed a cow. They prefer the short-horned breed, and reckon the average produce of milk *per diem* at four gallons.

In their tillage, they use but two horses in a plough; do one acre a day; the depth

five inches, and the price *per* acre 4*s.* 6*d.* Their system of feeding horses is not the most perfect; and, among other instances, know nothing of cutting straw into chaff.

Swing ploughs only are used.

Land sells at fifty years purchase. Tythes are taken in kind. Poor-rates 2*s.* in the pound: their employment is in the manufacture of the place, which is the facking, and also that of stockings: some hundreds of hands are employed in it.—All drink tea.

No leases in this country.

The experiments made by *Anthony Wharton*, Esq. of *Carr-House*, will best explain the nature of this rich sand.

P O T A T O E S.

Experiment, No. 1.

In 1767, two acres of the best sand were planted with potatoes, after a third crop of corn, in rows equally distant, three quarters of a yard asunder. They were manured for them with 12 loads an acre of rotten dung, a forkful to each set, spread from heaps in the common manner. The product was 242 bushels *per* acre, which, at the price of 3*d.* a peck, amounted to 12*l.* an acre. After

them cabbages were planted, and the crop proved very fine. They were horse and hand-hoed as often as requisite to keep them clean from weeds.

Experiment, No. 2.

In 1768, two acres more were planted; the management exactly the same, and the produce again 12*l.*

Experiment, No. 3.

In 1769, four acres and an half were planted on the same soil, and managed in the same manner. The product 300 bushels *per* acre, or 15*l.*

Experiment, No. 4.

This year, 1770, he has several pieces in rows at various distances, from 2 feet 6 inches, to 3 feet 6 inches. I found them all as clean as a garden; and as fine luxuriant a growth as I remember to have seen. Half an acre will yield at the rate of 25*l. per* acre. The rest 15*l.*

All these crops Mr. *Wharton* has applied chiefly to the feeding swine; he fats porkers with them: generally boils them; and sometimes mixes them with barley meal,

$\frac{1}{2}$ a peck of the latter, to 6 bushels of the potatoes. The pork is perfectly good, and the fat as firm and as good as any other. He also finds them of very great use in half fattening bacon hogs, to prepare them for pease and beans. In these applications the value of the potatoes is 4*d.* per peck; whereas only 3*d.* is used in the preceding calculation as a market price.

Mr. *Wharton's* general culture of them is as follows. The land is ploughed three or four times: then holes are made by a line with a spade; dung is put in these holes, and the potatoe sets, on the dung. The first tillage is to harrow the land flat, as soon as the weeds come up, and before the potatoes. They are afterwards earthed up by hand-hoes several times; and all weeds extirpated. One circumstance in which Mr. *Wharton* is peculiar, is the planting only the knots or eyes, cut off the potatoes; the heart is all preserved for use; and this method of cutting them, is recommended as a very great saving.

The average produce amounts to 20*l.* per acre, at 4*d.* a peck; and the expences of the crop are as follow:

344 THE FARMER'S TOUR

Rent and town charges,	-	£.2	10	0
10 Bushels of seed,	-	0	13	4
12 Loads of manure (on to the land) at 6s.	-	3	12	0
Planting and slicing,	-	0	10	0
3 Ploughings,	-	0	10	6
1 Harrowing,	-	0	7	0
3 Horse hoeings,	-	0	5	0
3 Hand ditto, and weeding,	-	0	7	0
Taking up and carrying home,	-	1	0	0
			<hr/>	
			9	8
			<hr/>	
Total produce,	=	20	0	0
Total expences,	=	9	8	10
			<hr/>	
Profit,	=	10	11	2
			<hr/>	

This culture of potatoes, shews how much that root deserves attention on rich sands; they form an admirable crop to introduce regularly in a course, and to extend over all the light arable of a farm.

CABBAGES.

Experiment, No. 5.

In 1767, three acres of the great *Scotch* cabbage were planted on sand worth 20s. an acre. The seed was sown in *August*, pricked.

pricked out in *October*; again in *March*; and into the field the middle of *June*. The land was prepared by five ploughings, and a manuring of 10 loads an acre of farm-yard dung. They were planted in squares, and hand-hoed twice, and horse-hoed thrice. They were begun to be cut the end of *October*; and lasted till the end of *February*. They were used for fattening beasts—milk cows—young cattle—and particularly for hogs; all sorts of swine above 3 months old—sows, boars, shots, &c. and they fed very eagerly on them; and in no use answered better: they were kept by them in excellent order till put up for fattening. In the fattening of beasts they answered but indifferently. The cows gave vast quantities of milk, as much as from the summer's grass, but it was very strong, though ventilated. Cows with calf, if they accidentally get into the cabbage field, will eat till they burst; but this is the case with no other sort of cattle. The weight of the cabbages arose to 34 *lb.*; the average 21 *lb.* 12 *oz.*: this is 47 tons *per acre*. Notwithstanding this weight, Mr. *Wharton* preferred a crop of turnips of 3 *l.* *per acre*, for any use except the feeding pigs.

Experiment, No. 6.

In 1768, four acres of the same soil were planted. The preparation of the land, and all other circumstances as in 1767. The crop was equal; and upon trying them with most sorts of cattle, the same result was adhered to.

Experiment, No. 7.

In 1769, eight acres were planted on a clay soil, and 4 on limestone land: but neither of them equalled the crops of the preceding year.

Experiment, No. 8.

In 1769, four acres were planted on the sand of 20s. an acre: the culture, product, application of the crop, &c. were nearly the same as in the preceding years.

Mr. *Wharton*, upon the whole, does not approve of cabbages on land that will yield large crops of turnips: he finds that the latter much exceed them in fattening oxen; and are upon the whole more advantageous.

In stall feeding beasts on turnips, Mr. *Wharton* finds that they fat much faster than when in the field: he always litters them

them down well. Those he prefers that have had the summer's grafs.—One acre drawn and given in stalls, will feed thrice the beasts, of the same given in the field. Mr. *Wharton's* calculation on an average, is, that an acre will fatten four beasts from 80 to 100 stone, during four months, with the assistance of a little hay.

Mr. *Wharton's* course of crops on his best land which he most approves, is, 1. Turnips; 2. Carrots; 3. Oats; 4. Potatoes; 5. Barley; 6. Clover; 7. Wheat. And the account in expences, product, and profit, is as follows.

L. TURNIPS.

Expences.

Six ploughings,	-	-	£. 1	1	0
Six harrowings,	-	-	0	3	0
Raking together, and burning the twitch,	-	-	0	3	0
Seed and sowing,	-	-	0	1	0
Manuring, 10 loads,	-	-	3	0	0
Hoeing with a machine,	-	-	0	0	10
Hand weeding,	-	-	0	1	6
Rent,	-	-	2	10	0
			<hr/>		
			7	0	4
			<hr/>		

348 THE FARMER'S TOUR

II. CARROTS.

Expences.

Four ploughings,	-	-	£.0	14	0
Two harrowings,	-	-	0	1	0
7 lb. Seed,	-	-	0	9	4
Sowing in drills,	-	-	0	7	6
Cleaning,	-	-	2	0	0
Taking up,	-	-	1	0	0
Rent,	-	-	2	10	0
			<hr/>		
			7	1	10
			<hr/>		

III. OATS.

Expences.

Two ploughings,	-	-	0	7	0
Two harrowings,	-	-	0	1	0
Seed, $3\frac{1}{2}$ bushels,	-	-	0	7	0
Sowing,	-	-	0	0	3
Reaping,	-	-	0	7	0
Harvesting,	-	-	0	6	0
Thrashing,	-	-	0	6	0
Carrying, 3 d. a quarter,	-	-	0	2	6
Rent,	-	-	2	10	0
			<hr/>		
			4	6	9
			<hr/>		

IV. POTATOES.

Expences.

As at page 344,	-	-	9	8	10
			<hr/>		

V. BARLEY.

Expences.

Three ploughings, - - -	£. 0 10 6
Three harrowings, - - -	0 1 6
Seed, $3\frac{1}{2}$ bushels, at 2 s. 6 d.	
and sowing, - - -	0 9 0
Reaping and harvesting, - -	0 13 0
Thrashing, - - - - -	0 9 0
Carrying, - - - - -	0 1 6
Rent, - - - - -	2 10 0
	<hr/>
	4 14 6
	<hr/>

VI. CLOVER.

Expences.

Seed and sowing, - - -	0 6 0
Mowing twice, and getting on to	
stack, - - - - -	1 10 0
Rent, - - - - -	2 10 0
	<hr/>
	4 6 0
	<hr/>

VII. WHEAT.

Expences.

One ploughing, - - -	0 5 0
Two harrowings, - - -	0 1 0
10 Pecks of seed, - - -	0 12 6
	<hr/>
Carry over, - - -	0 18 6

350 THE FARMER'S TOUR

Brought over,	-	£.	0	18	6
Sowing,	-	-	-	0	0
Rent,	-	-	-	2	10
Reaping, &c. &c.	-	-	-	0	13
Thrashing,	-	-	-	0	6
Carrying,	-	-	-	0	1
				<u>4</u>	<u>10</u>
					<u>1</u>

EXPENCES.

Turnips,	-	-	-	7	0
Carrots,	-	-	-	7	1
Oats,	-	-	-	4	6
Potatoes,	-	-	-	9	8
Barley,	-	-	-	4	14
Clover,	-	-	-	4	6
Wheat,	-	-	-	4	10
				<u>41</u>	<u>8</u>
Total,	-	-	-		<u>4</u>

PRODUCE.

- I. Turnips. Sold, to be fed on the land. Many come to 17 *lb.* average 7 *lb.* - - - - 3 0 0
- II. Carrots; 20 ton; but no minutes being taken of their value, I shall suppose them at 6*d.* a bushel of 48 *lb.*; which is

THROUGH ENGLAND: 351

Brought over - £.3 0 0

is not half the price I have experienced myself in feeding cattle: It is 933 bushels, 23 6 6

III. Oats: 10 quarters, at 15s.	£.7 10 0	
Chaff and straw,	1 5 0	
	8 15 0	
IV. Potatoes, at 4d. a peck,	20 0 0	
V. Barley, 6 quarters,	6 0 0	
Chaff and straw,	1 5 0	
	7 5 0	
VI. Clover: 4 loads hay, at 30s.	6 0 0	
VII. Wheat: 30 bushels, at 4s. 8d.	7 0 0	
Straw, -	1 10 0	
	8 10 0	
Total produce, -	76 16 6	
Total expences, -	41 8 4	
	35 8 2	
Or <i>per acre per ann.</i> -	5 1 2	

Which system of husbandry, upon the whole, advances very near perfection; and

proves clearly the vastly superior profit of cultivating the richest soils, however high the rent. Mr. *Wharton* follows turnips with carrots, that the latter crop may be the cleaner; for if it is sown while the land is full of weeds, the expences of hoeing are too great. A general observation he has made on the culture of these rich sands, is the certainty of the produce: he has never found them liable to any failures, whatever the season—in very dry ones they do as well as in wet; for in many years the natural produce is lowered to the preceding average quantities, by being beaten down.

This gentleman is particularly attentive to applying every yard of this rich soil to profit. The borders of his fields—the bottoms of old hay stacks,—and all other waste spots; he plants with potatoës, and keeps them perfectly clean; by which means, they are made to answer well in product; at the same time that the farm is preserved from the weeds, which such spots usually stock it with.

At another farm in the neighbourhood, this gentleman cultivates a different sandy soil; the rent 10 s. an acre. Here his crops
are

are very different from those at *Carr House*.
Wheat 15 bushels *per acre*; Rye 24; Bar-
ley 3 quarters; Oats 4; Pease 15 bushels.

Experiment, No. 9.

On this poor sand, planted potatoes, on
a manuring of 12 loads *per acre*: the crop
12*l.* 12*s.*

Here is also some tracts of low land, the
soil a black moory bog earth, but drained:
Mr. *Wharton* is paring and burning it for
rape on one earth; the paring he does with
a plough, which cuts about 1 inch thick;
in a very clean and regular manner; but it
will execute only in flat land with a smooth
surface, and perfectly free from stones.
The paring, burning, and spreading, costs
in this method 9*s.* an acre; and the plough-
ing, harrowing, and sowing, 4*s.*; from
which moderate expences, he has little
doubt of gaining half a last of rape *per acre*.

This gentleman, for the preservation of
his hay, has erected at all his farms, hay
barns with moveable roofs: I am told they
are common in *Holland*; but as many parts
of the kingdom know nothing of them, I

insert a drawing of it, from which any person may erect one.

Plate V. Fig. 2. is a view of one side of the square.

The area is 20 feet square, but may be varied according to the ground mown. The length of the poles (a. a.) also depends on the inclination of the person who erects one. The roof (b.) is of feather-edged boards; very light. It is raised by resting such a jack as screws up a waggon for greasing on the pin (c), and fixing the tongue to the corner of the roof (d), it is wound up one hole at a time, and secured by the pin (e). So that one man, by going from corner to corner, does it without assistance.

That the preceding minutes of husbandry are the transcript of experience, will best appear from the following particulars of Mr. *Wharton's* farm.

800 Acres in all	sandy grafs
110 Of rich sand.	100 Of black
300 Clayey loam	moory land
100 Of lime-stone loam	50 Of poor sand
200 Of moory	600 Grafs
	200 Arable in all

15 Horses	50 Fattening beasts
22 Brood mares	250 Sheep
43 Colts and other horses	100 Swine
12 Cows	20 Men; servants and labourers.
200 Young cattle	

These particulars shew that Mr. *Wharton* gives an uncommon attention to husbandry; practising it on a very large scale, and with a laudable neatness. It is much to be wished that he may continue to try experiments; and vary them in such a manner, that points now doubtful with him may be set in their clearest lights.

You must here allow me to conclude this letter, by assuring you how much I am, &c.

L E T T E R VIII.

JAMES STOVIN, Esq. of *Doncaster*,* has lately tried a few experiments in husbandry, which he was so obliging as to communicate. They are very decisive.

In 1769, two acres of rich sand, near *Doncaster*, were ploughed and sown equally with barley. One half was manured with 12 loads of rotten dung, at the expence of 3*l.* 12*s.* the other with *Dr. Hunter's* oil compost, which he particularly explains in his

* Secretary to the Society of Agriculture for the counties of *Nottingham*, and the *West Riding of York*, a society that does much honour to the members, as the following list of premiums for one year will testify

AGRICULTURE SOCIETY at *Doncaster*, for the *West Riding of the county of York*, and county of *Nottingham*.

PREMIUMS offered by the SOCIETY, 1769.

- I. F O R the greatest quantity of land, not less than five acres, which shall be sown with lucern, in *April*, 1770, so as to produce and bear a crop in 1772, the sum of 15*l.* or a gold medal, at the option of the party entitled thereto.
- II. For the next largest quantity, as aforesaid, 10*l.* or a gold medal.

his *Georgical Essays*, (a little work of uncommon merit) the expence 15 s. 6 d. Every article of ploughing, harrowing, seed, sowing, harvesting, thrashing, &c. were perfectly similar; the manures alone were different.

The

III. For the next largest quantity, as aforesaid, 5 l. or a gold medal.

A certificate from the minister, and at least two credible persons of the place where the lucern shall be grown, of the quantity of the land, of its being sown in *April*, 1770, and of its producing and being a crop in 1772, to be produced at the *Midsummer* meeting of the society in 1772, when the premiums will be adjudged and given.

IV. For the cleanest and best fallow of clay land, not less than five acres, in the summer of 1770, a gold medal to the candidate, being the owner and occupier; and 5 l. 5 s. to the candidate, being a farmer.

N. B. These fallows must not be ploughed of ten days before the 20th of *August*, about which day they will be viewed by the society's agent.

V. For the like of lime-stone land, the same premium.

VI. For the like of greet-stone land, the same premium.

VII. For the like of sand or loam land, the same premium.

N. B. These three last fallows must not be ploughed of ten days before the 1st of *June*, about which day they will be viewed by the society's agent.

358 THE FARMER'S TOUR

The acre, manured with the	Q. B. P.
oil compost, produced, -	5 5 0
Ditto, the dunged, -	4 3 2
	<hr/>
Superiority of the former,	1 1 2
	<hr/>
Which, at 10s. a quarter, is, in	
money, - - -	£. 1 3 9
And the saving in the manure,	2 16 6
	<hr/>
Superiority on the first crop,	4 0 3
	<hr/>

All persons, intending to offer for the four last-mentioned premiums, are required to send in their names, the quantity of land, and where it lies, to the secretary, on or before the 1st of *May*, 1770.

These premiums will be adjudged and given at the next *Michaelmas* meeting.

VIII. For the greatest and cleanest crop of *St. Foin*, on lime-stone land, not less than five acres, to be sown in the spring of the year 1770, a gold medal to an owner, being the occupier, and 5*l.* 5*s.* to a farmer.

IX. For the like crop, on any other soil, the same premium.

All persons, intending to offer for these premiums, are to give notice to the secretary, on or before the 1st day of *May*, 1772, of the time they intend to mow their *St. Foin*, and at what time they would chuse for the society's agent to view the crop.

These premiums will be adjudged and given at the *Michaelmas* meeting, 1772.

This year, the piece is sown with rye, and the appearance of the dunged part is much the most promising.

That the dung will prove more lasting than the oil, cannot a moment be doubted; but

- X. For the person, being the owner thereof, who shall drain, in the best and most effectual manner, the greatest quantity of wet, springy, clay or morass ground, (the quantity not being less than three statute acres) a gold medal.
- XI. For any tenant or occupier of land, draining upon the same conditions as for the last premium, the sum of 6*l.* 6*s.*
- XII. For any person, being the owner, who shall inclose, break up, and prepare, in the best and most effectual manner, for tillage, pasture, or meadow land, the largest quantity of any barren or waste ground, (the quantity not less than five statute acres) a gold medal.
- XIII. For any tenant or occupier of land, who shall break up, &c. as in the last premium, the sum of 6*l.* 6*s.*

All persons, who chuse to be candidates for the four last premiums, are required to give in to the secretary, 6 weeks at least before the next *March* meeting, their names and places of abode, and the particulars of the lands to be improved by them respectively, as above, that the society may then send their agent to view the present state of such lands, and determine, at their said meeting, what times to give for the completing such respective improvements.

Anthony St. Leger, Esq. President.

Roger Pocklington, Esq.

The Rev. Mr. *Wilkinson*,

The Rev. Mr. *Cripps*,

J. Stovin, Secretary.

but the superiority of the latter is so great, that it would pay for a manuring of dung for the following crop, more considerable than the original one on the other acre; which sufficiently shews the superiority: or, rather, would afford a manuring of oil annually, and yet leave a considerable profit. This trial is of the utmost importance; for, if the oil compost, on repeated trials, be found to answer nearly equal to the result of this experiment, it is certainly one of the greatest discoveries that has been made in husbandry. Mr. *Stovin* proposes to vary his experiments on it, and aims particularly at deciding, on various soils, the real degree of utility to be attributed to it.

Carrots this gentleman tried on the rich sands of *Doncaster*, as a candidate for the medal offered by the society before mentioned, which he gained. The following is his account of the experiment.

To the members of the laudable society for the encouragement of improvements in agriculture, within the West Riding of the county of York, and county of Nottingham.

GENTLEMEN,

IN consequence of your offer of a premium for the greatest quantity of carrots

per acre, on any quantity of land, not less than two acres, I was desirous of becoming a candidate; and, ambitious of being a successful one; spared no pains or expence in hopes of obtaining this honourable prize: It would, perhaps, have been more honourable to me, had any other person thought proper to have tried the experiment, and I had then succeeded; though I scarce think I should, as, notwithstanding all my care and pains, a variety of unfavourable circumstances have prevented the success I hoped, and the information the society might expect from it.

I had a field of two acres, which was in swarth, and had not been ploughed within memory: the soil a sandy loam, but most inclining to sand, and remarkably full of twitch-grass; but, having fixed on this land for my carrots, took the following method of managing it.

It was in the occupation of a tenant, and I could not come into possession of it till the 13th of *Februāry*, 1769, when I had it pared; but, the season not permitting the burning of the sods, I lead them all off the ground. I then ploughed it for the first
time,

time, with the trenching plough, 12 inches deep, and made it as clear by harrows, as I could, from the twitch grafs. The second ploughing was 16 inches deep, and the third the same depth, and a fourth time with a common plough. I then sowed half the field with seeds in drills, at one foot distance, and the other half broad-cast, and the latter, when come up, I hoed into drills of the same distance, and thinned the carrots in the drills to eight inches distance from each other.

The twitch grafs, by these different ploughings, was so cut into small pieces, and intermixed with the soil, that it now came up in such quantities as almost entirely to choak the carrots. This occasioned a very extraordinary expence in weeding.

The ploughing too deep brought up the sand, which impoverished the upper soil, and was the occasion of the carrots not being so good as might otherwise have been expected.

The crop was got in *November*; and ten ton and a half being cleaned and laid up in a stable, by first laying sand, and then carrots, and so on till the whole was laid up, the quantity of sand and carrots together heated,

heated, and the carrots were burnt to a cinder before we perceived it: so that I was a very considerable loser by my crop.

The observations that occur to me from what is stated above, are,

1st. That the land, to be sown with carrots, should be a dead fallow.

2dly. That it should not be ploughed deeper than the good soil goes.

3dly. That the crop, when gathered, should be well dried before they are laid up, and that they should be laid up by themselves, without sand, or any thing else: and I am of opinion, that the best method is, not to lay them up at all, but to draw them as they are wanted.

I am also of opinion, that sowing them broad-cast, and hoeing them as they do turnips, is better than sowing them in drills; for, in broad-cast, they cover the ground, and retain the moisture, better than in drills.

I wish the experiment had been more successful to myself, and satisfactory to the society; and am,

Gentlemen,

Your very humble servant,

Doncaster,
June 20, 1770.

J. STOVIN.

364 THE FARMER'S TOUR

Account of the before mentioned crop of carrots.

		DEBTOR.		
1769.				
28 Feb.	One day ploughing, with 6 horses and 4 men,	£.	0	13 8
1 March.	Harrowing with 4 horses & 4 men,	0	10	8
2,	Ploughing with 6 horses & 4 men,	0	13	8
3,	Harrowing with 4 horses & 3 men,	0	9	6
4,	Ploughing with 6 horses & 3 men,	0	12	6
6,	Harrowing with 4 horses & 3 men,	0	9	6
23,	Ploughing with 2 horses & 1 man,	0	4	6
24,	Harrowing with 2 horses & 5 men,	0	18	10
25, 26, 27,	Eight men, sowing 3 days, at 1 s. 2 d. each,	1	5	4
27 May,	20 women, weeding 4 days, at 6 d.	2	0	0
1 June,	Five men 4 days hoeing the broadcast into drills, at 1 s. 4 d.	1	6	6
13,	20 women weeding 4 days, at 6 d.	2	0	0
15 July,	10 women weeding 6 days, at 5 d.	1	10	0
Nov.	Expences of taking up the carrots, topping, cleaning, and laying up,	5	17	10
	For loading 21 loads, at 1 s. per load,	1	1	0
	Rent of the land,	4	0	0
	Taxes,	0	16	0
		23	19	6
	Seven pounds of carrot feed,	0	14	0
		24	13	6

CREDITOR.

Two ton and a half were used.				
Profit on 26 pigs fed with them boiled; 26 sold to butchers, and 6 used in the family,	7	15	9	
Profit on a small cow fed therewith,	1	6	0	
Four cart-horses kept on them for a month, without common, and but a very little clover; which I reckon worth,	2	2	0	
	11	3	9	
Ten ton and a half, which were lost by being improperly laid up, supposed worth,				
Loss,	13	9	9	
Balance,	24	13	6	

This account, notwithstanding the accidental ill success of the crop, is very candid, and, in several particulars, valuable. The bad consequence of laying these roots up, without being sufficiently dry, is evident. Mr. *Stovin's* observation on that point is certainly just; but the value of carrots *per* ton is here decided, which is one of the most disputed points in the culture: 2 $\frac{1}{2}$ tons paid 11*l.* 3*s.* 9*d.* and in so fair and clear a method of consumption, that the accuracy of the account cannot be doubted. The swine were bought and then sold; so that the increase of value from the carrots was minutely known.

The above price is <i>per</i> ton,	£. 4	9	6
But, as part of them were boiled without a specification of the expence of coals and labour, we may suppose them to amount to			
<i>per</i> ton,	-	0	9 6
		<hr/>	
Neat value <i>per</i> ton,	-	4	0 0
		<hr/>	
6 $\frac{1}{2}$ tons, at that price,	-	26	0 0
Expences,	-	12	6 9
		<hr/>	
Clear profit,	-	13	13 3
		<hr/>	

But this crop was very small, for reasons obvious to every one: 20 tons are frequently gained; or 80*l.* an acre.

The premium for cabbages was not gained, for want of such accounts being given in as the society required; but the following table will shew the particulars of the candidates.

Crops.	Candidates.	Land.		N ^o . Cabbages in all.	Total weight. Stones. lb.	N ^o . Cabbages per acre.	Weight on 4		
		A.	R. P.				Stones.	lb.	acres.
Best	1 Wm. Crowle, Esq.	4	1 0	27425	37219	6453	35030	3	54 $\frac{1}{2}$
	2 Mr. John Wright.	6	0 0	38718	49780	6453	33186	12	51 $\frac{1}{2}$
	3 A. Wharton, Esq.	4	2 0	21780	33750	4840	30000	0	46 $\frac{3}{4}$
	4 Stan. Harvey, Esq.	7	1 7	35301	34040	4840	18668	0	29
	5 Cha. Turner, Esq.	21	0 0	135513	96795	6453	18437	2	28 $\frac{3}{4}$
Worst	6 Mr. Hewit.	6	0 0	19362	13830	3226	9220	0	14

368 THE FARMER'S TOUR

broke up a piece of grafs land, and sowed it with oats 2 years fucceffively, and had 12 quarters *per* acre each year.—He has alfo fome experiments on cabbages, potatoes, carrots, and *Siberian* flax, now on the ground, for the purpose of difcovering what crops are beft adapted to this rich fand.

Carrots have been tried by ——— *Cook*, Efq. of *Wheatly*, near *Doncafter*. He sowed them on a fallow for barley; the foil a light loam on a lime-ftone, ploughed 10 inches deep: they were hand weeded and hoed fufficiently to keep them clean at the expence of 35*s.* for 3 roods. The crop was a very good one.

The

will refolve coagulated milk; therefore I thought it probably would have the fame effect inwardly by impregnating the juices well with it. I believe the quantity may be confiderably increased with fafety, but then I fhould chufe to give it oftner rather than augment the dofe—As I have not complied with the terms, fo neither do I expect the premium, but fhould be glad if you will give it a fair tryal, and inform Mr. *Creffwell*, printer here, with what fuccefs—I have not fet my name, as that would be of no fervice, but might perhaps procure me the appellation of Brother Doctor amongst the cow-leeches.

I am, SIR, yours, &c.

The following is added by another perfon. “For drying cows for feeding. Bleed firft, then as much pepper as will lie on a half crown piece, and a bolus of tarr at the end of a ftick: repeat three times.”

The next year, the experiment was repeated on the same land; but the crop was not quite so good as before. Corn was then sown, and it proved much better than in any other part of the field. They were used chiefly for horses, and found excellent for that purpose. Several had the distemper, which raged among them so universally a few years ago; but, by feeding on carrots, it had very little effect on them. One that was broken-winded had, while fed with carrots, the appearance of being recovered.

Mr. Cook planted, on the same soil, an acre of potatoes, for which he manured with seven loads of dung: they were set in rows three feet asunder. The crop succeeded very well. He was offered 12*l.* for it, while standing, to be taken up at the expence of the buyer; but he used them himself, principally for cows and hogs: the former eat them very heartily, and the milk and butter proved exceedingly good from them.

This gentleman once tried an experiment on the improvement of waste land, which is worthy of being minuted. On a piece of hungry sand on bad gravel, which yielded nothing but moss and poor wild grass, he

laid $1\frac{1}{2}$ chaldron of lime, mixed with 2 cart-loads of black moory earth. It had no effect the first and second year; but, the third, the benefit was very great; for all the cattle in the field were almost constantly feeding on that spot.

From *Doncaster* I took the road towards *Barnsley*, by *Broadsworth*, where the soil changes totally. It is in general a limestone, let at 6s. an acre. Farms are, in general, about 35*l.* or 40*l.* a year: some rise to 60*l.* Their course of crops,

- | | |
|-----------|--------------------|
| 1. Fallow | 3. Barley |
| 2. Wheat | 4. Tares or pease, |

For the field lands.

In the inclosures, some of them take,

- | | |
|------------|-----------|
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Wheat. |

Their wheat yields, on an average, 15 bushels *per* acre; and rye, of which they sow but little, as much. Of barley, they get $2\frac{1}{2}$ quarters, and of oats 3 quarters. The mean produce of peas is 14 bushels; and of beans the same, when they sow them.

They do not hoe their turnips: reckon the average value at 25s. an acre.

Three acres of natural grass land they think requisite to summer feed a cow. Their breed of cattle the short-horned: the average quantity of milk 2 gallons.

In their tillage, they reckon four horses necessary for 40 acres of arable land: use two or three in a plough, and do an acre a day: the depth three inches: the price *per acre* 3*s.* 6*d.* They know nothing of cutting straw into chaff.

None but swing-ploughs used.

In the hiring and stocking of farms, they reckon 250*l.* necessary for a farm of 60*l.* a year.

Land sells up to 40 years purchase.

Tythes are taken in kind: poor rates 8*d.* in the pound: the employment of the women and children spinning flax: all drink tea.

No leases granted.

The farmers carry their corn five miles.

LABOUR.

In harvest, 1*s.* 6*d.* a day,

In hay-time, 1*s.*

In winter, 1*s.*

Reaping, 4*s.* 6*d.*

B b 2

Mowing

372 THE FARMER'S TOUR

Mowing and binding barley or oats, 2 s. 6 d.

————— grafs, 1 s. 6 d.

Plafhing hedges, 1 s. 2 d. an acre.

Thrashing wheat, 8 d. a load of 3 bufhels.

————— barley, 1 s. 6 d. a quarter.

————— oats, 8 d. ditto.

Head-man's wages, 12 l.

Next ditto, 7 l.

Lad's, 5 l. 10 s.

Maid's, 3 l.

A woman a day in harveft, 1 s.

————— in hay-time, 8 d.

————— in winter, 6 d.

Value of a man's board, washing and lodg-
ing, 10 l.

IMPLEMENTS.

A new waggon, 15 l. Their waggons are
about two feet wide.

A cart, 9 l.

Shoeing, 1 s. 4 d.

PROVISIONS.

Bread, - - 1 $\frac{1}{4}$ d. a pound.

Cheefe, - - 3 $\frac{1}{2}$ ditto.

Butter, - - 8 for 18 oz.

Beef, - - 3 $\frac{1}{2}$

Mutton, - - 3 $\frac{1}{2}$

Veal,

Veal,	-	-	3
Pork,	-	-	$3\frac{1}{2}$
Bacon,	-	-	$4\frac{1}{2}$
Milk,	-	-	$0\frac{1}{2}$ <i>d. per pint.</i>
Potatoes,	-	-	$3\frac{1}{2}$ <i>per peck.</i>
Candles,	-	-	$6\frac{1}{2}$ <i>per lb.</i>
Soap,	-	-	6
House-rent,	25 s.		
Firing,	21 s.		

BUILDING.

Bricks,	12 s. a thousand.		
Tiles,	25 s.		
Oak timber,	1 s. to 2 s. a foot.		
Ash and elm,	1 s.		
A carpenter and mason a day,	20 d.		
A thatcher,	1 s. 2 d.		
Stone walls,	2 s. a rood workmanship; 2 s. 6 d. stone del.		

The particulars of a farm as follow.

100 Acres in all	10 Barley
65 Arable	5 Oats
35 Grass	5 Pease and beans
£.40 Rent	10 Clover
5 Horses	10 Turnips
2 Cows	10 Fallow
8 Young cattle	2 Men
40 Sheep	1 Maid
15 Acres of wheat	2 Labourers.

Great improvements have been made at *Broadsworth*, by the Archbishop of *York*, with sainfoine*. These loams on limestone, notwithstanding they are in general of a clayey nature, do excellently well for that plant. His Grace has greatly advanced the value of his land so applied. Mr. *Wharton*, of *Carr-House*, has also several closes of sainfoine on his farm here, which answer much better than any of the other fields.

At *Swaith*, near *Barnsley*, the rev. Mr. *Hall* has tried several very important experiments in husbandry, the register of which he was so obliging as to give me. Their utility will be judged of, when I mention the state of his farm, which is cultivated in a very neat and accurate manner, and the crops all excellent.

TRANSPLANTING HEDGES.

Mr. *Hall* has a method of fencing, in which I apprehend he is perfectly original,

28

* It is much worthy of observation, that this estate was sold to the late Earl of *Kinnoul*, on account of the landlord not being able to raise hay for his own horses; but the improvement of sainfoine has so wonderfully changed the case, that hundreds of loads, more than necessary for home use, have since been grown.

as I have never heard of any person that practised it. He transplants white-thorn hedges, of any growth, even to 30 or 40 years old. In winter, he grubs up the old hedge, after cutting, in the common manner, and without giving any unusual attention to the manner in which it is done. The stubs are not at all tender, or liable to fail of growing: He has known them left out of the ground a week, without any damage; and, if there is a little water at the bottom of the ditch, he apprehends they would lie there safely a month: but the best way, undoubtedly, in such cases, is to move it from one hedge to the other, as soon as is convenient. The bank, or place, where the new hedge is to be made, should be marked out with a line, and a proper trench cut to set the stubs in: they should be buried rather deeper than they were in the earth before. Mr. *Hall* has found, that not one stub in an hundred will fail of growing, and the shoots are so vigorous, that a new hedge is formed much quicker than in any other method.

Experiment, No. 1.

I viewed a very long hedge of this gentleman's, transplanted six years ago, when thirty years old. In five years it sprouted 14 feet in many places, and 12 feet on an average. It was then cut and plashed, and is now as thriving and fine a hedge as can be seen. Another hedge, planted in the common manner, 15 years ago, did not equal this when only five years old.

This discovery is very important; for I have more than once known old hedges grubbed up and levelled, and new ones planted with great care and attention, to raise a fence as soon as possible; by which conduct, above ten years are absolutely lost in height, and many more in strength. In the grubbing up of old hedges, planted with various sorts of wood, it is very useful to know, that the white-thorn stubs may be preserved to plant in the gaps of other hedges. The whole process of the work also is so extremely plain and easy, that none can find any difficulty in executing it.

Let me here likewise observe, that Mr. *Hall* is remarkably attentive to all his hedges: he keeps them quite clean from weeds, and

trims the horizontal shoots off in such a manner, that the hedge is left wide at bottom, and narrowed gradually to the top, that the latter may not drip on the rest, and destroy or damage it. The hedge also, by this means, is rendered stronger, and no land is lost by the shade; but the shoots, that grow up in the center, are not shortened: they rise their natural height. In plashing, Mr. *Hall* cuts out all the old, large branches, and lays those only, which are young and pliant. This is contrary to the *Hertfordshire* method: but, as he does not want fences so strong, the neatness of his method makes amends for that circumstance. In most countries, the feeding clover with hogs is the most profitable application of that crop; but, with hedges done in this neat manner, hogs could not be confined an hour: they would break through in many places near the ground.

WHITE CLOVER.

Experiment, No. 2.

Mr. *Hall* has cultivated this plant for feed, to great profit. He sowed ten acres of it, the soil a sandy loam, inclinable to clay, with

378 THE FARMER'S TOUR

with barley. He fed the first crop, till the beginning of *June*, with all sorts of cattle, and then kept it for seed. Mown the beginning of *August*. The product, 2487 *lb.* sold for 96 *l.* 9 *s.* besides four quarters of trefoil, at 10 *s.*, 2 *l.* The stover amounted to 17 loads, worth 10 *s.* a load. The feed in *April* and *May* was during seven weeks, value 14 *s.* 3 *d.* a week.

Seed Clover, - - -	£.	96	9	0
Ditto Trefoil, - - -			2	0
Seventeen loads hay, at 10 <i>s.</i>			8	10
Feed, - - -			5	0
			111	19
Thrashing and dressing the seed,			6	6
			105	13
Clear product, - - -			10	10
Or, <i>per</i> acre, - - -			10	10

The clover straw is here under-valued; for Mr. *Hall* observed, that the cattle preferred it to good common hay.

A field, sown by Mr. *Micklethwate*, a farmer adjoining, of three acres, produced 1400 *lb.* which, proportioned to the above produce, amounts to 63 *l.* or 21 *l.* *per* acre; which is certainly a vast profit.

BURNET.

Experiment, No. 3.

A rood of good loamy sand was fallowed, and sown with 4*lb.* of burnet seed, in *April*, with barley. In the autumn following, it was cleaned with hand-hoes; and horses, beasts, and sheep, were turned into it; but none of them would touch it. The year following it was seeded, and produced 60*lb.* after which it was ploughed and sown with wheat: the crop as good as after red clover.

LUCERNE.

Experiment, No. 4.

In the year 1764, Mr. *Hall* sowed half an acre of good loamy land with lucerne, broad-cast, among barley, which succeeded turnips: the rest of the field was clover.

In 1765, it was cut once, and yielded better than the clover.

In 1766, it was cut twice: the produce at the rate of two tons of hay *per* acre.

In 1767, as many weeds had arisen, it was ploughed with a blunt share, and then harrowed till it had the appearance of an absolute fallow: this was done in *March*.

It

380 THE FARMER'S TOUR

It was that year cut three times for foiling horses in the stable, and maintained at the rate of four horses *per* acre through the summer.

In 1768, it was harrowed in the spring, and that year kept three horses *per* acre.

In 1769, it was again harrowed quite bare, which made it yield better than the year before: maintained at the rate of four horses *per* acre.

In 1770, harrowed again in the spring, and eat down with sheep till *May*. Cut the beginning of *July* an exceeding fine crop, which, made into hay, would have been full two tons an acre; and the second growth came very thick and quickly. This year, upon the whole, is so very favourable, that *Mr. Hall* calculates the produce at least to equal the summer feeding of five horses.

The third year it produced two tons of hay *per* acre, which

may be calculated at 45 s. a ton,

or, - - - £.4 10 0

The fourth, it kept four horses through the summer; 26 weeks,

at 2 s. 6 d. *per* horse *per* week,

comes to, - - - 13 0 0

Carry over, 17 10 0

Brought over, £. 17 10 0

The fifth, three horses, 26 weeks,

at 7s. 6d. are, - 9 15 0

The sixth, four horses, 26 weeks,

at 10s. - - 13 0 0

The seventh, five horses, 26 weeks,

at 12s. 6d. - - 16 5 0

Total produce, - 56 10 0

Or, *per annum*, - 11 6 0

I viewed this crop attentively, and found it in so rich and luxuriant a state of vegetation, that I have no doubt, but that this product would regularly be made from any quantity of land so cropped. The two first years are never to be expected to equal the succeeding ones; for lucerne is in its infancy during that time.

Experiment, No. 5.

In 1763, half an acre of well summer-fallowed land was filled with transplanted lucerne. It was set in *March*, in rows, two feet asunder, and one foot from plant to plant: the roots were seven years old. They were cut once; but the crop very small.

All

All the land was kept perfectly clean from weeds by hand-hoeing.

In 1764, it was hand-hoed twice, and maintained at the rate of three horses *per* acre, through the summer.

In 1765, it was again hand-hoed twice, and kept two horses through the summer, that is, four *per* acre.

In 1766, the same culture was given, and the produce was equal.

In 1767, it was harrowed across, and the crop as good as in 1766: in 1768, 1769, and this year, 1770, it has proved the same.

1764, Three horses,	-	£.9	15	0
1765, Two ditto,	-	6	10	0
1766, Ditto,	-	6	10	0
1767, Ditto,	-	6	10	0
1768, Ditto,	-	6	10	0
1769, Ditto,	-	6	10	0
1770, Ditto,	-	6	10	0
		<hr/>		
Total produce,	-	48	15	0
		<hr/>		
Or, <i>per annum</i> ,	-	6	19	3
		<hr/>		

Mr. *Hall*, from his general experience of this plant, recommends the broad-cast husbandry for the practice of common farmers, being

being less complex and consequently much more adapted to their notions. But he thinks that the transplanting or drilling methods would yield larger products: they must, however, be cut with sickles, to prevent the lucerne licking up the dust of the intervals, which would be the case if it fell on the ground, as it must do in mowing.

I shall beg leave to remark on these accounts, that they prove in the clearest manner imaginable, the uncommon value of the crop. The product *per acre per annum* of 7*l.* and 11*l.* shew that very few crops equal it; and prove how expedient it is for every farmer to have at least as much of it as is necessary for feeding his teams: he will in no other way be able to keep them near so cheaply*.

* Lucerne has been cultivated some time by a neighbouring gentleman, the Rev. Mr. *Cripps*. I designed the pleasure of waiting on him to view it, but was unfortunately called on a sudden another way. He told me that he had tried it drilled, transplanted, and broad-cast; but that the latter was much the best. He mows it for hay, and finds, contrary to the general opinion, that it is of very great use so applied: He has had great crops; and one in particular that had near a fortnight's rain upon it after cutting. It lost its fine colour, but not its scent, nor did the
leaves

CABBAGES.

Experiment, No. 6.

In 1769, two acres of a rich loam were well fallowed, and manured as for turnips, and planted with the great *Scotch* cabbage in *June*, in rows 4 feet asunder, and the plants 2 feet. The seed was sown in *February*. They were kept quite clean from weeds throughout the season by horse and hand-hoeing. They were begun to be cut in *October* for fattening sheep, and given in a pasture field; the sheep throve very well on them; but Mr. *Hall* thinks they did not equal turnips in the consumption; they came to the average weight of 12 *lb.* per cabbage. An acre of good turnips he reckons worth 3*l.* 10*s.*; the cabbages in proportion were 3*l.*

leaves fall off; and suffered the wet with much less damage than clover would have done. Upon the whole, it makes incomparable hay, and is as useful for that purpose as for any other.

Cabbages Mr. *Cripps* has tried with much attention, and thinks them not comparable to turnips, either in weight of produce or value in feeding cattle: and they make butter stink.

DRILLED

DRILLED PEASE AND BEANS.

Experiment, No. 7.

Four acres of good loamy soil were ploughed for the first time in *October*, 1769, and again in *February*, upon which earth two acres and a half were drilled in *March* with rouncival pease, in rows equally distant, 18 inches asunder; 3 bushels *per* acre seed. The other acre and half in *February*, with horse beans in the same manner, 3 bushels *per* acre. I viewed the crops with the utmost pleasure, and found them clean as any garden, and as fine as any I remember to have seen: the pease in particular were an astonishing crop, much the greatest I ever saw—they were perfectly entangled; like a regular level, broadcast crop, without a weed to be seen. Both pease and beans had been horse and hand-hoed: The drill-plough and horse-hoe taken from lord *Rockingham's*, of which I gave plates in *The Tour through the North of England*.

Some years ago Mr. *Hall* had many experiments on drilled wheat, barley, and oats, sown with *Tull's* drill; but from repeated trials, and the minutest attention,

he was convinced that the practice would never do—that it would never nearly equal the broad-cast sowing.

SOILING HORSES.

Experiment, No. 8.

One year in which Mr. *Hall* mowed his lucerne for hay, he tried clover for soiling his horses; and 2 acres of it kept 6 from the 15th of *May* 'till the end of *September*. They were confined day and night to a small farm-yard well littered with straw for making dung, with an open shed to run under, and water constantly at command.

19 Weeks, at 2 s. 6 d. per horse

per week, for 6, are, £. 14 5 0

Or per acre, 7 2 6

Which is a much greater produce than could be made of clover by any other method of using it. Mr. *Hall* assured me that the same horses turned out, would have required 9 acres to eat, tread on, and waste. He gives them neither corn nor hay; and they are in as perfect health as any horses in the field.

Another very great advantage in this method

method is the quantity of dung made. Mr. *Hall* raised 60 loads of dung by the above 6 horses—which alone, more than paid the expence of the clover.

MANURES.

Experiment, No. 9.

One hundred loads of tanner's bark four years old, were purchased at 9*d.* a load, and formed into a heap, and some yard dung and lime added to it; it was turned once; and when rotten carried on to 8 acres of a cold springy soil, for wheat. It much ameliorated the land; prevented the too great adhesion, and was visibly of benefit to the crop: But Mr. *Hall* thinks the virtues of the bark but small; and that it is of use in opening rather than enriching the soil.

He has tried various mixtures of lime, earth, ashes, &c. &c. and finds that such composts are more efficacious than laying the sorts on the land singly.

Adjoining to *Swaith* is *Wombwell*, a large estate which was in the possession of a family of that name from the conquest: it came at last to two co-heiresses, the miss

Wombwells; one of whom married *Charles Turner, Esq*; of *Kirkleatham*, and the other *Colonel St. Leger of Park Hill*: the whole now belongs to the former, who has purchased the other half. It consists of 3000 acres of rich land, within a hedge; the country beautifully varied with hill and dale, and nobly spread with wood. The husbandry and crops of this tract of land is much worthy of observation.

Farms rise from 20*l.* to 260*l.* a year, the average about 90*l.*

The soil is a fine rich sandy loam; some of it inclining more to clay than sand; but in general good mixed land. The average rent is 16*s.* an acre.

The courses of crops chiefly pursued are,

- | | |
|------------|-----------|
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Wheat. |

Also,

- | | |
|------------|-----------|
| 1. Turnips | 3. Beans |
| 2. Wheat | 4. Wheat. |

Likewise,

- | | |
|------------|-----------|
| 1. Turnips | 3. Clover |
| 2. Wheat | 4. Wheat. |

This is very bad.

On the stiffest land it is,

- | | |
|------------|-----------|
| 1. Fallow. | 3. Beans. |
| 2. Wheat | 4. Wheat. |

Their clover land they plough but once for wheat, but the fallows from 4 to 6 times. They sow $2\frac{1}{2}$ to 3 bushels *per* acre, and reckon the average produce about 3 quarters.—They sow scarcely any rye; but Mr. *Birks*, the principal tenant on the estate, had once 108 bushels from an acre and half of garden mold, which is 9 quarters *per* acre.

They plough but once for barley; sow 3 bushels and an half, and gain 6 quarters in return. Very few oats are sown; but the tillage is one ploughing; 5 bushels of seed; and the crop not more than 5 quarters.

For pease they stir but once; sow 3 bushels, never hand-hoe them, and gain upon an average 3 quarters. They give but one earth for beans, sow 4 bushels *per* acre; don't hoe them; the crops from 20 to 60 bushels; average about 32.

Rape is much cultivated; the husbandry is to pare and burn old turf for it; then plough once, and harrow in the seed: the crop on a medium is half a last. Wheat is always sown after it.

For turnips they plough from four to six

times; hoe them twice; generally feed them on the land with sheep, but some few are drawn and carried off for fattening beasts or young cattle. The mean value *per* acre 47 s. 6 d.

Their clover they mow twice for hay; sometimes feed the first crop, and mow the second for feed, at others cut the first for hay, and the second for feed: Their crops are very great, will yield at two cuts for hay, 4 tons; and some has been mown thrice in a summer. The best wheat is allowed to follow mown crops:—mowing prepares better than feeding.

In respect to manuring; none of them fold their sheep.—Paring and burning, which is performed at 17 s. an acre, they reckon a very fine improvement.—Lime they use for wheat: they sow 6 quarters *per* acre on the clover land wheat after it is sown, and perhaps up; which they say kills all poppies and many other weeds; and destroys much of the twitch, if there is any in the land.

Their hay they stack about the fields for fattening cattle and young stock; nor do they chop their stubbles. They use much pigeons dung; sow it for wheat or turnips;

it costs 8 s. a quarter; and the quantity they use is from 3 to 5 quarters: 5 they reckon equal to any common dressing of dung in a wet season.

Covered drains are known here; the best farmers dig them from 2 feet to 3 and a half deep, and fill them with stone; the expence one shilling *per* foot of depth *per* acre.

The best grass land lets at 20 s. an acre: they apply it chiefly to fattening beasts: an acre and an half will carry a cow through the summer. Their fat beasts they feed on grass, sometimes pretty late in the winter; the grazing or milking stock will leave much long grass on the land; which with the assistance of good straw, will beat the best of hay in carrying the beast forward; but they must lye in a warm yard at night.

The breed of cattle is various; both long and short horned; but the bastard sort between both they like best. The short-horned beasts they reckon better than the long-horned ones; think them equally hardy; and that a given quantity of grass will yield more profit fed with them, than if eaten by long horned ones.

Sir *John Armitage* has sold oxen of this mongrel breed at four years old fat for 20*l.* apiece; they came to 80 stone: the hides sold at 2*l.* 13*s.* each. They were out of a short-horned cow, by Mr. *Birk's* long-horned bull.

The best cows will give 8 gallons of milk *per* day; but the average of them not more than 4. The long-horned cows will not give so much milk as the short-horned ones, but more butter.

The average product of cows 6*l.* 10*s.* They keep but few swine, on account of dairies, not more than 4 to 6 cows; for in summer they feed them on the dairy. They keep their cows in winter either in the house or farm-yard.

Respecting the profit of grazing, they buy in cows some time between *Candlemas* and *May-day*, from 4*l.* to 7*l.* each; and put them to hay with a few turnips till the grass is ready: they sell fat from grass at various times as the beasts happen to rise, from *July* till *Christmas*: the prices from 8*l.* to 16*l.*

Swine fat to 25, and 30 stone; and a few to 37.

They

They have no flocks of sheep; their management of them consists only in buying wethers to fatten: at *Michaelmas* they put them to turnips; the price from 1*l.* 1*s.* to 1*l.* 5*s.*; and sell from the turnips with about 7*s.* 6*d.* a head profit. They clip from yearlings 13*lb.* fleeces. They do not think the rot in sheep is peculiar to wet or low lands, but occasioned solely by a quick growth of grass, to whatever cause such luxuriance may be owing; whether to much warm rain, or floods. And it is the opinion of some farmers, that new laid ground full of dung, will rot.

In their tillage, they reckon that 8 horses are necessary for 100 acres of ploughed land. They use two in a plough, and do from an acre to an acre and half a day: they stir 8 inches deep; the price from 4 to 5*s.* an acre.

They know nothing of cutting straw into chaff.

Some oxen are used; 4 in a plough. They are very sensible of the difference between the one team declining in value, and the other improving; but yet horses
gain

gain ground much among them; I apprehend on account of breeding.

They break up their stubbles for a fallow in *November*. None but *Rotheram* ploughs used.

In the stocking farms, they reckon 500*l.* necessary for one of 100*l.* a year.

Land sells from 30 to 50 years purchase: such as is let at rack rents, at 33.

Tythes are both gathered and compounded; but generally the former. If the latter, wheat and barley pays 5*s.*; oats and beans 3*s.*

Poor rates, 2*s.* in the pound. The employment of the women and children spinning worsted. All drink tea.

No leases granted.

They carry their corn 4 or 5 miles. The situation is very favourable for markets—the near neighbourhood of the manufacturing towns, renders corn of all sorts considerably dearer than the rates of *Bear-key*, or the eastern counties.

LABOUR.

In harvest, 2*s.* 6*d.* a day.

In hay-time, 2*s.*

THROUGH ENGLAND. 395

In winter, 1*s.* 6*d.*—equal to it, in beer, dinners, &c.

Reaping *per* acre, 7*s.* 6*d.* including beer.

Mowing, binding, and raking an acre of spring corn, 5*s.*

Mowing grafs, 2*s.* to 2*s.* 6*d.* and beer.

Hoeing turnips, 5*s.* to 7*s.*

Hedging and ditching, 1*s.* 6*d.* to 2*s.* an acre.

Thrashing wheat, 8*d.* a load of 5 bushels.

———— barley 1*s.* 6*d.* *per* quarter.

———— oats, 9*d.* ditto.

Head-man's wages, 10*l.* 10*s.*

Next ditto, 8*l.* 8*s.*

Third ditto, 7*l.* 10*s.*

Lad's, 5*l.*

Maid's, 3*l.*

Women *per* day, in harvest, 1*s.*

———— in hay-time, 10*d.*

———— in winter, 8*d.*

Rise of labour in twenty years double.

IMPLEMENTS.

A waggon, 20*l.*

A cart, 9*l.*

A plough, 1*l.* 10*s.*

Harnes *per* horse, 1*l.* 10*s.*

Laying a share, 6*d.*

396 THE FARMER'S TOUR

Laying a coulter, 6*d.*

Shoeing, 1*s.* 2*d.*

PROVISIONS.

Bread wheaten, and oat cake; average price - 1*d.* per pound.

Cheese, 3 $\frac{1}{2}$

Butter, - - 6 to 8*d.*

Beef, - - 3

Mutton, 3 $\frac{1}{2}$

Veal, - - 3 $\frac{1}{2}$

Pork, - - 3 $\frac{1}{2}$

Bacon, - - 7

Milk, - - $\frac{1}{2}$ *d.* per pint.

Potatoes per peck, 4

Labourer's house-rent, 20*s.* to 25*s.*

—— firing, 8*s.* 6*d.* and hedge stealing,

BUILDING.

Bricks per 1000, 11*s.*

Oak timber per foot, 1*s.* 2*d.* to 1*s.* 4*d.*

Ash ditto, 1*s.* 4*d.*

A carpenter a day, 1*s.* 8*d.*

A mason ditto, 1*s.* 6*d.*

Dry stone walls 2*s.* a rood of 6 feet high; getting the stone 2*s.* besides carriage: 6 loads do a rood.

THROUGH ENGLAND. 397

The general oeconomy of the country will be seen from the following particulars of farms.

280 Acres in all	60 Fattling beasts
70 Arable	4 Young cattle
210 Grass	80 Sheep
£.260 Rent	3 Men
6 Horses	1 Boy
2 Mares	2 Maids
6 Cows	3 Labourers.

Another:

110 Acres in all	16 Fattling beasts
40 Arable	4 Young cattle
70 Grass	60 Sheep
£.100 Rent	2 Men
6 Horses	1 Boy
2 Mares	1 Maid
4 Cows	1 Labourer.

Another:

50 Acres in all	2 Cows
20 Arable	2 Young cattle
30 Grass	1 Boy
£.50 Rent	1 Maid
4 Horses	1 Labourer.

398 THE FARMER'S TOUR

Another:

200 Acres in all	40 Fattling beasts
70 Arable	4 Young cattle
130 Grass	60 Sheep
£. 170 Rent	2 Men
6 Horses	1 Maid
2 Mares	2 Labourers.
6 Cows	

Another:

120 Acres in all	6 Fattling beasts
50 Arable	4 Young cattle
70 Grass	20 Sheep
£. 100 Rent	2 Men
4 Horses	1 Boy
2 Mares	1 Maid
5 Cows	2 Labourers.

There is one circumstance in the management of this estate, which is much too important to be passed over. A few years ago, it was let at 1300*l.* a year, and the tenants were all as poor as rats: three fourths of them were from two to four years in arrears of rent. On being talked to pretty sharply on such failures in payment, they pleaded their high rents, and desired to have them lowered. Upon this, their farms were all viewed

viewed by a gentleman well skilled in land; and his report was, that, so far from paying too much, they evidently paid too little—much less than the land was worth. The whole was very badly cultivated, quite overrun with weeds, and much excellent land almost becoming waste. He recommended the raising the estate 1000*l.* a year. His advice was followed, and from that day the rents were raised to 2300*l.* a year. But one tenant on the whole estate quitted; and, from a year or two after, to the present time, their culture has been constantly improving. No tenants have paid their rents better, and they are now in general rich, for the size of their farms. I was perfectly satisfied of all these facts; for I had them precisely from all concerned. *William Marsden*, Esq. of *Barnsley*, is the person who viewed the farms, and he confirmed the above particulars to me, in presence of *Col. St. Leger*, and of the principal tenant of the estate.

.If this instance is not decisive, nothing can be so: it proves, in the clearest manner, that the first step to good husbandry is to make the tenant pay as much, or nearly as much,

much,

much, for the land, as it is worth. If they have farms at 5*s.* that are worth 10*s.* they will treat them accordingly. Bad husbandry will pay a low rent, but cannot answer a high one. The tenants of the *Wombwell* estate employed half their time in carrying coals for the manufacturing towns; but, in their new agreements, they were very wisely cut off from any such practice: their attention has since been given to their farms, and they have found how much more profitable it is, to employ their teams in ploughing, harrowing and manuring. Raising their rents has really enriched them all: it has created an industry unknown before: they cultivate those fields with attention now, which formerly satisfied them in the maintenance of a few sheep.

Col. *Pole*, of *Radburn*, gave me a parallel instance. On coming to his estate, one tenant, the greatest sloven on it, complained of his rent, and said, he must be lowered or break. His farm was viewed, the rent 100*l.* a year. He was immediately raised to 170*l.* and since that has paid it without complaining.

Mr. *Marsden* above-mentioned has, for
some

some years, sown wheat from *November* to *March*, and without ever being able to determine one time to be better than another.

The 14th of *March*, 1755, Mr. *Marfden* bought two oxen for 20*l.* He put them to hay till grass was ready: they were kept on it all summer, and then put to fog and hay, and afterwards to turnips given under a shed with straw. The 14th of *March*, 1756, he sold them for 40 guineas to Mr. *Wallet*, of *Long-Sutton*; and the *March* following, he sold them for 65*l.* after being shewn in *Smithfield* as a *sight*.

About *Barnsley* are several tracts of land, as rich as any in *England*. In *Warthfield* there are above 100 acres of wheat, that yield 5 and 5 $\frac{1}{2}$ quarters *per* acre; and a part of a field, that has more than once produced, after turnips, 9 quarters of barley *per* acre; and once 9 $\frac{1}{4}$. Clover was sown with it, and produced an excellent crop. After the clover, 5 quarters 5 bushels *per* acre of wheat: then sown with beans; the produce 5 $\frac{1}{2}$ quarters *per* acre: and after them, wheat again, 5 quarters 5 bushels *per* acre. These crops are very extraordinary; but a deduction remains to be mentioned,

which is an overplus of measure, which amounts to 2 acres in 32. We may, under these *data*, calculate the expences, produce, and profit, as follow. The rent I shall call 20s. an acre, though much is let at 8s. and 10s.

I. TURNIPS.

This crop I shall suppose just to pay the expence of culture, which is a very large allowance, considering the wonderful fertility of the land.

II. BARLEY.

Rent, &c. &c.	-	-	£. 1	5	0
Three earths and harrowing,			0	14	0
Seed and sowing,	-	-	0	10	6
Reaping and harvesting,	-		0	10	0
Threshing,	-	-	0	9	0
			<hr/>		
			3	8	6
			<hr/>		

III. CLOVER.

Seed and sowing,	-	-	0	6	6
Mowing, making, carting, and stacking twice,	-	-	1	10	0
Rent, &c.	-	-	1	5	0
			<hr/>		
			3	1	6
			<hr/>		

IV. WHEAT.

Ploughing and harrowing,		0	7	0
Seed and sowing, - -		0	11	0
Reaping and harvesting, -		0	10	0
Threshing, - - -		0	12	0
Rent, &c. - - -		1	5	0
		<hr/>		
		3	5	0
		<hr/>		

V. BEANS.

Ploughing, &c. thrice, -		0	15	0
Seed and sowing, - -		0	8	0
Reaping and harvesting, -		0	12	0
Threshing, - - -		0	6	0
Rent, - - -		1	5	0
		<hr/>		
		3	6	0
		<hr/>		

VI. WHEAT.

Expences, as before, -		3	5	0
		<hr/>		
Barley, - - -		3	8	6
Clover, - - -		3	1	6
Wheat, - - -		3	5	0
Beans, - - -		3	6	0
Wheat, - - -		3	5	0
		<hr/>		
		16	6	0
		<hr/>		

404 THE FARMER'S TOUR
PRODUCE.

Barley, 9 quarters, at 1 <i>l</i> .	£.9	0	0
Clover, suppose 4 tons of hay, at 40 <i>s</i> .	-	8	0
Wheat, 5 quarters 5 bushels, at 2 <i>l</i> .	11	5	0
Beans, 5 $\frac{1}{2}$ quarters, at 2 <i>s</i> . 6 <i>d</i> .	7	3	0
Wheat, as before,	11	5	0
<hr/>			
Total, besides chaff and straw,	46	13	0
Total expences,	16	6	0
<hr/>			
Clear profit,	30	7	0
<hr/>			
Or, <i>per acre per annum</i> ,	6	1	4
<hr/>			

This is what may modestly be called a very entertaining sort of a country for farmers to live in.*

I returned southwards by *Retford*, where I found several parts of husbandry carried on with spirit by Mr. *John Moody*, and particularly the fattening of oxen in stalls, on oil-cake and other food. For this business Mr. *Moody*

* Before I leave the *West-Riding*, that region of manufactures, let me insert the following account of the progress and present state of the manufacture of broad-cloths in this county, with some other very valuable particulars. (*See the Table annexed.*)

by the Treasurer's g at *Pontefract* Sessions,
of the Cloths ma Time.

by	Clerk of Peace.			Law Business, Advertisements &c.			Totals of each Year.			Broad Cloths.	Narrow Cloths.	
	l.	s.	d.	l.	s.	d.	l.	s.	d.			
	90	18	—	82	18	11	2672	4	11 $\frac{1}{2}$	60705 $\frac{1}{2}$	68889	1749
	78	10	3	88	2	10	2880	14	1 $\frac{1}{4}$	60447 $\frac{1}{2}$	78115	1750
	88	19	9	92	2	10	1989	16	5 $\frac{1}{2}$	60964	74022	1751
	72	3	3	22	4	—	1849	13	11 $\frac{3}{4}$	60724	72442	1752
	90	4	6	64	10	6	2527	19	1 $\frac{1}{2}$	55358	71618	1753
	81	17	6	16	3	—	2653	2	11 $\frac{1}{2}$	56070 $\frac{1}{2}$	72394	1754
	74	14	4 $\frac{1}{2}$	58	9	—	2130	2	6 $\frac{3}{4}$	57125	76295	1755
	83	4	5	14	6	6	2379	11	2 $\frac{1}{4}$	33590 $\frac{1}{2}$	79318	1756
	73	9	10	41	11	2	2078	14	— $\frac{1}{2}$	55777	77097	1757
	58	10	—	68	2	10	2734	9	1	60396	66396	1758
	79	15	—	38	10	10	2307	10	6	51877 $\frac{1}{2}$	65513	1759
	90	11	9	24	8	11	4423	11	7 $\frac{1}{4}$	49362 $\frac{1}{2}$	69573	1760
104	11	6		32	7	8	5871	5	3 $\frac{1}{4}$	48944	75468	1761
89	12	3		5	5	—	3345	9	4 $\frac{1}{2}$	48621	72946	1762
77	4	—		—	—	—	3590	18	4	48038 $\frac{1}{2}$	72096	1763
71	7			—	—	—	2221	4	2 $\frac{3}{4}$	51016	70458	1764

EXPENCES of the *West-Riding* of the County of *York*, from the *Treasurer's* Accounts, distinguishing each Year, ending at *Pontefract* Sessions, reduced to the following Heads, with an Account of the Cloths manufactured each Year, ending at the same Time.

Year	Surveys and repairing Bridges.			Contingents of Populace.			Contingents of King's Baggage.			Provisions of Fodder.			York Castle.			Heals of Corrales.			Marshalls and King's Bench Prison.			Sufferers by Fairs.			Clerk of Peace.			Law Officers Advancements &c.			Treasurer's Salary, Riding Charges, and Bots.			Chief Constables Salaries.			Orders about distemper & Cattle.			Acquisitions of Corners.			To the Bishop's Men's Families.			Total of each Year.			Broad Cloths.			Narrow Cloths.				
	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.	d.	l.	s.
1749	89	10	1	98	6	6	48	15	3	92	5	—	59	17	11	100	15	11	—	—	—	13	6	—	90	18	—	82	18	11	34	17	6	73	8	—	192	5	10	—	—	—	—	—	—	2672	4	11	60705	68859	1749					
1750	491	8	5	959	2	4	23	17	6	40	1	7	166	17	1	92	9	—	3	4	15	—	—	—	78	10	3	88	2	10	34	10	—	96	12	2	790	19	7	—	—	—	—	—	—	2880	14	11	66447	78115	1750					
1751	505	17	—	441	1	4	16	0	6	60	8	8	187	5	6	93	9	9	4	3	15	—	—	—	88	19	9	92	2	10	34	10	—	75	19	6	474	12	6	—	—	—	—	—	—	1989	16	5	60664	74022	1751					
1752	582	10	4	337	14	6	22	16	0	58	—	6	144	7	2	92	19	7	—	—	—	20	—	—	72	3	3	34	10	—	34	10	—	77	16	4	384	12	3	—	—	—	—	—	—	1849	13	11	60724	72442	1752					
1753	964	12	3	459	18	5	29	4	9	73	16	3	93	15	4	153	6	3	—	—	—	31	—	—	90	4	6	64	10	6	34	10	—	87	6	4	366	5	4	79	9	6	—	—	—	2527	19	11	55358	71618	1753					
1754	942	5	5	504	3	11	30	8	3	149	8	8	107	7	6	99	—	—	—	—	—	22	—	—	81	17	6	16	3	—	34	15	6	77	16	4	413	5	4	174	11	6	—	—	—	2653	2	11	56070	72301	1754					
1755	487	15	2	451	1	1	33	2	3	192	12	7	166	7	7	98	5	1	16	10	38	—	—	—	74	14	4	58	9	—	34	10	—	78	2	10	205	9	6	150	16	3	—	—	—	2130	2	6	57125	76205	1755					
1756	564	16	5	681	—	5	56	9	—	169	2	5	195	15	3	93	13	1	1	14	4	—	—	—	—	—	—	14	6	6	34	10	—	74	8	—	222	1	9	188	9	6	—	—	—	2379	11	2	33590	79318	1756					
1757	640	7	10	614	—	6	7	13	6	101	8	5	155	—	6	95	16	4	—	—	—	17	—	—	73	9	10	41	11	2	34	10	—	81	7	10	74	4	5	142	3	7	—	—	—	2078	14	—	55777	77097	1757					
1758	1007	—	—	860	2	10	18	10	6	171	18	1	108	13	7	111	15	—	—	—	—	5	7	9	55	10	—	68	2	10	34	10	—	70	13	—	—	—	—	163	15	4	—	—	—	2734	9	1	60396	66396	1758					
1759	635	12	6	794	4	7	16	15	—	157	6	—	171	10	5	110	14	9	—	—	—	20	—	—	79	15	—	38	10	10	34	10	—	98	18	8	—	—	—	149	12	8	—	—	—	2307	10	6	51877	6513	1759					
1760	2092	13	10	615	2	3	42	1	9	143	1	2	149	10	4	106	18	7	—	—	—	20	—	—	90	11	9	24	8	11	34	10	—	89	9	5	—	—	—	176	10	9	838	12	10	4423	11	7	49362	6957	1760					
1761	1151	15	11	672	4	1	110	12	—	74	9	2	149	10	5	91	8	9	—	—	—	14	4	20	—	—	—	32	7	8	34	10	—	201	18	2	—	—	—	102	12	2	3050	9	10	5871	5	3	48062	6957	1761					
1762	561	4	10	610	6	5	22	6	9	48	11	2	104	15	1	89	3	1	3	9	4	—	—	—	89	12	3	5	5	—	34	10	—	126	17	5	—	—	—	185	8	6	1404	—	3	3590	18	4	48038	72066	1762					
1763	1041	1	6	770	12	11	39	4	3	70	2	8	105	5	10	94	18	9	—	—	—	15	6	—	74	7	—	15	9	—	34	10	—	102	13	5	—	—	—	101	10	3	24	10	2	3231	4	2	54916	74058	1763					
1764	858	16	7	623	13	11	22	6	9	145	6	6	97	4	—	87	13	—	—	—	—	10	—	—	70	15	6	7	2	—	34	10	—	97	5	5	—	—	—	185	18	9	11	17	6	2600	12	5	54660	7749	1764					
1765	1543	15	7	643	3	5	20	—	3	145	6	6	97	4	—	87	13	—	—	—	—	10	—	—	70	15	6	14	11	9	34	10	—	156	16	8	150	14	10	201	6	10	4597	13	11	72575	78893	1765								
1766	2698	12	—	486	2	11	23	7	6	326	4	4	234	13	1	98	8	—	—	—	—	3	8	10	40	—	—	14	11	9	34	10	—	162	15	9	—	—	—	142	14	—	1	4	—	4544	6	10	102428	78819	1766					
1767	2580	6	11	598	5	9	44	18	3	241	3	11	126	8	5	554	11	3	—	—	—	—	—	—	135	16	9	21	11	9	34	10	—	162	15	9	—	—	—	142	14	—	1	4	—	4545	8	8	90036	74486	1767					
1768	1793	7	10	421	12	9	40	3	3	199	6	2	79	6	—	1473	3	5	3	8	10	—	—	—	133	12	3	4	11	—	34	10	—	149	—	9	—	—	—	270	6	4	—	—	—	6234	4	9	92522	8762	1768					
1769	3453	19	—	355	8	2	39	17	—	355	5	—	262	12	7	994	17	9	—	—	—	—	—	—	53	—	—	34	6	11	34	10	—	200	11	—	—	—	—	243	4	9	—	—	—	6234	4	9	92522	8762	1769					
1770	3435	3	—	410	14	9	31	18	6	290	14	5	137	8	5	374	4	9	—	—	—	35	—	—	134	3	1	15	11	—	34	10	—	167	3	11	—	—	—	182	14	3	—	—	—	5199	6	2	93074	8536	1770					

Number of Broad Cloths milled each Year at the several Fulling-Mills in the *West-Riding* of the County of *York*, from the Commencement of the Act, viz. *June*, 1725, to the 12th of *March*, nine Months; and of Narrow Cloths, from the Commencement of the Act, viz. from 1st *August* to 20th *Jan.* 1738, being fix Months 20 Days, and from that Time yearly.

	Broad.	Broad.	Narrow.
From <i>June</i> 1725	26671	1738	42104
To <i>March</i> 1726	28990	1739	43086
1727	25223	1740	41441
1728	29643	1741	46364
1729	31579	1742	44054
1730	33563	1743	45178
1731	35548	1744	54627
1732	34620	1745	50453
1733	31123	1746	56637
1734	31744	1747	62480
1735	38899	1748	60765
1737	42256		

No. of Yards (Pieces being now of different Lengths) of Broad and Narrow Cloths made in the Years ending at *Pontefract* Sessions, 1769 and 1770.

	Broad.	Narrow.
1769	27716671	2144019
1770	2717105	2255025

Moody erected the most complete ox-house I remember to have seen. It contains 26 beasts, each in a stall, which, for large oxen, are 8 feet wide, and 6 feet for smaller ones. At the head of each stall is a square manger for the hay, which is put in through a window in the wall, exactly opposite the head of the ox; and, as the hay-stacks are disposed in a yard along the back of the building, there is no loss of time or hay, by having far to carry it: the man takes it from the stack, and puts it, at one step, into the manger. On one side the hay is a small stone cistern, by way of trough for the ox to eat his oil-cake out of; and, on the other side, another stone cistern for his water, which is supplied in a very convenient manner. On the outside the building is a pump, which raises the water into a cistern, exactly on a level with all those which supply the oxen. A pipe of lead leads from this cistern to all the rest in the house; so that the man can see, by the height of the water in the pump cistern, how high it is in all the rest. The house is not open, like a shed, but shut quite up: in the doors are holes, to let in air; but sliding shutters cor-

respond with them, to exclude it at pleasure. At one end of the building is a small room for the oil cakes, and also a stove, with a broad iron top, for laying on the cakes to heat a little for breaking: a wooden anvil stands by it, upon which they are broken with much ease when warm.

Mr. *Moody* generally puts up those beasts that have had the summer's grafs: a large sort, from 80 to 130 stone: they are taken to the cakes about the beginning of *November*, and are sold, quite fat, by the 20th of *March*, in a general way, but many before. If the beasts are smaller, they need not be so forward: if they are only fresh in flesh, they will be completely fat by that time.

The price of cakes vary much; but they have, of late, been about 4*l.* 10*s.* a ton, besides 5*s.* carriage: this is an high price. Mr. *Moody* thinks it will not bear, at the utmost, more than 5*l.* he would never fatten, if it was higher.

The cake is given regularly three times a day: at seven in the morning, at twelve at noon, and at half an hour after four in the afternoon: this in short days; but, in longer,

onger, it is at six in the morning, at twelve at noon, and at six in the afternoon.

Mr. *Moody* is, in one particular, very singular: it is a general opinion, that oxen are so hot when fat, that they should be allowed much air, and accordingly open sheds have been recommended. On the contrary, this gentleman is clearly of opinion, that the hotter they are kept, the better they will fatten. He keeps them shut up, and, for some time, does not so much as let in any air through the holes in the doors: the breath of so many, with the natural heat of their bodies, bring them soon to sweating prodigiously, and, when that is in its height, they fatten the best and quickest. After sweating a fortnight, the hair all peels off them, and a fresh coat comes, like that in *April* or *May*, and, after that, they sweat no more. Mr. *Moody* has observed, that those beasts, which do not sweat at all, scarcely ever fatten well.

He gives a beast, of 100 stone, two cakes a day, at first, for about two months, and then three a day till fat: the cakes weigh about 6*lb.* each: they have also 20*lb.* of hay each *per* day; but they eat only the

408 THE FARMER'S TOUR

prime of it ; a large stock of lean beasts being kept on their offal hay.

Suppose a beast put up the 1st of *November* : the two first months he eats 120 cakes ; from *January* to the end of *March*, he eat^s 270 more, 390 cakes in all ; and, reckoning 20 *lb.* of hay a day, during the whole time, it is 1 ton 6 *cwt.*

390 cakes, 6 *lb.* each, 21 *cwt.* at

4 <i>l.</i> 10 <i>s.</i> a ton, are,	-	£.4	14	6
1 ton, 6 <i>cwt.</i> hay, at 40 <i>s.</i>	-	2	12	0
Total,	-	7	6	6

So that an ox of 100 stone, in his winter fattening, eats above 7 *l.* but he improves in value more than to that amount. If they only cleared it, there would remain great profit ; for Mr. *Moody* raised 200 very large loads of rotten dung from the winter fattening of 45 beasts, by means of 20 waggon loads of wheat stubble, used for littering ; and, as long experience has proved the dung of beasts fattened on oil cakes, much to exceed any other, he values it at 7 *s.* 6 *d.* a load, as much as can be carried away by four horses, on a very large cart.

The

The weight about 3 tons, this	
is, - - -	£.75 0 0
Deduct for 20 load of stubble,	
at 5s. - - -	5 0 0

Profit on the dung of 45 beasts,	70 0 0

Or, <i>per</i> beast, - - -	1 13 0

But Mr. *Moody* has often taken lean oxen of a smaller size from straw, put them to oil cake and hay, and sold them fat in eight weeks, with a considerable profit on them.

He bought two oxen for 17*l.* 10*s.* out of a team, in *July*, quite lean: he kept them at grass till the end of *October*, then put them to cakes, and sold them the *April* following for 50 guineas, which is very considerable. Nor does he ever fatten any, that yield him no other profit than the dung: he generally makes from 40*s.* to 6*l.* a head, clear profit on the cake-fattening alone.

The attendance on them is not expensive, from the very great convenience of the house. He has never more than a man and boy to the whole 26: they heat and break the cakes, give them to the beasts, supply them with hay, pump their water, litter and clean

clean them, without any assistance, and have a good deal of time to spare.

In the above calculation, the oil-cake is reckoned at its present high price; but the average rate is not above 4*l.* a ton.

The system, upon the whole, is excellent: a profit is made upon the fattening, in the mere difference of the price lean and fat; but the grand object is the raising large quantities of the best dung in the world. I may remark, that Mr. *Moody's* quantity is much under what ought to be raised, as may be easily imagined, from his not having land enough of his own to use it. It is not, therefore, an object with him; but twenty waggon loads are nothing to 45 beasts: they would convert a load a head into dung, without in the least diminishing the virtue of it; but this would depend on the management: the urine alone of these beasts would make a vast quantity of straw into as rich a heap of black manure as can be conceived. If they were thoroughly well littered, and their dung kept before the house, in a clamp made in a cubical form, and all the urine regularly pumped on to it, the heap would contain abundantly more than 200 loads, and
be

be to the full as valuable as the present quantity, without such attention; and, upon this system, oil-cake fattening would be one of the readiest methods of improving a farm.

That the value of the dung is greater than common, cannot be doubted. In some parts of *Yorkshire*, I think about *Broadfworth*, I have been told of 9s. a load of only 32 bushels being given for it.

It is something curious to calculate the quantity of manure arising from a given quantity of litter. The preceding account will furnish *data* for that purpose.

Twenty loads of stubble the litter.

Twenty-six beasts, if all of 100 stone, would eat 27 tons of cake; but, as 12 of them are of a much smaller size, we must call it 20 tons: the number of 45 beasts makes no change, as there were never more than 26 at a time, only the house kept full. The fattening was performed in the same time: The hay would, if all were large beasts, amount to 33 tons: call it therefore 30.

412 THE FARMER'S TOUR

The quantity of dung in loads of		
3 tons each, is	-	200
Deduct 7 loads for 20 ton cake,	-	7
		<hr/>
Remains on the account of hay and		
stubble, 33 loads of hay, and 20 of		
stubble, in all 53 loads,	-	193
		<hr/>
Or, <i>per</i> load,	-	$3\frac{2}{3}$
		<hr/>

But, as these loads of dung are quite uncommon, we must calculate on such as are better known. A ton and half are a very good large cart-load : let us therefore double the 193, it is 386.

This is to 1 load of hay and stubble 7 of dung.

From whence it appears, that a waggon load of litter makes 7 good loads of dung. The notion, common in some places, of a load of straw making only a load of dung, is a mere vulgar error. I should value such dung on a farm at 5*s.* a load, in any part of *England*: according to which price every load of litter pays 1*l.* 15*s.* Does not this account tend strongly to prove, that litter may, in general, be profitably bought at much higher prices than common?

Mr.

Mr. *Moody* tried an experiment to decide the comparative value of the oil-cake dung with common farm-yard manure. He divided a close of 16 acres of grass in halves: 8 acres he manured from the ox dunghill, 12 loads an acre; and 8 from a common hill, 24 loads an acre. The half manured with the oil-cake dung much exceeded the other: the superiority was indisputable.

He has cultivated carrots with very great success. In 1766, he had an acre and half: the soil, a good deep sand, unmanured; but ploughed twelve inches deep. They were hand-hoed, 9 inches asunder, and kept quite clean. Used them for fattening oxen, and with the utmost success: the crop weighed 20 tons *per* acre.

In 1767, he sowed the land with barley, and got seven quarters and an half *per* acre.

In 1767, he had another crop of carrots, half an acre and half a rood of the same soil. It was fresh land, and he pared it, and carried the turf all off to a compost heap: this piece was also ploughed 12 inches deep, and the carrots set out, at the distance of nine inches: they were dug up for oxen, as wanted. No beasts in the world could fat-
ten

414 THE FARMER'S TOUR

ten quicker: they liked them better than oil cake, and throve as well on them.

The half acre and half rood produced at the rate of 20 tons *per* acre, and fattened three oxen of 80, 100, and 110 stone, during three months: each beast had half a stone of hay a day: they throve as well as if on oil cake.

Suppose the land but half an acre, and the beasts but two, it is four to an acre, three months: they would in that time have eat of oil cake,

Two tons, 18 <i>cwt.</i> or,		£.13	1	0
There is also a saving of 13 <i>lb.</i> of hay each beast <i>per</i> day; it is				
two ton,	-	-	-	4 0 0
Total,	-	-	-	17 1 1

The difference of the half rood, and the other beast, would more than make this sum 20*l.* the produce of one acre of carrots.

These beasts fattened so well on the carrots, that Mr. *Moody* much regretted the not having more land that would do for them, which had he possessed, he would never have bought any more oil cake. The above valuation

uation of the saving in cake, does not give the real value of the carrots, as the profit on the beasts should come into the account, and also that of the dung: the crop paid 1 *l.* *per* ton.

In 1768, the piece was planted with potatoes, and he sold the half acre and half rood for 13 *l.* the purchaser to be at the expence of the last cleaning and the taking up: this is just 20 *l.* an acre.

In 1769, it was sown with carrots again, on one ploughing: the management as before: the crop came to 25 ton. Many of them were 18 inches in circumference: they were given to oxen, who fattened on them as well as before: no beasts could thrive quicker.

In 1767, this piece of land paid

<i>per</i> acre, in carrots,	-	£.20	0	0
In 1768, in potatoes,	-	20	0	0
In 1769, in carrots,	-	25	0	0

It is now under potatoes, and promises for a vast crop. This experiment sufficiently proves the profit of the carrot husbandry.

Another piece of three acres was sown with carrots, in 1768, and managed in the same

same manner. The only particular minute Mr. *Moody* kept of them was, that they saved him, in fattening oxen, just 70*l.* in oil-cake.

In 1769, it was sown with oats, and yielded 35 quarters, on the three acres.

Grass seeds were sown with the oats, *viz.* two quarters *per* acre of hay seeds, 6*lb.* white *Dutch* clover, and 6*lb.* trefoile. It was mown for hay this year, and produced 7 tons. The amazing profit of these rich lands, when cultivated with the vegetables that suit them, may from hence be easily conceived.

The expences of an acre of carrots, Mr. *Moody* calculates as follow.

Rent,	-	-	-	£.2	0	0
Town charges,		-	-	0	2	0
Tythe,	-	-	-	0	5	0
Seed, 6 <i>lb.</i>	-	-	-	0	8	0
Sowing,	-	-	-	0	0	3
Ploughing,	-	-	-	0	5	0
Harrowing,		-	-	0	1	0
Weeding and hoeing,			-	2	2	0
Taking up,		-	-	1	1	0
				<hr/>		
Carry over,	-	-	-	6	4	3

Brought over,		£.6	4	3
Carting home,	-	0	10	0
Topping, washing, and cutting,	-	0	15	0
		7 9 3		
Average product,	-	22	10	0
Total expences,	-	7	9	3
		15 0 9		
Clear profit,	-	15	0	9

An acre fats 4 oxen during 14 weeks; the lowest calculation we can make of the dung arising, is 7 loads *per* head, or 28 in all; which at 5*s.* is 7*l.* from which is to be deducted the price of 4 loads of litter: suppose at 10*s.* or 40*s.* in all, there remains profit on the dung 5*l.*

By carrots,		£.15	0	9
Dung,	-	5	0	0
		20 0 9		
Total profit <i>per</i> acre,	-	20	0	9

And if the above *data* are taken as a guide, I do not see how the profit by an acre of such carrots can be laid at a less sum. But suppose objections are started by those who do not understand the culture; let them form their deductions, strike off half the

amount; where will they find a fallow crop that cleans the land of weeds in so effectual a manner, that will pay such a profit? Turnips will never do it.

Carrots at 20 s. a ton, come to about 5 d. $\frac{1}{2}$ a bushel, reckoned at 48 lb. But let me observe, that the common price to sell them in the southern part of *Nottinghamshire*, is 6 d. to those who buy them, and make a profit themselves; from whence it is sufficiently plain that the above valuation is under the truth.

The carrots which I have cultivated myself at different times, have paid from 9 d. to 1 s. 1 d. in a general way. The above crops reckoned at such a price, would rise from 30 l. to 40 l. an acre profit.

Twelve acres and an half of hazel loam, a very rich soil, was ploughed from the old turf; and cropped with woad for two years. It was then sown with barley, 7 pecks of seed an acre, and produced 7 quarters. Next it was sown with oats, 2 bushels *per* acre; the crop 11 quarters *per* acre: with these oats were sown 2 quarters of hay seeds, 6 lb. of white clover, and 6 lb. of trefoile. This year (which is the first)

40 tons of hay are mown, and the after-grafs will now fell for 10*s.* an acre.

The woad-men gave 6*l.* 10*s.* *per* acre for the two years, and paid all rates.

About *Retford*, in the clays, Wheat produces 30 bushels an acre; Barley 4 quarters; Clover 2 loads of hay, and a feeding; and of Beans 3 quarters.

Upon sandy lands of 5*s.* an acre, they have, 1. Turnips of 2*l.* 2*s.* value; 2. Barley, 5 quarters; 3. Clover, 2 loads an acre at one mowing; and 4. Wheat, 24 bushels.

In the good sands of 20*s.* an acre, they have 1. Turnips, worth on an average 50*s.*; 2. Barley, 6 quarters; 3. Clover, 2 loads of hay, and an after-grafs worth 10*s.* an acre; 4. Wheat, 30 bushels an acre.

Farms around *Retford* rise from 20*l.* to 120*l.* a year: in general from 50*l.* to 60*l.* The average rent of stiff lands 15*s.* an acre, and of sands 10*s.*

The best farmers in this neighbourhood reckon that 2000*l.* is necessary to stock a sand farm of 200*l.* a year. They divide that sum in the following manner.

Rent,	-	-	-	£.200
Town charges,	-	-	-	15
Carry over	-	-	-	£.215

420 THE FARMER'S TOUR

	Brought over,	-	-	£.215
Tythe,	-	-	-	20
12 Horses,	-	-	-	204
Harnes,	-	-	-	24
3 Waggon,	-	-	-	80
2 Broad wheeled carts,	-	-	-	30
Two narrow ditto,	-	-	-	20
Sundries,	-	-	-	30
6 Ploughs,	-	-	-	7
1 Large ditto,	-	-	-	5
4 Pair of small harrows, and 2 large ditto,	-	-	-	12
2 Rollers,	-	-	-	3
6 Cows,	-	-	-	42
2 Sows,	-	-	-	3
300 Sheep,	-	-	-	160
24 Young cattle,	-	-	-	70
Seed, 40 acres wheat,	-	-	-	30
40 Turnips,	-	-	-	2
40 Clover,	-	-	-	8
40 Barley,	-	-	-	15
2 Men,	-	-	-	20
2 Boys,	-	-	-	12
2 Maids,	-	-	-	6
2 Labourers,	-	-	-	40
Extra labour,	-	-	-	20
				<hr/>
	Carry over,	-	-	1078

Brought over, -	£. 1078
Labour in improvements, -	100
Housekeeping, - - -	100
Furniture, - - -	150
Cash in hand for the second year, which will fall short in produce,	600
	<hr/>
	£. 2028
	<hr/>

Mr. *Moody* tried a compost consisting of the turf pared off three roods of land, mixed in a heap with 14 loads of oil-cake dung, in *February* 1767. It was turned over the *November* following; again in *May*, and laid on 5 and 1 acres of grass land, the soil a cold clay, the *Michaelmas* following: the quantity 125 loads; and no improvement could be greater. One acre after this manuring was worth three of the same land before.

There has been lately practised, near *Retford*, some very uncommon improvements by means of hops, particularly by *George Brown*, Esq; of *Ordsal*, and — *Mason*, Esq; of the same neighbourhood. I was so unfortunate as not to find Mr. *Brown* at home, but on an accidental meeting he had before given me the following slight account.

422 THE FARMER'S TOUR

He tried them on a black bog, 3 feet deep; the spontaneous growth nothing but rushes, and let for but 3s. an acre. It was drained at a small expence by open cuts, and planted with hops in squares of 6 feet. They have succeeded to admiration. The product on an average has been 8 *cwt.* per acre; and sold at 9*l.* on a medium, which is 72 *l.* per acre; and the expence of culture has been 10 *l.* per acre per annum; therefore the clear profit is 62 *l.* per acre.—Not one garden in ten in the richest hop countries comes near this profit, which is gained from a waste bog let at only 3s. an acre. I should observe, that it is sheltered by higher grounds from the east and west winds. This great success should animate the possessors of low, swampy, boggy places, and moory bottoms, to try hops in them: No one can doubt but many such tracts of land remain unoccupied by any useful plants, which, with a little attention, would do admirably well for hops.

At *Clumber*, a few miles from *Retford*, the duke of *Newcastle* is making very great improvements: his park is a large extent of wild unimproved forest land; but his
Grace

Grace is planting on so large a scale, and reducing such a great quantity of the ling land to profitable grass, that the place in a few years will not be known. The extent of the new plantations is very great, so that they will prove not only an ornament to all the country, but a source of immense profit to the family*.

Besides the plantations, some hundred acres of grass have been gained from the ling, and rendered profitable ground. I made particular enquiries into these improvements, and the method in which they were performed. The soil is in general a black moor—with the general distinction of good and bad, in proportion to the quantity of channelly gravel in it; which abounds so much in some spots, as to render them quite barren. The culture pursued

* The house is almost new built, of a stone from the duke of *Norfolk's* quarry, the whiteness of which is uncommonly beautiful. The building has three handsome fronts, one of them to the river. The *Ionic* colonnade against the centre is pleasing; the pillars remarkably light. A winding vale is marked out to be floated with water, which when executed will be fine.

sued, has been to pare and burn the soil first, with all the trumpery on it, and to sow turnips; which are hand-hoed. The crop generally but a poor one. A second is then taken, which rises in value from 40s. to 3*l.* an acre. After them barley or oats are sown, and then turnips again; after this crop of turnips another of spring corn, and then laid down with that by sowing ray-grass and clover. This course of husbandry is found to kill all the ling, fern, &c. Some pieces have been laid to grass much earlier in the course, and the ling has come again.

The reader will doubtless observe, that this is partly the *moor* husbandry of the north and west of *Yorkshire*, &c. but it may not be improper to add, that keeping the land so long in tillage is quite unnecessary, and even hurtful to the future grass: the ling coming again is totally for want of lime. Paring and burning give it a great check, but lime quite destroys every root. Throughout the improved moors in the north, they throw in, with the ashes of the paring, from 2 to 5 chaldrons an acre of lime, spread the whole together and sow turnips,
feed

feed those turnips on the land, and with the oats that follow, sow the grass feeds, (not ray-grass and clover) plenty of hay feeds, and 10 or 12 *lb.* of white clover, with 6 or 8 of rib grass. And no ling will again appear; if it should accidentally come in patches, a fresh dressing of lime is infallible death to it. The farmers, it is true, will take several crops of oats running; but that is not by way of destroying the ling, but for the largeness of the product. That lime in this system is necessary, is best seen in the improvements of the *Peak*, where they totally, and at once destroy the thickest crops of ling, by one liming; and without any paring, burning, or ploughing. Had I any moors to improve like *Clumber Park*, I would go twenty miles for lime rather than attempt so complex a method as many successive tillage crops.

The Duke has the largest farm-yard in the county; the hog-houses are very convenient, in emptying the wash, grains, &c. directly out of the cisterns through the wall into the troughs.—The plenty of dung in the yard, was also an indication of good management—it would be more so, if the
wheat

wheat stubbles were all cut and carried into it—and I should apprehend the park would afford plenty of fern for the same purpose. The cow-house contains 31 stalls in a line, and if the cart-lodge behind was used for a food shed, with holes through the wall to the head of each beast, it would be an admirable fattening house. One circumstance I shall beg leave to recommend, which is to stop the urine from all the houses and yard, and the slaughter-house blood, from running into the river. Considering the great quantity of cattle kept here, it is a moderate computation to suppose it sufficient, with a little management of throwing it on to an earth compost, to manure 50 acres of land every year. *

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The

* THORESBY, the duke of *Kingston's*, joins to *Clumber*. The water, which is designed to represent a large river, is very fine; the length and breadth great. And the lawns, which hang to the house in varied slopes, and crowned with thick woods, are very beautiful. His grace is building a new house—a large handsome edifice.

The county of *Nottingham* consists principally of light sandy land, called here, *forest* land, from the great extent of the old forest of *Shirewood*. There are some tracts of heavier soils, which are in an improved culture, but the quantity is small in comparison of the sands, which are almost uncultivated.

The management of the common farmers is very incomplete. Most of them have large tracts of forest land at command, of which none make any other use than to keep a few sheep. If they plough up any of it, they take as many successive crops of corn as the land will bear, till at last they scarcely get their seed again; of which I have seen more instances than one, then they leave it either to turf itself—or perhaps the best of them throw in a little clover and ray-grass; with what success may be easily imagined.

Many farms have large tracts of low lands along the brooks, which are intended by nature for rich meadows, but they are kept in so slovenly a manner, that they hardly deserve the name of grass fields: all over-run with rushes, flags, ant-hills, and poisoned with water.

I shall venture to recommend to both landlords and tenants to be strenuous in introducing a better system: it depends much on the first; for the old farmers, that have been long used to crops of ling in their forest, and rushes in their meadows, will take at least half a century to be convinced, that corn should occupy the place of one, and that grass should supersede the other. The proper method would therefore be to fix some sensible farmers, from more enlightened countries, on these ill-managed farms; men that would shew what could be done with the land.

The sandy fields, however wild and desolate they may appear at present, are all capable of being conducted on the *Norfolk* plan of common husbandry: that is, they should be manured with good marle, if it can be found; and, if not, then with clay. Marle may perhaps not be found, though no farmer in the county has tried for it; clay can undoubtedly be had. After the manuring, a good farmer would follow this course:

1. Turnips. 2. Barley. 3. Clover, and clover and ray-grass for 2, 3, 4, or 5 years.
4. Wheat, or oats.

There

There are some sands that will not lie to clover above two years, without filling the land with weeds; but this is oftener the effect of bad husbandry, than any quality of the soil. In very light lands, I am persuaded, it is good management to leave the grafs on the land, as long as it will remain a crop; for the greatest fault of such land is its looseness, and the roots of the grafs matting, during several years, gives it an adhesion, which it would otherwise never have.

The grafs should be fed with flock sheep, and those folded the year through, winter as well as summer, which is one of the greatest improvements to land in the world, and of which the farmers of this country are totally ignorant.

The turnips should all be fed on the land; a part proportioned to the flock of sheep should be assigned for their winter food, and the rest used in fattening little *Scotch* cattle on the land. In many instances, it is better to draw turnips for this use; but such light sands are greatly improved by treading alone. In some parts of *Norfolk*, they get rather better barley after black cattle, than after sheep: but let it always be remembered, that turnips, if fed on the land, must

be eaten by different sorts of cattle, unless the stock is lean sheep: the flock must always follow fattening bullocks, or fattening sheep, to eat up their leavings.

Upon this system, the land would always be sure of yielding a good crop of barley; but a second upon it, or one of oats or pease, should never be taken. Such stolen crops are always pernicious to weak lands: to say that the turnips should be hoed, is surely needless. The above sketch is such as a good common farmer would of himself execute; but a gentleman, with more informed ideas, might advance the land to a much greater profit, with the assistance of carrots and potatoes. The preceding minutes shew plainly, that those vegetables will do extremely well on these sands. It would be a wonderful improvement, if these crops were totally substituted in the room of turnips: they would together answer every purpose that ever that root was applied to, but with much greater success. Sheep, through the spring, quite to *May*; oxen, cows, swine, and horses, instead of oats: all these are uses, for which carrots are incomparable, and many of them, for which turnips will do nothing. Potatoes will keep

cows through the winter, and fatten swine. The large produce of these crops would enable the farmer to keep so much live stock, that the land would receive amazing improvement from the quantity of dung.

Gentlemen, that try carrots, have not acted with spirit: they sow an acre, and, if they extend it to three, they plume themselves on doing great things: but a plant, that cannot be introduced into the course of a whole farm, so as to occupy a fourth or fifth of the arable land, is nearly worthless. Carrots and potatoes may undoubtedly be cultivated to any extent; because they do not require to be sold off the farm; but are consumable by live stock: all which crops may profitably be increased without end.

The tracts of good land on the rivulets, called here meadows, would, under such a farmer, deserve that name; if the ditches, which divide them, were cleansed, enlarged and deepened, and covered drains laid into them, in number sufficient for rendering the land perfectly dry and sound; the ant-hills all cut off, all inequalities levelled, and many fields laid under water in winter. Farmers may not be induced to practise such improvements; but gentlemen have

no excuse for not executing them. Those lands, now let at 10*s.* or 12*s.* an acre, would at once bring 20*s.*; a rise, far more than sufficient for paying the interest of the sums employed, and leaving treble the profit of any other application of the money. Such improvements here would have a peculiar value: these meadows join the sand lands through many very extensive tracts of country; so that they would be at hand to support that stock in summer, which the turnips, carrots, and potatoes, carried in the winter. For want of such meadows, the great *Norfolk* farmers are forced to hire marshes, though at the distance of 20 or 30 miles from their farms.

These improvements are not ideal: they might be executed at an expence very small, on comparison with the benefit resulting from them: but little time would be requisite from the beginning to the completion; and the profit would, in every instance, be certain, not dependant on contingencies, the caprice of farmers, or the chance of seasons. It is, in all such undertakings, the wise ordination of providence, that a spirited industry should command success.

L E T T E R IX.

FROM *Nottinghamshire* I entered *Lincolnshire*, by *Dunham-Ferry*, across the *Trent*. On the *Lincoln* side the river, the soil is sandy, but very good: lets for 17*s.* an acre on an average. The crops of wheat produce three quarters *per* acre, barley five, oats six, and clover that yields four tons at the two cuttings. It is certainly excellent clover land; for the wild trefoile, and white clover, in the road, is more luxuriant than any such I remember to have seen; and yet most of the pastures are over-run, to great excess, with the holchus grass, which is a mere weed. The soil is various from hence to *Lincoln*, but in general pretty good: lets at 10*s.*

At *Bostham*, near that city, is a black sand on gravel, and a strong gravel. Also some black moory bog, 6 to 18 inches deep, and then sand; and likewise some low fen and, as it is called here, from 5 to 20 feet deep: this is a true bog.

Farms rise from 20*l.* to 100*l.* a year; generally about 40*l.* Rents, on an average, are at 10*s.* an acre. Their courses are, on sands,

1. Turnips.—2. Barley.—3. Rye.

Also, 1. Turnips.—2. Barley. And,

1. Turnips 3. Rye

2. Barley 4. Pease.

All which are execrable. Sometimes they sow a little clover, and on that get indifferent crops of wheat; but the practice is not at all common: the crop is not above two quarters. For rye, they plough twice, sow two bushels an acre, and get three quarters on an average: they likewise plough but once for barley, sow three bushels an acre, and get three quarters in return. For oats, they plough but once, sow four bushels, and reckon the average produce at 4 $\frac{1}{2}$ quarters.

They give but one earth for pease, sow three bushels, and gain in return three quarters.

For turnips, they stir three or four times, never hand-hoe them: eat them all with sheep. The crop from 25*s.* to 50*s.*; average 35*s.*

Whenever they sow clover, they mow it
twice

twice for hay, and get three tons an acre at the two cuttings: they keep it but one year on the ground, and then harrow in wheat. This clover husbandry is rather too good for the *Bootham* farmers; and we accordingly find it extremely rare; and it bids fair for being quite omitted, as they think it does their land much harm, in filling it with twitch; but let them remember their turnips unhoed, and two crops of white corn running.

Potatoes they sometimes cultivate; plant them in rows one foot asunder. An acre sometimes is worth 15*l*.

They have scarcely any idea of improving their poor moory soils; and, not content with their own supineness, they attempt to ridicule those who have more spirit. Mr. *Luddington* improved 20 acres by paring and burning, and then dunging for turnips; after which he sowed rye, and had $4\frac{1}{2}$ quarters *per* acre; with which he laid down to natural grasses, and it has been a good swardth ever since. This is their own account: it proves Mr. *Luddington* to have been a very good farmer; but they assured me he was a very bad one, and never worse than when

he thought of improving land which they did not value enough to cultivate. I asked them, *if the grass was good?* They replied, Yes. *Why not improve more, then?* It won't do, Sir: it cost him a power of money: gentlemen may do any thing; but a farmer's purse is not so long.—Which would be their answer to an improvement, wherein 5*l.* paid 500*l.*

As to their manuring, it is very inconsiderable, and the practice is rather declining; for they used to lime, but have now left it off, not because they found it did not answer, but, one would think, because it did. Mr. *Greetham*, of this place, ten years ago, burnt lime, and laid four or five chaldron *per acre* in one place; less in another; in a third, he mixed dung and lime together. The result was, that the large quantity of lime alone beat all the rest; in particular, it completely killed all the weeds, and did so much benefit, that he now sees, in every crop, to a foot, where he laid it. Farmers seldom try experiments; but, when they do, it may be supposed, that they give great attention to them, and mark well the consequences, to know how to proceed in future.

ture. Mr. *Greetham*, you may suppose, has made good advantage of his discovery, and continued the practice : just the reverse ; not a chaldron has been ever used in the parish since.

They keep sheep ; but never fold them.

Some farmers buy *Lincoln* stable manure at 1 s. a load, and lay 15 to an acre.

Their meadows consist of fen land, full of flags ; but no draining thought of. I asked why they did not drain their meadows.—No, they said, that would not do ; for flags made excellent cow-hay.

They find it sometimes necessary to lay land down to grass : they used to sow some clover and ray-grass with the last crop of corn, after the land had yielded two or three : but this they have left off. So ! I am glad to find you are such good farmers. Then, I suppose, you sow white clover and trefoile instead of it ?—*Alack-a-day, Sir, we sow nought at all : we leave the rye stubbles to turf themselves : seeds would do no service at all, Sir.*

Good grass land lets at 20 s. an acre : they generally mow it all for hay ; but an acre and half would carry a cow through

438 THE FARMER'S TOUR

the summer. Their breed of cattle is between the long and short-horned. A middling cow will give two gallons of milk at a meal, and in total product 4*l*. They know nothing of keeping swine in consequence of their dairies; have not above two or three pigs to ten cows.

The winter food is in the meadows alone, except at calving, and then they give them some hay.

Swine fatten to 20 stone.

Their flocks of sheep rise to 200: the profit is very low: they reckon the lamb at 5*s*. and the wool at 1*s*. 6*d*. but they keep them in winter on the common alone; their fleeces 2 $\frac{1}{2}$ or 3 *lb*.

In their tillage, they reckon four horses necessary to 50 acres of ploughed ground, use two in a plough, and do an acre, or an acre and a half in a day: the depth three or four inches: the price *per* acre 4*s*. or 5*s*.

They know nothing of cutting straw into chaff.

Oxen they once used, but have now left them off. They do not plough their stubbles till *Lady-day*: a practice which, united with the following one of not hoeing their
turnips

turnips, and then taking two three crops of corn on the credit of *such* a fallow, are alone sufficient to give an idea of their husbandry.

In the stocking farms, they reckon 400*l.* necessary for one of 100*l.* a year.

Land sells at 30 years purchase.

Tythes compounded, 2*s.* or 3*s.* in the pound. Poor rates 3*s.* in the pound. At *Lincoln* they are 2*s.* 6*d.* The employment of the women, &c. spinning: all drink tea.

There are no leafes.

LABOUR.

In harvest, 7*s.* a week and board.

In hay-time, ditto.

In winter, 4*s.* 6*d.*

Reaping an acre of wheat, 4*s.*

Mowing barley or oats, 1*s.* 4*d.*

————— grass, 1*s.* 6*d.*

Hedging, plashing, and ditching, 5*d.* a rood.

Thrashing wheat, 1*s.* 6*d.* to 1*s.* 8*d.* a quarter.

————— barley, 1*s.* 6*d.* ditto.

————— oats, 1*s.*

————— pease, 1*s.*

Head-man's wages, 9*l.* 10*s.*

Next ditto, 8*l.* 10*s.*

A lad, 3*l.* to 7*l.*

440 THE FARMER'S TOUR

Maid's, 3*l.* to 4*l.*

Women a day in harvest and hay-time, 8 *d.*

The rise of labour in 20 years, a third,

IMPLEMENTS.

A waggon, 15*l.*

A cart, 7*l.*

A plough, 15*s.*

Laying a share, 8 *d.*

————— coulter, 6 *d.*

Shoeing, 1 *s.* 4 *d.*

PROVISIONS.

Bread, - - 1 *d.* per pound.

Cheese, - - 3 ditto.

Butter, - - 6

Beef, - - 3 $\frac{1}{2}$

Mutton, - - 3 $\frac{1}{2}$

Veal, - - 3

Pork, - - 3

Bacon, - - 6

Milk, - - 0 $\frac{1}{2}$ *d.* per pint.

Potatoes, - - 4 per peck.

Candles, - - 6 $\frac{1}{2}$ per lb.

Soap, - - 6 $\frac{1}{2}$

Labourer's house-rent, 30 *s.*

————— Firing, 13 *s.*

————— Tools, 5 *s.*

They plough four times for wheat, in the open fields, but only once or twice in the inclosures: sow ten pecks, and get two quarters three bushels in the first, and $3\frac{1}{2}$ per quarter in the latter. Rye they sow only in the open fields, plough four times for it, sow two bushels an acre, and reap 20 in return. For barley, on a fallow, in open fields, they plough four times; but on turnips, in inclosures, only once. Sow four bushels an acre, and get three quarters in the field land, and $4\frac{1}{2}$ in the inclosures.

For oats they plough but once, sow four bushels an acre in the open land, and five in the inclosed; the first crop two quarters, the latter $4\frac{1}{2}$. In the fens, they get 11 or 12 quarters.

They stir but once for pease, sow three bushels: the crop 1 quarter and a half, in the open, and two in the inclosed: they seldom do well in either.

For turnips, they plough three or four times; some few are hoed: they are all used for feeding sheep. The average value in the open fields, 20s.; in the inclosed, 40s.

Clover

Clover they mow twice for hay : in the fields it yields two loads of hay an acre ; in the inclosures three.

Much sainfoine is sown on their thin lime-stone lands, with barley, after turnips : six bushels of seed an acre. It lasts in good perfection 20 years, if the land is stony ; but they do not approve it for sands : on such it will not last above ten years. Even if the sand is on lime-stone, if it is 18 inches to the rock, it will sometimes last not above four or five years. They almost all mow it for hay, and generally, on proper soils, get two tons an acre, and an after-grass worth 6s. or 7s. an acre. It is so great an improvement, and one, of which the farmers have so good an opinion, that any landlord can let sainfoine on an 18 years lease, at 1*l.* an acre, and that on land once at 2*s.* 6*d.* an acre. I was assured that, at *Washingborough*, there are four acres that yield five or six loads an acre. They use the eddish for feeding sheep, cows, horses, &c.

They are attentive here to the benefit of folding their sheep, and reckon the latter end of the year the best season for it : one
night,

night, at *Michaelmas*, they think as good as two in *May*. Lime has been tried more than once; but it will do little good: they have a method of discovering, whether lime be the proper sort for manuring, which well deserves noting. When dropt in water, if it comes out soft and greasy, it is good; if gritty, the contrary. Many farmers pare and burn their old heath land, and sow turnips: they find it an excellent way of breaking up, and ensures a very great crop of turnips. The price for paring, burning, &c. is 1*l.* an acre. They chop their stubbles for litter, and stack their hay at home.

When they lay down land to grafs, they do it well, with various feeds; but trefoile they find to be best of all: they observe that, when fed, it will keep more stock than any other sort. The best grafs land lets at 20*s.* an acre: they either mow it, or feed it with cows: an acre and a half will carry one through the summer. They give from four to eight pounds of butter a week.

Flocks of sheep rise to 500: the profit they reckon only 6*s.* 8*d.* a head; that is, lamb, 5*s.* and wool, 1*s.* 8*d.* and yet they give them turnips or hay in the winter.

In their tillage, 12 horses they think necessary for an hundred acres of arable land: they use two in a plough, and do an acre a day: the depth four inches, and the price *per* acre 4s. Oxen they have laid aside: some farmers think two horses alone are better than four oxen and two horses; but this is preposterous: they do not break up their stubbles till *Lady-day*.

In hiring and stocking, they reckon 500*l.* or 600*l.* necessary for a heath farm of 300 acres.

Heath-land sells from 30 to 40 years purchase. Inclosures are tythe free; but open lands compounded: wheat pays 5*s.* 6*d.* barley 2*s.* 6*d.* oats 2*s.*

Poor rates 3*s.* in the pound: 20 years ago they were not 2*s.* The employment of the women, &c. spinning *Jerseys*. All drink tea.

No leases granted.

A gentleman at *Lincoln* favoured me with the following calculation of a poor family's expences *per annum*, according to the prices of that county. A man, his wife, and two children.

I Quarter

446 THE FARMER'S TOUR

1 Quarter of wheat,	-	£. 2	8	0
2 Quarters of rye,	-	3	12	0
Fuel,	- - -	0	13	0
Candles and soap,	-	0	8	0
Furniture,	- - -	0	10	0
Working tools,	-	0	5	0
Rent,	- - -	1	6	0
The man, a coat, waistcoat, and breeches,	- -	1	2	0
3 Pair of stockings and a hat,		0	3	0
3 Shirts,	- - -	0	10	0
2 Pair of shoes,	- -	0	8	0
Wife and two children cloathing,		4	6	0
Butchers meat, and other pro- visions,	- - -	6	17	0
		<hr/>		
Total,	- -	22	8	0
		<hr/>		
He receives for 52 weeks, at 7s.		18	4	0
His wife earns,	- -	5	4	0
		<hr/>		
Total received,	-	23	8	0
Total expences,	-	22	8	0
		<hr/>		
		1	0	0
		<hr/>		

How far this account is applicable peculiarly to *Lincolnshire*, I am not able to say:

but I apprehend, in general, that such a family cannot eat so large a quantity of wheat and rye. The stockings and hat are much under laid: but something ought to be reckoned for the earnings of the two children; for, in the average of such families, both could not be too young to earn something*.

From *Lincoln*, I took the road northward, over the heath, as far as *Summer-Castle*, the seat of Sir *Cecil Wray*, who has made several very useful experiments in husbandry. His farm is a large one: it consists of the following particulars.

750 Acres in all	10 Acres of turnips
£.200 Rent	8 Horses
11 Acres of wheat	6 Cows
5 Barley	15 Young cattle
50 Oats	300 Sheep
30 Pease	6 Labourers.

His

* I know of nothing at *Lincoln* worth a stranger's attention, but the Minster, which is a very fine building: it is remarkably light, and the ornaments very neat, and well executed. It is a more pleasing edifice, and of better proportions, than that at *York*.

His best tillage land he generally divides into six fields for the following course :

- | | |
|------------|-----------|
| 1. Turnips | 4. Wheat |
| 2. Turnips | 5. Pease. |
| 3. Barley | |

His soil is all a loam on lime-stone ; both clayey, and also a sandy loam. The first crop of turnips is worth 40s. an acre ; the second 50s. The barley yields 5 quarters *per* acre, the wheat 2 $\frac{1}{2}$ quarters, and the pease 2.

Experiment, No. i.

A field was sown part with common, and part with the *Guernsey* spring wheat : the latter did better on this land than the common sort. He sows it in *April*. I viewed another field of it, and its appearance was undoubtedly better than that sown in autumn.

Sir *Cecil Wray* has taken the proper advantage of his soil, to cultivate sainfoine, on which grass he has formed several important experiments.

He finds, that it will not do on a sandy soil : it requires a better and stronger surface, such as we more commonly find on lime-stone quarries, *viz.* a loam, something inclinable to clay, or, at least, a flattered stoney land, which is generally better than
sands

sands on quarries. The goodness of the crop, he has found ever to depend on the richness of the surface, and not at all on the nature of the stone under it.

Experiment, No. 2.

A field was sown with this grass, in which there is a great variation in the depth of the soil: it is a loamy sand; at one place from two to three feet deep; but, in the rest of the field, not more than 18 inches. From the first year, the crop has been considerably better in that deep part, than in any other of the field. This is a strong proof, that depth of soil, provided it be rich, dry, and on a stratum of rock, is no objection in the culture of sainfoine: the contrary idea therefore, which is in many places common, is evidently a mistake.

Experiment, No. 3.

Six acres sown with wheat and turnips on a dry, good loamy sand: half the piece dunged with farm-yard compost, for the turnips, and the other half limed for the wheat. The turnips failed: the whole was therefore sown with wheat; and, in the spring, sainfoine seed harrowed in over the

whole. The part limed has ever since, several years, been better than the rest by half a load of hay an acre.

Experiment, No. 4.

In the same field as experiment, No. 3, one land was sown without any corn, and that particular part of the field, though the soil, culture, manure, &c. were the same, has ever since been worse than any of the rest. This I apprehend to be owing to the weeds coming with greater force there than any where else. The enquiry is not, Whether the land should be cropped with grass alone; that is, the vegetable you wish most to possess; but whether you shall mix with it an annual crop, or a perennial one. You will, if no corn is sown, be sure to have a proportioned crop of weeds, and great numbers perennial.

Experiment, No. 5.

Two pieces of sainfoine were sown, the land the same; one on wheat, after lentils, and the other with barley, after turnips, fed on the land: the former proved much the best crop.

Experiment, No. 6.

A trial was made on the profit of sainfoine, on heath land of 5s. an acre. It was cropped with turnips, which paid their own expences. The next year, a second crop of the same, which paid 20s. an acre profit. It was then limed for wheat, at the expence of 16s. an acre; the produce was two quarters and a half, at 1l. Sainfoine sown on it in the spring, which has since been an exceeding good crop, yielding a load and half of hay an acre, worth 30s. a load, and an after-grass of 4s. an acre. Would let for 1l. an acre, as long as the grass lasts. A slight account will shew the vast profit of thus improving land by sainfoine.

First year,—balanced.

Second ditto. Profit on turnips, £. 1 0 0

Third, Wheat: Expences,

Seed, - - 0 12 0

Ploughing and har-
rowing, - 0 6 0

Reaping, - 0 4 0

Harvesting, - 0 4 0

Thrashing, - 0 5 0

Carrying, &c. 0 5 0

Carry over, 1 16 0 £. 1 0 0

452 THE FARMER'S TOUR

Brought over,	£.1	16	0	£.1	0	0
Rent,	-	-	0	5	0	
Lime,	-	-	0	16	0	
			<hr/>			
Total expences,	2	17	0			
Produce,	-	5	0	0		
Profit, 3d year	<hr/>			2	3	0
				<hr/>		
Profit in three years,	-	3	3	0		
				<hr/>		

Thus, by gaining an annual profit of a guinea an acre, the rent of the land is quadrupled!

Experiment, No. 7.

Sir Cecil, for some years, tried how far it was adviseable to manure sainfoine: he tried it with yard dung, &c. but did not find it to answer. For two years together, he carefully spread all his coal ashes on it, and remarked the effect particularly; but they did not the least good. This manure is, in many places, reckoned of uncommon use for sainfoine, and spread on it at a considerable expence; but, from this trial, it is evident, that there are soils which form exceptions to the rule.

Experiment, No. 8.

Nine years ago, Sir Cecil Wray drilled
three

three acres of a sandy loam a foot deep on a stone quarry, the rent 5*s.* an acre, with lucerne: the rows equally distant, 3 feet asunder. It was, for several years, kept perfectly clean from weeds, by horse and hand-hoeing. He generally cut it five times in a summer, and found it of incomparable use in feeding his horses. He attended accurately to the number maintained every year, and, from the exactest attention, he determines, that it kept at the rate of three horses *per* acre six months in the year. Afterwards, in extending his plantations, this piece came in turn to be planted, and the firs were set about it pretty thick, after which the land and lucerne were left wild. I walked among the trees to observe the effect, and found a very fine thick growth in the rows, wherever the trees did not absolutely join over it: the weeds, though many and strong, had not been able to kill it, or even to keep it down.

Three horses 6 months, at 2*s.* 6*d.*

each *per* week, come to, £. 9 0 0
 which produce, *per* acre, would certainly answer much better than any other the land can yield.

Experiment, No. 9.

To discover the truth of various assertions, concerning cattle not eating burnet, a quantity of the seed was sown some years ago, among various other grass seeds, in laying a field for a pasture. White clover, trefoile, and fine hay seeds, were sown. It has since been always fed by sheep and other cattle. The burnet came up well, and now remains; but the sheep are undoubtedly fond enough of it, to keep it down as low as the other herbage. Sir *Cecil* has never seen it left more than the white clover: he has also found, in other trials; that they are fond of burnet hay.

Experiment, No. 10.

In forming a large slope near the castle, the good earth was all removed, and that left a mere shattered stoney surface, with little mold. The spot was well harrowed, and sown with all sorts of grass seed; and, among the rest, with burnet. Not a blade but that grass came up, or is now to be seen: the burnet plants are now fine, and some of them luxuriant; but quite insulated with bare surface, so poor, that not a weed is to be seen. This proves, in the clearest manner,
that

that a crop of burnet may be had on land, that will, literally speaking, produce nothing else.

Experiment, No. 11.

Sir *Cecil* has formed various trials to decide the best sort of grass seeds for laying down of land. He is convinced, from an experiment, in which the mode was varied, that a variety of seed should be sown, if the field is designed for *pasture*. By this means, a succession of grasses is gained, which supply the cattle all summer: whereas, if but one sort is sown, it will, like ray-grass, be in perfection but at one season. The proposed improvements, therefore, of gathering grasses by hand, can be of use only in proportion to the cleanness of the seeds so gained, unless they are designed for mowing ground, in which case that circumstance is reversed; but, according to this observation, the general assertions, in favour of separated grass seeds, should be much more qualified with exceptions than they have hitherto been. The usual argument in their favour, is to draw a parallel between sowing a mixture of all sorts of grass seeds, on the one hand, and on the other a mix-

ture of the different sorts of corn; but the comparison, in the above respect, has no similitude, unless it was proved, that wheat, barley, and oats, were fed from *May* till *October*. One sort of grass would certainly be excellent, while in perfection; but many sorts, sown separately, would, at their respective seasons, carry as stubble-like an appearance, as ray-grass after *Midsummer*.

Experiment, No. 12.

Nine years ago, the ant-hills, in a large pasture, were cut in the spring, and a hill made of them with lime, each in layers: they were well mixed together, and spread, the autumn following, on a grass field. No improvement could have turned out more advantageous: it has not wanted any manuring since, and has produced very great crops.

These experiments, with Sir *Cecil Wray's* general husbandry, though on so large a scale, have, by no means, been his only employment: he has, within ten years, considerably raised the value of his estate, built *Summer-castle*, with extensive offices, formed a large lake, planted 70 acres, and richly improved above 300; which

which are undeniable proofs of no slight spirit, exerted in ornamenting and enriching a country, so greatly capable of improvement*.

The size of farms, in this country, varies, in the open fields, from 15*l.* to 40*l.* a year; and, in the inclosures, from 60*l.* to 200*l.* a year. The upper lands are all a light soil; but

* Considering the general face of this country, which is uncommonly open, (called *Lincoln-Heath*, but by the inhabitants *the Cliff*, being a high ridge of country, between a rich vale on one side, and the Wolds on the other)—the view from *Summer-Castle* is very fine, the vale is well wooded, and the lake formed so as to unite very happily with the adjoining wood, which is always a material point. It is an extreme fine water, above half a mile long, and of a great breadth; the colour very good, and the surrounding shores truly beautiful: the groves of wood, the straggling trees, and the small enclosures, every where vary the appearance; the village on a rising ground on one side, some of the houses tufted with knots of wood, and the corn-fields, which hang to the water; all throw a variety into the environs, which I have more than once observed to be wanted in many waters. A winding lake, with spreading lawns and extensive woods, forming a *North American* scene, are now so common, that the variation of inclosures, full of rustic business, cannot fail of pleasing; besides the undoubted

but the lower country all on clay. The open lets at 2 s. 6 d. an acre, and the enclosed from 8 s. to 12 s. The general course of the open fields is,

1. Fallow.

2. Corn of some sort.

But, in a few towns, they have agreed to vary it for,

1. Turnips

3. Wheat

2. Barley

4. Pease.

doubted effect they have of making the water appear larger, than if encompassed by one sweep of lawn.

There is a natural curiosity in this country, which deserves being noticed: it is what are here called the *Trent springs*. There are many small pits of water, which often rise and overflow without any visible reason. They are supposed to be occasioned by subterraneous communications with the river *Trent*, and to rise when there are floods in that river. Sir *Cecil Wray* attributes them merely to heavy rains on the *Derbyshire* hills. He has a friend on the *Peak*, with whom he corresponds on the subject, and finds that his springs always rise a few days after very heavy rains on those hills; and, what is extraordinary, some without floods in *Trent*.

Another peculiarity here is a small pond, part of which never freezes, though the rest of it is often several inches thick in ice: a pale runs through it, which forms the boundary. The exposure, soil, &c. all the same.

Their crops of wheat rise, upon an average, from two to three quarters *per* acre; of barley, from three and a half to five quarters; of oats, from two to four ditto; pease, from one and a half to three; beans, on the clays, from two to four quarters.

Turnip-hoeing is but just coming in, and very indifferently performed: they use the crop for feeding sheep: the price *per* acre from 30s. to 3*l*.

Clover they do not commonly cultivate; but what they have they mow twice for hay, and get, at the two cuttings, from two to two tons and a half of hay an acre.

In their manuring, they have nothing that can be commended: they chop their stubble, but it is only for thatch; and their hay they stack more about the fields than at home.

Flocks of sheep rise from 100 to 1000; but different farmers chuse different stocks: their distinctions are, *fallow sheep*, *walk sheep*, and *pasture sheep*. The profit of the first they reckon at,

Lamb,	-	-	-	£. 0	14	0
Wool,	-	-	-	0	2	6
Total,	£	£		<u>0</u>	<u>16</u>	<u>6</u>

460 THE FARMER'S TOUR

Of the second:

Lamb,	-	-	-	£.0	16	0
Wool,	-	-	-	0	3	0
				<hr/>		
Total,	-	-	-	0	19	0
				<hr/>		

Of the last:

Lamb,	-	-	-	1	0	0
Wool,	-	-	-	0	3	6
				<hr/>		
Total,	-	-	-	1	3	6
				<hr/>		

The winter food, hay and turnips.

In their tillage, they use, on the Cliff, four horses to 100 acres of ploughed ground; two in a plough, and do an acre a day: the price 4*s.* an acre, and the depth four or five inches.

Land sells from 30 to 35 years purchase.

Poor rates from 6*d.* to 9*d.* in the pound; in 20 years have arisen a fourth.

LABOUR.

In winter, 10*d.* a day.

Reaping, 4*s.* an acre.

Mowing spring corn, 1*s.* 3*d.* and beer,

————— grafs, 1*s.* 6*d.* and beer.

Hoeing turnips, 4*s.*

Threshing wheat, 1*s.* 8*d.* per quarter.

Head-

Head-man's wages, to 12*l.* 12*s.*

Next ditto, 8*l.* 8*s.*

Lad's, 5*l.* 5*s.*

Dairy-maid's, 3*l.*

Other ditto, 2*l.* 10*s.*

Women *per* day, in hay-time, 8*d.*

Labour, in ten years, raised a fifth.

From *Lincoln* to *Sleaford*, the road runs chiefly over the heath, on which many new enclosures are making: they let from 8*s.* to 12*s.* an acre; but the lower grounds taken into the account, the average would be 12*s.*

All this tract of heath-land would yield very fine sainfoine: it is by no means so much cultivated as it ought.

L E T T E R X.

ABOUT *Swinehead*, the soil is very rich, as may be judged from the quantity of hemp grown all over this country: they nevertheless manure for it at the rate of ten load an acre of yard dung: always sow it after corn, about *May-day*, on three spring earths. It never requires any weeding, as the luxuriance of the growth destroys all weeds; and it leaves the land in such good order, that either flax or barley follows it, which, by the way, is a very strong proof of the great consequence of a thick shade to the ground, and so destroying weeds. Hemp is reckoned one of the most exhausting crops; but, from the thickness of the shade, it makes amends for that circumstance.

The latter end of *August*, or the beginning of *September*, they pull it up by the roots, and water it; but sometimes they spread it over a pasture for a month, for the
dews

THROUGH ENGLAND. 463

dews to moisten it, and often turn it; this is for ropes: what they water in the ditches is for cloth. The crop, on an average, is worth from 5*l.* to 10*l.* an acre; but seldom more than 6*l.* The expences may be calculated as follow.

Rent,	-	-	-	£. 1 10 0
Three earths,	-	-	-	0 15 0
Sowing, harrowing, &c. &c. &c.	-	-	-	0 8 0
Pulling, at 1 <i>s.</i> per 100 sheaves,	-	-	-	0 10 0
Watering,	-	-	-	0 8 0
Taking out, peeling and dressing,	-	-	-	2 5 0

Total,	-	-	-	5 16 0

From hence it appears, that the profit by hemp is very inconsiderable; but the farmers esteem it a fallow.

Flax they sow either on grass-land or after hemp: they sow it at *Lady-day*, on three earths, and weed it thoroughly through the summer at a various expence, but not less than 6*s.* an acre. The pulling it they reckon at 7*s.* an acre; but the watering does not cost so much as hemp. The dressing is 1*s.* 2*d.* a stone, and the crop about 20 stone, at 10*s.*; or 10*l.* an acre. It is reckoned to exhaust land much more than hemp,

which is very observable ; for the latter is much the most luxuriant growth : but I attribute its superiority to the thickness of the shade, which breeds a putrid fermentation in the soil, and always enriches.

Land lets (reckoned by statute measure) from 12*s.* to 24*s.* *per* acre ; more at 20*s.* than under : and farms rise in general from 50*l.* to 130*l.* a year. Most of the country is applied to grazing : an acre of grass will carry six or seven large sheep through the summer ; or it will fatten an ox of 70 stone, and keep a sheep in winter ; which proves, upon the whole, that the soil is excellently adapted to grazing. They buy in two shear wethers lean, at 25*s.* and sell them fat at 35*s.* They clip 9 or 10*lb.* of wool from each, worth 5*s.* or 6*s.* on an average.

They sow a good deal of cole-feed for winter fattening sheep : they eat it from *Michaelmas* to *Candlemas*, and then let it stand for feed ; but the crop they reckon much damaged by the feeding : for they do not get, on an average, above three quarters an acre. They reckon it to fatten faster than any thing ; but the sheep must have had the summer's grass. An acre, that is very good,

will fatten from 6 to 10 sheep; but their crops are uncommonly strong; the stalks of the plants are many of them as thick as a man's wrist: they manure for it as in other places for turnips, and sow at *Midsummer*; but if the crop is for seed alone, they do not sow till *August*.

The profit on fattening beasts is not high: they reckon from 2*l.* to 4*l.* apiece for summer feeding, not a low profit.

In their tillage they use but 2 horses in a plough, and yet their soil is much of it very strong: do an acre a day. Their courses of crops are,

- | | |
|-----------|-----------------|
| 1. Fallow | 4. Beans |
| 2. Wheat | 5. Barley. Very |
| 3. Wheat | bad. |

Another:

- | | |
|--------------------|------------|
| 1. Coleseed, eaten | 3. Oats |
| 2. Oats | 4. Barley: |

Much worse.

Another:

- | | |
|---------------------------------|------------|
| 1. Grass, broken
up for flax | 4. Oats |
| 2. Turnips | 5. Oats |
| 3. Flax | 6. Wheat |
| | 7. Fallow. |

This, it must be confessed, is as admirable a system for exhausting land, as can any where be met with.

Another :

- | | |
|-----------|-------------|
| 1. Fallow | 4. Barley |
| 2. Wheat | 5. Oats, or |
| 3. Hemp | Wheat. |

A man may travel many miles without meeting with so curious a collection of courses.

Their wheat produces $3\frac{1}{2}$ quarters *per* acre on an average.

Barley, 3 quarters.

Oats, 4 quarters.

Beans, 3 quarters.

These crops are by no means proportioned to the goodness of the soil ; and it is not to be wondered at, with such a succession of crops as they practise. Tythes are all gathered ; every 10th shock of corn taken ; every 10th lamb, and fleece, and so much a head for beasts, horses, &c.

They reckon 1000*l.* necessary to stock a grazing farm of 100*l.* a year.

LABOUR.

In harvest, 3*s.* to 4*s.* a day, and sometimes beer.

In hay-time, 1*s.* 6*d.* and board.

In

In winter, 1*s.* and ditto.
 Women in hay-time, 1*s.* and board.
 Reaping wheat, 6*s.* 6*d.* and 7*s.* an acre.
 ——— barley and oats, 4*s.* 6*d.* to 5*s.*
 Mowing grafs, 2*s.* to 2*s.* 6*d.* an acre.
 Head-man's wages, 12*l.*
 Next ditto, 9*l.* to 10*l.*
 Lad's, 6*l.*
 Maid's, 3*l.*
 Rife of labour, a third in 20 years.

PROVISIONS.

Bread,	- -	1 $\frac{1}{4}$ <i>d.</i> per pound.
Cheefe,		4
Butter,	- -	4 $\frac{1}{2}$ to 5 <i>d.</i>
Beef,	- -	3 $\frac{1}{2}$
Mutton,		3 $\frac{1}{2}$
Veal,	- -	3
Pork,	- -	3 $\frac{1}{4}$
Bacon,	- -	7
Milk,	- -	$\frac{1}{2}$ <i>d.</i> per pint.
Potatoes,	-	3 per peck.
Labourer's house-rent,		3 <i>l.</i> to 4 <i>l.</i>
—— firing,		1 <i>l.</i> 5 <i>s.</i>

From hence to *Long Sutton* the country continues quite flat, but the foil improves. Mr. *Wallet* of *Sutton* is one of the most famous

graziers in *England*, particularly in fattening the largest oxen ever seen in this kingdom. The rent of land runs at about 1*l.* *per* acre. Rates 1*s.* 2*d.* in the pound; and tythe taken in kind.

Most of the country is applied to grazing beasts and sheep. Mr. *Wallet* buys annually 1400 wethers; and others in proportion to their farms: they are bought lean at 20*s.* to 25*s.* a head, and sold fat from 30*s.* to 40*s.* and the wool comes to from 5*s.* to 7*s.* 6*d.* They are all bred on the *Lincolnshire* Wolds, about *Castor*, *Horncastle*, &c. and the breeders all aim at getting the largest boned tups; which the reader may remember is directly contrary to the practice of Mr. *Bakerwell* of *Disbley*.

Wethers are mostly kept a year and a half, so as to clip them twice; and some only 2 to a todd.

The great riches of this country are the salt marshes; many of which are so wonderfully fertile, that they will fatten at the rate of a large ox and 2 or 3 sheep *per* acre. And it is certainly a common thing, to have the keeping of beasts given them at certain times of the year, merely to keep it down, that

the sheep and regular stock may have a fresh young bite: an instance to be produced nowhere but in salt marshes. And a great advantage is, these rich lands never being known, however wet, to rot sheep.

Long Sutton common is one of the most famous tracts of land in this country; it contains 3500 acres of salt marsh. The right of commonage is unlimited; 30,000 sheep, 1000 horses, and 300 beasts, are annually kept on it, and many of them sold from it fat, which is certainly very extraordinary. But the whole would let for 24*s.* an acre without the expence of a shilling.

From *Barton* on the *Humber* quite to *Long Sutton*, is a tract of grazing land above 100 miles long, and from 3 to 10 miles wide. It is the richest tract in *England*, though not let at the highest rents, for they do not run at more than from 15*s.* to 25*s.* an acre. It will fatten a large ox and a sheep per acre.

But the higher lands, as they are called here, will fat a large ox and a sheep *per* acre, and some will do more.

Many graziers buy in their oxen in autumn to eat straw in the winter; they then

470 THE FARMER'S TOUR

summer feed them, and if the beasts are very large, then put them to oil cake and hay, which likewise enables them to fell at the most profitable season.

Mr. *Willet's* beasts generally rise from 100 to 120 stone; when they are put to oil cake, which is always after the summer's grafs, they eat 24 *lb.* of cake a day, and as much hay: he keeps them loose in a yard, and gives the cake in mangers under open sheds; and he finds from experience that they should always have good hay: he has tried them with a secondary sort; and, in compliance with the advice of others, with barley-straw; but nothing equals good hay: the beast will thrive in proportion to its goodness.

The oil cake necessarily forms three sorts; that is, the large pieces; the smaller ones; and the dust. Attention should be given to this circumstance; beasts will often at first refuse the pieces, but eat the dust; then the small pieces, and afterwards the larger ones: but then they will no more touch either the smaller, or the dust. If this management is not attended to, it will sometimes be difficult to bring them to cake at all.

As

As to the shape and make of oxen for fattening, Mr. *Wallet* adheres to the old idea of large bones being the desirable circumstance—He thinks that a beast cannot come to a great degree of fatness without *having room to lay the fat on*; which is bone: and he thinks that this extends to the profit made by a given quantity of grass, which will be greater by fattening the large boned cattle than the smaller. In the year 1763, he killed an ox that weighed 145 stone, 14 *lb.* to the stone*.

In the summer fattening of beasts, Mr. *Wallet* is of opinion that 10 fields, each of 10 acres,

* Mr. *Wallet* has a picture of this ox, and speaks of it as the largest beast ever killed in *England*; but that this is a great mistake, will appear from the following particulars of one killed at *Newby* in *Lincolnshire*, in the year 1692, with which Sir *Cecil Wray* favoured me.

			<i>st.</i>	<i>lb.</i>
One fore quarter	—	—	51	2
The other	—	—	49	5
The two hind quarters	—	—	84	6
Hide	—	—	21	0
Tallow	—	—	32	0
Head	—	—	6	5
Feet	—	—	3	4
Heart, liver, and lights	—	—	7	6
			<hr/>	
			255	7
			<hr/>	

14 *lb.* the stone.

acres, are far preferable to one of 100; and that the beasts by being changed will waste much less grass.

From *Long Sutton* I took the road to *Lynn* by *Leverington*. I am indebted to *Spelman Swaine*, Esq. for the following account of husbandry in that neighbourhood.

Farms rise from 15*l.* or 20*l.* a year to 300*l.* but are about 50*l.* in general. The soil all a strong clay except the marsh lands, which are sea silt; that is, a dark coloured rich sand. Rents rise from 16*s.* to 20*s.* an acre; the average 18*s.* All the way from *Long Sutton* to *Leverington*, it runs at 20*s.* an acre.

The course of arable crops is,

- | | |
|-----------|-------------|
| 1. Fallow | 4. Wheat |
| 2. Wheat | 5. Coleseed |
| 3. Beans | 6. Oats. |

They plough five times for wheat, sow two bushels an acre, and reap on a medium 3½ quarters. They sow no barley, thinking the land too good for it, but substitute barleybig in its stead; sow 3 bushels; the crops rise to 7½ quarters; but 5½ the average. For beans they stir thrice, sow them either at random or in the third or fourth furrow,

to come up in drills: in the first method they use 4 bushels of seed, and feed off the weeds by sheep; they crop 3 quarters or $3\frac{1}{2}$. In the dill way they sow but 10 pecks, horsehoe once or twice, as necessary to keep them clean; and get from $3\frac{1}{2}$ to $4\frac{1}{2}$ quarters *per* acre, sometimes 5. Wheat after, and as clean as a garden.

Coleseed is much cultivated in the fens; the preparation for it is by paring and burning. They feed it off between *Christmas* and *Candlemas*, and either sow the land with oats, or let the coleseed stand for a crop; it yields 4 or $4\frac{1}{2}$ quarters *per* acre; 9 have been known on an extraordinary piece of land. The feed of coleseed in these rich lands is worth from 30s. to 40s. an acre; it will feed 12 sheep from *Michaelmas* to *Christmas*, at 3d. a week. But the seed crop is better when not fed at all; it should however be sown at *Lammas*.

They have scarcely any turnips, and no clover.

The only draining carried on in this neighbourhood is that of the fens by act of parliament; much of it that was let at only 4s.

or

or 5s. an acre, has been advanced at once to 10s. or 12s.

They attend very little to raising manure in this country, which may be excused considering the fertility of the soil; they chop some of their stubbles for stacks, but never for litter; and their pigeons dung they sell to *Cambridge*. I think a good farmer should see his land a dunghill before he begins such a practice. Their hay they stack about the fields; but this piece of bad management is to be charged to the account, not of the tenants, but the landlords, who very wisely insist that the hay of each field shall be fed therein.

I must be allowed to comment a little on this piece of barbarism: they are tenacious of the practice, under the idea of its improving the land. But a falser notion cannot be entertained; the dung of the cattle, I have remarked more than once, is of little consequence, if it does not fall so thick as to occasion a fermentation in the soil; the benefit of folding sheep lies in this circumstance: hence the winter feeding does not at all enrich the soil: but it does something else, which is truly mischievous: it treads and

poaches it in wet weather to a great degree; which in a stiff clay soil is pernicious: on a loose blowing sand it would be of use, but on heavy land there cannot be a worse practice. I shall therefore venture to recommend to the landlords to expunge so preposterous a covenant from their leases; and only bind their tenants from selling hay from off the farms at large.

Their good grass land will fatten an ox and two sheep *per* acre. The only breed is the *Lincolnshire*. The best cows will give on an average 6 gallons of milk a day; or 7 or 8 *lb.* of butter a week. The winter food hay only, which they give in the field. The profit on summer feeding an ox from 40*s.* to 50*s.*

The flocks of sheep rise to 5 or 600; both fattening and breeding flocks are kept. The profit of the latter they reckon at,

Lamb	—	—	0	15	0
Wool	—	—	0	4	0
			0 19 0		
			0 19 0		

The wether flocks they buy in so as to keep them for clipping twice; the two fleeces pay 10*s.* They buy at 25*s.* or 27*s.* and sell
at

476 THE FARMER'S TOUR

at from 35*s.* to 40*s.* In the winter they put them to coleseed in the fens, or in *Norfolk* on turnips.

In their tillage they reckon 6 horses necessary for 100 acres of arable; use two in a plough, and do an acre a day. They stir 3½ or 4 inches deep: the price *per* acre 3*s.* or 3*s.* 6*d.* The annual expence of keeping a horse they reckon at 7*l.* The summer joist 1*s.* 6*d.* to 2*s.* a week. No straw is cut into chaff.

In the hiring and stocking farms, they reckon that above 1800*l.* is necessary for one of 300 acres, 200 grafs and 100 arable, all at 1*l.* an acre: and they divide the sum in the following manner:

Rent,	-	-	-	£.150	0	0
Tythe,	-	-	-	27	0	0
Town charges,	-	-	-	20	0	0
40 Oxen, of 70 stone, at 8 <i>l.</i>				320	0	0
30 Ditto, of 50 stone, at 6 <i>l.</i>				180	0	0
20 Young cattle, at 4 <i>l.</i>				80	0	0
400 Sheep; 100 lambs, at 16 <i>s.</i>						
and 300 wethers, at 27 <i>s.</i>				480	0	0
Swine,	-	-	-	2	0	0
				<hr/>		
Carry over,				1259	0	0

THROUGH ENGLAND. 477

Brought over, - -	£. 1259	0	0
6 Horses, at 16l.	96	0	0
2 Waggon, - - -	35	0	0
1 Cart, - - -	10	0	0
3 Ploughs, - - -	4	10	0
2 Pair of harrows, - - -	3	0	0
1 Roller, - - -	2	2	0
Harnes, - - -	4	10	0
Sundries, - - -	20	0	0
Seed, 30 acres wheat, - - -	15	0	0
— 10 Barley - - -	3	0	0
— 30 Oats, beans, pease, and cole, - - -	12	0	0
2 Men, - - -	20	0	0
1 Boy, - - -	6	0	0
2 Maids, - - -	8	0	0
2 Labourers, - - -	40	0	0
Extra labour, - - -	50	0	0
Housekeeping, - - -	80	0	0
Oil-cake for 20 of the beasts	80	0	0
Furniture, - - -	100	0	0
Cash in-hand, - - -	50	0	0
	1898	2	0

ANNUAL EXPENCE.

Rent, tythe, and town-charges,	347	0	0
70 Oxen, - - -	500	0	0
Carry over, - - -	847	0	0

478 THE FARMER'S TOUR

Brought over,		£.847	0	0
400 Sheep,	-	480	0	0
Seed,	-	30	0	0
Labour,	-	124	0	0
Housekeeping,	-	80	0	0
Oil-cake,	-	80	0	0
Wear and tear,	-	30	0	0
Interest of 1900 <i>l.</i>	-	76	0	0
		1747 0 0		

PRODUCE.

20 Oxen, at 15 <i>l.</i>	-	£.300	0	0
20 Ditto oil-cake, at 18 <i>l.</i>		360	0	0
30 Ditto, at 8 <i>l.</i>	-	240	0	0
Young cattle, 20 at 2 <i>l.</i>	-	40	0	0
100 Lambs, at 27 <i>s.</i>	-	125	0	0
300 Sheep, at 32 <i>s.</i>	-	480	0	0
Wool,	-	100	0	0
30 Acres wheat,	-	180	0	0
10 Barley-big,	-	50	0	0
20 Acres oats, &c.	-	80	0	0
		1955 0 0		
Total produce,	-	1955	0	0
Total expence,	-	1747	0	0
		208 0 0		
Profit,	-	208	0	0

Land sells from 25 to 30 years purchase.
 Tythes of all forts, except fattening beasts, are gathered

gathered in kind; they pay 6*d.* an acre of the land fed by a *modus*.

Poor rates, 1*s.* in the pound; 3*s.* at *Wif-beach*. The employment of the poor of all forts is chiefly in the field. All drink tea twice a day.

Some leases are granted.

Hemp is cultivated in some lands in this neighbourhood. They plough four times for it, and harrow it fine. The expences on an acre are:

Four ploughings,	-	-	£.0	12	0
Six harrowings,	-	-	0	3	6
Seed and sowing,	-	-	0	5	6
Pulling,	-	-	2	0	0
Watering, &c.	-	-	1	0	0
Dressing, 8 <i>d.</i> a stone,	-	-	1	10	0
Rent,	-	-	1	5	0
			<hr/>		
			6	16	0
			<hr/>		

The produce is 45 stone, at 3 <i>s.</i> 6 <i>d.</i>			7	17	6
Expences,	-	-	6	16	0
			<hr/>		

Profit, - - - 1 1 6

This is a fresh proof that the profit on hemp is very inconsiderable.

Flax

480 THE FARMER'S TOUR

Flax is also cultivated : to pull—cart—
fod—unfod—spread—tye—and barn, come
to *1 l. 4 s. per acre*. The crops rise from 20
to 50 stone, and the price varies from 5 s. to
6 s. 10 d. average 6 s. the crop 45 stone.

LABOUR.

In harvest, *2 s. 6 d.* a day and beer.

In hay-time, *1 s. 6 d.* to *2 s.* and beer.

In winter, *1 s.*

Reaping wheat, *5 s.* to *7 s.*

Mowing, binding, and cocking spring corn,
3 s. 6 d.

Mowing grafs, *1 s. 6 d.* to *2 s. 6 d.*

Thrashing oats, *6 s.* a last of $10\frac{1}{2}$ quarters,
and help at taking in the stack.

Head-man's wages, *10 l. 10 s.*

Lad's, *5 l.* to *6 l.*

Dairy-maid, *5 l.*

A woman a day in harvest, *1 s.* to *1 s. 3 d.* and
beer.

In hay-time, *1 s.* and beer.

In winter, *6 d.*

IMPLEMENTS.

A waggon, *16 l.*

A cart, *10 l.*

A plough, *1 l. 10 s.*

Pair of harrows, *1 l. 10 s.*

Shoeing, *1 s. 4 d.*

PROVISIONS.

Bread,	- -	1 $\frac{1}{2}$ d. per lb.
Cheefe,	-	4
Butter,	-	6 $\frac{1}{2}$
Beef,	-	4
Mutton,	-	3 $\frac{1}{2}$
Veal,	-	3
Pork,	-	4
Milk,	-	$\frac{1}{2}$ per pint.
Potatoes,	-	2 $\frac{1}{2}$ per peck.
Candles,	-	6 $\frac{1}{2}$ per lb.
Soap,	- -	7

The general œconomy of the country will be seen from the following particulars of farms.

600 Acres in all	500 Sheep
300 Arable	100 Acres wheat
300 Grass	20 Barley
£.500 Rent	100 Oats
10 Horses	30 Beans
40 Brood mares, colts, &c.	2 Men
80 Fattening beasts	6 Labourers.

Another:

300 Acres in all	240 Grass
60 Arable	£.200 Rent

482 THE FARMER'S TOUR

8 Horses	20 Beans
20 Fattling beasts	2 Men
20 Young cattle	1 Boy
300 Sheep	1 Labourer.
30 Acres wheat	

Another:

200 Acres in all	300 Sheep
34 Arable	10 Acres wheat
166 Grass	5 Barley
£. 200 Rent	5 Oats
4 Horses	5 Beans
20 Fattling beasts	1 Labourer.

Another:

130 Acres in all	5 Young cattle
30 Arable	150 Sheep
100 Grass	11 Acres wheat
£. 100 Rent	5 Oats
4 Horses	1 Man.
15 Fattling beasts	

Another:

42 Acres, all grass	12 Fattling beasts
£. 40 Rent	120 Sheep.

The husbandry in the fens, that have been drained by act of parliament, is in several instances particular. In *Wisbeach* high fen, the soil is ten inches of bog, on a blue clay: they plough for three successive crops of oats; and then let the land by way

way of fallow run to twitch grafs; they eat it off, though sometimes they mow a crop of twitch hay: then they pare it with a plough and burn it; and fow coleseed at *Midsummer*, generally for fheep feed; sometimes for a crop of feed after the feeding. They get 35*s.* an acre by feeding, and then 2 and $\frac{1}{2}$ quarters feed, worth 4*l.* After the coleseed, they take 3 crops more of oats, each of them 5 quarters an acre; and then they give it the delectable fallow of two twitch years, either feeding or mowing it, after which they pare and burn again, as above.

Some farmers, better than the rest, fow 2 bushels an acre of ray-grafs with the third crop of oats; and let it lie to grafs for four or five years, mowing a load and half of hay an acre; after which they plough it up without burning for 3 or four crops of oats running.

This husbandry is, upon the whole, as amazing a system of barbarism as I remember to have heard. It is evident, upon the face of the account, that the land would do for meadow: any soil that will yield such crops of oats and coleseed, and bear such a

burthen of twitch and ray-grafs, would, if properly managed, make moft profitable returns in meadow hay and feeding; and it cannot be doubted but the profit would be vaftly greater. But if thefe farmers are fo bitten by a mad plough, that they will have an arable courfe on land defigned by nature for grafs; they ought certainly to have done with fuch a fucceffion of oats, and vary their crops: fuch a courfe as the following would keep their land clean and in good heart.

- | | |
|-----------------|--|
| 1. Oats | 8. Graffes——ray-grafs, white clover, trefoile, and |
| 2. Colefeed fed | hay feeds—let it |
| 3. Oats | lie for 5 years |
| 4. Potatoes | |
| 5. Oats | 9. Oats. |
| 6. Cabbages | |
| 7. Oats | |

The potatoes for feeding hogs. The foil would do excellently for all thefe crops; and each would be far better than what they have at prefent.

They have found from long experience, that burning once every feven years, does not at all diminifh the depth of the foil.

Breaches in the banks often happen, in
2. which

which case they lose a year, but are paid in the great fertility left by the water; the land is thickly dressed with a slimy mud.

Oats in these fens, in late summers, are remarkable for their poor quality; crops of five or six quarters often fell at a guinea the last, of 84 bushels: but in general they are 5*l.* a last. A sack of 4 bushels will not weigh above 4 $\frac{1}{2}$ stone.

In 1768, much fen barley also was sold at a guinea a last.

I passed from *Leverington* to *Lynn*, by way of *Walpole*, a considerable parish in the tract of country called *Marsland*. The following is an accurate account of several curious particulars in that parish.

Walpole St. Peter and Andrew.

Account of Land, Persons, Stock, &c. in the said Township.

	<i>Acres.</i>
Pasture land, - - -	4120
Arable land, - - -	2050
Common, or waste land, about	2500
	<hr/>
Acres in gross, -	8670
	<hr/>

In the occupation of 103 different persons, at the yearly rent of $\text{£} \cdot 4760$
 Assess to the land tax at *per annum*, 2907

486 THE FARMER'S TOUR

No. of farmers, their wives and children,	- - - -	275
No. of servants,	- - -	160
No. of labourers, their wives and children,	- - - -	81
No. of poor now maintained by the town,		22
And several more within the year when sick.		<hr/>
No. of souls,	- -	538
No. of houses in the said town,	-	<hr/> 120
No. of cows kept in ditto, about		200
Ditto horses, about	- -	310
Ditto beasts, young, and feeding, about		580
Ditto sheep, about	- -	10000
Ditto hogs, about	- -	330

This account of stock, is what is supposed to be kept upon the land yearly, and includes feeding and breeding cattle of all sorts.

Rates in 1688, and 1700, no account of them can be found.

Ditto in 1730, church 2*d.* poor 6*d.* per £.

Surveyors, nothing.

Ditto in 1760, church 4*d.* poor 8*d.* per £.

Surveyors, nothing.

Ditto in 1767, church 2*d.* poor 10*d.* per £.

Surveyors, 3*d.* per £.

A common course about *Walpole* is,

- | | |
|-----------|-----------|
| 1. Fallow | 4. Beans |
| 2. Wheat | 5. Wheat. |
| 3. Oats | |

The oats after the wheat should certainly be excluded.

They generally get 3 quarters of wheat; from 6 to 10 of oats, average $7\frac{1}{2}$; and 4 quarters beans on an average. They drill beans in every fourth furrow; and keep them clean by^r both horse and hand-hoeing; to which management they owe their fine crops. Mr. *Canham* of *Sontrey*, near *Downham*, had 60 acres thus cultivated in 1769, which yielded $5\frac{1}{2}$ quarters *per* acre; and this year the whole is sown with wheat; the crop as fine, and quite as clean, as any that succeed a fallow: He has often had 5 quarters of wheat an acre after beans.

Their method of laying land to grafs on these rich clays, is to sow with oats on a clean fallow, 10*lb.* an acre of white clover, and 4*lb.* of trefoile. They always feed it for three or four years, with sheep only: When they come to mow, they get seldom less than 2 tons of hay an acre.

488 THE FARMER'S TOUR

About *Rundeton*, near *Lynn*, the soil is quite changed from the clays of *Marsbland*. Farms rise from 20*l.* to 200*l.* a year, but are about 40*l.* on an average; the soil is a loose, strong, gravelly loam on clay; and on a car stone, which is of the iron stone nature: It lets from 5 or 6*s.* to 20*s.* an acre, but in general about 14*s.* Their courses of crops are,

- | | |
|--------------------|------------|
| 1. Turnips | 4. Wheat |
| 2. Barley or oats | 5. Barley, |
| 3. Clover one year | |

Also,

- | | |
|------------|------------------|
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Wheat or rye, |

And,

- | | |
|---------------------|------------|
| 1. Turnips | 4. Wheat |
| 2. Barley | 5. Barley. |
| 3. Pease or vetches | |

For wheat they plough but once; sow 3 bushels, and get 2 $\frac{1}{2}$ quarters *per* acre. For rye on clover land, they stir but once; sow 1 $\frac{1}{2}$ or 2 bushels *per* acre, and gain 2 $\frac{1}{2}$ or 3 quarters. They stir three or four times for barley, sow 3 bushels, from the beginning of *April* to old *May-day*;
the

the average crop $3\frac{1}{2}$ quarters. They give but one earth for oats, sow 4 bushels, and get 5 quarters in return.

For pease they plough three or four times; sow 4 bushels, never hand-hoe them; the crop $2\frac{1}{2}$ quarters.

They stir four times for turnips; hoe them twice; and feed a few off with sheep, but in general draw them for their cows: the average price 30s. an acre.

Clover they mow twice for hay.

The vetches they chiefly use green for soiling horses, in the stable.

In respect to manuring, they are almost as deficient as they can be: the fold is their principal dependance; for as to their farmyards, they do not chop their stubbles, and their hay they sell, but bring no dung from *Lynn*.

Plashing hedges unknown; they are all dead ones, for defence of the quick or live wood; and consequently are rotten and gone, in a single season.

The best grass lets at 20s. an acre; they feed it chiefly with cows; an acre and quarter will carry a cow through the summer.

The breed is the little mongrel sort; they
pay

490 THE FARMER'S TOUR

pay in total product about 6*l.* a head. They keep a good many hogs; above 40 to 20 cows. A dairy-maid will take care of 10. The winter food straw while dry; and afterwards a little hay, with many turnips. They keep them in the yard. Good ones will give 8 gallons of milk a day; and some will make 14*lb.* of butter a week, for 6 weeks after calving.

Swine fat to 15 and 18 stone.

Flocks of sheep rise to 450; the profit they reckon,

Lamb,	-	-	£.	0	8	0
Wool,	-	-	0	0	1	6
				0	9	6
				0	9	6

The winter food turnips. The rot they think is totally owing to water lying on the land in winter; which is directly contrary to the common idea—which is *summer* floods.

In tillage, they reckon 8 horses necessary for 100 acres of arable land; use 2 in a plough, and do from 1 to 3 acres a day. The depth about 4 $\frac{1}{2}$ inches: and the price *per* acre 4*s.* The stubbles they break

break up for a fallow about *February*.
Wheel ploughs only used.

In the stocking farms, they reckon 400*l.* necessary for one of 100*l.* a year.

Tythes compounded by the acre round:
about 20*d.*

Poor rates 1*s.* 8*d.* in the pound. The employment spinning wool: all drink tea; and the men are almost as great tea-drinkers as the women.

All the farmers have leases.

LABOUR.

In harvest, 2*l.* 2*s.* and board for the harvest.

In hay-time, 1*s.* 6*d.* a day and beer.

In winter, 1*s.* 2*d.* and beer.

Reaping wheat, 4*s.* to 6*s.*

———— oats, 4*s.*

Mowing barley, &c. 1*s.* 6*d.*

———— grass, 2*s.*

Hoeing turnips, 4*s.* and 2*s.*

Hedging and ditching, 8*d.* a rod.

Thrashing wheat, 2*s.* *per*-quarter,

———— barley, 1*s.* ditto,

———— oats, 8*d.* ditto.

———— pease and beans, 1*s.* ditto.

Head-man's wages, 12*l.*

Next ditto, 9*l.*

492 THE FARMER'S TOUR

Lad's, 5*l.*

Dairy-maid's, 4*l.* 10*s.*

Other ditto, 3*l.*

Women *per* day, in harvest, 1*s.* and beer.

————— in hay-time, ditto.

The rise of labour a fourth in 10 years.

IMPLEMENTS.

A waggon, 20*l.*

A cart, 11*l.* 11*s.*

A plough, 2*l.* 2*s.*

A pair of harrows, 1*l.* 10*s.*

A roller, 2*l.* 2*s.*

Harnes*s per* horse, 1*l.* 5*s.*

Laying a share, 1*s.*

————— a coulter, 6*d.*

Shoeing, 1*s.* 8*d.*

PROVISIONS.

Bread, - - 1 $\frac{1}{2}$ *d. per lb.*

Cheese, - - 3

Butter, - - 6

Beef, - - 3 $\frac{1}{2}$

Mutton, - - 3 $\frac{1}{2}$

Veal, - - 3

Pork, - - 3 $\frac{1}{2}$

Bacon, - - 6

Milk, - - 0 $\frac{1}{2}$ *d. per pint.*

Potatoes, - - 4 *per peck.*

Candles,

Candles, - - 6½ d. per lb.

Soap, - - 7

Labourer's house-rent, 40s.

———— firing, 30s.

BUILDING.

Bricks, 18s. a thousand.

Tiles, 50s.

Oak timber, 2s. a foot.

Ash ditto, 1s. 2d.

Elm ditto, 1s. 2d.

A carpenter a day, 1s. 8d. and beer.

A mason, 2s. and ditto.

A thatcher, 2s.

The particulars of a farm are as follow.

180 Acres in all	20 Young cattle
£. 105 Rent	2 Men
8 Horses	1 Boy
4 Mares and colts	2 Maids
4 Cows	2 Labourers.
70 Sheep	

Colonel *Cony* of this place (to whom I am obliged for the preceding account) has improved on the methods of his neighbours.

His course is,

- | | |
|--------------------|-------------|
| 1. Turnips fed off | three years |
| with sheep | 4. Pease |
| 2. Barley | 5. Wheat. |
| 3. Clover two or | |

His barley yields 5 quarters on an average; his pease 4 quarters; and his wheat as much. Oats he never sows except in the place of barley, but he gains from $7\frac{1}{2}$ quarters to $9\frac{1}{2}$. His turnips he hand-hoes thrice; to which excellent practice is undoubtedly to be attributed in a good measure his crops of barley being better than those of his neighbours.

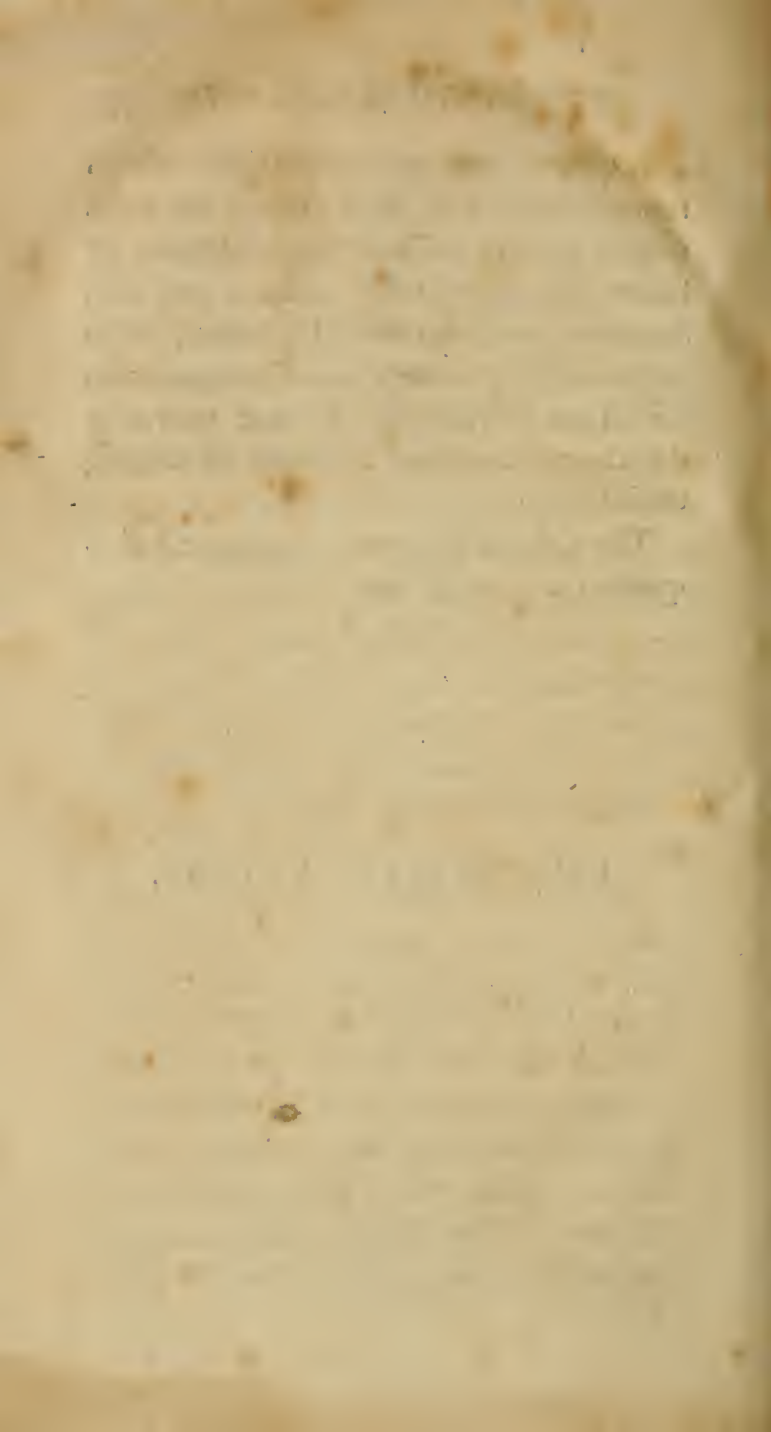
His method of laying arable land to grafs, has been to sow barley under feeded on a clean turnip fallow, and with it 6 *lb.* per acre of trefoile, 10 *lb.* of white clover, and 4 bushels of ray-grafs: and he has found it to make very good pasture. Four years ago he laid a field in this manner: The first and second years he fed it; the third he mowed a load and half an acre of good hay; the ray-grafs is now declining, and the white clover thickening in its place.

The Colonel tried clay on four acres of gravelly loam; he laid 80 loads an acre, at the expence of 2 *l.* 10 *s.*; it was done in winter, and the land fallowed for turnips; which were eat off by fat wethers at *Mickaelmas*, being sold for 10 *l.* 10 *s.* the four acres. Wheat was then sown, and the crop

4 $\frac{1}{2}$ quarters *per* acre. After the wheat, turnips again, fold, to be fed on the land, at 40*s.* an acre. They were followed by barley, which yielded 5 quarters *per* acre. Sainfoine was sown with this barley, but it failed.—This is a very valuable experiment for all the neighbourhood; as it proves in the clearest manner, the profit of claying these soils.

The Colonel has more than once had 6 quarters an acre of rye.

End of the FIRST VOLUME.





SPECIAL

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