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THE
AGRICULTURAL
MAGAZINE,

FOR

1806.



A MONTHLY PUBLICATION,

DEVOTED TO

Farmers, and to Rural Affairs.

"He that causes two blades of grass to grow where only one grew before, is, so far
a Creator."
SWIFT.

VOL. XIV.

FROM JANUARY TO JULY

INCLUSIVE.

LONDON:

PRINTED AND PUBLISHED BY VAUGHAN GRIFFITHS,
PATERNOSTER-ROW

THE
AGRICULTURAL

MAGAZINE

1806

A MONTHLY PUBLICATION

FOR THE

IMPROVEMENT OF AGRICULTURE

AND THE
GENERAL INTERESTS OF THE
COUNTRY

VOL. XIV

FROM JANUARY TO JULY

1806

LONDON

PRINTED AND SOLD BY
PATRICKSON AND SON

PREFACE.

ON the Commencement of a New Series of our Publication, which certain arrangements tending to farther Improvement, have rendered necessary, we beg leave to pay our respectful and thankful acknowledgments to the Public, by whose Countenance and Support, the Agricultural Magazine has, during some years, maintained an extensive circulation. Assured that our Subject, AGRICULTURE, ever of the first consequence to Mankind, is, at this Period of overflowing population, enhanced in an extraordinary degree, we cannot for a moment doubt a continuance of the public Favour, whilst exerting ourselves for the Promotion of its first and greatest Interest. To our past Volumes, we boldly appeal for what we have already atchieved in this indispensable Science; and with equal confidence we engage to persevere, until no Branch or relative Object, even the most minute, shall be left untouched, and until our Work shall be a complete Repository of whatever concerns the Culture of the Earth in its various Modes, the different Implements in use, and choice Breeding, food and management of those domestic Animals of such essential service to Man. We have hitherto been honoured with the assistance of some of the most Scientific, as well as of the best practical Cultivators of the Country, and we earnestly and respectfully invite the communications of Farmers of every District, upon all such Subjects as they may suppose interesting to the cause of Husbandry, assuring them, we shall ever pay the most prompt and early attention to their Favours.

That the present Volume is replete with valuable facts and arguments, on essential points in Farming and Rural Affairs, will, we trust, appear from a perusal of the very full INDEX now presented; in the compiling of which, we have to acknowledge the assistance of an able Correspondent.

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 and arguments on essential points in farming and
 Affairs, will be best, appear from a perusal of the
 first Part, now presented in the course of what
 have in course to give the assistance of an able Correspondent.

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THE
AGRICULTURAL MAGAZINE.

No. LXXVIII.] JANUARY, 1806. [VOL. XIV.

ON AN INCREASE OF AGRICULTURAL CAPITAL,
THE POOR LAWS, &c.

To the Editor of the Agricultural Magazine.

SIR,

Jan. 10th, 1806

IF R. W. can prove "the impossibility of there being any material difference" between the profit upon Agricultural and that upon Commercial capital, I must, of course, abandon the ground I have occupied in that part of our dispute. Truly sorry am I, however, that his remarks have not induced me to relinquish my former opinion; for I might venture to predict advantages of a most important nature, from an equality of success in these employments.

"The constant endeavour of every one to make the most of his money," might, indeed, tend to equalize the profits on these two kinds of stock, if the merchant were qualified for the employments of the Agriculturist, and the latter for those of the trader and manufacturer. But why should we argue so long upon this point? Was it not long since settled by our most enlightened political economists, in favour of commercial profit? And certainly there is not less scope and encouragement now than formerly, for the enterprising exertions of the commercial subjects of the British empire.

If the agriculturists of Great Britain were in full possession of the home market for the produce of their lands, the comparison which R. W. made between them and sugar contractors would have appeared more just. Not only is the home market secured to the latter, by the prohibition upon importation from the territories of foreign states, but the markets of Europe are rendered more profitable to them by means of bounties, or drawbacks. These have always been considered as encouragements to production; and undoubtedly, to whatever sort of goods they are applied, greater quantities will be raised than if they were withheld. This was experienced in the sugar trade; and similar effects have been observed in the manufactories of Manchester and Glasgow. Now when bounties, or drawbacks, have increased the production of sugar, cotton goods, &c. will R. W. con-

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tend that they will not likewise augment that of grain; or will he say that corn is not of infinitely greater consequence, to the community at large, than sugar, &c.

A great revenue is undoubtedly raised from sugar and cotton goods; but is not a much greater raised from land? And shall that be refused to the British landholder which is granted to the proprietors of the West Indies, and the manufacturers of Manchester and Glasgow?

The bounty, however, which our legislators have granted upon the exportation of British corn, is considered by R. W. as inadequate to the object. Surely, Sir, he will not contend, that our surplus quantities, in very fruitful seasons, cannot be more advantageously exported with, than without, the bounty. Perhaps this bounty is not so great as it ought to be; and in very plentiful years, supposing we could spare a part, the British farmer might be under the necessity of selling his grain at a price lower than that for which he can afford to raise it. Still, however, the government allowance of five shillings per quarter on wheat would prevent that depression which would be felt if no bounty were payable.

But when are we to expect so great a produce as to be able to supply ourselves and export a part of our corn?—When we look at the circumstances of this country for the last forty or fifty years, it appears that our increased population and consumption have so greatly exceeded our increased production, that we cannot support ourselves without great importations of foreign grain; exportation, therefore, is out of the question. It is in *proof*, that these importations have taken place (and may again take place) when the prices of wheat in the British markets were from forty-eight to about fifty-one shillings per quarter; yet R. W. admits that the British farmer cannot raise wheat under fifty-six shillings per quarter. It follows, then, *from his own statement*, that his favourite system—a free trade—would be ruinous to the cultivators of our lands.

It cannot be denied, that great quantities of foreign wheat have been brought into this country, when (as I have just stated) that of our own growth could not be sold higher than forty-eight to about fifty-one shillings per quarter. And why did British wheat bring these prices? Not because that sort of grain could not be purchased abroad, so as to be offered at a lower rate in our markets, but because our ports continued shut till these prices could be obtained for our own produce.

R. W. does not seem aware of the low prices at which corn can generally be bought in the north of Germany, and

in Prussia and Russia. I firmly maintain my position, however, that an unrestrained importation of corn into this country, would so greatly reduce the prices in our markets, as to prove almost a death blow to our agriculture: tillage would be most alarmingly diminished; our lands, like those of Rome, when she was mistress of the world, would be rapidly converted into pasture for rearing the finest and most delicious lamb, veal, beef, mutton, and other luxuries; which have become necessary to the comfortable existence of most of the wealthy and enervated sons of our gainful commerce and manufactories—to the existence of those emaciated, pigmy, and corrupted men, whom R. W. deems sufficiently strong and hardy to measure swords with an equal number reared in the healthy, invigorating, and virtuous employment of cultivating the ground. To go into history to shew the inconsistency of your friend's opinion, that rich commercial and manufacturing nations—nations whose inhabitants have been weakened in body by sedentary employments, and debased in morals by wealth and its concomitants, have been able to withstand the arms of an equal number of people belonging to agricultural and pastoral countries (the circumstances of each being similar, except with regard to wealth, habits and employments) would be foreign to the nature and design of your publication. Such investigation, however, would, in almost every case, support my assertion.

I hope you will not suppose, from what I have just stated, that I am of a desponding disposition; that I “despair of the commonwealth” (to use a Roman phrase); or that I would draw a parallel between my own country and those wealthy and enervated nations I have alluded to: No, Sir, though our commerce, wealth, and luxury, are great, our agriculture also is great; and I have employed my feeble pen merely with a view to contribute, in some measure, to the support of a system under which we have rose to unexampled greatness, at a time when it is assailed (with the most pure and benevolent motives, I grant) by R. W. and other writers.

This gentleman's letter (p. 250, No. 75.) contains these words: “It may be said, that we do not want to export, but merely to supply our own markets. But if an average crop would do this, corn must be uncommonly cheap in a plentiful year, unless there was an exportation, which could never take place unless the bounty was equal to the difference between the price of our markets and those of the corn exporting countries.”—It is unnecessary, I presume, to inform him that an average crop is not adequate to the supply of our

own markets. If we should, in an uncommonly fruitful year, be blessed with superabundance, the surplus might be exported, though the bounty is less than "the difference between the prices of our own markets and those of the corn exporting countries." To be satisfied of this, we have only to consider, that (except a very trifling quantity to Norway) we would not think of sending grain to the northern parts of Europe. The great markets for the produce of the North are Portugal, Spain, and Italy. (It very seldom happened that any, of consequence, could be sent from this country to Holland and France.) Now, when we consider the geographical situation of all these countries, and that the Baltic (in which are the ports "of the corn exporting countries,") is frozen up for five or six months in the year, it is obvious that we could export corn to the south of Europe without the difference or bounty mentioned by R. W.

I must still maintain the opinion, that the price of labour is not regulated by that of corn; nor will I admit that the price of the latter has the effect which has been so often attributed to it, in regulating the value of other commodities. I have satisfied R. W. that the price of corn was higher in the 17th than in the 18th century. It will be universally admitted, however, that the price of labour was very much lower in the former than in the latter. This, together with the facts I quoted from the writings of Dr. Adam Smith, and almost yearly observations in their support, should, I think, be decisive in my favour. R. W. however, says, "the fact of corn being higher in the 17th than the 18th century, whilst corn was lower, is no confutation of what I have advanced; the demand might have so increased as to have caused a still greater advance." Pray what is this, Sir, but an argument in support of my position, *that the price of labour is regulated by the proportion between the supply and demand.*--- What he states afterwards, namely, "if the demand had continued the same, and the price of corn had increased, I have little doubt but the price of labour would have increased also," is contrary to experience in almost every part of this country, where we have many opportunities of remarking that an increased price of corn does not raise that of labour, if the demand for the latter does not vary.

I do not mean, however, to extend my principle to cases of *dearth*; yet, even in these cases, the *temporary* relief afforded by the parishes of this county, (which R. W. considers as an increase of the price of labour) proceeds more from the humanity of our laws, than from any actual augmentation of the wages at market. A dearth seldom causes an increase of demand for labour, and therefore the em-

ployers would be under no necessity of giving an increased wage. The labourer, indeed, would be reduced to struggle against great difficulties---to circumstances very different from those of ordinary times---but he would only be in that situation to which the labourers in almost every other country are reduced in times of dearth. In these foreign countries, where the laws for the maintenance of the necessitous poor are very different from our own, we do not find that dearth necessarily causes any augmentation of wages.

In these countries, where parish settlements are unknown, the labourer must depend much more upon his own exertions, than a labourer in England. He is, therefore, in the first place, more industrious; and, in the next, frugal. He knows, from experience, that he runs a risk of starving in a year of dearth, if he cannot save part of his earnings in more plentiful seasons. In England his circumstances are very different: he knows that he has an estate in the country; in other words, that he has only to go to a magistrate, and swear that he is necessitous, to obtain relief from the land. It is not surprising, then, that there is a want of industry in our labourers in the first place, and of economy in the next; and, I think, I may safely add, that our present poor laws have a very great tendency to sap the morals of the lower orders. For these reasons I have no hesitation in pronouncing them highly detrimental to our best interests.

I am extremely desirous, however, of supporting laws which are well calculated for the comfortable maintenance of the *really necessitous*. But I conceive the people of this description within England, Wales, and Berwick upon Tweed, may be well supplied with the necessaries of life for less than one half of the sums which are now collected under our present poor laws. These sums, according to the late publication of George Rose, Esq. M. P. amount to about 5,200,000*l.* yearly; a sum which (if my information is correct) is greater than that collected for similar purposes in all the kingdoms and states upon the Continent of Europe.

If our present system is not defective, how are we to account for the *necessity* of so enormous an expenditure? Will R. W. allow us to impute it to the profligate habits, and wide spread diseases which are observable in our manufacturing districts? If these are the sources from which the *necessity* springs, what shall we say of the manufactories and commerce which he would (if I rightly understand him) prefer to the extension of our agriculture?

Here I must confess, Mr. Editor, that I would not hesitate a moment in giving my vote for measures that seem well calculated to extend our agriculture, in preference to such as aim at an extension of our manufactures and commerce. These

are already sufficiently, if not too extensive. Our agricultural operations are performed upon too narrow a surface; and both cannot be extended with the present capital.---I would "colonize at home:" I would defend such measures as would promote the complete improvement of our extensive and disgraceful common and waste lands. No national prosperity can be permanent and secure, unless it be founded upon the solid basis of agriculture. In a late State Paper, it is asserted, by the most astonishing and powerful man in the world, that "resources founded on culture are inexhaustible."

My opinion is different from R. W's with regard to the profits upon agricultural and commercial capital. But even if we could agree on the subject, we would differ widely as to that employment of stock which is most conducive to national power and prosperity. These are his words: "I say, do not force any capital from a more productive employment, to one that is less so." Now, Sir, though I am satisfied that the greatest profits are obtained upon trading capital, I would rejoice to see a very considerable part of it employed in our agriculture. Must I again remind R. W. of the story of the Phrygian king, whose property was entirely converted into gold, and who soon perceived his danger from want of the necessaries of life? Must I again call to his recollection the impolicy, the absurdity, and the extreme danger of depending upon foreign powers for the first article of human subsistence? Need I repeat my arguments relative to the power and occasional conduct of arbitrary princes? Is it necessary that I should again state the dangerous circumstances to which a prohibition upon the exportation of grain from the ports of Prussia and Russia would reduce us, if such measures should be adopted to force our consent to certain political regulations, or, indeed, for any other reason?---If my arguments were good last year, they must be more worthy of attention now, *when we clearly see who rules the Continent.*

I intended to have made a few remarks upon what R. W. has stated, relative to the opinions of your intelligent correspondent, "A Scotch Farmer;" what is strictly agricultural capital; and some of the points of minor importance. I am now, however, under the necessity of hastening to a conclusion; these points, therefore, and also the effects which our increased wealth and luxury have had in determining the preference which is so generally given to grass lands, shall be the subjects of future discussion.

At present, however, I must resist the pressure of business, to remind R. W. that we cannot with safety, like the Romans, depend upon our importations of corn from abroad.---We do not, like them, possess Sicily, Egypt, and other fertile pro-

vinces, which filled the granaries of Italy. Indeed if we did, we would now see little but barrenness in the greatest part of these countries, where the goddess of plenty formerly established her reign.

Now, as it is almost universally admitted, that it would be far more advantageous to raise much greater quantities of corn at home, than to depend upon foreigners for so considerable a part of our consumption, I must again ask R. W. whether the importation price, under the present, is not more likely to increase the quantity of our tillage ground, than that under the late corn bill? In other words, whether 64s. is not more likely to produce the desired effect, than 53s. 4d. per quarter? Will he say that he does not now find it more profitable to raise wheat at the former, than he did two years ago at the latter price; or that the most judicious mode of encouraging the production of any article is to continue it at a low price?*

Although there is a great difference of opinion between R. W. and myself, upon the corn trade, and also upon some other subjects, I own that I have a high opinion of his general intelligence. I fully coincide in the judicious remarks he has directed to your correspondent, Mr. Carpenter.—(See p. 390 of your last No.)

An opinion seems to pervade the country, that our poor laws should be revised and amended. On this subject, I think, Mr. Rose is desirous of information; and I should be glad if R. W. would communicate his sentiments upon it, through the medium of your very useful Miscellany. I should also be glad if he would inform me, whether the present laws for the government of servants in husbandry are found, in Norfolk, to be fully adequate to their object. Perhaps the opinions of practical agriculturists upon these subjects, would not be altogether unimportant to the country gentleman, or the Senator. I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

ON THE MEAGRIMS IN SHEEP,—A METHOD OF PREVENTING RATS FROM ENTERING WHEAT STACKS,—AND ON LETTING FARMS.

To the Editor of the Agricultural Magazine.

SIR,

I AM much obliged to your able correspondent, Farmer Slouch, for noticing my request inserted in your seventieth number, page 318, concerning a disorder in Norfolk sheep, which I called the Meagrims.

* A Free trade would reduce our corn to much lower prices than those obtained, with fair average crops, under the late resolutions.

Not supposing the complaint to originate with, or to produce animals, I did not look for them with a glass, but only examined the sheep with my naked eye, as close as possible, and did not discover any thing alive; the small very dry scabs, the extreme dryness of the pelt, with loss of wool, and a continual restlessness, were the principal features of the disease; between last Christmas and Midsummer, I lost fifteen; every one which shewed the disease died, though I procured the best medical information, and applied a number of prescriptions; a complete dressing of common tar, well rubbed in, and repeated several times, appeared to prolong life a little.

At this time I know not of a sheep which has this complaint; but, as the time (the spring of the year) is coming, when this disease is most prevalent, the first that may shew the symptoms, shall be carefully examined; and if any thing new appear, I will take the liberty of sending the particulars for insertion in your valuable publication, hoping some one may have found a remedy, and will inform me of it.

From my description, F.S.—, is not certain it is the same disease, which he has cured; yet his having a remedy for one somewhat similiar, I shall be obliged if he will, in his next, send it to you, and the first opportunity I have, it shall be tried.

Having frequently seen stacks or ricks of wheat standing, with their thatch full of holes, and knowing from experience that much damage is done every year, by suffering rats to get into and remain in them, I inform your readers of a very simple and effectual method of keeping them out:—Let the foundation of the stack be made upon a very dry hard spot of ground, a little raised, cover it with straw only, then place some of your longest sheaves upon it, for the first four or five courses, every course projecting a little; after harvest, let a man take a knife, such as is used for separating of hay, or corn stacks, and beginning about three feet from the ground, cut it smoothly, quite round, down to the bottom, always remembering to hold the knife sloping under gradually, so as to bring the point of it almost to the bands of the sheaves which are nearest to the ground; now if the stack holds thirty quarters of wheat, the weight will make it very solid; then if the three feet next the bottom be cut off smooth and sloping under all round, it will present a wall which neither rats or mice can clime, or work into. There must not be any thing set under or against a stack, to continue there, for the rats and mice will run up and down it; yet, should it be necessary to set a prop under the stack, to support it for a time, when it

can be taken away it should, and the vermin must soon leave it, for want of water.

On the letting of Farms, in your last number, (seventy-six) the plan, I think, is not a good one, for upon looking at the produce of my crops of the years 1803 and 1804, of wheat, I find they were as under:

1803, I grew twenty bushels, per acre, and 1804 only eight bushels and a quarter; now as it is what a farmer has to sell of his crop that pays his rent, there must first be deducted his seed; say two bushels and a half per acre, and as much more to find himself and servants with bread, to do the work of the farm, will make five bushels to deduct from an acre, either years, leaving of the year 1803, fifteen bushels to sell; and of the year 1804, only three bushels and a quarter, per acre.

Fifteen bushels, at 6s. 9d. per Winchester	l. s. d.
bushel is, per acre, - - - - -	5 1 3
Three bushels and a quarter, at 12s. 2d. ditto	1 19 6½

Leaving, at the average price my wheat sold for each year - - - - - 3 1 8½
in favor of that year when my wheat sold for 6s. 9d. per bushel.
—Other years of mine will, I see, prove the same; therefore it would have been very hard for me to have paid an increase of rent for the dear year.

I am, Sir, &c.

Norfolk, Jan. 1, 1806.

JOHN —

ON PREPARING AND DRESSING TURNIP SOILS.

To the Editor of the Agricultural Magazine.

FRIEND,

AS I have for sometime past been in the habit of preparing and dressing turnip soils, for that valuable root; as also in composing a manure for that purpose, I have thought it might not be altogether unnecessary to present a few remarks under this head to thy correspondents.

At the end of the field intended for fallow, there is generally what we call a head-rigg, which is considerably higher than the other riggs, it being the most convenient; we begin at one end, and lay on three bushels* of unslacked lime, to the square of about eighty yards, and near a foot deep, perhaps; in some places it may be only ten, or eleven inches,

* The bushel is 24 quarts to the peck, 96 to the bushel running measure.
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and then by getting the lime slacked to a powder, we begin (perhaps in the last or present month) and dig up the soil and mix it very exactly with the powdered lime, forming it into a pretty high regular bank along the rigg. It lays in this position for about three months, when it is turned over, and seven single-horse cart-loads of horse or cow dung mixed with it, and so laying till time to sow the turnips. The land being by this time well pulverized and properly cleaned with a thin limeing of about fifteen or eighteen bushels to the acre, the above composition is carted on next to the lime on the level surface, at the rate of about one cart-load to seven square yards; we then make the drill-riggs about two feet between each drill. If the turnips be properly hoed, we can almost promise ourselves an excellent crop of turnips, and as good a crop of barley after, if they are eaten on the land by sheep (for it is almost an inconceivable loss, not eating them off with sheep).

Now if there be any of thy correspondents that could make an improvement on this plan, I shall be glad of a few lines from him through thy useful miscellany.

I therefore conclude, thy Friend,

A. C.

Cumberland, 24th day of 12th month, 1805.

ON THE CULTURE OF TURNIPS.

To the Editor of the Agricultural Magazine.

SIR,

IN answer to your correspondent "A Young Farmer," I shall state what I conceive is perfectly unnecessary to observe to an experienced agriculturist; that the dung employed in our turnip culture, must evidently produce a greater effect when it is confined to the roots of the plants, within a space not exceeding from seven to about ten inches in breadth, than when it is spread over the whole surface of the ground, or a space of twenty-six inches broad. Besides, in our one-bout ridges, it is more compleatly covered, than it could be in the mode mentioned by his neighbours, of drilling upon a flat surface; the weeds, and a great number of plants being brought by the hand hoes, into the intervals; these intervals being twice or thrice ploughed in the course of the summer, and part of the dung being mixed with that part of the soil in the spring *diagonal* ploughing, formerly described, we find our grain crops *uniformly* luxuriant over the whole surface.

It is certainly more advantageous to sow the turnip seed

upon the one-bout ridges, with a turnip than with a corn-drill. I am sorry I cannot at present send you a drawing of the turnip seed machine, which was originally constructed by Mr. Bailey; I should suppose, however, that it might be pretty accurately, made from my former description.

I observe that your correspondent, Farmer Sandy, is rather dissatisfied that the northern mode of cultivating turnips is so generally called the *Northumberland method*; and that he claims its origin for Roxburghshire. If he will examine your numbers for 1804, he will see that I have, in that respect, done justice to Scotland. Perhaps I did not mention the county in which it was first practised, that county was certainly Roxburghshire, and the cultivator Mr. Dawson of Frogdon. This, I hope, will be perfectly satisfactory to your respectable correspondent. If it is not, I will go further, and declare that I consider it impossible for any farmers to cultivate turnips with greater abilities and success than those of Roxburghshire.

Northumberland, however, is not second to any other county, in the culture of that valuable root; and as it is a much more considerable tillage county than Roxburgh; as our northern mode was first made known to the world, by Messrs. Bailey and Cully, in the Agricultural Survey of Northumberland; and as that survey has, I believe, passed through four editions, while that of no other county has yet exceeded two; I presume it has been deemed fair to give to our northern turnip husbandry, the name of *Northumberland*. Your correspondent will, I think, perceive that I have nearly as often called our turnip culture the *northern*, as the *Northumberland* mode.

But though Mr. Dawson has the merit of bringing that mode to perfection, I must observe that there is abundant reason to believe that he got his first information in some of the southern counties, from some of the followers of the celebrated Tull, the father of the drill husbandry.

The cultivators of this district, (Northumberland, Roxburghshire and Berwickshire,) not only consider themselves superior to their brethren of the south in the turnip, but also in the grain and clover husbandry. It is but fair to remark, however, that our success in the latter branches, is also imputable to information which some of our enterprising farmers obtained respecting the practice of a southern county, (Norfolk).

It was in Norfolk, I believe, that the judicious practice of alternate tillage and grass, was first pursued in Great Britain, with success.

In the north we have certainly introduced very consider-

able improvements into that practice; and probably more in the management of our turnip, than in that of our stronger soils. For the last twenty, or twenty-five years, it has been the general practice here to continue the latter grounds two years in grass, previous to their being again converted into tillage*. Lately, however, several good husbandmen have changed their mode, and taken only one crop of grass, (red clover, sometimes with a little rye grass,) sowing in general, oats, or beans and pease, upon the clover leys. In some parts wheat is sown upon them in favourable seasons.---- Whether this change will be advantageous, or whether the clover crops, from such frequent repetition, will cease to be as luxuriant as they were before its introduction, time will determine.

In Norfolk the general practice, on turnip soils, is to sow grass seeds amongst every fallow crop, and continue the land two years in grass. In this district, I think, our management is much more judicious. We sow grass seeds amongst every fallow crop, and continue the land at least three years, but often longer, in grass, previous to the introduction of the plough. These lands cover very readily with grass, and continue excellent pastures for three to four, five, or six years. One crop only (generally oats) is taken between the grass and turnips†. By this mode our lands are always fresh impregnated with vegetable matter, and no state is so favorable to the growth of turnips. Accordingly our crops of that root are, almost always, very great. The turnip crop we consider as the sheet anchor of our husbandry; never entertaining the smallest doubt of the most luxuriant crops of grain and grass, if we succeed in obtaining a great crop of turnips.

Formerly our management in this district was much like that which is still, unfortunately, continued in many parts of England: namely, constant grass and constant aration.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

P. S. I should be exceedingly happy to dispute with your ingenious correspondent, *Clericus et Colonus*, upon the smut in wheat, in my "Northumbrian parlour, over a bottle of port." If I could have the pleasure of his visit, I would, doubtless, receive much valuable information.

A. N.

* Grass seeds being sown amongst every fallow crop.

† In many parts of Norfolk, I understand, two crops are taken between the grass and the turnips; and that the crops of that county are not so productive as they were formerly.

ON LIME AS MANURE, SPRING FOOD, LABOR, &c

To the Editor of the Agricultural Magazine.

SIR,
I BEG to thank Agricola Norfolkensis for his paper in answer to my enquiries and remarks on calcareous manures.

From his description of the clays and marls used in Norfolk, in fertilizing the soil, I am inclined to think that most of them are not materially different from the substance known in this district, by the name of shell-marl. If so, they are animal productions blended, by time and the convulsions of our globe, with siliceous, argillaceous and other foreign matters. Indeed it is the opinion of several philosophers, that all calcareous substances, even limestone itself, are animal productions; and this opinion seems to be countenanced by those who maintain that some of them produce effects, upon land, similar to those of animal matter. The fact that marls, limestones, chalk, marbles, &c. on being cleared from sand, clay, &c. produce matter perfectly similar to the shells of fish, may also be stated in support of this opinion.

I can readily conceive that calcareous matter, blended with so great a proportion of clay as that contained in the clays applied in Norfolk as manures, must be highly fertilizing in light sandy soils; both from its mechanical and other effects; and I must beg leave to differ from the opinion advanced by Agricola Norfolkensis, *that clay is not a substitute for manure.*

Calcareous matter itself, I contend, is an advantageous "manure," in any soil which has not already received a sufficient quantity. And when mixed with clay it must be doubly so to sandy lands, which are benefited by the increased tenacity occasioned by the addition of that substance.

I cannot dispute the accuracy of your correspondent's comparative statement of the expence of lime and clay in Norfolk; (see page 383, number 77.) But if eighty or ninety Winchester bushels of the former, will suffice for an acre—a quantity of land which requires forty-four horse cart loads of clay; it appears to me, notwithstanding the high price in that county, that, on many soils*, lime would be most profitable, unless its carriage was very expensive, and that of clay very short. Your friend's local knowledge, however, must enable him to judge with more correctness, than I can pretend to. He will permit me to observe, that accurate trials of the crops, from each species of manure, are wanting;

* Soils which have already been rendered cohesive by clay.

that in Norfolk the preference is given to clay: that in some parts of Roxburghshire, we generally prefer lime; and that here our rents are very much higher, which argues a superiority of produce*.

Probably I am much inferior in chemical, as well as other knowledge, to Agricola Norfolkensis. I must beg leave, however, to dispute a little with him on the benefits derived, by the agriculturist, from the calcination of chalk and other calcareous substances. And I should be glad if our correspondence brings forward the opinions of "your chemical friend," to whom an appeal is made.

Before that friend favours your readers with his opinion, however, I must not omit to remark, that his sentiments will not be fully satisfactory to me, unless he possesses knowledge in practical husbandry, as well as chemistry.

I cannot say that Agricola Norfolkensis has misquoted me; the error lies with your printer, the words in my letter were these: "I suppose chalk may easily be powdered without calcination. What advantage, then, does A. N. expect from that operation?"—Now, Sir, if my recollection be correct, (and I own I have occasionally paid a little attention to the writings of Fourcroy, Thompson, &c. &c.) there is no difference between burnt and unburnt chalk, limestone, &c, but with regard to colour, the water of composition, and the carbonic acid, (fixed air.) The former is of no importance, indeed no change of colour takes place in chalk and other substances, which are white, previous to calcination; and with regard to the two latter, they are fully regained, within two or three days, upon exposure to the atmosphere; which must be the case when the manure is spread upon, or mixed with the soil.

Lime, from chalk, limestone, or other calcareous matter, *immediately* after calcination, is in a caustic state: *i. e.* freed from its carbonic acid. In this state it will very quickly destroy such vegetable matters, especially oily seeds, &c. as it may come in contact within the soil. But within the above *very short space of time*, (two or three days, or less) the fixed air is re-absorbed, and it ever afterwards operates as mild calcareous earth, the component parts of which are not at all different from those of unburnt chalk, limestone, &c. So that I conceive all the benefit we derive from calcination, *exclusive of the advantage of pulverization*, arises from the operations of the manure within the short time during which it is deprived of its carbonic acid. And what is this benefit?

* Attention being paid to what has already been stated in your magazine, as to the quality of the soil and the prices of the produce, &c.

Why, upon five-sixths of our lands nothing at all; and upon other grounds it is very little, if any thing, more than we would derive from *mild* calcareous matter within a greater space of time.

The application of caustic lime is often injurious to the seed from which we expect our crops, and should therefore be used with great caution. I have frequently laid on *my* lime, upon my turnip fallows, in autumn: one part of it quick, or caustic, and another mild, (or saturated with fixed air by exposure); and never observed the smallest difference in the crops*. Indeed when we consider its component parts, in each state, and the very short time which is necessary to render both sorts perfectly alike, we cannot reasonably expect any difference of consequence. If I am right, therefore, in this view of the subject, I would not calcine chalk, limestone, &c. but under a conviction that that operation was the cheapest mode of reducing them to powder.

This idea is not new, and, if I am not mistaken, it is by no means inconsistent with the sentiments of your correspondent Agricola Northumbriensis, expressed in some of his papers in your useful miscellany. I think it is more particularly maintained by Dr. Anderson, in his *Essays on Agriculture*, where the effects of powdered limestone (not calcined) are stated as highly fertilizing. It is also corroborated by the practice of some parts of Scotland, where fuel is very scarce, and where machines are erected for beating the limestone to powder for manure†. I acknowledge, however, that I cannot yet state to you the results of any relative trials of my own.

Some agriculturists assert that lime acts only mechanically, as an alterative; and no doubt its benefits in that way are very considerable. But I am of opinion that that substance, and others of calcareous nature, operate beneficially in furnishing part of the nutriment of vegetables. Mr. Kirwan, whose opinion your correspondent has very properly quoted, asserts, I think, that calcareous matter is the chief food of plants; and this opinion is also upheld by many able and ingenious philosophers in different parts of Europe, who are accustomed to reason from facts and experiments. Now, if these opinions

* In summer liming, I have experienced similar effects in the turnip, grain, and grass crops.

† I may also advance the benefits received from scrapings of roads when used as manure. These are generally supposed to arise from the dung dropped by cattle, horses, &c. and the leaves of adjoining trees. It is a fact, however, that this species of manure is most powerful, when obtained from limestone roads. Does not this support my opinion as to the fertilizing effects of unburnt limestone, &c.?

be well founded, does it not clearly appear, that calcareous manure in its mild state, that is, saturated with carbonic acid, is more enriching and profitable, than that which is in a quick (caustic) state?

In regard to what he calls my "inconsistency in answering his queries," he must now permit me to make a few remarks. I agree that without a close attention to my statement, and by adverting only to what I advanced in favour of lime over other calcareous substances, (which are not burnt and applied in fine powder,) there may be some appearance of inconsistency. But your ingenious correspondent will please to observe, that, though I asked a question as to the utility of calcining chalk, I held firmly by what I had said in favour of *finely powdered calcareous manure*. I expressly said, "I suppose chalk may be powdered without calcination;" and Agricola Norfolciensis, (whose practical knowledge must enable him to decide with precision) states, "that the frost always acts as a pulveriser" of chalk. In short, I am warmly in favour of applying calcareous manures in a finely powdered state, because, in such they are more intimately incorporated with the land, come into contact with a greater number of the particles of the soil, and require a smaller quantity to produce a given effect. And if chalk, limestone, &c. &c. cannot be reduced to a sufficiently fine powder by a cheaper process than that of calcination, (which in almost all situations is the case with limestone, at least) then I would pursue the common mode of burning. But I must contend that that operation, *independent of its power of pulverizing the substance*, imparts no additional quality to the manure, at all adequate to the expence of calcination. This is the point at issue between your correspondent and myself. This is the point, if I rightly understand him, upon which he has appealed to "your chemical friend."---In this appeal I beg leave to join.---Thus far what A. N. calls my "philosophy."

I agree with Agricola Norfolciensis, that chemical knowledge may be of great utility to the husbandman. I cannot, however, attach to such knowledge all the importance he has done. I have the pleasure of knowing many excellent practical farmers, who are not "conversant in the first principles of chemistry"—nay, they know scarcely a single chemical term; yet no men can cultivate with greater judgment or success. These farmers will, perhaps, be deemed by your correspondents, Mr. Brightly and Clericus et Colonus, mere *empirics*—men unworthy of notice; because they cannot scientifically account for certain results; because they cannot distinguish cause from effect; because they can prevent the smut in wheat, but cannot point out the cause of that

disease, or the way in which their remedy operates. But, Sir, such men as these are far more successful, and far more useful, than men of great scientific acquirements, who, in their closets, can raise the most splendid theories and astonishing profits; but whose fields exhibit nothing but weeds, couch, and scanty crops. Think not, however, Mr. Editor, that I wish to damp the ardour of the experimenter, or that of the scientific agriculturist—it is far different. I only wish to defend my able, but unlettered, brethren from that unmerited contempt which learned men are sometimes too apt to hurl upon them; and to touch, *gently*, those scientific cultivators whose practice exhibits such a want of prudence, as to induce one to conclude, that it is the offspring of a continual warfare in their breasts, between the jarring principles of Priestley and Lavoisier---of Tull and your friend Ruricola. The prudent scientific husbandman and experimenter, I admire. He deserves our highest encomiums: the greatest blessings may be expected from his exertions.

In this part of the country, judicious husbandmen pursue P. J.'s mode of managing his servants and horses. I am sorry to say, however, that our stoutest men, with two good horses, do not, in general, plough more than an acre per day; and that the average work, throughout the year, is below that quantity. This correspondent's judicious experiments in seed wheat, and the results he mentions, accord with the remarks of almost all the farmers of this district. And success must be very much less in the neighbourhood of Clericus et Colonus than it is here, to warrant his assertion that failure is not an exception to the general rule.

I observe that P. J. seems well satisfied that Agricola Northumbriensis does not recommend the sowing of small refuse grain, notwithstanding his success in a few experiments; which success is favourable to the opinion of Sir Joseph Banks. Having taken some part in the discussion of this subject, I must beg to say a few words more. In justice to Sir Joseph, it should be remarked, that he recommends it more as a subject of experiment, than as a matter positively ascertained; and with regard to my own experiment, and those of Agricola Northumbriensis, P. J. will perceive that the sort of grain employed was somewhat different from that used in his trial.---In the latter, the grain was, I conceive, the smallest refuse. In the other experiments it may be more properly called corn of a *middling* quality.

If Agricola Norfolciensis will have the goodness to read my letter, in one of your late numbers, he will see the particulars of the enquiry I made respecting the mowing of corn.

I have again to express my disappointment, that none of your southern friends have communicated the requested information. The Hainault and Brabant scythes, of which you have given us a drawing in your Seventy-sixth Number, are, I understand, very different from those in general use in many parts of England. Besides, I not only wish for an accurate description of the implement, but also a statement of the advantages in using it, compared with the sickle. I shall be much obliged to Agricola Norfolkensis for his opinion on mowing barley, oats, rye, &c. for the expences, with the sickle, are now enormous in this district.---What is the common expence in Norfolk, in the latter mode?

I can assure your correspondent, that from lime, and also from marl, without dung, we frequently obtain drilled turnips in this part of the country, that we sell at from four pounds ten shillings to six pounds six shillings per acre; the lands on which they are raised being fresh, and not cropped with corn above once after grass. On our stronger fresh soils, we obtain our best crops of wheat after these manures without dung. His experiments in producing "bore-cole," for spring food, are well worth prosecuting; and I heartily wish him all manner of success. They are, I dare say, in good hands.---After his next trial, I should be glad if he will communicate to you the result. At present, I am more partial to the Ruta Baga (Swedish turnips) than to any other plant for consumption in April and May. They may be stored early, and taken out in those months, in great perfection.

I have twice read the paper in your last Number, on "Saltering" pasture lands. Such a mode I never before heard of, and I suppose it will be equally new to almost all your readers. Perhaps, I may send you some remarks upon it at a future period.

Yours, &c.

FARMER SANDY.

Roxburghshire, Jan. 14, 1806.

P. S. Will Agricola Norfolkensis be so obliging as to inform me in what manner the reapers are hired in Norfolk—that is, whether by the day or by the acre, and what allowance is made to them over and above their money wage?

I should also be glad to know how the common husbandry servants are hired in that county! whether partly corn and partly money, together with a cow and potatoes, &c. and houses of their own; or solely for money, with food and lodging in the house of the farmer?

F. S.

ON THE FORM OF ANIMALS.

BY HENRY CLINE, ESQ. SURGEON.

[We readily embrace the hint of our Correspondent P. J. in regard to the following Extract, recommended by him in his last communication, (No. 77, p. 380.) from a conviction of its scientific utility to Breeders, and a profound respect for any thing that can come from the enlightened Anatomist, by whom the article is furnished to the Papers of the Board. It affords us the highest pleasure to see the intelligent of every class thus contributing their aid to the general cause, the cause of Agriculture—of human kind.]

THE form of domestic animals has been greatly improved, by selecting with much care the best formed for breeding; but, the theory of improvement has not been so well understood, that rules could be laid down for directing the practice. There is one point particularly, respecting which the opinions of breeders have much varied, which is, whether crossing the breed be essential to improvement.

It is the intention of this communication, to ascertain in what instances crossing is proper, and in what prejudicial; and the principles upon which the propriety of it depends.

It has been generally supposed that the breed of animals is improved by the largest males. This opinion has done considerable mischief, and would have done more injury if it had not been counteracted by the desire of selecting animals of the best form and proportions, which are rarely to be met with in those of the largest size.

Experience has proved that crossing has only succeeded, in an eminent degree, in those instances in which the females were larger than in the usual proportion of females to males; and that it has generally failed when the males were disproportionally large.

The external form of domestic animals has been much studied, and the proportions are well ascertained. But the external form is an indication only of internal structure. The principles of improving it must therefore be founded on a knowledge of the structure, and use of internal parts.

The lungs are of the first importance. It is on their size and soundness that the strength and health of an animal principally depends. The power of converting food into nourishment, is in proportion to their size. An animal with large lungs, is capable of converting a given quantity of food into more nourishment than one with smaller lungs; and, therefore, has a greater aptitude to fatten.

The Chest.

The external indications of the size of the lungs, are the form and size of the chest; the form of which should approach to the figure of a cone, having its apex situated between the shoulders, and its base towards the loins.

The capacity of the chest depends on its form more than on the extent of its circumference; for, where the girth is equal in two animals, one may have much larger lungs than the other. A circle contains more than an ellipsis of equal circumference; and, in proportion, as the ellipsis deviates from the circle, it contains less. A deep chest, therefore, is not capacious; unless it is proportionally broad.

The Pelvis.

The pelvis is the cavity formed by the junction of the haunch bones, with the bone of the rump. It is essential that this cavity should be large in the female, that she may be enabled to bring forth her young with less difficulty. When this cavity is small, the life of the mother, and her offspring, is endangered.

The size of the pelvis is chiefly indicated by the width of the hips, and the breadth of the twist, which is, the space between the thighs.

The breadth of the loins is always in proportion to that of the chest and pelvis.

The Head.

The head should be small, by which the birth is facilitated. Its smallness affords other advantages, and generally indicates that the animal is of a good breed.

Horns are useless to domestic animals, and they are often a cause of accidents. It is not difficult to breed animals without them.

The breeders of horned cattle, and horned sheep, sustain a loss more extensive than they may conceive; for, it is not the horns alone, but also much more bone in the skulls of such animals to support their horns, for which the butcher pays nothing; and, besides this, there is an additional quantity of ligament and muscle in the neck, which is of small value.

The skull of a ram with its horns, weighed five times more than another skull which was hornless. Both these skulls were taken from sheep of the same age, each being four years old. The great difference in weight, depended chiefly on the horns: for the lower jaws were nearly equal, one weighing seven ounces, and the other six ounces and three quarters; which proves that the natural size of the head was nearly the same in both, independant of the horns and the thickness of bone which supports them.

In a horned animal, the skull is extremely thick. In a hornless animal, it is much thinner; especially in that part where the horns usually grow.

To those who have not reflected on the subject, it may appear of little consequence whether sheep and cattle have

horns; but, on a very moderate calculation, it would be found, that the loss in farming stock, and also in the diminution of animal food, is very considerable, from the production of horns and their appendages. A mode of breeding which would prevent the production of these, would afford a considerable profit in an increase of meat, and wool, and other valuable parts.

The length of the neck should be proportioned to the height of the animal, that it may collect its food with ease.

The Muscles.

The muscles, and tendons, which are their appendages, should be large; by which an animal is enabled to travel with greater facility.

The Bones.

The strength of an animal does not depend on the size of the bones, but on that of the muscles. Many animals with large bones are weak, their muscles being small.

Animals that were imperfectly nourished during growth, have their bones disproportionately large. If such deficiency of nourishment originated from a constitutional defect, which is the most frequent cause, they remain weak during life. Large bones, therefore, generally indicate an imperfection in the organs of nutrition.

On the Improvement of Form.

To obtain the most approved form, two modes of breeding have been practised; one, by the selection of individuals of the same family; called breeding in-and-in. The other, by selecting males and females from different varieties of the same species; which is called, crossing the breed.

When a particular variety approaches perfection in form, breeding in-and-in may be the better practice; especially for those who are not well acquainted with the principles on which improvement depends.

When the male is much larger than the female, the offspring is generally of an imperfect form. If the female be proportionally larger than the male, the offspring is of an improved form. For instance, if a well formed large ram be put to ewes proportionally smaller, the lambs will not be so well shaped as their parents: but, if a small ram be put to larger ewes, the lambs will be of an improved form.

The proper method of improving the form of animals, consists in selecting a well formed female, proportionally larger than the male. The improvement depends on this principle, that the power of the female to supply her offspring with nourishment is in proportion to her size, and to the power of nourishing herself from the excellence of her constitution.

The size of the fœtus is generally in proportion to that of the male parent; and, therefore, when the female parent is disproportionately small, the quantity of nourishment is deficient, and her offspring has all the disproportions of a starveling. But, when the female, from her size and good constitution, is more than adequate to the nourishment of a fœtus of a smaller male than herself, the growth must be proportionately greater. The larger female has also a greater quantity of milk, and her offspring is more abundantly supplied with nourishment after birth.

To produce the most perfect formed animal, abundant nourishment is necessary from the earliest period of its existence until its growth is complete.

It has been observed, in the beginning of this paper, that the power to prepare the greatest quantity of nourishment, from a given quantity of food, depends principally on the magnitude of the lungs, to which the organs of digestion are subservient.

To obtain animals with large lungs, crossing is the most expeditious method; because well formed females may be selected from a variety of a large size, to be put to a well formed male of a variety that is rather smaller.

By such a method of crossing, the lungs and heart become proportionately larger, in consequence of a peculiarity in the circulation of the fœtus, which causes a larger proportion of the blood, under such circumstances, to be distributed to the lungs than to the other parts of the body: and, as the shape and size of the chest, depend upon that of the lungs, hence arises the remarkably large chest, which is produced, by crossing with females that are larger than the males.

The practice according to this principle of improvement, however, ought to be limited; for, it may be carried to such an extent, that the bulk of the body might be so disproportioned to the size of the limbs as to prevent the animal from moving with sufficient facility.

In animals, where activity is required, this practice should not be extended so far as in those which are intended for the food of man.

On the Character of Animals.

By character in animals is here meant, those external appearances by which the varieties of the same species are distinguished.

The characters of both parents are observed in their offspring; but that of the male more frequently predominates. This may be illustrated in the breeding of horned animals; among which, there are many varieties of sheep, and some of cattle, that are hornless.

If a hornless ram be put to horned ewes, almost all the lambs will be hornless; partaking of the character of the male more than the female parent.

In some counties, as Norfolk, Wiltshire, and Dorsetshire, most of the sheep have horns. In Norfolk the horns may be got rid of, by crossing with Ryeland rams; which would also improve the form of the chest, and the quality of wool. In Wiltshire and Dorsetshire, the same improvements might be made by crossing the sheep with Southdown rams.

An offspring without horns might be obtained from the Devonshire cattle by crossing with hornless bulls of the gallo-way breed; which would also improve the form of the chest; in which, the Devonshire cattle are often deficient.

Examples of the good Effects of crossing the Breed.

The great improvement of the breed of horses in England arose from crossing with those diminutive stallions, Barbs and Arabians; and, the introduction of Flanders mares into this country was the source of improvement in the breed of cart horses.

The form of the swine has also been greatly improved, by crossing with the small Chinese boar.

Examples of the bad Effects of crossing the Breed.

When it became the fashion in London, to drive large bay horses, the farmers in Yorkshire put their mares to much larger stallions than usual, and thus did infinite mischief to their breed, by producing a race of small chested, long legged, large boned, worthless animals.

A similar project was adopted in Normandy, to enlarge the breed of horses there, by the use of stallions from Holstein; and, in consequence, the best breed of horses in France would have been spoiled, had not the farmers discovered their mistake in time, by observing the offspring much inferior in form, to that of the native stallions.

Some graziers in the Isle of Sheppey, conceived that they could improve their sheep by large Lincolnshire rams, the produce of which, however, was much inferior in the shape of the carcase, and the quality of the wool; and their flocks were greatly injured by this attempt to improve them.

Attempts to improve the native animals of a country, by any plan of crossing, should be made with the greatest caution; for, by a mistaken practice, extensively pursued, irreparable mischief may be done.

In any country where a particular race of animals has continued for centuries, it may be presumed that, their constitution is adapted to the food and climate.

The pliancy of the animal economy is such, as that an animal will gradually accommodate itself to great vicissitudes in climate, and alterations in food; and, by degrees, undergo great changes in constitution; but these changes can be effected only by degrees, and may often require a great number of successive generations for their accomplishment.

It may be proper to improve the form of a native race, but at the same time it may be very injudicious to attempt to enlarge their size.

The size of animals is commonly adapted to the soil which they inhabit. Where produce is nutritive and abundant, the animals are large, having grown proportionally to the quantity of food which, for generations, they have been accustomed to obtain. Where the produce is scanty, the animals are small, being proportioned to the quantity of food which they were able to procure. Of these contrasts, the sheep of Lincolnshire, and of Wales, are examples. The sheep of Lincolnshire would starve on the mountains of Wales.

Crossing the breed of animals, may be attended with bad effects in various ways; and that even, when adopted in the beginning, on a good principle; for instance, suppose some larger ewes than those of the native breed, were taken to the mountains of Wales, and put to the rams of that country; if these foreign ewes were fed in proportion to their size, their lambs would be of an improved form, and larger in size than the native animals; but the males, produced by this cross, though of a good form, would be disproportionate in size to the native ewes; and, therefore, if permitted to mix with them, would be productive of a starveling, ill formed progeny. Thus a cross which, at first, was an improvement, would, by giving occasion to a contrary cross, ultimately prejudice the breed.

The general mistake in crossing has arisen from an attempt to increase the size of a native race of animals; being a fruitless effort to counteract the laws of nature.

The Arabian horses are, in general, the most perfect in the world; which probably has arisen from great care in selection, and also from being unmix'd with any variety of the same species; the males therefore have never been disproportioned in size to the females.

The native horses of India are small, but well proportioned, and good of their kind. With the intention of increasing their size, the India Company have adopted a plan of sending large stallions to India. If these stallions should be extensively used, a disproportioned race must be the result, and a valuable breed of horses may be irretrievably spoiled.

From theory, from practice, and from extensive observation, which is more to be depended on than either, it is reasonable to form this

Conclusion.

It is wrong to enlarge a native breed of animals, for in proportion to their increase of size, they become worse in form, less hardy, and more liable to disease.

ON SALT AS A MANURE, AND A CONDIMENT TO
THE FOOD OF ANIMALS.

Sal sapit omnia.

To the Editor of the Agricultural Magazine.

SIR,

I WAS gratified by the hints of your Correspondent, Mr. Carpenter, in your last Number on the above subject, and though too much occupied at the present moment to enter into it, cannot delay to call your attention to the account of the Rev. Edmund Cartwright, which has lately obtained for that gentleman the gold medal of the Board of Agriculture, and which I have extracted from its Transactions, for the use of those who, like myself, are not in the ordinary receipt of that elegant and valuable publication.

I may hereafter give you a few original ideas on the subject, but cannot at present withdraw my attention from more immediate ones.

I am, Sir, your constant reader,

A FORMER CORRESPONDENT;

WERE the beneficial effects of salt as a manure to be once fairly ascertained, there can be no doubt but the wisdom of the legislature would devise some means by which, without prejudice to the revenue, the farmer might apply it to the purposes of agriculture.

At present the use of salt as a manure is a subject on which the public opinion is much divided; its advocates, reasoning from the striking effects of salt water on the

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marshes which are occasionally irrigated by the sea at spring tides, conclude that the fertilizing virtue of such irrigation is owing to its saline quality, without taking into consideration the quantity of animal and vegetable matter which sea water (particularly near the coast, and where rivers disembogue themselves) must necessarily hold in solution.

Those who maintain a contrary opinion, considering salt merely as an antiseptic, satisfy themselves that it is impossible that any thing can be friendly to vegetation which retards putrefaction, a process indispensable in substances that are to be the food of plants. To get over this difficulty, it has been conjectured, nay, there have not been wanting those (and of great name too) who have even attempted to prove, that salt in small quantities accelerates, as in large quantities it is known to resist, putrefaction; a doctrine to which, however, I shall not willingly yield my assent, till I can be persuaded that effects are not, in all cases, proportionate to their causes. The operation of every cause is, and must be, uniform; and when, to appearance, it is not so, some other cause obtrudes itself, too subtle for our observation, which operating at the same time with the primary cause, joins in giving a result, which not being able to account for, we consider as anomalous.

That theorists should be at variance with each other is not to be wondered at, for having the wide field of imagination and conjecture before them to expatiate in, it is reasonable to conclude, indeed it is unavoidable, that some of them must lose their way. But what shall we say to the disagreement and inconsistency which prevail on this subject amongst practical farmers? Nothing, indeed, can be more contradictory than the different reports that have been made on the effects of salt, as a manure, by those who have even brought it to the test of actual experiment. As there is no reason to question the veracity of the reporters, we must look for the grounds of their disagreement in some predominating circumstance or other, which at the time escaped their observation. Indeed, the success or failure of an agricultural experiment depends so frequently on causes which can neither be controlled nor foreseen, and so foreign from those which were expected to operate, that it is not to be wondered at if the repetition of the very same experiment gives oftentimes a different result.

As it is not the business of this paper to support a theory, but to detail what has been practised; not to contend for an opinion, but to state facts; the few observations which may be hazarded will be such only as are required merely in explanation of occurrences as they arise. I shall endeavour to

give, therefore, as simple a relation as possible of the experiments I have tried, to ascertain the advantages or disadvantages which may attend the use of salt as a manure, and also when mixed with the food of animals.

It may be necessary first of all to premise, that the soil on which my experiments were tried, is a ferruginous sand, brought to a due texture and consistence by a liberal covering of pond-mud. Of this soil, in its improved state I mean, by the accession of pond-mud (for having been used merely as a nursery for raising forest trees previous to these experiments, the nursery-man had not thought it necessary to make use of any other manure), the following is the analysis.

	Grains.
400 grains gave of siliceous sand of different degrees of fineness about	250
Of finely divided matter, which appeared in the form of clay	104
Loss in water	16
	400

The 104 grains of finely divided matter contained of carbonate of lime	18
Of oxide of iron	7
Loss by incineration (most probably from vegetable decomposing matter)	17

The remainder principally silex and alumine.

There were no indications of either gypsum or phosphate of lime.

It will appear from the above analysis that these experiments could not, perhaps, have been tried on a soil better adapted to give impartial results; for of its component parts there is no ingredient (the oxide of iron possibly excepted) of sufficient activity to augment or restrain the peculiar energies of the substances employed.

On the 14th of April, 1804, a certain portion of this soil was laid out in beds one yard wide, and forty long. Of these, twenty-five were manured (the first excepted) as follows:

No. 1, No manure. 2, Salt, one quarter of a peck. 3, Lime, one bushel. 4, Soot, one peck. 5, Wood-ashes, two pecks. 6, Saw-dust, three bushels. 7, Malt-dust, two pecks. 8, Peat, three bushels. 9, Decayed leaves, three bushels. 10, Fresh dung, three bushels. 11, Chandler's

graves, nine pounds. *12, Salt, lime. 13, Salt, lime, sulphuric acid. 14, Salt, lime, peat. 15, Salt, lime, dung. 16, Salt, lime, gypsum, peat. 17, Salt, soot. 18, Salt, wood-ashes. 19, Salt, saw-dust. 20, Salt, malt-dust. 21, Salt, peat. 22, Salt, peat, bone-dust. 23, Salt, decayed leaves. 24, Salt, peat-ashes. 25, Salt, chandler's graves.

On the same day the whole was planted with potatoes, a single row in each bed; and, that the general experiment might be conducted with all possible accuracy, each bed received the same number of sets.

On the 14th of May (a few days after the plants appeared above ground) the whole was carefully examined, and the comparative excellence of each row (as far at least as could be judged of by appearances) was as carefully registered. The best row was decidedly No. 7, malt-dust, after which they followed as under :

No. 11, Chandler's graves. 16, Salt, lime, gypsum, peat. 25, Salt, graves. 20, Salt, malt-dust. 9, Decayed leaves. 4, Soot. 2, Salt. 1, No manure. 5, Wood ashes. 8, Peat. 13, Salt, lime, sulphuric acid. 14, Salt, lime, peat. 17, Salt, soot. 18, Salt, wood-ashes. 21, Salt, peat. 22, Salt, peat, bone-dust. 23, Salt, decayed leaves. 3, Lime. 6, Saw-dust. 10, Fresh dung. 12, Salt, lime. 15, Salt, lime, dung. 24, Salt, peat-ashes. 19, Salt, saw-dust.

On the 28th of May, fourteen days afterwards, the apparent vigour of the plants was the following order :

No. 7, Malt-dust. 11, Chandler's graves. 4, Soot. 8, Peat. 16, Salt, lime, gypsum, peat. 17, Salt, soot. 20, Salt, malt-dust. 21, Salt, peat. 23, Salt, decayed leaves. 25, Salt graves. 1, No manure. 2, Salt. 5, Wood-ashes. 9, Decayed leaves. 13, Salt, lime, sulphuric acid. 14, Salt, lime, peat. 18, Salt, wood-ashes. 24, Salt, peat-ashes. 10, Fresh dung. 3, Lime. 22, Salt, peat, bone-dust. 19, Salt, saw-dust. 15, Salt, lime, dung. 12, Salt, lime. 6, Saw-dust.

On the 21st of September, the potatoes were taken up, when the produce of each row was in succession as follows :

No. 17, Salt and soot produced, 240. 11, Chandler's graves, 220. 18, Salt, wood-ashes, 217. 16, Salt, gypsum, peat, lime, 201. 15, Salt, lime, dung, 199. 2, Salt, 198.

* From No. 12 to 25 inclusive, the quantities of each ingredient the same as when used singly.

25, Salt, graves, 195. 4, Soot, 192. 10, fresh dung, 192.
 20, Salt, malt-dust, 189. 5, Wood-ashes, 187. 23, Salt, de-
 cayed leaves, 187. 24, Salt, peat-ashes, 185. 7, Malt-dust
 184. 14, Salt, lime, peat, 183. 19, Salt, saw-dust, 180,
 22, Salt, peat, bone-dust, 178. 9, Decayed leaves, 175.
 13, Salt, lime, sulphuric acid, 175. 21, Salt, peat, 171.
 12, Salt, lime, 167. 8, Peat, 159. 1, No manure, 157.
 6, Saw-dust, 155. 3, Lime, 150.

The foregoing table furnishes many particulars worthy of observation. In the first place it is remarkable, that of ten different manures, most of which are of known and acknowledged efficacy, salt, a manure hitherto of an ambiguous character, is superior to them all, one only excepted. And again, when used in combination with other substances, it is only unsuccessfully applied in union with that one, namely, chandler's graves, no other manure seemingly being injured by it. Possibly its deteriorating effects on chandler's graves may be owing to its antiseptic property, which retards the putrefactive process by which animal substances undergo the changes necessary to qualify them to become the food of plants. This, however, I cannot, from any appearance in the soil when the plants were taken up assert to have been the case.

The extraordinary effects of salt, when combined with soot, are strikingly singular. There is no reason to suppose these effects were produced by any known chymical agency of soot or salt on each other. Were I to guess at the producing cause, I should conjecture it to be that property of saline substances by which they attract moisture from the atmosphere; for I observed those beds, where salt had been used, were visibly and palpably moister than the rest, even for weeks after the salt had been applied, and this appearance continued till rain fell, when, of course, the distinction ceased. This property of attracting moisture had greater influence, possibly, on the soot than on any of the other manures, as soot, from its acrid and dry nature, may be supposed to require a greater proportion of water to dilute it, than those substances which contain water already. It may be proper to observe, that on those beds where salt had been used, the plants were obviously of a paler green than on the rest, though not less luxuriant: a circumstance which I thought worth noticing, and which I considered, though erroneously (as appeared by the event) to indicate a want of vigour, which would be felt in the crop. It was observable also that where salt was applied, whether by itself, or in combination, the roots were free from that scabbiness which of-

tentimes infects potatoes, and from which none of the other beds (and there were in the field nearly forty more than what made part of these experiments) were altogether exempt.

Two sets of experiments, and with the same proportions of manures, were turnips and buck-wheat, on a soil the poorest I could meet with, which produced only a dwarf heath and lichen, and which I had had pared off. The poverty of this soil will appear by the following analysis:

400 grains gave of siliceous sand	-	-	320
Of finely divided matter, which appeared as brown			
mould	-	-	68
Loss in water	-	-	12
			<hr/>
			400

The finely divided matter lost by incineration nearly half its weight, which shews it contained a great deal of vegetable matter. The residuum, principally a mixture of aluminous and siliceous earths, coloured red by oxide of iron, and containing very little calcareous matter. There were no indications of either gypsum or phosphate of lime.

July 6th, 1804, the pieces set apart for each set of experiments were respectively sown with turnips and buck-wheat.

On the 26th, No. 1, 2, 4, 5, 6, 7, 19, 20, 21, 22, 24, 25, shewed little or no marks of vegetation. The remainder were merely in the seed leaf.

On the 16th of August, 4 only were alive and in rough leaf, namely,

No. 12, Salt and lime. 13, Salt, lime, and sulphuric acid. 14, Salt, lime, peat. 16, Salt, lime, gypsum, peat.

These four maintained a sickly existence till the middle of September, shortly after which they all disappeared. (N. B. The appearances of the turnips and buck-wheat were so nearly uniform, I have not thought it necessary to notice the trifling variations between them, which could not have been done without entering into a minute detail, equally tedious and uninteresting.)

Though nothing decisive can probably be drawn from these two sets of experiments respecting the advantages or disadvantages of salt as a manure, on such a soil as I have described, because other manures of acknowledged efficacy shared the same fate with the salt, yet this inference, however, may be drawn from them (and that not an unimportant one) namely, that a due texture and consistence in the soil is

as necessary to the existence and health of vegetables, as the pabulum they are sustained by; and this appears evidently by the superiority (such as it was) of those plants where the manure contributed in any degree to improve that texture and consistence.

Adjoining to a place where these experiments were tried is a field, which fully confirms this observation. Within these few years, a great part of it was in a state of uncultivated nature, equally barren as the spot I have been speaking of; it is, however, now brought into cultivation, and into a decent state of fertility, chiefly from its texture having been improved by a thick coating of marley clay.

In trying the effects of salt, when mixed with the food of animals, I have made no experiments on sheep, as I did not apprehend that a few limited experiments would either throw new light upon a subject which has already been sufficiently discussed, as applied to those animals, or furnish the public with facts of which it is not already in possession. My experiments have, therefore, been confined to hogs and cows.

On July 23d, 1804, three hogs of the same litter about eight months old, were put up to fatten. Their respective weights were as follows:

No. 1, 44lbs. 2, 47lbs. 3, 40lbs.

From the 23d of July till the 7th of August, they were fed with barley-meal mixed up with water, during which time they consumed three bushels and a half of barley, and gained in weight as follows:

No. 1, 12lbs. 2, 10lbs. 3, 5lbs.

From the 3d of August to the 21st, they had salt mixed with their food, of which they consumed one quarter of a pound per day. The food consumed was four bushels; they had gained upon the last weighing, as under:

No. 1, 18lbs. 2, 22lbs. 3, 14lbs.

From the 21st of August to the 3d of September, the salt was discontinued, in which time they eat four bushels and a half of barley-meal, and their increase of weight was:

No. 1, 24lbs. 2, 21lbs. 3, 21lbs.

From the 3d of September to the 17th, they had salt as before, and their consumption of food was the same as during the last fortnight, namely, four bushels and a half of barley-meal. Their gain of weight was,

No. 1, 31lbs. 2, 19lbs. 3, 19lbs. They were then slaughtered.

It did not appear that the salt had any operation either in promoting thirst, or stimulating their appetites, the consumption of food being nearly the same whether salted or not; neither does it appear that the salt had any influence on their fattening; perhaps the quantity allowed them was too little; and yet I should think not, as there was enough to make their whole mass of food sufficiently savory to the human taste.

In trying this experiment it will be observed, that I did not confine one parcel of hogs to salt, and another to unsalted food. This mode of trying experiments is always uncertain, as there will be frequently particular habits and tendencies in the individual animals which will vary the results, and prevent their being uniform. The fairest way, and that which is the least liable to error, is to compare each animal with himself, by feeding him at one period with one kind of food, and then, for an equal period, with another. If this principle which I have proceeded upon be right, there is nothing in these experiments to encourage the practice of administering salt to hogs with a view, at least, to increase their tendency to fatten; how far it may contribute to keep them in health is a different question, and on which years of experience may probably be necessary to decide. Now I am upon this subject, I shall mention (though totally foreign to the object of this essay), that most internal disorders which hogs are liable to, all of which may be supposed to be more or less accompanied with fever, I find no remedy so efficacious as antimony. This mineral is said to have obtained its name from the head of a religious house, who had administered it with success to his hogs, giving it in such quantities to the monks of his order, as to poison them. A circumstance which, probably, brought it at the time into disrepute as a medicine, as well for the real, as the metaphorical hogs. The anecdote, however, whether true or false, induced me some years ago to try it upon hogs; and I can safely aver that, when taken in time, there are few internal diseases which hogs are subject to, that will not yield to antimony in some form or other. That form which I prefer is emetic tartar, as lying in small compass. I give it in doses from five to forty or fifty grains, according to the age and strength of my patient, and I believe still larger doses might be given with equal safety, as I do not recollect a single instance in which the animal seemed to suffer from being over-dosed.

To persons who have not tried the effects of antimony on the brute creation, the quantity I gave may seem to be strangely disproportionate to the bulk of the hog, compared with that of a man; but the experience of many years has convinced me that there is no analogy (I mean as far as *quantity* is concerned) in the effects of antimony on the human constitution, and on the constitution of inferior animals.

On the 9th of October, 1804, my experiments on cows commenced. On that day two Welch heifers, one of which had calved about five months, the other three, were confined to the house, and fed with hay for the space of one fortnight. The hay they consumed during that time was four hundred weight nineteen pounds, and the milk they produced was thirty-six gallons three quarts. They had then for the next fortnight, salt mixed with their hay, the hay being first slightly moistened with water and the salt sprinkled over it; in which time they consumed four hundred weight forty-two pounds of hay, and seven pounds of salt. The milk produced was thirty-seven gallons. For the next fortnight, namely, from the sixth to the twentieth of November, the salt was omitted, and their food was four hundred weight and one quarter of hay, and two hundred weight and a half of cabbages. The produce of milk in that space of time was fifty-four gallons three quarts. From the twentieth of November, their food was the same as before, with the addition of half a pound of salt per day. The produce of milk was fifty-seven gallons one quart.

It will be recollected that salt seemed to have no tendency to promote thirst, or to increase appetite on the hogs; yet on the cows its effects in one respect was very perceptible for during the period they had salt they drank three gallons a day each more than at other times.

Salt may possibly promote digestion (notwithstanding its antiseptic quality) by stimulating the salival glands, and the glands yielding the gastric juice, and by inducing an increased discharge of their respective fluids, so necessary to the solubility of the different substances received into the stomach before they can be admitted into the lacteals.

Though there may be nothing in the foregoing experiments to lead us to suppose that salt has any otherwise a tendency to promote a disposition in animals to fatten than as it may contribute to their health, by aiding their digestion; yet it is probable that, when administered to animals yielding milk, it may contribute in some small degree to increase that secretion; and this it may do by promoting

thirst, which induces the animal to drink copiously, in consequence of which the secretion of milk, as well as all other secretions of the fluids, may be augmented. Perhaps also, it may have a stimulating influence on the lacteals themselves.

And yet after all, admitting these experiments to prove that salt increases in some small degree the production of milk, when that increased quantity is balanced against the price of the salt, the dairy-man will find himself no gainer.

Though there does not seem any thing in these experiments, either with hogs or cows, to encourage the practice of giving salt to animals with a view to increase their disposition to fatten, yet it would be temerity to affirm that it is entirely useless. From the avidity with which most, if not all kinds of graminivorous animals, whether in a state of domestication or otherwise, are known to eat salt, whenever it comes in their way, it is reasonable to conclude that the propensity has not been implanted in them in vain. But from whatever cause its salutary effects may be supposed to proceed, whether (as was hinted at before) from its promoting digestion, and an increased secretion of fluids, or from any other action it may have on the animal œconomy, it must be left to an experimenter more successful than I have been, to ascertain.

HINTS TO COUNTRY GENTLEMEN AND FARMERS ON THE IMPORTANCE OF USING SALT AS A GENERAL MANURE.

(Concluded from our last.)

WITH proper encouragement to, and management in agriculture I have no hesitation in affirming, that the generality of lands in many parts of the country, might be made to produce double crops in a very little time; and, with the addition of salt as a manure, instead of importing corn from abroad, at a very great disadvantage to the nation, we might make our own produce, not only sufficient for home consumption, but also to supply the wants of our neighbours. I need not insist on the advantages to be derived from such an improvement, not only to the farmers, but to the public at large,—for it is well known to every commercial man, of what importance it is that our merchants should always have it in their power to under-sell their rivals in foreign markets: this, however, it will be impossible for them

to do, even if we have no advance in the price of the raw material, unless by bringing down the value of provisions, we proportionably keep down the price of labour. And no other mode can be adopted so likely to accomplish this most desirable end, as the general use of salt for manure.

We shall just mention one thing more, in support of our theory, which falls within every farmer's notice, but which, probably, has not struck him in that light in which we are about to represent it.

Cattle kept in a straw yard, without any thing but straw for their sustenance, yield a poor light manure, little superior to natural soil; when cows or oxen feeding on good hay, assisted by corn, oil-cakes, or other invigorating food, produce manure of the best kind; thus the stronger the manures are impregnated with salts, of more value they are. In *North Carolina* and *Georgia*, the planters and farmers never use manure of any kind, and the reason assigned for it is, that the soil abounds with nitre.—These are facts which will bring conviction to every candid and unprejudiced mind.

The idea that has, of late years, prevailed amongst gentlemen of landed property, of not granting leases to their tenants particularly of any long continuance, is very detrimental to agriculture, for a farmer cannot exercise his skill and industry with that spirit which is requisite in all important undertakings, without there be some probable security for the enjoyment of the fruits of his labour.

If the matter is duly considered between landlord and tenant, it will perhaps be found, that a term of not less than fourteen years would be of mutual advantage to both parties. At the commencement of a new inclosure, or where considerable improvements are necessary, such lease ought to extend to twenty-one years, otherwise the proprietor can not expect his estate will be properly managed and improved, or that the tenant will risk his property and industry, without a hope on which he can depend of making a return. Prescribing a system of management by lease to a tenant, is curbing genius, and tying down the hands of industry; the result of the experience of various seasons and local circumstances, often require different modes of cultivation; some restraints are certainly necessary, but always to enforce one unalterable round of cultivation, is, in fact, making an attorney the practical husbandman, and the farmer of no more consequence than a horse in his team, to tread the beaten path that is pointed out for him.

Mr. Young very justly observes, "that the cultivation of small farms by their owners, is generally productive of the

best and most improveable mode of agriculture."—The reason for this obviously must be that security and freedom from restraint which these men have in the enjoyment and culture of their estates.

We have at least *seven millions* of acres of uncultivated land in this kingdom! What a loss to the community must this be! Here is ground sufficient to furnish half the inhabitants of the country with bread, lying entirely waste, whilst thousands of unhappy poor are absolutely perishing for want! Let us not neglect the advantages which Providence has so bountifully vouchsafed to us. Our distresses, I grant, are great, yet let us not despair; the means of relief are in our power, if we are not wanting to ourselves. Let us lay out half the money that has necessarily and humanely been expended in bounties, and subscriptions for the poor, in inclosing waste lands, and giving premiums to farmers, and I am convinced that, in any future unfavourable season, we should not be obliged to rely upon a scanty and precarious supply of grain from foreign countries, but on our granaries at home, which have been well stored with the wholesome produce of our native soil.

What a pleasing prospect would it be to every Briton, to see even the barren hills of England, Wales, and Scotland, converted into rich pastures, and the low-lands made capable of producing perpetually full and abundant crops of grain and artificial grass.

If we turn our eyes to the empire of China, we shall there see the beneficial effects of a due attention to husbandry. The population, upon an average, throughout the vast empire, amounts to the surprising number of three hundred inhabitants to every square mile, that is nearly three times the population of this country, which, according to the most accurate accounts, does not exceed one hundred and twenty; and yet this great number of people is maintained in plenty, without any assistance from other nations. How this is accomplished, Sir George Staunton, in his elegant and authentic account of Lord Macartney's embassy to China, informs us: "the whole surface of the empire is, with trifling exceptions, dedicated to the production of food for man alone—Few parks and pleasure grounds are seen, except those belonging to the emperor—little land is taken up with roads, the chief communication being by water.—There are no commons or lands suffered to lie waste through neglect, or the caprice, or for the sport of great proprietors—No arable land lies fallow—And whatever defects there may be in the soil, it is supplied by mixture with other earths, by ma-

nure, watering, and careful and useful industry of every kind." How worthy an example for our imitation!

The present high price of salt, incumbered as it is with heavy duties, is sufficient to prevent all attempts of the farmer to ascertain its utility by experiments. To obviate which inconvenience, we suggest that the legislature should take this matter into consideration, and allow a drawback on all salt that shall be used for the purpose of agriculture, in the same manner as has been done in favour of the bleachers or whitsters of calico.

By this means no injury would be sustained by the revenue, if an act be so framed as to prevent fraud; for the consumption of salt would still be the same as at present, in all other respects; and when its value should be thoroughly ascertained, then the whole duty might, with the greatest propriety, be taken off, as the landholders would be enabled with ease to pay double the amount of the present duty.

The salt rock in Cheshire lies about thirty-six yards below the surface, in thickness from ten to forty yards; extends twelve miles in length, and several miles in breadth; and throughout the whole district springs arise, which are made into salt.—This rock, together with those which are found in Worcestershire, &c. appear sufficient to supply the whole kingdom for ever, without any fear of their being exhausted; and, if properly applied, are a treasure superior to the possession of the gold mines of Mexico and Peru.

It is the opinion of many naturalists, that when this globe was first formed, the strata of rocks, mines and minerals, were uniformly laid throughout the whole, but that by the different convulsions of earthquakes, inundations, &c. they have in many places been thrown into confusion. The general order at present, is found to be as follows: viz. the first stratum is freestone, the second limestone, third flags and slate, the fourth coal, and the fifth salt rock.

The waters of the ocean being impregnated with salt, is a proof of this theory; for since salt rock has never been found near the surface of the earth, or in the banks of the sea or rivers, it is very rationally supposed that it occupies the lowest parts of the mineral regions, or those which lie exposed to the bed of the ocean.

If this is the case, how proper and necessary is it that gentlemen should bore their lands in all possible situations, as this would in all probability, lead to the discovery of many of those strata, which now lie concealed in parts of the country where they are most wanted; and if found and worked, would most essentially contribute to the emolument both of the proprietors and the public.

Before I quit this subject, I cannot help expressing my surprise that agriculture is not more followed; as it is, of all others, the most rational and healthy employment that can possibly be pursued.

It is a happy circumstance to reflect that it is now espoused by many wise and wealthy men. Those who imagine that the culture of the earth is not sufficient to employ all its inhabitants, are greatly mistaken. An ancient Roman could maintain his family from the produce of an acre of ground. So might a modern Briton if he would be content to live like a Roman. This shews what an increase of inhabitants Britain might admit of; and all of them live upon the culture of the ground.

Agriculture is the most certain source of domestic riches. Where it is neglected, whatever wealth may be imported from abroad, poverty and misery will abound at home. Such is, and ever will be the fluctuating state of trade and manufactures, that thousands of people may be in full employment to-day, and in beggary to-morrow. This can never happen to those who cultivate the ground. They can eat the fruits of their labour, and can always by industry obtain, at least, the necessaries of life.

It is devoutly to be wished, that every person concerned in agriculture would always communicate his discoveries to the public; for whenever any scheme of real utility and national importance is formed by men of genius and true patriotism, the worst kind of impediment it can meet with, is that of national supineness and inattention. If it be not actually opposed, it is not promoted; and if people will not think about it, they cannot see its importance. If we consider how much the produce of the country is diminished through the mistaken prejudices of custom, and view the almost immeasurable quantity of improveable land which yet remains waste, and next to barren, we cannot but sincerely lament the inactivity of those, who have it in their power to give life and vigour to improvement.

APPENDIX.

Some experiments, remarks, and communications, that have come to our notice since the pamphlet was finished, we have here thrown together by way of appendix.

Some years ago, while foul salt was permitted to the farmers duty free, a person near Middlewich in Cheshire, trenched his garden in the autumn, mixing with the soil a quantity of foul salt. The spring following, that garden

was dug in the common method, and planted with potatoes—the crop produced therefrom, was such as far exceeded his most sanguine expectation—twenty of those potatoes were produced which weighed sixty pounds.

Mr. Gilbert, steward to the Duke of Bridgewater, has an estate contiguous to his salt pits, at Wincham in Cheshire, on which there is an orchard planted with apple trees, which being old, constantly in the spring bore a profusion of blossoms, but never brought any fruit to perfection. To remedy which defect, the tenant spread a quantity of small rock salt about each of the trees, at some distance from their stems, and ever since all the trees in the orchard have been very productive, yielding abundance of fine, ripe, and well flavoured apples.

From rock and common salt might be extracted nitre, barilla, and all the alkalis necessary for the manufacture of glass, soap, &c. and also for the bleaching of muslins, which are now imported from foreign countries, at a very great annual expence. And as it has lately been discovered that canal-coal ground into a fine powder, would be a good substitute for wood charcoal in the manufacture of gunpowder; these hints are highly worthy the attention of government; for by making use of the two substitutes, the present price of that article might be reduced one-half, which would be a very great saving in the quantities expended by the army and navy.

It is the practice of many farmers to steep their seed wheat in a brine made of salt and water, or where the situation will admit of it, it might be done in sea-water, or the water of salt springs; and after the grain has continued some hours in this steep, it is spread upon a floor to dry, and a little slacked lime sifted upon it. This mode of preparation is found to be of great advantage in forwarding its growth, as well as preventing the injuries it might receive from insects. Upon the same principles, might it not be proper, that beans, peas, oats, and all other hard seeds should undergo a like operation, before they are committed to the ground? Only it would be necessary to be cautious of not suffering the grain to lie too long immersed in this brine, for fear the corrosive quality of the salt might be prejudicial to it. A few experiments with careful observation, would finally determine the time, and also the proper quantity of salt to be used.

The following experiment is extracted from Mr. Wedge's Survey of Cheshire, and communicated by a gentleman of Northwich: "after draining a piece of sour rushy ground

about the middle of October, some refuse salt was spread upon a part of the land, after the rate of eight bushels to the acre, and on another part sixteen bushels. In a short time vegetation disappeared totally, and in the month of April following not a blade of grass was to be seen. In the latter end of the month of May, a most flourishing crop of rich grass made its appearance on that part where the eight bushels had been laid.

“In the month of July, the other portion produced still a stronger crop; (the cattle were remarkably fond of it) and during the whole ensuing winter, (which is ten or twelve years since) and to this day the land retained, and yet exhibits a superior verdure to the neighbouring closes. Another experiment was made in a meadow, where the after grass being of a coarse rank nature, which the cattle refused to eat, salt being laid upon a part of this meadow, they have ever since preferred the grass growing upon that ground to every other part of the field, and have eaten up every blade.”

The following communication is made by Mr. Thomas Sutton, Middlewich, in Cheshire: “About twelve years since I dug up a quantity of earth out of a field where a new building was going to be erected, in which were some appearance of salt springs, the water of which had oozed up through the soil, and left an incrustation of its particles upon the surface of the ground; this soil, together with the salt I mixed with horse dung, and after it had lain some time in the heap, I spread it upon a piece of meadow ground, which has been mown ever since without any other manure having been laid upon it, and the other part of the field has been manured in the usual way every two years, in order to keep it in as good condition as that which was covered with the salt and dung twelve years ago.”

A farmer at Glasson near Lancaster, has for some time been in the practice of carting salt water to put upon his dung whilst in the yard, which enriches it very much before it is spread upon the ground. A considerable advantage might also be derived from spreading sea sand under and amongst the dung whilst it is collecting in the winter and spring, and likewise in the cow-house, stable, and yard, not only on account of the quantity of salt which it brings along with it, but also by retaining and absorbing the urine of the cattle, which is well known to be so essential a part of the manure.

CRITICAL CATALOGUE.

- I. *The Complete Grazier ; or, Farmer and Cattle Dealer's Assistant, &c. Together with a Synoptical Table of the different Breeds of Neat Cattle, Sheep, and Swine : illustrated by Engravings.* By a Lincolnshire Grazier, &c. 8vo. pp. 510. 10s. 6d. Croiby.

NOTWITHSTANDING the complaints of the multiplication of books which constantly resound in the ears of the Public, from those who are at the same time increasing their numbers, we meet with comparatively a very few that we would wish to have been without ;—that offer no addition to our stock of knowledge, or contribute not in some degree to useful pleasure.

Among the varieties of Agricultural works which have lately appeared, we wonder that the present should have been so long wanting. Considerable accession to the information of the grazier, and breeders of every description, have long been forming, and an ingenious compilation, which should involve the spirit of the whole, was a desirable publication. Such a one we find here presented to the public with suitable modesty and simplicity, but nevertheless with considerable care, acumen, and taste ; in form highly pleasing ; and equally creditable to the author and his bookseller.

CHAP. I. *Section I.* Contains some intelligent observations on the buying and stocking a farm ; on the latter subject, the symmetry and utility of form, quality of flesh, temper, constitution, hide, labour, age, &c. of animals are particularly treated. *Section II.* Comprises the natural history of the bull, and a comparative view of all the breeds of black cattle. The following enumeration of the qualities which constitute excellence in the bull, is correct and gratifying :—

“ A bull, then, ought to be the most handsome of his kind ; he should be tall and well made ; his head should be rather long ; and, as it is designed by nature to be the chief instrument both of offence and of defence, it ought to present every mark of strength ; his horns rather long, clean, and bright ; his large black eyes lively and protuberant ; his forehead broad and close set, with short, curled hair ; his ears long and thin, hairy within and without ; muzzle fine ; nostrils wide and open ; neck strong and muscular, not incumbered with a coarse, wreathy skin, but firm, rising with a gentle curve from the shoulders, tapering to the part where it is connected with the head ; and dew-lap large, thin, and hairy. Farther, his shoulders should be deep, high, and moderately broad at the top ; the bosom open, breast large, and projecting well before his legs ; back straight and broad, even to the setting on of the tail, which should not extend far up the roof, but be strong and deep, with much lank hair on the under part of it ; ribs broad and circular, rising one above another, so that the last rib shall be rather the highest ; the fore thighs strong and muscular, tapering gradually to the knees ; the belly deep, straight, and also tapering a little to the hind thighs, which should be large and square ; the roof wide, particularly over the chine and hips or hooks ; the legs straight, short-jointed, full of sinews, clean and fine boned

knees round, big, and straight; feet distant one from another, not broad, nor turning in, but easily spreading; hoofs long and hollow; the hide not hard, or stubborn to the touch; the hair uniformly thick, short, and of a short texture; and the body long, deep, and round, filling well up to the shoulder and into the groin, so as to form what has not improperly been termed a round, or *barrel like carcase*."

Section III. treats of the Cow. "A perfect cow ought to have a broad, smooth forehead; black eyes; large, clean horns; a long, thin skin; a large, deep body; strong, muscular thighs; a large, white udder with four teats, together with every other token requisite in a bull, allowing for the difference of sex. Farther, such animal ought particularly to be young; for milch kine are not good for breeding after they are twelve years old, though they will often live a much longer time if their pasture be good, and they be kept from diseases." The remainder of the *Section* is intelligent, but conveys nothing unknown to the farmer; any more than the directions for the rearing of calves, which form the succeeding one. *Section V.* is wholly employed on the Ox, and the long contested question of their comparative utility with horses in labour. We extract his description also, with some observations on training, which should be strongly impressed on all concerned in that business, and are highly honourable to the feelings and attention of the author.

"A good ox for the plough should be neither too fat nor too lean; as in the former case he will be too lazy; and in the latter, he will be too weak and unfit for labour. His body ought to be full, joints short, legs strong, eyes full, his coat smooth and fine, (which latter is a certain indication of good health), and every part symmetrical, or well put together, so that his strength may be easily seen. Another requisite is, that he answer to the goad, and be obedient to the voice; but this animal can only be brought willingly to bear the yoke, or be easily governed by lively but gradual and gentle treatment. Those calves, therefore, which are designed for the yoke, should not be broke earlier than two and a half, or three years, lest they be overstrained; nor should that operation be deferred longer than three and a half, or four years, as they will become forward, and too stubborn to submit to the yoke.

"The strength of this animal, when properly trained and managed, is very great, and he has patience to endure fatigue; but, being naturally slow, he must not be exerted beyond his usual pace. The only method by which success can be attained is, by patience, mildness, and even by caresses; for compulsion and ill-treatment will irritate and disgust him. Hence, great assistance will be derived from gently stroking the animal along the back, by patting him, and encouraging him with the voice, and occasionally feeding him with such aliments as are most grateful to his palate. It will also be proper to tie his horns frequently, and after a few days to put a yoke upon his neck, when he should be fastened to a plough with a tame old ox, of equal size; next, the oxen should be employed in some light work, which they may be suffered to perform easily and slowly: thus they will draw equally, and the young steer will be gradually inured to work. After working in this manner, he should be yoked with an

ox of greater spirit and agility, in order that the steer may learn to quicken his pace; and, by thus frequently changing his companions, as occasion may allow, he will, in the course of the first month, or six weeks of his labour, be capable of drawing with the briskest of the stock."

From the statements here produced, it would appear to be placed beyond the smallest doubt, that OXEN ARE IN EVERY RESPECT PREFERABLE TO HORSES IN AGRICULTURE.

Section VI. is employed on the Sheep. The following are the requisites essential to a good ram, from Mr. Calley:—

"His head should be fine and small; his nostrils wide and expanded; his eyes prominent, and rather bold and daring; ears thin; his collar full from his breast and shoulders, but tapering gradually all the way to where the neck and head join, which should be very fine and graceful, being perfectly free from any coarse leather hanging down; the shoulders broad and full, which must at the same time join so easy to the collar forward, and chine backward, as to leave not the least hollow in any place; the mutton upon his arm, or fore-thigh, must come quite to the knee; his legs upright, with a clean, fine bone, being equally clear from superfluous skin and coarse, hairy wool, from the knee and hough downwards; the breast broad and well formed, will keep his fore-legs at a proper wideness; his girth, or chest, full and deep, and, instead of a hollow behind the shoulders, that part, by some called the fore-flank, should be quite full; the back and loins broad, flat, and straight, from which the ribs must rise with a fine circular arch; his belly straight; the quarters long and full, with the mutton quite down to the hough, which should neither stand in nor out; his *tavist* (i. e. the junction of the inside of the thighs,) deep, wide, and full, which, with the broad breast, will keep his four legs open and upright; the whole body covered with a thin pelt, and that with fine, bright, soft wool.*" Of this Section, it is sufficient to observe, that it offers the essence of a variety of excellent works on the subject.

The treatment and rearing of house-lamb, and the account of the hog, conclude the first chapter. The view of this part, which has been given, will convey a very tolerable idea of the whole, of which we entertain a most favourable opinion, but which we cannot continue to consider thus largely.

CHAPTER II. involves all the offices necessary to a grazing or dairy farm. I. The House, in which the writer adheres chiefly to the method recommended by Mr. Arthur Young. II. The Offices: as 1. Ox-stalls, or Feeding-houses; 2. Stable; 3. Barn; 4. Cart-house and Tool-house; 5. Calf-pens; 6. Piggery; 7. Straw and Roof-houses; 8. Water-supplies; 9. Dunghill; 10. Kitchen-garden. On all these subjects, much pleasing information is to be obtained.

CHAPTER III. is employed on the feeding of Cattle; and its first Section, on the pasture of Milch Cows. A small contradiction appears in this division, on the subject of feeding cows *well*, to produce milk, which has been prohibited by the author on the usual grounds, that the fatter the cow *the less* the milk. The present is,

* Calley on Live Stock, p. 103, 104.

however, undoubtedly, the best rule, and we but mention a "spot in the sun."—We only add, that we have seen at Islington the pits for preserving brewers' grains, which he mentions—covered with a layer of earth, and that they appear effectually to answer the purpose. *Section II.*, treats of Grazing, Soiling, Stall-feeding, and the other modes of feeding and fattening neat Cattle. This is a subject, which though not hitherto perhaps agitated, will give ground for a controversy as strong as any of those which stimulate agricultural discussion. We forbear from offering, in a matter of such doubt, any opinion; but the present writer inclines, evidently, to soiling and the stall. Much judicious information, however, follows on this subject, particularly with regard to the various modes of feeding on turnips, &c. &c.

Section III. involves the feeding and fattening of Sheep, a subject of multifarious examination, which is by no means ill treated. It is followed by that of swine, including the various preparations of ham and pickled pork.

CHAP. IV. is employed on the Diseases of Cattle. *Section I.* on General Complaints, viz. 1. Black quarter; 2. Colds; 3. Colic, or gripes; 4. Difter per, murrain, or pest; 5. Foul; 6. Hoven; 7. Inflammation of the liver; 8. Inflammation of the Lungs; 9. Locked jaw; 10. Looseness, or scouring; 11. Mortification; 12. Panties, panting evil, or pantesie; 13. Poisons; 14. Red water, or bloody urine; 15. Staggers; 16. Wounds; and 17. Yellows, or jaundice.

Section II. On the Diseases of Cows. 1. Cough, or hoofing; 2. Difficult parturition; 3. Farthing bound; 4. Puerperal or milk fever; 5. Falling down of the calf-bed; and 6. Affection of the udder.

Section III. The Diseases of Calves. 1. The cords; 2. Cough; 3. Gargut; 4. Gut-tie; 5. Scouring, or looseness; 6. The shoote.

Section IV. treats of the Fly, so injurious to oxen. The diseases of Sheep follow in *Section V.* Blindness, blood, dunt, flux, the fly, foot-halt, foot rot, gall or scower, hoving or blown, hunger-rot, pelt-rot, red-water, rickets, rot, rubbers, scab-tick, affections of udder in ewes, white scour, and wounds. The addition of the disorders called black-water and skit in lambs, form a duplicate of this Section. Those of Swine occupy *Section VI.* They consist of gargut, fever, diseases of the lungs, mange, measles, and murrain.

CHAP. V. forms an intelligent treatise on Farming Implements, in which a variety of carts, chaff-cutter, straw-cutter, ploughs, sowing-machines, scarifiers and hoes, harrows, drags, rollers, and churns, are exhibited.

The different sorts of soils, various modes of improving and converting them from a state of nature; Manures, fences; formation, and management of meadows, and irrigation, are the subjects of CHAP. VI. and are, we are happy to say, treated with due consideration of their importance; particularly as respects manures, irrigation, and the particular culture of grass lands. This subject, including an account of the grasses best calculated for meadows and pastures, wild and artificial, and of vegetables for fodder, extend to another Chapter.

CHAP. VIII. and last, furnishes the *Economy and Management of the Dairy*, in all its branches, as the result of the whole work. From

it we extract a few facts worthy of being recalled to the attention of our readers.

The following excellent axioms are considerably indebted to Dr. Anderson's Essay on the Management of the Dairy:—

“ A dairy ought, if possible, so to be arranged, that its lattices may never front the south, south-west, or south-east; and these lattices, which are in every respect superior to glazed lights, may be covered with oil paper, pasted on pack-thread stretched for that purpose, so as to admit the light, while they will effectually exclude the sun and wind.

“ As the greatest cleanliness is requisite in the various departments of the dairy, it will be proper to have separate apartments for the reception and scalding of milk; for keeping and cleansing the vessels, as the steam of hot water greatly injures milk; for making and preserving cheese and butter. All dairies should be neatly paved with stone, or, if this cannot be procured, with red bricks, laid on a gentle descent, lest any water should stagnate. It will likewise be proper daily to wash the pavement during summer; and, as dairy-houses cannot be kept too cool, it would be of great advantage to build them, if possible, near a cold spring or rivulet. Farther, if a small current could be conducted through the premises, or water were, by means of a pipe, so introduced as to fall from some height on the pavement, it will be of great advantage, as it will contribute much to preserve the air continually pure, fresh, and cool. All the utensils should be made of wood, and be washed with the greatest care before they are used, in order that every possible degree of acidity may be removed. Or, should any metallic utensils, or glazed earthen vessels, be employed, they ought to be daily scalded, and scoured out with salt and water, and thoroughly dried before any milk is poured into them.

“ The quality of cows' milk greatly depends on the nature of their food, which likewise materially affects the quantity they will yield; though this last circumstance is, in some measure, regulated in the manner of milking them. It will, therefore, be necessary to be very cautious in chusing milkers; because, if a cow be roughly handled, it is not only painful to her, but will also cause her to withhold her milk, which is often attended with serious consequences; whereas, if it be gently drawn, she will yield that salutary fluid abundantly. As it sometimes happens that cows are *ticklish*, they should, on such occasions, by no means be harshly or severely treated; and if the udder be hard and painful, it ought to be fomented with warm water, and rubbed tenderly, by which simple expedient she will be brought into good temper, and yield her milk with pleasure and freedom.

“ In this country, it is the general practice to milk cows twice in the course of twenty four hours, throughout the year; but, in summer, the proper periods are at least three every day, and at intervals as nearly equidistant as possible, viz. in the morning, at noon, and a little before the approach of night. For it is a fact, confirmed by the experience of those who have tried it, that cows, when milked thrice in the day, will yield more milk in point of quantity, than they will under the common mode of milking only in the morning and evening.

“ After the milk is drawn from the cow, it should be carefully strained through a linen cloth, or hair sieve, (Dr. Anderson prefers a sieve made of silver wires, on account of its superior wholesomeness) into the cream dishes, which should never exceed three inches in depth, though they may be made so wide as to contain any quantity required, and which ought to be perfectly clean, sweet, and cool. If any ill flavour is apprehended from the cows having eaten turnips, the addition of one-eighth part of the boiling water to the milk, before it is poured into the dishes, will effectually remove it; and, when filled, the dishes ought to be set upon shelves, or dressers, there to continue till the cream is removed.† This should be done by means of a skimming-dish, if possible, without spilling any upon the floor, because it will speedily taint the air of the room, and the cream poured into a vessel, till enough be obtained for churning.

“ With regard to the process of making butter, we would observe, from Dr. Anderson’s valuable essay, already referred to, 1. The milk first drawn from a cow is always thinner, and inferior in quality to that afterwards obtained; and this richness increases progressively, to the very last drop that can be drawn from the udder. 2. The portion of cream rising first to the surface, is richer in point of quality, and greater in quantity, than that which rises in the second equal space of time, and so of the rest; the cream continually decreasing, and growing worse than the preceding. 3. Thick milk produces a smaller proportion of cream than that which is thinner, though the cream of the former is of a richer quality. If thick milk, therefore, be diluted with water, it will afford more cream than it would have yielded in its pure state, though its quality will at the same time be inferior. 4. Milk carried about in pails, or other vessels, agitated and partly cooled before it be poured into the milk-pans, never throws up such good and plentiful cream as if it had been put into proper vessels immediately after it came from the cow.

I. “ It is evidently of much importance, that the cows should be always milked as near the dairy as possible, to prevent the necessity of carrying and cooling the milk before it be put into the dishes; and as cows are much hurt by far driving, it must be a great advantage in a dairy farm to have the principal grassfields as near the homestead as possible. In this point of view, also, the practice of feeding cows in the house, rather than turning them out to pasture in the field, must appear to be obviously beneficial.

II. “ The practice of putting the milk of all the cows of a large dairy into one vessel, as it is milked, there to remain till the whole milking be finished, before any part is put into the milk-pans, seems to be highly injudicious, not only on account of the loss sustained by the agitation and cooling; but also, and more especially, because it

† Mr. Young has recommended the dairy-man to boil two ounces of nitre in one quart of water, and to bottle the mixture; of which, when cold, a large tea-cup full is to be added to ten or twelve quarts of milk as soon as it comes from the cow: the quantity of saltpetre is to be increased as the turnips become stronger. The feeding of cows with the roots alone will, as the Earl of Egremont found, prevent the milk from having a bad taste.

prevents the owner of the dairy from distinguishing the good from the bad cow's milk, so as to enlighten his judgment respecting the profit that he may derive from each. Without this precaution, he may have the whole of his dairy produce greatly debased by the milk of one bad cow, for years together, without being able to discover it. A better practice, therefore, would be, to have the milk drawn from each cow separately, put into the creaming-pans as soon as milked, without being ever mixed with any other; and if these pans were all made of such a size as to be able to contain the whole of one cow's milk, each in a separate pan, so that the careful *dai** would thus be able to remark, without any trouble, the quantity of milk afforded by each cow every day, as well as the peculiar qualities of the cow's milk. And if the same cow's milk were always to be placed on the same part of the shelf, having the cow's name written beneath, there never could be the smallest difficulty in ascertaining which of the cows it would be the owner's interest to dispose of, and which he ought to keep and breed from.

III. "If it be intended to make butter of a *very fine quality*, it will be a divisible, not only to reject entirely the milk of all those cows which yield cream of a bad quality, but also, in every case, to keep the milk that is first drawn from the cow, at each milking, entirely separate from that which is got last; as it is obvious, if this be not done, the quality of the butter must be greatly debased, without augmenting its quantity. It is also obvious, that the quality of the butter will be improved in proportion to the smallness of the quantity of the last-drawn milk which is used, as it increases in richness to the very last drop that can be drawn from the udder at that time; so that those who wish to be singularly nice, keep for their best butter a *very small* proportion only of the last-drawn milk.

"It is a matter of some importance, to determine in what way the inferior milk, which is thus set apart when *fine* butter is wanted, can be employed with the greatest profit. In the Highlands of Scotland, the people have adopted a practice, merely from considerations of convenience and economy, without thinking of the improvement of the butter, which answers many good purposes. As the rearing of calves is there a principal object with the farmer, every cow is allowed to suckle her calf with a portion of her milk, the remainder only being employed for the purposes of the dairy. To give the calf the proportion allotted to it regularly, it is separated from the cow, and put into a small inclosure made for the express purpose, on every farm, of confining all the calves belonging to that farm. At regular times the cows are brought to the door of that inclosure, where the young ones fail not to meet them. Each calf is then separately let out, and runs directly to its mother, where it is allowed to suck till the dairy maid judges that it has had enough; it is then separated, the legs of the mother having been previously shackled, by a very simple contrivance, to oblige her to stand still, and the

* A provincial word, denoting the person who has the chief concern in a dairy.

dairy-maid milks off what was left by the calf. They proceed in this manner till the whole of the cows are milked, and thus do they obtain a small quantity of milk, it is true, but that of an exceedingly rich quality; which, in the hands of such as know how to manage it, is manufactured into the richest marrowey butter that can be any where met with. This richness of the Highland butter has been long remarked, and has been universally ascribed to the old grafs that cows feed upon in those remote glens; but it is in fact chiefly to be attributed to the practice here described, which has long prevailed in those districts.

“ Other secondary uses might be found for the milk of inferior quality. It might be converted into butter of a secondary quality; or might be sold sweet, where the situation of the farm is within reach of a town; or it might be converted into cheeses, which, by being made of sweet milk, if made with care and skill, might be of a fine quality.

With respect to the operation of churning* we would particularly remark, that it ought to be regularly continued, till the butter is *come*, or formed; nor, unless from absolute and irremediable necessity, should any assistant be allowed to churn; because, if the motion be, in summer, too quick, the butter will in consequence ferment and be ill tasted; and, in winter, it will *go back*. The business of churning may, however, be much facilitated, by immersing the pump churn (if such be employed) about one foot deep into a vessel of cold water, and continuing it there till the butter is made. Where other churns are made use of, the addition of one or two table spoons full of distilled vinegar, after the cream has been considerably agitated, will, it is said, produce butter in the course of an hour. After the butter is formed, the usual practice is to wash it in several waters, till all the milk is removed; but Dr. A. advises the milk to be forced out of the cavities of the butter by means of a flat, wooden ladle, furnished with a short handle, at the same time agitating the butter as little as possible, lest it become tough and gluey. The beating of butter up by hand is an indelicate practice, particularly if it be constitutionally warm; and, as it is hurtful to the quality of the butter to pour cold water on it during this operation, the butter, if too soft to receive the impression of the mould, may be put into small vessels, and these be permitted to float in a trough of cold water beneath the table, *without wetting the butter*, which will soon become sufficiently firm. Or, when butter is first made, after as much of the milk has been got out as possible, it may be thinly spread on a marble slab, and the remaining moisture be absorbed by patting it with clean dry towels.

“ But Dr. Anderson recommends the following preparation, which he has experienced to be much superior, as it not only prevents the butter from becoming in any degree tainted or rancid, but also improves its look or appearance, while (what is of more importance) it imparts a sweeter and richer taste than could have been effected by the use of common salt only. Let two parts of the best common

*. For descriptions and figures of useful churns, see the chapter on that subject.

salt, sugar and saltpetre of each one part, be completely blended together by beating; and add one ounce of this mixture to every pound of butter, incorporate it thoroughly in the mass. It will be necessary, however, to keep butter, thus prepared, for two or three weeks before it is used, otherwise it will not taste well; but, if properly cured according to the hints above given, Dr. A. states, that it will continue so perfectly sweet for three years, as not to be distinguished from newly-made and salted butter."

Such are the contents, or rather the subjects, of a work, which we consider highly useful and interesting to those concerned in Agriculture, particularly as its title imports to "*Graziers*." Its plates, chiefly wood engravings, in the improved manner of the present day, are elegant and expressive, and they are well printed. A very useful improvement of Mr. Culley's Synopsis of Breeds is appended, of which we shall avail ourselves in another part of our work. The whole is very properly dedicated to the Society of Arts, to which the author, in common with a large portion of the British empire, owns his important obligations.

After saying thus much, our notes acquaint us, that from the earnest perusal of this work, the following ideas have occurred:—As a compilation, it is excellent; every source of information being rendered subservient to the whole, and adopted with a smoothness not often experienced. Indeed, this is so seldom obtained, that it may perhaps injure the work with the practical farmer of not more than common liberality. An inclination to the theories of science, in preference to even intelligent practice, sometimes evinces itself perhaps objectionably; and in the instance of salted hay (among others) though we are well acquainted with its use in America, we hesitated to follow the author. But the spirit of humanity, which runs through the whole; the regard for the young and inexperienced; the cautions against the dangerous follies arising from vulgar vanity—the mania of fashionable collections, &c. and the manifest care in particularising every object perspicuously, are exertions of the most exalted kind.—To these we may add a free use of the practice of transatlantic writers, which exhibit, in a remarkable degree, the prejudice and absurdity of those who have attempted to undervalue the talents of our farming brethren in the western world, or represent its soil as incapable of controul.

We are convinced we cannot perform a more useful service to our readers in general, as well as those possessing grass farms in particular, than to recommend this volume as a book of constant reference. It is a pleasing association of various information on the subject, accessible to every reader; to which an index (such as no book should be without) is added.

The following authors on, or relating to Husbandry, are quoted in the course of the work:—

Smith's Wealth of Nations, 4to edition.

Farmer's Calendar, 1804.

Cully on Live Stock.

Essays on Agriculture, by the Dublin Society of Arts.

Papers of the American Societies.

Ag. Mag. Vol. 14.

Lord Somerville: Facts and Observations relative to Sheep, Wool, Ploughs, and Oxen.

Marshall's Rural Economy of the West of England.

———— Midland Economy.

Fleta, Reg. Henry I.

Fitzherbert's (Judge) Book of Husbandry, 1767,

Kaimes (Lord) Gentleman Farmer, 1802.

Dundonald's (Lord) Treatise of the Connection of Agriculture and Chemistry.

Darwin's Phytologia.

Young's Northern Tower.

Marshall's Rural Economy of Norfolk.

———— Gloucestershire.

Annals of Ariculture.

Journal de Physique.

Middleton's Agricultural Report of the County of Middlesex.

Anderson's Recreations.

Baron D'Alton's Essays on Agriculture and Commerce, B. A.

Renton's Grazier's Ready Reckoner.

Report of the Agriculture of Westmoreland.

Wright's Art of Floating Land.

Boswell on Watering Meadows.

Lyson's Practical Essays, 1772.

Letters and Papers of Bath and West of England Society.

Cook's Drill Husbandry.

Agricultural Magazine.

———— Survey of Wiltshire.

———— Report of the North Riding of Yorkshire.

———— Perthshire.

Curtis on British Grasses.

————'s Flora Londinensis.

Kent's Hints to Gentlemen of Landed Property.

Farmer's Magazine.

Transactions of the Linnæan Society.

HISTORY

OF

Agriculture.

PROCEEDINGS OF AGRICULTURAL SOCIETIES.

County of Durham Agricultural Society.

AT the late meeting of this society, held at Durham, which was attended by a large body of respectable members, as well as visitors, when they adjudged and paid the following rewards, (all the animals being first inspected alive by the judges, and afterwards slaughtered, and examined, to prove their merit), viz.

To Mr Seymour, of Woodhouse-Close, near Bishop's Auckland, ten guineas, for the best fat ox, under four years old, which weighed when alive 125ft. 4lb. 12oz., and the carcase weighed 84ft. 5lb. 8oz.

To Mr Thomas Deighton, of Winton, ten guineas for the best pen of fat wether sheep under two years old, the weight of two of which were found to be as follows, viz. the first weighed, alive, 14ft. 1lb.; carcase 9ft. 5lb. 12oz.; the second, alive, 11ft. 12lb. 12oz.; carcase 8ft. 1lb.

To Mr. William Reed, of Durham, five guineas, for the best fat pig, eighteen months old, which weighed, alive, 36ft. 2lb. 8oz.; carcase 32ft. 6lb. 4oz.

And, to Mr. Nesham, of Houghton, five guineas, for the best heifer.

Several new members were elected; and thirty-two gentlemen sat down to dinner. The day was spent in the most social and convivial manner.

Highland Agricultural Society.

This society having voted premiums for a ploughing match in the county of Peebles, under the direction of Mr. Campbell, of Kailzie, and Mr. Hay, jun. of Haystoun. The ploughs in the district, comprehending the parishes of Peebles, Manor, Eddlestone, Innerleithen, and Troquair, met at Esheills on the 21st ultimo; and after the competitors had performed their work, the judges minutely examined the same, and by their report found T. Paterfon, servant to J. Craig farmer at Hattonknow, parish of Eddlestone, entitled to the first premium of five guineas, and an appropriate silver medal. T. Cochran, son of W. Cochran, farmer, of Wormilston, parish of Eddleston, entitled to the second premium of three guineas and a similar silver medal: and the third premium, of two guineas, was adjudged to A. Dickson, servant to Sir J. Hay, of Smithfield, bart. at Esheills, parish of Peebles. The report of the society further bears that the work in general appeared to be executed in a style so highly creditable to the competitors, that as a small recompense for their exertions the judges, at the same time that the premiums were delivered to the successful candidates, presented five shillings each to the unsuccessful candidates.

Twenty-eight ploughs started for the premiums: the competition attracted much attention, and was witnessed by a number of gentle men and respectable farmers of the country and neighbourhood.

Eddlestone Farmer's Club, (Scotland).

PLOUGHING MATCH.

The Eddlestone Farmer's Club had their annual Ploughing Match on the 21st ultimo, in a clover lea field of Mr. Brydon's, farmer in Hercus. The day was so bad, (being a continual fall of wet snow), that, if it had not been intimated for the competition, scarce a plough could have been yoked till late in the afternoon. Yet twenty-one ploughs appeared on the field before ten o'clock, A. M. and, notwithstanding the badness of the day, finished their respective tasks with great expedition and in a masterly style.

The 1st premium was gained by T. Paterson, servant to Mr. Craig, Kattknow.

The 2nd by Thomas Cochran, son to Mr. Cochran of Wormilton.

The 3rd by Robert Noble, servant to Mr. Brydon, Hercus.

The 4th by David Purdie, servant to Mr. Anas, Borland.

The 5th by John Purdie, servant to Mr. Needham, Darnhill Moor.

And the 6th by James Steuart, servant to Mr. Brydon, Hercus.

The good effect of ploughing matches was never more conspicuous than on this field, and it cost the judges two hours and a half of very minute scrutiny, before they could determine the premiums; and what shewed very much the steadiness of the ploughmen, and ability of the judges, was, that the first premiums were gained by the candidates who gained the medals and prizes attached to them, given by the Highland Society of Scotland, to the nether district of Peebleshire, in a competition for ploughing on the preceding work-day. And, as an instance of what perseverance in striving to do well, will do, the ploughman who gained the first premium, both in the parish and district competition, had been a candidate in the former for several years, without being able to gain a single premium.

The plough men met, as usual, at the village, took a social glass, and, what is much to their honour, as usual, parted in good time, with the greatest sobriety and good humour.

Leicester Agricultural Society.

At the annual meeting held in Leicester, on December 28, 1805, the following premiums were adjudged, and ordered to be paid by the secretary:

1. To labourers in husbandry having reared families of children without burthen to their parishes.

Thomas Birchall of Wymondham, seven children—four guineas.

William Smith of East Lake, seven children—four guineas.

2. To servants in husbandry for long and faithful service.

John Dexter, 43 years with Mr. John Jones of Gracedieu—four guineas.

James Hill, 31 years with Mr. Simons of Ullesthorpe—four guineas.

3. To labourers in husbandry for long and faithful service.

John Neale, 36 years with Robert Hall and his son, at Amesby—four guineas.

William Leedham, 28 years with John Beeley and his widow, at Shenton,—three guineas.

William Heap, 25 years with Mr. Collinghawe, at Fonge—three guineas.

Francis Croit, 23 years with William Harrison, at Coltock—three guineas.

A premium of five guineas was adjudged to Mr. Oldakers, of Kirby, for the best two years old fat wether sheep.

Mr. Iliffe, of Humberstone, exhibited a sheep of extraordinary size and fatness.

The following gentlemen, among others, were present at this meeting:

Clement Winstanley, esq. in the chair, G. A. L. Keck, Sir E. C. Har-
topp, Mr. Rose, J. Mansfield, esq. S. Miles, esq. Mr. Nicols, F. Paget, esq.

W. Ruding, esq. Mr. S. Stone, Mr. Watkinson, J. Wilks, esq. Clement Wintanley, jun. esq.

Farnsfield Association, (Nottinghamshire).

The following is a list of the subscribers for the prosecuting felons, &c. holden at the house of Mr. Robert Holliday, known by the sign of the wheat-sheat, in Farnsfield, in the county of Nottingham.

William Watson, esq.	James Hill
Samuel Jenkin, esq.	William Smith, sen.
William Houldsworth	Thomas Hurt
John Carding	Seth Hurt
Benjamin Burges	William Todd
Rev. William Claye	John Bucklow
William Thornally	William Smith, jun.
Nathaniel Wright	Benjamin Kemp
Robert Holliday	John Swift
John Shore	James Denman
George Moseley	Wm. Robinson, Edingley
William Dawson	William Wals, ditto
William Heather	John Harker, ditto

REWARDS.

The following rewards are paid by this society, to the apprehenders of every person who shall be convicted of any of the offences hereafter mentioned, upon the person or property of subscribers, over and above what is allowed by act of parliament, (that is to say:)

Horse stealing	£ 5 5 0
Breaking into and robbing a dwelling house	10 10 0
Breaking into and robbing any mill or out-house whatsoever	5 5 0
Footpad or other highway robbery	5 5 0
Sheep stealing	3 3 0
Beast stealing	2 2 0
Poultry stealing	1 11 6
Stealing any plough-share, waggon-chain, iron out of any gate or post, any implement of husbandry or committing any other kind of felony	1 1 0
Any other kind of felony, such as wilfully breaking hedges or fences, and carrying the same away, pulling up, stealing, or destroying any turnips, potatoes, cabbages, pease, or carrots; or robbing any orchard, or garden; or wilfully, or maliciously destroying the property of the subscribers	0 10 5

The society's annual meeting was held on the 27th instant.

Redruth Cattle Show.

At the annual show fair to be held in Redruth, on Tuesday the 25th day of February next, the following premiums will be given.

To the person bringing the best yoke of fat oxen, two guineas.

The best working ditto, one guinea.

The best bull, one guinea.

The best fat cow, one guinea.

The best cow in calf, one guinea.

The best horse, mare, or gelding, one guinea.

The best score of sheep, one guinea.

The best ram, half-a-guinea.

N. B. Cattle for show must have been in possession of the owner three months

Sherborne Cattle Show.

Every Thursday fortnight preceding Salisbury Great Market, in a field behind the Swan Inn. TOLL FREE.

We, the undersigned graziers and dealers in cattle, do agree that we will attend for the purpose of establishing a SHOW OF CATTLE at the above place, which, in our opinion, is as eligible a situation as any in the county of Dorset.

Emanuel Pester
Jonas Blandford
James Young
John Symes
Oliver Hayward
George Mayo
John Blandford
Richard Sealy
Robert Sealy
Samuel Rodber
William Cook Palmer
Samuel Eastment
William Ball
John Rue Wood
Elias Hawkins
Elisha Hawkins
John Young
James Petty
Morgan Davis
John Maker
Robert Tytherlaigh
William Swayne
John Brown
James Mills
William Knight
William Carey
Edward Genge
Arthur White
Thomas Feaver
Thomas Sheuin
John Palmer

Wm. Goodland
Samuel Beaton
Benjamin Goodland
Robert Richards
John Hayward
John Plowman
Samuel Bull
Thomas Richards
Thomas Gifford
George Gifford
Samuel Gifford
William Harding
Thomas Francis
I. B. Phelps
John Feaver
Robert Green
Samuel Rugg
Robert Leach
James Leach
John Dyke
William Mullet
Stowell Marshal
John Mullet
Richard Mitchell
John Hanham
William Hole
Jonas Feaver
James Brown
George Harding
Samuel Richards
James Barber

The first show of cattle took place on Thursday the 16th day of January, 1806.

Highland Society of Scotland

The anniversary general meeting of this society, in terms of the charter, was held at their hall in Edinburgh on the 14th instant, at which there was a respectable attendance of the members to the number of 100.—The Right Hon. the Earl of Dalhousie, one of the vice-presidents in office, in the chair, (in the absence of the Earl of Moira, who had not arrived from London) when, after a ballot, as required by the rules of the society, the following noblemen and gentlemen were duly admitted members, their names ordered to be recorded, and public notification of their election, viz.

Right Honourable Lord Viscount Primrose
Right Honourable Lord Glenbervie
Sir John Hope of Craighill, bart.
Sir Thomas Gibson Carmichael of Skirling, bart.
Colonel Elliot Lockhart of Borthwickbrae
Colonel Keith Macalister of Loup
Lieutenant-Colonel Robert Stewart of Fincastle, 27th regiment

Lieutenant-Colonel Callender of Craigforth, inspecting field-officer,
Edinburgh district
Major Donald Campbell of Knock, 40th regiment
George Hepburn, esq. of Clerkington
John White Melville, esq. Bennoch
J. Wolfe-Murray, esq. advocate, sheriff-depute of the county of Peebles
William Murray, esq. younger of Polmaise
James Hare, esq. of Calderhall
Patrick Miller, esq. younger of Dalwinton
Archibald Macnab, esq. younger of Easter Torry
Gilbert Young, esq. of Youngfield
Archibald Maclachlan, esq. of Craigenterve
Colin Maclauchlan, esq. merchant, Glasgow
Alexander Ramsey, esq. of Demerary
James Fyffe, esq. of Smithfield
George Crawford, esq. Edinburgh
John Russel, esq. writer to the signet
James Lang, esq. Edinburgh
John Muir, esq. |
William Gilchrist, esq. | Merchants in Edinburgh
John White, esq. |
James P. Inglis, esq. |
Henry Raeburn, esq. | Merchants in Leith
Captain James McVean of the 78th regiment.—Total 30.

After the ballot was over, Sir John Sinclair congratulated the meeting on the admission of so many members BY BALLOT, and begged leave to move the election of one, in whose case he trusted, that form of proceeding would most readily be dispensed with. He alluded to his Royal Highness the Duke of Sussex and Earl of Inverness, who, by a letter, in which he mentions the institution in very handsome terms, had authorized his being proposed as a member of this society, and whose partiality to the Scottish nation was so well known, that he was persuaded the society would be proud to enroll his Royal Highness in the list of its members, in the manner the most likely to be gratifying to the feelings of so distinguished a personage.

The motion being seconded by Mr. Macdonald, the treasurer, was unanimously approved, approved of, and his Royal Highness was elected a member of the society by a show of hands, and not by ballot, and his name ordered to be put at the head of the society's list.

Mr. John Tait, chairman of the standing committee of the society upon the fisheries, stated, that he had it in charge from that committee to signify to the society, that they had derived much benefit from several communications with the Rt. Hon. George Rose, who had, of late bestowed much attention upon that important subject, and that there was every reason to hope the society, and the country would receive great advantage from that gentleman's labour. Mr. Tait, therefore, in the name of that committee, submitted to the meeting the propriety of electing the Right Hon. George Rose an honorary member, which the society unanimously agreed to, and he was elected accordingly.

Thereafter, the meeting, on motion from the secretary, proceeded to the election of president, vice-presidents, and other officers, for the current year—when

His Grace the Duke of Argyle was re-elected president.

Most Noble the Marquis of Lorn,

Right Hon. the Earl of Dalhousie,

Right Hon. the Earl of Moira,

Right Hon. the Earl of Mansfield.

Vice
Presidents,

William Mackdonald, esq. Treasurer.

Donald Maclahlan, esq. Secretary.

Francis Farquharson, esq. Auditor of Accounts.

Mr. Lewis Gordon, Deputy Secretary and Collector.

Mr. David Watson, Recorder and Clerk.

Reverend M^cDonald Mackintosh, Translator of the Gaelic Language.

Mr. Alex. Cunningham, Jeweller; and Medalist.

Besides thirty ordinary directors resident in Edinburgh, for managing the affairs of the society, seven of whom go out annually by rotation, the society made choice of the following noblemen and gentlemen, some of whom are occasionally in town, and cannot regularly attend the stated meetings to be extraordinary Directors, viz.

His Grace the Duke of Athol.

Most Noble the Marquis of Huntly.

Right Hon. the Earl of Haddington

Right Hon. Lord Mackdonald

Right Hon. Sir James Montgomery of Stanhope, Bart. Lord Advocate of Scotland

The Hon. Robert Dundas of Melville, M. P.

Sir John Sinclair of Ulbster, Bart. M. P.

Sir John Macgregor Murray of Lanrick, Bart.

Brigadier General Dirom of Mount Anan, N. B. Staff

Charles Mackintosh, esq.

The Secretary then submitted to the meeting, the proceedings of the board of directors since the general meeting in June last, and the premiums adjudged by them for the year 1805, which were taken under consideration and approved; and as it was stated that much useful information had been obtained in the essays on different subjects, for which premiums had been offered, particularly on the species of our native plants and grasses, most proper for cultivation, the properties and uses of peat mafs, and the diseases of sheep, the society directed, that such information should be published for the benefit of the country at large, in the third volume of the society's Transactions.

It appeared, from the reports made by the resident members of the ploughing matches in the different districts that these had excited much emulation and improvement in that essential branch of husbandry. The meeting, therefore, recommended to the directors, to pay due attention to this object in the list of premiums to be offered by them this year.

On hearing the treasurer on the funds of the society its income and expenditure last year, the meeting was gratified to find, that they were enabled to vote a larger sum for promoting the objects of the institution this year, to be laid out by the directors in premiums, than on any former occasion; and, on the treasurer's motion, the thanks of the society were voted to Francis Farquharson, esq. of Haughton, auditor of the society's accounts, for the distinct and perspicuous state made by him, on the table.

The treasurer stated to the meeting, that he had the satisfaction of informing the society, that his Grace the Duke of Argyll, their worthy president had lately, in pursuance of his intention, formerly announced, lodged with him, as treasurer, the sum of one thousand pounds sterling, as the commencement of, and for the purpose of establishing a fund, under the patronage and management of this society, to be applied by them for defraying, in part, the education of the younger sons of Highland gentlemen for the Navy: that his Grace had been in a great measure induced to make this handsome and public spirited donation, from observing, that comparatively few gentlemen from the Highlands were to be found as officers

of the navy, which the Duke of Argyll attributed in a great degree to the considerable expence of educating them for that profession, and maintaining them while midshipmen.

His Grace farther thought, that gentlemen of that country, becoming more generally officers of rank in the navy, would be a great inducement to Highlanders and Islanders to enter into the service as seamen, to which they felt at present no partiality, no doubt from the circumstance of their having so little chance of being under the command of gentlemen of their country, with whom they had a natural connection. The treasurer concluded by acquainting the society, that he had lent out the above sum upon proper heritable security.

The society, in the strongest terms, expressed their approbation of the liberality and patriotism displayed by the Duke of Argyll upon this occasion, so becoming his high rank, and so consonant to his uniform conduct; and it was not doubted, that an example so truly praise-worthy would be followed by many other Noblemen and Gentlemen of the Society. as there was every reason to expect, that the institution of the fund now begun by his Grace would not only be useful to those who were there objects of it, but would ultimately prove beneficial to the maritime strength of the empire. That the Highlands and Islands of Scotland, being the seat of a great fishery, which it was hoped would be carried on upon a more extensive and better plan than it had ever been before, that part of the kingdom, it might be justly expected, would become a great nursery for seamen; and therefore any plan which tended to make the naval service more agreeable to the natives was rendered of greater importance,— It was therefore

“Resolved unanimously, That the warmest thanks of the society be returned to his Grace the Duke of Argyll, for his highly liberal and patriotic donation, which the society acknowledge as a new proof, in addition to the many which his Grace has formerly given, of his intention to the interests of the Highlands, and of that support and assistance which, as its President, he has uniformly afforded to the useful purposes for which the Society was instituted.”

The meeting farther resolved, to request the Earl of Dalhousie, the vice president in the Chair, to write a letter to the Duke of Argyll, communicating the above resolution, and remittest to the Directors, with an instruction to consider of and arranged a proper plan for the management of this fund, as well as for promoting its increase; and approved of the conduct of the Treasurer in having the money properly secured in the meantime.

Sir John Sinclair then rose, and expressed the satisfaction he felt at being enabled to lay on the society's table, the printed sheets of a very large proportion of the poems of Ossian, in the original Gaelic, with a latin translation; the whole of which work would be completed in the space of two or three months. The publication of that work in Gaelic, he was persuaded would not only remove the doubts which had been entertained, regarding the authenticity of these poems, but would also tend to excite a greater desire, than had lately prevailed, to be acquainted with Gaelic literature, with the music by which the Gaelic poetry was generally accompanied, and with the language which contained those ancient effusions of natural feeling and genius. He begged leave, therefore, to submit the following motion to the consideration of the society:—

“That this general meeting do instruct the Directors to take under their consideration the most effectual means of collecting and of preserving what yet remains of Gaelic literature and music; and also take such steps, as to them may seem most adviseable, for preparing and publishing a Gaelic dictionary; that as such measures must necessarily be attended with a very

considerable expence, a general subscription for defraying the same be set on foot among the members of the society, and other friends of literature, both at home and abroad, and that, in order to promote those laudable purposes, the directors are hereby authorised to subscribe one hundred guineas in the name of the society."

Sir John Macgregor Murray, in seconding the motion, stated his conviction, that the object of it was of great national importance; that he was satisfied a store of music, with some valuable gleanings of Gaelic literature, might still be collected.

"I am old enough," said Sir John, "to have been delighted in successive seasons, before any translation was heard of, with many of the poems, which have been the subject of so much discussion, and I am happy to find, that the publication of them in the original Gaelic, is now, in such forwardness. Without pretending to be a critic in Gaelic, I know so much of it as to enable me, if necessary, to shew that in very many instances, even the talents of Mr. Macpherson had proved unequal to do justice to his original. I believe no gentleman will be found who is enabled, from a proper knowledge of the Gaelic language fully to perceive and enjoy the incomparable beauties of those poems in the original, and has compared them with Macpherson's translation, who is not convinced that he was not the author of the original. I am most anxious that the Gaelic language, which possesses so much energy and excellence, should be preserved, and I think the publication of a proper dictionary will contribute greatly to that object."

Sir J. M. Murray concluded by giving the motion of his Hon. Friend the most decided support; which, having been put from the chair, was unanimously approved, and the Directors instructed in terms of it accordingly.

The secretary stated to the meeting, that a committee having been some time ago appointed for collecting the ancient Scottish music, General Robertson of Lude, had, at the request of the committee, sent to the Society two harps, long preserved in his family, one of them brought from Argyleshire in 1460, the other a present from Mary, Queen of Scots, to a lady of the family of Lude. That Mr. Gun of Edinburgh, who had turned his attention much to the subject of our ancient music and musical instruments, besides being a general scholar, had at the desire of the committee, drawn up a paper, which threw much light upon the objects of their inquiry, and containing a description of these harps.

The meeting voted their thanks to General Robertson, for his ready attention to the request of the committee; and recommended to the directors to have Mr. Gun's paper, with proper drawings of these harps, published in the Society's Transactions, and empowered the Directors to give a suitable recompense to Mr. Gun for his ingenious treatise.

Mr. Stewart of Allanton, called the attention of the society to a treatise lately published by Mr. William Aiton, Strathaven, entitled, "On the Origin, Qualities, and Cultivation of Moss Earth," which he stated to possess very great merit, and would prove particularly useful to practical farmers; that it had been read by many members of the society, and others, who understood the subject, and was generally approved of; that this subject, being one to which the society had particularly directed its attention, and had offered high premiums, and as the book promised to be so useful, he submitted to the society the propriety of taking some notice of the author, and recommending the work to public attention.

General Dirom, Mr. Haggart of Cairnmuir, and other gentlemen, having expressed their conviction of the utility and merit of Mr. Aiton's Essay, the meeting, after hearing the treasurer and Mr. H. Mackenzie, resolved to recommend the publication to the attention of the members of the society, as well as to practical farmers, and authorised the Directors to afford such en-

couragement for the publication of a second edition as they should think proper.

The secretary stated, that General Valency had lately transmitted to the society some additional publications of the Dublin society, with others of his own. The society expressed their acknowledgments to that respectable and learned gentleman for his continued attention, and recommended to the secretary to communicate to him any additional publications made by the society.

Several other matters having been discussed, and referred to the Directors, the meeting voted the thanks of the society to the Earl of Dalhousie, for his conduct in the chair, and his attention on all occasions to the interest of the institution.

Agricultural Society for the County of Durham.

AT a Meeting of the Society, held at Durham, on the 21st December, it was resolved to offer the rewards for the ensuing year.

No. 1. To the farmer whose ground, not less than 150 acres, shall be in the most skilful mode of cultivation and best condition,—5 Guineas.

No. 2. For the greatest quantity, and best in quality, of Rye Grass Seed, produced from two acres of ground,—5 Guineas.

N. B. The Candidates for either of the above rewards are desired to send in their claims to the Secretary, on or before the 1st day of July next, and their several farms, grounds, and Crops will, in due time, be viewed by a committee of the society, appointed for that purpose, who will take fully into their consideration the nature of the soil, and situation of the ground of each candidate, and form their estimates accordingly. The candidates, for No. 2. must also transmit to the secretary a certificate from two respectable Neighbours, certifying the quantity of ground, and of the seed grown thereon; and the rewards, will be adjudged and paid at the meeting of the society, to be held at Durham in December next.

No. 3. For the best stallion for getting harness or draught horses, to be kept in the county of Durham, as a stallion, for one season afterwards, and to attend Durham market in the usual manner, 3 guineas.

4. For the best stallion for getting hunters, or road horses, with the same injunctions as last mentioned in No. 3, three guineas.

5. For the best bull, not less than two years old, to be kept in the county of Durham one season afterwards, three guineas.

The horses and bulls must be shewn at Darlington on Easter Monday next, when the several rewards will be adjudged and paid, and the successful candidates must give such security to the society, at their meeting, held upon that day, for the performance of the different conditions annexed as they may deem satisfactory.

6. For the best tup, whether aged or shearing, to be kept in the county of Durham for one year afterwards, three guineas.

7. For the best cow or heifer, in milk or with calf, to be kept in Darlington or Stockton Wards for two years afterwards, as a breeding cow, three guineas.

The tups, cows, and heifers, must be shewn at the meeting of the society, at Darlington, in September next, when the rewards will be adjudged and paid; the successful candidates giving satisfactory security for the performance of conditions.

8. For the best cow or heifer, in milk or with calf, to be kept in Chester or Easington Wards for two years afterwards, as a breeding cow, three guineas.

These cows or heifers must be shewn at the meeting of the society, at Durham, in December next, when the rewards will be adjudged and paid, security being given by the successful candidate.

9. For the best pen of five fat wedder sheep, under two years old, bred and fed by the respective candidates in the county of Durham, and bona fide their property at the time of shewing, and which have not been fed by any other than green food, ten guineas.

10. For the best fat ox, bred and fed in the county of Durham, certified to be under four years old at the time of shewing, ten guineas. As the short horned breed has been the only one hitherto shewn, should any ox of any other true and unmixed breed be shewn, and prove to have the most merit, the additional sum of five guineas shall be given, in order to induce persons in possession of other breeds to become candidates for this reward: And the society hope those gentlemen who shew oxen for this reward will produce a pedigree of the breed, to be kept by the secretary for the use of the society.

11. For the best fat pig, not exceeding eighteen months old, to be bred and fed in the county of Durham, five guineas.

The candidates for the three last mentioned rewards must shew their sheep, oxen, and pigs, at the meeting of the society, to be held at Mr. Eskett's, in Durham, on Friday the 19th day of December next, at nine o'clock in the morning; and as no perfect judgment can be formed of the real merits of those animals by merely examining them when alive, they must be slaughtered upon the day they are shewn, and the carcases examined by the society the morning following, when the rewards will be adjudged and paid. The society trust that no person will presume to shew any stallion, bull, tup, gow, or heifer, unless they are in every respect such as the public will be benefited in breeding from. The improvement of the different breeds is the grand object of the society; and they beg it to be understood, that they will deem themselves justified in withholding the rewards which they have offered where any horse, &c. (although the best of the class) shall not, in their judgment, possess a sufficient degree of excellence to promote that desirable end.

At this meeting the following sweepstakes were entered into by several of the members then present, viz.

The subscribers do agree to shew the produce of the undermentioned cows or heifers, (if a quey calf) at the meeting of the society, to be held at Durham, in December, 1808, for a sweepstakes of five guineas each, p. p. To be subject to the decision of the judges appointed by the society, and a description of the produce to be declared to Mr. Ormsby within one week after it is calved.

Present Subscribers.

Mr. Harrison's White Legs,	bull'd by Simon
Mr. Nesham's Miss Charge,	— by Trunnell
Mr. Wetherell's Amazon,	— by Chilton
Mr. White's Mol's Rose,	— by Chilton
Mr. Seymour's Red Rose,	— by Misfortune
Mr. Greenwell's Miss Smith,	— by Duke
Mr. Temple's Lady Bolinbroke,	— by Simon.

Also, the subscribers agree to shew a cow or heifer, in calf, under three years old, and bona fide their property at the time of shewing, at the meeting of this society, to be held at Durham, in December 1806, for a sweepstakes of five guineas each, p. p. To be decided by the judges appointed by the society.

Present Subscribers.

Thomas Arrowsmith, George Greenwell, Robert Harrison, John D. Nesham, Wm. Tho. Salvin, John Wetherell.

Also, The subscribers agree to shew a shearling wether, bred by the subscribers, and fed on green food only, at the meeting of this society, to be

held in Durham, in December 1806, for a sweepstakes of 3 guineas each, p. p. The sheep to be slaughtered, and their respective merits to be determined by the judges appointed by the society.

Present Subscribers.

Thos. Arrowsmith, John D. Nesham, Thos. Deighton.

The above sweepstakes will continue open till Easter Monday, 1806; and in the mean time, nominations will be received by Mr. Ornsby, of Darlington.

Resolved unanimously,--That no member of this society will, in future, hire any servant who does not produce a certificate of good behaviour from the last place of service. And the members of this society shall, and they are hereby to pay or transmit their subscriptions for the year 1806, together with all arrears, to the secretary, upon or before the next meeting of this society, on Easter Monday next, at Darlington.

ARTHUR MOWBRAY, Esq. President.

MR. STEPHEN HUMELE, and MR. THOMAS CALVERT, Vice-presidents
HEN. ORNSEY, secretary.

FAIRS AND MARKETS.

The number of cattle brought for sale at Martinmas fair, held at York, was not so large as at Soulmas fair, and both fat and lean obtained good prices: there were a great many sheep, which met ready sale. Horses, very few, and those principally of the draught kind, were sold at good prices. The day proving uncommonly fine, the fair was well attended.

At Coventry market on the 3rd wheat sold from 9s. 3d to 10s. 3d. And at Northampton on the 4th from 8s. to 9s. 6d. per bushel.

At Stalbridge market wheat sold from 70s. to 80s. per bushel; barley 28s. to 36s.; oats 26s. to 32s.; beans 54s. to 60s.; boiling pease 26s.; and bread by the quarter loaf 11d.

KELSO, Jan. 10.—Wheat sold from 46s. to 50s.; pease from 29s. to 28s. per boll of 6 winchester bushels.—Barley from 27s. to 30s.; oats from 21s. to 27s. per boll of 7½ winchester bushels.

HADDINGTON, Jan. 10.—Wheat sold heavily, and prices nearly as last week; barley rather dearer, best 27s. current prices 24s. 6d. to 25s. 6d.; oats were nearly as last week, highest price 19s. current prices 16s. 6d. to 18s.; pease and beans 15s. to 11s. There were 664 bolls of wheat in the market, which sold on an average of £1 10 10 7-12ths per boll.

Jan. 10.—This day there were 260 bolls of oatmeal in Edinburgh market, which sold from 17s. 6d. to 18s. 6d. per boll. Retail prices per peck of best oatmeal, 1s. 3d. second 1s. 2½d. There were also 40 bolls of pease and barley meal which sold from 13s. to 17s. 6d. per boll. Retail prices per peck 1s. to 1s. 3d.

Price of potatoes in Edinburgh market eight-pence the peck, (28 lbs.)

MISCELLANIES.

In consequence of a bet, Francis Sitwell, esq. M. P. of Barmoor, in Scotland, was lately applied to, to know the weight of his breeding ewes, and returned the following answer, viz.

“ Barmoor Castle, 6th November, 1805.

“ I do hereby certify, that I have this morning weighed three lean new Leicester ewes, run off indiscriminately from my breeding flock, and found their live weights to be 200lb, 197lbs, and 191lbs, total 588lbs, avoirdupoise.
F. SITWELL.”

The following is a description of Mr. Ransome's Cast-Iron Plough-Shares which were exhibited and received, very general approbation at the Smithfield show. The shares are made hard on one side and soft on the other,

which affords the great advantage of wearing thin—cast-iron shares made in the common way wear thick, and with a basil on the under side that obstructs their entering into hard or strong lands, at the same time that they add labour to the horses, and pass over weeds without cutting them. His Cast-Iron Plough-Grounds, are so contrived that by turning a screw the plough is made, with the greatest facility, to work more or less to land.

We are happy to see that the proposal made in March last to the Board of Agriculture, by Mr Waters, is about to be adopted. The following is a transcript of their description, and the nature of the plan to be put into execution; extracted from the communication addressed to Lord Sheffield, by Edmond Thomas Waters, esq. of Aldboro' Hatch, Essex, (an Honorary Member of the Board of Agriculture) on the subject of feeding different kinds of Oxen *together*, in order to ascertain their real merits.

"I am induced," says that Gentleman, "to this explanation, as I see very serious evils from not having a more *certain* comparative view of the *real* condition of the stock at turning up, therefore, before I finish this paper, I mean to make an offer on my part to receive the stock of each county, weighing in and weighing out, the whole having lived together, and had an equal chance from the time of turning up, until shewn at Lord Somerville's show in March. I am the more encouraged to make this offer, from having the best marshes in East Ham level, and premises equal to any for tying up within ten miles of London, where their progressive state of improvement might be under general observation; and my own conviction, from the experience of three years, that no other mode can attain what I know to be the very laudable object of the noble lord, first prompted me to the experiment."

With a view of carrying this plan now into effect, it is proposed, that three judges shall be appointed and named, one by his Grace the Duke of Bedford, one by Lord Sheffield, and one by Lord Somerville, who are to examine the beasts when first turned to feed, and their live weight then taken, who are to report to the judges ultimately appointed at Lord Somerville's shew.

The beasts, say two Herefords, two Suffex, two Devons, two Long Horns, and two Short Horns, to be turned to feed, between the 10th and 20th May, 1806, to be at Aldborough Hatch some days before, as may be found convenient. To be taken from grass the 1st of October, and stalled, keeping an *exact* account of the separate consumption of each yoke until Christmas market, when the worst of each pair will be drawn and sent to market, the other to be exhibited at Lord Somerville's shew, when they are again to be weighed alive, in the presence of the three judges first appointed to examine them, who are to report to the judges of the day their condition and weight when turned up, improvement since, and quantity of food eat, so as to obtain a proper decision, which should be made on the comparative improvement of the beasts, in proportion to their size and live weight, when put to feed. The oxen to be of the same age, and, in course, the superior of each county not under six years old.

A horned ewe, bred by Mr. Thomas Eyre, near Penistone, lambed two lambs last year, which sold for two guineas: the ewe was afterwards fed by John Hite of Havercroft, and killed at Ryhill a fortnight ago, which weighed 22lbs. per quarter, and had 16½lbs. of loose fat.

A recent Irish paper says, "By the exertions of some of our resident landholders, who have not entered into the spirit of turning Ireland into a grass-farm, a variety of excellent improvements have been made in such implements of husbandry, as were deficient in many respects and the premiums allotted by societies and individuals for similar improvements will promote the ingenuity of our countrymen, and leave Lord Melville without the least pretext for calling Ireland a paltry, beggarly, mutilated island."

New potatoes and radishes (in great perfection) were served at a table in Whitehaven, on new year's day.

The death of a mare belonging to Mr. Watts, of Warwick, was occasioned a few days since by a very extraordinary circumstance. The animal died from an obstruction in the viscera, or what was supposed to be an inflammation, being attended with all the symptoms of that complaint; but on opening the carcase, the passage in the culon, leading from the great gut, was choked up with stones. Upon further examination, nine of these substances were found, of different forms and sizes; some oblong and others angular: but the two largest are nearly four square and rounded at the edges, and weighed, when first taken from the gut, $3\frac{1}{2}$ lbs. The stones are in the possession of Mr. E. Turner, farmer, of Kenilworth; and we communicate the fact that some skilful physiologist may determine the cause of these very singular phenomena.

A snake of an enormous size, measuring near a yard and a half in length, and of a proportionate girth, was lately killed, in a nursery ground on Eggham hill; the reptile did not exhibit the least signs of torpidity, but on being disturbed he appeared as brisk and vigorous as in the month of June.

On Feeding Sheep with Potatoes.

Mr. John Forster, of Royston, in Hertfordshire, has made a very successful trial of potatoes in the feeding of sheep during the winter. While the weather continued open and fair the sheep were put upon turnips in the day, and home to the fold-yard at night, and had fresh straw given them. As soon as the frost prevented them folding on turdips, a trial was made upon potatoes, which were put whole into troughs. The sheep ate very few for two or three days; after that time the only trouble was to keep them from running over the feeder. Three hundred ewes were supplied every morning with five bushels of potatoes, and fresh straw twice in each day. With this keep they did very well through the winter, sometimes on potatoes and sometimes on turnips, as the weather permitted. The beginning of April the ewes and lambs were put on three acres of Swedish turnips, which lasted them one month; they came home to the fold-yard every night. After that time they took the common field, and were folded every night through the summer. There was a bad fall of lambs; some farmers lost their lambs in consequence of the ewes having but little milk, but Mr. Forster's fall of lambs was very good, one hundred ewes brought him one hundred lambs, which were sold the following July for fourteen shillings each, except forty of the best ewes' lambs, which were kept for stores.

The May following Mr. Forster planted about five acres of potatoes, ploughed the land into one-bout ridges, spread cow-dung in the intervals, and planted potatoes in the dung; then, with a double mould-board plough covered up the plants, running a roll over the land to flatten the ridges. As soon as the plants were all up, a small swing plough was used to slice off a furrow from each side of the plants, which cast the mould into the middle of the interval, hand hoed between the plants, and, as soon as the weeds began to grow again, split the ridges of the mould with a double plough, which moulded up the plants completely. The produce was two hundred bushels PER acre.

Mr. Forster's turnips failing last winter, potatoes were given to his sheep, with nothing more than fresh straw, night and morning, through the winter, and at Lady Day the ewes and lambs were allowed to be in better condition than any flock in the neighbourhood.

This may therefore be considered as a fair trial of potatoes, as the sheep had no other succulent food whatever; besides what the seven score of sheep consumed, as many potatoes were sold as fetched £5 per acre. The land was ploughed as soon as the potatoes were taken up, and drilled with wheat at nine inches:--crop as good as any last year.

New Corn Mill.

At the commencement of this month the new corn mill belonging to Messrs. Jones and Handley, erected on the side of the Warwick and Knapton canal, near Warwick, began to work in the presence of many respectable millers and mechanics, who expressed the highest satisfaction at the complete manner in which it went off. This mill is constructed so as to be worked by a small quantity of superfluous water from the canal, and has power to drive five pair of stones, with suitable machinery, grinding and dressing five hundred sacks of flour, weekly; and promises to be productive of a considerable increase of trade, both upon the canal and to the market. The great water wheel is twenty four feet in diameter, and seven feet wide; the pit wheel is fourteen feet in diameter, the spur wheel twelve, and the crown wheel fourteen. The shaft and wheels are of iron; and to such perfection is the art of iron casting now arrived, that the great wheel is no heavier than one constructed of wood, of the same dimensions. The works, we understand, were executed by Mr. Roberts, mill-wright, of Warwick, whose ingenuity, care, and attention, has been such as to entitle him to much praise. It is with considerable pleasure we observe that cast iron can, with so much effect be applied to those purposes in mills, that have heretofore consumed such large quantities of the best oak in the kingdom, and which may be appropriated to ship building and other useful purposes.

Prices of Raw Hides, Hay and Straw, &c. for Feb. 1806.

Raw Hides.	First Week		2d Week		3d Week.		4th Wee k.				
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.			
Best Heifers & Steers, pr ft.			3 4	to 3 8			3 4	to 3 6			
Middling — —			3 0	to 3 2			3 0	to 3 2			
Ordinary — —			2 8	to 2 10			2 8	to 2 10			
Market Calf — —			12 6	each			12 6	each			
Eng. Horse — —			18s	to 19s			17s	to 19s			
Lamb Skins — —											
Sheep Skins — —			3 6	to 7 0			4 0	to 7 0			
<i>Prices of Hay and Straw.</i>											
St. James's—Hay —	l.	s.	d.		l.	s.	d.		l.	s.	d.
Straw — —	3	11	6		3	14	0		3	14	0
Whitech.—Hay —	1	15	0		1	16	9		1	13	0
New — —	3	19	0		3	18	0		3	19	0
Clover — —	0	—	0		0	—	0		0	—	0
Straw — —	4	14	6		4	14	6		4	14	6
	1	12	0		1	12	0		1	13	0
<i>Newbury.</i>											
Wheat — — —	60s	to	83s		62s	to	82s		60s	to	80s
Barley — — —	27s	to	35s		26s	to	34s		28s	to	35s
Oats — — —	27s	to	32s		23s	to	32s		23s	to	30s
Beans — — —	—s	to	—s		—s	to	—s		—s	to	—s
New ditto — — —	—s	to	—s		—s	to	—s		—s	to	—s
Peas — — —	—s	to	—s		—s	to	—s		—s	to	—s
<i>Salisbury.</i>											
Wheat — — —	68s	to	78s		68s	to	78s		68s	to	78s
New ditto — — —	—s	to	—s		—s	to	—s		—s	to	—s
Barley — — —	30s	to	36s		30s	to	35s		30s	to	34s
Beans — — —	—s	to	—s		—s	to	—s		—s	to	—s
Oats — — —	23s	to	32s		26s	to	30s		26s	to	30s
Peas — — —	—s	to	—s		—s	to	—s		—s	to	—s

*Prices of Hops, Meat, Seed, Leather, Tallow, &c. for
January 1806.*

<i>Price of Hops.</i>		1st Week		2d Week		4th Week		3d Week	
Bags.		s.	s.	s.	s.	s.	s.	s.	s.
Kent	—	126	to 155	126	to 147	126	to 147	126	to 147
Suffex	—	120	to 140	120	to 140	120	to 140	120	to 140
Essex	—	120	to 140	120	to 140	120	to 140	120	to 140
Pockets.		1st Week		2d Week		4th Week		3d Week	
Kent	—	126	to 168	120	to 168	120	to 168	120	to 168
Suffex	—	120	to 150	120	to 165	120	to 165	120	to 155
Farnham	—	180	to 220	180	to 210	180	to 210	180	to 210
<i>Seeds.</i>									
Broad Beans, (per quarter)		20	to 48	20	to 45	24	to 4	21	to 36
Long Pods		24	to 40	28	to 36	26	to 36		
Tares	—	30	to 36	30	to 36	30	to 36		
Rye Grass	—	12	to 32	13	to 31	13	to 30	13	to 30
Carraway, (pr cwt.)	—	70	to 75	75	to 80	70	to 80		
Coriander	—	14	to 15	14	to 15	14	to 15		
Trefoil	—	9	to 13	9	to 31 6	8	to 31		
Red Clover	—			50	to 82	56	to 85	56	to 82
White ditto	—								
White Mustard Seed, pr bu		6	to 14	10	to 14 6	8	to 15	7	to 15
Brown ditto		9	to 15	9	to 14	9	to 14		
Canary Seed		42	to 56	42	to 56	42	to 55	36	to 48
Turnip,	—	10	to 16	10	to 16	10	to 16		
Rape Seed, (per last)	—								
<i>Meat at Smithfield,</i>									
To sink the offal, p. ft. 8lb.		s. d.	s. d.	s.	s.	s. d.	s. d.	s.	s.
Beef	—	4 0	to 5 4	4 4	to 5 4	4 8	to 5 8	4 4	to 5 6
Mutton	—	4 0	to 5 6	4 4	to 5 6	4 8	to 5 8	4 8	to 5 8
Veal	—	5 0	to 6 6	5 6	to 6 6	5 6	to 6 8	5 6	to 7 0
Pork	—	4 8	to 5 8	4 8	to 5 8	4 8	to 5 4	5 0	to 5 8
Lamb	—	0 0	to 0 0						
Head of Cattle—Beasts about		1,800		1,800		1,800		2,000	
Sheep and Lambs		7,000		11,500		12,500		10,500	
<i>Price of Leather.</i>									
Butts, 50lb. to 56lb. each		23	to 24	23	to 24	23	to 24	23	to 24
Ditto, 60lb. to 65lb. each		26	to 27	25½	to 26	26	to 27	25	to 26
Merchants Backs	—	23	to 23½	21	to 22	23	to 23½	23	to —
Dressing Hides	—	21	to 22	21	to 23	21	to 22	20	to 21½
Fine Coach Hides	—	23	to 25	22	to 23	22	to 25	22	to 23½
Crop Hides for cutting		22	to 23½	22	to 23	22	to 23½	22½	to 24
Flat Ordinary	—	2½	to 22	20	to 21	20½	to 21½	20	to 21½
Calf Skins, 30 to 40lb p. doz.		38	to 43	36	to 41	38	to 42	38	to 42
Ditto, 50lb. to 70lb. do.		38	to 42	36	to 40	36	to 42		
Ditto, 70lb. to 80lb. do.		36	to 39	36	to 38	36	to 39		
Sea. Seals (Greenland)		36	to 40	39	to 42	36	to 42	36	to 42
Large do. (per dozen)		61	to 91	61	to 81	61	to 91	61	to 91
Goat Skins per doz.		—	to —	—	to —	—	to —	—	to —
Tanned Horse Hides pr hide		25s	to 38s	25s	to 36s	25s	to 38s	25s	to 38s
<i>Price of Tallow.</i>									
St. James's Market	—	4	11½	4	0½	4	1	4	1½
Clare Market	—	3	11	4	0	4	1	4	2
Whitechapel Market	—	3	10½	3	11	4	0	4	1
Per stone of 8lb. Average		3	11	3	11½	4	1	4	1½
Town Tallow	—	67	0	69	0	79	6	70	6
Russia (Candles)	—			68	0			69	0
Russia ditto (Soap)	—			67	6				
Melting Stuff	—	58	0	57	0	57	6		
Ditto rough	—	38	0	40	0	40	0	40	6
Graves	—	10	0	11	0	11	0	11	0
Yellow Soap	—	86	0	76	0	76	0	76	0
Mottled ditto	—	86	0	86	0	86	0	86	0
Curd ditto	—	90	0	90	0	90	0	90	0
Candles per doz n	—	11	0	11	0	11	0	11	0
Moulds	—	12	0	12	0	12	0	12	0

LONDON PRICES OF GRAIN, for *December, 1805.*

MARK LANE, *Monday, Jan. 6, 1805.*

Similar to our last Monday's report, fine samples of Wheat, at the early part of the morning, found buyers at an advance, but towards noon there was a decline, reducing the currency to nearly the standard of last week. We had a good deal of Red Wheat up, which went off heavily.—Rye is much dearer. Barley is likewise in demand, with rather better prices.—White and Grey Pease are in plenty, with no material variation in price.—Old Beans are still scarce and dear, but New Ticks are in plenty, and cheaper.—Oats, a large supply, and, upon the whole, rather lower.

Price of Grain, on board Ship, as under.

Wheat	50s 63s —s	White Peas	34s to 38s od	Beans, Old	56s
Fine	64s to 65s	Boilers	40s to 42s.	Tick, new	22s to 28s
Superfine	66s to 68s	Suffolks	—s to 44s	Ditto, Old	—s to 47s
Rye	30s to 38s	Grey Peas	32s to 36s	Oats	20s 25s to 32s
Barley	32s to 37s	Beans, new	32s to 40s od	Polands	33s to 35s od
Malt	64s to 70s od				

Monday, Jan. 13.

Although our market was but sparingly supplied with Wheat to-day, and the buyers numerous, yet these concurrent circumstances produced no advance in the price; on the contrary, the trade, from an expectation of larger imports, closed heavily at less, upon the whole, than on Monday last.—In Barley, our arrivals were middling, that article fully sustained its value.—Malt is dearer.—White Pease come freely to hand, and remain nearly about last reported prices.—Old Beans continue scarce. New Ticks are somewhat improved in value.—Oats are arrived in plenty, and are rather on the decline.—In other articles, no material alteration.

Wheat	48s 56s to 66s	White Pease	30s to 36s	Ditto, old	58s
Fine	68s to 70s	Boilers	38s to 42s	Tick, new	22s to 30s
Superfine	71s	Suffolks	—s to 43s od	Ditto, old	49s
Rye	34s to 43s	Grey Peas	30s to 36s od	Oats	23s 27s to 31s
Barley	30s to 37s	Beans, new	32s to 36s od	Polands	32s to 33s od
Malt	68s to 72s od				

Monday, Jan. 20.

We had a very plentiful supply of Wheat up for this day's Market, and which, with a considerable quantity left over from last week, occasioned not only a heaviness in the sales, but a reduction in price: some few select samples of the fine White have kept up to near last currency; but the Red and other sorts were cheaper. Barley likewise is a declining article, having much at market. Fine Malt is rather a short supply, and without alteration. White and Grey Pease are in plenty, and lower. Having a demand for Old Beans, that article maintains its former price. The Oat Trade is dull, there being a large quantity on hand, with many fresh arrivals.

Wheat	—s 48s to 60s	White Peas	28s to 34s	Ditto, old, to	57s
Fine	64s to 66s	Boilers	35s to 40s	Ticks, new	24s to 30s
Superfine,	70s	Suffolks,	—s to 42s	Ditto, old, to	50s
Rye	36s to 41s	Grey Peas	30s to 34s	Oats	22s to 26s 28s
Barley	28s to 34s	Beans, new	30s to 38s	Polands	30s to 31s od
Malt	64s to 72s				

Monday, Jan. 27.

Our supply of Wheat to-day was a tolerable good one, and mostly from Kent and Essex; in respect to sales, they were dull, and prices lower, say two shillings per quarter, with the exception however, of a few fine Essex samples, that constantly obtain purchasers at high prices, let the others sell as they may. Barley, as well as Malt, are drooping article. Grey Pease, likewise, are cheaper. White Pease and Old Beans are scarce, and in course not lower. We have but a moderate supply of Oats, and which have advanced from one to two shillings per quarter since this day fortnight.

Wheat	—s 48s 60s	White Peas	28s to 34s	Ditto, Old	56s
Fine	65s to 69s	Boilers	35s to 40s	Ticks new	24s to 31s
Superfine	70 72s	Suff lks	—s to 42s	Ditto, Old	50s
Rye	33s to 41s	Grey Peas	30s to 33s	Oats	—s 25s to 30s
Barley	27s to 33s	Beans new	30s to 36s	Polands	31s to 32s od
Malt	64s to 70s				

AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per Boll, of 140 pounds Avoirdupoise.

From the Returns received in the Week ended, January 18, 1806.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye.		Barley.		Oats.		Beans.		Peas.		Oatmeal	
	s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d. s.	d.
Middlesex	71	141	033	532	741	642	7							
Surrey	74	035	033	230	840	839	6							
Hertford	67	041	033	829	241	640	3							
Bedford	63	941	231	325	237	10								
Huntingdon	63	8	31	422	031	236	11							
Northampton	62	1043	031	424	245	633	0							
Rutland	69	3	35	324	038	050	062	0						
Leicester	74	644	336	1024	1044	352	439	9						
Nottingham	73	449	039	86	044	443	2							
Derby	78	10	40	428	849	046	038	2						
Stafford	80	9	42	627	251	4	40	3						
Salop	83	551	042	325	648	042	263	7						
Hereford	81	751	240	425	239	1137	264	11						
Worcester	84	4	40	829	646	543	6							
Warwick	81	6	40	629	353	149	847	8						
Wilts	73	8	33	827	455	040	0							
Berks	74	8	31	228	741	1142	5							
Oxford	72	7	33	126	941	1141	0							
Bucks	70	1	30	926	842	1139	3							
Brecon	94	47	747	224	0	37	445	9						
Montgomery	84	9	46	52	4	40	050	10						
Radnor	87	10	43	522	9	44	9							

Maritime Counties.

Essex	72	433	033	033	044	736	0							
Kent	71	035	031	336	044	050	0							
Suffex	70	0	32	636	8									
Suffolk	65	6	31	24	229	133	9							
Cambridge	62	736	1027	619	1128	534	030	0						
Norfolk	62	635	828	223	729	033	0							
Lincoln	67	437	832	922	043	145	6							
York	63	1145	632	723	343	1054	640	6						
Durham	68	3	37	725	2									
Northumberland	61	946	033	226	432	040	018	6						
Cumberland	72	958	139	925	2		22	6						
Westmoreland	77	1059	037	827	7		21	8						
Lancaster	71	10	48	227	048	9	23	2						
Chester	72	2	46	424	4		23	1						
Flint	71	4												
Denbigh	81	6	48	622	451	344	945	10						
Anglesea			40	020	0									
Carnarvon	79	8	39	421	0		49	3						
Merioneth	89	10	46	022	7		48	10						
Cardigan	80	8	33	818	0									
Pembroke	66	6	36	219	1									
Carmarthen	90	5	36	818	8									
Glamorgan	92	4	41	91	24									
Gloucester	85	11	39	105	2652	1043	11							
Somerfet	82	5	39	95	2143	142	10							
Monmouth	89	2	41	8										
Devon	86	8	37	124	6									
Cornwall	85	1	36	824	2									
Dorset	74	7	33	1036	1									
Hants	72	0	32	131	438	041	0							

TO CORRESPONDENTS.

X. Y. and "A Sussex Farmer," (as well as a Letter from Sussex,) will be attended to without delay.

From the Gentleman who promised us some Philological Assistance, we have not heard since he left town;—we beg his early attention.

We would like to give "a Drawing of the Turnip Seed Machine, originally constructed by Mr. Bailey," if possible, from the means in our possession.

And we should be glad of Drawings of English Scythes for mowing Corn, that we may, by graphical aid, enable our Readers and Correspondents to judge of the best.

ALPHABETICAL INDEX

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THIRTEENTH VOLUME

OF THE

AGRICULTURAL MAGAZINE.

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