Method of Harvesting Corn in wet weather.

Fig. 2.

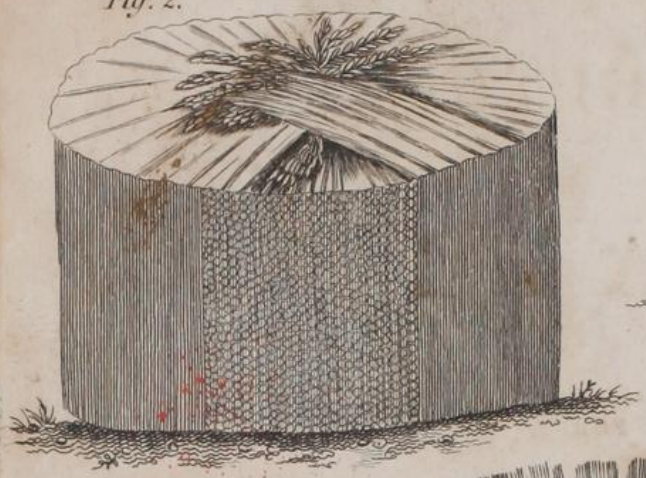

Fig. 1.

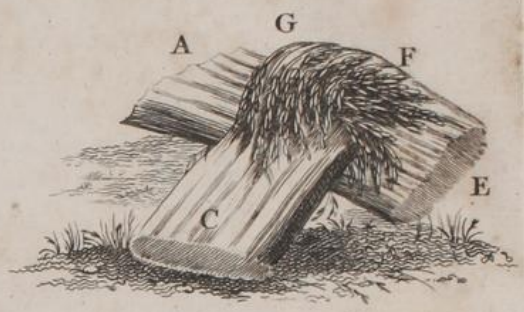

Fig. 4.

Fig. 3.

lished July 30, 1803, by
Faths, Paternoster Row.

THE AGRICULTURAL MAGAZINE,

FOR

1803.

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. IX.

FROM JULY TO DECEMBER,

INCLUSIVE.

LONDON:

PRINTED AND PUBLISHED BY VAUGHAN GRIFFITHS,
PATERNOSTER-ROW.

PREFACE.

IN the midst of clamour, of contention, and the din of arms, we see with peculiar pleasure that the peaceful pursuits of Agriculture are not neglected. Our readers will acknowledge, that when exterior commerce is obstructed by the confusion of general hostility, every prudent state will attend especially to the means of internal improvement, that the supplies of the substantial articles of life may be abundantly provided, and that the country may be rendered independent of all foreign assistance for its support.

It is not long since those serious inconveniences were felt (whether from neglect or misfortune, we need not determine,) which awakened the fears, and exerted the talents of every friend to public security and happiness. Since that period, it is with heightened satisfaction, we have endeavoured by the circulation of this work, to contribute our mite to enlarge the sphere of agricultural knowledge, and to multiply the resources of human subsistence; and we hope it will have been found in our attempts to diffuse useful information, that we have selected those topics which best deserve public attention. This selection is all the merit to which we aspire. The sterling value of the seperate papers, is to be attributed to the talents of our correspondents, and the greatest consolation we have in the periodical addresses we subjoin to each volume, is the opportunity they afford us of paying the just debt of gratitude to those who have thus conduced to the support of our publication.

If we occasionally advert with pride, and with triumph, to the contents of this work, either for the utility of the subjects to which it is directed, or for the attainments dis-

played in their elucidation; we beg it may be understood, that we are not announcing our own praises, but directing the applause of the public where it is most justly due; to our liberal and enlightened correspondents.

To these we must submit a few personal observations.

As a publication of this nature can alone maintain its superiority among the fugitive productions of the times, by a concentration of general talent, we have seen with particular pleasure, not only a rapid increase in our epistolary connections, but a disposition on the part of our friends to insure the reception of the work, by the continued exertion of mature abilities. If among the multiplicity of communications with which we have been indulged, we have been obliged to exclude a considerable portion, we hope it will be remembered, that this exclusion has been permitted on very few occasions, excepting when the discussions have been directed to matters unconnected with the nature of our undertaking, or when that temperance has not been correctly preserved, which our respect to our correspondents will ever dispose us inviolably to maintain.

We avail ourselves of the present address, to return our thanks to the members of those Agricultural Societies who have transmitted to us their proceedings, and we implore the continuance of these communications, which we consider among the most valuable materials of our work.

E.

THE
AGRICULTURAL MAGAZINE.

No. XLVIII.] JULY, 1803. [Vol. IX.

METHOD OF HARVESTING CORN IN WET WEATHER, AS PRACTISED IN THE NEIGHBOURHOOD OF MONS, IN THE DEPARTMENT OF GEMAPPE.

WITH A PLATE ANNEXED.

THE method of preserving in wet weather, corn in the sheaf, consists in making small stacks or ricks of it, in the field where it is grown, and as soon as it is cut. Each stack contains the quantity of fifty or sixty sheaves, and will be about six or seven feet high.

For this purpose the driest parts of the field should be chosen, and those sheaves which are first laid down, placed in such a manner that the ears of corn do not touch the ground. In order to understand the mode of doing it, see the Plate, Fig 1. You place upon the ground the first sheaf A, upon which you put a second C, but observe well that the ears of corn of these sheaves are put in the centre in the midst of the stack as after-mentioned; and that the heads of all the sheaves as the stack is making, are so placed that the corn be in the centre of the stack, and the straw on the outside thereof.

Upon the second sheaf C, you are to place a third sheaf E F G, and this requires some skill, the ears of corn of the third sheaf lie upon those of the second, and are thus preserved from the moisture of the earth, but it is not so with the ears of corn of the first sheaf laid upon the ground, which would be liable to humidity, you must therefore double the third sheaf E F G in F, and make the thick end of this sheaf pass under the ears of corn of the first sheaf A, as is shewn in Figure 1.

You will observe by this arrangement that the grain does not touch the ground in any part, and that by this means it is supported on all sides by the bulk of the sheaf E F G. This construction forms a foundation or point of support, upon which all the other small sheaves are placed in the form of a round tower.

Although to distinguish the sheaves from each other, a small space or void is left betwixt each sheaf in the figure; you ought to consider these spaces filled with sheaves, for when you make your stacks they will be completely so, as you will observe by Fig. 2, where all are filled. You must be particularly attentive not to leave any holes or intervals by which wa-

ter can penetrate the stack as it would cause such a moisture as would occasion the grain to sprit or grow.

When the three primary sheaves have been arranged, in the manner I have noted, the greatest difficulty is overcome, as it is then only necessary to lay other sheaves on the sides of the three first, to fill up the spaces betwixt them, observing always to place the heads of the grain of each sheaf upon the ears or heads of the three first, as you proceed in forming the stack.

When the whole space is thus filled, you place upon the first circle of sheaves another layer of sheaves close together in a similar manner; when the second row is completed, you proceed with a third and fourth row, and so on until your stack is about six or seven feet high.

As in placing all the sheaves upon the first layer, the heads of the corn are always placed and crossed over each other; the middle of the stack is thus always something higher than the outside circle, which therefore forms a little descent for any water which might penetrate, but this descent is not sufficient, because though the top of the stack should be always covered by a kind of straw roof, as I shall describe, yet if this roof should by some accident be deranged so that the water should penetrate it, if the descent of the sheaves is not sufficient, the rain might get into the stack and occasion the grain to germinate; therefore to prevent this accident the outside of the sheaves should be pulled a little with the hand, which will give to the stack nearly the shape or form of a boy's whipping top reversed.

It now remains to form a cover or roof for the stack, which covering is made by a bundle or great sheaf of corn sufficiently large to cover the top of the stack, and to over spread it some inches all round.

The third figure represents this cover or the great sheaf open and ready to place upon the stack when it is put upon it, the straw part of the sheaf is uppermost, and the ears of corn hang downwards round about the stack. To render it firmer it is tied round with a strong cord, and as near the end as possible, to give it a greater height, and to make it cover the stack better.

You will remark that this bundle or sheaf being open almost to its extreme end, and forming as you will see from the Fig. 4, a kind of umbrella, when placed upon the stack it will prevent the rain from penetrating, as when it falls upon it the water will glide along it and run off from its lowest edge; you must be particular to place this cover in such a manner that the middle of it corresponds with the middle of the stack, and that it regularly covers the whole.

This cover is more firmly attached to the roof by means of

three bands or ropes placed triangularly, these ropes or bands are made of straw taken from the sheaves, or from grass or weeds, of which there is usually plenty to be found in the field. These straw ropes are twisted by the hand into some of the straw of the cover, and the lower ends of them fastened to the stack or the ground by wooden pegs, as shewn in Fig. 4, where two of the bands are represented at H H, and the pegs at I I.

If the season is very wet, but yet the rain not incessant, but the weather fair for only three or four hours, and we do not cut down the whole field of corn, but only such a part thereof as can be put in the sheaf, and stacked immediately. What is thus put in the stack is safe and secure from the rain. If the rain comes on suddenly the corn which is cut is left upon the ground, because when left open it is less subject to sprit, and if the weather becomes fair, two hours time will be sufficient to dry it, it should then be collected and immediately put in the stack. If the rain comes on, the work should be stopped till it is again fair weather, for the corn which has been thus stacked dry is certain to be good.

Whenever an opportunity offers of a few hours fair weather every person should be employed to expedite the work, and if plenty of hands can be got, a large crop may be secured in three or four days.

In the usual mode of harvesting corn much labour and time are necessary after the corn is cut, and it remains also long exposed to the weather, but in the plan here recommended, as soon as it is cut and collected together it is put in the stack and finished.

Another advantage in our method is that the corn ripens and improves in the stack both in quality and colour, by a gentle fermentation attending it.

After the corn has been all put in the stacks as I have described, and the weather sometime after becomes settled, you should begin to uncover the stacks at about eight or nine o'clock in the morning, the cover should be laid in a reverse situation, namely, with the ears of corn uppermost, in order to dry better, then take in your arms the sheaves of corn from the stacks, and lay them in heaps of the size of a large sheaf for two or three hours, till the moisture is evaporated, then bind them in large sheaves, and cart them to the barn.

This practice has been pursued in different districts of the country with great success, and upon corn mown with the scythe, as well as that cut or reaped with the sickle.

ON TITHES.

To the Editor of the Agricultural Magazine.

SIR,

DR. ANDERSON says truly, that " Agricultural Improvements are effected by the expenditure of money, in labour and manure. Every person applying his money for these purposes, does it with the view of being repaid the interest of his money with profit. The profits depend entirely on encreasing the produce of the soil: no increase, no profit. Great produce alone can create great profit, of course, the exertions of the husbandman will be stimulated by every circumstance that has a tendency to add to the amount of that produce, as they will be slackened by every circumstance that tends to diminish its amount; consequently, the Tithe which takes from this undertaker one-tenth part of such produce, must diminish his produce, his profits, his exertion, and be a great obstacle to agriculture."

The four first presidents of the Board of Agriculture, have severally expressed to me their decided opinion, that Tithes are most oppressive to national agriculture.

The advocates for the cause of Tithes, calumniate the people of England, by saying their national Clergy would not be well supported by any other means. How happens it, that for ninety-nine parts in one hundred of the whole world, no Tithes are paid, and yet their Clergy are well supported. Tithes are not known to the people in Asia, nor are they known in Africa; the land, and the cause of religion in America, are equally benefited by freedom from Tithe. The most populous nation in the world, (China), with a government that has continued beyond all comparison longer than any other, a nation highly polished and of consummate knowledge, never resorted to Tithes, for the support of its Clergy. The religious Hindoos have no Tithes to support their superior piety. The teachers of the Mahometan religion, are supported in a great many nations, over an immense extent of country, without Tithes. They are not paid by one-tenth part, even of the christian world. In Europe, they are only paid in two states, (besides England and Ireland) and those two are of the least consequence, of the greatest bigotry, and with whom general knowledge is at the lowest ebb. Spain, Portugal, and the too generous English and Irish, are supposed to be the only people in the world, who submit to the payment of an impost, so outrageous to human feelings.

Tithes are not paid in Scotland, and yet the Scottish Clergy, not only are supported but esteemed, and they render themselves deservedly esteemed, by residence and peaceable christian-like behaviour. The superiority of their acquaintance

with their respective parishes, renders them much more useful to government, than their brethren in the south. The great body of information communicated by them to Sir John Sinclair, and published by him, as a statistical account of Scotland, exceeds every thing done by any church in the world. This is a monument, durable as marble, of their pre-eminent worth. The clergy of Scotland accomplished this great work without Tithes, which no national clergy can do under any system of Tithes. Every modification of Tithes, puts a stop to all communication of a statistical nature, from the parishioners to their priest. Thus by means of Tithes, the king and his ministers are deprived of the easiest means of obtaining the most certain and full information of the state of his dominions.

Agriculture is the science which feeds the people, and in the hands of a wise legislator, may be made the means of multiplying or encreasing the population of the nation, to almost any extent. A numerous population cannot be raised and supported by any other means, than such as encourage the plough. Population is repressed by the difficulty of procuring plenty of wholesome food. More persons die, owing to want of food, than to any other single cause; many are lost through want every year, but in the dearth of 1800, the deaths within the bills of mortality encreased 5000. Great Britain and Ireland are about fifteen times more populous than London, and as the scarcity of grain prevailed, even more in many of the provinces than in the capital, it is highly probable in that year, there died in this nation, through insufficiency of good food, upwards of 75,000 persons. This great mortality fell principally on the industrious poor and on their children, who were carried off in great numbers, of complaints which originated in too low a diet. A spirited system of agriculture may be carried on more and more towards perfection, till every acre be tilled, and in plenty supports its owner. Shall the tithe laws repress the energies of man, keep the produce of the earth down to a quarter of what it is capable of, and blight the population to ten millions which is capable of being forty? Forbit it, ye legislators, forbid it, all ye powers of heaven.

I am yours truly,

Lambeth, June, 1803. JOHN MIDDLETON.

ON SMALL FARMING-STOCK AS PREFERABLE TO LARGE ANIMALS, AND ON THE CROSSES OF SPANISH WITH ENGLISH SHEEP, IN ANSWER TO PRACTICUS.

To the Editor of the Agricultural Magazine.

SIR,

IN the desultory remarks of mine, on the subject of fine wooled sheep, which you have done me the honor to publish in your very interesting Miscellany, it may possibly have

occurred to you that I have stated my sentiments with a certain degree of diffidence and reserve, and feeling forcibly as I certainly do, the deference which is so justly due to an enlightened public, it is a mode of procedure, to which I shall, on all occasions, most studiously adhere.

When facts enter into the consideration I may be pardoned, if these are introduced with rather a greater degree of confidence.

Your Correspondent *Practicus*, however, hath thought fit to disallow every thing I have advanced, in direct, unqualified, terms of assertion. The proofs, or at least the satisfactory reasoning from whence these assertions are deducible, may possibly be brought forward in the future progress of his promised correspondence.

Respecting the contents of some letters of mine, addressed to C. H. Hunt, Esq. and afterwards inserted in the Gentleman's Magazine, they were published without my consent or knowledge, and very probably the circumstance never would have been known to me, but for a letter of apology I received from Mr. Hunt, stating it as likely to have arisen by means of a friend of his to whom he had lent the original for perusal, and although in a private and friendly communication, I might have expressed an opinion in terms somewhat more pointed than might have been thought suitable for general inspection; yet I perceive not hitherto, any valid motive for retracting in the slightest degree.

It is said that I found my "Theory on a false principle," because "I prefer small to large stock," the conclusion I readily acknowledge, but the principle remains to be better appreciated, and this requires something more than naked assertion. For myself, I hesitate not to say that I am so far satisfied with its propriety as to act upon it, and this not only from a good deal of observation, but from some comparative instances. At the same time nothing could have been more distant from my wish or intention, than that any opinions of mine should be adopted in practice, unless by reiterated experience decisively authenticated they should appear not to be founded in error: my only aim being to excite more general enquiry.

In preferring small to large stock, your Correspondent says, I am singular and stand alone; had this been the case, resolution certainly would have failed me in submitting my remarks to the public; but I am sanctioned by very many gentlemen, and respectable common farmers, not in opinion merely, but who are *blind enough* to adopt a system which he conceives to be built on false principles, these also satisfied with the system, persist in it.

Gambling, as such, I by no means approve; but if a *bet* were instituted to certain objects, interesting to the public, it would have my acquiescence; suppose, for instance, to ascertain the relative profit on feeding large and small sheep! imagine one breed to be very small, the other the largest, or 10lb. per quarter, against 50 lb. or 60lb. if such could be found, an open subscription for 500 guineas a-side merely to cover the expences incident to the experiment, I should certainly incline to the side of the smaller; but rather than the point should remain undetermined, I would readily subscribe to either; I conjecture the subscription would soon fill up on one side. I am aware of some difficulties to be encountered in conducting the experiment, but think them not insurmountable.

Not many weeks ago I had an opportunity of visiting a very respectable farmer, on a pretty extensive scale in Wiltshire. During the first twelve or fifteen years of his practice, his flock consisted entirely of Wiltshire sheep, for the last ten or twelve years South Downs have been substituted.

The comparative superiority of the latter in point of profit I shall forbear to specify at this time, lest your Correspondent, conceiving it to be an exaggeration, might be tempted to dispute; but I will beg leave to state that this gentleman values himself not a little by reason of his having first introduced into the county what he considers to be a very important improvement, but which probably your Correspondent may term "a mischievous innovation," for the South Down are not only much lighter in carcase than the Lincoln, but also than the Wiltshire; and in the latter both in fleece and carcase. His flocks consisting of about 1600 breeding ewes, are the small even of the South Down; and this by studious selection. In the space of a few minutes he enumerated some principal farmers, of his acquaintance in the neighbourhood, who had adopted the "innovation," and whose aggregate flocks might amount to 40,000 sheep, is not then this "Innovation" rapidly extending?

Practicus seems at a loss to account for the difference between the price quoted in a former letter for fleeces of the Spanish admixture (3s. 2d. per lb.) and the actual price of wool imported from Spain, which he states correctly enough for our purpose, to have been 6s. 6d. per lb. Now in this instance at least, it must appear evident enough to *practical men*, that the signature he assumes, is not altogether appropriate. For *his* information therefore (seeing practical men need it not) I shall endeavour to furnish an outline idea, for if we descend to that sort of minutiæ which persons who are the least conversant in any subject, are the most apt to require, we should scarcely ever arrive at the end of the chapter.

It will be recollected in the first place that the fleeces referred to were the produce of the first cross with Ryeland ewes; the fleeces of the latter worth 2s. 2d. only; but the medium or price sold at 3s. 2d. per lb. must be taken as the result of the combination in equal proportions of the Spanish ram with the Ryeland ewe; whence the estimate of the entire *unwashed* Spanish fleece would be 4s. 2d. per lb. a price *sufficiently* correspondent with the actual price of wool imported from Spain; but in quoting the price of wool imported from Spain, I understand it is customary to name *that* of the first fineness designed here by the technical mark R. answering to the Spanish *Rafinos*, the price of this may be taken with Practicus at 6s. 6d. there are two other classes or assortments denominated F and T: from the datum, F then would be about 4s. 6d. and T 3s. 6d. the average resulting 4s. 10d. or still 8d. per lb. above the Anglo Spanish; but the price 4s. 2d. applies to the unwashed fleece, whereas it is well known the Spanish brought here is previously washed, assorted, and classed in the manner adverted to. Should Practicus still remain doubtful I must beg leave to refer him for further information to the manufacturer, who has obligingly furnished me with some of the notices on this point, who has also been an attentive breeder of Spanish sheep during a period of ten or twelve years past, a gentleman not less distinguished for the accuracy of his judgment than for that liberality of sentiment which impels him on all occasions, freely to communicate whatever might be thought conducive to the general prosperity of his country. I am warranted in saying that Practicus would experience from him a cordial reception, and I should feel a peculiar degree of pleasure in the opportunity of introducing the latter, if at any time he should happen to make an excursion from the *Metropolis* to this quarter of the country; and notwithstanding the gentle goadings of his, I can assure him, I should experience no less pleasure in paying him personal respect at his residence, provided he would condescend to point out his address, and opportunity on my part should at any time offer.

Your Correspondent further asserts, " Mr. Bartley must have known that two Lincolnshire sheep, exhibited at a prior Woburn sheep shearing produced fleeces which weighed together 35 lb. or 17½ lb. each," after answering that the circumstance was unknown to me, I am willing to admit the accuracy of the statement, and the more so, as I have known instances wherein upwards of 20 lb. per fleece have been produced from the same kind of sheep; but I do not recollect the *weight* of the animal producing it: the consideration of *weight* indeed would be irrelevant, if with Practicus we suppose that an animal of 60 lb. per quarter would not consume a greater quantity of food than another of 10 lb. per quarter, and when-

ever the supposition by experience shall be converted into an established fact, not a shade of difference on this point will exist between us; mean time he will suffer me to hold my opinion that the former would consume not only six times as much as the latter, but in a still greater proportion.

Your Correspondent, Sir, could not possibly have been more unfortunate than in his assertion, that "Mr. Bartley's sheep are always kept in high condition, for certain private reasons." It was an intrepid conjecture expressed in terms no less intrepid. The plain fact, however is, that during the two preceding winters, my sheep have been invariably exposed to all weathers without even a shed to shelter occasionally; their best feed moderate pasture, abundantly stocked, sometimes with the addition of raw potatoes; in snowy weather, a little hay, and nothing more. But in the last winter, I am sorry to say, they were kept most miserably, and a most miserable appearance they made in the month of February, insomuch, that I was literally ashamed to see them. They had been removed from their former situation, and put out at a certain price per head. None of them died it is true, but in this my hopes were exceeded. I relate these circumstances in open day, if *untrue*, they may be controverted, for many who will peruse your publication may witness.

In February, they were removed to *better*, and for about seven or eight weeks past they have fed on very good *pasture*, and are now altogether (the ewes with their lambs) in tolerable condition.

I recollect that in a former letter (inserted in your Miscellany, which is not before me) your Correspondent started his doubts, in pretty strong terms, as to the fidelity of a statement previously made of some ewes of mine having produced fleeces weighing 6½ lb. each, at the same time interrogating, if these fleeces were not the growth of two years. It would have been a despicable sporting with the public, a wretched subterfuge! But in this country I never knew a single instance of a sheep carrying a two years coat; and what kind of sheep must they be to carry it? Not the favourites of Practicus, I presume, seeing the eagerness with which they seem pre-disposed to strip themselves! He mentions, indeed, something of an invention or stratagem of his to *check*, or perhaps, to subdue this untoward propensity as well as to increase the fleece from two to eight pounds. It is to be hoped the public will not be long without the benefit of the discovery. I have heard that on the continent some Spanish sheep in the way of experiment, have been suffered to retain their coats two years, and I have seen specimens of wool said to have been thus produced of extreme fineness and surprising length, whether the prac-

tice would be more a matter of curiosity than of utility, I must leave to the consideration of others, and returning to the subject, I must beg leave to assure you that some of my emaciated ewes this season produced upwards of 8 lb. per fleece, the identical ones that had produced 6½ lb. the preceding year with better keep, and on the average of the flock, the weight considerably exceeds that of any former year.

I would wish to particularize the only four wether sheep in my possession, in the winter they accompanied the ewes.

	Weight of the fleece.	Weight of living carcase after shearing.
No. 1.	7½ lb.	92 lb.
2.	9½	102
3.	10¼	96
4.	8	96
	35¼	

The fleece of No. 3, in the year 1801, then a yearling, weighing upwards of 9 lb. obtaining a premium, as for the *best and most valuable fleece* exhibited; and it may be worthy of notice, that at a shearing it had acquired 62 lb in weight of carcase, and during two years since that time 34 lb. only; a consideration from which some might be apt to infer, early habits in this breed of acquiring maturity of size. These wethers are now in fair condition for the butcher, and would obtain the very first price of this market; but I shall spare them from the knife, as I think their wool *only* will produce double at least the cost of their feed.

The person who sheared them, a butcher, an intelligent man, and formerly in extensive business, is of opinion they never would be made to reach 3 lb. per quarter additional weight, by any mode of feeding, or by any further length of time.

I have not the least objection to the statement of the syllogism which your Correspondent assumes for me, i. e. that "Sheep are more profitable than cattle; but sheep are profitable from their smallness; therefore the smaller cattle are more profitable than the larger cattle." All this I have repeatedly avowed to be *generally* my opinion; and hitherto I discover nothing advanced by Practicus tending in the slightest degree to invalidate that opinion. But his deduction that ewes might hence be recommended for the dairy instead of cows, seems to be trifling unanalogical and unhappily imagined.

Let us see what sort of deduction would flow from *his* principle, by adopting the same method of argumentation: *Cattle are more profitable than sheep; but cattle are profitable from their largeness; therefore the larger cattle are more pro-*

fitable than the smaller cattle—whence by *analogy*, elephants in all cases ought to be recommended, &c. ! !

Impressed with an idea of his gigantic powers—Practicus imagines to convey similar impressions to others, for he insinuates, that to guard against his formidable attacks, I had placed myself behind what he terms " an inviolable species of shelter."

It is true, that in one of my letters I was led amongst others, to offer an humble tribute of applause to a very high character, which I hope may be pardoned from the consideration that I thought, and still think it to have been well merited; and I was ambitious also to record the circumstance in a *work* like yours, *which*, judging from the past, I incline to think will acquire no small share of agricultural celebrity.

Far from declining temperate discussion, however, I wish *to provoke it*; and *it is* my prime object in addressing you; but then it is a discussion, resulting from comparative facts and experiments, that I could wish might be substituted for vague speculative assertions: this would be fair discussion: this would be to reason from facts; and nothing short of this I conceive will ever advance the science of agriculture to any very beneficial purpose.

I remain, Sir,

Your very obedient servant,

Bath, July 13, 1803. NEHEMIAH BARTLEY.

P. S. Since the foregoing, I received a letter from a gentleman, to whom I had sent some ewes and a Spanish ram, one of their offspring, for his inspection and optional purchase; I did this because few individuals are better known, or stand higher in the walks of agriculture, both for accuracy in judgment, and skill in practice, especially in the opinion of *common* or *practical* farmers.

COPY OF HIS LETTER I CRAVE PERMISSION TO SUBJOIN.

DEAR SIR, *Stert, near Devizes, July* 12, 1803.

As far as my judgment goes, the wool of your sheep is in quantity and quality very extraordinary, though I cannot but be apprehensive, that it will waste much more by washing than your man speaks of; be that as it will, the value must still be great, and I consider it as a great national object to encourage the breed, especially, as by what I can judge in handling them, there are few sorts have a greater aptitude to fatten. I am, therefore, upon the whole, inclined to keep the ram, if the price be not too high; and fully employ him with the finest wooled South Down or Ryelands, if I can get them.

You will be so good as to mention the lowest terms of all together, and if it be not too much, I will remit you immediately.

Yours sincerely,

(Signed) JOHN GALE.

In your Magazine for October last, read *Collision*, instead of *Collection*. And for April, read *successively*, for *successfully*.

THE MANUFACTURING OF RICH CHEESE IN ENGLAND AND IN LAPLAND.

To the Editor of the Agricultural Magazine.

SIR;

A PRETTY general complaint at present prevails respecting the quality of most kinds of cheese, which are manufactured in various parts of England. This complaint, which states, that cheese is by no means what it was used to be; that it is robbed of all its richness, and that it does not contain butter in sufficient quantity to give it either its former and proper mellowness and flavour, cannot, I presume, be entirely groundless, and therefore I wish to bring forward a few hints for the consideration of our dairy women in general. I wish to impress it upon the mind of every dairy-maid, that when she takes too freely of the cream from the milk of which cheese is to be made, that she is a robber in every point of view; she even most materially robs *herself*, as well as the cheese, and the community. For I know from my own observation, and from the information of experienced and excellent judges, that a gallon of milk from which a pound of cream has been taken, will produce, after the infusion of the rennet, less curd by a pound and a half than the same quantity of milk which is made to coagulate with the whole of the cream left in it. And, in this case, the curd is likewise of an inferior quality, and the cheese made from it will lose its weight, in drying, in a very high degree, compared with that which possesses its entire fatness. Indeed, it is even asserted, by those who are conversant with the dairy management, that thick cheese of the richest quality will not suffer a diminution of more than one pound in ten of its original weight, if properly kept for the space of twelve months; but, that cheese of inferior quality, will lose one-third of its weight in the same time. Thus it appears, that the dairy-maid, who is led away by an undue partiality for the production of butter, and by present profit, subjects herself to a loss in the quantity, in the quality, and in the final weight of her cheese: and these losses are felt by the public in an accumulated degree.

These things, Mr. Editor, cannot be too strongly insisted upon, or too frequently repeated. And as you have admitted hints of this nature before, I hope you will not refuse these remarks insertion in your instructive and improving miscellany.

It may be objected, however, by the dairy woman, that leaving all the butter in the cheese will render the process of manufacturing it more difficult, in order to keep it sweet and palatable. I allow that more attention will, in this case, be requisite, and more trouble in breaking and working the curd: but attention and trouble will fully effect this, and I believe that there are few who are occupied in this business, that will think these too high a price to obtain so desirable an object as rich and well flavoured cheese. There is, besides, a powerful auxiliary which may be resorted to on this occasion, which I first saw recommended in your Magazine some time ago, and that is, to salt the milk intended for cheese as soon as it is taken from the cow: this will very materially lessen the trouble in the process of the dairy, and this I have prevailed upon several dairy maids in North Wilts to adopt, and with great success. And one ounce of salt used in this way, will have nearly as salutary an effect in the curing and preservation of cheese as two ounces used in the common mode.

As I am writing upon the subject of milk, I wish to mention, for the amusement if not for the instruction of the females who occasionally dip into your Magazine, the methods of preparing, using, and preserving this article in Lapland. The milk, however, there used, it is to be understood, is the milk of the rein-deer: a species of milk of a much richer quality than that which is produced by our cows.

The process of the inhabitants of Lapland is thus described by Joseph Acerbi in his Travels to the North Cape; "Cheese," says he, "is made from the milk of the rein-deer in the following manner: The milk has water mixed with it, otherwise, owing to its extraordinary richness, it would not curdle when the rennet is put in it." I would not advise our females to read this part of the narration as instructive, but only by way of amusement; for they may depend upon it, that, the milk drawn from cows either in Lapland or England is never "too rich to curdle," but will coagulate sooner without the addition of water than with it. This writer then adds, "when a sufficient quantity of water is added to the milk, it is set over the fire to be heated, and after this has been sufficiently done, the rennet is thrown into it; the whey is soon separated from the curd, and the latter is taken out and wrapped up in a cloth to be pressed; after which it is moulded in a round shape: it is eaten cold, or boiled or roasted. When held before the fire, it is found so fat that it is in danger of taking fire, and if permitted to do so, it will flame like a candle." This part of the

relation I do hesitate to recommend to the consideration of our dairy women, in order to excite in them a degree of shame, when they are told, that the coarse and undistinguishing appetite of a Laplander is indulged with a much richer species of cheese than is ever presented to the luxurious and refined taste of an Englishman.

The rennet used by the Laplanders upon this occasion, is likewise worthy of observation. It is obtained by steeping the sound of the cod fish, or the intestines of the rein-deer in a quantity of butter milk.

The mountain Laplanders, likewise, we are informed, make butter of the rein-deer's milk; but as they take in the whole substance of the milk, it is of a white colour, and not so well tasted or fat as that of the cream of cows milk, used for that purpose by the maritime Laplander, who has but few rein-deer. In making their butter, the women use their fingers only, stirring the cream about with them, till, as commonly expressed, the butter comes, or till it acquires consistency.

These people have other extraordinary methods of preserving and preparing milk for food. In summer, they boil milk with sorrel, till it acquires a degree of concretion; and so preserve it for use during this short season. In winter, the following is the method of preservation. The milk which they collect in autumn till the beginning of November, is put into casks, in which it soon contracts a degree of acidity, and, as the cold weather comes on, freezes; and in this state it is kept. The milk collected after this time is mixed with cranberries and kept in the paunch of the rein-deer, where it soon congeals, and becomes a solid body of ice-cream in perfection, and is generally eaten in this state as a desert.

The milk which is drawn late in winter from the rein-deer freezes immediately. And this is put into small vessels made of birch wood, and is considered by the Laplander as such an exquisite delicacy, that he reserves it as the most acceptable present which he can offer to the man whom he holds in the highest degree of estimation.

I should be very happy to hear that some one of your readers had made experiments for the purpose of ascertaining, how much more curd will be produced from genuine than from impoverished milk; and how much greater the disposition to lose weight is in poor cheese than in rich.

I am your humble servant,

WILTONIENSIS.

ON THE MANAGEMENT OF SILK-WORM, AND ON THE DEFECTIVENESS OF HUSBANDRY IN RUSSIA.

To the Editor of the Agricultural Magazine.

SIR,

I AM one of those persons who cultivate land merely with a view to private emolument, and I take the liberty of arguing that the man who raises a large profit to himself in this employment, in a large degree benefits the community. I have some years reasoned with myself on the subject of silk, in the manner, that Dr. Parry and Mr. Bartley seem to do on the subject of wool. That we ought to strive to raise as much of these articles as we can within ourselves, and not to be dependent upon importation from foreign countries. I have lately made the production of silk a more profitable concern than the generality of our agriculturists have thought it capable of. At least, I have made it sufficiently profitable to satisfy myself: and having made some improvements in my mode of management, from what I had read in a foreign writer, I am desirous of making more public the particulars of the information from which I have received instruction. The writer which I allude to is P. S. Pallas, Counsellor of State to the Emperor of Russia, who has evidently paid very great attention to the management of the silk-worm as practised in various parts of the world.

The Asiatic method, he informs us, is far preferable to that practised on the Aktuba, at the express command of the late Empress of Russia, where, by feeding the silk-worm with *gathered leaves*, which soon decayed, and rendered the frequent shifting of their beds necessary, much time and expence were wasted. The method adopted by the Persians, or Bukarians, is to rear their mulberry-trees to about six feet high, which they attain in four or five years: they then begin to lop their tops and branches, which are given to the insects, without gathering the leaves, by laying them gently on their beds as soon as the former have obtained sufficient strength. Thus the shoots remain fresh and succulent, and the worms devour them even to the woody fibres, so that no part of the nutritive foliage is dissipated. These insects being fed every day, the leafless branches gradually form a kind of wicker work, through which the impurities drain off, so that the industrious insects are always in a state of cleanliness without trouble to the breeder, and speedily become vigorous. In a similar manner they are continually supplied with food, till they are ready to spin, when small dry brushwood is placed in various directions over the mulberry branches, and on it the worms spin their silk. An adult who lops the branches, and a boy who collects them, are sufficient to procure food for a considerable number of silk-worms. In this climate the mulberry-tree produces new shoots twice in a summer: these in the same year acquire

the consistence of wood, and in the next spring afford an abundant crop of foliage: but in Persia and Bukaria where the summer is longer and vegetation more vigorous, the shoots may even be cut twice a year. By this method of cutting the tree always remains low, and yields a greater number of young shoots from its trunk, as well as from its branches, every subsequent year. When divested of their leaves, however, many branches wither, and not only the buds are lost, and much foliage wasted, but the worms receive a smaller portion of nourishment, as the leaves sooner die. In the silk establishment near the Aktuba, it is remarkable, that the worm, when impelled by necessity, eats the leaves of the Aier tataricum, which have a great resemblance to those of the mulberry-tree.

And Sir, as we are speaking of one branch of Russian rural economy, permit me just to present to your readers a few particulars respecting the general system of Agriculture which now prevail in certain districts of that empire, in order to exhibit our own husbandry in a more favourable point of view than some persons seem willing to place it.

We are told, that in the government of Penza, although the soil is excellent, wheat cannot be raised by the Russians, and that it is only in certain parts inhabited by Tartars that it can be rendered productive, and this even in districts which are situated in the same degrees of latitude with our own country. In this government, we are told, that straw is thrown away, except what is used for littering cattle, and for thatching. The dung in these rich countries is likewise cast into pits and pools near the villages, and thus improvidently wasted; because the fallows improve the succeeding year without manure; and new arable land may always be resorted to in great abundance. Thus the more Nature or rather Providence does for man, the less man is inclined to do for himself: and even in England, in the parts where we find the deepest and richest soils we frequently behold the most defective species of husbandry.

In the above named parts of Russia the barley crop is raised with extremely little trouble, and is therefore, a favourite species of grain, but the oat is scarcely ever to be seen, nor indeed were the inhabitants in possession in the year 1795, of any kind of oat worthy of attention. The production of rye, maize, millet and buck wheat, appears to be the ultimatum of the husbandry of these people, or perhaps as good a corn soil as any in the world. The most slovenly of our farmers therefore are not the most despicable of their order.

I am,

Your humble Servant,

AN EXPERIMENTALIST.

To the Editor of the Agricultural Magazine.

SIR,

The following paper was presented by Wheatxsheaf to the Board of Agriculture, for converting grass land into tillage, but the design was more properly written to recommend a mode of working *arable land*, naturally of a kindly soil but poor and unproductive, arising from weeds, poverty, and neglect.

This mode, if properly pursued, would make such lands rich and highly productive, and in the operation would be very similar to compound interest, which is in each year to produce a little more, and this may be accomplished by using no higher magic than only to determine that every acre of land within the field, assigned to these purposes, should be enforced to yield two feeding and one exhausting crop in every two years.

For this essay, the author had the honour of a medal from the Board of Agiculture in 1801, and now (with permission) directs the paper to be printed as the sixth essay in his system on rural economy, continued from No. 47, page 408. And should the system be so fortunate as to be extensively applied, it would go nearly to prevent the necessity of having recourse to the expedient, of foreign importation; a measure in itself detrimental to the true interests of agriculture, and highly distressing to the country, and yet must be resorted to whenever the untowardness of the seasons compels the government of the country to have recourse to that measure.

My original system, from which this was taken, finishes with something like these discriminations in regard to the nature of crops. Wheat, barley, and oats are properly called *white*, or exhausting crops; rye, tares, turnips, cole, roots, and clover: these are the feeding crops, and land may be brought into very good condition, and be kept still improving, under a rigid system of alternate culture, of the two feeding and one exhausting crop in every two years, for any length of time, provided the green crops are eaten off upon the land, and the stubble directly ploughed in as soon as the corn is cut, whenever the land is not under grass seeds. Then, though it is not usually attended to, the fuller the stubble is left, the better, as it protects the young plants from the severity of the cold in the winter.

A PRIZE ESSAY FOR GROWING WHEAT,

Entered H. No. 5, by the Board.

MY LORD,

THE subject your lordship is enquiring after, "relative to the best means of converting certain portions of grass lands into tillage, without exhausting the soil; and of returning the same to grass, after a certain period, in an improved state, or at least without injury;" was mentioned to me by a tenant of mine, before I had the honour of receiving your lordship's letter, from the board of agriculture.

I take the liberty of representing, that where the meadows may be in good condition, the experiment is very hazardous; and I should be afraid of granting permission, as tenants seldom bring land converted to arable, into good meadow again, for the process is expensive; but where the land may be in the occupation of the owner, or where the landlord and tenant may agree, to have a certain field or portion of land

so converted; I here point out a means to the honorable board, which will certainly answer the wished for purpose, of producing good *crops of wheat*; and the land continue in proper condition for laying down again, whenever the parties may so approve.

Your lordship here receives my own best opinions, aided by the thoughts I have been long collecting from conversation and practice among good agricultural friends upon the occasion, thinking it meritorious to use any exertions, for accomplishing the wishes of the board, and producing provisions for the people, should not better essays be produced. I shall be happy with any mark of attention, the honorable board may think proper.

This is a system of culture, for raising wheat on new broken up meadow land, for such time as the parties may think proper, without impoverishing the land; and of returning the same to grass, after a certain period, in an improved state; or at least without injury to the land, or the necessity of buying manure.

Where the land may require draining, that is first to be attended to; it is far better not to plough, if there is not sufficient time for draining; and the parts of the field where springs may arise, in meadow land, will be easily distinguished from the colour of the grass, and other circumstances the farmer is well acquainted with; be assured cold under water is destructive to every attempt at good agriculture, therefore drain first, and plough afterwards.

The commom method of breaking up land is first to plough for oates, then wheat.

This *is deemed* bad husbandry, for the oat draws the land so much; that it seldom produces a good crop of wheat, in the next season, unless well manured, and further than two crops it will not go.

I chuse to take for granted, that manure is so scarce as not to be spared, from the farm yard dung, without injury to the other parts of the estate; we all know manure to be necessary, in producing agriculture: and that it cannot be bought at any moderate expence; then how is it to become at? for without manure there will be little wheat, or any crops of value: Will the honourable board permit me to suspend the consideration for a short time? it will come in very properly afterwards.

It is owing to the want of manure, that many millions of acres are permitted to remain in South Brirain, and Wales; over-run with weeds, poverty and neglect, producing little more than the expence of seed and labour; this is a material *loss to the country*, and one of the *chief causes* of the *present scarcity* of provisions.

I begun a system before the scarcity of 1795, went on with it through the years 1799 and 1800; and as soon as I see the event of this paper, shall bring that before the public.

What will he deserve? who shall fortunately strike or point out *a mode*, for greatly encreasing all the agricultural provsions for the uses of man? and ultimately, prevent the necessity of applying to foreign importation, a measure in itself, always precarious, and very expensive to the country.

And this most desirable work, is easily to be accomplished by no greater, or more expensive means, than draining, cleaning and manure; each of which we have in our power.

Now to return to the object of the honorable board's enquiries for raising wheat.

There is no time to be lost, as I propose beginning with ploughing the meadow in the spring of 1801; we are now come to January 1801, and say, *plow shallow*, for early pease; and in such time that the frost may so far have had power over the land, as to have slackened it, that there may be sufficient of fine earth, to cover the seed properly.

July 1801. When the pease are cut, throw the corn of three lands upon one, there to dry; that the plough may go directly to work, and plough two-thirds of the field, before the crop of pease is carried off, and the remaining one-third as soon as possible; afterwards, the second ploughing on the pea gratter should be of a proper depth, according to the custom of the place. The pea crop will allow near one month more in summer for working the land, for wheat; than the oats would have done, without being so exhausting a crop, and this a very common approved practice in Kent, and generally produces fine wheat; the pea will also give an opportunity of more effectually destroying the wire-worm and grub before the wheat is sown.

For second ploughing the fallow when convenient, plough again across the field, that the land may by fully broken, to make a fine seed time for the wheat, and do not be late in sowing.

August 1802. When the wheat is cut, be ready directly to plough two-thirds of the land again, as was directed for the pease, and continue, and get the land sown with rye, or tares for spring feed; the rye will come in a fortnight sooner than the tares, which will make it convenient to sow part with each. These spring crops must be constantly eaten off, as quick as possible; that there may be time to work the land well, for a large crop of *early* turnips: and these to be fed off directy, to work the land again for wheat in October 1803. Thus the system for the honourable board is here fully explained. Three crops in two years; one wheat between two green and fed off, and so on for five or seven years, or more, as long as agreeable. Observe, from thus constantly ploughing and cropping, there can be *no weeds*, and from the land produ-

cing a wheat, or exhausting crop, and two feeding crops in two years; there will be plenty of manure from the cattle, as no part of the feeding crop is ever to be carried off the land; for as the feeding will regularly take place in summer and autumn; there will be no danger of the cattle poaching the land. I repeat again, if the green crops are constantly fed off quick, the land from the manure, must regularly increase in richness, *I do not say in value*; for remember, you have ploughed up valuable meadow land, upon a temporary occasion, to produce wheat in plenty, according to the breadth of the land; so I should suppose bettter not to continue the plan for more than four or five years, but that consideration will be governed by the times. I should be happy to say, that wheat was the only dear article in the country, but the truth is, every article of food is risen to an almost alarming price.

This system is only applicable for persons who have a large stock of cattle sheep and hogs or who are in a neighbourhood, where they can let the crop for others to feed it off upon the land; for the system is ruined, should the green crops be sold to any other use except feeding; and how shall we guard this, for a green crop will often be worth five or six pounds an acre, and I have known them when good fetch more.

As to the sort of cattle, it is indifferent, I should prefer all sorts, for the greater sullage the better; with plenty of water carried in carts, and not a pond, for when cattle go to a pond, the best of their manure is lost, *their own water*, the first manure that is for improving lands; should hogs be employed, with other stock for eating the rye, tares or turnips, they ought to have such food upon the land, as would be given to them in the farm yard, which will enrich the soil; for the stronger the food of cattle, invariably the more operative the manure.

Therefore could a few beans, or oil cake be spared the cows, and sheep, that food would much improve the soil, as well as the stock; this practice is very common in Kent, and elsewhere, on arable land; and I could produce many instances, on the *use* or *waste* of manure, but they would appear too ludicrous in print.

I have found hogs excellent gardeners in digging up potatoes, or roots, planted expressly for them to eat, for the enrichment of the land.

It has not made a due impression upon the country, how valuable carrots, parsnips, potatoes and cabbages would be for cattle, and no large farm should be without two or three acres of each sort, as strongly recommended by the society for the encouragement of arts, &c. &c. It is imagined, these plants and roots for green food, will not grow but upon fine loamy

land, but from the pulverization by the feet of cattle, and the land aided by their fresh manure, would introduce them almost any where, only not to yield such valuable crops. There are not many extensive farms, where the farmer could not find a few acres for the uses of these productions; and they would be wonderfully advantageous for his cattle, allowing him the benefit of keeping almost double his stock in the summer; from having winter food for their support, to the great increase of the general food for the use of man; but this may be deviating from the instructions of the Honorable Board, therefore I say no more on this head at present. To save repetition, I am a friend to sowing early; tares or rye sown in August, will produce far greater crops, than when deferred until November; as for the expectation that the stubble may produce food for sheep, that is beneath consideration; for as our grand object is to destroy the weeds, should that be accomplished, there will be no food; after the stubble is ploughed in, the land should be rolled, to give the seed a proper bearing or bedding.

In the wheat crop, sow thin, and less seed is necessary when the season is fine, for wheat being a spreading plant, where it has room to run, and the land is good, will often throw out four or five stems and ears from one tuft; will stand more steady and upright, and become a larger and more productive crop, than when the land is covered by many single stems; these not having had room to spread, are stunted in the spring, and before harvest are more injured by the winds and rain.

Many other circumstances, each founded in actual experience, might be advanced in support of this system of raising wheat between two feeding crops; but that would lead to discover who I am, which I observed, is to be avoided, but I beg your Lordship and the Honorable Board to rest assured, the whole is grounded upon the operations of nature, in the production of vegetation; and the observations regularly collected, in the time of my forming another system in agriculture, that is now compleated, and in which, I have been engaged for many years; each I hope may tend to the satisfaction and benefit of the country.

Circumstances to be attended to in the instructions.

I. Each essay shall fully detail the course of crops.

This I have fully done in this essay, my object being to produce the greatest quantity of wheat possible, made me take a round of only two years. but, to introduce barley and clover would make a round of four years, still the clover should be fed for enriching the land.

II. Draining all lands, (I have said) applied to tillage where there are springs, or under water, should be drained.

III. In what cases paring and burning are advantageous; I should suppose in none, where the land is already a good mea-

dow; burning is nearly exploded, unless in new ground, covered by sedgy rough bottoms; and there it ought to be often followed by feeding crops, to give a mucilage to the land, which it has lost by burning. I do not intend speaking against burning, only to say, it is unnecessary under the present system.

IV. The depth at first ploughing, I said before, page 22, for pease, shallow; what I should fix about two thirds of the natural depth, when the pea stubble is ploughed, go the regular depth of the habits of the country; for wheat, on inferior lands, I think most persons plough too deep.

V. Whether the crops for cattle and sheep are to be fed on the land, on this mankind differ in opinion. I should say, when the land is firm enough to carry the cattle, then constantly eat upon the spot, provided it is intended to plough directly afterwards, or else the wind has too much influence in drying up the manure. The rye and tares should regularly be cut every day, and thrown into proper racks for the cattle and sheep, or there will be great waste; be sure remember the water as I mentioned in page 24. Also the turnips should be gathered for the cows, washed and cut; the cows tethered, the sheep and pigs folded, with temporary sheds, and straw for the pigs to lay warm and dry.

It suits our convenience to insist on having the crops eaten upon the land, for fear they being once taken off, the manure may not readily find its way back, or I could say much in praise of the ideas thrown out in figures 58 and 59 on circular inclosures for cattle in vol. II.

COMMUNICATIONS TO THE BOARD OF AGRICULTURE ON INTERNAL IMPROVEMENTS, 1800.

The inclosures described in those volumes, would, from their shelter, be highly beneficial to the country.

VI. Returning the land to meadow, and how to be sown; I had much rather refer this to the close of the essay.

The manuring.—This is fully explained throughout the whole essay, for the whole merit of the system turns upon fully manuring.

VII. The principle on which an increase of rent ought to be estimated; no one can say what rent ought to be allowed in different situations, better leave it to the parties, as the honorable board are about applying the land to meadow again, I think the increase should not be high, suppose I should say, one-fourth of the rent for each wheat crop, and to be one year due Michaelmas, but this certainly should be understood, before the permission is granted by the landlord to break up the land.

VIII. The leading qualities of the land.

All land will suit our purposes, on which will grow to ad-

vantage, either rye, tares, turnips, or other roots for green food.

IX. Clay in all its distinctions.

Heavy cold retentive clay is bad, and if it produces good grass, I should be afraid to touch it; but much land is called clay, which is not so; for nearly half the clays in the county of Hereford might come under this description; only enquire in the neighbourhood, will the clays here alluded to, bear the feeding crops we want for manure; as the enquiry is temporary, we are only to look to a few wheat crops, and return the land to meadow again.

X. Loam in all its distinctions.

Happy are they who have plenty, for it is good for every purpose.

XI. Sands, &c.—They will work well under our system.

XII. Chalk.—That depends much upon the depth of soil above the chalk, and must be directed by the discretion of the parties.

The isle of Thanet, for nearly 30,000 acres, is one continued chalk cliff, of a very thin loamy covering; and yet here the tillage by many judicious exertions of the occupiers of the land, is carried to a higher degree of perfection, than in any other part of the kingdom, I am acquainted with; there the land is well worked, kept tolerably clear from weeds, and much attention given to feeding crops. It must be remembered, they have the advantage of the salt and mucilage of the sea weed, and mud on the flat shores; it would hardly be credited the number of miles I have rode over the Isle of Thanet, with some intelligent friends, with no other intention, than to acquire the knowledge of the culture of that island, and apply the thoughts to a system I have long been engaged in.

XIII. Peat, including moory, sedgy, rough bottoms, and fens.

This head does not seem to me to come under the enquiry of the Right Honourable the Lord's Committee; but those persons having such land, may collect very useful and valuable information from the transaction of the society for the encouragement of arts, &c. &c. and also from the regular county reports of the honourable board of agriculture; it is wonderful the extensive quantity of useful knowledge the country is now in possession of, but being extended through many publications, has not as yet made a due impression on the public.

N. B. Burning does well, where you want to get rid of rubbish, but then should be much followed by feeding crops.

Now to return to the grand object of bringing the land back to meadow again, I have observed before, many soils which now produce good hay will raise wheat crops, and also support spring and winter food for cattle; but without the aid of the green crops, and cattle to manure the land, it is not likely

to return back to meadow without much expence. I would suppose most farmers know sufficient of their own land, to form a rational judgment of the probable success of a trial. In many districts of a country, the land is so well disposed to valuable grasses, that almost left to itself, (if clear from weeds and in good heart) it will become meadow, and particularly about Tetbury, Berkley, and other parts of Gloucestershire; also some lands about Sneperton, Greenford, and many other places; and it should be attended to, that, lands having been long under grass are so full of the natural grass seeds, that they continue for years; but when the land has been so long under the plough that those seeds have regularly germinated, the land will not then revert back to meadow, unless in good condition, or at great expence; were I to give instructions to a tenant, I should express myself thus:

Raise a full crop of turnips as before directed, and secure a good tilth for barley; then directly sow two or three pecks of rye-grass, four or five pounds of white clover; and be particularly attentive to have before examined the neighbouring pastures, and there chuse a few of the grasses, most congenial to the soil and country, and sow some of them, but small quantities of each. Do not sow the broad red clover, for that never procures good meadow, as it goes off soon, and has, before that time, smothered the more valuable and tender grasses, if the natural grasses of the country are good; better in some measure depend upon them, and sow such as are deemed the best, I am fond in grass-seeds, of as much variety as can be procured, that is, a little of each, this mode is not so likely to smother the grasses as a full crop of either of them. We all allow the object in agriculture is, to learn from nature, observe her natural propensities, encourage the good, suppress the bad, this will come the nearest to perfection.

After the seeds are sown, no stock should be permitted to go upon the land until June in the next year, for either horses or sheep bite so close that they are very apt to pull up all the tender valuable grasses, and by that means leave the land almost as bare as if it had not been sown.

With regard to the manner of disposing of the first year's crop, I would recommend to have it fed off upon the land, by hurdling small spots of land; and would go to the expence of mowing of just as much each day, as the cattle can eat; this thought is rather new, and little practised, therefore I do not insist upon it, but am certain it would answer particularly well were it to become general, upon first laying land down for meadow. After this year dispose of the verdure as most convenient to the other parts of the farm. The merely mowing of meadow does not injure it, but it is the carrying off the

crops which impoverishes the soil; therefore the oftener hay is made, the more manure should be carried on in return.

In this system, the land being kept pretty clear from weeds, and in good condition, there is no material objection to making hay of the first crop, and afterwards do not suffer the land to be fed down too bare; be sure the thistles, docks, &c. are constantly grubbed up, and the bents cut.

I have the honour to be with the highest respect,
Your Lordship's most obedient servant,
WHEAT-SHEAF.

No. 5, H. No. 5.

The object of this Essay is according to the instructions of the Right Honourable the Lord's

COMMITTEE,

to produce great crops of wheat from an assigned quantity

OF LAND,

(I presume this will yield greater crops than before thought of or practised,) and to keep the soil in such condition that it may readily

RETURN

to Meadow again, when the parties are disposed to have the land laid down to

GRASS.

WHEAT-SHEAF.

ON THE EFFECTS OF OVER DRIVING FAT CATTLE, AND THE APPEARANCE OF THE BEEF OF A SHOULDER-PITCHED OX.

To the Editor of the Agricultural Magazine.

SIR,

YOU have already indulged me with the insertion of a few remarks, which I was induced to make respecting certain properties of South Down mutton: and, in consequence of the very sensible and very interesting observations which my remarks were productive of from that enlightened agriculturist Dr. Wilkinson, I presume to think that you will not refuse to lay before your readers what I am about to offer, although it may appear trivial to some of them.

Actuated, Sir, by some propensity or other, I seldom pass a butcher's shop or stall without making either a silent or an open remark respecting the quality of the meat. Being in London a few days ago, I observed on a butcher's stall two pieces of beef very much discoloured, or having the interior part of the meat of an uncommonly pale cast, resembling beef which had been boiled. These pieces were a division of the

shoulder, and each piece contained a part of the shoulder blade, on each side of which bone, the meat was of this extraordinary colour for about the depth or thickness of two inches, the rest of the meat had the usual appearance of good beef. On asking for a reason of this singularity, the butcher informed me, that the beast was "shoulder pitched." What is shoulder pitched, I asked? The answer was "over-driven, or over-heated." This, he informed me, is a very common case with cattle sold at the London market. It appears strange to me, however, that over-driving should occasion the meat to assume a *pale* colour, and not, as I should have imagined, a deep red. I should, and I am confident, that the generality of your readers would be highly gratified, if Dr. Wilkinson would favour us with his opinion on this rather curious fact. Might not this afford matter of enquiry for the Professor or the Students at the Veterinary College? Horses, I fear, are frequently "shoulder-pitched" in a similar way. Could an animal, thus affected, be restored by proper means, or by rest, in a given time, or could he ever be brought back to perfect soundness?

This butcher, likewise, exhibited to me the effect of over-driving upon a lamb. When he separated the shoulder from the rest of the fore quarter, a quantity of colourless liquid, of a thick consistency, as much as a common tea cup would contain, flowed from under the shoulder blade. This liquid, he said, was a dissolution of the fat which is always found underneath the point of the shoulder of a fat lamb: and this liquid, he likewise added, would not have been perceived if the quarter had been roasted together. Such facts as these, although apparently of little moment, always excite the curiosity of

Your humble servant,

W. J.

ON THE EFFECTS OF OIL IN THE PRESERVATION OF THE CABBAGE AND TURNIP PLANTS.

To the Editor of the Agricultural Magazine.

Sir,

I AM glad that the second Letter of your Correspondent Agricola Norfolciensis did not reach you soon enough to cause a suppression of the first, according to the request therein contained. He says, that he finds "that oil sprinkled upon the leaves of the cabbage plant is rendered ineffectual in preserving the plant from the ravages of the fly, after it has been exposed to the air a few days," and therefore he thinks that what he had called a remedy was not worthy of being communicated to the public.

Now if this sprinkling be effectual "for a few days," I cannot help thinking, that in certain cases this may prove the desired

preventive. If this practice can be brought to bear upon the turnip crop, a few days prevention of the ravages of the fly and the slug, will frequently be all that is wanted. If these few days should be succeeded by a heavy rain, it may with respect to either of these species of plants, or to any similar kind of green food, prove absolutely effectual. But if the first sprinkling is not enough, why not repeat it? The cost of a little train oil cannot be set in competition with the preservation of so very valuable a crop. I really am sanguine enough to expect some great good to be derived from this hint of Agricola Norfolciensis, and thank him for it, whether it shall prove of utility or not: and we are bound to thank him for his great readiness in relinquishing an object, which he had before warmly espoused, as soon as he found that it did not come up to the full extent of his expectation. We do not always find this disposition in agricultural experimentalists.

I hope to hear of further trials of your Correspondent, in this way: and we shall always confide in what he writes in future, knowing that he will not obstinately persevere in a losing game.

Is there any other species of oil more nauseous to the fly and slug than train oil?

I am yours,

Devizes, July 10. T. FITCHEW.

ON THE PLANTING OF COLD CLAY LAND WITH TURNIPS, IN ANSWER TO A NORFOLK FARMER.

To the Editor of the Agricultural Magazine.

Sir,

A CORRESPONDENT of yours, whose signature is A Norfolk Farmer, laughs at my husbandry, and says in the last number but one of your Magazine, page 332; "I cannot but admire the curious account your Correspondent Mr. Peter Hall, gives of his sheep feeding off his turnips, I supposed he was the first person that ever attempted to feed turnips off upon strong wet land, as the stock are certain to do more harm to the land than the turnips were worth; such kind of land every farmer knows ought never to be trod upon if possible in the winter."

It is, Sir, a matter of indifference to me whether I am improved in my husbandry by means of ridicule, or by grave and sober reasoning. *Improvement* is all that I want, and for that object I read your Magazine, and on that object, I shall keep my attention steadily fixed, without ever suffering it to be diverted by a smile, or even by what is called "a horse laugh." But your Correspondent is not quite correct in his supposition, that I am the first that ever attempted to feed turnips off upon land of the above description. I find that it

has frequently, too frequently been done, and that many farmers have been situated as I was, having no land proper to remove the sheep to, during the wetness of the winter season. If I had removed my sheep, at that time, I must have removed them either to a wheat field, or to young clover, where the consequent injury would have been greater than that which I felt. I do not pretend to defend what I have done, but to say, that I acted through necessity, and if the winter had been a dry or frosty one my husbandry would have been attended with no injury, but with very great profit. Indeed, as it is, the land has not been injured, it was only in the sheep that I sustained loss; for I have now upon this land an immensely great crop of barley. But I must confess that the land was very much favoured by the severe frost in the beginning of March, which caused it to work as mellow as if it had never been trodden with the sheep. And I rather suspect that this treading helped to destroy the charlock seed, which had before annually produced a very pernicious crop of this weed.

In this instance, I felt very sensibly the great inconvenience of occupying a small farm: for had I been in possession of land enough to have given me liberty to have had another field of turnips on dry light land, I might have kept my sheep on the latter in wet weather, and on the former in dry, and all would have proceeded profitably. It is not strictly true then, as the Norfolk Farmer asserts, " that stock are certain to do more harm to such land than the turnips are worth." Many cases may, and do, I find, occur contrary to his words. This identical field has been turniped before, and to good account, in a favourable winter.

Most farmers, I believe, who are professedly turnip farmers, or who depend in a great measure upon this crop for the winter sustenance of their flock, if they happen to possess a field or two of strong clay, treat this land in the same way as their other lighter land, paying particular attention to the eating off only. And it is thought by some, that this is a more sure crop, and less exposed to the ravages of insects, on cool land than on a sandy soil which is probably in Norfolk esteemed the only kind of land fit for turnips. Large quantities, however, of strong chalk and clay land are now to be seen in Wiltshire, either sown or in a state of preparation to be sown with turnips. But I cannot conclude my letter without again recommending it to every one who ventures to plant land that is retentive of wet with turnips to keep a dry outlet in reserve in case of necessity.

I am yours,
PETER HALL.

ON EXPERIMENTS.

(Continued from page 431.)

XVIII. A METHOD OF PREPARING A RICH COMPOST.

By A. Hunter, M. D.

TAKE a sufficient quantity of saw-dust, incorporate with it the blood and offal of the slaughter-house, putting a layer of one, and a layer of the other, till the whole becomes a moist and fœtid composition. Two loads of this compost, mixed with three loads of earth, will be sufficient for an acre of wheat, or spring-corn: being a kindof top-dressing, it should be put on at the time of sowing, and harrowed in with the grain.

It will be necessary to remark, that this species of manure seems best adapted for lands of an open texture. Tough clays require lime and plenty of dung to break the cohesion of their parts. Farmers should attend to this distinction.

This present year I have a field of wheat manured in this manner, and have the pleasure to say, that it is extremely clean, and has all the appearance of turning out an excellent crop. As this kind of compost lies in a small compass, it seems well adapted for the use of such farmers as are obliged to bring their manures from a distance. It is besides extremely rich, and will probably continue in the land much longer than fold-yard or stable-dung. I apprehend that it is capable of restoring worn-out land to its original freshness; and I am induced to be of that opinion from the appearance of the above wheat crop, which is now growing upon land much impoverished by bad management.

All animal substances being of the same nature, it is probable that the refuse whale-fat, after the oil is boiled out, will make a compost of equal goodness with the above. I have at present a dunghill made of that offal and horse-dung, hot from the stable. I prefer the fresh dung on account of its reducing the blubber more speedily into a putrid state. The preparers of train-oil constantly throw this offal into the sea; but I apprehend that saving it for the purposes of vegetation will be of national advantage. Being an animal substance, there is no doubt of its containing all the principles of other animal bodies; consequently it must be an object worthy of the attention of such gentlemen as live in the neighbourhood where train-oil is prepared.* We cannot recommend in too forcible a manner, a proper attention to every substance that is capable of being brought into a state of putrefaction. Notwithstanding what the ingenious Mr. Tull and others have wrote, it is certain that manures, properly managed, are the life and soul of husbandry. Few things however, in the ex-

* Proposed about thirty years ago. It is now (1801) universally attended to.

tensive field of rural economy, are so imperfectly understood. Until the doctrine of manures is clearly and distinctly laid down, agriculture will remain a vague and uncertain study.

XIX. A COMPARATIVE VIEW OF THE THREE DIFFERENT METHODS OF SOWING BARLEY.

By the Rev. Sir W. Anderson, Bart. of Kilwick.

It is undecided amongst farmers which is the best method of sowing grain. To determine the debate, as far as one experiment can be said to determine any thing, I made the following trial.

In a field of twenty acres, which the year before had borne a crop of turnips, I selected three contiguous lands, each of which measured five roods. The soil, a loamy clay of five inches upon a hard bed of chalky limestone. I sowed N° 1 with the four-socked drill plough, in rows eight inches asunder.—N° 2, under furrow N° 3, above furrow. The drilled land was finished in two hours, and took three bushels and a half of seed. The other lands were finished in the usual time, and had each the same quantity of seed as the drilled part. The saving in seed is not an object of so much importance in the drill husbandry as is commonly imagined. On the contrary, I am of opinion that the failure of drilled crops often proceeds from two great an attention to this economical part of the system.

For about a fortnight after sowing, the season was rather dry. N° 1, appeared first. N° 2, next. N° 3, last. During the time of growing, the lands had the appearance of being equally good, and, as the season was a favourable one for barley, the ears ripened kindly.

On the 4th of October the corn upon the three experimental lands was cut.

THE PRODUCE:

N° 1. —— 60 stooks.
2. —— 67 stooks.
3. —— 65 stooks.

Not having the opportunity of thrashing out the whole crops at this season of the year, I ordered one stook of each land to be housed, and carefully thrashed.

MEASURE:

N° 1. —— 3 pecks.
2. —— 3½ pecks.
3. —— 3¼ pecks.

To be satisfied of the relative goodness of each, I weighed the products.

WEIGHT:

N° 1. —— 2 st. 12 lb.
2. —— 3 st. 3½ lb.
3. —— 2 st. 9½ lb.

From this experiment we are led to make the following reflections.

1. That sowing barley under furrow, gives the greatest produce.
2. That sowing above furrow is next.
3. That drill-sowing in equi-distant rows of eight inches, is inferior, in quantity, to both.
4. That the drilled barley is considerably the heaviest.
5. That the under-furrow is next.
6. That the above furrow is lightest.

I ought here to observe, that N° 2 had two ploughings, but that N° 1 and N° 3 were sown upon a single ploughing. It will also be proper to remark that, for want of experience in the person who conducted the drill-plough, the bouts were not so regular as they ought to have been, which occasioned, in many places, a considerable loss of land.—From these circumstances I am induced to think the experiment not so perfectly decisive as I could wish. In a short time I hope to be able to measure and weigh the whole produce, by which means the above comparative trial will be rendered more conclusive.

XX. ON THE OIL-COMPOST.

By Mr. J. Broadbent, of Barwick in Elmet, near Leeds.

On the 1st of October 1771, I sowed two acres of a light channelly soil with wheat, and harrowed in the compost with grain. Being at a considerable distance from a large town, we find it very difficult and expensive to procure rotten dung in sufficient quantity for our tillage lands, for which reason we have recourse to hand-dressings both for our winter and spring corn. Rape-dust and soot are principally used, but the present price of both these articles is a heavy tax upon the farmer. To obviate that inconvenience, I resolved to make trial of the oil-compost; and from what I have observed in this one experiment, I am encouraged to make a more extensive use of it next year. Being well acquainted with the nature and efficacy of soot, I am satisfied that the above two acres produced as good a crop of wheat as if they had been dressed with that excellent manure.

XXI. ON THE JUICE OF CARROTS, &c.

By A. Hunter, M. D.

For many years carrots were appropriated to culinary uses only. They are now found to be an excellent food for horses and hogs.* I have often thought that their expressed juice might be converted by a cheap process into ale, spirit, and vinegar. Some experiments that I made in the year 1772,†

* *Vide* the ingenious Mr. Young's Essay on the management of hogs.

† The vinous fermentation went on agreeably for about six hours, after which it suddenly ceased. This experiment was several times repeated, and

though they did not perfectly succeed, confirm me in that opinion.

I beg leave to recommend to the philosophical farmer an examination of the carrot juice. It is a subject worthy of his attention. One acre of good carrots (eighteen tons) will produce forty hogsheads of a saccharine juice. Dr. Marggraf was not able to obtain crystallized sugar from carrots, though he got it from skirrets and beets. An examination of these juices, with a view to obtain wine, spirit, and vinegar, may be worthy of notice. The process for sugar is too expensive for practical use.

As an inducement to others, I shall here subjoin Dr. Marggraf's experiments.

"The plants," says this ingenious inquirer, "which I chymically examined in order to extract sugar from their roots, and which yielded a considerable quantity, are very common in most countries, and require neither a fine soil nor assiduous culture; such, for instance, are,

1. White Beets.
2. Skirrets.
3. Red Beets.

"The roots of these three plants yielded a large quantity of pure sugar. You may know the roots of the plants which contain sugar by these characteristics: when you have cut the roots in pieces, and wiped them very clean, they have a very agreeable taste; and if you examine the pieces by a microscope, you will perceive whitish crystalline particles, which are a true sugar.

"As sugar is a salt which dissolves even in brandy, I imagined that the sugar might be separated from the parts of plants by means of the best and strongest brandy I could get. Previously to determine the quantity of sugar dissolvable this way, I put into a glass an ounce of the finest and best sugar, well pulverized, together with four ounces of the strongest brandy; the whole being well digested, I boiled them together, and the sugar was soon perfectly dissolved. Whilst this solution was yet warm, I strained it through a linen cloth into another glass; I corked it close, and after it had stood eight days, I had the pleasure of seeing the sugar form itself anew into very fine crystals: to succeed in this experiment, the sugar and glass must be quite dry, and the brandy well rectified.

"Having prepared the way by this experiment, I took the

with the same appearances. Probably a portion of brown sugar, or molasses, may be of use in keeping up the fermentation; though, from the sweet taste of the juice, one would not suspect an addition of that kind necessary. The pulp of the carrot, when mixed with bean meal, makes an excellent food for hogs, and is preferable to grains for milk cows.

roots of white beet, and, having cut them into small slices, I laid them by the fire to try, taking care not to burn them; I then reduced them to a coarse powder, and laid it down to dry a second time, because it is very apt to contract moisture: whilst this coarse powder was yet warm, I put eight ounces of it into a glass vessel, and poured upon it sixteen ounces of brandy, so strong that it fired gun-powder. The vessel was above half full, and having corked it close, I set it in a sand-heat till the brandy began to boil; stirring it from time to time, that the powder might not settle to the bottom.

"As soon as the brandy began to boil, I took the vessel off the fire, and poured the mixture as quickly as possible into a linen bag, and pressed it well to squeeze out all the liquor; I then passed this liquor through a linen cloth whilst it was yet warm, and put it into a glass vessel well corked, and set it in a warm place. The liquor was at first turbid, but after some weeks a crystalline sediment appeared, which had all the characters of an impure sugar, and was full of very hard crystals. To purify them yet more, I dissolved them a second time in brandy, and proceeded in the same manner as I had done with the real sugar.

"By this method, which was the first that I fell upon, I obtained from the three roots above-mentioned the following quantities of sugar:

"1. From half a pound of white beets, half an ounce of pure sugar.

"2. From half a pound of skirrets, an ounce and an half of pure sugar.

"3. From half a pound of red beets, one ounce of pure sugar.

"It is evident, from these experiments, that lime-water is not at all necessary to dry and thicken the sugar, as some pretend, since the sugar crystallizes without it.

"Being thus assured that there was real sugar in plants, I endeavoured to find out a less expensive manner of extracting it; and the best way seemed to me, first to press out the juice of the plants, then to purify this juice, and to prepare it for crystallizing by evaporation; and lastly, to purify the crystals that proceeded from it.

"I took a certain quantity of skirrets; I cut the roots, whilst fresh, into small pieces, and pounded them as small as possible in an iron mortar; I then put them into a linen bag, and pressed out the juice in a press prepared for the purpose: after this I poured water upon the roots remaining in the bag, and pressed them a second time. I then put the liquor all together into a very clean vessel, and let it stand to settle in a cool place for forty-eight hours; in which time it became clear,

and a mealy substance settled to the bottom; I then poured off the liquor gently, and passed it through a linen cloth into another vessel.

"The first clarification being thus made, I put some whites of eggs to the juice, and boiled it in a brass pan, scumming it continually till no further impurities appeared on the surface; I then passed it through a linen cloth, and the liquor was as transparent as the clearest wine. I boiled it again in a less pan till it was considerably decreased, and so again and again, in yet less vessels, till there remained only a pretty thick syrup, which I put into a very clean glass vessel, and set it in a warm place. I let it stand above six months, and then found the sugar sticking to the sides of the glass in the form of little crystals.

"To purify these crystals, I put the vessel into warm water, and when the heat had penetrated the glass, so as to render the mixture fluid, I poured both the liquor and crystals into an earthen vessel, broad at top, and narrow at bottom, and the bottom perforated with several holes; this vessel I put into another, and covered both up, and set them in a temperate place: by these means the syrup gradually dropt into the lower vessel, and the crystals were left in the upper one. This crude sugar I then put into blotting paper, folded different ways, and pressed it lightly in a press; this dried it, and rendered it more pure, the paper imbibing a good deal of the tenacious viscid syrup, which yet stuck to the sugar.

"The sugar, thus cleaned of the greatest part of its impurities, I dissolved again in water, passed it through a clean linen cloth, and boiled it to the consistence of a thick syrup, then put a little lime-water to it, and boiled it gently till it became ropy; I then took it off the fire, and stirred it about till it cooled and thickened a little; after which I poured it into a well-burnt earthen vessel in the form of a cone, closed at the small end with a wooden stopper, which vessel I put into others that were deeper, and set them in a temperate place. In a few days the sugar became tolerably hard and full of crystals; and when it had stood eight days, I took out the stopper, and set the vessels in a warm place that the syrup might run off: this syrup is fit for the same uses as common treacle; and the sugar, after drying and purifying by means of the blotting paper as before, is equal to the best brown sugar of St. Thomas, commonly called Moscovad. By a similar process, sugar may be extracted from red and white beets. The sugar of skirrets is of a better quality than that of red beets, but the sugar of white beets is best of all.

"I endeavoured to extract sugar from the stems and leaves of these plants, but could obtain from them only a sort of tartar: it is very remarkable that the roots of these plants

should contain sugar, and that the stems and leaves should be entirely destitute of it.

" These experiments may be useful to farmers and other people of this country in low circumstances. Instead of buying sugar, which is very dear, they may obtain it from the plants at their own doors; they need not go through all the steps of the foregoing process; for them it may suffice to express the juice, to strain and purify it a little, and then to boil it down to the consistence of a syrup, and so use it; it will certainly be more pure than the gross treacle of the shops. Besides, from these experiments we learn, that those countries which produce the sugar-cane, are not the only ones which nature hath furnished with sugar.

" I made trials upon several other vegetables besides those I have mentioned; I could obtain no sugar from carrots; the juice they yielded was extremely sweet, but resembled honey rather than sugar; parsnips yielded a little sugar; two species of dogs-grass yielded a very sweet juice, but not sugar; the juice of the Birch-tree yielded a sort of manna."

From these experiments it is abundantly evident, that many common roots of this country contain a large share of saccharine juice. They consequently are capable of being converted into wine, spirit, and vinegar. To determine this point, (in 1773) I took 24 bushels of carrots in the month of October. After being washed, topped, and tailed, I put them into a large brewing copper with four gallons of water, and covering them up with cloths, to hasten the maceration, I ordered a fire to be kindled underneath, which in a short time reduced the whole into a tender pulp. They were then put into a common screw-press, and the juice taken from them, which, together with the liquor left in the copper, was run through a flannel bag. The juice was then returned into the copper, and, as it was my design to make it into ale, I put to it a proportionable quantity of hops. The liquor was then boiled about an hour, when it acquired both the taste and colour of wort. It was next put into a cooler, and afterwards into the working vessels where the yeast was added to it. It worked kindly, and in all respects was treated as ale. I allowed it to remain in the cask about four months, when I broached it, but found it of a thick and muddy appearance. I attempted to fine it, but in vain. The taste was by no means displeasing, as it much resembled malt liquor. My first intention being frustrated I threw it into the still, being about forty gallons in measure, and by two distillations obtained four gallons of a clean proof-spirit. It had, however, contracted a flavour from the hop, which should be left out when the intention is to reduce the liquor into spirit. From a gross calculation, I am induced to think that a good acre of carrots, manufactured in this manner, will

leave a profit of forty pounds after deducting the landlord's rent, cultivation, distillation, and other incidental expences. In this calculation, I presume that the spirit is worth six shillings per gallon, and not excised. An acre of barley will by no means produce so much spirit. A rich sandy loam is the best land for carrots, which, after the crop is removed, will he in high cultivation for corn. The success of my trial, will, I flatter myself, be the means of inducing others to repeat the experiment, with a view to determine how far the growth of carrots for the use of the distiller may be considered in the light of a national advantage.

XXII. ON A METHOD OF RAISING POTATOES IN WINTER.

By Mr. Seth Agar, York.

Make a compost of earth, sand, and coal-ashes. With this mixture fill a tub about sixteen inches deep. Plant this artificial soil with some sets of the early round potatoe, and place the tub in a stable opposite to a window, taking care to water the earth now and then. In all seasons the sets will sprout, and give a tolerable increase of potatoes. Last November I planted some sets in the above manner; and, in the February following, I took up a considerable number of young potatoes, clean skinned and well flavoured.

XXIII. ON SOWING TURNIPS FOR LATE FEEDING.

By a Suffolk Farmer.

The advantages of having turnips good till the spring-feed is ready, are so obvious and so great, that it is matter of wonder that so few farmers follow the custom in Norfolk, which is to continue sowing turnips to the latter end of August, by which means their late crops remain good in the field till the latter end of April, and often till the middle of May. The farmer will gain the same advantage by cultivating the Ruta Baga, or Swedish Turnip, which is daily coming into use by such farmers as have spirit to leave the beaten track of their forefathers.

XXIV. ON FEEDING SHEEP, AND A SUBSTITUTE FOR FOLDING.

By A. Hunter, M. D.

An eminent farmer in Bedfordshire has found that nothing is so beneficial in feeding sheep on turnips, by way of addition, as peas. A small quantity, as two or three bushels a day, to one hundred and fifty wethers, has a considerable effect, and the benefit to the land may be seen to an inch in the succeeding crop of barley. As to folding, farmers begin to be divided in their opinions. An excellent farmer in Norfolk, who rents a farm of 1800 acres, never folds, and is well persuaded that it is not at all necessary. Another farmer of

eminence, in the same county, who never folds, informs me that his lays when he breaks them up for corn, pay him amply for leaving the sheep at night where they feed by day. The practice begins to decline in the neighbourhood of Holkham, but there certainly are some tillage farms that cannot be advantageously managed without folding.

The trouble and expence of keeping a flock of sheep for the purpose of folding, may probably be avoided by forming large ponds, so constructed as to receive and hold water. Into these ponds, let drains from the stables, cow-houses, ox-stalls, piggeries, and wash-house, be directed; and in order to enrich the water, let all kinds of vegetable and animal substances be thrown in, particularly the contents of the necessaries and slaughter-house. It is presumed that this putrid water, when put upon the land by means of water-carts, will prove as beneficial as a flock of sheep kept for the express purpose of folding A pond of sixty feet diameter, by six feet deep, will contain upwards of 700 hogsheads of water. It is presumed that a pond of this nature and size, when properly supplied with water and putrescent bodies, may be equal to a fold of —— sheep.

XXV. A COMPARATIVE VIEW OF TWO CROPS OF BARLEY, THE ONE DRILLED, AND THE OTHER SOWN BROADCAST,

By Sir John Anstruther, Bart.

The experiment was made to ascertain the produce of drilled barley, compared with broadcast. The seed was sown on the same field, and at the same time, and there was no apparent difference in the soil. The drills were eighteen inches wide, and the grain was dropped by hand; the expence of which was three shillings and three-pence per acre.

The seed drilled, was one bushel and three gallons per acre. The produce, fifty-six bushels and three gallons.

On the broadcast part, the seed sown was three bushels and five gallons per acre. The produce thirty-six bushels and five gallons.

Extra produce of the drilled crop, about twenty bushels per acre; besides near two bushels of seed sown.

XXVI. ON MALT-DUST AS A MANURE.

By Mr. J. Bedford.

In April, 1784, I manured a piece of land with malt-combs, or the dust which falls through the wires, at the rate of four quarters per acre, and sowed it with barley and clover. The barley was very luxuriant, and produced near seven quarters per acre. The crop of clover was one of the finest I ever saw; and I have no doubt, but the effects of this manure will be evident in the wheat next year. From the success attending

the use of this manure, the expence of which was only twelve shillings per acre, it appears to be much cheaper than rape-dust, or any other top-dressing.

J. A.

EXPERIMENTS AND CONCISE AGRICULTURAL OBSERVATIONS.

I. ON THE RIPENING AND FILLING OF THE EARS OF CORN.

By John Roebuck, M. D.

THE summer of 1802, having been remarkably cold and unfavourable, the harvest was very late, and much of the grain, especially oats, was green in October. In the beginning of October, the cold was so great, that, in one night, there was produced on ponds near Kinneil, in the neighbourhood of Borrowstowness, ice three quarters of an inch thick. It was apprehended by many farmers, that such a degree of cold would effectually prevent the further filling and ripening of their corn. In order to ascertain this point, I selected several stalks of oats, of nearly equal fulness, and immediately cut those which, on the most attentive comparison, appeared the best, and marked the others, but allowed to remain in the field fourteen days longer; at the end of which time, they too were cut, and kept in a dry room for ten days. The grains of each parcel were then weighed; when eleven of the grains which were left standing in the field, were found to be equal in weight to thirty of the grains which were cut a fortnight sooner, though even the best of the grains were far from being ripe.—During that fortnight (viz. from October 7, to October 21) the average heat, according to Fahrenheit's Thermometer, which was observed every day at eight o'clock in the morning and six in the evening, was a little above 43. This ripening and filling of corn, in so low a temperature, should be the less surprising to us, when we reflect, that seed-corn will vegetate in the same degree of heat; from which may be drawn this important inference, viz. that farmers should be cautious of cutting down their unripe corn, on the supposition, that, in a cold autumn, it will fill no more.

II. ON THE PURIFICATION OF SEA SALT.

Communicated by A. Hunter, M. D.

The Earl of Dundonald observes, that the common sea salt possesses a considerable mixture of ingredients, which render it in a great degree, unfit for preserving victuals. These ingredients appear, by experiment, to be nauseous, bitter, and cathartic salts, having an earthy basis, (magnesia salita, and magnesia vitriolata, or epsom salt) which are intimately mixed with the proper sea-salt.

To purify common sea salt, by dissolving it in water, decompounding the bitter salts, and precipating their earthy basis, by adding a fixed alkali, whether fossil or vegetable, is a tedious process, and by far too expensive to be employed for economical or mercantile purposes. It is even imperfect; as it is almost impossible, after that process to separate from the sea salt the Glauber salt, or vitriolated tartar, or salt of Sylvius, which are produced according as the fossil or vegetable alkali is used.

The Earl of Dundonald observes, that hot water saturated with sea salt, will still dissolve a great part of the bitter earthy salts. His method, therefore, of purifying the common sea salt from those bitter salts is, to take a conical vessel, having a hole in the small end of it, which is to be undermost, to place it, filled with common salt, in a moderate heat; to take one twentieth part of the salt contained in it, and putting it in an iron pan, to dissolve it in its proper proportion of water, so that the water shall be completely saturated with the salt: and then to pour this solution boiling hot on the salt in the conical vessel, which is to be purified. The boiling water being already saturated with sea salt, will dissolve no more of it, but will dissolve much of the bitter earthy salts; and this solution will gradually drop out at the hole in the bottom of the cone.—When it ceases to drop, the same process is to be repeated by means of fresh portions of the same parcel of salt, already partly purified, till it be brought to the required degree of purity. Lord Dundonald reckons, that three such washings make the common salt of this country purer than any foreign salt; that each washing makes it 4½ times purer than before; so that (disregarding fractions) after the second washing it will be 20 times, after the third 91 times, after the fourth 410 times, and after the fifth 1845 times purer than at first.

The superiority of salt, thus purified, to common salt, is discovered by the taste, as well as by its effect in preserving fish, flesh and butter; for it hath been often and carefully tried.—Lord Dundonald conceives, that the simplicity, facility, and cheapness of this method of purifying salt, should recommend it to common practice, as it is an object of great public importance, especially to farmers who consume much salt in salting butter and bacon. As all salt made by boiling has a portion of uncombined magnesia mixed with it, his Lordship is of opinion, that a little muriatic acid should be added to the first brine poured on the salt, in order to dissolve the magnesia, and carry it off. The following table will show what the common salt loses before it can be brought to a state of perfect purity.

TABLE.

Salt employed.			contained of	Purified Salt.		and of	Magnesia salita Magn. vitriol.		which is equal nearly to	
	lb.	oz.		lb.	oz.		lb.	oz.		
Salt hot from the pan first drawn,	56	0		49	0		6	5		$\frac{1}{9}$ of salt employed.
Salt hot from the pan last drawn,	56	0		33	9		22	6		$\frac{3}{5}$ Ditto
Medium of the above,	56	0		41	4		14	5		$\frac{1}{4}$ Ditto
Salt 6 weeks old,	56	0		47	0		7	0		$\frac{1}{8}$ Ditto
Salt first drawn, dripped 24 hours,	56	0		52	12		3	0		$\frac{1}{18}$ Ditto
Salt last drawn, dripped 24 hours,	56	0		44	8		11	0		$\frac{1}{5}$ Ditto
Medium of the two last,	56	0		48	10		7	0		$\frac{1}{8}$ Ditto
Spanish great Salt	10	0		9	$15\frac{1}{2}$		0	$0\frac{1}{2}$		$\frac{1}{240}$ Ditto
Basket fine Salt	3	0		3	0		0	0		

CRITICAL CATALOGUE.

1. *Letters and Papers on Agriculture, Planting, &c. ſelected from the correſpondence of the Bath and Weſt of England Society for the Encouragement of Agriculture, Arts, Manufactures, and Commerce. Originally publiſhed in nine volumes, abridged in two, 8vo.*

IN a late number of our Magazine we introduced to the reader's notice Dr. Hunter's collection of Agricultural Papers, entitled Georgical Eſſays, which, like the work before us, contains a great variety of uſeful and important information relative to this firſt and moſt neceſſary of Arts. We lamented that a defect in the method of arrangement, or rather a total want of method ſhould have deprived that work of a portion of the utility and advantage that might be expected to be derived from it. It is with pleaſure we obſerve that the Editor of the volumes before us has avoided a ſimilar error, and by claſſing together all the papers on the ſame ſubject has conſiderably enhanced their value as books of reference, and as a complete analyſis of a highly uſeful but now ſcarce collection.

The prefixed advertiſement will afford ſome idea of the manner in which this work is executed:

"The papers of correſpondence publiſhed from time to time by the Bath Agriculture Society obtained, and very deſervedly, a conſiderable degree of reputation, not only in Great Britain, but on the Continent of Europe, and in the States of America. Moſt are on ſubjects of importance, and ſome of them, written by men of more than common abilities and underſtanding, afford leſſons of inſtruction even to the beſt informed farmer, and none can be conſidered uſeleſs to a lover of huſbandry or moral economiſt. From the firſt inſtitution in 1777, nine volumes have been publiſhed; but in the courſe of time they have been diſpoſed of and complete ſets can now ſcarcely be obtained. Inſtead of reprinting the original work, the Editor has attempted to reduce the nine volumes to two; not by a partial ſelection of particular papers, but by preſerving the ſubſtance of every one, rejecting only ſuch parts of each as are unintereſting, without leſſening the information or altering the ſenſe: every correſpondent is allowed to tell his own tale, and in his own language, without the leaſt affection, partiality, or prejudice. He wiſhes in the words of the poet"

Reddere perſonæ convenientia cuique.

The greater part of the firſt volume is occupied with papers on the various modes of Agriculture, on the rotation of crops, drilling, watering, draining, on the improvements made in the latter half of the laſt century, and generally on ſubjects connected with the management of land.

Dr. Anderſon's directions on the management of a dairy particularly with reſpect to the making butter, are highly deſerving the attention of the farmer. Among theſe we find a method recommended, which, as we conceive it is not generally known, we ſhall here tranſcribe:

"I ſhall here mention one mode of managing milk, by means of which the inferior kinds of it might on many occaſions, eſpecially

within reach of towns, be diſpoſed of to great advantage. Take common ſkimmed milk when it has begun to turn ſour, put it into an upright ſtand churn, or a barrel with one of its ends out, or any other convenient veſſel. Heat ſome water and pour it into a tub that is large enough to contain with eaſe the veſſel in which the milk was put. Set the veſſel containing the milk into hot water, and let it remain there for the ſpace of one night. In the morning, it will be found that the milk hath ſeparated into two parts, a thick cream-like ſubſtance which occupies the upper part of the veſſel, and thin ſerous watery part, that remains in the bottom; draw off the thin part by opening the ſtop-cock, placed for that purpoſe cloſe above the bottom, and reſerve the cream for uſe. Not much leſs than half the milk is thus converted into a ſort of cream, which when well made ſeems to be as rich and fat as real cream itſelf, and is only diſtinguiſhable from that by its ſourneſs. It is eaten with ſugar, and eſteemed a delicacy, and uſually ſells at double the price of freſh unſkimmed milk. It requires practice to be able to make this nicely, the degree of heat of the water and many other circumſtances greatly affecting the operation. Theſe things practice beſt diſcovers."

Sheep and wool are the ſubject of numerous papers, which cannot but be of peculiar intereſt to the practical farmer. For the rot of which it has puzzled many able agriculturiſts to diſcover the cauſe, and which Mr. Arthur Young attributes to moiſture; Mr. Pryce, one of the contributors to this collection, endeavours to account in the following very plauſible manner:

"Is it improbable that ſome inſect finds its food, and lays its eggs on the tender ſucculent graſs found on particular ſoils, (eſpecially wet ones), which it moſt delights in? Or that this inſect ſhould, after a redundancy of moiſture, by an inſtinctive impulſe quit its dank and dreary habitation and its fecundity be greatly increaſed by ſuch ſeaſons, in conjunction with the prolific warmth of the ſun? The eggs depoſited on the tender germ are conveyed with the food into the ſtomach and inteſtines of the animals, whence they are received into the lacteal veſſels carried off in the chyle and paſs into the blood; nor do they meet with any obſtruction until they arrive at the capillary veſſels of the liver. Here as the blood filtrates through the extreme branches, anſwering to thoſe of the *vena porta* in the human body, the ſecerning veſſels are too minute to admit the impregnated ova, which adhering to the membrane produce thoſe animalculæ that feed upon the liver and deſtroy the ſheep. They much reſemble the flat fiſh called plaice, are ſometimes as large as a ſilver two-pence, and are found both in the liver and in the pipe (anſwering to that of the *vena cava*) which conveys the blood from the liver to the heart."

He then proceeds to recommend ſalt as being pernicious to moſt inſects, and likewiſe quotes the authority of Liſle, who, in his book of huſbandry, ſays that a farmer cured his whole flock of the rot by giving each ſheep a handful of Spaniſh ſalt, five or ſix mornings ſucceſſively.

On the ſame diſeaſe another correſpondent ſays, that the rot is occaſioned by the inſects found in the liver, and which are called

flukes, is very evident; but to account for their coming into the liver is not ſo eaſy. On killing a ſheep lately, which was ſeemingly in good health, I examined the viſcera carefully, and in ſome of the paſſages leading to the liver (which appeared turgid) I found a whitiſh thick liquor which appeared to be all in motion. On applying a pocket glaſs, I found it contain thouſands of theſe flukes, which were apparently juſt hatched, and about the ſize of mites. Theſe, if the ſheep had not been killed, would ſoon have obtained their uſual ſize, and proved its deſtruction."

The cultivation of potatoes is pretty largely treated and a uſe is pointed out by the ingenious Dr. Anderſon, by which that root may become ſtill more valuable to man. By diſtillation, the Doctor obtained from 72 lbs. of that root, a gallon of a ſpirit reſembling brandy, but of a far milder and more agreeable flavor than any brandy he ever taſted.

It would be impoſſible to enter into a detail of the numerous ſubjects treated of in theſe volumes. We cannot, however, take leave of them without earneſtly recommending them to the attentive peruſal not only of the practical farmer, but of every one engaged either for the purpoſe of profit or amuſement in the purſuits of agriculture. We can aſſure them that the trouble will be richly compenſated by the intereſting obſervations and information with which they abound.

II. *Tranſactions of the Society inſtituted at London for the Encouragement of Arts, Manufactures, and Commerce, with the Premiums offered in the year* 1802. *Vol. XX.* 8*vo.* 483 *pages,* 10*s.* 6*d.*

ON the utility and the beneficial influence upon every branch of induſtry and economy, of ſocieties eſtabliſhed for the purpoſe of encouraging and rewarding meritorious exertions, it would be impertinent here to expatiate. The improvements made in this kingdom in the numerous ramifications of our Arts and Manufactures within the laſt fifty years, afford undoubted evidence of the benefits reſulting from that ſpirit of honorable competition, which the labours of the various ſocieties have ſo powerfully contributed to promote.

Of the latter, the Society of Arts is entitled to merited diſtinction, not only for the liberality of their rewards, but for the extenſive public advantages embraced by their plan. By inſpection of the preſent volume it will be ſeen that their attention has been directed to objects of equal importance with thoſe contained in any of the preceding. In addition to the premiums originally offered for the year 1802, and which will be found in a former number of the Agricultual Magazine, the Society, with a laudable zeal in the cauſe of humanity, has propoſed the following for the purpoſe of alleviating the hardſhips attendant on the preſent method of cleanſing chimnies:

To the perſon who ſhall invent and produce to the ſociety the moſt effectual mechanical or other means for cleanſing chimnies from ſoot, and obviating the neceſſity of children being employed within the flues—the GOLD MEDAL.

For the next in merit—the SILVER MEDAL.

The mechanical or other means with certificates of their having been uſed with proper effect, to be produced to the ſociety on or before the firſt Tueſday in May, 1803.

The ſame premiums are extended one year farther.

To the perſon who ſhall during the year 1803, cleanſe or cauſe to be cleanſed, the greateſt number of chimnies, at leaſt two ſtories high, not fewer than three hundred, by any mechanical or other proceſs which does not require the employment of boys within the flues—the GOLD MEDAL.

Certificates ſigned by not leſs than two-thirds of thoſe houſe-keepers on whoſe premiſes the ſaid means have been employed, and an account of the proceſs, to be produced to the ſociety on or before the firſt Tueſday in February, 1804.

To the perſon who ſhall cleanſe, or cauſe to be cleanſed, the next greateſt number of chimnies, not fewer than one hundred and fifty, upon ſimilar conditions to the above—the SILVER MEDAL.

We ſhall proceed to lay before our readers a brief analyſis of the papers compoſing this volume, and ſhall for this purpoſe avail ourſelves of the conciſe ſketch of its contents preſented in the Preface.

"Under the claſs Agriculture, the Gold Medal of the Society was preſented to John Hunter, Eſq. of Gubbins, in Hertfordſhire; a gentleman conſiderably advanced in years, and who had devoted much of his time to improvements in agriculture; actuated by public ſpirit, he had lately made a plantation of forty thouſand oaks, uſing at the ſame time this memorable expreſſion, 'I have long employed myſelf in ſuch agricultural purſuits as have yielded to me ſome advantages; I will now bequeath a legacy, which will be a benefit to my country.' It is with concern we notice the ſubſequent deceaſe of this worthy character, after he had been highly gratified with the attention paid by the ſociety to his merit.

"The obſervations of the Rev. Richard Yates, F. A. S. on the culture and growth of oaks, convey information of great importance on the ſubject; and it is hoped will be conſidered with much attention.

"The extenſive plantations of larch trees, by John Chriſtian Curwen, Eſq. M. P. deſerve public approbation; the quick growth of the larch, and durability of the timber, when in uſe, entitle it to the particular attention of all perſons concerned in plantations. Mr. Curwen has extended the views of the ſociety, by additional experiments on fattening cattle with potatoes; and it is hoped that this object will be farther purſued.

"Henry Vernon, Eſq. of Hilton Park, continues, as will be ſeen from his Paper on Silver Firs, to extend his beautiful plantations.

"The communications from Mr. F. C. Cherry, of Stoke d'Aubernon, and Mr. Seth Bull, of Ely, give much ſatisfactory information, on the planting and growth of Oſiers. The advantages derived from them by the planters, the great conſumption of them by the baſket-makers, and employment afforded by them to the induſtrious poor, make them a deſirable object of a more extended encouragement and patronage.

"The utility of elm-timber has been long experienced; and it affords a pleaſing reflection to obſerve that Charles Gibſon, Eſq. of Quermore Park, has formed an extenſive plantation, on ſuch a plan as to intermix the beauties of foliage with valuable timber-trees.

" It having been too frequently obſerved, by the Committee of Agriculture, that the management of fallows, upon the careleſs principle of mere uncultivation, prevailed too generally throughout the kingdom, they have endeavoured, in their premiums, to correct ſo pernicious a ſyſtem, by preventing the growth of weeds, and uſing what are uſually termed meliorating crops; the production of a crop of beans, previous to the sowing of wheat, and during that time in which land is frequently allowed to lie idle, ſhows, in a ſtrong point of view, from the communication of Mr. Robert Brown, of Markle, the utility of the meaſure, and the neceſſity of its being more generally attended to.

" Of the great aſſiduity of Thomas Skip Dyot Bucknall, Eſq. frequent honourable mention has been made in many preceding Volumes of the Society's Tranſactions; his curious detail of the Hampton Court Vine, and his communication on the nature of the varieties of engrafted fruit-trees, in the preſent Volume, will be found to contain very important information to orchardiſts, and explain many points which have been heretofore very imperfectly underſtood, relative to the loſs of various ſpecies of fruits, and will be the means of furniſhing orchards with proper kinds for regular production.

" Another valuable paper on the management of fruit-trees is inſerted from William Fairman, Eſq. it is on the ſubject of engrafting, and entitled, ' Extreme Branch Grafting,' to diſtinguiſh it from that in common uſe. By Mr. Fairman's method, trees which have been in a vitiated or barren ſtate, have been rendered productive: new grafts having been introduced at the extremity of the branches, the beauty and ſize of the trees have been preſerved; the new grafts have not only become luxuriant, and produced large crops of fruit, but energy and vigour have been by them communicated to the parent ſtock, and indicated by healthy ſhoots and branches from every part of the tree.

" The very great attention paid by Mr. Johnes, of Hafod, to every branch of agricultural improvement, demands particular notice; and has well entitled him to the honorary rewards of the Society. To ſurmount the difficulty of local prejudice, is almoſt an Herculean taſk: we have even been told, that nature, in certain ſituations, is ungrateful, and that we may court her favours in vain; but Mr. Johnes has ſhewn the fallacy of this reaſoning.

" In the Preface to our laſt Volume, we gave a ſhort ſketch of the beautiful ſcenery created by him at Hafod, and noticed the improvements then taking place in his dairy; he has lately been occupied in collecting together the different breeds of milch-cows, and aſcertaining their comparative merits. He has imported above forty cows from Holland. He has refuted the erroneous notion, that varieties of Cheeſe could not be produced on the ſame land. His dairy furniſhes him with the kinds ſo nearly reſembling Parmeſan, Stilton, Glouceſter, Lancaſhire, Cheſhire, &c. and ſo excellent in quality, as not to be diſtinguiſhed either in form or taſte from thoſe they are intended to imitate.

" He has cultivated, upon an extenſive ſcale, wheat, barley, rye, potatoes, and yams; and his crops, have been equal to thoſe of the

Southern counties of England. When we conſider his exertions, we reflect with pleaſure what may be done by individuals for the general ſervice of mankind.

" Before our obſervations are cloſed under the claſs of Agriculture, the great additional value made by Mr. Beech in his land, by plantations and drainings, ſhould not paſs unnoticed.

" Mr. Spencer Cochrane's communication on the culture of wheat ſown in the ſpring, is a further confirmation to a paper in the laſt volume, by Mr. Brown, of Markle, on this ſubject; but though it appears that good wheat may be produced in the ſame year from any kind hitherto tried, it may, nevertheleſs, be important to aſcertain what particular ſpecies of wheat is moſt early in its produce, and beſt adapted for ſowing in the ſpring.

" Under the claſs of Chemiſtry will be found an account by Mr. Thomas Willis, an ingenious chemiſt, of his application of the bulbs of the *Hyacinthus non ſcriptus*, as a ſubſtitute in many caſes for Gum Arabic or Senegal. When it is conſidered that theſe gums have been ſold for many years on an average of 9l. per cwt. it is probable this ſubſtitute will be a valuable acquiſition to the calico-printers, as the quantity of gum imported in 1801 was upwards of two millions of pounds.

" The edulcoration of fiſh-oil has been for a long time thought of conſequence to this kingdom; and the eſtabliſhment of peace renders every object, which can give encouragement to our ſailors at this criſis, particularly deſirable. In ſuch a view, the whale fiſheries of this United Empire, and every improvement of the oil when produced, ſo as to make it anſwer the purpoſes of the other foreign oils, is important; the quantity of foreign olive oil imported into Great Britain in the year 1801, being above 1180 tons in weight. Though forty-two years have elapſed ſince the late Mr. Doſſie's paper on the edulcoration of fiſh-oil was rewarded by the ſociety, yet it will be found to contain much information ſtill uſeful on the ſubject, and to be equal to other more modern modes for producing ſimilar effects; it will certainly ſhow that the ſubject was better underſtood at the time it was written than has been lately ſuppoſed.

" It is to obſerved, that ſince the eſtabliſhment of the Royal Academy, the bounties of this ſociety, in the claſs of Polite Arts, are chiefly directed to young artiſts of two deſcriptions, viz. to thoſe of fortune, whoſe taſte may lead them to become patrons of the Polite Arts, or as a ſtimulus to others who are likely to become profeſſional artiſts.

" The rewards, therefore, for encouraging riſing genius beſtowed by the ſociety under this claſs, are not uſually detailed in the body of the volume, but may be found in page 386.

" The improvements of Great Britain in her manufactures within a few years, almoſt ſurpaſs belief; and the art of weaving by machinery alone, in a very extenſive manner, is likely to be generally adopted, and to render Europe dependent upon this united Empire for manufactures. Every individual manufacturer ſeems anxious to excel in improvements; and the loom invented by Mr. Clulow, and noticed in this volume, not only poſſeſſes the advantage of weaving ſacks and ſimilar articles without ſeams, but its conſtruction is ſuch

as to ſhow the means of giving firmneſs and ſtability to looms and fabrics of every deſcription.

" Under the claſs of mechanicks, a variety of articles rewarded by the ſociety, will be here noted in the order they are printed in the volume.

" The gun-lock, invented by Mr. Webb, is well calculated to prevent the accidents which frequently happen from the eagerneſs or careleſſneſs of ſportſmen.

" In the hurry of paſſing through a hedge, a twig catching the trigger, often fires a common fowling-piece unintentionally; or a ſimilar gun, left careleſsly loaded, is taken up and fired without conſideration. In the firſt inſtance, the ſame cauſe is not likely to produce a ſimilar effect in Mr. Webb's Lock, and in the ſecond, the compound motion of the finger and thumb required to diſcharge the piece, though familiar to the ſportſman, will not be found out ſo eaſily by a novice in the art.

" Mr. Knight's improvement for ſeparating ſtumps of trees, and uſeleſs blocks of wood, by means of gunpowder, will furniſh the farmer with many a comfortable fire, inſtead of ſuffering ſuch logs to remain a nuiſance to the land, as has been frequently the caſe.

" The dreadful ravages occaſioned by the dry-rot in timber, are too well known to require any comment; and the expenſe it occaſions is enormous.

" The iron lever invented by Mr. Woart, and which has been found to anſwer well in practice, is likely to check its miſchief, and give ſecurity to the building at a very moderate charge. Its ſimplicity and effect do great credit to this ingenious workman.

" The exiſtence of mill-ſtone quarries in Great Britain, to anſwer the purpoſe of French burr-ſtone for grinding corn, and to preclude the neceſſity of procuring annually 27,000 burr-ſtones from France, has, during the laſt three years, been ſo clearly aſcertained in Carnarvonſhire, Montgomeryſhire and Scotland, as to render an offer of further premiums in that line unneceſſary. Mr. James Brownhill, of Alloa, near Stirling, in Scotland, has lately received from the ſociety a reward of one hundred pounds for his diſcovery of a quarry of ſtone at Abbey Craig, the mill-ſtones from which, by numerous certificates, are reported to have produced more flour, of a better quality, and in leſs time, than has been produced by French burrs from an equal quantity of the ſame wheat.

" In the month of January laſt, a reward was recommended by a Committee of the Society to Mr. Henry Greathead for his life-boat, and their Gold Medal and Fifty Guineas, were adjudged to him immediately afterwards. The ſubſequent rewards granted to him from government, alſo from the Trinity Houſe, and Merchants at Lloyd's, confirm the opinion of the Society, on the merits of this invention.

" The ſociety have lately voted their Gold Medal to William Hall Timbrel, Eſq. for his improvement of herniary truſſes, and his new-invented calico cuſhion.

" In the department of colonies and trade, many intereſting communications have been made to the ſociety, during their laſt Seſſion.

" The culture of the bread-fruit tree appears to be generally extended throughout the Weſt-India iſlands, and likely to be very bene-

cial. The accounts received from the Honourable Joſeph Robley, governor of Tobago, ſhow an aſtoniſhing increaſe in his plantation, and that his efforts in that line are ſucceſsfully continued.

"From communications received by the ſociety from other correſpondents, it appears, that a dry nouriſhing food, reſembling Tapioca in appearance and quality, may be prepared from it. Some cakes, well flavoured, made from ſuch flour, have been ſent to the ſociety; and ſpecimens of the bread-fruit, preſerved in various ways, are now in their poſſeſſion.

"The indefatigable exertions of Dr. Anderſon, of the botanical garden at St. Vincent, have been rewarded by the Gold Medal of the ſociety: the good effects of that eſtabliſhment have not only been proved there, but have been extended by him to moſt of the neighbouring iſlands, and likewiſe to Great Britain.

"The garden has lately been enriched by many valuable exotics, procured by him from Trinadad and Cayenne, of which he has furniſhed a liſt to the ſociety, amongſt which, two of the true nutmeg trees are very important acquiſitions.

"It is underſtood, that the boundaries of the garden will ſoon be enlarged by order of government, and there is no doubt that proportionable advantages will ariſe from Dr. Anderſon's well-known activity."

We have nothing further to add but that beſides nine other plates, this volume is embelliſhed with a well executed portrait of the late lamented Duke of Bedford, from a buſt executed by Nollekens.

HISTORY.

National Transactions.

GREAT BRITAIN.

OUR domeſtic politics of the paſt month preſent a vigorous diſplay of preparation and energy. The army of reſerve bill has paſſed into a law, and government have reſolved upon a plan of organizing it, which will go a great way to anſwer ſome of the ſtrongeſt objections that were made againſt the plan of this levy. It is not intended that the new recruits ſhould be kept diſtinct from the regular army, and trained at ſeparate depots, a mode of proceeding which would have rendered it impoſſible to diſcipline them in a very long period. They are to be joined with the regular regiments now at home. As ſoon as the ballot takes place, and men are pitched upon, they are to be ſent off inſtantly to the head quarters of the neareſt regiments. The great and immediate advantage will be to give us a regular army within a very ſhort ſpace of time.

But ſtill more efficient meaſures are to be adopted to meet the danger with which the independence, the very exiſtence of the country, is threatened by the ambition and malice of our implacable enemy. A bill is now in its progreſs through the Houſe, by which it is intended to rouſe all the energies of the nation to meet the utmoſt danger to which we may be expoſed. The following are ſome of the clauſes contained in it as it ſtands at preſent:

That there ſhall be a general arming of the people.

That there ſhall be a general arming of the people.

That all males, from 17 to 55, in every pariſh throughout theſe kingdoms, ſhall be regularly trained to the uſe of arms.

That this armament ſhall be divided into four claſſes, viz. the firſt ſhall conſiſt of perſons from the age of 17 to 30, who are unmarried, and have no children of ten years old. The ſecond of the ſame deſcription from the age of 30 to 50. The third of thoſe who are married, from the age of 17 to 50, and have children above ten years old. And the fourth of all thoſe who do not come within the above-mentioned deſcriptions.

That the clergy, quakers, and medical men, the militia, the army of reſerve, the volunteer corps, &c. ſhall be exempted from the operations of the bill.

That the Lords Lieutenants ſhall be empowered and commanded, in conformity to the general plan of defence, to cauſe all the men in the different pariſhes of all the counties, to be inſtructed in the uſe of arms once a week, from Lady-day to Michaelmas.

That his Majeſty ſhall be enabled to order the deputy lieutenants to aſſemble the whole, and to direct that one or two of the claſſes, or all, if neceſſary, ſhall, in caſe of invaſion, march to the coaſt, or elſewhere, againſt the enemy.

A ſea fencible eſtabliſhment, upon a very extenſive ſcale, for the protection of the coaſt, is likewiſe immediately to be adopted. It is to compriſe all fiſhermen, and other perſons occupied in the ports and upon the coaſt, but who are now, from the very nature of their occupations, protected from the impreſs. Theſe are to be claſſed in diſtricts, and put under the command of proper naval officers, and are to act as the emergency of the moment may require, on ſhore or afloat. A hundred poſt captains and commanders, with a proportionate number of lieutenants, are already appointed to this ſervice.

The conſideration of theſe momentous objects and the providing for the burthens which muſt neceſſarily be impoſed upon the people in conſequence in the augmentation of the army and navy, have principally occupied the attention of parliament in the courſe of the paſt month. On the 20th, a meſſage from his Majeſty was brought down to the Houſe of Commons by the Chancellor of the Exchequer, to the following effect.

"G. R.

"His Majeſty relying on the zealous ſupport of his faithful Commons in the vigorous proſecution of the war in which the country is engaged, recommends to the Houſe to conſider of making proviſion towards enabling his Majeſty to defray the extraordinary expences incurred in the ſervice of the preſent year, to take ſuch further meaſures as the exigency of affairs may require."

With a navy equal to the combined fleets of the reſt of the univerſe, with a people loyal, united, attached not from habit but principle to a conſtitution they revere, and a Sovereign whom they love, it can ſcarcely be doubted what the reſult of a conteſt will be, ſhould our ſanguinary foe be ſo infatuated as to attempt the execution of the purpoſes he avows.

FRANCE. The firſt Conſul is ſtill on his tour through the northern departments, and every where experiences the ſame reception. The tribute of ſervility and blaſphemous adulation is laviſhed upon him from every quarter.—On the 10th Madame Bonaparte, arrived at Bruſſels from Ghent, and the firſt Conſul was expected to make his ſolemn entry into that city on the 20th or following day.

Every nerve ſeems to be ſtrained for the purpoſe of equipping a navy, and ſubſcriptions have been entered into throughout the whole Republic to defray the expences of building veſſels and gun-boats for the meditated invaſion of this country. The hopes of the military are inflamed with the promiſe of the rich plunder of the metropolis of Britain, and the vileſt falſehoods and moſt atrocious calumnies are propagated to obtain popularity for a meaſure of which cooler reaſon would convince them of the impracticability.

The number of troops to be employed in the expedition, is now eſtimated at 200,000 men. Immediately after harveſt, camps will be formed of 60,000

men near Cherbourg; 50,000 near St. Omer's; 50,000 near Compeigne, and 40,000 in the Batavian Republic. The large flotillas will be aſſembled at Dunkirk, Boulogne, and Calais. We are aſſured that BONAPARTE will command the grand army againſt England in perſon; and that the Miniſter at War, General BERTHIER, will undertake the direction of the Staff. Mean while trade droops, and the commerce of the country ſuffers by the captures of the Engliſh. The colonies cannot ſtand long, cut off from the aſſiſtance of the mother country; they muſt fall into our hands the moment a force is diſpatched to take poſſeſſion of them.

GERMANY. In conſequence of his Majeſty having refuſed to ratify the convention of Suhlingen, by which the French were put in poſſeſſion of Hanover, it was declared void by the French government, and the Hanoverian army, which had retired to the diſtrict of Lauenburg, began to put itself in the beſt poſture of defence for the purpoſe of reſiſting the paſſage of the Elbe. The French army alſo began to prepare for the recommencement of hoſtilities, and were to have attempted to force the paſſage of the river, but the Hanoverian General Walmoden made freſh overtures to the French General, which were accepted, and a capitulation was concluded by which the Hanoverians were to lay down their arms, the men to return to their reſpective habitations and to engage not to ſerve againſt the French until they ſhould be regularly exchanged. Commiſſioners are expected at Hanover from Copenhagen and Hamburgh, for the purpoſe of negociating with General Mortier reſpecting the free navigation of the Elbe. It is poſitively ſtated, that the Senate of Hamburgh has offered a very conſiderable ſum for permitting the inhabitants to continue their direct commerce with England. In the mean time their trade is completely at a ſtand; and ſhould the negociation be unſucceſsful, the trade of the Continent muſt be carried on by the Sound and Lubeck, to the very great injury of Hamburgh. The Senate of that city has, it is ſaid, given its conſent to the occupation of Cuxhaven by the French troops.

The ſtates of Hanover, it appears, are oppreſſed by heavy contributions, and it is certain ſomething is at preſent negociating with the Northern Powers reſpecting its fate.

HOLLAND. The unfortunate Dutch are compelled daily to give freſh proofs of the abject ſtate of vaſſalage in which they are held by the Firſt Conſul of France. The Batavian Government was obliged, on the 5th inſtant, to publiſh a decree, forbidding the importation, directly or indirectly, of Britiſh Merchandize into the Ports of the Republic.

According to meaſures recently adopted by the French and Batavian government, the latter will have 18000 French troops in its ſervice during the war; it will beſides have a moveable corps of 10,000 Batavian troops, and will furniſh a great number of flat bottomed boats as well as ſome ſhips of the line and frigates.

PRUSSIA. A report is confidently circulated over the North of Germany, that a ſpecific offer of mediation has been made by the Pruſſian Cabinet. The foundation of this mediation is ſtated to reſt on the occupation of the Iſland of Malta for ten years by a Ruſſian garriſon, to be paid jointly by this country and France; the ceſſion of the Iſland of Lampedoſa to England; and the reſtitution of the iſland to the Order at the expiration of the ten years.

The communications at leaſt between the court of Berlin and that of the Thuilleries are extremely frequent. It is believed that the mediating powers will ſucceed in putting an end to the war which has broke out between England and France. The King of Pruſſia has received the moſt ſatisfactory aſſurances from the Firſt Conſul, relating to the neutrality of the Hanſeatic towns and liberty of the navigation of the Elbe and the Weſer.

TURKEY. During the war againſt the French in Egypt, the Porte ſent thither about 10,000 Arnauts or Albanians. After the convention

was concluded with the Beys the Porte propoſed to recal theſe troops which were now diminiſhed to the number of 16,000: but conſiderable arrears of pay being due to them, they mutinied, ſeized on the palace and treaſures of the Pacha, and made themſelves maſters of the forts and whole city of Cairo. The Porte is in great conſternation at the loſs of the Capital of Egypt, and has appointed the brother of Seid Ali Pacha of Cairo, who is inſtantly to ſail with the fleet of the Captain Pacha.

The Pahca of Bagdad has defeated a corps of Arabian rebels; they are however ſtill in great force, and being joined by new followers every day, fears are even entertained for Bagdad.

The Porte has received advice from the Pacha of Damaſcus, that he had with a ſmall body of troops which eſcorted a large caravan, defeated and diſperſed the troops of the rebel Abdul Wechab near Medina, by which the cities of Mecca and Medina were again recovered.

ITALY. The French army in Italy will, it is ſaid, conſiſt of from 100 to 110,000 men. It will be divided into three bodies, one of which is to be ſtationed in Piedmont under the command of General Dupont Chamont, commander in chief of the ſix new departments. The army of Italy, properly ſo called, which is ſtated to be 50,000 ſtrong, is to be divided into ſeveral bodies which are to occupy Liguria, Tuſcany, Lombardy &c. the army of obſervation under the command of General St. Cyr, is now in the Neapolitan territories and is to be encreaſed to 50,000 men, including the Italian troops.

The King of Naples has publiſhed a declaration, ſtating his reſolutions to maintain the ſtricteſt neutrality in the war that has broken out between England and the French Republic. In conſequence his Majeſty forbids any of his ſubjects to enter into the ſervice of either of the Belligerent Powers. This however does not agree with another account which ſtates, that the Engliſh fleet in the Mediterranean has been conſiderably reinforced; one diviſion blockades the port of Porto Ferrajo and Leghorn; another is, cruiſing in the Strait of Meſſina, to prevent the French from paſſing over to Sicily, and frigates are ſtationed before the principal ports of the kingdom of Naples.

SPAIN. It is not improbable that letters of marque and repriſals will, in a ſhort time, be iſſued againſt Spain. Government has, we are aſſured, received authentic information that the wiſhes expreſſed by the court of Madrid to preſerve a ſtrict neutrality, have been completely fruſtrated by the poſitive injunctions of Bonaparte, who requires every poſſible exertion on the part of Spain to co-operate in his views againſt this country, by the aſſiſtance of her navy.

ST. DOMINGO. Accounts from St. Domingo, dated in March, April, and May, ſtate that this ill-fated colony continues to be the theatre of the moſt dreadful maſſacres and ravages. Several ſevere engagements have taken place, in which much blood has been ſhed on both ſides. It is ſaid that no Negroes remain on the plantations, they having all retired to the mountains, where they are ſupplied with food and ammunition. Although 8 or 10,000 troops have arrived from France, they have been diſtributed into different diſtricts, ſo that no traces of them appear. An army, and a very conſiderable one, is ſaid to be ſtill wanting to enable the Government troops to commence a campaign from every quarter at once, which alone can afford a proſpect of reſtoring the iſland to tranquility.

Agriculture.

THE hay harveſt is finiſhed in England, and is over in moſt parts of Scotland. The crops have been in general well got in, and have been, with a few exceptions, heavy, thick, and abundant.

The crops of grain throughout the kingdom promiſe a moſt abundant harveſt. In the weſtern counties, and in South Wales, they are ſo luxuriant, and wear ſuch a favourable appearance, that the prices of corn have fallen within theſe few weeks.

In Yorkſhire, and the adjoining counties, they are abundantly great, and the wheats and rye are in great forwardneſs.

In Scotland, the oats and wheat will be a good crop in general, and promiſe well in all parts of the country. Potatoes are thriving and early, and if the favourable weather continue till harveſt, moſt plentiful crops of every kind may be expected.

Black cattle and ſheep are, however, ſtill uncommonly high.

The orchards in the Weſt of England never wore a richer promiſe than they do this ſeaſon. The trees are already bending under the abundance of fruit.

Yorkshire East Riding Show of Cattle, Great Driffield.

The Committee for conducting the concerns of the ſhow, conſiſting of the following gentlemen:

SIR MARK M. SYKES, Bart. Sledmere-Houſe,
EDWARD TOPHAM, Eſq. the Wold Cottage,
JOHN GRIMSTON, Eſq. Neſwick,
RICHARD BETHELL, Eſq. Riſe,
And DIGBY LEGARD, Eſq. Ganton-Houſe,

have adjudged the following Premiums to be diſtributed on Wedneſday, the tenth day of Auguſt next:

	£.	s.
For the beſt ſheep, of any age, and bred in any part of England	10	10
For the beſt ſhearling ſheep, bred in the Eaſt Riding of Yorkſhire	10	10
For the ſecond beſt ditto, bred as above	6	6
For the third beſt ditto, bred as above	4	4
For the beſt aged bull, bred any where, but reſtricted to remain ſix months in the Eaſt Riding afterwards	8	8
For the beſt two years old bull, bred in the Eaſt Riding, and reſtricted to remain ſix months there	6	6
For the ſecond beſt ditto, bred as above, and reſtricted as above	4	4
For the beſt two years old heifer, bred in the Eaſt Riding	5	5
For the beſt yearling heifer, bred as above	5	5
For the beſt boar, to remain ſix months in the Eaſt Riding	5	5
For the ſecond beſt ditto, to remain as above	3	3
For ten of the beſt ſhearling wethers, bred in the Eaſt Riding	10	10

MEMORANDUM.

In any caſe where there may not be a Competitor, or where the Committee may not think the cattle or ſheep ſhown, ſufficiently excellent to deſerve a premium, they reſerve to themſelves a right of with-holding the whole, or what part of it they may think proper. All the ſheep intended to be exhibited, muſt be unlet on the day of ſhow, for the benefit of the Eaſt Riding.

Gentlemen and others who wiſh to patroniſe this very uſeful object of Agriculture, are requeſted to forward their Subſcriptions to Mr. William Drinkerow of Great Driffield.

On the ſhow day, (Wedneſday the tenth of Auguſt) a dinner will be provided in the Hunt-room after the ſhow.

BY ORDER.

South Devon Agricultural Society.

London Inn, Ivy-Bridge, June 1, 1803.

At a general Meeting of this Society held here this day,

PAUL TREBY TREBY, Eſq. Preſident, in the Chair.

The minutes of the laſt general meeting, and alſo the minutes of the adjourned meeting having been read,

Richard King, Eſq. was elected Preſident for the year enſuing.

The following Premiums were adjudged by the Society's Inſpectors:

	£.	s.	d.
1ſt.—To Mr. J. Skinner, of Dartington, for the beſt ſtallion	5	5	0
2d.—To Mr. Sampſon Croker, of Ugborough, for the ſecond beſt ditto	3	3	0
6th.—To Mr. Jaſper Parrott, of Berry Pomeroy, for the beſt breeding cow	5	5	0
7th.—To the Right Hon. Lord Heathfield, for the ſecond beſt ditto	3	3	0
8th —To Mr. Jaſper Parrott, of Berry Pomeroy, for the beſt ram	5	5	0
9th.—To Mr. J. Sellock, of Harberton, for the ſecond beſt ditto	3	3	0
14th.—To Mr. Richard Torr, of Ugborough, for the beſt lot of two-toothed, or hog ewes	3	3	0
There being no competition for the 15th and 16th premiums, half the beſt premium was given to Mr. Richard Hudder, of Ugborough, for producing a very fine fat wether, which was killed, and gave great ſatisfaction to the ſociety	1	1	0
There being likewiſe no competition for the 17th and 18th premiums, half the beſt premium was given to Mr. J. Hannaford, of Ugborough, for producing a very fine boar	1	1	0
19th.—To Chriſtopher Savery, Eſq. of Aveton Gifford, for the beſt ram's fleece ſhorn on the ſpot	2	2	0
20th.—To Mr. Edward Mathews, of Modbury, for the ſecond beſt ditto	1	1	0
21ſt.—To Samuel Andrews, of Harberton, the beſt ſheep ſhearer	2	2	0
22d.—To George Grills, jun. of Modbury the 2d beſt ditto	1	10	6
23d.—To Thomas Stantiford, of Aveton Gifford, the third beſt ditto	1	1	0
24th.—To John Head, of Harberton, the fourth beſt ditto	0	11	6

Reſolved, That the Secretary ſhould immediately write to all thoſe members whoſe ſubſcriptions are in arrear, and requeſt the payment of them.

Reſolved, That the thanks of this meeting be given to all thoſe gentlemen and farmers who produced the various kinds of ſtock on this day, particularly to Mr. Jaſper Parrot, of Berry Pomeroy, for producing a very fine bull. Mr. Parrott was aware that he would not get the Society's third premium, having obtained it two years ago. This fine animal was exhibited merely to entertain the amateurs.

Reſolved, That the thanks of this meeting be given to the Society's inſpectors, for their great attention and impartiality.

Reſolved, That the thanks of this meeting be given to the Preſident for his great attention to the buſineſs of the day.

Signed by order,
RICHARD HAWKINS, Sec. and Treaſurer.

Thirsk Agricultural Society.

The next meeting of this Society will be held at Mrs. Caſs's on Friday the Fifth day of Auguſt next, being the ſheep fair, when the following premiums will be given:

	£.	s.
For the beſt ſhearling tup	3	3
For the beſt tup, two ſhear or upwards	3	3
For the beſt two year old heifer in calf	4	4
For the beſt milk cow in calf	2	2
	£.12	12

N. B. No milk cow or horſe having gained a premium ſhall be entitled to a ſecond premium at any future ſhow. The ſheep ſhown for premiums to be fed on green food and hay only.

York Agricultural Society.

The following Premiums will be given by this Society, at their next half yearly meeting, to be held the Eleventh of Auguſt next (the day preceding York Lammas fair)

	£.	s.	d.
1ſt. To the cottager, or day-labourer by whom the greateſt number of legitimate children (not leſs than ſeven) have been maintained and educated, without any, or the ſmalleſt aſſiſtance from the pariſh, prior to the 1ſt of Auguſt, 1803 . . .	5	5	0
2d. To the cottager, or day-labourer who ſhall have maintained and educated the next greateſt number, under the ſame reſtriction	3	3	0

A certificate of the number of children, and their ages, and whether or no the cottager or day-labourer had any, and what aſſiſtance from the pariſh, ſigned by the Miniſter or Overſeer of the poor of the pariſh, muſt be ſent to the Secretary, on or before the 9th of Auguſt next. Thoſe who received theſe premiums laſt year, are not to be entitled to them this.

3d. To the perſon who ſhall exhibit to the Society, at the next meeting, or at the ſpring meeting, 1804, any implement of huſbandry that may be deemed more uſeful and convenient than thoſe at preſent in uſe in this county, a ſum (according to its merit) not exceeding	5	5	0
4. For the beſt three-years old heifer with calf . .	3	3	0
5. For the ſecond beſt ditto	2	2	0
6. For the beſt two years old heifer with calf . .	3	3	0
7. For the ſecond beſt ditto . . .	2	2	0
8 For the beſt ſhearling tup, to be kept in the county of York for one year afterwards	5	5	0
9. For the ſecond beſt ſhearling tup, with the ſame reſtriction	3	3	0
10. For the beſt two ſhear tup, with the ſame reſtriction	4	4	0
11. For the ſecond beſt two ſhear tup with the ſame reſtriction	2	2	0
12. For the beſt ſhearling gimmer	2	2	0
13. For the beſt boar, to be kept in the county of York for the uſe of ſows, one year afterwards . . .	2	2	0

CONDITIONS. All ſtock ſhewn for the premiums muſt be *bona fide*, the property of the candidate.

Any ſheep that is ſmeared, coloured, or clipped, after he has loſt his fleece will not be allowed to be ſhewn; and a certificate of the time when ſhorn as well as of his age, muſt be produced.

The ſociety reſerve to themſelves the right of with-holding any premium whatever until they are convinced that the claimant is in every reſpect fully and fairly entitled to it; and if it be found that any candidate has attempted to impoſe upon the ſociety by falſe and unfounded claims, or has not abided by the reſtriction required by the ſociety, he ſhall forfeit ſuch premium, and be incapable of receiving any for the future, and of continuing or becoming a member of the ſociety.

The annual ſheep ſhearing at Holkham, the magnificent ſeat of Mr. Coke, (M. P. for Norfolk,) was concluded on the 23d. ult. During its continuance, there were ſome of the fineſt South Down and Leiceſter ſheep expoſed for inſpection. Among the principal gentlemen who partook of the ſplendid hoſpitalities of Mr. Coke, were the Dukes of Bedford and Norfolk, Prince Eſterhazy of Hungary, Lords Thanet, Talbot, and Bradford, Sir Charles Danvers, Sir J. H. Aſtley, Sir Joſeph Banks, the American and Swediſh Ambaſſadors, Mr. Howard, and Mr. A. Young.

STRANRAER, JUNE 15.—The firſt general annual ploughing match of the upper diſtrict of the county of Wigton, took place in a field at Mains of Freugh, yeſterday, attended by the agricultural ſociety of the diſtrict, and a number of reſpectable ſpectators; when the ploughmen having taken their ſtations by lot, twenty-two ploughs ſtarted, and the work was performed

much to the ſatisfaction of the ſociety. The judges adjudged the prizes as follow: 1ſt, or higheſt premium to A. Paterſon, ſervant to Mr. Maitland, of Freugh—2d, to John Learmont, ſervant to Mr. M'Chlery, Mountpleaſant—3d, to John M'Cubbin, ſervant to Mr. Roſs, Bridgebank—4th, to John M'Dowall, ſervant to Mr. Lennox, Mark.—5th, to Alex. Davidſon, ſervant to Mr. M'Chlery.—6th, to Alex. M'Williams, ſervant to Mr. Roſs.—7th, to Francis Pringle, ſervant to Major Cathcart, of Grenoch.—8th, to Thomas Scott, ſervant to Mr. Maitland.—9th, to John Maxwell, ſervant to Mr. David Shank. The Society then adjourned to the King's Arms Tavern, Stranraer, to dinner, where a number of loyal and patriotic toaſts were drank, and the evening ſpent with much conviviality and good humour. It is but fair to ſtate, that ſince the eſtabliſhment of the above mentioned ſociety, a ſpirit of agricultural improvement has been diffuſed throughout the diſtrict unknown at any other period; and taſte for nice huſbandry has become almoſt general, and has had the happieſt effect on the country.

At the Anniverſary of the Kent Society for the encouragement of Agriculture and Induſtry, holden at Canterbury, the 3d of June. The following Premiums were given: To ſervants in huſbandry for long and faithful ſervices.

Married Servants.—To William Palmer, ſhepherd to Captain Honywood, Sibton, twelve years.

To Robert Mutton, waggoner to Mr. Richard Garner, of Bridge, nine years.

Single Servants.—To John Hobday, ſecond plough boy, waggoner's mate, and ſecond ploughman to James and Margaret White, of Monkton, twenty-two years.

To Henry Divers, bailiff to Mr. Richard Coleman of Gadmerſham Court, nineteen years.

To Phœbe Martin, dairy maid to Mrs. Catherine Button, of Warehorne, twenty-one years. Two guineas each premium.

Boy.—To Thomas Anſley Allworks, boy to Mr. Vincent Terry, of Lower Hardres, firſt ſervice, one guinea.

To labourers in huſbandry for long ſervices, two guineas each premium.

To Nathaniel Pilcher, labourer to Mr. Thomas Neame, of Selling, thirty-two years.

To Richard Coleman, threſher to Mr. Richard Coleman, and his father, of Godmerſham Court, twenty-ſeven years.

To Henry Head, threſher to Mr. John Waller, of Preſton, next Feverſham, twenty-ſix years.

To labourers in huſhandry who have brought up the largeſt families with the leaſt aſſiſtance from their reſpective pariſhes, Two guineas each premium.

To Edward Morris, of Headcorn, nine children born, ſeven brought up.

To John Impett, of Stourmouth, nine born, ſix brought up.

To Luke Langford, of Weſtbere, ten born, ſix brought up.

A premium of three guineas for the greateſt number of ſtocks of bees kept by cottagers, two guineas for the next greateſt number, and one guinea for the third greatest number were offered, but there being only one claimant, and that for only ſeven hives, the loweſt premium only was given to William Matſon, of St. Stephens.

ORDERED,—That a premium of ten guineas be given to the beſt ram bred in Kent, and produced at the wool fair at Aſhford, on Wedneſday the 3d of Auguſt next, and a premium of five guineas to the ſecond beſt produced.

ALLEN GREBELL, Secretary.

POTATOE PLANTING—With much pleaſure we announce to our readers the following important improvement in Agriculture. Upon the eſtate of Mr. John Izon, junior, of Barnbrook-Hall, near Birmingham, four ſtatute acres of land were planted with potatoes, on the 16th of May laſt, with a plough conſtructed on a new plan. The whole was performed in

nine hours, with unrivalled neatneſs and regularity, by one team only, and from eight to ten perſons to drop the ſets; (having begun at eight o'clock in the morning, reſted one hour at noon, and finiſhed by ſix in the evening.) This inſtrument has, for a ſeries of years, been moſt ſucceſsfully uſed by its inventor, the Rev. Mr. D. Lewis of Weſtbromwich, as well as by ſeveral others, who were liberally favoured with permiſſion to have ploughs made upon the ſame model. It is perfectly ſimple in its conſtruction; and ſo peculiarly adapted to the cultivation of this moſt uſeful root, that it will not only hoe or mould, but even get up an equal quantity of acres in the ſame time, provided there be a ſufficient number of hands to gather the potatoes, which it will effectually expoſe to view, without the application of forks.

This mode of cultivation is attended with very eſſential advantages to the agriculturiſt. The expences, when compared with any other method, are reduced to a mere trifle; the land is rendered conſiderably more productive, by reaſon of the ſuperior manner in which it is worked, (the hoeing and moulding being always ſo effectually done, as to deſtroy every kind of weed, whether annual or perennial;) the potatoes are got up without being cut or injured; and the ground at laſt is left clean, and ready for the reception of ſucceeding crops.

A petition has been preſented to the Houſe of Commons, from a number of hop-growers in Kent, ſtating, that the revenue ariſing from this article amounted to 600,000l. a-year, but which was greatly injured by the ſubſtitution of *Quaſſia* inſtead thereof in the brewing of malt-liquors; the petitioners therefore prayed the protection of the Houſe, that the uſe of the Indian drug *Quaſſia* might be prohibited in the brewing of malt-liquor.

A cauſe of much importance to farmers was a few days ago decided by his Majeſty's Juſtices of the peace of the county of Roxburgh. The circumſtances of the caſe are as follow:—A neighbouring farmer engaged a ſhepherd for one year, from Whitſunday 1802 to Whitſunday 1803, and beſides other conſiderations, he was to be allowed to keep eight ſheep of his own upon his maſter's ground. Some time after Whitſunday, it was diſcovered that the ſhepherd kept more ſheep than he was allowed to do by his bargain; and the maſter afterwards learned, that although his ſervant acknowledged his fault at the time, and promiſed not to do ſo in future, he had continued to keep a greater number of ſheep than the articles of his agreement allowed him. The maſter, both in juſtice to himſelf, and for the ſake of public example, brought a complaint againſt him before the Juſtices of the Peace, who having heard parties upon the queſtion, found the libel proved againſt the ſhepherd, and in conſequence thereof found him libel in 20s. in name of graſsmail for each ſheep he had kept over the number agreed on, beſides 20s. additional for each, in name of damages, and the whole expences of proceſs; and at ſame time intimated to him, that if any complaints of a ſimilar nature were again brought againſt him, they would commit him to hard labour in the houſe of correction.

There is ſuch a quantity of barley in Briſtol, that it is offered at 2s. 6d. per buſhel. Prime hams are alſo ſold at 9d. per pound.

At Hereford wool fair, the average price was from 27s. to 30s. per ſtone for fine wool. Some was, however, ſold at 25s. and one very curious ſample went as high as 33s. 6d. Coarſe wool averaged 13s. There was but an indifferent ſhow of horſes, and the ſale rather dull. Hops 4l. 10s. to 5l. per cwt.

The laſt Worceſter toll-free market, was but thinly ſupplied with cattle and ſheep, notwithſtanding which, the ſale was dull, and the prices rather lower.

At Brecon fair, an unuſual number of lambs was exhibited, which met a ready ſale. The ſhow of cattle and horſes was not great; but the prices were rather on the advance. Till within theſe few weeks the market has been but ill-ſupplied with wheat; on the laſt market days, however, abun-

dance of all kinds of grain has been brought for ſale, and at reduced prices.

At Glouceſter fair, the number of fat cattle was ſmall, and they ſold at about 7½d. per lb. Store cattle were very dear. Of good horſes there was a ſmall ſhow; and moſt of the uſeful ones were bought by Mr. Welling, a government-contractor for the artillery.

At Shrewſbury wool fair, the prices of the different ſorts were about 2s. per ſtone leſs than laſt year. The ſhew of good horſes was ſmall. Pigs continue to fall in price. Cattle and ſheep about the ſame as laſt fair.

At Cheſter Midſummer fair very conſiderable bargains were made in the Mancheſter and Iriſh trades; in both, the ſhew of goods was prodigious: and at preſent, the wares of Ireland bring uncommonly good prices, while thoſe of Mancheſter, though excellent in their kind, are diſpoſed of at prices unuſually low. For the time of the year, the ſhow of hops pretty good: price per cwt. from 4l. to 6l. 6s. The number of horſes and horned cattle was very great; of either, there were but few prime ones, and thoſe ſold at high prices.

At Stagſhawbank fair, in Scotland, the ſhow of horſes was but indifferent: good ones ſold tolerably well, inferior ſorts rather low. Of fat horned cattle the number was ſmall, and they ſold at good prices. Of lean kyloes the ſhow was as great as ever remembered, and the prices were rather lower than they have lately been; many remained unſold. Milch cows were ſcarce and dear. The ſhow of ſheep was large. Two and three years old wedders ſold well; the market for younger ſheep was ſlow. Pigs declined conſiderably in price.

At Monmouth wool fair, there was a briſk demand for the article, and the prices were nearly the ſame as thoſe of laſt year. Beſt wool averaged about 25s. 6d. but ſome prime ſamples ſold as high as 28s. 6d. per ſtone; inferior ſorts ſold from 16s. to 17s.

At the annual fair at Glaſgow, there was a good ſhow of horſes, chiefly of the draft kind; high prices were aſked, but the ſales were dull. On Thurſday there was an excellent ſhow of black cattle; prices were alſo high and ſales dull.

At Stobb's fair, near Dundee, there was a great ſhow of black cattle. Few were ſold, and thoſe went off at reduced prices.

At Forfar fair, there was a very conſiderable ſhow of black cattle. All the prime lots were ſold, without any depreſſion of former prices. Any reluctance in the buyer to make purchaſe, ſeemed to ariſe principally from the fear of there being a ſcarcity of graſs, owing to the preceding droughts. On the following day not many good horſes were ſhewn; if the price of draught horſes was lower, it was not more ſo than the advanced ſeaſon of labour might have given reaſon to expect.

At Roſs wool fair, fleece wool ſold from 25s. to 30s.; and lambs wool from 21s. to 24s. per ſtone. The ſhew of cattle was ſmall, but of the prime ſort, and ſold at high prices. The ſhow of horſes was alſo ſmall, and the ſale rather dull, compared to the demand at the late fairs. There were a great quantity of ſheep, which expecienced ſome reduction in price. Beſt cheeſe from 70s. to 76s. and two-meal from 55s. to 60s. per cwt. During the fair, a farmer had his pocket picked of upwards of 20l.

There was a numerous ſhow of horned-cattle and pigs, at Halifax fair, which, in general, ſold at moderate prices. The ſhow of horſes was rather thin; good ſaddle-horſes, being in great requeſt, met with a very ready ſale.

A ſociety for experimental agriculture has lately been eſtabliſhed in the county of Durham, the objects of which are ſtated to be:

1. To examine by experiments the different kinds and merits of graſs, ſeeds, and grain, to inveſtigate their habits, and endeavour to aſcertain what ſoils are beſt adapted to each kind, and to deviſe means to obtain ſuch ſeeds, &c. pure.

2. To attend carefully to the rearing of fences, draining of land, and the beſt and moſt expeditious way of cleaning and working different ſoils.

3. To examine the nature of different manures, and aſcertain the beſt mode of applying them.

4. To find what ſtock is beſt calculated for certain ſituations; to compare the relative quantities of food contained by different kinds of ſtock, what food is moſt congenial, &c.

By the rules of this Society, it is limited to twenty-one members, and it is to meet four times a year at Ruſhyford. When any member undertakes an experiment adopted by the Society, two members are to be appointed as viſitors, to view with him the ſtate of the land previous to the experiment, inſpect its progreſs, and report the reſult. The preſident for the preſent year is Sir Henry Vane Tempeſt, Bart. and two meetings of the Society have already been held.

Premiums for Black Cattle and Sheep, in the Stewartry of Kirkcudbright.

At a numerous meeting of the Gentlemen of the Stewartry, held at Caſtle Douglas the 16th inſt. in terms of the general meeting of the 30th April.

James Gordon, Eſq. of Culvennan, Preſident.

The following Premiums were fixed, as the Premiums to be given by the county this year, for encouraging a further amelioration of the breed of black cattle and ſheep.

Ten guineas for the beſt bull the property or in the poſſeſſion of any perſon in the ſtewartry, kept on his farm from the 1ſt of Febuary laſt, to the day of competition.

Five guineas for the ſecond beſt bull.

Three guineas for the third beſt bull.

Eight guineas for the beſt two cows and their calves, the property or in the poſſeſſion of any perſon in the ſtewartry, from the ſaid firſt of February.

Three guineas for the ſecond beſt two cows and calves.

Five guineas for the beſt ſingle cow and calf.

Six guineas for the beſt three tups of the kind moſt proper for the ſtewartry, two years old, riſing three; or three years old riſing four, and belonging to a flock of not leſs than fifty ewes.

Four guineas for the ſecond beſt three tups.

And two guineas for the third beſt three tups.

The tups competing for theſe premiums are to be ſhewn at new Galloway, upon Wedneſday the 22d day of June next, at twelve o'clock, and their proprietor, or the herd of the flock, muſt produce to the judges, to be then appointed, an affidavit in the ſame terms as required by the board of truſtees.

The bulls, cows and calves, competing for the premiums, to be ſhewn at Kelton Hill, on Monday the 13th of Auguſt next, at 12 o'clock, when the proprietor muſt produce to the judges ſatisfactory evidence that the bulls are above two years old, and not exceeding five years old, and that they and the cows have been on the farm the requiſite time.

Mr. Gordon requeſts the attendance of the committee at New Galloway and Kelton Hill on the days appointed, for the purpoſe of fixing proper judges, and for granting precepts on the collectors of the land tax for the premiums.

Greenlaw, May 20, 1803.

Suſſex Agricultural Society.

SHEW OF CATTLE AND SHEEP.

At a general meeting of the ſubſcribers of the Suſſex Agricultural Society, to arrange the prizes and premiums for the preſent year, at the Star Inn, Lewes, March 16, 1803, the following reſolutions were agreed to:

1. That ten pounds be given to the owner of the beſt bull, two years old.

2 That ten pounds be given to the owner of the beſt bull, three years old,

3. That ten pounds be given to the owner of the beſt bull, four years old, or upwards. No bull having gained two of the above prizes can be ſhewn for a third.

*** A piece of plate, value ten pounds, was adjudged at the ſhew of cattle in 1801, to Mr. *Alſrey*, of *Friſton*; the owner of the beſt bull produced in the field, to be kept till ſuch pieces of plate ſhall be challenged by the owner of any other bull. The challenge to be given on the day of the Shew of cattle, and to be determined upon the next enſuing day of ſhew. The challenger to ſtake five pounds againſt the piece of plate, or to pay half forfeit; on giving one month's notice, that he does not mean to ſhew, to the holder of the piece of plate. This piece of plate was not challenged on the laſt day of ſhew.

4. That five pounds be given to the owner of the beſt heifer, two years old.

5. That five pounds be given to the owner of the beſt heifer, three years old, that ſhall have produced a living calf, between the 1ſt of January and the 1ſt of April preceding, and ſhall be in milk at the time of ſhew.

6. That five pounds be given to the owner of the beſt cow, four years old or upwards, under the ſame conditions as in the laſt article.

7. That five pound be given to the owner of the beſt yoke of working oxen of the ſame age, from four to ſix years old.

No bull, heifer, cow, or ox, will be permitted to be ſhewn for the prizes, but ſuch as ſhall be led to the place of ſhew by a ſtrong rope or chain, and ſhall be afterwards ſufficiently ſecured, ſo as to prevent the poſſibility of breaking looſe.

8. That eight pounds be given to the owner of the beſt South Down ram, one year old laſt lambing time.

9. That eight pounds be given to the owner of the beſt South Down ram, two years old laſt lambing time.

10 That eight pounds be given to the owner of the beſt South Down ram, three years old laſt lambing time.

11. That eight pounds be given to the owner of the beſt South Down ram, two years old laſt lambing time, which ſhall have worked the year before in the flock, not leſs than one month in the autumn, and ſhall have returned to the flock on or before the 5th day of April, and ſhall have continued with the flock till the 1ſt day of July, upon the down and arable land.

12. That eight pounds be given to the owner of the beſt South Down ram, three years old laſt lambing time, under the ſame conditions as in the laſt article.

The fleeces of all the rams ſhewn for prizes muſt be produced.

13. That five pounds be given to the owner of the beſt pen of South Down ewes, viz. four of one year old, and four of three years old

14. That four pounds be given to the owner of the ſecond beſt pen of twelve South Down ewes, of the ſame deſcription as the former.

15. That three pounds be given to the owner of the third beſt ditto.

16. That two pounds be given to the owner of the fourth beſt ditto.

17. That one pound be given to the owner of the fifth beſt ditto.

The two and three year old ewes muſt have produced and reared a lamb, which had not been weaned before the 24th day of June, preceding the day of ſhew; and the ewes muſt have been kept with the flock ſheep, till within three days of the ſhew

18. That two pounds will be given to the owner of the beſt South Down ram fleece, in weight and quality.

19. That one pound be given to the owner of the ſecond beſt.

No fleeces to be permitted to be ſhewn for the prizes for fleeces but ſuch as are the produce of the rams ſhewn for the South Down ram prizes. The candidates to ſend their fleeces marked in the ſame manner as the rams, to Mr. Whitfeld's wool warehouſe, three days before the day of ſhew, with their names affixed.

20. That each candidate ſhall produce a certificate of the age, as near as poſſible, of his ſtock ſhewn, the pedigree where it can be aſcertained, with the name of the breeder, and an account of the manner in which the ſtock had been kept for the laſt four months preceding the day of ſhew; and alſo conform to every other particular required by the ſociety in the foregoing reſolutions.

21. That each candidate may ſhew cattle or ſheep for all the prizes, but ſhall be entitled to no more than one prize for each ſort of ſtock;—i. e. for bulls, heifers, cows, oxen, rams, not kept with the flocks, rams kept with the flocks, and ewes.

22. That no prize be awarded, unleſs the animal or animals ſhewn ſhall be deemed by the judges to poſſeſs ſufficient merit to be entitled to it.

23. That three judges for the cattle, and three for the ſheep, be appointed by the committee, who will meet on the 26th of July inſtant, at the Star Inn, Lewes, at one o'clock; and that the committee do conſiſt of all the ſubſcribers; ſeven of whom ſhall form ſuch committee, if more ſhall not attend; but no perſon ſhall act as judge, or vote in the committee, on any queſtion in which he ſhall be intereſted.

24. That the cattle and ſheep be brought into the field, before eleven o'clock; ſuch as come after that hour, ſhall not be entitled to any prizes.

25. That three ſtewards be appointed for the management of the buſineſs on the day of the ſhew of cattle; and that John Fuller, Eſq. M. P. Mr. Saxby, and Mr. Knight, be requeſted to undertake that office for the preſent year.

26. That the judges be requeſted to aſſign their reaſons for the deciſions, in the ſhapes and wool of the animals to which they judge the prizes.

*** The ſhew will take place on Wedneſday the tenth day of Auguſt next, and the candidates for the ſeveral prizes for ſtock muſt give notice in writing, of their intention of becoming ſo, to Mr. Whitfeld, of Lewes, the Treaſurer, on or before the third day of Auguſt next.

About forty ewes, and as many rams, of the mixed breed of Ryeland and Spaniſh, carrying fleeces of from four to upwards of ſeven pounds each, moſt of which are fully equal to the Spaniſh in fineneſs, will be ſold by auction, on Tueſday, Auguſt 23, at the farm of Dr. Parry, Summerſet-houſe near Bath.

For the accommodation of purchaſers, the ewes will be ſold in lots of two each; and the fleeces of the preſent ſeaſon, will be exhibited with the rams from which they were reſpectively clipped.

All the ewes, and ſome of the rams, are notts.

To be viewed the morning preceding the ſale.

The following is an extract of a letter from Dublin, dated July 16:

From every quarter we have the pleaſure to learn that there never was a finer promiſe of a plentiful harveſt than the preſent year. The hay is cutting very generally, and in the vicinity of the metropolis is to be ſeen ſeveral fields of wheat with the ear full grown and wanting only the ripening ſun to fit it for the ſickle. A correſpondent, who travelled recently through ſome of the Southern countries, reports, that they bear the ſame pleaſing aſpect, and preſent the ſame teſtimonies of providential goodneſs; the wheat was every where forward, and in the neighbourhood of Kildare, in particular, there was here which, it is probable, may be cutting at this moment. In proof alſo of what may be done towards the general reclamation of our bogs, the ſame correſpondent aſſures us, that the moſt extenſive, and in every reſpect, the fineſt field of wheat that he ſaw on his journey was adjoining the town of Monaſtereven—the ground entirely reclaim-

ed from the moſt confirmed bog, ſurrounding it to a conſiderable extent, and the turf of the blackeſt and moſt determined kind, cutting in a regular line along the field of wheat, and forming its boundary within two yards of the grain! This ſhews what can be done by ſkill and induſtry, and how greatly the natural reſources of this fine iſland can be multiplied, if intelligence and labour unite, and all ranks contribute to maintain that internal peace and order, without which no good can be matured, no improvement perfected, none of the bleſſings of heaven enjoyed! In the march of nations to the goal of proſperity and civilization, Ireland is certainly no longer backward; with uncommon rapidity ſhe has outſtripped competitors, which, but a few years ſince, boaſted the greateſt ſuperiority. Her nobility, gentry, and peaſantry, are all aſſociated in civil labours: and the Farming Societies of Ireland, while inſtituted by the rich for the encouragement of the poor, and to enlighten their minds and improve their labours to the moſt uſeful ends of ſociety, inſtruct both ranks in their mutual dependence, and incline, by ſuch generous and benefical communications, their minds to that love and confidence, that common feeling of country and of fame, and that neceſſary gradation of ſtate which form the happineſs, proſperity, and ſtrength of nations. Heaven grant to us to know the good we poſſeſs and to maintain it with unanimous reſolve.

Count Sergi de Romanzou, has lately made a diſcovery which promiſes to be of infinite utility to agriculturiſts. He inoculated all his flock for the ſcab, and out of 23,000 ſheep which were ſubjected to the proofs not one died of the diſeaſe.

Commerce.

THE Houſe of Commons has lately voted the ſum of 20,000l. towards making a navigable canal through the Highlands of Scotland, from ſea to ſea. The extent is 59 miles, 29 of which are of unfathomable depth. The remaining are to be 20 feet deep, and of a proportionate breadth, ſo that ſhips of the line may paſs from the Baltic to the Britiſh Channel. This will obviate all the difficulties of going round about by the Shetland and Orkney Iſles, a paſſage of fourteen days in the calmeſt weather, and which, in the windy ſeaſon, is rarely effected in leſs than three months; while, by the propoſed canal, the paſſage, in the moſt unfavourable weather, will not occupy more than twelve days, and frequently little more than half that period.—It is calculated, that the whole expence of this canal will not exceed the loſs ſuſtained by ſhipwrecks, in the preſent courſe of navigation, in five years.

The Porter Trade has decreaſed conſiderably within a few years, as will be ſeen by the following Statement; and whether from the inferior quality of the Porter, we know not, the conſumption of Ale has greatly increaſed:

July 5, 1794.		July 5, 1798.		July 5, 1803.	
Whitbread	189,094	Whitbread	203,253	Meux	170,403
Thrale	132,511	Meux	170,719	Barclay	150,580
Gifford	106,646	Barclay	136,298	Whitbread	131,801
Meux	105,789	Shum	117,627	Hanbury	129,916
F. Calvert	100,174	Hanbury	116,773	Shum	101,281
Trueman	93,594	F. Calvert	97,241	F. Calvert	75,128
Goodwin	84,524	Goodwin	81,472	Goodwin	70,001
J. Calvert	61,089	J. Calvert	70,076	J. Calvert	56,555
Clowes	60,024	Clowes	49,115	Elliot	51,804
Elliot	48,825	Elliot	50,936	Clowes	47,810
Phillips	44,623	Blackburn	44,500	Riley	36,695
Cox	36,301	Phillips	38,142	Cox	32,143
	1,063,194		1,176,153		1,055,117

The following is the number of Barrels brewed by the six principal Ale and Amber Brewers, from 5th July, 1802, to 5th July, 1803.

Strettan	20,897	Hale	9,128
Webb	15,026	Sharpe	8,744
Charrington	14,338	Whitmore	4,006

The following is a ſtatement of the quality of table beer, brewed by the firſt twelve houſes in London, for the laſt two years, ending on the 5th July each year.

1802.		1803.	
Kirkman	22,600	Kirkman	23,251
Sandford and Co.	17,756	Sandford and Co.	19,034
Edmonds and Co.	15,184	Edmonds and Co.	17,101
Combrune and Co.	14,593	Poulain and Co.	16,996
Charrington and Co.	14,558	Charrington and Co.	16,648
Poulain and Co.	12,829	Cambrune and Co.	13,798
Cape and Sons	12,695	Cape and Sons	13,020
Satchell and Son	8,193	Satchell and Son	9,745
Park and Co.	7,158	Sandell and Co	9,671
Sandell and Co.	7,026	Hale and Co.	8,432
Holbrook and Co.	6,572	Hofman and Co.	7,839
Holman and Co.	6,112	Stretton	7,765

The preſent multiplicity of Banking-houſes may be accounted for from the vaſt increaſe of the commerce of the country. Forty years ago there was only 39 Banking-houſes in London, and now there are 71, moſt of which have from three to ſix partners. At the former period there was not one Country Banker, now there are 453. Birmingham has five, Briſtol ſeven, and the great mercantile town of Liverpool only three; Manchester two, while the ſmall town of Bridgwater has three.

A decree dated Paris June 21, contains the following articles, which materially concerns the commerce of the Britiſh Iſlands:

ARTICLE I. Dating from the publication of the preſent decree, there ſhall not be received in the ports of the Republic any colonial produce coming from the Engliſh colonies, nor any merchandiſe coming directly or indirectly from England. In conſequence all colonial produce or merchandiſe coming from the Engliſh manufactories or Engliſh colonies, ſhall be confiſcated.

II. Neutral ſhips, deſtined for the ports of the Republic, ſhall be furniſhed with a certificate of delivery from the Commiſſary or Agent of Commercial Relations of the Republic at the port of embarkation, which certificate ſhall mention the name of the ſhip and the captain, the nature of the cargo, the number of the crew, and the deſtination of the veſſel; in that declaration, the Commiſſary ſhall certify that he has ſeen the loading compleated under his inſpection, and that the merchandiſe is not Engliſh manufacture, and does not come from England nor from her colonies. A duplicate of that declaration ſhall be ſent to the Miniſter of the Interior by the Commiſſary of the Republic, on the day of the ſailing of the veſſel.

III. The Captain, who, through forgetfulneſs of the form, or through change of deſtination, ſhall not be furniſhed with a ſimilar declaration, ſhall not be admitted into the ports of the Republic, but upon condition of loading in return French manufactures equal in value to the amount of his cargo.—The Director of the Cuſtoms ſhall ſend to the Prefect of the Department the ſtatement of his cargo, and that of the merchandiſe taken in return. Upon that ſtatement, the Prefect ſhall deliver a permit of departee from the port.

IV. The Miniſter of the Interior, of Foreign Affairs, and of Finance, are charged with the execution of the preſent decree.

(Signed) BONAPARTE.

During the laſt war, it is computed, that the dimenſions of Liverpool increaſed about one-ſixth, its population one fourth, and its trade nearly one half. During the late ſhort interval of peace, the increaſe has been at leaſt

in an equal ratio. Thus, the inhabitants have the ſatisfaction of knowing, that in either ſtate, the progreſſive proſperity of their town proceeds without interruption, and with a rapidity nearly unexampled in the hiſtory of any other town in the world.

The articles which the Merchants are to be permitted to bond and warehouſe, according to the new ſyſtem propoſed by the Miniſter lately in the Houſe of Commons, are compriſed under five heads. The firſt contains all articles of Weſt India growth, and for which a due accommodation is provided by means of the docks. The ſecond compriſes wine, tobacco, and ſpirits. The third relates to all heavy and bulky goods. The fourth all articles which of neceſſity, from their periſhable nature, require peculiar care; and the fifth head includes dying goods, drugs, ſilk, linen, and other articles. Thoſe articles which are of a periſhable nature, the owners will be permitted to have under their own care, it being underſtood that a bond of ſufficient ſecurity ſhall be given to Government for the payment of the duties.

We are extremely happy to find that the public ſpirit of the mercantile part of the city has begun to ſhow itſelf in the moſt honourable manner.—A meeting of the Subſcribers to Lloyd's Coffee-houſe has taken place, at which ſome very ſpirited reſolutions were adopted, and a ſplendid ſubſcription opened for the purpoſe of granting relief to the relatives of thoſe who may fall in the preſent conteſt, and for rewarding diſtinguiſhed merit.—In a very ſhort time upwards of 50,000l. were ſubſcribed. There are ſeveral ſubſcriptions of 1000l. The Subſcribers voted 20,000l. 3 per cent. Conſols out of their own fund towards the object. A great number of moſt liberal contributions were ſubſcribed. This ſpirited example, we hope, will be followed by the whole country, and particularly by the rich nobility and gentry.

Manufactures and Useful Arts.

ON Thurſday, the 23d of June, a trial was made at Dartmouth, of the ſailing and working of a veſſel built by Mr. Robert Newman of that place, of the burthen of 140 tons meaſurement, on a new conſtruction; her bottom is entirely flat, her ſides nearly upright, two keels, one at the extremity of each ſide of her bottom, which run up and form a ſmall ſtem on each ſide, the projection from the plank not more than three inches, her ſtern quite upright, and as broad at the bottom as at the top; ſhe has two rudders, which are managed by one tiller, and thoſe rudders are exceedingly ſmall, and fixed on the extremities of the ſtern, ſo as to act in quick water; ſhe drew, when launched, twelve inches of water, and when ballaſted with ſixty tons ſhe drew but three feet ſix inches, with which ſhe went to ſea to make the trial, ſchooner rigged. She was found to ſail very faſt, to hold a good wind, to ſteer with the greateſt eaſe, and to work like a cutter; after being out at ſea eight hours ſhe returned, and beat up the harbour againſt tide, without any aſſiſtance of a boat. The quays were much crowded with ſpectators, who cheered the veſſel as ſhe paſſed them.

Captain Samuel Greig has been deſired by the Emperor of Ruſſia to procure a life-boat for his Imperial Majeſty. The Captain by the Emperor's order, waited upon the Duke of Northumberland, who, of courſe recommended him to the inventor. Thus this admirable contrivance is ſhortly expected to be introduced into all the ports of the Ruſſian empire.

Premiums Payable on the Fisheries.

Truſtees' Office, Edinburgh, July 20, 1803.

The Commiſſioners and Truſtees for fiſheries, manufactures, and improvements in Scotland, do hereby give notice, that having examined the reports and documents tranſmitted by the different competitors for the premiums

advertiſed for the year 1802, for promoting fiſheries—it is found that the following perſons are entitled to thoſe premiums, viz.

FOR THE COD, LING, AND TUSK FISHERY.

	£.	s.	d.
James and Thomas Robertſon, of Peterhead, per their ſloop Roſe, the firſt premium of	18	6	0
James and Thomas Arbuthnot, of Peterhead, per their ſloop the Concorde, the ſecond premium of	9	12	0
George and Robert Tower, of Aberdeen, per their ſloop Swift, the third premium of	7	6	0

For the Dog Fiſh caught, that is for the greateſt quantity of oil extracted from that fiſh.

Kenneth Murray, in Shawboſt, Iſland of Lewis, the firſt premium of	14	0	0
John Mackay, in South Bragar, pariſh of Barvas, the ſecond premium of	9	0	0
Malcolm M'Leod, in South Bragar, ſaid pariſh, the third premium of	7	0	0
Peter M'Leod, in Shawboſt, pariſh of Lochs, the fourth premium of	6	0	0
Donald M'Jantlain, in South Bragar, pariſh of Barvas, the fifth premium of	5	0	0
Peter Martin, in Shawboſt, pariſh of Lochs, the ſixth premium of	4	0	0
Donald M'Leod, in Shawboſt, pariſh of Lochs, the ſeventh premium of	2	10	0

The foregoing are all the premiums gained, there having been no competitors for the other four premiums offered on the cod, ling, and tuſk fiſhing, nor any competitors for thoſe offered on the ſun or ſail fiſhing.

The above premiums will be paid at this office, upon proper receipts produced, each receipt to be ſigned by the gainer and two witneſſes.

By order of the Truſtees,

ROBERT & WILLIAM ARBUTHNOT, Secs.

A Committee of the Convention of Royal Boroughs, attended by ſeveral gentlemen from Leith, intereſted in the herring fiſhery, examined Mr. Robertſon's improved looms for weaving fiſhing nets. It was approved of, and payment has been ordered for the premium.—Inſtead of the ſingle ſhuttle, it goes on the ſame principle as the incle manufacturing looms. The Convention alſo voted a premium to Mr. Girvin, for his eſſay on the cultivation of willows, which is ordered to be printed for the benefit of the Highlands of Scotland.

Lyons, previous to the revolution, had daily at work in the manufacture of ſtockings, 2500 looms, employing 4200 journeymen of all denominations, and each yielding on an average 300 pairs of ſtockings annually.—There are now about 1800 looms, but the produce is not great in proportion, from the want of hands:—the home trade is diminiſhed by the general uſe of boots, and the exportation is almoſt wholly at an end, chiefly in conſequence of the encreaſing eſtimation of Britiſh manufactures.

Directions for purifying a ſhip without removing the cargo.

Take a caſk that will hold 100 gallons or more, with one head out—ſet it below in any part of the veſſel—put into this caſk one buſhel of unſlacked lime, and to this 60 gallons of boiling water, after diſſolving 30 pounds of pot or pearl aſhes therein, this ſhould be done as quick as poſſible, then ſhut the hatches, and make the ſhip tight, in this ſituation, let the ſhip remain until the next day, and then diſcharge the air by means of the air pump ventilator By this time the lime will be ſettled in the caſk, and the water and ley will be very clear; dip it out carefully, and, after drawing the box out of the ſhip's pumps, ſend it through that channel into the pump well.

Commercial Law Cases

COURT OF KING's BENCH.

JOHNSON *v* HADFIELD. THIS was an action to recover the value of a cask of porter sent by the plaintiff from London to his mother in Yorkshire, by the vessel of the defendant, who was a common carrier.

The evidence proved, that the cask of porter was put on board the defendant's vessel, but that the vital part had escaped before it had got to its place of destination, and that the liquor was all taken out, and the cask was nearly empty when delivered. It was also proved, that 1l. 15s. was paid for the carriage. The defence set up was, that the defendant did not insure at this rate of payment, but that it was merely for the carriage; and that notice was given to all persons who sent liquid goods by this hoy, that they must pay a further rate for insuring a safe carriage.

Lord Ellenborough.—"The defendant by his servants, treated with the person who brought the porter, and bound by their acts. One pound fifteen shillings was a large sum to pay for a cask of porter, and I do not know, that insurance was not included in that sum. They did not tell the person that brought them this porter, that there must be an insurance; and if I were to hold that this insurance was necessary, unless they had given her actual notice of it, there would be no security in trade. People who went to these places with their goods must be lawyers. It was enough that she paid all they demanded. The question for the Jury to decide was, whether she, rendering herself to pay all that was demandable, and they asking her 1l. 15s. that sum did not include the insurance as well as the price of the carriage."

Verdict for plaintiff 5l. 2s. 2d. comprehending the price of the porter, of the cask, of the carriage, and of the booking.

Prices of Raw Hides, Hay and Straw, &c. for July, 1803.

	First Week	2d Week	3d Week	4th Week.
Raw Hides.	*s.d.* *s.d.*	*s.d.* *s.d.*	*s.d.* *s.d.*	*s.d.* *s.d.*
Best Heifers & Steers, pr st.	3 6 to 4 2	3 8 to 4 0	3 8 to 4 0	3 6 to 3 10
Middling — —	3 2 to 3 4	3 2 to 3 4	3 4 to 3 6	3 2 to 3 4
Ordinary — —	0 0 to 3 0	0 0 to 3 0	0 0 to 3 0	2 10 to 3 0
Market Calf — —	9 6	9 6	9 6	9 6
Eng. Horse — —	15s to 18s	14s to 17s	14s to 18s	14s to 17s
Sheep Skins — —	0 0 to 0 0	0 0 to 1 4	0 0 to 1 4	0 0 to 0 0
Lamb Skins — —	2 0 to 3 0	2 0 to 3 3	2 0 to 3 4	2 0 to 3 3
Prices of Hay and Straw.	*l. s. d.*	*l. s. d.*	*l. s. d.*	*l. s. d.*
St. James's—Hay —	5 12 0	5 19 6	6 5 3	5 15 6
Straw —	2 6 6	3 0 0	2 15 6	2 15 6
Whitech.—Hay —	5 12 0	5 18 6	5 18 6	5 18 6
Clover —	6 18 0	7 2 0	7 2 0	7 2 6
Straw —	2 7 0	2 14 0	2 9 0	2 15 0
Uxbridge.				
New Wheat per load —	—l to —l	—l to —l	—l to —l	—l to —l
Barley — — —	—s to —s	—s to —s	—s to —s	—s to —s
Oats — — —	—s to —s	—s to —s	—s to —s	—s to —s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s
Newbury.				
Wheat — — —	—s to —s	50s to 65s	48s to 66s	50s to 64s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Barley — — —	—s to —s	20s to 28s	20s to 22s	19s to 22s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —
Oats — — — —	—s to —s	20s to 24s	20s to 24s	20s to 24
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —

Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for July, 1803.

Price of Hops.	First Week	2d Week	3d Week	4th Week
Bags.	*s.* *s.*	*s.* *s.*	*s.* *s.*	*s.* *s.*
Kent — —	112 to 147	108 to 126	100 to 120	95 to 112
Suſſex — —	100 to 140	108 to 120	95 to 116	95 to 105
Eſſex — —	100 to 135	108 to 120	95 to 116	95 to 105
Pockets.				
Kent (new) —	120 to 155	132 to 140	100 to 126	95 to 120
Suſſex — —	112 to 140	110 to 130	100 to 120	95 to 112
Farnham — —	140 to 200	140 to 180	160 to 200	120 to 140
Seeds.				
Canary Seed (per cwt.)	72 to 76	72 to 76	72 to 76	72 to 76
Red Clover ditto —	— to —	— to —	— to —	— to —
White Clover, ditto —	— to —	— to —	— to —	— to —
Treſoil, ditto —	— to —	— to —	— to —	— to —
Carraway ditto —	46 to 48	46 to 48	40 to 44	40 to 44
Coriander ditto —	30 to 34	30 to 34	28 to 32	28 to 32
Turnip, (per buſhel) —	18 to 28	18 to 22	16 to 24	16 to 24
Rye Graſs, (per quarter)	— to —	— to —	— to —	— to —
Cinque Foil, ditto —	— to —	— to —	— to —	— to —
Rape Seed, (per laſt) —	421 to 451	421 to 461	421 to 481	401 to 461
Meat at Smithfield,				
To ſink the offal, p. ſt. 8lb.	*s.d.* *s.d.*	*s.d* *s.d.*	*s.d,* *s.d.*	*s.d.* *s.d.*
Beef — —	4 0 to 5 4	4 8 to 6 0	4 8 to 5 8	4 4 to 5 6
Mutton — —	5 0 to 5 8	5 0 to 6 0	5 0 to 6 0	5 0 to 5 8
Veal — —	4 0 to 5 0	5 0 to 6 0	5 0 to 6 0	4 6 to 5 6
Pork — —	3 8 to 4 4	4 0 to 5 0	4 4 to 5 0	4 0 to 5 0
Lamb — —	5 0 to 6 0	5 4 to 7 0	5 0 to 6 8	5 0 to 6 4
Head of Cattle—Beaſts about	1,800	1,800	1,700	1,800
——— Sheep and Lambs	10,000	11,500	12,500	13,500
Price of Leather.	*d.* *d.*	*d.* *d.*	*d.* *d.*	*d.* *d.*
Butts, 50lb. to 55lb. each	22 to 23½	21 to 22½	21 to 22½	21 to 22½
Ditto, 60lb. to 66lb. each	24 to 25½	24 to 25½	24 to 25	24 to 25
Merchants Backs —	— to 22	21 to 22	21 to 21½	21 to 22
Dreſſing Hides —	22 to 23	22 to 23	22 to 23	22 to 23
Fine Coach Hides —	23 to 24	23 to 24	23 to 24	23 to 25
Crop Hides for cutting	22 to 23	21 to 22	21 to 22	21½ to 22½
Flat Ordinary —	21 to 21½	20 to 20½	20 to 21	20 to 21½
Calf Skins, 30 to 40lb. *p.* doz.	28 to 34	24 to 33	24 to 32	28 to 34
Ditto, 50lb. to 70lb. do.	28 to 33	24 to 32	26 to 33	28 to 33
Ditto, 70lb. to 80lb. do.	27 to 32	24 to 27	26 to 28	26 to 28
Sm. Seals (Greenland)	42 to 45	42 to 45	42 to 45	42 to 45
Large do.	51 to 71	51 to 71 10s	51 to 71 10s	51 to 71
Tanned Horſe Hides	18s to 33s	18s to 32s	18s to 32s	18s to 32s
Goat Skins *per* doz.	—s to —s	—s to —s	—s to —s	—s to —s
Price of Tallow.	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
St. James's Market —	4 4½	4 5	4 4½	4 3
Clare Market — —	4 4½	4 5½	4 4	4 3
Whitechapel Market —	4 4	4 4	4 2½	4 2½
Per ſtone of 8lb. Average	4 3½	4 5	4 3½	4 3
Town Tallow — —	75 0	74 6	73 0	71 6
Ruſſia ditto (Candles) —	75 0	75 0	74 0	73 0
Ruſſia ditto (Soap) —	69 0	69 0	69 0	69 0
Melting Stuff — —	61 0	62 0	60 0	62 0
Ditto rough — —	42 0	44 0	50 0	50 0
Graves — — —	14 0	14 0	14 0	14 0
Good Dregs — —	10 0	10 0	10 0	10 0
Yellow Soap — —	82 0	82 0	82 0	82 0
Mottled ditto — —	90 0	90 0	90 0	90 0
Curd ditto — —	94 0	94 0	94 0	94 0
Candles, per dozen, —	12 0	12 0	12 0	12 0
Moulds — — —	13 0	13 0	13 0	13 0

LONDON PRICES OF GRAIN for *July*, 1803.

MARK-LANE, *Monday, July* 5.

Price of Grain, on board Ship, as under

We have a dull market to-day, and all grain is cheaper than on laſt Monday Wheat, in particular, is lower, as may be noted in the prices below.

Barley is cheaper, and no demand for Malt.

Peas and Beans, of the different ſorts, are alike flat in ſale.

Good Oats find buyers at nearly laſt week's prices; but inferior ſamples are rather cheaper.

Flour is cheaper, but as credit or prompt muſt vary the price, little ſells at the higheſt quotation.

Wheat	48s to 60s	Barley	20s to 25s od	White Peas	43s to 47s 6d
Fine	62s to 63s od	Malt	41s to 46s od	Grey Peas	31s to 34s 6d
Rye	32s to 34s od	Oats	21s to 25s	Sm. Beans,	3 s to 34s od
		Polands ditto	26s to 27s 6d	Ticks,	26s to 30s od

Monday, July 11.

We have ample ſupplies of all grain at market to-day, and Wheat is cheaper.

In Barley, we have not ſo much doing. Malt, which has paid the new duty, is ſixteen ſhillings per quarter higher than the prices ſtated below.

Peas and Beans are a dull ſale.

Oats that are good, fetch laſt week's prices, but the inferior ſorts are ſtill a drug, and cheaper.

Wheat	47s to 59s	Malt	40s to 46s od	White Peas	41s to 47s od
Fine	60s to 61s 6d	Oats	20s to 26s	Grey Peas	32s to 34s od
Rye	32s to 35s	Polands	27s to 28s od	Sm. Beans,	29s to 34s od
Barley	20s to 25s od			Ticks	26s to 30s 6d

Monday, July 18.

Although the ſupply of Wheat was but middling to-day, yet the buyers being but few, fine ſamples ſcarcely fetched laſt Monday's prices, and the general runs were cheaper.

For Barley and Malt there is ſo little demand that we can afford no remark as to prices.

Peas as well as Beans are flat.

Oats, of the beſt ſort, do not obtain laſt week's prices; and the common are evidently lower.

Wheat	47s to 59s	Malt	56s to 62s 6d	Grey Peas	32s to 34s od
Fine	60s to 61s 6d	Oats	19s to 24s	Small Beans	30s to 34s od
Rye	32s to 34s od	Polands ditto	25s to 26s od	Ticks	26s to 30s 6d
Barley	20s to 25s od	White Peas	42s to 47s 6d		

Monday, July 25.

Our ſupply of Wheat to-day, has been pretty conſiderable; but the ſales are dull owing to the want of buyers and ſhort water at the mills. Fine white ſamples obtain near laſt Monday's prices; but the red, and inferior ſorts, are 2s. per quarter cheaper.

Barley and Malt remain at our laſt ſtated prices.

There is but a ſhort ſupply of Oats, and which has rendered them dearer, though no very fine ſamples at market.

Beans are in plenty, and keep their prices; as do Peas of each ſort.

Wheat	46s to 58s	Malt	54s to 60s	Grey Peas	32s to 34s od
Fine	59s to 60s od	Oats	19s to 26s	Small Beans	30s to 35s od
Rye	32s to 35s	Polands ditto	27s to 28s od	Ticks	27s to 31s
Barley	20s to 25s od	White Peas	43s to 49s od		

BANKRUPTCIES AND DIVIDENDS,

Announced between the 20th of June, and the 20th of July, 1803.

BANKRUPTCIES.

The Solicitors Names are between Parentheſes.

ATKINSON, John, Biſhopswearmouth, ſhip owner. (Coxon. Biſhopswearmouth

Berkeley, [illegible] Carnhill, merchant. (Jennings and Collier, Great Shire lane

Bicknel, S. ſen. and jun. Maize Pond, ſoap boilers. (Gatty, Angel court, Throgmorton ſtreet

Burton, E. Daventry, ſcrivener. (Oakden, Daventry

Barlow, J. Mancheſter, grocer. (Sharpleſs, Mancheſter

Byrne, F. Birmingham, japenner. (Barker and Unit, Birmingham

Bevey, H. Cockermouth, merchant. (Benſon, Cockermouth

Blakeway, E. J. Roſe, and R. Winter, Coalport, porcelain manufacturers and bankers. (Preſland, Brunſwick ſquare

Copen, L. Jewry ſtreet, merchant. (Parker, Palmer, and Cuppage, Eſſex ſtreet

Cuſſons, T. and W. Wawne, Kingſton, Hull, merchants, (late partners with Simeon Malleys and W. Walker,) (Reſſer, Kirby ſtreet

Corleſs, R. Blackburn, cotton manufacturer. (Meſſrs. Shawe, Tudor ſtreet

Clewett, J. Cecil ſtreet, taylor. (Henrich, Palſgrave place

Emmott, G. Johnſon, Mancheſter, grocer. (Hewitt, Mancheſter

Emery, R. Great Barr, Aldridge, maltſter. (Stubbs, Birmingham

Enſor, J. Sherborne, ſpirit dealer. (Wright and Bovil, Chancery lane

Elmore, R. Alve church, miller and corn factor. (Boatflower, New North ſtreet, Red lion ſquare

Fenwick, T. J. Penzance, linen draper and ſhopkeeper. (Richardſon, Monument yard

Fraſer, G. and A. Bow church yard, warehouſemen. (Brown, Little Friday ſtreet

Foy, M. Wapping wall, butcher. (Vincent and Upton, New North ſtreet, Red lion ſquare

Friend. W. Sunderland, whiteſmith. (Coxon, Biſhopſwearmouth

Galton, E. Ilford, innkeeper. (Evitt and Rixon, Haydon ſquare

Houlroyd, J. Soughwood, dealer. (Stephenſon, Huddersfield

Jones, T. Dowlais, Glamorgan, grocer and linen draper, (Bigg, Hatton Garden

Jacks, J. late of Charleſton, America, but now of London, merchant. (Bland, Racquet court, Fleet ſtreet

Leigh, J. Liverpool, merchant, (firm W. Leigh and Co.) (Orred, Liverpool

Leigh, W. jun. merchant, (firm W. Leigh and Co.) (Orred, Liverpool

Peterſon, J. Stradbrooke, tanner. (Carter, Staple Inn

Porrall, J. Biſhopſgate ſtreet, linen draper. (Winterbottom and Dunn, Threadneedle ſtreet

Purcel, T. Fleet ſtreet, boot maker. (Heyden and Sym, Carriers Hall

Perkins, J. Birmingham, factor. (Smith and Arnold. Birmingham

Parker, J. Great Wratting, farmer. (Pate. Bury St, Edmunds.

Richardſon, T. Waterſide, in Southoram, merchant. (Gleadhill and Payne, Lothbury

Ruſhforth, B. Marſhall Hall, and W. Ruſhforth, Crowſtorn Hall, merchants. (Stables, Huddersfield

Ruſh, J. Sackville ſtreet, wine merchant. (Rice, Dufour's place, Broad ſtreet

Shaw, J. Peter's lane, St. John's ſtreet, cheeſemonger. (Wild, Warwick ſquare

Symons, R. Dover, ſhip builder. (Dawes, Angel court, Throgmorton ſtreet

Sawyer, J. and J. Kettlewell, Leeds, merchants. (Battye, Chancery lane

Standith, S. Pontifract, hoſier. (Sykes and Knowles, Boſwell court

Steel, J. Liverpool, liquor merchant. (Lingard and Stockport

Sprigg, J. Birmingham, linen draper. (Fowler, Burton upon Trent

Shepherd, J. Aldgate, High ſtreet, linen draper. (Pullen, Fore ſtreet

Stelfex, C. Cheſter, maltſter. (Hollins, Nether Knutsford

Thomas, W. Whitby, linen draper and grocer. (Pennington and Ball, Temple

Tolley, W. Dudley, victualler. (Bourne, Dudley

Tredwell, H. Wolvercott, grocer. (Robinſon, Oxford

Wilſon, I. late of the Cape of Good Hope, now of Thornhaugh ſtreet, Middleſex, doctor in phyſic, and merchant. (Partner with T. Hamſes.) (Hayes, Furnival's Inn

Walker, W. Leeds, merchant. (Conpland, Leeds

Wilmott, D. Whitecroſs ſtreet, wine and brandy merchant, (Walker, Coleman ſtreet

Weſtmacott, R. ſen. Mount ſtreet, ſculptor. (Brindley, Lincoln's Inn

DIVIDENDS ANNOUNCED.

ATKINSON, W. Great Leonard ſtreet, July 26

[illegible] E. Langport, Eaſtover, Inn keeper, July 27

[illegible] pleby, W. D. Oxford, grocer, July 30

Allen, F. Pall Mall, milliner, Aug. 20

Allen, J. Birmingham, corn dealer, Aug. 17

Bexly, W. clothier, Aug. 9, at the Golden Lion, Barnſtaple

Blyth, A. and C. Alderſgate ſtreet, linen draper, July 5

Beſley, W. clothier, July 20, at the Golden Lion, Barnſtaple

Bleſſard, R. Great Bank, miller, July 29

Burnet, S. Petersfield, July 25

Bentfield, B. Yarmouth, liquor merchant, Aug. 6

Bache, P. and A. Baſinghall ſtreet, merchants, Aug. 2

Barrat, P. Strand, Goldſmith, Aug. 9

Bright, T. Temple lane, ſtationer, Aug. 20

Cook, T. Shrewſbury, jeweller, July 21

Cox, J. and F. Heſick, New court, Crutched friars, merchants, July 30

Clark, W. Newport, Iſle of Wight, perfumer, July 30

Charles, J. and T. Loft, Friday ſtreet, warehouſemen, July 23

Commins, J. Exeter, builder, July 28

Clarke, D. Liverpool mariner, July 27

Clarke, R. Fore ſtreet, grocer, Aug. 2

Cole, E. Exeter, taylor, Aug. 6

Corniſh, P. Taunton, timber merchant, Aug. 13

Clements, R. New Buckenham, ſhop keeper Aug. 26

Dale, T. Shrewſbury, cheeſe factor and hoſier, July 19

Davies, R. Shrewſbury, porter merchant and inn holder, July 21

Davis, J. Brigthelmſtone, coal merchant, July 28

Darby, G. Great Wincheſter ſtreet, merchant, July 23

Debrett, J. Piccadilly, bookſeller, July 30

Dring, W. and D. Brightheimſtone, ſhop keepers, Aug. 12

Davis, H. Portſea, merchant, Aug. 2

Deeble, J. T. Cannon ſtreet, upholſterer, Aug. 6

Epps, W. and J. Epſom, inn keeper, July 19

Eyres, S. Mancheſter, corn dealer, Aug. 19

Earle, W. and J. Hemet, Aldermarle ſtreet, bookſellers, Aug 9

Fletcher, H. Upton upon Severn, corn factor, Aug. 5

Fiddy, J. Coltſhall, corn merchant, Aug. 9

Farthing, R. Blakeney, merchant, Aug. 16

Golding, B. and J. S. Macnamara, Queen ſtreet July 12

Green, J. Cumberland ſtreet, Curtain Road, butcher, Aug. 20

Hewlett, G. Shipton Lee, dairy man, July 12

Hance, J. Castle court, Budge row, merchant, July 24

Hirſt, J. Newark, and Wakefield, woolſtapler, Aug. 6

Hawkeſey W. Liverpool, merchant, July 26

Hinde, J. Houndſditch, merchant, July 19

Hill, J. Newgate ſtreet, linen draper, Aug. 16

Heuchan, J. Liverpool, dealer in muſlin, Aug. 5

Jones, H. Cow lane, cheeſemonger, July 16

Juxon, T. Birmingham, corn factor, Aug. 16

Juxon, J. Birmingham, grocer, Aug. 15

Kitſon, G. Halifax, inn keeper, Aug. 4

Lancheſter, Ann, Sackville ſtreet, dealer, Aug. 6

Longfellow, W. Horſforth, clothier, July 18

Mundell, S. E. Scarborough, corn dealer, Aug. 8

Maltby, T. and G. Size lane, merchants, Aug. 28

Mendez, L. Crutched Friars, merchant, July 19

Mozley, M. L. Liverpool, merchant, Aug. 13

Onion, F. jun. Croyden, miller, July 5

Parker, J. Carlby, miller, July 18

Peirſon, T. and W. Sammon, Ruſſia row, Milk ſtreet, Iriſh factors, July 30

Pearſon, J. Selby, grocer, July 22

Pemberton, E. and J. Houlding, Liverpool, merchants, July 26

Philips, R. Plymouth dock, hatter, Aug. 20

Penny, D. Wapping, ſhip chandler, Aug. 20

Rogerſon, C. Warrington, merchant, July 21

Redhead, R. Mark lane, wine and brandy merchant, July 16

Riſhman, J. C. Bridge ſtreet, Weſtminſter, July 30

Rawlins, J. Red lion ſtreet, Clerkenwell, hardwareman, July 30

Robinſon, T. Liverpool, butcher, Aug. 3

Rapſon, J. Plymouth dock, ſhopkeeper, Aug. 9

Steuart, A. Liverpool, merchant, July 16

Stapleton, T. Sheerneſs, ſlop ſeller, July 16

Sly, G. Wauntead, ſtock broker, July 16

Stratton, G. and H. Jones, Cheapſide, July 26

Savage, H. and J. Broadwall, Black friars Road, comb makers, Aug. 13

Simcock, G. Bolt and Tun yard, Fleet ſtreet, Aug. 20

Senior, R. Pontefract, miller, Aug. 8

Smalley, R. Graveſend, builder, Aug. 20

Sunderland, W. Wakefield, grocer, Aug. 8

Short, J. Alfred place, Southwark, Cordwainer, Aug. 25

Taylor, J. Worceſter, draper, July 19

Wood, S. Maidenhead bridge, vintner, July 16

Wendall, I. Picket How, hatter, July 18

Watts, N. Stonehouſe, clothier, July 20

Wright J. Mancheſter, cotton ſpinner, Aug. 9

Wallis, J. Paternoſter row, bookſeller, July 30

Williams, J. G. Marſhall ſtreet, London Road, merchant, July 30

Waiſon, W. Fenchurch ſtreet, merchant, July 19

Wilkinſon, S. and J. Borough, High Wycombe and Great Marlow, bankers, July 23

Wooley, D. Carrhill, clothier, Aug. 1

Wilſon, B. Thornhill Lees, lime burner, Aug 14

Wilkinſon, E. Weſt Grinſtead, dealer, Aug 8

Youngmulband, W. Colcheſter, draper, July 22

PRICES OF COALS AT THE COAL EXCHANGE, LONDON,
For JULY, 1803.

Names of Coals.	Mon. 4th. s. d.	Wed. 6th s. d.	Frid. 8th s. d.	Mond 11th s. d.	Wed 13th s. d.	Frid. 15th s. d.	Mond. 18th s. d.	Wed 20th s. d.	Frid. 22th s. d.	Mond 25th. s. d.	Wed. 27th s. d.
Adair's Main										44	
Baker's Main											
Bedford Main											
Benton						46				46 9	46 3
Biddick Main											
Bigg's Main			47	47		48	48 6			48	47 9
Bladon Main											
Blyth	43			43			44				
Boundry											
Bourn Moor			43	43 6	44 6	43 9					
Brandling										46 3	46 3
Birtley											
Byker											
Byker, High & Low											
Cowpen				43		44 6				44 9	44 9
Derwent											
Eden Main						43 6					
Eighton Main		44								44	44
Flockton											
Greenwich Moor											
Haigh Moor											
Hartley				43	43 6		44 6			44 3	44
Heaton Main		47								48	47 9
Hebburn Main			47	47	48					48	43 9
Holywell											47 3
Kenton Main			47			48					
Lambton's Low dit											
Lawson's Main											
Morley Hill					48 6						
Montague Main						45 6					
Mount Moor											
Murton							44				
Murton High Main											
Newbottle						43					42 3
New Tansfield	44 9										
Pitt's Tansfield M						44 6				44 3	44 6
Primrose							43				
Pontop	44			45		44				43 9	
Pecey	46	44 9	47								
Rectory						42				48	
Russel's Main						43 6				44	
Sheriff Hill											
South Moor											
Stanley Main											
St. David											
Team											
Tyne Main											
Usworth Main											
Walbottle Moor		42 9		43 6		43					
Walker							48			47 9	47
Wall's End	46 3	47 3	47 6	47 6		48 6	49			49	48 3
Warwick											
Wharton								48 6	48		
Willington	46 6		47	47							
Wylam Moor						43					
Weatworth											
Whitefield											
Wooler Main											

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 JULY 16, 1803.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye.		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	60	8	35	0	26	4	25	11	33	4	40	6	17	10
Surrey	62	4	34	0	25	4	25	10	33	0	38	0		
Hertford	53	10	35	6	25	9	24	0	38	0	39	6		
Bedford	52	5	31	7	24	3	24	1	31	8	40	0		
Huntingdon	49	5			22	3	18	2	26	6	30	4		
Northampton	54	0	30	0	21	4	20	9	28	9	30	0		
Rutland	58	0			22	0	20	0	32	0			57	3
Leicester	53	9			22	8	19	10					33	4
Nottingham	60	6	36	0	26	0	21	2	39	6				
Derby	62	0			26	0	22	3	39	8	31	9	26	6
Stafford	59	10			24	10	22	10	40	3			29	1
Salop	55	4	37	0	25	2	24	6					63	7
Hereford	55	11	35	2	24	4	24	8	36	9	35	4	61	9
Worcester	53	6			25	3	26	2	33	7	36	1		
Warwick	57	6			27	0	22	0	34	6			42	5
Wilts	55	0			23	6	22	6	37	8	37	0		
Berks	60	9			24	8	25	6	35	10	38	3		
Oxford	55	7			22	12	21	7	31	8	36	0		
Bucks	56	4			23	8	24	2	34	3	40	0		
Brecon	56	0	32	0	24	10	20	0					36	3
Montgomery	57	6			25	7	20	3					42	11
Radnor	53	10			21	10	22	3					67	19

Maritime Counties.

Essex	58	0	32	0	23	4	26	10	31	1	32	0		
Kent	60	6			25	0	28	3	32	0	35	0		
Sussex	58	6					25	8						
Suffolk	57	3			21	3	25	6	29	5	37	0		
Cambridge	50	6			22	10	19	6	29	7				
Norfolk	55	1	32	3	21	0			30	0				
Lincoln	53	3	30	0	21	4	19	3	30	2				
York	56	10	37	2	24	3	19	10	34	10	58	8	37	3
Durham	59	0					24	9						
Northumberland	57	9	39	4	24	8	23	7	34	0	38	0	19	6
Cumberland	65	2	47	10	30	4	26	6						
Westmorland	68	0	54	0	28	2	30	4						
Lancaster	60	6			27	10	23	2	42	0			17	8
Chester	57	7					21	8					18	2
Flint	64	0			30	11								
Denbigh	63	4					23	1					40	8
Anglesea							14	0						
Carnarvon	64	0	48	0	26	4	15	6					38	2
Merioneth	64	10			28	0	23	0					36	4
Cardigan	56	4			21	0	14	11						
Pembroke	51	9			20	2	16	0						
Carmarthen	64	0			24	0	15	10						
Glamorgan	62	11			28	8	22	8						
Gloucester	56	5			23	0	21	11	33	11	33	8		
Somerset	59	11			24	7	21	4	33	4				
Monmouth	61	5			23	6								
Devon	66	5			27	6	24	0						
Cornwall	67	7			31	0	24	2						
Dorset	59	0			27	0	22	8						
Hants	61	2			24	8	23	4	35	0	36	0		

A TABLE of the Prices of STOCKS in *July*, 1803.

	Bank Stock.	3 per Ct. Red.	3 per Ct. Consols.	4 per Ct. Consols.	5 per Ct. Navy.	5 per Ct. Loyalty	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irish 5 pr. Cent	Omnium.	India Stock.	English Tickets.	Consols for Opening
June 30	——	55 1/8	Shut	71		90 3/4	16 7-16					3 1/2 3 dis.			56 7/8
July 1	——	54 3/4		69 7/8		89 3/4	16 31-16	3 9-16				3 3/4 2 1/2 dis.			56 1/4
2	——	53 3/4		68 1/2		89 1/2	16					4 1/2 5 3/4 dis.			55 3/8
4	139	52 1/2		67		87 1/4	16 7-8					5 1/4 7 dis.			54 5/8
5	——	51 1/4		64 5/8		84 3/4	15 3-8					7 1/4 6 1/2 dis.			54 3/8
6	——	53 7/8	53 1/2	67 1/2	82 1/4	86 1/2	15 5-8		51 3/4			6 4 3/4 dis.			55 1/4
7	——	54 7/8	54 3/8	69 1/2	84 1/2	89	16 1/4				81	5 1/4 4 1/4 dis.	158 1/4		56 1/8
8	——	55 5/8	54 1/4	69 3/4	85 1/4	90 3/8	16 3/8		54	9 15-16		3 1/2 4 1/4 dis.			55 5/8
9	142 3/4	55	54	70 1/4	85 1/2	90 1/2	16 3/8			9 15-16		4 1/4 4 dis.			56 1/8
11	143	54 1/2	54 3/4	70 1/8	85 3/4	90	16 3/8			9 7/8		3 3/4 5 1/4 dis.			55 1/2
12	142 1/4	54 3/4	54 1/4	69 7/8	85 3/8	90	15 15-16					5 3/4 4 3/4 dis.		16 16 0	54 7/8
13	142	55	54 1/8	69 3/4	85 3/4	90 1/8	16 3-16	3 1/2	53 7/8			5 3/4 4 3/4 dis.		16 18 0	56
14	141	53 7/8	53 3/8	69 7/8	85 3/8	90	16 1-16			9 3/4		3 6 1/4 dis.		16 18 0	54 3/8
15	142 1/2	54 1/2	54	70 5/8	87	90 7/8	16 1/4		53 3/4			4 1/2 5 1/4 dis.		16 18 0	55 3/8
16	143	54 3/8	54 1/8	70 1/2		90 1/2	16 1/4					5 5 1/4 dis.		16 18 0	55 5/8
18	——	54 3/8	54 1/8	70 5/8	86	90 1/4	16 1/4		53 1/4			5 1/4 5 dis.	160	16 18 0	55 3/8
19	142 1/2	54 3/8	53 3/4	70 7/8	86 3/8	90	16 3-16		53 1/4	9 11-16		5 1/4 3/4 dis.		16 18 0	55 7/8
20	140	53 1/2	52 7/8	69 1/2	85 5/8	89 3/8	16 1/8		52 3/4			6 3/4 1/2 dis.	157	16 18 0	54 3/8
21	142	54 1/8	53 1/8	70	85 7/8	90	16			9 3/4		6 6 3/4 dis.	160	16 18 0	
22	——	53 1/2	52 7/8	69 5/8	85 1/4		16 1/8		52 5/8			6 1/4 7 dis.		16 18 0	
23	——	54 1/8	53 1/8	69 3/4	85 5/8			3 1/2		9 5/8		6 1/2 1/4 dis.		16 18 0	53 3/4
26	140	53	52 1/8	69 3/8	85		16 3-16		52 3/4	9 5/8		6 1/4 8 1/4 dis.		17 0 0	52 3/4
27	139	53 1/8	52	68 5/8	84 1/8		15 13-16		51 1/4			8 9 1/2 dis.		17 0 0	

T. BISH, STOCK-BROKER, *Old State-Lottery Office, No. 4, Cornhill, London.*

TO OUR CORRESPONDENTS.

WE have to apoligize to such of our Correspondents and Readers as are interested in the establishment of Tithes, for the insertion of Mr. Middleton's strictures on that subject. We ventured upon this step, on the ground of Mr. Middleton being well known, and having made himself responsible for what he has written, by his signature; and on a conviction that the proprietors of tithes are very well able to defend themselves and their property.

We feel it a duty to thank our Correspondent W. J. for the curious information conveyed to us this month, we hope, with him, that it will be equally productive with his last favour.

The great kindness of Wheat ⋊ Sheaf demands a repetition of our acknowledgments.

If two of our Correspondents are surprised at not seeing their communications in this Number of our Magazine, they must attribute it to their not having been either agricultural or connected with agriculture.

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OF THE

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