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DESCRIPTION OF A FEEDING HOUSE FOR CATTLE.

WITH A PLATE.

To the Editor of the Agricultural Magazine.

Sir,

On making the Tour of South Wales during the last Autumn, I visited Hafod, the residence of Thomas Johnes, Esq. Member of Parliament for the county of Cardigan. This delightful place is situated about sixteen miles from Aberystwith, and near the road leading to it from Rhayader. The agricultural improvements made by the above gentleman demand particular notice, as probably no part of Great Britain can produce an example likely to procure eventually so great a benefit in any neighbourhood. Time will not permit me at present to enter into a long detail of the particulars, I shall, however observe, that the soil of that part of the country appears to be formed from decomposed argillaceous slate, and was supposed formerly incapable of producing wheat, and almost unfit for other kinds of corn, or even hay grass. I had, however, the pleasure to find some very excellent crops of wheat and barley upon the land, and his meadow land in fine condition. The barley had been sown with Mr. Cooke's drill, and though the land was hilly and apparently full of small fragments of broken slate, the crop was very full and even. His extensive plantations of forest trees were in a very luxuriant state, and particularly his larch trees, which flourish in every part of the estate, even upon precipices where there appears scarce any soil, and amongst fissures of the rocks. I mention these circumstances to show that nature is more grateful to the industry of man than is frequently supposed, and as a tribute of applause due to the person who has had penetration and courage to conquer those prejudices which we are apt to imbibe in infancy, and which seldom quit us in our course of life, continuing throughout a bar to improvement. Mr. Johnes has, however, surmounted every difficulty of this kind, and whether we consider the picteresque scenery of Hafod, its present natural products, or the instruction it affords as a farm, I do not recollect, though I have traversed a great extent both of this kingdom and the continent, any place so interesting, or which affords so much gratification to the mind.

Mr. Johnes has lately taken much pains in collecting various breeds of cows to ascertain their respective merits in producing milk and cheese, and has a great show of fine cattle in this line; he has corrected an erroneous notion which has generally prevailed, that cheese of particular qualities can only be produced in particular districts, and that good cheese could not be made in Wales; he has proved that at Hafod cheese may be made at will, so nearly resembling the best Parmesan, Stilton, Gloucester, Cheshire, or Lancashire, that the difference cannot be perceived by good judges; and that the whole business consists in various modes of producing it from the same milk. I have added two receipts for making toasting cheese, as practised at Hafod, for the information of your readers, both of which will be found to answer, and are as follows:

Hafod Toasting Cheese.

Take thirty gallons of milk from the cow, if you wish to colour it, add a small quantity of annotta ground with a little milk upon a tile. Add to your milk as much runnet as will coagulate it. In about an hour's time it will be fit to take out the whey from it; this is done by pressing the skimmer upon it, and touching it as little with the hand as possible. Press as much of the whey from it as you possibly can, put it under the press, turning it and changing the cloth twice a day. In four or five days it will be fit to take from the press, then lay it on a smooth stone and rub it well over with salt, do this for three days, and treat it afterwards as other cheese. The vats for these cheeses should not be more than three inches in depth. Five or six holes bored in the sides of all vats is a great improvement.

Another method for making toasting cheeses is by heating the milk, so that it is put warmer than the natural heat together. When the curd is come and drained from the whey, it is scalded with whey. It is then pressed in the cheese mould as dry as possible, afterwards broken very fine with the hand, and the dairy woman will then add as much salt as she shall think proper. It is then put under the press and treated like other cheeses.

The erection which Mr. Johnes has made at Hafod for the feeding of his cattle, seems formed upon a better plan for the purpose than any I have seen elsewhere; I have therefore sent a description and drawing thereof, which I have no doubt will be acceptable to many of your readers, and contribute to promote, what I am very anxious to do, the interests of agriculture; a branch of knowledge of infinite importance to this country. At a further period I may probably send you some further particulars respecting the improvements at Hafod.

In the mean time, I remain, Sir, your obedient servant,

VIATOR.

Description of a Feeding House for Cattle erected by Thomas Johnes, Esq. at Hafod.

The Engraving represents an elevation of the building being one of the ends thereof extending from A to F, 34 feet, divided by a wall B, into two parts by a shelving roof, the part from A to B is intended merely as a receptacle for manure, the other part from B to F is properly the feeding house. The length of the whole building is 50 feet. The heighth from B to H 14 feet, from A to G 7½ feet, from F to I 6 feet. The width of the feeding house from B to F is 19 feet, inside measure, the stalls are each 12 feet long by 4 feet two inches wide. A gang-way of near 3½ feet will be at the heads and tails of the cattle leading from the doors C E. The first of which is for the egress and regress of the cattle, the other for furnishing them with food. Similar doors are also at the opposite ends of the building.

Running water is supplied to the cattle in troughs whenever they please, and they have also mangers and racks for hay. The cattle lie upon wooden platforms perforated for the moisture to pass through. At the back of the feeding house from A to B is the covered dung pit, into which all the urine runs, and into which the dung is to be pushed through apertures in the wall B, each of which apertures is two feet square, and is between every two stalls. M is a folding wood flap or window, of which there are twelve, to give light and air to each stall.

In Mr. Johnes's feeding house, the walls B D F are built of stone, the parts N O above the door-way are made of wood, and the roof is made of larch wood by way of experiment to prove its durability, but it is probable that brick and slate will in most cases answer best for the purpose.

The dung pit from A to B is about twelve feet wide, it is sunk some feet deep in the earth and extends the whole length of the building.

OBSERVATIONS OF MR. MIDDLETON'S ROTATION OF CROPS.

To the Editor of the Agricultural Magazine.

Sir,

I Entirely agree with your Correspondent, John Middleton, in principle, in "the rotation of crops," which he recommends in the last Number of your Magazine, page 323, namely, that of "*two green or root crops for one of corn.*" For, surely it is the only way to gain any thing great and valuable from our land, to keep it *up to*, if I many use the expression, or, *rather above*, its work. And when this is the case, every thing which we sow is placed almost beyond the

influence of circumstances or seasons: every thing which we sow is brought to its full perfection, and to its utmost extent both of quantity and quality. When this is the case, as Mr. Middleton properly observes, his rotation of crops may either be continued or not, may either be varied or not, and without disadvantage. But adopt the opposite plan, of raising a long succession of corn crops, and every process of the wisest system of culture will be rendered either ineffectual or destructive. Thus far I can proceed most cordially with Mr. Middleton in his *generals*, but in all his *particulars* I cannot join issue with him.

In each variation of his "rotation of crops," Mr. Middleton recommends the sowing of *spring wheat*, which is a species of crop very ill suited to most parts of this island, and peculiarly unfit for the adoption of farmers in the northern counties. When this crop is resorted to, my bold assertion above recited, respecting circumstances and seasons, must instantly be withdrawn: for in this instance every thing will depend upon seasons, and nine seasons out of ten will prove unpropitious to spring sown wheat in almost every situation. For if the season is very encouraging to the crop, there is great danger of reaping little besides straw; and if the season is harsh and unfavourable to vegetation, spring wheat will seldom ripen early enough to be harvested in time and in perfection. There are, I allow, very many farmers who have occasionally, and through necessity, adopted this crop, but there are few found, I believe, that will be pravailed upon to repeat it when no such irresistible cause exists. I should like to see a substitute for this crop pointed out by this intelligent agriculturist.

Mr. Middleton at the conclusion of his "second rotation on medium and strong loam," advises us to sow with barley or oats "a large portion of white clover, some of Peacey's rye grass and other grasses to continue." Now I have reason to think from what I have seen, and from what I have read in a prior Number of your Magazine, respecting that hardy and coarse grass, called Peacey's rye grass, that if it is sown together with white clover and other grasses, which are all so much more palatable to sheep than itself, that they would obtain so decided a preference as to be eaten bare to the roots, whilst this unpalatable grass would be left untouched, and unrestrained from running to bent and to seed. The farmers who are best acquainted with this very strong, sour, and early variety of rye grass, never sow it together with any other kind of grass but broad clover, which is nearly as unpalatable in the estimation of sheep as itself, and then both are eaten freely, when there is no other more delicious species of food to take their fancy. Mr. Gibbs, of Piccadilly, Seedsman to the Board of Agriculture, exhibited, at Lord Somerville's shew of

cattle, what he called an improvement upon Mr. Peacey's rye grass, and which he said was a much sweeter grass, but not quite so early.

I highly approve of Mr. Middleton's plan of eating, or as it is commonly termed, spending the whole of the root crop upon the land which produced it, his proceeding so far upon this principle as to chop to pieces every turnip upon the spot rather than carry one off to be eaten elsewhere, discovers a just and genuine notion of true husbandry, although perhaps there is very little real manure in the turnip itself.

I am yours,
A BUCKINGHAMSHIRE FARMER.

STRICTURES ON THE CROSSES OF SPANISH WITH ENGLISH SHEEP.

To the Editor of the Agricultural Magazine.

SIR,

YOUR Correspondent Nehemiah Bartley has of late, through the medium of your Magazine, made repeated advances in prosecution of his favourite scheme, the demolition of what he calls the prejudices of such breeders as prefer large to small stock. He has proceeded thus far without check, without opposition, and I hope without particular notice, as his plan is most assuredly pregnant with mischief. But, as I have already undertaken a refutation of arguments of a similar tendency with those advanced by Mr. Bartley, I shall not suffer him to proceed further unopposed. Not Sir, because I think his reasoning irresistibly mighty, or likely to make any deep impression upon the minds of practical farmers, but that having a certain degree of plausibility attending it, and the charm of novelty to recommend it, and coming from the Secretary of so very respectable an institution as the Bath and West of England Agricultural Society, it may have considerable weight with the incautious and inexperienced breeder.

Mr. Bartley and his coadjutor in the cause, Dr. Parry, found their theory upon what all the world besides esteems *false principles*. They make that a primary object which ought only to occupy a secondary station. *Wool*, with them, is an object of the *first consequence*, whilst *mutton* is only of *inferior moment*. And not only wool, but the *fineness* of wool, is a consideration, in their esteem, of sufficient weight to induce them to sacrifice quantity of mutton to quality of wool. Nay, they proceed so far upon this principle, as to boast of the very diminutive weight of the carcases of their sheep. They reckon likewise upon the false principle, that *small stock* will invariably require a proportionally small time, and small quantity of food, in fattening. But it is not my present

intention to examine all the arguments adduced by Mr. Bartley on this subject in his various letters inserted in your Miscellany, and in the Gentleman's Magazine; for on many of the points there agitated, Dr. Parry and I are already at issue, and I shall reserve myself, therefore, for the free consideration of certain answers which the Doctor pledged himself, six months ago, to make "to all the questions which I had proposed to him." I shall, however, take the liberty of animadverting on certain passages in Mr. Bartley's Letters in which he does not exhibit a strict obedience to the rule which he has laid down for others, in your Magazine for the month of October last, page 264, when he says, "it is from a temperate collection of sentiment, that the truth may be not unfrequently established."

Mr. Bartley, in certain Letters to Charles Henry Hunt, Esq. which, for some reason or other, were sent to the Editor of the Gentleman's Magazine, and inserted in the month of November last, makes the following assertions in commendation of his crosses with the Spanish breed of sheep. "These crosses," says he, "will produce more and better mutton, and more and better wool than any native English sheep." This, I say, is neither temperate nor true.

"I am warranted," says Mr. Bartley, "from my own experience, in conjunction with his Lordship's sentiments, (meaning Lord Somerville,) in concluding that an acre of pasture (rent 25 to 30 shillings) would well support through the year, ten Ryeland ewes." These ewes, the reader is to understand, are to be accompanied with a lamb each, and thus, whilst twenty mouths are constantly at work during the summer upon one acre, what can possibly remain for the winter sustenance of these ewes? Every experienced man knows full well that sheep thus hardly kept will lose the whole of their coats before the end of winter, if not their lives likewise.

Mr. Bartley states the weight of the fleeces of these ten ewes to be "four pounds each, and ten multiplied by four, says he, will be equal to 40:" and then triumphantly adds "let any other sort," (upon an acre of land,) "produce 30 pounds if they can." Now, at the time when he wrote this letter he must have known that *two* Lincolnshire sheep, exhibited at a prior Wooburn sheep-shearing, produced fleeces which weighed together 35 pounds, or 17½ lb. each. And I insist upon it, that two Lincolnshire sheep will by no means consume and destroy so much food as four of the Spanish cross-breed will. Allowing, however, only four of the Lincolnshire sheep to be kept on the same quantity of land as the ten Spanish crosses are pastured, and each to produce wool in the above proportions; then, even in this case, from the Lincolnshire breed we shall

receive 70 pounds of wool, and from the crosses only 40. But when the quantity of the fleece of every sheep depends so much upon circumstances, and varies so much according to its *keep*, that the same individual may be made to produce two or eight pounds of wool, as I can easily prove, if called upon, will take place, nothing decisive of the point in question can be ascertained from the representation of a few particular cases: especially as Mr. Bartley's sheep are always kept in high condition, for certain private reasons.

Respecting the boasted *quality* of Mr. Bartley's wool I shall make no remark at present, but shall presume to ask one simple question, which I have already proposed to Dr. Parry, and which he has not yet found it *convenient* to answer, i. e. how comes it to pass, that Mr. Bartley's wool, which he pronounces to be equal in quality to real Spanish wool, only sells for less than one half the price of the Spanish, or that the former only fetches 3*s*. 2*d*. per pound, when the latter brings 6*s*. 6*d*. per pound?

If Mr. Bartley is desirous of a *free* as well as a "temperate collection of sentiments" on the subject of wool, I cannot think that he would have had recourse to the sacred shield behind which he has placed himself, when he says, in his second Letter in your Magazine for the month of April, page 250, "it was the king that about twelve or fourteen years ago first introduced the *subject* of improving British wool, by interbreeding with Spanish sheep." Such authority, I think, should never be interposed in the discussion of a subject which concerns the community at large; and I was much *surprized* to see Dr. Parry availing himself, in his book, of this inviolable species of shelter.

The remaining part of the above quoted sentence is at least bold and animated: "and if *it* were pursued, says Mr. Bartley, with all that degree of energy which I conceive it well to deserve, I cannot but persuade myself it would prove of advantage to the country, equal in value at least to all the improvements in our rural economy taken together, that have been successfully introduced during the same period." Now it is evident from this strong expression, that Mr. Bartley either rates his own achievements excessively high, or "the late improvements in rural economy" extremely low: but I am rather inclined to think, that he reckons chiefly upon the former, from what follows. "And the example," says he, "is now rapidly advancing in all quarters insomuch that the opposing forces of prejudice and mistaken interest are well nigh about to subside." I will venture to affirm, that the example here alluded to, is not rapidly advancing in all quarters. It is not advancing amongst that class of men called the common farmers, who have, and who always must have the chief

management of our rural economy; they will never become blind enough to their true interest to sacrifice carcase to fleece, or size and symmetry of animal, to quality of meat.

But, Mr. Bartley does not confine his refining or reducing system to sheep alone, but extends it to cattle likewise. And he maintains his positions by a new analogical mode of argumentation. Sheep, says he, are more profitable than cattle: but sheep are profitable from their smallness: therefore the smaller cattle are more profitable than the larger cattle. If this be allowed as a legitimate syllogism, and the datum be granted him which he has assumed, we shall, perhaps, soon hear of his having recommended it to dairy-farmers to stock their land with ewes instead of cows, and that the milk of the former is of a very superior quality to that of the latter.

In support of his system Mr. Bartley proceeds, page 251, to bring against the breeders of former times, a charge which I do not believe he can support by evidence. "Previous to the time of the celebrated Mr. Bakewell," says he, "hugeness of size and bone, were pretty universally considered to have been the leading criteria of perfection, but now the advocates for the smaller breeds of our domesticated animals are rapidly increasing." I will not grant that there ever was an *experienced* grazier or farmer, either before or since Mr. Bakewell's time, who ever said or thought that a beast that was huge in bone was more valuable than one of the same size that was fine in the bone. I challenge Mr. Bartley to produce an instance in confirmation of his assertion. This is one of those unmerited but very common charges which are thrown out by most agricultural writers, against former men and past times, merely to enhance the value of modern discoveries, and sometimes modern innovations. If Mr. Bartley's improvements of the breed of English sheep by crossing with the Spanish, should prove of no greater advantage to the farmer and to the public than the dear bought ameliorations of Mr. Bakewell have been in our cattle stock, his country will lie under no vast weight of obligation to him. Mr. Bakewell mistook the first object of a breeder of cattle; and in my opinion, Mr. Bartley and Dr. Parry have erred in like manner, in their system of breeding.

I shall not venture, at this time, to meddle with the contents of Mr. Bartley's Letter, which appears in the last Number of your Magazine, but shall reserve my animadversions till another opportunity may offer.

Yours,

PRACTICUS.

A METHOD OF PRESERVING CABBAGE PLANTS FROM THE FLY AND THE SLUG.

To the Editor of the Agricultural Magazine.

SIR, *Fakenham, June* 9, 1803.

A Few days since I planted a small quantity of the Drum-head or Cattle Cabbage, and was not a little vexed and disappointed at finding many of them eaten, and some nearly devoured by its two fatal adversaries, the *Fly** and the *Slug*†, the former attacking it by day, and the latter by night. I soon perceived that the evil was spreading wider, and I began to be alarmed for the safety of my whole crop. I therefore determined upon making an experiment which I had long weighed in my mind, and which I am happy to say, has fully answered my hopes. On each of the injured plants, which were at the same instant almost covered by the fly, I gently sprinkled with a brush a few drops only of *train* oil. The effect upon the flies was instantaneous, for they all fled, nor has one since returned; and for three mornings past I have not discovered that a single leaf has been touched by the slug. The operation of sprinkling every plant with oil, singly, is too tedious a process to pursue in general: perhaps, if the plants were drawn over night from the seed-bed, and each bundle of five hundred were carefully moistened with about half a pint of oil, and planted next morning, the nauseous smell and taste would be communicated to all the plants equally, and the effect would probably be the same. I do not recollect that Dr. Hunter in his excellent Essays has mentioned any particular benefit arising from his oil-compost, with respect to protecting plants from insects: if it has this property, it would prove an inestimable manure for all kinds of plants subject to the canker, fly, or slug, and for turnips in particular, which no experiment hitherto made, has been able to guard from that most destructive of all its enemies the fly.

I shall be truly glad to hear from any of your Correspondents that they have tried the remedy I have proposed, and whether the result has been equally fortunate with them as it has been with me.

I am, Sir, yours, &c.

AGRICOLA NORFOLCIENSIS.

* Called by Marshall, in his "Rural Economy of Norfolk," the *Tenthredo of the Turnip*.

† I much doubt whether it is not the large dew-worm: at night on walking to the plants, I have perceived some hundreds withdraw themselves into their holes very near the cabbages, and in the morning I have found two or three smaller plants quite pulled up by the roots and drawn half way (stalk foremost) into their dens.

OXEN, IN COMPARISON WITH HORSES, FOR THE PURPOSE OF DRAUGHT, AT THE ROYAL FARMS.

To the Editor of the Agricultural Magazine.

SIR,

THE cause of oxen, cannot be supported against horses, by such accounts as are published by Mr. Kent and Mr. Young. The comparative statement, in the Annals of Agriculture, volume 32, page 168, either has not been drawn from authentic documents, or it is not fairly made. Mr. Young, or Mr. Kent, for it is not clearly expressed which of them is the writer, says, in page 167, that statement represents what was the expence of horses, and what is the expence of oxen. The next two pages contain the account, even to the day of the month. Now these expressions are calculated to induce their readers to suppose horses had been employed during several years, and were superceded by oxen, who have worked a sufficient time, to ascertain the expence of labour, performed by each of these teams. If this were true, the dates of the expence of labour, done by horses, would have been five or seven years antecedent, to the dates of the experiments by oxen. But, unfortunately for the writer of such a misrepresentation, the accounts of horses and oxen bear the same date, which proves at least one of them to be as imaginary, as the subsequent part of this paper will shew them to be fallacious.

The author of that statement, cannot produce books of real business, from which the account in pages 168 and 169 is said to be drawn, which would warrant any such conclusion as is there adopted. I thus publicly call on him to produce it if he can, otherwise he will justly be suspected of writing, with the intention of misleading the general opinion.

The agricultural world ought to be made acquainted with the manner in which comparisons are made, between horses and oxen on the royal farms. The farm at East Sheen, lies at a short distance from my occasional residence, and consequently, I have some opportunities of seeing the manner in which it is cultivated. At that place, there are four Norfolk ploughs, which most people know are very light; each of them are drawn by four oxen, and there is one Berkshire plough, which is known to be one of the heaviest in Britain, drawn by two horses. The oxen are the most fit of their kind for the purpose of draught, and the horses are the least fit for it. The horses are not the chesnut punch from Suffolk or Norfolk, nor are they the Yorkshire one-third, or one-half blood, but they are of the sluggardly black breed; and even two of these slow paced horses, are studiously loaded with one

of the heaviest ploughs in the kingdom, in order to retard their pace, and prevent their walking faster than the ox-teams. Each team of four oxen draws a feather, and the two horses are made to draw a ton. Under these circumstances, the ox-teams are said to keep pace with that of the horses. Business conducted in this manner, is evidently contrived for the purpose of deception; the author of it ought to be known to the public, and to his Majesty, that he may be disgraced as he deserves.

I shall not, in this place, enter on the comparative expence of horse and ox-teams, otherwise it would clearly appear to be more economical to use horses than oxen, in ploughing that farm. Four oxen, one man, and a stout boy, in one case, do accurately as much labour as two horses and one man in the other; the latter is evidently a team of the less expence, and I believe it to be so, at least to the amount of the keep of two oxen and a boy, which, at the present price of labour and clover hay, is equivalent to 100*l.* per annum.

I am, yours, truly,

Lambeth, May 20, 1803. JOHN MIDDLETON.

ON RURAL ECONOMY.

To the Editor of the Agricultural Magazine.

SIR,

IN the Fifth Essay on Rural Economy, signed Wheat Sheaf, published in Number 45 of your valuable Magazine, it appears a paper must have slipped out before it was sent to the press, therefore I beg you to insert the following to supply that part of the Essay between the two paragraphs, page 287, line 10 and 11, as thus:

When or before the proper regulations are established for the business of the herdsmens' farms to commence, the landlord, or some person for him; should undertake that the land be duly inclosed and properly drained where wanted, with plenty of water secured, or a proper well dug, and pump fixed in the most convenient spot on the estate, water being essentially necessary for the stock; at the same time, two cottages must be built for the herdsmen and their families, and an interest equal to these expences must be added to the rent. Then to complete the introduction, some substantial farmer should be applied to in the neighbourhood who should undertake to fallow and manure the land, according to agreement, that it may be in condition to bear a crop of turnips, or any green feeding crop, as may be thought best for the purpose of being eaten off upon the land by the farmer's stock, or those he may prefer the profit to his own use; these and other necessary observations should be properly secured before the

herdsmen can take possession of the land, for they must not commence their operations and buy the stock until it shall appear the land will bear the feeding crops; and very likely it may require two years to accomplish this necessary part of the business, that is two years for feeding crops before the herdsmen are established; also the restrictive clauses by Parliament must be looked to for corresponding with present laws and usage, and tending to the improvement of the system.

These and other circumstances respectively being secured, there afterwards will be no doubt for the success of the plan, if honestly conducted, for from the reciprocal productions of the crops and animals, the land must improve, grow rich, and the weeds be destroyed; but without beginning by the above precautions, the herdsmen would be bewildered, and not know how to conduct themselves, for food without stock, or stock without provisions to keep them, would soon end in the total destruction of the system. Take the experience with the opinions of every agriculturist, and they will each readily concur, that arable land naturally of a kindly soil, though poor and unproductive, when it shall be thrown under better culture, where there is to be plenty of *manure*, such land must increase in value to the double of its rent at the expiration of 21 years, for when explained it will satisfactorily appear that each acre of land is in a constant employ, half with green crops through the year, which must destroy the weeds, and will be under two very copious foldings in every two years.

We are gone far enough, I hope to prove the landlord must be benefited by the value of the land improving; the state enriched, as more than double the quantity of provisions will be produced annually, and sent to market; the herdsmen made happy by securing an establishment for themselves and families, with many other advantages to the community, and no person injured thereby, each concerned finding reasonable cause for content.

Now follows what may be the proper rotation of crops suiting the system, and which has appeared in Number 45.

I am, Sir, your obedient servant,

May 20, 1803. WHEAT-SHEAF.

ESSAY ON THE DISEASES OF SHEEP: DRAWN UP FROM COMMUNICATIONS FURNISHED BY DR. GILLESPSIE, PHYSICIAN IN EDINBURGH; TOGETHER WITH HINTS BY DR. COVENTRY, PROFESSOR OF AGRICULTRE IN THE UNIVERSITY. WITH NOTES, SUGGESTED FROM OBSERVATIONS IN TWEEDDALE, &c.

(Extracted from Findlater's Survey of Peeblesshire.)

IT is supposed by those who have best access to information on the subject, that the island of Great Britain contains about thirty millions of sheep; and that of these, from three

to four millions annually die of disease. Were we to average the large sheep in England, with those of less value in Scotland, the annual loss, from this cause, would not be less than from two to three millions sterling: a loss which is certainly of very serious concern to the nation at large, as well as to individuals. The mortality of sheep, by disease, is more than double that of the human race—if we abstract, from the latter, the waste occasioned by wars, and by the accidents incident to commerce and navigation. It must therefore appear to be an object of great national importance, to investigate the means of preventing, or curing, the diseases to which sheep are exposed.

In the following Essay, we do not pretend to offer a perfect treatise upon the subject. All we aim at, is to give a short catalogue of the various diseases, and to suggest, under each article, the most obvious means either of prevention, or of cure. On a subject which has never been scientifically investigated, mistakes are unavoidable; and these we leave to be corrected by the candour of the reader. Most authors who have treated of the diseases of brute animals, have stuffed their books with a long series of nostrums and prescriptions, where the ingredients are excessively complex, and which either do not mix, or destroy each other's effect. We shall endeavour to avoid this error; and leave all doubtful cases to future investigation.

Some diseases are peculiar to lambs, and others to sheep at a more advanced period of life.

Lambs are subject to

1. *Diarrhœa, or Looseness.*

This disorder is commonly called, by the shepherds, *pinning*; because, when the purging has advanced a certain length, a glutinous matter flows from the anus, which fastens down the tail to the hips, and prevents any farther passage. When shepherds observe this, they commonly seize the lamb, and having washed and disengaged the tail, they rub the parts with the earth of a mole-hill, or other powdery matter, to prevent the tail from sticking in future. Hogs lard, or sweet oil, would answer much better for this purpose. The disease is caused by wet and cold in spring, together with the ewes eating too greedily of soft moist grass. Removing them to heathy, or poorer pastures, where astringent or aromatic plants abound, prevents, or cures the disorder.*

* Among lambs, fed with their dams, upon the rich improved pasture of Lothian parks, *pinning* never occurs; whence, it is probable that it originates from milk concocted from poorer pasture, which gives more curd than cream to the milk, rendering the excrements of the lamb more viscid. When the mothers have little milk, the lambs are very rarely *pinned*. *Pinning* is therefore considered as a favourable sympton of the lamb's being well nursed.

II. *Cholic, or Bursting.*

This disease is incident to lambs, from surfeiting themselves with an excess of milk. Shepherds call the disease *bursting*; because the milk, apparently, ferments in the stomach; and, by the disengagement of gases, the intestines are burst. It seems perfectly analogous to the cholic in cows, arising from an excessive feed of red clover in a wet state. The ewes acquire this fatal excess of milk, by feeding too freely upon soft succulent grass in spring. The evil may be prevented or cured, by removing them, for some time, to a poorer pasture.

III. *Vermin.*

There are three species of insects which are very hurtful to sheep. 1. The *sheep-fly*, which abounds chiefly in the southern parts of the island, and is most troublesome to lambs. Smearing with rancid oil of any kind, seems the most effectual remedy against its attacks. 2. Maggots, the *œstrum ovis*. These are flies in their chrysolite state, and arise from eggs which flies have deposited, probably in some small boil, or diseased part of the animal's skin. They eat into the parts where they are fastened, produce ulcers, teaze, and at last destroy the life of the animal. The parts infested should be clipped bare, and washed repeatedly with black soap and warm water. Lastly, the parts may be covered over with the common smearing ointment. If this does not operate a perfect cure, recourse may be had to the means just now to be mentioned. 3. Ticks, or keds, the *hypobosca ovina*. The smearing ointment generally prevents, or kills this insect. But if this

It is not considered as a *disease*, in Tweeddale; though, if not redressed, it would be productive of disease. It is considered as an *accident* to be guarded against; and which, like other accidents to which sheep are liable, requires the shepherd to be constantly walking through his flock. No Tweeddale farmer would, on this account, remove his ewes and lambs to poorer pasture, where the lambs would be worse nursed; as he knows, that if the *pinned* lamb is timeously noticed, and relieved by pulling up the tail, all danger is removed.

Falling awald, is another *accident* which must, in like manner, be guarded against. When ewes heavy with lamb, or sheep that are fat, or even merely full fleeced, fall, or lye down upon their backs, in a hollow, or even upon flat ground, they will often lye in this position, if not disturbed, or set upon their legs, till (in consequence of the swelling of the belly, which speedily takes place, if the weather is hot, the belly full, and the position be with the head down hill) death ensues: if not raised, they soon become incapable of raising themselves, and will often die in the space of half an hour; the contents of the swelled abdomen probably obstructing the motion of the lungs, or the brain being apoplectically compressed by the over-distension or rupture of the blood vessels of the head. The fell, ever-watchful, and far-seeing raven, is always ready to attack them in this helpless situation; tearing out, in a few moments, both their eyes and their tongue, even before they are dead. When set on their legs before the belly has swoln very much, no harm ensues. C. F.

should not happen, or if the sheep are not smeared, insects of every kind may be effectually killed, by slightly rubbing the parts affected with mercurial ointment, composed of three ounces of hogs lard, rubbed up with half a drachm of finely powdered corrosive sublimate. To this ointment, may be added a little of the spirit of turpentine. Coal-oil is powerfully destructive to insects of every kind; but whether it may not prove injurious to the health or fleece of a sheep, has not yet been ascertained by experiment. A decoction or distillation from the gall-plant, which abounds in many mosses and muirs, is known to be very fatal to insects of every kind; and a sheep may be safely washed with this juice. The juice of tobacco is also much recommended as a poison for those insects which infest sheep.

The two last species of insects are chiefly hurtful to sheep of a year old, or more; and the diseases which follow, are chiefly confined to sheep of this description.

IV. *Scab, or Itch.*

This disease is incident to sheep in some particular pastures, situations, and seasons, more than to others. The predisposing cause, seems to be a relaxed habit of body, produced by poverty, or leanness: though some sheep are subject to it that are fat, and otherwise in good condition. The disease seldom seems to originate with such sheep, but to be conveyed to them by infection. Sheep that are regularly tarred, or smeared, we believe, are seldom infected with this disease. If the disease be partial, perhaps the best remedy would be, to clip the affected parts as bare as possible, and rub them occasionally with the common smearing ointment, to which may be added a little Venice turpentine. They should also be washed, once or twice a week, with black soap and water. But if this prove ineffectual, or if the disease has gone to a great extremity, the animal should first be washed as clean as possible, in a pond or rill of water, to purge away all the accumulated virus, or infecting matter, from the wool. A little black soap may be of great use in washing. Then the whole body may be smeared with juice of tobacco; and, after the animal becomes dry, may be rubbed with butter mixed with powdered brimstone:—or brimstone, mixed with the smearing ointment, would answer better. A little of the sulphur may, meanwhile, be thrown down its throat. If this treatment, being twice or thrice repeated, after an interval of several days, should prove ineffectual, recourse must be had to the mercurial ointment formerly described, composed of three ounces of hogs lard, well rubbed in a mortar with half a drachm of finely powdered corrosive sublimate:—or the same proportion of corrosive sublimate, well mixed with three ounces of the

common smearing ointment, will answer equally well The animal being smeared with this ointment, will soon be effectually cured. Meanwhile, the diseased animal should be invigorated, by being put upon substantial food.*

V. *Braxy, or Sickness.*

This disease is of an inflammatory nature; and there are three species of it, which are very different from each other. These are,

1. Inflammation of the bowels, commonly called dry-braxy, is most fatal to young and robust sheep, about six or seven months old, called in many parts of the island, *hogs*. It is more destructive upon some farms, than others; and, even upon these, in one season more than another. In a *hog-fence*,

* John Loch, Esq. of Rachan, observes, that it would be proper to add to this account of the scab, that the matter discharged, mixing with the wool, and drying, forms a hard, impenetrable crust, which he has observed of half an inch in thickness; that it is vain to think of curing it by any external application, till this is removed; and that you might as well attempt to cure a man of the itch, by rubbing butter and brimstone upon his coat, instead of his naked skin. That the scurf, thus formed, must be removed, by soaking and washing it with warm lime-water and soap, and scraping it clean to the quick with a blunt knife. It may then be successfully cured by the ointment mentioned in this Essay; or (which is a more cleanly and easier-formed remedy) by dissolving half a drachm of the corrosive sublimate of mercury in a chopin bottle of whisky and water, and washing the parts repeatedly with the solution, which he has always found effectual upon two or three applications.

Except the *breakshaw*, or dysentery, (Article VIII. of this Essay,) the scab is the only disease from which communication by infection is dreaded in Tweeddale; and here, the danger of general infection of the whole flock is greatly to be feared. It seems not a very deadly disease; but, from the constant disquietude in which it keeps the animal, from the perpetual itching, it effectually prevents its fattening, besides making it lose its wool. When it has thoroughly pervaded a flock, it is very difficultly eradicated. The ground itself becomes infected; and it communicates the infection even to a sound stock brought upon it. Every broken piece of ground upon the hill sides, presenting a perpendicular or overhanging face, against which the infected animals can rub their backs or sides, becomes charged with the infecting matter, which readily communicates the disease to the sound sheep, who delight also in rubbing themselves. Besides curing the infected animals, care should also be taken to beat down the infected surface of these rubbing places, else the animal is only cured to be infected anew. If the ground abounds with projecting rocks, the surfaces against which the sheep rub themselves, should be carefully washed. After all, the safest course is to sell off the infected stock to the butcher, and replenish with black cattle for a season; when, if the infecting matter consists of animalcules, as is supposed of the human itch, a winter's frost would probably destroy them.

A sort of itch, though seemingly noway inveterate, almost always attacks sheep, when first set to feed upon turnips. It is easily cured, by immediately anointing the infected parts with a liquor composed of turpentine, with decoction of tobacco, and ashes of broom, being that commonly used in this county.

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or pasture, capable of keeping thirty score of hogs, there is, some years, a loss of from three to four score. This disease begins at those times when inflammatory disorders are most apt to prevail, in the months of October and November, and is produced by the common causes of inflammation, cold, exertion, external injury, &c. During these months, slight frosts set in; and the ground, in the morning, is often covered with hoar frost, or what is called, in some parts of Scotland, *rhime*. It is probable, that eating grass covered with hoar frost, may be one cause of the disorder. If so, moving the animals about, and preventing them from eating, until the frost is melted by the sun, may tend to prevent the disease.

This disease runs its course very rapidly. When the shepherd leaves his flock at night upon their layers, he sometimes observes a hog look dull, loitering behind, and restless; sometimes lying down, and suddenly getting up again: and, in the morning, he will often find it dead, or nearly so. At other times, he will discover no apparent ailment among his flock; and, in the morning, he may find one or two dead, or dying. From this it appears, that the disease is very acute, and of the inflammatory kind.

This is farther evinced by the appearances after death, when the carcases are opened. Their bellies are excessively swelled, and distended with a putrid gas: the whole intestines being red and inflamed, gangrenous, and in some degree mortified. This putrid taint seems to be communicated to the whole carcase, as all the muscular parts, and fat, smell strongly of corruption. The hogs that die of this disease, are frequently fat and in good order; which shews that the disorder is of short duration.*

We have already mentioned the eating of grass, which is covered with hoar frost, as a very probable immediate cause of this disorder.—But is there any predisposing cause?

* John Loch, Esq. of Rachan, observes, in general, in regard to the sheep, that it is an animal of a very costive habit, discharges little urine, and that so acrid, as to burn up grass like a solution of volatile alkali, it drinks little, and perspires much of a gleety or greasy nature, as is perhaps the case with all fur-bearing animals: hence, all its internal diseases are highly inflammatory, and run rapidly into a state of putrescence, proving quickly mortal; hence, its natural economy is easily disturbed by wet seasons, whilst it gets nothing to eat but wet grass; its body, meanwhile, being covered with its wool, drenched like a wet sponge. The comparative health of *pet-sheep*, or those feeding and housed with cows, at all seasons, he attributes more to covered shelter from the weather than to superiority of feeding; and has therefore resolved to make all his sheep pets, in so far as to provide them with shades, to retire to in coarse weather. From the natural constitution of the sheep, he is of opinion, that more is to be expected from attending to the *rationale* of their management, the *juvantia* and *lædentia*, than from medicine, which can rarely be timeously administered.

In answer to this question, we shall adduce a fact, which is well authenticated.—Many parts of the Western Highlands of Scotland had been for ages occupied by horses and horned cattle. At the introduction of sheep into those districts, the best grass was that which had sprung from the tath and excrements of these animals. During many years after these districts were converted into sheep farms, braxy remained unknown. It crept in at last, and the severity of the disease was long, in proportion to the length of time the pastures had been occupied by sheep.

From this we would infer, that pasturing upon their own tath is a predisposing cause of braxy among sheep; and that a frequent alternation of the species of stock, upon every sheep pasture, might serve to prevent the evil. This idea corresponds with the general laws of the Supreme Being, who certainly never intended, that this earth should be monopolized by any particular species of animals; but has so ordered matters, that the happiness of individuals shall result from the happiness of the whole family of animated beings.

Hence, it would appear a beneficial practice in store farmers, in place of one hog's fence, to keep two or more enclosures of this description, and change the stock upon them every season. This we know to be contrary to general practice; and that what is called the *hog's fence*, is carefully guarded against the intrusion of every other animal.*

* In regard to the quality of pasture, as the cause of *sickness*, Tweeddale farmers seem of opinion, that it arises from the *foulness of the grass at the root* in the hog-fences, which are never eaten bare. Some, therefore, take care to have the land, to be saved for the hog-fence, once eaten as bare as possible early in summer, by the black cattle upon the farm, or by old sheep.

It seems ascertained, in Tweeddale, that land which has been in use to be pastured by older sheep, when converted into a hog-fence, is not liable for some time to produce sickness. Two accidental experiments occurring, in which this practice took place, in consequence of new arrangements, in the farms of Harehaup, in Eddleston parish, and of Lyne, in Lyne parish, confirm this conclusion. It is farther confirmed, by an experiment of Mr. Murray, tenant in Flemington mill. About twenty years ago, he bought in different parcels of lambs for hogs, and laid them upon the hog-fence, of his hog-farm of Broughtonhaup, in Broughton parish: in one of the parcels, of much higher condition than the rest, the sickness broke out to such extent, that they were dying at the rate of two or three daily; so that the whole parcel seemed in imminent risk: he transferred this whole parcel to the farm of Fingland, in Newlands parish, where only old sheep are kept, putting them on some of the lower pasture of that farm, which had been hained for feeding the crock ewes, and transferring a proportional quantity of these ewes to Broughtonhaup hog fence;—not one of the lambs died upon Fingland. To the same effect, it deserves attention, that in small farms, not admitting of distinct hirselling, where, of course, old and young sheep pasture, mixed together, hogs are very little liable to sickness, though perhaps worse in other respects. These facts correspond with Mr. Gillespie of Glenquich's observation. (See Report, page 196.)

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Lambs, immediately after they are weaned, are frequently sent to poor pasture, which is called *birning* them. Now, this appears to be a very bad practice; for the consequence is, that they fall off considerably, before they get at the rich grass in the hog's fence, of which they eat too freely; and thus become disposed to the disease treated of. Children, and all domesticated animals, are carefully fed with nourishing food, for a considerable time after they are weaned; and yet they fall off for some time. It would certainly be better to give the lambs the hog's fence at once, and use every precaution to prevent them from falling off.

As the disease is generally advanced to a dangerous height before it is observed, we fear that medicine affords but a very faint hope of cure. The disease being inflammatory, the shepherd should attempt to bleed the distressed creature as soon as possible; which he can easily do, by cutting off part of the tail, or by nicking it underneath, or by cutting off part of the ears. The animal should then be removed to a house, or shed, and attempts made to produce evacuations. In brute animals, it is difficult to produce these by medicines administered by the mouth. The speediest and most effectual method is, by injections into the rectum, or anus. Such injection may consist of a small handful of camomile flowers, two tea-spoonfuls of anise seeds, and as much carvey seeds; to be boiled slowly in a Scotish mutchkin, or English pint, of milk and water, until the half is evaporated. The liquor should then be strained off, and two tea-spoonfuls of castor oil added: or, if this is not at hand, the same quantity of good sweet oil may be used. This should be administered warm, by an injection bag and pipe; or by an elastic gum bottle, with a pipe properly fitted. Nothing can be easier, than to give a sheep a clyster in this way; and, in all probability, it will have a happy effect, in evacuating the bowles, and procuring relief.

If this does not operate very soon, it may be repeated an hour after, and a large tea-spoonful of common salt added to the former ingredients. If, after all, the animal does not seem relieved, another clyster may be given, consisting of a small tea-cupful of warm milk and water, to which are added from twenty to twenty-five drops of laudanum.*

* When physician to the army, I found inflammation of the bowels a very common complaint. It was attended with costiveness, and a large quantity of air was generated in the stomach and intestines, which was highly distressing to the patient. Each of the following clysters I found of great use:

Warm water, or water gruel, eight or ten ounces; Castile soap, two or three drachms; Glauber's purging salts, half an ounce; sallad oil, one ounce. Mix, and to be thrown up the rectum.

If this did not procure a stool in the space of an hour or two, it was repeated.

As there is a great distension of the stomach and bowels, arising from gases, or elastic vapours, generated in the intestines, Mr. Walker, of Cumberland, in the treatise he wrote upon the diseases of brute animals, has suggested a remedy for this disorder, which has often proved successful in his district. It consists in pushing down their throats a flexible tube, such a Dr. Monro has recommended, and which has proved successful in relieving cows that had over-gorged themselves with red clover early in the season. This seems a probable means of affording temporary relief; and every shepherd that has the care of the hog flock, should be furnished with one of these tubes, adapted to the size of sheep, for trying the experiment upon those hogs that labour under the disease.

2. *Watery Braxy.*—This differs, from the former respecting the seat of the disorder, though the effects are nearly the same. It is analogous to the suppression of urine, a disease frequent among females of the human species, and caused by their sedentary habits. Watery braxy consists in the bladder being overdistended with urine, which raises violent inflammation in that organ, and produces an incapacity to discharge the urine

When the patient had had a ſtool (within two or three hours after) I uſed the following:

Warm water, or water gruel, ten ounces; nitrous æther, two drachms; ſallad oil, one ounce; and if there was pain or uneaſineſs, I added to it forty, fifty, or ſixty drops of laudanum.

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From November, at ſmearing time, till the Chriſtmas (this year 1797,) two facts, in regard to the mode of cure, have been ſtated to me, and which, I am diſpoſed to think authentic.—In the farm of Drummelzier, pariſh of Drummelzier, three hogs (out of four upon which the experiment was tried) recovered, upon bleeding, and having poured down their throats a decoction of tobacco—about a finger's length of twiſt tobacco boiled in water till the water was diminiſhed to a gill, being the doſe for each. In the farm of Broughton-haup, pariſh of Broughton, within the ſame ſpace of time, nine or ten (out of ſixteen or ſeventeen upon whom the experiment was made) recovered, upon bleeding, and having an injection of tobacco-ſmoke adminiſtered from a common tobacco-pipe, by kindling the tobacco, inſerting the pipe-ſhank into the anus, and blowing: the experiment, however, was not ſo ſucceſsful in ſome latter inſtances. I have, long ago, ſeen a ewe cured by bleeding, and injection of Glauber ſalts from a common clyſter-bag and pipe.—Where braxy breaks out, it might be uſeful, where attainable, to lay the hogs, nightly, upon dry ground, if the hog-fence is wet; the chilline ſs of wet ground contributing, no doubt, to the production of inflammation: Clover ſoggage, or turnip, might be good preventatives, from inducing a lax habit. Mr. Gilleſpie in Glenquich obſerves, that ſaltpetre has been ſucceſsfully uſed in the *black ſpauld*, a diſeaſe of young black cattle, ſuppoſed analogous to braxy in ſheep, both as a preventative and cure. His propoſal, of taking the hogs from the hog-fence about the beginning of Auguſt, and keeping them, from thence till 12th September, upon coarſe hill-graſs, as a preventative or cure for ſickneſs, would not, it is conceived, anſwer in Tweeddale, as theſe graſſes are then faded: it might prevent ſickneſs but would induce poverty.

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that is accumulated. The consequence is, that the urine regurgitates over the system; fetid gases taint the whole carcase, as in the former case; the bladder becomes gangrenous, bursts, and the animal dies. Young and vigorous sheep are most liable to this species of braxy, like the former. The immediate cause of the disease, is feeding two freely on succulent diuretic food, and resting too long in their layers in the morning. It has been frequently observed, that this species of braxy is most apt to make its attacks on Sundays; because shepherds generally sleep longer on Sunday mornings, than other days in the week, and, of course, allow the hogs to remain too long in their layers.

This disease may be prevented by avoiding too free an use of succulent diuretic food, and by moving the animals from layers early in the morning, making them walk about for some time, in order to encourage them to pass their urine and purl.

In attempting a cure, it may be known if the bladder is affected, by a great fullness in the lower part of the belly, immediately above the pubis. The seat of the disorder being discovered, a female silver catheter, or one of elastic gum, ought instantly to be passed through the urethra into the bladder of females. This will draw off the urine, and afford instant relief. But this will be more difficult in males, and, if attempted, must be done with a long and properly bent catheter, or bougie. In either case, when this cannot be effected, a puncture may be made into the bladder with a trocar, immediately above the pubis, taking care not to wound the intestines. By either of these methods the urine may be discharged, and the animal relieved.

In other respects, with a view to allay, or prevent inflammation, evacuations should be procured by clysters and warm injections into the rectum, as already described. If the several ingredients we have mentioned be not at hand, injections should be attempted, composed of warm milk and water, nearly in equal parts.

3. *Costive Braxy, or Cholic.*—This is caused by the fæces hardening in, and adhering to the duodenum or rectum, so as to obstruct the passage, and produce inflammation, and consequences similar to those already described. The cure should be attempted by injections and laxative food.

VI. *Sturdy, or Water in the Head.*

This disease is particularly incident to hogs of a year or 18 months old. It consists of a collection of water generally formed upon the external surface of the brain, immediately below the cranium; and sometimes, though not often, in the centre, or ventricles of the brain. When the water forms in

the last mentioned parts, we apprehend it is almost universally mortal.

The disorder is first discovered, by the animal not keeping up with the rest of the flock, and by its appearing dull and stupid. It is afterwards observed to go round in a giddy manner; and at last, it appears blind, and the pupil of the eye seems wide and relaxed. It may continue a long time in this way before it dies; and we believe, sheep sometimes recover of this disease without any thing being done for them. They are often in good order when they die, as they continue to feed tolerably well, until near the last period. Though some recover, with and without means, perhaps it may be most adviseable to kill them early in the disease, provided they be in good order; as this local distemper does not affect the goodness of their mutton.

When the collection of a water is on the outside of the brain, it is often cured by thrusting a sharp wire up the animals nostrils, until it reaches the water, and opens a passage for it to run off. In other cases, it is cured by an operation which some shepherds perform very dexterously. The water is contained in a bladder, or vesicle, generally about the size of a walnut. The part of the skull, immediately above where it is situated, feels softer than other parts. This the shepherd discovers, by pressing with his thum and fingers upon different parts of the fore and upper parts of the skull. The bone here has become thinner, and feels soft; from which, he is certain that the watery collection is formed. After the disease has gone on a considerable time, and he judges it is ripe for the operation, he raises the scalp, and lays the bone bare to a sufficient breadth, with a sharp knife; he then discovers more accurately the extent of the thin soft part of the bone, and with a strong and sharp-pointed knife he makes a circular incision in the scull, raises up, and takes out the part. He then sees the clear thin bladder underneath, which he lays hold of with a small hook, or the point of a needle, and gently draws it out; taking all possible care that it should not be broken, or the water spilled, which would prove unfavourable to recovery. He finds a considerable hollow in the brain, where the bag was situated, over which he brings the flap of skin that was raised, so as to cover it as nearly as possible. Over the whole he applies a plaster of tar, and leaves the rest to nature. This operation often proves successful.*

* The operation by a wire, or by the trepan, which are indiſcriminately uſed, may ſucceed in Tweeddale, once in thrice at an average. Of late, a gimlet has been bored twice into the ſkull and brain, from the root of the noſtril, in a direction to the root of the horn on the oppoſite ſide of the head—apparently with equal ſucceſs, however ſeemingly mortal the wounds.

C. F.

VII. *Palsy, or Thorter-ill, or Trembling.*

This disease is seated in the nervous system, and is perfectly similar to palsy in the human species. It is sometimes produced by eating poisonous and stupifying plants; and sometimes it arises from weakness, or general debility.—Flowers of zinc, administered in small doses in bread pills, or the same metal converted into a salt, by union with an acid, is the most powerful known remedy for this disorder.

VIII. *Diarrhœa, or Cling, or Breakshaw.*

Is a looseness, or violent purgation, which sometimes seizes sheep after a hard winter, when they are too rashly put upon young succulent grass. The cure should be attempted by making them feed upon astringent plants, such as tormentil, bark and leaves of oak and willow, or bruised twigs of these plants. If these do not soon check the disorder, opiates and laudanum may be administered: from 15 to 20 or 25 drops of laudanum, thrown upon a piece of wheaten bread, which the animal is made to swallow, will soon check the disorder; and it should be repeated, if it returns with violence. Or the laudanum may be dropped among a little warm milk, and poured down its throat.*

Another species of diarrhœa frequently occurs in the last stage of chronic disorders, and is only to be cured by promoting the strength of the animal.

IX. *Rot.*

The general discriminating character of this disease is, that its seat is in the glandular system; though many different disorders are confounded under this name. The disorder is either partial, and confined to particular glands; or general, and effecting the whole system.

* John Loch, Esq. takes notice of what is called *breakshaw*, or *breadshaw*, in Tweeddale, as a disease analogous to dysentery in the human species, occurring in the end of wet summers. The discharge is thin and greenish coloured, (he supposes from the wet grass becoming acid in the stomach, and turning the gall green;) it is more or less mixed with blood, sometimes florid, sometimes grumous and black; the animal pines for a week or two, and dies; though sometimes it recovers: warm milk poured down the throat, is the cure used by his herd: he proposes, when it occurs, to try, in addition, nitre in half-drachm doses, with chalk or other absorbent powder, and 20 or 30 drops of laudanum, once or twice a-day, with frequent injections of warm milk and water.

This disease (in conformity to Mr. Gillespie, of Glenquich's observations upon Cling) is often occasioned by overheating, when hunted by dogs, in folding them, &c. or when otherwise scared and terrified. It is considerably infectious; and probably the method mentioned by Mr. Gillespie, of tarring part of the flock, that the smell of the tar may prevent the infection, may be of great advantage.

C. F.

1. *Pulmonic Rot,* or consumption, most frequently attacks young sheep, especially of the more delicate breeds, in unfavourable situations and seasons. The most general cause is cold and wet, especially at the end of winter, or beginning of spring, joined to damp situations, and scanty subsistence. The lungs are found to be tuberculous; the animal coughs; and in the progress of weakness, an œdematous swelling, called in Scotland the *pock,* or *poak,* is formed under the jaw. This swelling is of a dropsical nature, and is merely a symptom of weakness common to many disorders. It may be pierced, and the water it contains drawn out. In this kind of rot, the liver is sound.

2. *Hepatic Rot* has its seat in the liver, and there are several varieties of it. 1. Sometimes it appears in the form of *schirrus,* the liver being hardened and swoln. This occurs in wethers, during a dry year, when their provisions are scanty, and they labour under an over-costive habit. It may be prevented by more abundant, and perhaps more succulent food. 2. Disordered liver from the fluke-worm, or *fasciola hepatica,* occurring in the biliary ducts; and sometimes, in consequence of ulceration, appearing even on the surface of the liver. This species of disease prevails in some low, moist grounds, more than others; and even there, in some particular animals more than others. Its origin is obscure, and no cure has yet been attempted. Mercury is the only remedy that promises to be successful; and it may be occasionally administered in small doses, in bread pills: or mercurial ointment, such as we have described, may be rubbed upon the inside of the animal's thigh, previously laid bare, until the body seems saturated. But when this disease is discovered to be frequent in a flock, the whole should be disposed of as soon as possible. 3. Sometimes the liver is, in some parts, filled with watery vesicles; and sometimes there is a slight thickening, and apparent inflammation, in particular portions of it. But whether these should be considered as indications of a primary affection of that organ, or only consequences of another disorder, is uncertain.

3. *General, or true Rot.*—This is by far the most important, because the most destructive, and in some situations, the most common malady to which sheep are exposed. It arises from deficient, or bad aliment; whether the food itself be bad and scanty, or the animal be incapable of digesting it properly. It is most common from the former cause, want of food; and the disease is much the same with scurvy among the human race. In addition to these causes, whatever tends to depress the spirits, frequently excites, or at least exasperates the malady. It is said, that soldiers in a garrison have been known to be seized with the scurvy on hearing bad news: and I doubt

not but terrifying sheep with dogs, or other means, may produce, or aggravate, this disease. We may hence see what mischief a fox-chase, or any exhibition of that sort, is calculated to bring upon a flock of sheep. This disease is also said to be produced by feeding upon watered grass: and hence shepherds, in many parts of Scotland, are careful to keep off their sheep from the tender grass, produced by the occasional overflowing of rivulets. Feeding also in marshy and damp pastures, is known to be a powerful cause of the rot.

The only means of cure, are a supply of good and wholesome food, and invigorating the stomach, by permitting the animal to feed on those stimulating and aromatic herbs which are agreeable to its taste. It is believed, that, on dry sweet pastures, where there is a sufficient quantity of furze and broom, juniper, and other shrubs that are palatable to sheep, the rot is seldom heard of. When ground is sown down for sheep pasture, parsley, thyme, peppermint and other aromatic herbs, should be sown with the grass seeds, as these plants serve both to prevent and to cure the rot. In addition to these means of cure, every thing that tends to annoy or depress the animal, in its weakly state, ought to be avoided.*

X. *Foot Rot.*

Is a suppuration in the glands between and above the hoofs, and is precisely the same with chilblains in the human species. The remote cause of the disease is weakness, and the immediate cause is cold and wet. Standing, in cold weather, with the feet perpetually soaked in water upon wet pastures, produces this disease; and it can only be removed, by procuring for the animal warmth and dryness, while its body is invigorated by proper food.

CONCLUSION.

It is evident, from what has been stated, that it is much easier to prevent, than to cure, the diseases of sheep. With a view to prevent diseases, it is unnecessary here to recapitulate

* Shepherds in Tweeddale are generally unable to diſtinguiſh theſe three kinds of Rots (as they are unable alſo to diſtinguiſh three different kinds of Braxy) from external ſymptoms in the live animal. The *pouch* gives great ſuſpicion, but is not an infallible ſymptom of rot. The old breeding ewes are annually examined about Michaelmas. They are judged of as rotten or freſh, by handling; the fleſh of the rotten being more looſe and flabby: the principal mark is taken from the appearance of the eye, in the corner next the noſe, when the eyeball is turned to look away from the noſe: in a ſound ſheep, the fleſh adhering, in this corner, to the eyeball, under the eyelids, is of a florid red colour; in the rotten, this fleſh is of a dull appearance, and a yellowiſh red, ſomewhat like the colour of a rotten egg when the yolk and white are confounded together. The rotten are always ſold off among the crocks, no cure being attempted.

C. F.

what has been so largely detailed in other works, about draining their pastures, and removing its dampness: about sweetening the herbage that grows upon these pastures: about providing proper shelter, by trees; sod dikes, sowing or planting whins, broom, juniper, and other shrubs: about providing a proper supply of wholesome food during winter, and especially in the beginning of spring, from turnips, and other roots; or from bruised twigs, where the others cannot be procured.

We have only one observation more to add. In addition to the conveniences already existing upon large store farms, we conceive it would be an improvement to have what may be called an hospital park, or enclosure. This should be situated upon the dryest and kindliest soil in the farm, and should be sown with all the grasses and aromatic plants which are known to be most friendly to sheep. It may also have a convenient assortment of those shrubs which are known to be most palatable to them. It should also be provided with a dry shed, where certain individuals may be confined when necessary. To this asylum the diseased may be removed; and while proper means are employed to effect their cure, the infection will be prevented from spreading among the rest of the flock.

ON EXPERIMENTS.

(Continued from page 369.)

VII. ON THE OIL-COMPOST.

By James Stovin, Esq. of Doncaster.

IN the year 1769, I made the following trial with the oil-compost, which was prepared agreeable to the directions already given.*

	l.	s.	d.	Produce. q.	b.	p.
One acre, sown with barley, and manured with oil-compost - - - - -	0	18	0	5	5	0
One acre adjoining, sown with barley, and manured with rotten dung, twelve loads worth - - - - - - -	3	0	0	4	3	2
Difference				1	1	2

The compost barley was bolder and better corn than the other.

In the year 1770, the dunged acre produced of rye, three quarters. The compost acre, of ditto, two quarters six bushels.

In the year 1771, the same lands were sown with oats, and the produce was greatly in favour of the dunged acre. This last experiment, being contrary to the idea of good husbandry was made with a view to determine the *absolute* strength

* Vide page 368.

of the compost. All top-dressings are exhausted in the year. The oil-compost seems to retain its vigour longer. It will here be proper to observe, that these experimental lands were in a common field, which had been many years under the plough.

VIII. ON THE OIL-COMPOST.

By Richard Townley, Esq. of Belfield.

In the spring 1770, I prepared a piece of ground for onions. It was laid out into six beds of equal size, and all sown at the same time.

Over two of them, the oil-compost was scattered in a very moderate quantity. Over other two, pigeon-dung. And over the remaining two, some of my weed-compost, which I esteem one of the best manures, for most vegetables, that can be made.*

The onions came up very well in all the beds; but, in about six weeks, those that were fed with the oil-compost plainly distinguished the advantage they had over the rest, by their luxuriancy and colour; and, at the end of the summer, perfected the finest crop that I had ever seen, being greatly superior to the others both in quantity and size.

The same spring I made an experiment upon four rows of cabbages, set at the distance of four feet every way. Two were manured with the oil-compost, and two with my own. All the plants were unluckily damaged, just before they began to form, by some turkies getting into the field, and plucking off the greatest part of the leaves. However, they so far recovered as to weigh, in the September following, from 22 to 28 lb. a-piece. The rows proved so equal in goodness, that I could not determine which had the advantage.

The same year, one part of a field of wheat exposed to the north-east winds, which that spring continued to blow for a month or five weeks, appeared very poor and languid at the time of tillering. Over it I ordered some of the oil-compost to be sown with the hand, which not only recovered, but also pushed forwards the wheat plants in that part of the field, so as to make them little inferior, if any, to the rest.

The same spring I made a comparative experiment upon four contiguous lands of oats, between the oil-compost and my own weed-compost. The latter had manifestly the advantage, though the other produced a very fine and large crop. I also tried the oil-compost upon carrots, and it answered exceedingly well. I did the same this year, (1771) both upon them and my onions; and have the finest crops of those vegetables I ever saw any where upon the same compass of ground.

* This compost is formed of vegetable substances reduced into putrefaction.

IX. TO MAKE A RICH COMPOST OF POND-MUD, &c.

By Mr. William Speechly.

We may naturally suppose that the mud of ponds, in general, is of a rich nature, when we consider the materials of which it is composed. First, ponds, from their lowness of their situation, receive the drainage, and consequently the riches of the adjacent lands around them. Secondly, a supply of various matter is constantly brought by the wind, and particularly the leaves of trees during the winter season. Lastly, cattle afford the greatest supply by their dung and urine, as they frequent ponds at most seasons, but chiefly in warm weather.

Let the pond be cleaned out any time during the summer; if the mud is soft and slimy when taken out, it will be proper to let it lie a short time near the pond bank to harden: then mark out a staddle, in proportion to the quantity of mud taken out, which if not very considerable, the first course, or foundation of the intended heap, may be made of common mould, taken from any mound, hillock, &c. where it is most convenient, which should be laid at least one foot thick; upon this lay a course of dung, fresh from the stable, fourteen or fifteen inches in thickness: next put a layer of pond-mud, nine or ten inches thick, upon which lay a course of lime, fresh from the kiln, five or six inches thick; and so alternately, a layer of dung and lime between every two layers of pond-mud, till the whole is finished. In this place it should be remarked, that it is absolutely necessary to separate the layers of lime and dung by a layer of pond-mud.

In places where they can be got, the offal of animals, soot, saw-dust, sweepings of streets, or in short, any vegetable or animal substance that is reducible, will be exceedingly proper to add to the compost. The whole may be covered with a coat of common mould. The dung and lime will occasion a gentle ferment throughout the whole mass, the bottom layer, excepted.

After the heap has lain three or four months, it should be turned over with the spade, and by the next spring it will be ready to lay upon tillage land; but if it is intended to be used as a top-dressing, it should then continue in the heap till the following winter, by which time it will become a fine rich compost, exceedingly proper for that purpose. In the latter instance, a good crop of potatoes may be got upon the heap, and it will save expence and trouble in weeding.

The quantity of mould in the bottom layer, and also in the covering, may be varied at pleasure.

X. ON PROTECTING WALL FRUIT.

By William Duffin, Esq.

Hearing that covering fruit-trees growing against the wall,

would protect them from the effects of frost, at the time when the blossoms make their appearance, I determined on making the trial upon a well spread apricot-tree, which grew upon a south wall; and in order that the experiment should prove conclusive, I covered one half of the tree with a net, leaving the other half exposed to the weather. The consequence was, the covered branches produced fruit abundantly, while the exposed branches did not bear a single apricot. The net was put on when the blossoms made their first appearance, and kept on till the fruit was fairly set. I observed on this experiment, that the net attracted the moisture of the atmosphere, which occasioned the threads of the meshes to be constantly covered with ice, when the evenings and mornings were disposed to be frosty.

XI. HOW TO IMPROVE THE TURF OF POOR PASTURE LANDS.

By Mr. William Speechly.

It is well known that the turf on poor land, constantly gets worse a few years after having been laid down for pasture. The cause is obvious. There are a few spirey grasses, natural to most poor lands, and these are called *natural grasses*. The seeds of clover, and other kinds of grasses introduced, are generally termed *artificial*. The roots of these are not very durable on poor land, and as cattle are greedy of these grasses, they constantly crop them, and prevent their going into seed, whereby the land is deprived of fresh supplies of young plants; whereas the natural grasses, in general, being much inferior to the former in quality, are refused by cattle, and the land, consequently, soon becomes plentifully stocked with them.

The general mode of practice to improve land when the turf gets thin and bad, is to bring it under a course of ploughing. But when that is not convenient, or when the occupier of such lands is not inclined to introduce the plough, they may be greatly improved by having fresh seed sown upon them. The best season for doing it is in the beginning of April. Let the ground first be well worked over with a heavy bush harrow, this will brush up and raise the soil, and the better prepare it for the seed to strike. A dressing of compost-earth should then be given, and the seed sown thereon; after which, let the ground be lightly brushed over, and well rolled. If the season prove moist and kind, the seed will thrive to admiration, and wonderfully improve both the turf and verdure.

Land that has been greatly cut up by carriages, or much trode up by cattle, is also capable of being thus improved, without the dressing of compost-earth.

In paddocks where the land has been cut up even to an extreme degree, by rude and wanton horses, I have seen a new

and verdant turf arise, even to amazement, in a few weeks after sowing the seeds. It will be necessary to observe, that cattle should be prevented from coming upon the land till the turf get well set.

It were much to be wished that farmers would at all times pay the utmost attention to the saving of hay-seeds, but particularly at the season of making the hay-ricks; a consideration of great importance. Large quantities of seed may be saved, by having a cloth constantly kept between the rick and the waggon, at the time of unloading the hay. The seeds, that shed out at that season are certainly in the greatest perfection, being perfectly ripe, and totally uninjured by the heating of the hay.

XII. A GENERAL IDEA OF THE OIL-COMPOST.

By A. Huuter, M. D.

This compost was originally formed upon the supposition that oily particles constitute the chief nourishment of vegetables. The use of rape-dust, and other oily and saponaceous manures, place this doctrine in a favourable light. It now remains that we determine the merit of the compost by accurate experiments.

The oil-compost may be used two ways: it may either be sown upon the surface with the hand, or worked into the soil by the plough or spade. For corn and horizontal feeders, the first method is most proper. The latter is best for cabbages, hops, beans, carrots, and all tap-rooted plants. When distributed upon the surface, it is soon meliorated by the action of the air, rains, and dews. When worked into the soil, it is deprived of those necessary influences. Here lies a material distinction which leads to its right use and application.

Previous to the planting of any deep-rooting vegetable, the compost should be worked into the soil by the plough or spade. Its particles, when undivided, are too hot for the tender shoots.

Some injudicious inquirers have placed a handful of the compost close to the roots of a cabbage plant, flattering themselves that they were then conducting an *experimentum crucis*. Death, or a feeble vegetation, ensued. Hence arose an argument against the *nutritive* power of the compost. Lime, the ashes of burnt vegetables, stale urine, goose and pig-dung, when improperly applied, are also poisons. It requires some judgment to plant, as well as to reason upon an experiment.

Experiments correctly made, constitute the basis on which agriculture should be raised; but those experiments should rather be the effect of reason than of chance. To plan an experiment well, to trace it minutely through its progress, and to draw a just conclusion, requires a perfect knowledge of the

history of nature and of art. From a defect in these particulars, we often become hasty in our praise, as well as indiscreet in our censure.

From a variety of experiments, I find that the compost should be prepared some months before it is used: it should also be frequently turned and exposed to the influence of the atmosphere. This last operation is absolutely necessary when the compost is intended to be worked into the soil with the spade. By that means the acrimony of the salt will be abated, and the plant, instead of being burnt up, will be encouraged to spread its roots in quest of nourishment.

It will here be necessary to observe, that the oil-compost was originally intended as a substitute for rape-dust, and other expensive top-dressings. In all respects it must be considered as inferior to rotten dung.

XIII. A PROFITABLE METHOD OF SOWING WHEAT ON LAND TOO STRONG FOR TURNIPS.

By Mr. E. Cleaver, of Nunnington.

In the year 1769, I had a field about six acres, which, in the common course of husbandry, should have been summer-fallowed, in order to prepare it for sowing wheat at the latter end of the year. The soil being a loose crumbling clay, I sowed it with rape, about a fortnight before Midsummer, instead of fallowing.

On the 25th of September, it was stocked with sheep, and eat close to the ground; and about a month after that, it was sown with wheat upon one ploughing. The winter being open, great part of the rape, which was ploughed in, revived in the spring. This, I feared, would endanger the crop. In that situation things remained till about the 20th of April, at which time I thought the rape was in full sap. I therefore judged this the most favourable season for destroying it. For that purpose I turned in as many ewes and lambs as eat both rape and wheat down in a week; and this had the desired effect, by utterly destroying the rape. The field was then left to take its chance. As no weeds appeared, there was no expence upon that article. The property was thirty-six bushels per acre, Malton measure, which is five per cent. above Winchester.

I must here observe, that the year 1769 was remarkable for the largeness of its produce on lands in general; and, though I am very inclinable to prefer this method of cultivating wheat, yet, upon an average, I should think that twenty-eight bushels per acre is as much as we can reasonably expect, though the land be in good condition.

I say I am inclined to prefer this method, because turnips would be of little value to eat off on that kind of land, and at

that early season of the year, when they are not sufficiently swelled. Were we, in order to remove that difficulty, to sow them earlier than the usual season, they would probably be either thick-necked or run to seed.

It will hardly be necessary to observe, that the corn produced upon this field was remarkable for the goodness of its quality.

THE PRODUCE:

36 bushels of wheat at 5s. .	£9	0	0
Rape eatage at Michaelmas .	1	10	0
Ditto in April . . .	0	5	0
Per acre	10	15	0

XIV. ON SIBERIAN SPRING WHEAT.

By Sir Digby Legard, Bart. of Ganton.

On the 2d of April, 1771, I drilled two pecks of Siberian spring-wheat on one-third of an acre, in rows one foot asunder. Previous to sowing, the wheat was limed in the usual manner. The land a rich loam, which had borne a crop of turnips fed off with sheep. The turnips were fine ones, and the land, which lets at sixteen shillings per acre, was in such good order, that I judged one ploughing a sufficient preparation for the wheat crop. The season was at first unkindly, and the corn came up very thin, with many weeds amongst it. It was hand-hoed, and soon after flourished and tillered amazingly. Though it appeared fine about the time of maturity, there were, notwithstanding, many weeds amongst it, and it did not seem quite a full crop. In the beginning of October the corn was cut, and on the 19th of the same month was thrashed. The produce, 12 bushels, 2 pecks, viz. 25 for 1. This appears a considerable produce on the seed sown. The grain was well ripened, and in appearance (for I have not yet sent it to the mill) not inferior to any of the common wheats sown at the usual time. This kind of wheat seems a real acquisition to husbandry; and yet some common white wheat, sown at the same time, had the appearance, whilst growing, of producing somewhat a larger crop, only it did not ripen so kindly, and was also later in ripening. But if this Siberian wheat was superior to the common spring-wheat, it was certainly greatly inferior to some wheat of Switzerland sent me by the Society of Arts, and sown on land contiguous to the above, and at the same time. This last was as fine a crop as one could look on, ripened a fortnight sooner than any of my spring wheats, and was as early as any of the autumnal sorts.

XV. ON THE METHOD OF RAISING SEEDLING POTATOES.

By A. Hunter, M. D.

Take a bunch of the apples of a white potatoe. Hang it up in a dry place during the winter, and in February separate the seeds from the pulp, by washing the apples in water, and pressing them with the fingers. Then dry the seeds upon paper. In the month of April, sow these seeds in drills, in a bed of earth well dug, and manured with rotten dung. When the plants are about an inch high, draw a little earth up to them with a hoe, in order to lengthen their main roots. When they are about three inches high, dig them up with a spade, and separate them carefully from each other, in order for planting out in the following manner.

Prepare a piece of fresh ground by trenching it well. Dig up the seedling plants as before directed, and plant them out in the ground, thus prepared, in such a manner, that there shall be sixteen inches between each plant. As they advance in growth, let them receive one or two earthings up, in order to lengthen the main root, and encourage the shoots under ground.

By this management the potatoes will, in the course of one season, arrive at a considerable size, and the haulm will be as vigorous as if sets had been planted, But what proves the luxuriancy, in the most convincing manner, is, that flowers and apples are sometimes produced.

In Lancashire, where the gardeners raise potatoes from seed, they are always two years in bringing them to full size. By the above method of transplanting, with wide distances, many of the potatoes will attain their full size in one season.

It is observable, that these seedlings produce potatoes of many different kinds; and sometimes new sorts are procured. We do not find any difference whether the apple comes from a round or a kidney kind. It is not so when we use the set, which invariably produces the same kind.

Apples taken from a red potatoe that has flowered in the neighbourhood of white ones, will sometimes produce a kind internally marbled red and white, as I found from an experiment made in the year 1773—and I presume, for the same reason, that apples taken from a white potatoe that has flowered in the neighbourhood of red ones, will produce something of the same kind. This proves to a demonstration, that the male farina is received into the female organ, without which there could not possibly be an impregnation of the seeds lodged in the ovarium. The idea of animal generation, as given us by Lewenhoek, is similar to this, and is in a great measure, confirmed by it. In both cases, however, there remains a difficulty in explaining how those mongrel productions are

formed, that partake of the nature of the male and female parents. But this disquisition is foreign to the present purpose, and more properly belongs to the Essay on the sexes of Plants.

Potatoes, when propagated from sets, after a number of years, are found to decrease in bearing; for which reason they should be brought back every fourteen years to their original.

From a want of attention to this circumstance, I have known potatoes so run out, that they hardly returned treble seed. The farmer complains that his land is tired of them, but the true cause is the age of the sets.

The increase of potatoes raised from seed is astonishing. They continue in vigour for about fourteen years; after which, the produce gradually declines.

XVI. ON THE ALTERNATE HUSBANDRY.

By Lewis Irwin, Esq. of Tanrigoie, in the kingdom of Ireland.

The alternate husbandry seeming well calculated for lands in this part of the world, I was induced to make trial of it in a field if forty acres Irish* ; the soil a good kind of loam, but so full of large stones as continually to interrupt the plough. Add to this, its being sadly mangled with old rotten ditches, the foundations of which were mostly composed of these large stones. To bring this field into proper culture, the alternate husbandry was admirably calculated, as it gave me an opportunity of rolling off the stones and rubbish upon the lea, where they remained till I had leisure to remove them. These stones I got drawn off, and built into a wall five feet high, at the rate of three shillings the rod (21 feet;) and which I may have capped and pointed with lime-mortar for half-a-crown more. By this method I get a fence that will last for ever. Agreeable to this plan I propose to divide my whole farm into inclosures of ten acres Irish. My grounds being much exposed to the sea, I prefer that size on account of the shelter.

It was in the spring of the year 1770 that I began my experiment upon the alternate husbandry; and, from what I have observed, in the first year, I am determined to continue that system of farming. It diminishes the expence of manure, and secures a clean fallow ; two objects of the utmost importance.

I have above observed, that my experimental field was forty acres Irish. The whole was disposed in lands about four yards broad. Somewhat less than one half of the field was sown with 220 stones of oats, which is about half the seed usually put into the ground here. The corn ripened kindly

* Ten acres Irish are equal to six English.

and I reaped 3200 stones; a greater crop than my neighbours had from double seed. I could not help being greatly satisfied with my success, as I was much ridiculed by the name of the Striped-Lutestring Farmer. The oat-lands are now (Jan. 1771) ploughed and split, and will be fallowed for wheat in September. The lea-lands I shall sow in the spring with oats; and make no doubt of obtaining a crop superior to the last year.

The period of time employed in this experiment, cannot justify me in making absolute conclusions. It is, however, sufficient to encourage me to prosecute the plan laid down in your last Number.

XVII. THE DIMENSIONS OF AN EARTHEN FENCE, AS MADE IN NORTHUMBERLAND.

By Thomas Riddell, Esq. Felton Park, Northumberland.

The fence must be five feet in breadth at the bottom. One foot to be allowed for to plant the quicks on the side next the ditch, and one foot on the other side for the breast of the dike; so that the whole breadth will contain seven feet. The fence must be made four feet two inches high. The ditch four feet wide at the top, and one yard in the the slope, and must be one foot three inches broad at the bottom. The top of the fence must be one foot three inches in breadth. The fence, at the top, must be covered with a sod, the green part uppermost. Four quicks in every foot. These must be put in horizontally; so that, when the stem shoots upwards, it forms a right angle with the whole stock. this method is found practically better than when the set is put down in a perpendicular direction. By this mode of fencing, no posts or rails are required. The price in Northumberland is sixpence for each rood of seven yards.

T. R.

ERRATA.

To the Editor of the Agricultural Magazine.

SIR,

YOUR correction in your next Number, of the following errata in my letter in your last Magazine, will much oblige

Your obedient servant,

Norwich, June 6, 1803. PHILALETHES.

Line 1, for *As purchaser* read *A purchaser.*

Line 10, from the bottom of page 334, for *resuming his fair fame,* read *rescuing his fair fame.*

Line 3, of page 335, for *the above-mentioned,* read *the time mentioned.*

For *totidem verbis, and totidem sententiis,* read *totidem verbis, et totidem sententiis.*

In line 14, page 335, for *a mere translation,* read *a mere transcript.*

A NEW MODE OF CONTRACTING FOR THE FLOATING AND DRAINING OF LAND.

To the Editor of the Agricultural Magazine.

SIR,

I Have lately heard of a new mode of contracting for the formation of floated-meadows, the knowledge of which appears to me to merit a general circulation.

Henry Portlock, a very skilful and eminent floater, and who has been for several years engaged in various parts of Wales in irrigating considerable tracts of land for Mr. Johnes, of Hafod; for Mr. Talbot, of Penrice Castle; for Mr. Philips, Colonel Wood, and others; is now contracting, I am told, with Mr. Talbot, according to the following rather singular stipulation: The land under consideration is twenty acres, and Mr. Talbot agrees to let Mr. Portlock a lease of this land for twenty years, at the rent of one shilling a year per acre, the said Portlock engaging to drain, and to form this land into, and to leave it at the expiration of his lease, as perfect floated-meadow land, as circumstances will allow.

Thus, Mr. Talbot, without feeling any degree of dread of the first expence of formation, which in some instances he has reason to know is very heavy, will have twenty acres of land, which is at present totally unprofitable, being lately recovered from the sea, and a mere bed of rushes, brought into a highly productive state, probably rendered worth three pounds an acre, as hay always produces a high price in the neighbourhood of Swansea. And the floater will certainly have little reason to repent of his engagement, as the product of every year, after the first, will be nearly clear gain to him. And I cannot here refrain saying, that the public at large will have no cause to regret that such contracts have been entered into by individuals. And, indeed, were every opportunity or occasion of this kind, nay, if even all what are generally esteemed desperate cases of this sort were embraced, in conformity to the above-mentioned system, we should soon see an invaluable addition made to our annual crop of hay, which will ever be an article of the first necessity, as long as we remain a commercial nation.

Two acres of land, adjoining to the above-mentioned twenty acres, cost Mr. Talbot, a few years ago, fifteen guineas per acre, in converting them into floated-meadow. This method, therefore, appears a very easy one of obtaining a watered meadow, and at the same time a very safe one, for the floater will, for his own sake, always strive to make the meadow as perfect and productive as possible, and it will every year, during the term, continue progressively improving.

The above named person is not the only one who is willing

to enter into engagements similar to that which I have recited. All the professed floaters, who are now engaged in various and distant parts of the United Kingdom in the art of irrigation, are willing, I believe, and desirous of forming contracts of the above kind, where the quantity of land is sufficiently extensive to merit notice.

Nor has this mode of bargaining been confined to floating alone. I am informed that it has been adopted in the draining of land. Mr. Elkington, a few years ago, I am told, engaged to drain a tract of land not less than 600 acres, the property of Mr. Crewe, late Member for the county of Chester, on condition of a lease being granted him by Mr. Crewe for 50 years at the rent of one shilling a year per acre.

This lease must be allowed to be a very liberal one on the part of the landlord whether we consider the extreme lowness of the rent or the duration of the term, but the first expence of Mr. Elkington must likewise have been very considerable: for his chief or master drain which was to afford fall and vent to a large body of water, was of necessity not only of great extension but of large dimensions likewise, and deserves rather the name of a canal than a drain. The two first years of his engagement were, of course, worse than unproductive, but every succeeding year has been a year of abundant remuneration; for this land, which was before little better than a mere bog or morass, a great part of which was constantly under water, is now become sufficiently dry and firm to bear the operations of the plough, and to produce excellent crops of oats, clover, and potatoes.

Thus the undertaker in this contract will, long before the expiration of his term, have amply reimbursed himself; and the proprietor of the land at the expiration of the lease will be anabled to demand pounds where he now only receives shillings.

Hints, Mr. Editor, respecting such improvements as the above cannot, I presume, tend towards individual or public detriment, but must be productive of real and extensive good, I therefore request an insertion of them in your very useful miscellany.

And am yours,

London, June 11. T. W.

ON THE BEST MODES OF PLANTING AND MANAGING BROAD CLOVER.

To the Editor of the Agricultural Magazine.

Sir,

YOUR Correspondent A Norfolk Farmer in your last Number, page 331, resquests to have a cause assigned why clover is so apt to "die away in the spring or winter season."

For " after being a full plant," he says, " at Michaelmas, it is frequently all gone or nearly so by May."

I have paid some attention to this best of artificial grasses, and shall transmit to you my sentiments respecting the treatment which I think it ought to receive, and shall give you the opinions of men of authority respecting it.

I have always observed that clover will stand its ground much longer when pastured off, than when mown. And that it will continue much longer in full strength when rather lightly fed, than when eaten down bare to its roots. For if the heart, or the internal part of the plant, be laid bare to a continuance of wet weather, especially in autumn, or to a frosty night, it will generally perish. I have always of late been very tender in the treatment of clover in its first year, excepting when the plant has appeared very strong, and even then I have preferred to commit it to the gentle bite of lambs, rather than to grown sheep, or to cattle. But a similar treatment to this, it appears, from the words of your Correspondent, does not obtain in Norfolk; for he mentions two crops taken from it in one year, and yet seems to express a degree of expectation that it should be found in full vigour the year following. This is scarcely reasonable, for if clover is suffered to bring its seed to a tolerable degree of maturity, it is seldom known to survive the following winter.

Mr. Crutwell, in his Dictionary of Husbandry, says, " the clover is a biennial plant, whose roots decay after they have produced seeds; but by eating it down, or mowing it when it begins to flower, it causes the roots to send out new shoots, whereby the plant is continued longer than it would naturally have been continued."

Mr. Kent, says, " on poor land farms much clover is fed off with flocks of sheep, entirely folding the land over for wheat; for which crop no tilth whatever is so good and advantageous." Were the Norfolk farmers thus merciful to their clover crops they would have much greater reason to expect to find a healthy plant in the second year than they at present have.

It is the opinion of Dr. Anderson, that where any reliance is to be had on broad clover for a *second* year's crop, it is adviseable to sow with the clover a proportion of rye grass. This is a very profitable practice, as it much augments the weight of the first cutting, and makes it come some weeks earlier than otherwise it would have been. It also effectually prevents the white gowans from appearing, which so often render a crop of red clover, sown alone, worth so very little. And in order to guard the clover, in the case of a second year's crop, it should never be cut, Dr. Anderson thinks, very late in the season, for this lays the surface so bare as to leave the roots

very much exposed to danger; but if it be cut pretty early in autumn, the rye grass advances again in the end of the season, after the clover has become stationary, so as to afford a close covering that defends the roots pretty well. By taking these precautions, he has been seldom disappointed in his second year's crop, though it *sometimes* disappears almost entirely. Dr. Anderson does not think it possible in Scotland ever to guard against this accident *with certainty*, where broad clover alone is sown: he therefore considers it imprudent in any one, in almost any circumstances, to rely on that *second year's crop*; and holds it as a maxim, that if a man is to depend on red clover alone, he never should think of taking more than one year's crop from it. The rule which he has followed to guard against accidents of this sort, is, to sow along with the red clover a considerable proportion of the white or Dutch clover, and some grass. If the broad clover, in this instance, flourishes, these do not retard its growth, and only tend to thicken it; and if it should fail, which it sometimes will do in spite of every precaution, these plants fill the ground, and produce an abundant crop of herbage, which, he thinks, affords a greater weight and finer hay than broad clover alone: though they do not answer quite so well for cutting for green forage.

Mr. Wimpey thinks that it is a much better plan to sow clover *alone* than along with corn, for if you have a good crop of corn, you can have but little clover; and if on the other hand you have a dripping season, and a full crop of clover, then you have but little corn. "I would, therefore, says he, rather sow a full crop of oats, and as soon as convenient after harvest, give the land a good ploughing, and let it lie rough all the winter; in the spring give it another good ploughing or two, and harrow it well; then sow it with twenty pounds of broad clover, mow it when in full bloom for hay, and eat the remainder before winter. In December or January lay on your dung, and as soon as the clover is in bloom mow again. As soon as the hay is carried off, if convenient, plough it well, and repeat it before harvest if you can; then in September you may sow it again with wheat. The carrying the crop off the ground may be thought to impoverish it; but if there was a good crop of clover it will have so mellowed and prepared the ground as to render it very fit for another crop. This is the course I would recommend for all strong lands."

These scraps, Mr. Editor, on a subject of some importance to the farmer, are at your service, to be used or not as you may think fit.

Yours,

A BERKSHIRE FARMER.

CORRECTION OF A MISTAKE RESPECTING A REMEDY FOR THE RAVAGES OF THE TURNIP FLY.

AGRICOLA NORFOLCIENSIS requests the whole of his late Letter to the Editor of the Agricultural Magazine, may be suppressed, which relates to the Remedy against the Turnip Fly. He finds since that it is ineffectual after a few days exposure to the air, and therefore not worthy being communicated to the public.*

Fakenham, June 14, 1803.

ENUMERATION OF PATENTS LATELY ENROLLED

April 1, 1803. WILLIAM BAINBRIDGE, of Little Queen-street, Lincoln's-Inn-Fields, Musician; for improvement on the flagelet or English flute.

——— 5. William Boond, of Manchester, Lancashire, Cotton-manufacturer; for a new invented manufacture of mixed and coloured cotton-velvets, velveteens, velverets, thicksets, cords, and other cotton piece goods, commonly called fustians.

——— 5. Richard Francis Hawkins, of Woolwich, Kent, Gentleman; for a method of applying a certain power to the working of ships and other windlasses, ship and other winches, cranes, and other purposes, to which the same hath never before been employed.

——— 7. John Leach, of Merton Abbey, Surrey, Callico-printer; for improvements on steam-engine boilers; which improvements are applicable to boilers in general.

——— 11. Daniel Paulin Davis, of Bloomsbury-square, Middlesex; for a method of cleansing and sweeping chimnies.

——— 14. John Todd, of Bolton, Lancashire, Cotton-spinner; for a method of weaving and manufacturing woollen, cotton, linen, silk, and worsted cloths and stuffs; and also certain improvements on, and additions to, the machines used in weaving, by means of looms wrought by water, steam-engines, or any other power.

——— 20. William Horrocks, of Stockport, Cheshire, Cotton-manufacturer; for improvements on the loom for weaving of cotton, and other goods, by steam or water.

——— 20. Samuel Day, of Charter House Hinton, Somersetshire, Esquire; for an engine or time-piece, which he denominates, "*The Watchman's Noctuary, and Labourer's Regulator.*"

——— 27. James Hall, or Mellor, in the parish of Glassop, Derbyshire, Weaver; for improvements upon looms.

* This correction did not arrive soon enough to prevent the insertion of the remedy alluded to, but will have its effect by appearing in the same Number of the Magazine. EDITORS.

PREMIUMS offered by the SOCIETY, *instituted at* London, *for the Encouragement of Arts, Manufactures, and Commerce, for the Year* 1803.

TO THE PUBLIC.

THE chief objects of the SOCIETY are to promote the Arts, Manufactures, and Commerce of this kingdom, by giving rewards for all such useful Inventions, Discoveries and Improvements, (though not mentioned in this book,) as tend to that purpose; and, in pursuance of this plan, the SOCIETY have already expended near FIFTY THOUSAND POUNDS, advanced by voluntary subscriptions of their members, and legacies bequeathed.

The manner in which this money has been distributed may be seen by applying to the Secretary or other officers of the SOCIETY, at their house in the *Adelphi*. The Register of the Premiums and Bounties they have given will shew the very great advantages which the Public have derived from this Institution.

The meetings of the SOCIETY are held every *Wednesday*, at seven o'clock in the evening, from the fourth *Wednesday* in *October* to the first *Wednesday* in *June*. The several Committees meet on other evenings in the week during the session.

In order still farther to promote the laudable views of this SOCIETY, it may be necessary to explain the mode by which its members continue to be elected.

Each member has the privilege, at any weekly meeting of the SOCIETY, of proposing any person who is desirous to become a member, provided such proposal is signed by three members of the SOCIETY.

Peers of the Realm or Lords of Parliament are, on their being proposed, immediately ballotted for; and the name, with the addition and place of abode, of every other person proposing to become a member, is to be delivered to the Secretary, who is to read the same, and properly insert the name in a list, which is to be hung up in the SOCIETY's room until the next meeting; at which time such person shall be ballotted for; and, if two-thirds of the members, then voting, ballot in his favour, he shall be deemed a *perpetual member*, upon payment of *Twenty Guineas* at one payment; or a *subscribing member*, upon payment of any sum not less than *Two Guineas* annually.

Every member is entitled to vote and be concerned in all the transactions of the SOCIETY, and to attend and vote at the several Committees. He has also the privilege of recommending two persons as Auditors, at the weekly meeting of the SOCIETY; and, by addressing a note to the Housekeeper, of introducing his friends to examine the various models, machines, and productions, in different branches of arts, manufactures, and commerce, for which rewards have been bestowed; and to inspect the magnificent series of moral and historical paintings so happily contrived and completed by JAMES BARRY, Esq. which, with some valuable busts and statues, decorate the Great Room. He has likewise the use of a valuable Library; and is entitled to the annual Volume of the SOCIETY's Transactions.

The time appointed for admission to the paintings or models, is from ten to two o'clock, *Sundays* and *Wednesdays* excepted.

PREMIUMS IN AGRICULTURE.

Class 1. ACORNS.

FOR having set, between the first of October, 1802, and the first of April 1803, the greatest quantity of land, not less than ten acres, with acorns, with or without seeds, cuttings, or plants of other trees, at the option of the candidate; and for effectually fencing and preserving the same, in order to raise timber; the gold medal.

2. For the second greatest quantity of land, not less than five acres, set agreeably to the above conditions, the silver medal.

Certificates of setting agreeably to the above conditions, and that there are not fewer than three hundred young oaks on each acre, to be delivered to the Society on or before the first Tuesday in December, 1803.

3. RAISING OAKS. To the person who shall have raised, since the year 1799, the greatest number of oaks, not fewer than five thousand, either from young plants or acorns, in order to secure a succession of oak timber in this kingdom; the gold medal.

4. For the next greatest number, not fewer than three thousand; the silver medal.

Certificates that there were on the land, at least the number of young oak-trees required, in a thriving condition, two years after the planting, with an account of the methods pursued in making and managing the plantation,

to be produced to the Society on or before the first Tuesday in January, 1804.

5. Ascertaining the best Method of raising Oaks. To the person who shall ascertain in the best manner, by actual experiments, the comparative merits of the different modes of raising oaks for timber, either from acorns set on land properly dug or tilled, from acorns set by the spade or dibble, without digging or tillage, either on a smooth surface, or among bushes, fern, or other cover; or from young plants previously raised in nurseries, and transplanted; regard being had to the expense, growth, and other respective advantages of the several methods; the gold medal.

The *accounts* and proper *certificates* that not less than one acre has been cultivated in each mode, to be produced to the Society on or before the first Tuesday in November, 1803.

6. Chesnuts. For having sown or set, between the first of October, 1802, and the first of April, 1803, the greatest quantity of dry loamy land, not less than six acres, with Spanish chesnuts, with or without seeds, cuttings, or plants of other trees adapted to such soil, at the option of the candidate; and for effectually fencing and preserving the same, in order to raise timber; the gold medal.

7. For the second greatest quantity, not less than four acres, the silver medal.

Certificates of sowing or setting agreeably to the above conditions, and that there are not fewer than three hundred chesnut plants, in a thriving state, on each acre, to be delivered to the Society on or before the first Tuesday in January, 1804.

8. Elm. For having planted the greatest number of the English elm, not less than eight thousand, between the twenty-fourth of June, 1801, and the twenty-fourth of June, 1802; and for the having effectually fenced and preserved the same, in order to raise timber; the gold medal.

9. For the second greatest number, not less than five thousand, the silver medal.

Certificates of the having planted agreeably to the above conditions, that the plants were in a healthy and thriving state two years at least after making the plantation, and specifying the distance of the plants, to be delivered to the Society on or before the first Tuesday in April, 1804.

10. Larch. For having planted out between the twenty-fourth of June, 1800, and the twenty-fourth of June, 1801, the greatest number of larch-trees, not fewer than five thousand; and for having effectually fenced and preserved the same, in order to raise timber; the gold medal.

11. For the next greatest number, not fewer than three thousand; the silver medal.

Certificates of the number of plants, that they were in a healthy and thriving state two years at least after they were planted out, with a general account of the methods used in making the plantation, to be delivered to the Society on or before the last Tuesday in December, 1803.

12, 13. The same premiums are extended one year further.

Certificates to be produced on or before the last Tuesday in December, 1804.

N. B. The larch-trees may be either planted, mixed with other trees, or by themselves, as may best suit the convenience of the planter.

14. Osiers. To the person who shall have planted, between the 1st of October, 1802, and the 1st of May, 1803, the greatest quantity of land, not less than five acres, with those kinds of willows, commonly known by the names of osier, Spaniard, new kind, or French, fit for the purpose of basket-makers, not fewer than twelve thousand plants on each acre; the gold medal, or thirty guineas.

15. For the second greatest quantity of land, not less than three acres; the silver medal, or ten guineas. *Certificates* of the planting, and that the plants were in a thriving state five months at least after the planting, to be produced to the Society on or before the last Tuesday in November, 1803.

16, 17. The same premiums are extended one year farther. *Certificates* to be produced on or before the last Tuesday in Nov. 1804.

18. Alder. For having planted, in the year 1800, the greatest number of alders, not less than three thousand; the gold medal.

Certificates of the number of plants, and that they were in a thriving state two years at least after being planted, to be delivered to the Society on or before the last Tuesday in December, 1803.

19. Ash. For having sown or set, in the year 1800, the greatest quantity of land, not less than six acres, with Ash for timber, with or without seeds, cuttings, or plants of such other trees as are adapted to the soil; the gold medal.

20. For the next greatest quantity, not less than four acres, the silver medal.

Certificates of the sowing or setting agreeably to the above conditions; that there are not fewer than one hundred ash plants on each acre, in a thriving and healthy condition, two years at least after the sowing or setting, with a general account of the methods used in making the plantation; to be delivered to the Society on or before the last Tuesday in December, 1803.

21, 22. The same premiums are extended one year further.

Certificates to be delivered on or before the last Tuesday in December, 1804

N. B. It is the particular wish of the So-

ciety, that such lands only as are not calculated for growing corn, should be employed for the purposes specified in these advertisements.

23. TIMBER-TREES. To the person who shall have inclosed, planted, or sown, the greatest number of acres, not less than ten, with the best sorts of forest-trees, adapted to the soil, for timber, between the first of October, 1799, and the first of May, 1801; the gold medal.

An account of the methods used in making the plantations, and the nature of the soil, together with proper *certificates* that the trees were in a thriving and healthy state two years at least after making the plantation, to be delivered to the Society on or before the first Tuesday in November, 1803.

N. B. With the above forest-trees, the seeds, cuttings, or plants, of such other trees as are adapted to the soil, and proper for underwood, may or may not be intermixed.

24. FOREST-TREES. To the person who shall have inclosed and planted, or set, the greatest number of acres (not less than ten) of land, that is incapable of being ploughed, such as the borders of rivers, the sides of precipices, and any land that has too many rocks, or that is not calculated to repay the expense of tillage, owing to the stiffness or poverty of the soil, the surface being too hilly, mountainous, or otherwise unfit for tillage, with the best sorts of forest-trees, namely, oak, Spanish chesnuts, ash, elm, beech, alder, willow, larch, spruce and silver fir, with or without screens of Scotch fir, adapted to the soil, and intended for timber trees, between the 1st of October, 1801, and the 1st of April, 1802; the gold medal.

25. For the second greatest quantity of land, not less than seven acres; the silver medal, or twenty guineas.

26. For the third greatest quantity of land, not less than five acres, the silver medal. A particular *account* of the methods used in making and managing the plantations, the nature of the soil, the probable number of each sort of plants, together with proper *certificates* that they were in a healthy and thriving state two years at least after making the plantation, to be delivered to the Society on or before the first Tuesday in November, 1804.

27, 28, 29. The same premiums are extended one year further. *Certificates* to be produced on or before the first Tuesday in Nov. 1805.

N. B. The candidates for planting all kinds of trees are to produce certificates that the respective plantations are properly fenced and secured, and particularly to state the condition of the plants at the time of signing such certificates. Any information which the candidates for the foregoing premiums may choose to communicate, relative to the methods made use of in forming the plantations, or promoting the growth of the several trees, or any other observations that may have occurred on the subject, will be thankfully received.

30. SECURING PLANTATIONS of TIMBER-TREES, AND HEDGE-ROWS. To the person who shall give to the Society the most satisfactory account, founded on experience, of the most effectual and least expensive method of securing young plantations of timber-trees, and hedge-rows, from hares and rabbits, as well as sheep and larger cattle, which at the same time shall be least subject to the depredations of wood-stealers, the silver medal, or twenty guineas. The *accounts* and *certificates* of the efficacy of the method to be produced to the Society on or before the first Tuesday in November, 1803.

31. The same premium is extended one year farther. The *accounts* and *certificates* to be produced on or before the first Tuesday in Nov. 1804.

32. COMPARATIVE TILLAGE. For the most satisfactory set of experiments, made on not less than eight acres of land, four of which to be trench-ploughed *, and four to be ploughed in the usual manner, in order to ascertain in what cases it may be adviseable to shorten the operations of tillage, by adopting one trench-ploughing, for the purpose of burying the weeds, instead of the method, now in common use, of ploughing and harrowing the land three or four times, and raking the weeds together and burning them; the gold medal, or forty guineas. It is required that every operation and expense attending each mode of culture be fully and accurately described, and that proper *certificates* of the nature and condition of the land on which the experiments are made, together with a circumstantial account of the appearance of the subsequent crops during their growth; and also of the quantity and weight of the corn and straw under each mode of culture, or, in case of a green crop, the weight of an average sixteen perches, be produced to the Society on or before the first Tuesday in Feb. 1804.

33. COMPARATIVE CULTURE OF WHEAT, BROAD-CAST, DRILLED, AND DIBBLED. For the best set of experiments made on not less than twelve acres, four of which to be sown broad-cast, four drilled, and four dibbled, the two latter in equi-distant rows, in order fully to ascertain which is the most advantageous mode of cultivating wheat; the gold medal, or forty guineas. It is required that every ope-

* It is a common practice among gardeners, when they have a piece of very foul land, to dig it two spits, or about eighteen inches deep, shovelling the weeds to the bottom. This they call trenching.

ration and expense of each mode of culture be fully described; and that proper *certificates* of the nature and condition of the land on which the experiments are made, together with an *account* of the produce of the corn, the weight per bushel, and also of the straw, be produced to the Society on or before the first Tuesday in February, 1804.

34. Spring Wheat. To the person who, between the 10th of January and the 10th of April, 1803, shall cultivate the greatest quantity of wheat, not less than ten acres; the silver medal, or twenty guineas. It is required that the time of sowing and reaping be noticed; also a particular *account* of the species, cultivation, and expense attending it, with proper *certificates* of the nature and condition of the land on which the experiments were made, and the name of the crop, if any, which the same land bore the preceding year; together with an *account* of the produce, the weight per Winchester bushel; and a sample, not less than a quart, be produced to the Society on or before the second Tuesday in February, 1804.

It is supposed that sowing wheat early in the spring will not only allow more time to till the land but less for the growth of weeds; thus rendering the wheat as clean as a barley crop, and exhausting the soil much less than autumnal sowing. It may be seen in the 19th volume that the wheat usually sown in autumn may be put into the ground, with great success, so late as February or March, thus giving time to clear the ground from turnips, or to avoid a bad season.

35. Beans and Wheat. To the person who shall have dibbled or drilled, between the 1st of December, 1802, and the 1st of April, 1803, the greatest quantity of land, not less than ten acres, with beans, in equi-distant rows, and hoed the intervals twice or oftener, and shall have sown the same land with wheat in the autumn of the year 1803; the silver medal, or twenty guineas. It is required that an account of the sort and quantity of beans, the time of dibbling or drilling, and of reaping or mowing them, the produce per acre thrashed, the expense of dibbling or drilling, hand or horse hoeing, the distance of the rows, and the quality of the soil, together with *certificates* of the number of acres, and that the land was afterwards actually sown with wheat, be produced on or before the second Tuesday in March, 1804.

36. Beans. To the person who, in the year 1802, shall discover and cultivate, either by the drill or dibbling-method, on not less than five acres, a species of horse-beans or tick-beans, that will ripen their seeds before the 21st of August; the silver medal, or twenty guineas. It is required that a particular account of the bean, the cultivation, and the expense attending it, with proper *certificates* of the nature and condition of the land on which the experiments are made, together with an *account* of the produce, the weight per Winchester bushel, and a sample of not less than a quart, be produced to the Society on or before the first Tuesday in December, 1803. It is apprehended that, if a bean should be brought into cultivation with the habits of the hotspur, or other early peas, that it would, in a great measure, escape the danger arising from the collier-insect, or other insects, and allow more time for the farmers to till the land for the subsequent crop of wheat. The *accounts* and *certificates* to be delivered on or before the first Tuesday in December, 1803.

37. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in Dec. 1804.

38. Comparative Culture of Turnips. For the best set of experiments made on not less than eight acres of land, four of which to be sown broad-cast, and four-drilled, to ascertain whether it is most advantageous to cultivate turnips by sowing them broad-cast and hand-hoeing them, or by drilling them in equi-distant rows, and hand or horse-hoeing the intervals; the silver medal, or twenty guineas. It is required that every operation and expense of each mode of culture be fully described, and that proper *certificates* of the nature and condition of the land, on which the experiments were made, together with the weight of the turnips grown, on a fair average sixteen perches of land, under each mode of culture, be produced to the Society on or before the first Tuesday in March, 1804. The object which the Society have in view in offering this premium is experimentally to ascertain the most advantageous method of growing turnips. To do this in a satisfactory manner, both the drilled and broad-cast crops should have the advantage of the most perfect cultivation, consequently the drilled crops should have the intervals between the rows worked by the horse or hand-hoe, or by both these implements; and the rows should be either weeded or hand-hoed, or both weeded and hand-hoed. The broad-cast crop should have every advantage which weeding and hand-hoeing can give it, consistently with leaving the soil a flat surface.

39. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in March, 1805.

40. Parsnips. To the person who, in the year 1803, shall cultivate the greatest quantity of land, not less than five acres, with parsnips, for the sole purpose of feeding cattle or sheep; the gold medal, or thirty guineas. *Certificates* of the quantity of land so cultivated, with a particular *account* of the nature of the soil and weight of the produce on sixteen perches, and also of the condition of the cattle or sheep fed

with the parsnips, and the advantages resulting from the practice, to be produced to the Society on or before the second day in Nov. 1804.

41. Buck Wheat. To the person who shall cultivate the greatest quantity of land with buck wheat, not less than thirty acres; the gold medal. It is required that the time of sowing and reaping be noticed, also a particular *account* of the species, cultivation, and expense attending it, the manner of reaping it, thrashing it, and housing the grain, with proper *certificates* of the nature and condition of the land on which the experiments were made, and the name of the crop, if any, which the same land bore the preceding year, together with an *account* of the produce, and a sample of the seed, not less than a quart, be produced to the Society on or before the second Tuesday in January, 1804.

42. For the next greatest quantity, not less than fifteen acres, on similar conditions; the silver medal. Information respecting its application to the feeding of cattle, hogs, and poultry, and other of its uses, is also desired. It is known to be particularly serviceable in furnishing honey to bees.

43. Raising Grass Seeds. To the person who shall raise the greatest quantity of each or any of the following named grass seeds, *viz.*—Meadow fox-tail (alopecurus pratensis,) sweet scented vernal grass (anthoxanthum odoratum), Timothy grass, meadow Fescue grass, smooth-stalked meadow grass (poa pratensis) rough-stalked meadow grass (poa trivialis); the silver medal, or ten guineas. It is required that *certificates* from persons who have viewed them in a proper state, to identify that they are one or other of the seeds above-mentioned, indicating clearly the particular species, and noticing the quantity produced of such seeds, free from weeds or mixture of other grasses, together with proper samples of the seeds, be produced to the Society on or before the first day of February, 1804.

44. The same premium is extended one year farther. *Certificates* to be produced on or before the first day of February, 1805.

45. Rotation of Crops. To the person who shall, between the 10th of August, 1801, and the 10th of September, 1803, cultivate the greatest quantity of land, not less than forty acres, in the following rotation, *viz.*—1st, winter-tares; 2d, turnips; and 3d, wheat; and apply the two former crops, in the best and most farmer-like manner, to the rearing, supporting, and fattening horses, cattle, sheep, or hogs, on the land which produced the crops; the gold medal, or one hundred guineas.

46. For the next in quantity and merit, on not less than thirty acres; the silver medal, or fifty guineas.

47. For the next in quantity and merit, on not less than twenty acres; the silver medal. It is required that every operation and expense be fully described, and that satisfactory *certificates* of the nature and condition of the soil on which the crops have grown, together with an *account* of their appearance, the number of horses and cattle, sheep or hogs, fed by the two green crops, and, as near as possible, the improved value of the live stock by the consumption of those crops, and also the quantity of wheat per acre, and its weight per bushel, be produced to the Society on or before the first day of November, 1804.

It is presumed that very great advantages will arise to such agriculturists as shall adopt this rotation of crops on a dry soil. They will be enabled, with the addition of a few acres of turnip-rooted cabbage for spring-food, to keep such large flocks of sheep and herds of neat cattle as may secure a sufficient quantity of manure to fertilize their land in the highest degree, and in every situation. It is farther conceived that wheats which will bear sowing in the spring will be particularly suitable for this premium.

48, 49, 50. The same premiums are extended one year farther. *Certificates* to be delivered on or before the first day of November, 1805.

51. Preserving Turnips. To the person who shall discover to the Society the best and cheapest method of preserving turnips perfectly sound, and in every respect fit for the purpose of supporting and fattening sheep and neat cattle, during the months of February, March, and April; the gold medal, or thirty guineas. It is required that a full and accurate *account* of the method employed, and the expense attending the process, together with *certificates* that the produce of four acres at the least have been preserved according to the method described, and applied to the feeding of sheep and neat cattle; that the whole were drawn out of the ground before the first day of February, in order to clear the greater part of it previous to its being prepared for corn, and to save the soil from being exhausted by the turnips; and also of the weight of an average sixteen perches of the crop; be produced to the Society on or before the first Tuesday in November, 1804.

N. B. *It is recommended to those who may be induced to try the necessary experiments for obtaining this and the following four premiums to consider the method employed for the preservation of potatoes in ridges, (which the growers call pies,) and also the propriety of adopting a similar method in cases where they are previously frozen. It is supposed that, in the latter instance, the addition of ice or snow, and the construction of the ridges upon a large scale, may be sufficient to preserve the freezing temperature till the vegetables are wanted for the use of cattle or sheep, at which time they may be thawed by immersion in cold*

water, and the rot which a sudden thaw produces may be prevented.

52. For the next in quantity and merit, on not less than two acres, the silver medal, or fifteen guineas.

53. Preserving Cabbages. To the person who shall discover to the Society the best and cheapest method of preserving drum headed cabbages perfectly sound, and in every respect fit for the purpose of supporting and fattening sheep and neat cattle during the months of February, March, and April; the gold medal, or thirty guineas.

54. For the next in quantity and merit, on not less than two acres, the silver medal or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 51. And the *accounts* to be produced on or before the first Tuesday in November, 1804.

55. Preserving Carrots, Parsnips, or Beets. To the person who shall discover to the Society the best and cheapest method of preserving carrots, parsnips, or beets, perfectly sound, and in every respect fit for the purpose of supporting horses, and fattening sheep and neat cattle, during the months of February, March, and April; the silver medal, or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 51. and the *accounts* to be delivered in on or before the first day in November, 1804.

56. Preserving Potatoes. To the person who shall discover to the Society the best and cheapest method of preserving potatoes, two or more years, perfectly sound, without vegetating, and in every other respect fit for the purpose of sets and the use of the table, and, consequently, of supporting and fattening cattle; the silver medal, or twenty guineas. It is required, that a full and accurate *account* of the method employed, and the expense attending the process, with *certificates* that one hundred bushels at the least have been preserved according to the method described, and that one or more bushels of the same potatoes have been set, and produced a crop without any apparent diminution of their vegetative power; and also that they have been used at table, with entire satisfaction to the person who eat of them, together with a sample of one bushel, be sent to the Society on or before the first Tuesday in November, 1804.

57. Making Meadow-Hay in wet Weather. To the person who shall discover to the Society the best and cheapest method, superior to any hitherto practised, of making meadow-hay in wet weather; the gold medal, or thirty guineas. A full *account* of the method employed, and of the expense attending the process, with not less than fifty-six pounds of the hay; and *certificates* that at least the produce of six acres of land has been made according to the method described, and that the whole is of equal quality with the samples; to be produced on or before the first Tuesday in January, 1804.

58. Harvesting Corn in wet Weather. To the person who shall discover to the Society the best and cheapest method, superior to any hitherto practised, of harvesting corn in wet weather; the gold medal, or thirty guineas. A full *account* of the method employed, and of the expense attending the process, with not less than two sheaves of the corn, and *certificates* that at least the produce of ten acres has been harvested according to the method described, and that the whole is of equal quality with the samples, to be produced on or before the first Tuesday in January, 1804.

59. Ascertaining the component Parts of arable Land. To the person who shall produce to the Society the most satisfactory set of experiments to ascertain the due proportion of the several component parts of rich arable land, in one or more counties in Great Britain, by an accurate analysis of it; and who having made a like analysis of some poor arable land, shall, by comparing the component parts of each, and thereby ascertaining the deficiencies of the poor soil, improve a quantity of it, not less than one acre, by the addition of such parts as the former experiments shall have discovered to be wanting therein, and therefore probably the cause of its sterility; the gold medal, or forty guineas. It is required that the manurings, ploughings, and crops, of the improved land, be the same after the improvement as before; and that a minute *account* of the produce in each state, of the weather, and of the various influencing circumstances, together with the method made use of in analysing the soils, be produced, with proper *certificates* and the chemical results of the analysis, which are to remain the property of the Society, on or before the last Tuesday in February, 1804.

It is expected that a quantity, not less than six pounds, of the rich, of the poor, and of the improved soils, be produced with the *certificates*.

60. Gaining Land from the Sea. To the person who shall produce to the Society an account, verified by actual experiment, of his having gained the greatest quantity of land from the sea, not less than fifty acres, on the coast of Great Britain or Ireland; the gold medal. *Certificates* of the quantity of land, and that the experiments were begun after the 1st of January, 1797, to be produced to the Society on or before the last Tuesday in October, 1803.

61. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in October, 1804.

62. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in October, 1805.

63. IMPROVING LAND LYING WASTE. For the most satisfactory *account* of the best method of improving any of the following soils, being land lying waste or uncultivated, viz. clay, gravel, sand, chalk, peat-earth and bog, verified by experiments on not less than fifty acres of land; the gold medal, or thirty guineas.

64. For the next greatest quantity, not less than thirty acres, the silver medal, or twenty guineas. It is required that the land before such improvement be absolutely uncultivated, and in a great measure useless, and that, in its improved state, it be inclosed, cultivated, and divided into closes. *Certificates* of the number of acres, of the quality of the land so improved, with a full *account* of every operation and expense attending such improvement, the state it is in as to the proportion of grass to arable, and the average-value thereof, to be produced on or before the first Tuesday in February, 1804.

65. MANURES. For the most satisfactory set of experiments, to ascertain the comparative advantages of the following manures, used as top-dressings on grass or corn land, viz. soot, coal-ashes, wood-ashes, lime, gypsum, night-soil, or any other fit article; the gold medal, or the silver medal and twenty guineas. It is required that the above experiments be made between two or more of the above-mentioned manures, and that not less than two acres of land be dressed with each manure. An *account* of the nature of the soil, quantity and expense of the manure and crops, with *certificates*, to be produced on or before the last Tuesday in February, 1804.

66. The same premium is extended one year farther. The *accounts* and *certificates* to be produced on or before the last Tuesday in February, 1805.

67. RAISING WATER FOR THE IRRIGATION OF LAND. To the person who shall discover to the Society the cheapest and most effectual method of raising water in quantities sufficient to be beneficially employed for the purpose of irrigating land, superior to and cheaper than any other method now in use; the gold medal, or fifty guineas. A model on a scale of one inch to a foot, with *certificates* that a machine at large on the same construction has been used, specifying the quantity of water delivered in gallons per hour, and the height to which it was raised, to be produced to the Society on or before the first of March, 1804.

68. The same premium is extended one year farther. *Certificates* to be produced on or before the first of March, 1805.

69. PARING PLOUGH. To the person who shall invent and produce to the Society a machine or plough for the purpose of paring land preparatory to burning, superior to any hitherto known, or in use for such purpose, and to be worked by not more than one man and two horses, the silver medal, or twenty guineas.

The machine and *certificates* that at least three acres have been pared by it in a proper manner, to be produced to the Society on or before the 1st of January, 1804.

70. MACHINE FOR DIBBLING WHEAT. To the person who shall invent a machine, superior to any hitherto known or in use, to answer the purpose of dibbling wheat, by which the holes for receiving the grain may be made at equal distances and proper depths; the silver medal, and ten guineas. The *machine*, with *certificates* that at least three acres have been dibbled by it, to be produced to the Society on or before the second Tuesday in January, 1804. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

71. MACHINE FOR REAPING OR MOWING CORN. For inventing a machine to answer the purpose of mowing or reaping wheat, rye, barley, oats, or beans, by which it may be done more expeditiously and cheaper than by any method now practised, provided it does not shed the corn or pulse more than the methods in common practice, and that it lays the straw in such a manner that it may be easily gathered up for binding; the gold medal, or thirty guineas. The *machine*, with *certificates* that at least three acres have been cut by it, to be produced to the Society on or before the second Tuesday in December, 1803. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

72. THRASHING-MACHINE. To the person who shall invent a machine by which corn of all sorts may be thrashed more expeditiously, effectually, and at a less expense, than by any method now in use; the gold medal, or thirty guineas. The *machine*, or a model, with proper *certificates* that such a machine has been usefully applied, that at least thirty quarters have been thrashed by it, and of the time employed in the operation, to be produced to the Society on or before the last Tuesday in February, 1804.

73. DESTROYING THE GRUB OF THE COCKCHAFER. To the person who shall discover to the Society an effectual method, verified by repeated and satisfactory trials, of destroying the grub of the cockchafer, or of preventing or checking the destructive effects which always attend corn, peas, beans, and turnips, when attacked by those insects; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be produced on or before the first Tuesday in January, 1804.

74. DESTROYING WORMS. To the person who shall discover to the Society an effectual method, verified by repeated and satisfactory trials, of destroying worms, or of preventing the destructive effects they occasion on

corn, beans, peas, or other pulse; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be produced to the Society on or before the first Tuesday in Jan. 1804.

75. Destroying the Fly on Hops. To the person who shall discover to the Society an easy and efficacious method of destroying the fly on hops, superior to any hitherto known or practised, on not less than four acres of hop ground, the gold medal, or thirty guineas. *Accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1804.

76. Preventing the Blight, or Ravages of Insects, on Fruit-trees and Culinary Plants. To the person who shall discover to the Society the most effectual method of preventing the blight, or ravages of insects, on fruit trees and culinary plants, superior to any hitherto known or practised, and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be delivered to the Society on or before the second Tuesday in November, 1803.

77. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the second Tuesday in November, 1804.

78. Removing the ill Effects of Blights, or Insects. To the person who shall discover to the Society the most effectual method of removing the ill effects of blights, or insects, on fruit-trees and culinary plants, superior to any hitherto known or practised, and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1804.

79. Cure of the Rot in Sheep. To the person who shall discover to the Society the best and most effectual method of curing the rot in sheep, verified by repeated and satisfactory experiments; the gold medal, or fifty guineas. It is expected that the candidates furnish accurate *accounts* of the symptoms and cure of the disease, together with the imputed cause thereof, and the actual or probable means of prevention, which, with proper *certificates*, must be delivered to the Society on or before the first Tuesday in February, 1804.

80. Cure of the Foot-Rot in Sheep. To the person who shall discover to the Society the best and most effectual method of curing the foot-rot in sheep; the gold medal, or thirty guineas.

It is required that the cure be ascertained by repeated and satisfactory experiments, and the method of performing it be verified by proper certificates delivered to the Society on or before the first Tuesday in February, 1804.

81. Preventing the ill Effects of Flies on Sheep. To the person who shall discover to the Society the most effectual method of protecting sheep from being disturbed and injured by flies; the silver medal, or twenty guineas. It is required that the method be ascertained by repeated experiments, and that a *certificate* of its efficacy be delivered to the Society on or before the 1st Tuesday in December, 1803.

82. Protecting Sheep. To the person who, in the year 1803, shall protect the greatest number of sheep, not fewer than one hundred, by hovels, sheds, or any other means, and give the most satisfactory account, verified by experiment, of the advantages arising from the practice of protecting sheep from the inclemency of the weather, by hovels, sheds, or any other means; the silver medal, or twenty guineas. A particular *account* of the experiments made, with the advantages arising therefrom, together with the expense, and *certificates* of its utility, to be produced to the Society on or before the first Tuesday in March, 1804.

83. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in March, 1805.

N. B. It is required that the *certificates* shall specify the length of time the sheep were so protected, and the manner in which they were maintained during that time; together with the general method of managing them.

84. Improving the Condition of the labouring Poor, by erecting Cottages, and apportioning Land. To the person who, in the year 1802, shall erect the greatest number of cottages for the accommodation of the labouring poor, and apportion not less than two acres of land to each cottage; the gold medal. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1804.

85. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

86. Improving the Condition of the labouring Poor by apportioning Land to Cottages. To the person who, in the year 1802, shall apportion to the greatest number of cottages already built upon his or her estate, any quantity of land, not less than two acres to each cottage, for the better accommodation of the respective inhabitants; the gold medal. The *accounts* of the number of cottages, and of the quantity of land apportioned to each, to be delivered to the Society, with proper *certificates*, on or before the first Tuesday in February, 1804.

87. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in February, 1805.

88. CULTURE OF HEMP IN CERTAIN PARTS OF SCOTLAND. The Society for the Encouragement of Arts, Manufactures, and Commerce wishing to encourage the growth of hemp for the use of the navy, in certain parts of Scotland, comprehending the whole county of Argyle, that part of Perthshire situated to the north of the river Tay, and west of the Military Road (see Ainslie's Map of Scotland) leading from Logierait to the County of Inverness, and such other parts of Scotland as lie north of Inverness-shire, offers to the person who shall sow with hemp, in drills at least eighteen inches asunder, the greatest quantity of land in the above-mentioned district, not less than fifty acres statute measure, in the year 1803, and shall at the proper season cause to be plucked the summer hemp (or male hemp bearing no seed) and continue the winter hemp (or female hemp bearing seed) on the ground until the seed is ripe; the gold medal, or fifty guineas.

89. To the person who shall sow with hemp, (in drills at least eighteen inches asunder) the next greatest quantity of land in the same above-mentioned district, not less than twenty-five acres statute measure, in the year 1803, and shall at the proper season cause the same to be plucked as above-mentioned; the silver medal, or twenty-five guineas. *Certificates* of the number of acres, of the distance of the drills, of the plucking of the hemp, with a general account of the soil, cultivation, and produce, to be delivered to the Society, along with fourteen pounds of the hemp, and two quarts of the seed, on or before the second Tuesday in January, 1804.

PREMIUMS FOR DISCOVERIES AND IMPROVEMENTS IN CHEMISTRY, DYING, AND MINERALOGY.

90. PRESERVING SEEDS OF VEGETABLES. For the best methods of preserving the seeds of plants in a state fit for vegetation a longer time than has hitherto been practised, such method being superior to any known to the public, and verified by sufficient trial, to be communicated to the Society on or before the first Tuesday in December, 1803; the gold medal, or thirty guineas.

91. PREVENTING THE DRY-ROT IN TIMBER. To the person who shall discover to the Society the cause of the dry-rot in timber, and disclose a certain method of prevention superior to any hitherto known; the gold medal, or thirty guineas. The *accounts* of the cause, and method of prevention, confirmed by repeated experiments, to be produced to the Society on or before the second Tuesday in December, 1803.

92. PRESERVING SALTED PROVISIONS FROM BECOMING RANCID OR RUSTY. To the person who shall discover to the Society the best, cheapest, and most efficacious method of preserving salted provisions from growing rancid or rusty; the gold medal, or thirty guineas. A full description of the method, with proper *certificates* that it has been found, on repeated trials, to answer the purpose intended, to be produced to the Society on or before the first Tuesday in February, 1804.

93. CLEARING FEATHERS FROM THEIR ANIMAL OIL. To the person who shall discover to the Society the best and most expeditious method superior to any hitherto practised, of clearing goose feathers from their offensive animal oil, for the use of upholders, in making beds, cushions, &c. the silver medal, or twenty guineas. A quantity of such feathers unstripped and so cleared, not less than forty pounds weight, with a full *account* of the process, to be produced to the Society on or before the first Tuesday in February, 1804.

94. REFINING WHALE OR SEAL OIL. For disclosing to the Society an effectual method of purifying whale or seal oil from the glutinous matter that incrusts the wicks of lamps and extinguishes the light, though fully supplied with oil; the gold medal, or fifty guineas. It is required that the whole of the process be fully and fairly disclosed, in order that satisfactory experiments may be made by the Society to determine the validity of the claim; and *certificates* that not less than twenty gallons have been purified according to the process delivered in, together with two gallons of the oil, in its unpurified state, and two gallons so refined, be produced to the Society on or before the second Tuesday in February, 1804.

95. MANUFACTURING TALLOW-CANDLES. To the person who shall discover to the Society a method of hardening or otherwise preparing tallow, so that candles may be made of it which will burn as clear and with as small a wick as wax candles, without running, and may be afforded at a less expense than any at present made with spermaceti; the gold medal, or thirty guineas. *Certificates* that 112lb. of such tallow have been made into candles, and 12lb. of the candles made thereof, to be produced to the Society on or before the second Tuesday in January, 1804.

96. CANDLES FROM RESIN OR OTHER SUBSTANCES. To the person who shall discover to the Society the best method of making candles of resin, or any other substance, fit for common use, at a price much inferior to those made of tallow only; the gold medal, or thirty guineas. Six pounds at least of the

candles so prepared, with an *account* of the process, to be delivered to the Society on or before the first Tuesday in December, 1803.

97. METHOD OF SEPARATING SUGAR IN A SOLID FORM FROM TREACLE. To the person who shall discover to the Society the best method of separating sugar from treacle in a solid form, at such an expense as will render it advantageous to the public; the gold medal, or fifty guineas. A quantity of the sugar so prepared in a solid form, not less than thirty pounds weight, with an *account* of the process, and *certificates* that not less than one hundred weight has been prepared, to be produced to the Society on or before the first Tuesday in February, 1804.

98. PROOF-SPIRIT. To the distiller who, in the year 1803, shall make the greatest quantity, not less than one hundred gallons, of a clean marketable spirit, from articles not the food of man or cattle, equal in strength or quality to the proof-spirit now in use, and at a rate not higher than the spirit produced from corn or melasses; the gold medal, or one hundred guineas. Ten gallons of the spirit, together with proper *certificates*, and a full *account* of the expense and mode of making it, to be produced to the Society on or before the first Tuesday in January, 1804.

99. INCREASING STEAM. To the person who shall invent and discover to the Society a method, verified by actual experiments, of increasing the quantity or force of steam, in steam-engines, with less fuel than has hitherto been employed, provided that in general the whole amount of the expenses in using steam-engines may be considerably lessened; the gold medal, or thirty guineas. To be communicated to the Society on or before the first Tuesday in January, 1804.

100. SUBSTITUTE FOR TAR. To the person who shall invent and discover to the Society the best substitute for Stockholm tar, equal in all its properties to the best of that kind, and prepared from materials the produce of Great Britain; the gold medal, or one hundred guineas. A quantity of the substitute, not less than one hundred weight, with *certificates* that at least one ton has been manufactured, and that it can be afforded at a price not exceeding that of the best foreign tar, together with an *account* of the process, to be delivered to the Society on or before the first Tuesday in March, 1804.

101. PREPARATION OF TAN. To the person who shall prepare in the most concentrated form, so as to be easily portable, and at a price applicable to the purposes of manufactures, the largest quantity, not less than one hundred weight, of the principle called by the French *tannin*, which abounds in oak-bark and many other vegetable substances; the gold medal, or fifty guineas. *Certificates* of the above quantity having been prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1804.

102. INDELIBLE INK. To the person who shall discover to the Society, a method of making a black ink proper for writing, superior to any at present known, indestructible by chemical applications, and not dearer than that which is now in common use; the silver medal or fifteen guineas. *Certificates* that not less than two gallons of such ink have been actually prepared and found to possess the qualities abovementioned, with a full detail of the process of making it, and two quarts of the ink, to be delivered to the Society on or before the second Tuesday in January, 1804.

103. PREPARATION OF A RED STAIN FOR COTTON CLOTH. To the person who shall communicate to the Society, the cheapest and most effectual method of printing or staining cotton cloths with a red colour, by an immediate application of the colouring-matter to the cloth, equally beautiful and durable with the red colours now generally procured from decoctions of madder; the gold medal, or thirty guineas. *Certificates* that the above process has been advantageously used on ten pieces of calico, each twenty-one yards or upwards in length, one piece of the calico so printed, a quart of the colour in a liquid state, and a full *account* of the preparation and application, to be produced to the Society on or before the second Tuesday in Jan. 1804.

104. PREPARATION OF A GREEN COLOUR FOR PRINTING COTTON CLOTH. To the person who shall communicate to the Society the best and cheapest method of printing with a full green colour on cotton cloth, by an immediate application of the colouring matter from a wooden block to the cloth, equally beautiful and durable as the colours now formed from the complicated process of the decoction of weld on alumine and the solutions of indigo by earths or alcaline salts; the gold medal, or thirty guineas. *Certificates* and conditions as for premium 103.

105. SUBSTITUTE FOR THE BASIS OF PAINT. To the person who shall produce to the Society the best substitute, superior to any hitherto known, for the basis of paint, equally proper for the purpose as the white lead now employed; such substitute not to be of a noxious quality, and to be afforded at a price not materially higher than that of white lead; the gold medal, or one hundred guineas. A quantity of the substitute, not less than 50lb. weight, with an *account* of the process used in preparing it, and *certificates* that at least one hundred weight has been manufactured, to be produced to the Society on or before the first Tuesday in January, 1804.

106. RED PIGMENT. To the person who

shall discover to the Society a full and satisfactory process for preparing a red pigment, fit for use, in oil and water, equal in tone and brilliancy to the best carmines and lakes now known or in use, and perfectly durable; the gold medal, or thirty guineas. One pound weight of such colour, and a full disclosure of its preparation, to be produced to the Society on or before the first Tuesday in February, 1804.

N. B. It is not required that the colour should resist the action of fire or chemical applications, but remain unaltered by the common exposure to strong light, damps, and noisome vapours.

107. ULTRAMARINE. To the person who shall prepare an artificial ultramarine, equal in colour, brilliancy, or durability, to the best prepared from lapis lazuli, and which may be afforded at a cheap rate; the gold medal, or thirty guineas. The conditions are the same as in the preceding premium for the red pigment.

108. ANALYSIS OF BRITISH MINERALS. To the person who shall communicate to the Society, the most correct analysis of any mineral production of Great Britain, hitherto either unexamined, or not examined with accuracy; the gold medal. The analysis and sufficient specimens to be produced to the Society on or before the first Tuesday in Jan. 1804.

109. STATUARY MARBLE. To the person who shall discover, within Great Britain or Ireland, a quarry of white marble fit for the purposes of statuary, and equal in all respects to those kinds now imported from Italy; the gold medal, or one hundred pounds. A block of at least three feet in length, two in height, and two in width, with an account of the situation of the quarry, and *certificates* of its possessing considerable extent, to be produced to the Society on or before the first Tuesday in February, 1804.

N. B. In order to prevent useless expense or trouble to the claimant in forwarding so large a block, the Society will be ready to examine any smaller specimen of the marble, and express their opinion of its value to the candidate before the block required by the above premium is produced.

110. PREPARATION OF SULPHURIC ACID FROM SULPHUR WITHOUT THE USE OF ANY NITRIC SALT. To the person who shall prepare the largest quantity (not less than one ton) of sulphuric acid from sulphur, without any nitric salt, of a specific gravity, not inferior to the best sulphuric acid of commerce; the gold medal, or fifty guineas. *Certificates* that not less than the above quantity of such an acid has been prepared, together with a sample, to be produced to the Society on or before the first Tuesday in January, 1804.

111. PREPARATION OF ANY ALKALINE OR EARTHY NITRATE. To the person who shall prepare, in Great Britain, the largest quantity, not less than one hundred weight, of any salt of nitric acid, with either earths or alkalies, by a method superior to and as cheap as those hitherto practised; the gold medal, or one hundred guineas. *Certificates* of the above quantity having been prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1804.

112. FINE BAR-IRON. To the person, in Great Britain, who shall make the greatest quantity of bar-iron, not less than ten tons, with coak, from coak-pigs, equal in quality to the best iron imported from Sweden or Russia, and as fit for converting into Steel; the gold medal, or fifty guineas. Samples, not less than one hundred weight, with *certificates* that the whole quantity is of equal quality, to be produced to the Society on or before the first Tuesday in January, 1804.

113. PRESERVING IRON FROM RUST. To the person who shall invent and discover to the Society a cheap composition, superior to any now in use, which shall effectually preserve wrought iron from rust, the gold medal, or fifty guineas. A full description of the method of preparing the composition, with *certificates* that it has stood at least two years unimpaired, being exposed to the atmosphere during the whole time, to be produced to the Society, with ten pounds weight of the composition, on or before the first Tuesday in January, 1804.

114. REFINING BLOCK-TIN. To the person who shall discover to the Society the best method of purifying or refining block-tin, so as to render it fit for the finest purposes to which grain-tin is now applied, and not higher in price; the gold medal, or fifty guineas. *Certificates* that not less than three tons have been refined or purified, with a full detail of the process, and a quantity, not less than one hundred weight, of the tin so refined, to be produced to the Society on or before the first Tuesday in January, 1804.

115. GLAZING EARTHEN-WARE WITHOUT LEAD. To the person who shall discover to the Society the cheapest, safest, most durable, and most easily fusible, composition, fit for the purpose of glazing the ordinary kinds of earthen-ware, without any preparation of lead, and superior to any hitherto in use; the gold medal, or thirty guineas. Specimens of the ware so glazed, with proper *certificates* of its having succeeded, and a sample of the materials made use of, to be produced to the Society on or before the first Tuesday in February, 1804.

116. REFINING COPPER FROM THE ORE. To the person who shall discover to the So-

ciety the best method of separating, purifying, and refining copper from the ore, so as to render it fit for the finest purposes to which fine copper is now applied, and by a process superior to any hitherto known or in use, and not higher in price; the gold medal, or fifty guineas. *Certificates* that not less than three tons have been so prepared or refined, and a quantity not less than one hundred weight of the copper so refined, to be produced to the Society on or before the first Tuesday in February, 1804.

117. MINERALOGICAL MAP OF ENGLAND AND WALES. To the person who shall complete and publish an accurate mineralogical map of England and Wales, on a scale of not less than ten miles to an inch, containing an account of the situation of the different mines therein, and describing the kinds of minerals thence produced; the gold medal, or fifty guineas. *Certificates* of the accuracy of such map, together with the map, to be produced to the Society on or before the first Tuesday in February, 1804. The map to remain the property of the Society.

118. MINERALOGICAL MAP OF IRELAND. The same premium is offered for a mineralogical map of Ireland on similar conditions.

119. MINERALOGICAL MAP OF SCOTLAND. The same premium is offered for a mineralogical map of Scotland on similar conditions.

120. NATURAL HISTORY. To the author who shall publish, in the year 1803, the natural history of any county in England or Wales; the gold medal, or fifty guineas. It is required that the several natural productions, whether animal, or vegetable, or mineral, peculiar to the county, or found therein, be carefully and specifically arranged and described, in order that the public may be enabled to judge what arts or manufactures are most likely to succeed in such county. The work to be delivered to the Society on or before the last Tuesday in January, 1804.

PREMIUMS IN POLITE ARTS.

121. HONORARY PREMIUMS FOR DRAWING, BY NOBILITY. For the best original drawing, of any kind, by young gentlemen under the age of twenty-one, sons or grandsons of peers, or peeresses in their own right, of Great Britain or Ireland, to be produced on or before the first Tuesday in March, 1804; the honorary medal of the Society in gold.

122. The same in silver for the best copy.

123, 124. The same premiums will be given, on the like conditions, to young ladies, daughters or grand-daughters of peers, or peeresses in their own right, of Great Britain or Ireland.

125. HONORARY PREMIUMS FOR DRAWING, BY GENTLEMEN. For the best original drawing, of any kind, by young gentlemen under the age of twenty-one; to be produced on or before the first Tuesday in March, 1804; the gold medal.

126. For the best copy, the silver medal.

127, 128. The same premiums will be given for drawings by young ladies.

N. B. As the foregoing honorary premiums are intended only for such of the nobility and gentry as may hereafter become patrons or patronesses of the arts; persons professing any branch of the polite arts, or any business dependent on the arts of design, or the sons or daughters of such persons, will not be admitted candidates in these classes.

129. DRAWINGS OF OUTLINES. For the best outline, after a cast, in plaster, of the Apollo Belvidere, by persons of either sex, under the age of sixteen, the figure not less than eighteen inches; to be produced on or before the last Tuesday in February, 1804; the greater silver pallet.

130. For the next in merit; the lesser silver pallet.

131. DRAWINGS OF LANDSCAPES. For the best drawing in water colours of a landscape after nature, not less than 18 inches by 12, by persons of either sex, under twenty-one years of age, to be produced on or before the last Tuesday in February, 1804; the gold pallet.

132. For the next in merit, the greater silver pallet. Each candidate must mention, on the front of the drawing, whence the view was taken.

133. HISTORICAL DRAWINGS. For the best historical drawing, being an original composition, of five or more human figures; the height of the principal figure not less than eight inches; to be produced on or before the third Tuesday in February, 1804; the gold pallet.

134. For the next in merit; the greater silver pallet.

135. LINE ENGRAVINGS OF LANDSCAPES. For the best line engraving of a landscape, published in the year 1803, the size of the engraving not less than eighteen inches by fourteen; the gold medal. To be produced to the Society on or before the last Tuesday in January, 1804; and the impression to which the premium is adjudged to remain the property of the Society.

136. For the next in merit; the silver medal, on similar conditions.

137. LINE ENGRAVINGS OF HISTORICAL SUBJECTS. For the best line engraving published in the year 1803, of an historical subject, the size of the engraving not less than eighteen inches by fourteen; the gold medal.

138. For the next in merit; the silver medal.

Conditions, &c. the same as in classes 135 and 136.

139, 140, 141, 142. The same premiums are extended one year further.

N. B. It is not necessary in the classes of line engravings, for the artist's name to be concealed. The first aquafortis proof of the above plates are required to be sent in with the finished impression, and *certificates* that the etchings are the entire work of the candidate.

143. Model in Clay or Plaster. For the best model in clay or plaster of an ornamental design for the purpose of embellishing works of Architecture; the silver medal, or twenty guineas. To be produced to the Society on or before the last Tuesday in January, 1804. The model not to be less than thirty inches by twelve.

144. Perspective Drawings of Machines. For the best perspective drawing of machines by persons under eighteen years of age; the greater silver pallet. To be produced to the Society on or before the last Tuesday in January, 1804.

145. For the next in merit; the lesser silver pallet, on similar conditions.

146. Engraving on Wood, or Metal Blocks, &c. For the best engraving on wood or metal blocks, or on any other material, so that the same be rendered capable of composition with the letter press, of any allegorical or other subject suited to the embellishment of letter press, the gold pallet.

147. For the next in merit, the greater silver pallet. Two or more impressions along with the block to be produced to the Society on or before the last Tuesday in February, 1804. The impressions, but not the block, to remain the property of the Society.

148. Bronzes. For the best drapery figure or group cast in bronze; if a single figure, not less than twelve inches high; and, if a group, not less than nine inches; and which will require the least additional labour to repair; the gold medal, or the silver medal and twenty guineas. The cast to be exhibited to the Society before it is begun to be repaired, with the original figure or group, on or before the first Tuesday in February, 1804, together with a full explanation of the whole process.

THE FOLLOWING PREMIUM (CLASS 149,) IS OFFERED IN CONFORMITY TO THE WILL OF THE LATE JOHN STOCK, OF HAMPSTEAD, Esq.

149. Ornamental Drawings for Architectural Designs. For the best ornamental drawing for the purpose of embellishing architectural designs; a silver medallion with the following engraved inscription: *The Premium given by the Society for the Encouragement of Arts, Manufactures, and Commerce, in conformity to the Will of John Stock, of Hampstead, Esq.* The drawing to which the premium is adjudged to remain the property of the Society.

PREMIUMS FOR ENCOURAGING AND IMPROVING MANUFACTURES.

150. Machine for carding Silk. For the best machine, superior to any now in use, for carding waste silk equally well as by hand; to be produced, together with a specimen of the cardings, on or before the first Tuesday in November, 1803; the silver medal, or twenty guineas.

151. Cloth from Hop-Stalks, &c. To the Person who shall produce to the Society the greatest quantity, not less than thirty yards of cloth at least twenty-seven inches wide, made in Great Britain, of hop-stalks or bines, or other raw vegetable substances, the produce of Great Britain or Ireland, superior to any hitherto manufactured from such substances, and which can be generally afforded as cheap as cloth of equal quality and appearance now made from hemp, flax, or cotton, and much finer in quality than any hitherto manufactured in England from hop-stalks, &c. the gold medal, or thirty guineas. One pound of the thread of which the cloth is made, and thirty yards of the cloth, together with proper *certificates* that the whole is manufactured from hop-stalks or bines, &c. to be produced to the Society on or before the first Tuesday in December, 1803.

N. B. The Society is already in the possession of cloth made in England from hop-stalks or bines, which may be inspected by application to the housekeeper.

152. Wicks for Candles or Lamps. To the person who shall discover to the Society a method of manufacturing hop-stalks or bines, or any other cheap material, the growth of Great Britain, so as to render them equally fit for the purpose of supplying the place of cotton, for wicks of candles or lamps; twenty guineas. Samples, not less than five pounds weight, of the wicks so prepared to be produced to the Society, with *certificates* that the whole quantity is equal in quality to the sample, on or before the second Tuesday in January, 1804.

153. Paper from raw vegetable Substances. To the person, in Great Britain, who shall, between the first of January, 1803, and the first of January, 1804, make the greatest quantity, and of the best quality, (not less than ten reams) of good and useful paper, from raw vegetable substances, the produce of Great Britain or Ireland, of which one hundred weight has not been used in manufacturing paper previous to January, 1802, superior to any hitherto manufactured from such sub-

stances, and which can be generally afforded as cheap as paper of equal quality and appearance now made from rags; twenty guineas.

N. B. The object of the Society being to add to the number and quantity of raw materials used in this manufacture, it is their wish to include every useful sort of paper, and to introduce such natural products as can be easily and cheaply procured in great quantities. The Society are in possession of two volumes containing a great variety of specimens of paper made from raw vegetable substances, *viz.*—nettles, potatoe-hawlm, poplar, hop-bines, &c. which volumes may be inspected by any person on application to the house-keeper.

Certificates of the making such paper, and one ream of the paper, to be produced on or before the last Tuesday in January, 1804.

154. TRANSPARENT PAPER. To the person who shall discover to the Society a method of making paper from the pulp that shall be perfectly transparent, and of a substance and body equal to fools-cap, that shall take and bear common writing ink with the same facility and correctness as writing paper generally in use; the silver medal, or twenty guineas. *Certificates* of the making such paper, an *account* of the process, and one ream of the paper, to be produced on or before the second Tuesday in January, 1804.

155. CHINTS PATTERNS FOR CALICO-PRINTERS. For the best original pattern in a new taste, of light or dark ground chints for garment-work, fit for the purposes of calico-printers, by persons of either sex; the gold medal. To be produced to the Society on or before the second Tuesday in January, 1804; the pattern to which the premium is adjudged to remain the property of the Society.

156. For the next in merit; the silver medal, on similar conditions.

157. COPPER-PLATE PATTERNS FOR CALICO-PRINTERS. For the best pattern, in a new stile, fit for the purposes of calico-printers for garment work; the silver medal. To be produced to the Society on or before the second Tuesday in January, 1804. The pattern to which the premium is adjudged to remain the property of the Society.

PREMIUMS IN MECHANICS.

158. GUNPOWDER-MILLS. To the person who, in the year 1803, shall invent and bring to perfection the most effectual method of so conducting the works of gunpowder-mills, in the business of making gunpowder, as to prevent explosion; the gold medal, or one hundred guineas. *Certificates* and *accounts* of the method having been put in practice in one or more gunpowder-mills in this kingdom, and that it promises, in the opinion of the best judges concerned in such works, to answer the purpose intended, to be produced to the Society on or before the first Tuesday in Feb. 1804.

N. B. As an encouragement to persons to turn their thoughts to improvements of this nature, if any should be made on the present method of conducting the business of gunpowder making, which fall short of the total prevention of explosion, and they are sent to the Society for the sake of humanity, the papers so sent in will receive due consideration, and such bounty or reward will be bestowed thereon as they appear to merit.

159. TRANSIT-INSTRUMENT. To the person who shall invent and produce to the Society a cheap and portable transit-instrument, which may easily be converted into a zenith-sector, capable of being accurately and expeditiously adjusted for the purpose of finding the latitudes and longitudes of places, and superior to any portable transit-instrument now in use; the gold medal, or forty guineas. To be produced on or before the last Tuesday in Jan. 1804.

160. TAKING WHALES BY THE GUN-HARPOON. To the person who, in the year 1803, shall strike the greatest number of whales, not fewer than three, with the gun-harpoon; ten guineas. Proper *certificates* of the striking such whales, and that they were actually taken in the year 1803, signed by the master, or by the mate when the claim is made by the master, to be produced to the Society on or before the last Tuesday in December, 1803.

161. FAMILY MILL. To the person who shall invent and produce to the Society the best constructed mill for grinding corn for the use of private families, or parish-poor; the construction to be such as to render the working of the mill easy and expeditious, and superior to any hitherto in use; the gold medal, or thirty guineas. The mill, and *certificates* of its having been used to good effect, to be produced to the Society on or before the first Tuesday in February, 1804.

N. B. Cheapness and simplicity will be considered as essential parts of its merit; and the mill, or the model, to remain with the Society.

162. MACHINE FOR RAISING COALS, ORE, &c. &c. To the person who shall invent a machine for raising coals, ore, &c. from mines, superior to any hitherto known or in use, and which shall produce the effect at a less expense than those already known or in use; the gold medal, or fifty guineas. A model of the machine, made on a scale of not less than one inch to a foot, with a *certificate* that a machine at large on the same construction has been advantageously used, to be produced to the Society on or before the second Tuesday in February, 1804.

163. MACHINE FOR RAISING WATER. To the person who shall invent a machine on a better, cheaper, and more simple construction than any hitherto known or in use, for raising water out of wells, &c. from a depth of not less than fifty feet; the gold medal, or forty guineas. *Certificates* of the performance of the machine, and a model of it, on a scale of not less than one inch to a foot, to be produced to the Society on or before the first Tuesday in Feb. 1804.

164. MACHINE FOR MAKING BRICKS. To the person who shall invent the best and cheap-

est machine for making bricks, superior to any hitherto known or in use, whereby the labour and expense of making bricks in the usual mode, by hand, may be greatly diminished; the gold medal or forty guineas. A model, with *certificates* that a machine at large, on the same construction, has been used to good effect for the purpose of making bricks, and that at least one hundred thousand statute-bricks have been made therewith, to be produced to the Society on or before the first Tuesday in March, 1804.

165. Boring and Blasting Rocks. To the person who shall discover to the Society a more simple, cheap, and expeditious method than any hitherto known or in use of boring and blasting rocks in mines, shafts, wells, &c.; the gold medal, or thirty guineas. *Certificates* of the method having been practised with success, with a full description thereof, to be delivered to the Society on or before the first Tuesday in January, 1804.

166. Heating Rooms for the purposes of Manufacturers. To the person who shall invent and discover to the Society a method of heating rooms, superior to any hitherto known or in use, and at a moderate expense, for the purposes of painters, japanners, and other manufacturers, so as to avoid the necessity of iron or copper tunnels going through the rooms to convey the smoke, whereby the danger from such tunnels may be prevented; the gold medal, or forty guineas. A model, or complete drawing and description of the method, with *certificates* that it has been successfully practised, to be delivered to the Society on or before the last Tuesday in March, 1804.

167. Improved Ventilation. To the person who shall invent and produce to the Society a mode of permanently ventilating the apartments in hospitals, workhouses, and other crowded places, superior to any now known or used; the gold medal, or fifty guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, with proper *certificates*, to be delivered to the Society on or before the last Tuesday in February, 1804.

168. Preventing Accidents from Horses falling with two-wheeled Carriages. To the person who shall invent and produce to the Society a method superior to any hitherto known or in use, to prevent accidents from the falling of horses with two-wheel carriages, especially on steep declivities; the silver medal, or fifteen guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, with proper *certificates* that the same has been used with success, to be delivered to the Society on or before the second Tuesday in Jan. 1804.

169. Clearing the Turnpike and other Roads from Mud, and Dust. To the person who shall discover to the Society the most effectual and the cheapest method, verified by experiments, of clearing the turnpike and other roads of great resort, from mud, and dust, or most effectually preventing the accumulation of either; the gold medal, or fifty guineas.

169*. For the second best account; the silver medal, or twenty guineas. It is required that an accurate *account* of the method used, and every expense attending it, together with satisfactory *certificates* of its being effectual, be delivered to the Society on or before the first Tuesday in March, 1804.

170. 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.

171. 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 Jan. 1804.

172. Chimnies cleansed. 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 housekeepers 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.

173. 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.

174. Raising the Bodies of Persons who have sunk under Water. To the person who shall invent and produce to the Society a cheap and portable drag, or other machine, superior to those now in use, for the purpose of taking up in the best and most expeditious manner, and with the least injury, the bodies of persons who have sunk under water; the gold medal, or thirty guineas. The drag, or machine to answer the purpose intended, to be produced to the Society, on or before the first Tuesday in March, 1804.

PREMIUMS OFFERED FOR THE ADVANTAGE OF THE COMMERCE OF THE UNITED EMPIRE.

175. Taking Porpoises. To the people in any boat or vessel, who, in the year 1803, shall take the greatest number of porpoises on the coast of Great Britain or Ireland, by gun, harpoon, or any other method, not fewer than thirty, for the purpose of extracting oil from them; the gold medal, or thirty pounds. *Certificates* of the number, signed by the persons to whom they have been sold or delivered for the purpose of extracting the oil, to be produced to the Society on or before the last Tuesday in January, 1804.

176. Oil from Porpoises. To the person who shall manufacture the greatest quantity of oil from porpoises taken on the coast of Great

Britain or Ireland, in the year 1803, not less than twenty tons; the gold medal, or thirty pounds. *Certificates* of the oil having been made from porpoises actually caught on the coast of Great Britain or Ireland, and two gallons of the oil as a sample, to be produced to the Society on or before the last Tuesday in February, 1804.

177. CURING HERRINGS BY THE DUTCH METHOD. To the person or persons who shall, before January 1804, cure the greatest quantity of white herrings, not less than thirty barrels, according to the method practised by the Dutch, and equal in all respects to the best Dutch herrings, the same being caught in the British or Irish seas, and cured in a British or Irish vessel or port; the gold medal, or fifty guineas.

178. For the next greatest quantity, not less than fifteen barrels; the silver medal, or twenty guineas. A sixteen-gallon barrel of the herrings to be produced to the Society on or before the first Tuesday in February, 1804, with *certificates* that the conditions of the premium have been completely fulfilled, and that the whole were cured in the same manner as the specimen, together with a full description of the process employed, in order that the Society may judge how far the Dutch method has been adopted.

PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH COLONIES.

179. NUTMEGS. For the greatest quantity of merchantable nutmegs, not less than ten pounds weight, being the growth of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, and equal to those imported from the islands of the East Indies; the gold medal, or one hundred guineas. Satisfactory *certificates*, from the governor, or commander in chief, of the place of growth, with an account of the number of trees, their age, nearly the quantity of fruit on each tree, and the manner of culture, to be produced on or before the first Tuesday in December, 1803.

180. The same premium is extended one year further. *Certificates* to be produced on or before the first Tuesday in December, 1804.

181. CLOVES. For importing into Great Britain or Ireland, in the year 1803, the greatest quantity of cloves, not less than twenty pounds weight, being of the growth of some of the islands of the West Indies subject to the British empire, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, and equal in goodness to the cloves brought from the East Indies; the gold medal, or fifty guineas. Samples, not less than two pounds weight, with *certificates* that the whole quantity is equal in goodness, together with satisfactory *certificates* signed by the governor, or commander in chief, of the place of growth, with an *account* of the number of trees growing on the spot, their age, and the manner of culture, to be produced to the Society on or before the first Tuesday in January, 1804.

182. The same premium is extended one year further. *Certificates* to be produced on or before the first Tuesday in January, 1805.

183. KALI FOR BARILLA. To the person who shall have cultivated, in the Bahama-Islands, or any other part of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, in the year 1802, the greatest quantity of land, not less than two acres, with Spanish kali, fit for the purpose of making barilla; the gold medal, or thirty guineas.

184. For the next greatest quantity, not less than one acre, the silver medal, or fifteen guineas. *Certificates*, signed by the governor, or commander in chief, for the time being, of the quantity of land so cultivated, and of the state of the plants, at the time of signing such certificates, to be delivered to the Society, with samples of the kali, on or before the second Tuesday in January, 1804.

185, 186. The same premiums are extended one year farther. *Certificates* to be produced on or before the second Tuesday in Jan. 1805.

187. DESTROYING THE INSECT COMMONLY CALLED THE BORER. To the person who shall discover to the Society an effectual method of destroying the insect commonly called the borer, which has, of late years, been so destructive to the sugar-canes in the West India islands, the British settlements on the coast of Africa, and the several islands adjacent thereto; the gold medal, or fifty guineas. The discovery to be ascertained by satisfactory *certificates* under the hand and seal of the governor or commander-in-chief, for the time being, and of some other respectable persons, inhabitants of the islands, or other place, in which the remedy has been successfully applied; such *certificates* to be delivered to the Society on or before the first Tuesday in January, 1804.

188. CULTIVATION OF HEMP IN UPPER AND LOWER CANADA. To the person who shall sow with hemp the greatest quantity of land in the province of Upper Canada, not less than six arpents (each four-fifths of a statute acre, in the year 1803, and shall at the proper season cause to be plucked the summer hemp (or male hemp bearing no seed) and continue the winter hemp (or female hemp bearing seed) on the ground until the seed is ripe; the gold medal, or one hundred dollars.

189. To the person who shall sow with hemp the next greatest quantity of land in the same province of Upper Canada, not less than five arpents, in the year 1803, in the manner abovementioned; the silver medal, or eighty dollars.

190. For the next greatest quantity of land, in the same province, and in a similar manner, not less than four arpents; sixty dollars.

191. For the next greatest quantity of land, in the same province, and in a similar manner, not less than three arpents; forty dollars.

192. For the next greatest quantity of land, in the same province, and in a similar manner, not less than one arpent; twenty dollars. *Certificates* of the number of arpents, the method

of culture, of the plucking of the hemp, with a general *account* whether sown broad-cast or in drills, the expense, soil, cultivation, and produce to be transmitted to the Society, certified under the hand and seal of the governor or lieutenant-governor, together with 28lb. of the hemp, and two quarts of the seed, on or before the last Tuesday in November, 1804.

193, 194, 195, 196, 197. The same premiums are extended one year farther. *Certificates*, &c. as before-mentioned, to be transmitted to the Society, on or before the last Tuesday in November, 1805.

198 to 208. Premiums exactly similar in all respects to those held out for the province of Upper Canada, are also offered for the province of Lower Canada, and are extended to the same period.

209. IMPORTATION OF HEMP FROM CANADA. To the master of that vessel, which shall bring to this country the greatest quantity of marketable hemp, not less than one hundred tons, in the year 1803, the produce of Upper or Lower Canada; the gold medal.

210. To the master of that vessel which shall bring the next quantity, not less than fifty tons; the silver medal. *Certificates* satisfactory to the Society to be produced by the master of the vessel on or before the first Tuesday in February, 1804, to testify that such hemp was grown and prepared in Canada.

211, 212. The same premiums are extended one year farther. *Certificates* to be produced on or before the first Tuesday in February, 1805.

PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH SETTLEMENTS IN THE EAST INDIES.

213. BHAUGULPORE-COTTON. To the person who shall import into the port of London, in the year 1803, the greatest quantity, not less than one ton, of the Bhaugulpore-cotton, from which clothes are made in imitation of nankeen, without dying; the gold medal. A quantity of the cotton, not less than five pounds weight in the pod, and five pounds carded, to be produced to the Society, with proper *certificates*, signed by the secretary to the board of trade of Bengal or Bombay, on or before the last Tuesday in February, 1804.

214. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1805.

215. ANNATTO. To the person who, in the year 1803, shall import into the port of London, from any part of the British settlements in the East Indies, the greatest quantity of annatto, not less than five hundred weight; the gold medal. A quantity of the annatto, not less than ten pounds weight, to be produced to the Society, with proper *certificates*, signed by the secretary of the board of trade of the respective settlement, that the annatto is the produce of such settlement, on or before the last Tuesday in February, 1804.

216. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1805.

217. TRUE COCHINEAL. To the person who, in the year 1803, shall import into the port of London, from any part of the British settlements in the East Indies, the greatest quantity of true cochineal, not less than five hundred weight; the gold medal. A quantity of the cochineal not less than ten pounds weight, with proper *certificates*, signed by the secretary of the board of trade of the respective settlement, that the cochineal is the produce of such settlement, to be produced to the Society on or before the first Tuesday in Feb. 1804.

218. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in February, 1805.

CONDITIONS FOR THE POLITE ARTS.

No person who has gained the first premium in any class shall be admitted a candidate in a class of an inferior age; and no candidate shall receive more than one premium in one year; nor shall they, who for two successive years have gained the first premium in one class, be again admitted as candidates in that class.

No person shall be admitted a candidate in any class, who has three times obtained the first premium in that class.

No more than one performance in any class shall be received from the same candidate.

All performances (to which premiums or bounties are adjudged) shall remain with the Society till after the public distribution of rewards in May, when they will be re-delivered unless mentioned in the premiums to the contrary.

No performance shall be admitted, that has obtained a premium, reward, or gratification, from any other society, academy, or school, or been offered for that purpose.

All performances that obtain premiums in the Polite Arts must have been begun after the publication of such premiums, except line engravings.

To encourage real merit, and prevent attempts to impose on the Society, by producing drawings made or retouched by any other person than the candidate, the Society require a specimen of the abilities of each successful candidate, under the inspection of the Committee of Polite Arts, in every instance where such proof may appear necessary.

All candidates in the Polite Arts are required to signify, on their drawings, their age; and whether the performances are originals or copies; and if copies, whence they were taken.

SOCIETY'S OFFICE, ADELPHI, JUNE 1st, 1802.

ORDERED,

That the several Candidates and Claimants to whom the Society shall adjudge Premiums or Bounties, do attend at the Society's Office in the Adelphi, on the last Tuesday in May 1803, *at Twelve o'Clock at Noon precisely, to receive the same; that Day being appointed by the Society for the Distribution of their Rewards: And before that Time no Premium or Bounty will be delivered, excepting to those who are about to leave the Kingdom.*

In Cases where the Society may think fit to admit Excuses for not attending in Person, Deputies may be substituted to receive the Rewards, provided such Deputies are either Members of the Society, or the superior officers thereof.

GENERAL CONDITIONS.

As the great object of the Society in rewarding individuals is to draw forth and give currency to those inventions and improvements, which are likely to benefit the public at large, candidates are requested to observe, that if the *means*, by which the respective objects are effected, do require an expense or trouble too great for *general purposes*, the Society will not consider itself as bound to give the offered *reward*; but, though it thus reserves the power of giving in all cases such part only of any premium as the performance shall bé adjudged to deserve, or of withholding the whole if there be no merit, yet the candidates may be assured the Society will always judge liberally of their several claims.

It is required that the matters for which premiums are offered, be delivered in without names or any intimation to whom they belong; that each particular thing be marked in what manner each claimant thinks fit, such claimant sending with it a paper sealed up, having on the outside a corresponding mark, and, on the inside, the claimant's name and address; and all candidates are to take notice, that no claim for a premium will be attended to, unless the conditions of the advertisement are fully complied with.

No papers shall be opened, but such as shall gain premiums, unless where it appears to the Society absolutely necessary for the determination of the claim; all the rest shall be returned unopened with the matters to which they belong, if inquired after by the mark, within two years.

All models of machines, which obtain premiums or bounties, shall be the property of the Society; and, where a premium or bounty is given for any machine, a perfect model thereof shall be given to the Society.

All the premiums of this Society are designed for Great Britain and Ireland, unless expressly mentioned to the contrary.

The claims shall be determined as soon as possible after the delivery of the specimens.

It is expected that all articles for claims or bounties be sent to the Society carriage paid.

No person shall receive any premium, bounty, or encouragement, from the Society, for any matter for which he has obtained, or purposes to obtain, a patent.

A candidate for a premium, or a person applying for a bounty, being detected in any disingenuous method to impose on the Society, shall forfeit such bounty, and be deemed incapable of obtaining any for the future.

No member of this Society shall be a candidate for, or entitled to receive, any premium, bounty, or reward, whatsoever, except the honorary medal of the Society. The candidates are, in all cases, expected to furnish a particular account of the subject of their claims; and, where certificates are required to be produced in claim of premiums, they should be expressed, as nearly as possible, in the words of the respective advertisements, and be signed by persons who have a positive knowledge of the facts stated.

Where premiums or bounties are obtained in consequence of specimens produced, the Society mean to retain such part of those specimens as they may judge necessary, making a reasonable allowance for the same.

No candidates shall be present at any meetings of the Society or committees, or admitted at the Society's rooms, after they have delivered in their claims, until such claims are adjudged, unless summoned by the committee.

N. B. The Society farther invite the communications of scientific and practical men upon any of the subjects for which premiums are offered, although their experiments may have been conducted upon a smaller scale than the terms of each require, as they may afford ground for more extensive application, and thus materially forward the views of the Society and contribute to the advantage of the public. Such communications to be made by letter, addressed to the Society, and directed to Mr. CHARLES TAYLOR, the Secretary, *at the Society's Office, in the Adelphi, London.*

The models required by the Society should be upon the scale of one inch to a foot. The Winchester bushel is the measure referred to for grain; and, as the acres of different districts vary in extent, it is necessary to observe, that the Society mean Statute Acres, of five and a half yards to the rod or pole, when acres are mentioned in their list of premiums; and they request that all communications to them may be made agreeably thereto.

The Society desire that the Papers on different subjects sent to them may be full, clear, explicit, fit for publication, and rather in the form of Essays than of Letters.

Presents to the Society of Books for their Library will be thankfully received.

† To persons inclined to leave a sum of money to this Society by will, the following form is offered for that purpose.

Item. I give and bequeath to A. B. and C. D. the sum of
upon condition and to the intent that they, or one of them, do pay the same to the collector for the time being, of a society in London, who now call themselves the Society for the Encouragement of Arts, Manufactures, and Commerce; which said sum of I will and desire may be paid out of my personal estate, and applied towards the carrying on the laudable designs of the Society.

By Order of the Society,
CHARLES TAYLOR, *Secretary.*

HISTORY.

National Transactions.

GREAT BRITAIN.

THE most active preparations continue to be made for prosecuting with vigor a war into which we have been forced. Holland, whose neutrality our Government was inclined to respect, is now too in the number of Enemies. On the 16th inst. Letters of Marque and Reprisal against the Batavian Republic were signed at a Council held at Windsor, and the following day the Ambassador from that country left London on his return to the Hague.

Our cruisers have been very successful in annoying the Enemy's Trade.—The number of Prizes is so considerable, that into the port of Plymouth alone, 105 French and Batavian Vessels were sent in the space of three weeks.

The preparations for offensive as well as defensive war are prosecuting with increased activity. The Military Force of the country will be greatly augmented, and every precautionary measure will be employed to render any attempt at Invasion abortive. The Country is unanimous in support of the measures of Government, and the additional burthens that must necessarily be imposed are chearfully borne, from the conviction that nothing less than our annihilation, can pacify our implacable and perfidious enemy.

Of the proceedings of Parliament, the part most interesting to the Public must be the Budget, of which we shall endeavour to present a concise account.

The principle on which the Chancellor of the Exchequer proceeds, with respect to the financial conduct of the War, is that of borrowing no more in any future year than the produce of the Sinking Fund (now 6,000,000l.) will discharge, and raising the remainder by taxes, together with the ordinary supplies, within the year, in order that no addition may be made to the national debt.

The taxes are distributed amongst three great branches of revenue, namely, the Customs, Excise, and Income, arising from Land, Personal Property, Trade, Professions, &c.

In the first branch specific duties are imposed upon the importation of Sugar and the exportation of Cotton, a general duty of 12½ per cent. upon the present duties upon all articles of Import, except Cotton-wool, Tea and Wine; a duty of one per cent. upon all articles exported from this country to different parts of Europe, and three per cent. on articles exported to other quarters of the world. The whole produce of these Duties, together with an additional Tonnage Duty, was estimated by the Minister at 2,000,000l after deducting drawbacks.

With reſpect to the Exciſe, heavy duties are impoſed upon Tea, Wine, foreign and home made Spirits, and Malt; the whole produce of which the Miniſter eſtimated at 6,000,000l.

On Land, a Tax of one ſhilling in the pound on the net rent is impoſed upon the proprietor, and nine-pence in the pound on the tenant, in England, and ſix-pence in Scotland. The produce of this, together with a ſimilar tax (of five per cent.) on the Dividends received from the Funds, and the Income ariſing from other perſonal property, and a like Tax on Salaries, &c. and on Trade, with ſome modifications as to the latter, was eſtimated by the Miniſter at 4,5000,000l.

This ſum, added to 2,000,000l. the eſtimated produce of the additional Duties of Cuſtoms, and 6,000,000l. from the Exciſe, makes a total of 12,500,000l. to be raiſed within the year.

The Taxes are divided into War Taxes, and permanent Taxes. Of the former the following is a correct ſchedule, as they are at preſent before the Houſe.

4s. per hundred on Sugar imported - -	1,300,000
12½ on all other imports - - -	
1 per cent. *ad valorem* upon Exports to Europe	460,000
3 per cent. on ditto, elſewhere - -	
1 penny per lb. on Cotton Wool - -	250,000
Tonnage Duty - - - -	150,000
45 per cent. *ad valorem*, coarſe, and -	1,300,000
60 per cent. on fine Teas - - -	
10l. per pipe on Wine - -	500,000
An increaſe of half the preſent duty on Foreign and Home made Spirits - - - -	1,500,000
Two Shillings per Buſhel on Malt - -	2,700,000
Half Income-Tax - - - -	4,500,000

The permanent Taxes are

Conſolidated Cuſtoms -	250,000
Conſolidated Aſſeſſed Taxes -	220,000
Increaſe of Tax on Receipts -	220,000

GERMANY. The King's Continental Dominions have fallen a ſacrifice to French rapacity; in their ſeizure of the Electorate of Hanover they experienced not the ſlighteſt oppoſition from the powers whoſe duty it was to make the neutrality of that country reſpected. Hamburgh is expected to ſhare the ſame fate. On the 6th inſt. a Body of 8000 French Troops were on their march for Cuxhaven, and another corps of 10000 were directing their march to Stade. All the Britiſh Ships at Hamburgh haſtened away from that port, many of them with only half their cargoes in conſequence of an order to that effect poſted at the Exchange by the Britiſh Conſul.

FRANCE. Bonaparte continues to receive, from all quarters, aſſurances of the moſt zealous ſupport in the proſecution of the war againſt this country. The addreſſes are couched in the uſual ſtyle of adulation to his Conſular Majeſty, and bitter and acrimonious invective againſt this country. Offers have been made by ſeveral of the principal towns to build ſhips of war, to be preſented, free of expenſe, to the Government. Subſcriptions are opened in Paris and generally through the department of the Seine, for building gun-boats and tranſports. In a word, no pains are ſpared to rouſe the ſpirit of the people in ſupport of the War, which we are convinced will obtain a degree of unaccountable popularity for a certain period. This popularity will, however, gradually decline, if on the part of this country the conteſt is maintained with ſuitable energy and ſpirit. The annihilation of their Commerce will ſoon be a matter of diſtreſſing experience to the Mercantile part of France; and the great maſs of the people, compelled to undergo great ſacrifices, in

ſupport of a conteſt pregnant only with diſaſter, will begin to look without prejudice or paſſion, at a War, for the proſecution of which France poſſeſſes not one legitimate object, and which is protracted only for the purpoſe of gratifying the ambition, obſtinacy, and pride of the firſt Conſul.

The firſt Conſul has iſſued a decree, ordering that all the Engliſh who are now in France, from the age of 18 to 60, (excepting females) ſhall be made Priſoners of War, to anſwer for ſuch Citizens of the French Republic as ſhall have been detained and made Priſoners by the Veſſels and Subjects of his Britannic Majeſty, previous to any Declaration of War. In conſequence of the above decree, Mr. Talbot, and all the Engliſh in France, were immediately made Priſoners. Not fewer than 100 perſons have been confined at Calais; among whom are Sir James Crawford, Mr. Cobourn, and Lord Yarmouth. The Crew of the Prince of Wales and Nancy Packets have alſo been detained at Calais, and made priſoners. All the Engliſh who were at Paris at the Time the decree was paſſed were immediately ordered off to Fontainbleau Priſon. The ſame violent meaſures have been adopted in Holland. The reaſon for the above proceedings is, that the Engliſh had committed Hoſtilities without a previous Declaration of War; and the Engliſh, both in France and Holland, are to be conſidered as Priſoners till the Ships and Citizens of the two Republics, taken previous to a Declaration of War, are liberated. The conduct of the French Government in this inſtance, is wholly unjuſtified by the Laws of Nations. The formality of a Declaration of War is become obſolete, preciſely for the reaſon, that it is no longer neceſſary. The recal of Ambaſſadors is a ſufficient Declaration of War, and proves that two countries are from that moment to be conſidered as in a ſtate of War. In future, Foreigners will be unwilling to viſit France; for they will have no guarantee, that the cuſtoms and uſages of civilized nations will be extended to them, or that their perſons will be reſpected. The arbitrary power of the Firſt Magiſtrate may, in a moment, conſign them to periſh in the dark receſſes of the Temple, or to rot in the damp dungeons of the Conciergerie.

DENMARK. The Daniſh Troops are forming a Cordon along the German Frontiers to protect the neutrality of that ſtate. Should the French however determine to proceed, their reſiſtance would be unavailing. It is confidently ſaid, that France has determined to extend her ſyſtem of annoyance againſt our Trade beyond Hamburgh and that a conſiderable body of troops now in Hanover is to be marched into Denmark for the purpoſe of ſecuring the Sound.

HOLLAND. This unfortunate Country, to which France has denied the benefits of a neutrality ſhe ardently deſired, is now compelled to take a part againſt Great Britain. While preparations are making to fit out all the Ships of War in the Ports of the Republic, the inhabitants in moſt of the Cities are employed in ſigning an Addreſs to the Government, in which they deſcribe in the livelieſt colours the calamities and diſaſters with which a new War will be attended after a Peace of ſuch ſhort duration. They repreſent that it would have been better that the ſtate of War had continued as the laſt means which remained to the Nation have been collected and employed to revive the Country as far as poſſible.

RUSSIA. Great preparations are making in the Ruſſian Ports of the Baltic, which would ſeem to announce the early appearance of a numerous Fleet.—At Peterſburg, as well as Cronſtadt, the greateſt activity is employed in equipping all the Ships of the line, frigates, galleys, and gun-boats that are now in thoſe ports. At Revel fifteen Ruſſian Ships are ready for Sea.—In caſe of neceſſity, it is ſaid that a large Body of Troops will be embarked in that Fleet. The deſtination of this armament is, at preſent, a complete myſtery.

It is however ſurmiſed, to be only for the Protection of her Trade, as the difference with Sweden has been brought to an amicable termination.

TURKEY. The Turkiſh Government convened a grand Council, held to deliberate on the line of conduct to be adopted in the preſent ſtate of affairs, at which it was reſolved that the Port ſhould obſerve the ſtricteſt neutrality. A Squadron of five Sail of the line, ſix Frigates and four Sloops of War is however fitting out for the protection of Trade.

ITALY. The King of Etruria is dead, and the Queen has been declared Regent. That her authority will not long continue is extremely probable.

The King of Naples it is ſaid, has requeſted the Emperor of Ruſſia to protect him as a neutral State, but to this application he has not yet received any anſwer.

ST. DOMINGO. Accounts from St. Domingo, mention, that the Blacks are very ſtrong, and well ſupplied with arms and ammunition, and keep the French Troops from advancing into the Country. The French Men of War are coming Home, it is reported, ſingly, with part of their guns diſmounted, in order to ſtow cargoes. Since the treacherous conduct of the French to Touſſaint, the Blacks have refuſed all offers of ſettling the diſpute, and are determined to periſh to a Man before they will ſubmit to the French Government; they are reported to be between 80 and 90,000 ſtrong. French Frigates are kept continually cruiſing off the Cape, to intercept the ſupplies of arms and ammunition, which however they are conſtantly receiving.

Agriculture.

THE effect of the late rains has been highly beneficial throughout the whole kingdom to vegetation. The graſs, which was before rather backward, has grown aſtoniſhingly within theſe two or three weeks. Corn has alſo been much aſſiſted in its growth. In the ſouthern counties in particular the grain was never known to look finer, Wheat in particular affords every proſpect at preſent of producing an abundant crop.

The fruit trees in general are in a flouriſhing State, and the appearance of the apple and pear trees in the cyder countries is moſt healthy and promiſing.

It gives us pleaſure to obſerve that in conſequence of this proſpect of abundance, notwithſtanding the great extra ſupplies of proviſions, which the emergency of the times neceſſarily requires, that the late market liſts preſent a reduction in moſt of the articles of life.

The Duke of Bedford's Sheep Shearing.

The following are the Premiums advertiſed by his Grace to be given to promote the Improvement of Live Stock, &c. &c,

I. PREMIUMS FOR FAT WETHERS.

I. To the Perſon who ſhall breed and produce at Woburn Sheep-ſhearing, June 1803, the beſt Two Shear Fat Wether—the Premium of a Cup, value Ten Guineas.

II. To the Perſon who ſhall breed in Bedfordſhire, and produce at Woburn Sheep-ſhearing, 1803, the beſt Two Shear Fat Wether, Five Guineas.—The ſame Perſon not to have both Premiums. The Name of the breeder, together with the place where bred, to be duly certified, and given in at the time of ſhearing.

The Wethers to be produced on Tueſday, between the Hours of Ten and Eleven, at Woburn-Abbey: they will be ſheared, weighed alive, killed, and weighed dead, and due attention paid to the Wool, Carcaſs and Tallow.

II. PREMIUMS FOR THEAVES BRED IN BEDFORDSHIRE.

I. To the Perſon who ſhall breed in Bedfordſhire, and produce at Woburn Sheep-ſhearing, 1803, the beſt Theave—A Cup, value Ten Guineas.

II. To the Perſon who ſhall breed in Bedfordſhire, and produce at Woburn Sheep-ſhearing, 1803, the ſecond beſt Theave—A Cup, value Five Guineas. —The ſame perſon not to have both Premiums

The Sheep to be produced at the Park-Farm on Tueſday, between the hours of ten and eleven. The Claimants to produce Certificates that their Theaves were bred in Bedfordſhire, ſpecifying the Pariſh, and Name of the Breeder.

III. SUNDRY PREMIUMS.

I. To the Perſon who ſhall produce at Woburn Sheep-ſhearing, 1803, the beſt Boar—Five Guineas.

II. To the beſt Sheep-ſhearer—Five Guineas.
Second beſt—Four ditto.
Third beſt—Three ditto.
Fourth beſt—Two ditto.
Fifth beſt—One ditto.

If more than Ten Candidates, to draw lots. The trial to be made on the Wedneſday. Candidates to give notice on the Saturday before the clipping.

IV. PREMIUMS FOR ENCOURAGING IMPROVEMENTS IN IMPLEMENTS OF AGRICULTURE.

I. To the Perſon who ſhall produce at Woburn Sheep-ſhearing, 1803, the beſt and moſt uſeful newly-invented implement—the ſum of Twenty Guineas.

As it is the intention, in giving this Premium, both to encourage and to introduce to general notice, ſuch improvements in Implements of Agriculture, as appear of real utility; it will be left to a Committee to decide, 1ſt. Which Implement produced deſerves the preference;——2dly. Whether any of them merit the reputation that the acquiſition of a Premium might confer.

II To the Perſon who ſhall produce the Plough, which ſhall with the leaſt force turn the cleaneſt and deepeſt furrow—Cup, value Ten Guineas.

The Implements to be brought to the Park-Farm on Tueſday.

V. To the Farmer in Bedfordſhire, who ſhall produce the moſt ſatisfactory account of comparative trials between the Drill and Broadcaſt Culture of Wheat, Barley, or Oats, on not leſs than Ten Acres, being in the ſame Field. Thirty Guineas.

It is required that the Farmers who ſhall be Candidates for theſe Premiums, do give notice to the Duke of Bedford of their intention, that the crops may be viewed while growing, by ſuch Perſons as the Duke may appoint.

It is expected that the account ſhould contain a deſcription of the ſoil, the preparation (manure, if any,) quantities of Seed ſown and drilled, hoeing, Time and Regularity of Ripening, Harveſting, and produce—verified by ſufficient Certificates, to be produced at the Woburn Sheep-ſhearing in 1803.

N. B. It is required that the Drill Crops ſhould be kept perfectly free from Weeds.

Firſt Day, June 13, 1803.

The uſual preparations having been made, this annual fete commenced with great ſplendour and ſucceſs, the company aſſembling at a Breakfaſt in the Great Salloon, conſiſting of the firſt Characters as ſpeculative, and practical Breeders of Sheep, and Cattle; amongſt whom were the following Noblemen and Gentlemen: the Prince Eſterhazy, an Hungarian Prince, whoſe Flock of Sheep on his Eſtate in Hungary amounts to one hundred and fifty thouſand; the Duke of Mancheſter, Lords Winchelſea, Thanet, Albemarle, Darnley, Somerville, Talbot, Bradford, Preſton, William Ruſſell, Sir John Sinclair, and Meſſrs. Coke, Child, Lee Antonie, Weſtern, Fordyce, Byng, Anſon, and Young, Elmer, Wharton, Honeyborne, Rickford, &c.

The ſhew commenced at eleven o'Clock with the Leiceſter Rams, being one ſhear Sheep, and as fine as ever were ſeen. They were produced, about 20 in number, and their Fleeces hung up in the Shew-Room, one of which was of the extraordinary weight of 10*lbs.* 10*oz.* The Leiceſterſhire Breeders, were with great reaſon, very proud of their produce. It was, however evident, through the whole of the day, that although the ſhew of Leiceſter Rams was as good, perhaps better than any former year, yet they were not

in ſo much requeſt. His Grace has not ſo large a general Stock as the late Duke; but it was eſtimated to be finer, in proportion to the number, and the preſent Duke has added a variety of animals for the Food of Man, in which was exhibited great Improvement, and particularly in the breed of Pigs.

When it is conſidered the late Duke raiſed the Weight of the South Down breed of Sheep from 18lb. to 35lb. a quarter, at the ſame age, and with the ſame food, while the Leiceſter and all other breeds have been ſtationary, we muſt expect a preference, where it ſeems to be ſo juſtly due. About 150 perſons ſat down with his Grace to a princely dinner. In the evening the following Sales were made, viz.

Ten Leiceſter Ewes 36 Guineas.——Ditto 30 ditto.
Ten Theaves 37 ditto.——Ditto 40 ditto.

Tueſday, June 14.

The Morning occupation was the view of the South Down Rams, and the Examination of the Prize Sheep. About 24 Prize Rams of that breed were produced. After this Shew the Company adjourned to the view of ſome Farming Experiments. The Day proving beautiful, a larger Company than yeſterday dined in the Abbey, in the ſame Form as before. After Dinner a Prize Ploughing-match, between Mr. Coke, of Norfolk, and Mr. Wakefield, of Bunſham, was adjudged to Mr. Coke. Sir John Sinclair took up the Competitor in favour of a Scotch Plough, to be decided next Woburn Meeting. Adjourned to the Farm for the Lottery of Leiceſter Rams, the Prizes from 80 Guineas to 30. Mr. Wing was the lucky Candidate for the 80 Guinea Ram.

Wedneſday, June 15.

The Morning proving unfavourable Weather, the Ploughing Match between the Norfolk and Rotherham Ploughs was deferred, as well as the Shew of New Implements of Huſbandry; and the morning was in conſequence paſſed in the Sale of South Down Ewes, which went off at the Rate of 3l. each; and the Theaves fetched on an average Six Guineas; the Prize Wethers killed were viewed, thoſe ſelected for Judgment, were one belonging to Mr. Cowley, one to Mr. Bithry, and one to Mr. Earl, the deciſion to be made by the judges to-morrow. The company adjourned to dinner with rather an increaſe of numbers.

After dinner the occupation was the Letting of South Down Rams, which went off briſkly—four at the price of 40 guineas. Lord Bradford was the ſucceſsful Candidate for one favourite; for another there were fourteen Candidates. This was followed by a Sale of South Down Ewes, ſome lots of which bore a better price than in the morning.

Thurſday, June 16.

The morning began with the Sale of Hereford and Devon Cattle, and a ſecond Show of Leiceſter Rams. An adjournment was then made to Crawley Farm, to inſpect a Ploughing Match. The following ſtarted:

	Power Cwt.	Each Depth inches	Furrow Breadth inches
Mr. Cowley's Double-furrowed Plough, Three Horſes	5	$5\frac{1}{2}$	$9\frac{1}{4}$
Mr. Wilſon's Northumberland Plough, Two Horſes - -	$2\frac{1}{2}$	4	10
The Duke's Norfolk Plough, Two Horſes	3	$6\frac{7}{8}$	11
Dr. Macguire's Bedfordſhire Ploughs, Two Horſes - - -	$2\frac{1}{4}$	$5\frac{3}{4}$	10
Mr. Barlow's Bedfordſhire Plough, Two Horſes - -	$2\frac{1}{4}$	$5\frac{3}{8}$	$10\frac{1}{4}$
Mr. French's Norfolk Plough, Two Horſes	$3\frac{1}{4}$	$5\frac{1}{2}$	13
Mr. Salmon's New Plough, One Horſe	$1\frac{1}{2}$	$4\frac{1}{2}$	$10\frac{1}{2}$

N. B. The Power of Draught was meaſured by a Spring Machine, in cwt. $\frac{1}{2}\frac{1}{4}\frac{1}{8}$.

Mr. Wing and Mr. Buckley appointed Judges.

Returned to the Farm to view the Implements of Huſbandry, of which the neweſt ſeemed to be a Thraſhing Machine by means of beaters, thoſe hitherto invented being by ſqueezing. Mr. Leſter alſo produced a new Thraſhing Machine, which operates by paſſing the ſtraw over a large cylinder with holes in it.

The Company at Dinner were not quite ſo numerous. After Dinner the Prizes were declared:

For the beſt Wether, to Mr. Earl, of Dallington, the Cup, value Twenty Guineas.

Next beſt Wether, to Mr. Bithry, of Bedfordſhire, the Cup, value Five Guineas.

For the beſt Theave, to Mr. J. Purſen, Ten Guineas.

For the next beſt, to Mr. J. Sucket, Five Guineas.

For the beſt Boar, to Mr. Weſtern, of Felix Hall, Eſſex, Five Guineas.

The beſt Sheep-ſhearer, John Maſon, Five Guineas.

Second beſt, Joſ. Barnold.

Third beſt, Joſ. Huntley.

His Grace gave, "Proſperity to all Improvements in Agriculture."

The Prize in Ploughing was decided in favour of the Duke's Norfolk Plough, worked by the Bailiff of Crawley Farm.

The Prizes for next year were propoſed, which do not differ eſſentially from the above. The Duke then drank to "Our next Meeting."

Mr. Coke propoſed His Grace's Health, with three times three, which was received with loud approbation.

The adjournment was then to the Farm, for the Letting of Leiceſter Rams, and concluded with the Sale of Devonſhire and Herefordſhire Heifers, and young Bulls.—The beauty of the day, and the Ploughing Match, at a little diſtance, gave the Park the appearance of a Fair.

Mr. Salmon's Plough, although as yet imperfect, bids fair, in principle, to be of much advantage, being calculated to deſtroy all friction except that which is produced by cutting the earth.

Cornwall Agricultural Society.

At the Annual Exhibition of this Society held on Tueſday the 7th day of June, 1803, at the Shire Hall, in the Borough of Bodmin,

FRANCIS GLANVILLE, Eſq. V. P. in the Chair;

A capital live ſtock was produced, and the Premiums adjudged as follows:

	£.	s.	d.
To Mr. John Rogers, of Halwood, for the beſt bull	10	10	0
Philip Raſhleigh, Eſq. for the ſecond beſt ditto	5	5	0
Mr. Thomas Key, of St. Breock, for the beſt, not exceeding two years old	5	5	0
Mr. John Slyman, of St. Mabyn, for the ſecond beſt ditto	3	3	0
Nicholas Stevens, of Bodmin, for the beſt ſtallion, not deſerving the full premium, but the inſpectors recommended	7	7	0
J. P. Peters, Eſq. for the beſt ram, free for all England	10	10	0
Mr. James Drew, of Probus, for the ſecond beſt ditto	5	5	0
J. P. Peters, Eſq. for the beſt ram, yeaned in Cornwall	5	5	0
Mr. Michael Mill, of St. Columb, for the ſecond beſt ditto	3	3	0
Rev. Robert Walker, for the beſt hog ram	5	5	0
W. R. Gilbert, Eſq. for the ten beſt ſtore ewes	5	5	0
J. P. Peters, Eſq. for the ſecond beſt ditto	2	2	0
Mr. Thomas Dungey, of St. Ewe, for the beſt boar	3	3	0
Mr. Thomas Trood, of Poughill, for the beſt fat ſheep ſlaughtered	3	3	0
J. P. Peters, Eſq. for the ſecond beſt ditto	2	2	0
Ditto, for the beſt ditto, under two years old	3	3	0

To Ditto, for the beſt fleece of wool from a ram	2	2	0
Ditto, for the beſt ditto from a Ewe	2	2	0
Daniel Farley, of ——, Devon, the ſheep ſhearer	3	3	0
James Bridle, of Dock, ſecond beſt ditto	2	2	0
Thomas Marſhall, of Mevagiſſey, third beſt ditto	1	1	0
William Greenſlade, of Newlyn, fourth beſt ditto	0	10	0
Edward Harvey, of Launceſton, for the beſt cart	5	5	0

South Hants Agricultural Society.

Premiums offered by the Society, to be determined at the Anniverſary Meeting at Southwick, on Tueſday the 28th day of June.

CLASS I.

Three Guineas to the ploughman who does the moſt work, and in the beſt manner, in three hours, with two horſes, and without a driver.

Two Guineas to the next beſt ploughman, in the ſame manner.

N. B. No perſon will be allowed to be a candidate for the above premiums, unleſs he produce a certificate of having ploughed 30 acres, in the ſame way, on his maſter's farm, ſince the laſt Anniverſary meeting at Southwick.

Three Guineas to the ploughman who ſhall, in three hours, with oxen, plough the greateſt quantity of land, and in the beſt manner, in proportion to the force employed.

Two Guineas to the next beſt ploughman, in the ſame manner. Half-a-guinea to each of the drivers.

Candidates for the above premiums to be at Southwick, on Tueſday the 28th of June, at nine o'clock in the morning, in order to make proper trials before a Committee of this Society.

Three guineas to the ploughman who, in a huſbandry-like manner, has ploughed the greateſt number of acres (not leſs than 40) on his maſter's farm, with any number of oxen, they being uſed alſo in the general buſineſs of the farm, between the 29th of September laſt and the end of the ſeaſon for ſowing the Lent corn.

Two Guineas to the ploughman that ploughs the next greateſt number of acres (not leſs than 30) in the ſame manner.

Candidates for the two laſt premiums muſt ſend certificates from their maſters as to the number of acres ploughed, to the Secretary, on or before the 25th of June.

CLASS II.

Three Guineas to the perſon who ſhall produce the beſt boar.

Three Guineas to the owner of the beſt two year old bull. The bull to have been his property three months previous to the 21st of June; and he muſt engage to keep the bull for three months longer.

Two Guineas to the perſon who ſhall produce the beſt Leiceſter ram.

Two Guineas to the perſon who ſhall produce the beſt South Down ram.

The rams to have been the property of the reſpective owners from the 1ſt of January laſt, and if not ſhorn when produced, the Committee are to be at liberty of having them ſhorn.

Three Guineas to the perſon who ſhall produce the beſt cow, three years old, and bred in Hampſhire, and to have been the property of the owner from the 1st of January laſt.

Two Guineas to the perſon who ſhall produce the beſt heifer, two year's old, and bred in Hampſhire. and to have been the property of the owner from the firſt of January laſt.

Cattle produced for theſe premiums muſt be at the Golden Lion Inn, Southwick, before one o'clock, on the 28th of June.

CLASS III.

Two Guineas to the labourer in agriculture who has ſupported the greateſt number of children without any, or with the leaſt, relief from the pariſh.

One Guinea to the labourer who has, in like manner, ſupported the next greateſt number of children.

Candidates for these premiums must send to the Secretary, before the 25th of June, a certificate of the case, signed by the minister of the Parish, and also by a member of this society.

CLASS IV.

Two Guineas to the servant in agriculture who has served his master faithfully, and for the longest period.

One Guinea to the servant in agriculture who has the next best character.

One Guinea to the next.

Two Guineas to the labourer in agriculture who has served his master faithfully, and for the longest period. One Guinea to the second. One Guinea to the third.

Two guineas to the boy employed in husbandry who has served his master faithfully, and for the longest period. One Guinea to the second. One Guinea to the third.

Two Guineas to the shepherd who has lived the greatest number of years (not less than five) in the same service.

Three Guineas to the shepherd who has reared the greatest number of lambs in proportion to his flock, consisting of not less than fifty.

Two Guineas to the dairy maid who has served one master or mistress faithfully for the longest period, not less than three years. One Guinea to the second. One Guinea to the third.

Candidates for these premiums must send to the Secretary, before the 25th of June, a written character from their master or mistress, which must be signed by the minister of the parish, and also by a member of the society.

The society reserve to themselves the power to withhold any of the premiums, if there appear not to be sufficient merit in the claim; or to give such part only of any premium as the candidate shall in their judgment deserve.

Fareham, May 28, 1803. W. W. MAIDMAN, Secretary.

The following Letter was addressed by Mr. Wakefield to the Gentlemen, Farmers, &c. of the County of Essex.

Burnham Wyck, May 1803.

GENTLEMEN,

The great and extensive benefits which have arisen from the Annual Agricultural Meetings of the Duke of Bedford and of Mr. Coke, call upon the Gentlemen of other Counties to attempt an imitation of their patriotic endeavours to promote the Prosperity of their Country.

Impressed with this idea, and solicitous to obtain the sanction of your support to my intention of holding an Annual Agricultural Meeting, similar to that held here last year at the commencement of my Sheep-Shearing; and aware that I am in some measure bound to state, why I have stepped forward to do that which may seem more properly to belong to some Gentleman of greater consequence and better known than myself, I feel anxious to submit to you the motives which have directed my conduct in this instance.

It is obvious to remark that, though few can be summoned to high public situations, yet many have the power essentially to serve their country by promoting the interests, and augmenting the happiness of their neighbourhood. Of the Gentlemen to whom this observation is particularly addressed, some are advantageously employed in pursuits which preclude them from paying that unremitted attention which agriculture requires; while the habits of life and avocation of others present insurmountable obstacles to their successfully promoting an object, I am confident, they feel equally with myself anxious to encourage.

From my farming a considerable tract of land in a neighbourhood where a regular system has prevailed, with little alteration, for a length of years, though where the course of cropping, and much of the practice, is susceptible of but small improvement, I can with less difficulty than most others, and with perhaps more advantage to the farming interests of the county, collect the Agriculturists of different districts together; thereby to increase our

knowledge of other ſyſtems and practice, to excite an emulation among the cultivators of this part of the kingdom, and to remove the prejuduice which theories, plauſible but fallacious, have of late years excited, againſt all innovations, however beneficial, in farming practice: thus enlarging the experience and obſervation of the practical farmer, and more generally diffuſing uſeful information.

In arranging the Premiums for the enſuing Meeting, I have been led to give a preference to thoſe objects, by the attainment of which I imagined the greateſt advantage would reſult, and which by being rather improvements upon, than alterations of, the practice of the county, promiſe to be more readily adopted, and therefore of more extenſive ſervice.

From the number of ſheep fed in the county, the importance of improvement in our Shearing Practice pointed out the propriety of a Premium, to excite an emulation among Labourers in this employment. Indeed the good effects reſulting from ſuch Premiums, in cauſing an increaſed activity, and regard for character, in the labouring claſſes, and in bringing them forward to the notice of their ſuperiors, are ſufficiently obvious; for it has been well obſerved by Mr. Bernard, that rewards are not leſs neceſſary to animate exertion, and to fix the labourer in regular and principal habits of life, than puniſhments to deter him from the commiſſion of crimes.

The different ſyſtems of huſbandry required by different ſoils, and the difficulty of removing long eſtabliſhed opinions, but by means of experiments made in the neighbourhood, and open to the examination of thoſe who hold them, induce me to offer a ſmall Premium to encourage a trial of the Dibbling, Drill, and the Broad-caſt Syſtems; and though the Premium is certainly inadequate to the magnitude and importance of the object in view, if placed in compariſon with the great benefit which will accrue to the county from the experiment, yet it will, I hope, prove ſufficient to effect this deſirable object, by inducing thoſe who have the opportunity of making the trial, to keep accurate accounts of the experiment, ſo that a ſatisfactory opinion may be formed upon the ſubject.

The backward ſtate of breeding and grazing in this county, forbid the offer, for the preſent, of any Premium relating to Stock, though I cannot refrain from earneſtly recommending an increaſed attention to the improvement and extenſion of the South Down and New Leiceſter Breeds of Sheep, as the moſt ſuitable to our feed, and the introduction, as far as poſſible, of Oxen in tillage; the greateſt ſaving, perhaps, of which the Agriculture of this eaſtern diſtrict of the kingdom is at preſent ſuſceptible.

I have ſubjoined the Buſineſs of each Day of the Meeting, which will commence at Eleven o'Clock in the Morning, when I ſhall hope for the honour of your Company.

I am, Gentlemen,
Your moſt obedient, and moſt devoted humble Servant,
EDWARD WAKEFIELD.

Burnham Sheep-Shearing.

WEDNESDAY, MAY 25, 1803.

MORNING.	AFTERNOON.
Shearing	Shew of Leiceſter Rams.
Hoeing.	Exhibition of Eſſex Pigs and other Stock.

THURSDAY, MAY 26, 1803.

MORNING.	AFTERNOON.
Ploughing.	Leiceſter Rams Let.

ON FRIDAY, MAY 27, 1803.

The Annual Meeting of the Eſſex Agricultural Society, will be holden at Chelmsford, for diſtributing Premiums for Stock, an exhibition of which will take place in the Fair Field.

The above letter drew together to Burnham Wyck Farm not only the practical Agriculturiſts of the County of Eſſex but a conſiderable body of the moſt diſtinguiſhed amateurs, from various quarters. The firſt day, Wedneſday, was employed in the laudable conteſts between Corn-Hoers, and Sheep-Shearers, for various prizes; inſpecting the ſtock, and viewing the grazing crops. On Thurſday the Ploughing Matches commenced for a ſilver cup, and other ſubordinate prizes. Twenty-one ploughs ſtarted, three foot ploughs, drawn by a pair of bullocks each; ſeventeen foot ploughs, drawn by a pair of horſes each; and Mr. Coke's Norfolk plough. The quantity of land ploughed by each was two fifths of an acre, which Mr. Coke's plough did in one hour and twenty eight minutes and a half. Mr. Wakefield's foot plough was juſt upon half an hour longer. Such is the beneficial effect of the Norfolk practice of walking their horſes faſt. There was not more than five minutes difference between any of the foot ploughs. The bullocks were not quite five minutes after the horſes in finiſhing their work. The deciſion of the bet between Mr. Coke's and Mr. Wakefield's ploughs, is to be declared at the next Woburn Sheep Shearing.—Mr. Wakefield very hoſpitably regaled near one hundred and fifty perſons each day, at dinner, in a ſpacious room built for the occaſion. Amongſt thoſe preſent were, the Duke of Bedford, Lord Somerville, Sir Joſeph Banks, Sir Robert Harland, Sir Thomas Carr, Mr. Howard, Mr. Coke, Mr. Anſon, Mr. Weſtern, Mr. W. Smith, Mr. Burgoyne, Mr. Keſtwright, Mr. Ackland, Rev. Mr. B. Dudley, Rev. Mr. Rowley, Mr. J. Ellmore, &c.

Eſſex Agricultural Society.

A very reſpectable Meeting of the Society for promoting Agriculture in this County, took place in the Fair Field in this Town, on Friday May 27. Amongſt the numerous ſpectators in the field, were the Duke of Bedford, Lord Braybrooke the Preſident, Lord Somerville, Lord Petre, Sir Thomas Carr, Meſſrs. William Smith, Coke, Anſon, Hilary, Burgoyne, Cock, Ellman, Wakefield, Robinſon, &c, &c.—The Stock produced, was allowed to be good. Mr. Lamprell's Cart Stallion was deemed a very fine animal; Sir Richard Neave's Devonſhire Bull was much admired; ſeveral other Bulls were ſhewn which had great merit, as had alſo Lord Petre's, and Mr. Coke's oxen. There was a fine ſhow of Sheep, both long and ſhort woolled. The competitors for Sheep Premiums were Meſſrs. Bramſton, Burgoyne, Robinſon, Weſtern, Widd, and Wakefield. Mr. Weſtern's Ewe Hoggets won the Sweepſtakes. Mr. Robinſon produced a good Wether Hogget, a third ſtrain from a South Down Ewe by a Lincolnſhire Ram, as an experiment to prove how far he could recommend his Rams; to croſs with it was conſidered a good one: his true Lincolns were greatly eſteemed. The judges for the Sheep, were Lord Somerville and Mr. Ellman. For the other Cattle, Mr. Maſon and Mr. Hobbs. There was a good deal of other Stock in the Field, which was not allowed to come in competition, the Proprietors not having given the notice required by the Rules of the Society. A ſurprizing fat Hog was produced by Mr. Weſtern, which excited conſiderable curioſity. The company dined at the Black Boy Inn, where the Preſident of the Society took the chair; after ſeveral toaſts had gone round, Mr. Ellman, in a very neat and appropriate ſpeech, pointed out the utility of promoting the views of the Society, and particularly in improving the breed of Sheep; and combated the erroneous opinion held againſt theſe eſtabliſhments, as tending to increaſe the price of meat; the contrary, he aſſerted, being evidently the fact.

Mr. Wakefield received the thanks of the company for his ſpirited exertions in Agricultural Improvements, and for his appropriating to the uſe of the Society a Silver Cup, to be ploughed for at Chelmsford, at a period hereafter to be appointed. Several new members were choſen, and the day paſſed off with the utmoſt harmony.

At a Meeting of the General Committee of this Society, held at the Shire-houſe, in Chelmsford, on the 27th of May, 1803, for the purpoſe of adjudging Prizes on the Exhibition of Stock,

The Right Hon. Lord BRAYBROOKE, Preſident, in the Chair,

IT WAS RESOLVED,

That Mr. John Lamprell, of Rettenden, be allowed the Silver Medal, for producing at this Meeting the beſt Cart Stallion-

That Sir Richard Neave, Bart. be allowed the Silver Medal, for producing at this Meeting the beſt Bull.

That Charles Callis Weſtern, Eſq. be allowed the Silver Medal, for producing at this Meeting the beſt Cow.

That Robert Mitchel Robinſon, Eſq. be allowed the Silver Medal, for producing at this Meeting the beſt Ram, long Wool.

That Montague Burgoyne, Eſq. be allowed the Silver Medal, for producing at this Meeting the beſt Ram, ſhort Wool.

That Charles Callis Weſtern, Eſq. be alſo allowed the Silver Medal for producing at this Meeting the beſt Pen of three long wool Ewe Hoggets.

That Charles Callis Weſtern, Eſq. be alſo allowed the Silver Medal, for producing at this Meeting the beſt pen of three ſhort wool Ewe Hoggets.

That Robert Mitchell Robinſon, Eſq. be alſo allowed the ſilver medal, for producing at this meeting the beſt two-year-old wether.

That the Right Hon. Lord Petre be allowed the ſilver medal, for producing at this meeting the beſt fat ox.

That Charles Callis Weſton, Eſq. be alſo allowed the ſilver medal, for producing at this meeting the beſt boar.

We are ſorry to learn that the capital cart ſtallion, Black Prince, the property of Mr. Lamprell, of Rottendon, for which he obtained the medal at the above ſhew, died the following Sunday evening, after a ſhort illneſs, of an obſtruction in the bowels, which reſiſted the power of art to remove.

Hackness Show,—1803.

Every admirer "of Nature and of Nature's works" who attended the Agricultural Meeting, held on Tueſday laſt, at Hackneſs, near Scarborough, were highly gratified. The variegated foliage of the pendent woods, the luxuriant herbage, and purling ſtreams of the valleys, with which Nature has ſo bountifully endowed this delightful village, together with the recent embelliſhments made there by Sir Richard Johnſtone, gave a moſt lively ſenſation to all preſent, and ſtruck the approaching ſtranger with pleaſing ſurpriſe.

The Judges for the premiums (Meſſrs. Coates, Fall, and Croſby) ſeemed to give preference to the new Leiceſterſhire breed of ſheep, and the ſhort-horned breed of cattle. They took infinite pains in examining the different kinds of ſtock; and appeared to have an earneſt wiſh to convince the farmers, what breed would be their true intereſt to encourage.

The cattle ſhown for ſale fetched good prices; and the accommodations at the Rural Inn, for the numerous company who attended, were far ſuperior than could have been expected; and they were ſo highly ſatisfied with it, and with the deciſions of the judges, that upwards of ſixty pounds was ſubſcribed immediately after dinner towards the next year; ſo that this inſtitution bids fair to be permanently fixed for the annual ſhow and fair for ſheep, cattle, &c. and will be attended with the moſt beneficial effects to the ſurrounding country.

The following Premiums were adjudged:	£.	s.	d.
Mr. Fancis Dickſon, Wykeham, beſt bull	5	5	0
Mr. George Atkinſon, Hackneſs, two-year-old bull	3	3	0
Mr. John Cooke, Ayton, beſt one-year-old bull	2	2	0
Mr. Francis Authard, Scaleby, beſt milch cow	3	3	0
Sir R. B. Johnſtone, beſt two-year-old heifer	3	3	0

Mr. John Halder, Sheffield, ſecond beſt ditto	2	2	0
Mr. William Sawdon, beſt four-year-old draught oxen	3	3	0
Mr. John Gray, Hackneſs, beſt pair of two-year-old ſteers	2	2	0
Mr. William Caſs, Sawdon, beſt two ſhear tup	5	5	0
Mr. Francis Dickſon, Wykeham, beſt ſhearling tup	5	5	0
Mr. John Marſhall, Suffield, ſecond beſt	3	3	0
Mr. Francis Dickſon, Wykeham, third beſt	2	2	0
Meſſrs. J. and D. Wards, Ayton, beſt gimmer hogs	3	3	0
Mr. W. Marſhall, Suffield, ſecond beſt	2	2	0
Mr. Thomas Marſhall, Scarborough, beſt boar	2	2	0
Mr. Richard Stubbs, Wykeham, ſecond beſt	1	1	0
Mr. John Bielby, Twatſdale, for the greateſt number of acres of waſte land brought into cultivation within the laſt three years	5	5	0
Lawrence Leadley, Whitby, labourer, for having maintained the greateſt number of legitimate children, without any aſſiſtance from the pariſh. The number was 17	2	2	0
William Robinſon, for the next greateſt number.—14	1	1	0

Dublin Society.

Premiums were lately adjudged by the Dublin Society to the Right Hon. John Foſter, county of Louth; Henry Arthur Hubert, Eſq. county of Kerry; William Baylor, nurſery-man, county of Cork; and Peter Moghan, nurſery-man, Queen's county, for rearing larch and Scotch fir, from Iriſh ſeed, extracting, agreeable to the terms preſcribed by the Society, the ſeed from the cones.

Premiums were likewiſe adjudged to James Sinclair, Eſq. Donegall; Hon. Thomas Henry Foſter, Louth; Thomas Lamphier, Eſq. Tipperary; for encloſing plantations of timber trees according to the Society's regulations.

Suſſex Agricultural Society.

The Anniverſary ſheep-ſhearing for premiums, given by the Suſſex Agricultural Society, took place in a barn belonging to T. Tourle, Eſq. in St. Ann's, Lewes:—Seven competitors appeared, and ſheared each fifteen ſheep, generally in a very maſterly manner. The firſt prize of five pounds, was adjudged to William Penfold, labourer to the Right Hon. the Earl of Chicheſter; the ſecond prize of three pounds, to John Bignall, ſhepherd to Mr. Dennett, of Woodmancote; and the third prize of two pounds, to John Maſkell, ſhepherd to Mr. Scraſe, of Albourne Place.

The ſhearers were afterwards regaled at the Running Horſe, with a good dinner, and plenty of beer, by order of Mr. Tourle; the judges, Meſſrs. Knight, Hart, and Boys, and other members of the ſociety, with ſeveral amateurs, partook of an excellent dinner at the Star.

Hereford Agricultural Society.

Hereford agricultural ſociety was, as uſual, very reſpectably attended at the late general meeting. Mr. A. Knight's heifers were much admired; Mr. Skyrme's five year old ox was nearly ſeventeen hands high, and of moſt athletic form. Some Leiceſter ſheep were exhibited, of extraordinary fatneſs; and good ſtock of various kinds brought high prices by auction.

Three Warwickſhire prize ſheep were lately exhibited in Liverpool market, which were allowed to be the fatteſt ever ſeen in this kingdom. The fore-quarter of one weighed 145 lbs. and of the other 196 lbs. The fat of one was ſix inches and the other five inches deep acroſs the breaſt.

At Reading fair, there was a very good ſhow of horſes, which were eagerly bought up at high prices. Cows ſold conſiderably cheaper than at any of the late neighbouring fairs.

At Wilton fair there was a large ſhow of cattle, principally lean ſtock, which in general brought very high prices.

At Cowbridge fair there was a full ſhow of cattle, which fetched good prices; lean ones were moſt in demand; horſes were ſcarce, and good ones ſold very high.

At Lymington fair a very large quantity of cheese was pitched, yet the sale was unusually brisk at an advance of about 4s. per cwt.

At Andover fair there was a large quantity of cheese, and a brisk sale, though not so sweeping as on the preceding day at Lymington. The currency of old cheese from 68s. to 85s. per cwt.

At Ross fair there was but an indifferent show of cattle, yet they went off soon, at an advanced price. Horses were plentiful, and sold well. There was a good show of cheese, best sold from 3l. 3s. to 3l. 5s. per cwt. Two meal from 2l. 12s. to 2l. 16s.

At Cheltenham fair there was but an indifferent show of cattle of every description, and a very dull sale.

At Birmingham fair few good horses were bought, and sold at high prices. Cattle and fat pigs were rather on the advance. There was a large supply of grain, price steady.

Worcester toll-free market was not very well supplied with prime beasts, which, therefore, felt an advance in price. Sheep went off about the same as at the last fair, in May.

At Ross fair there was a good show of cattle, which sold well, at nearly the same prices as at the last fair. Few horses were brought, and they had a dull sale. The supply of pigs and sheep was small, and met prices rather higher than at the preceding fair. The quantity of cheese was inconsiderable, at high prices: best making 70s. per cwt. two and three meal from two guineas to 50s. per cwt.

His Majesty's Spanish flock has proved, by the experience of ten years, that Spanish wool does not degenerate in this country. It is ascertained, that the first cross of a new breed gives to the lamb half of the ram's blood; that the second gives 75 per 100; the third 87½; and the fourth 93¾; at which period, if the ewes have been judiciously selected, the difference of wool between the original stock and the mixed breed is scarcely discernable.

The Board of Agriculture have voted a silver medal to Thomas Rook, a day labourer at Melbourne in Yorkshire, for having cultivated three acres of his cottage garth in a very superior manner.

Commerce.

THE additional duty on foreign wines of 20l. per tun of 252 gallons, will cause an advance of 10l. 19s. per pipe of 138 gallons; and the fifty per cent. charged on the present duty on Brandy and Hollands will advance those articles 4s. 9½d. per gallon. The duty on rum not being so much, it will add only 3s. 9d. per gallon. The additional duty of 2s. per bushel on malt, added to the 50 per cent upon the old duty on British compounds, will be equal to an advance of 2s. 9d. per gallon.

In the late additional taxes a considerable advance is made in the stamp receipt duty; a clause is added, which enables the payer to demand a legal discharge at the expence of the receiver.

Manufactures and Useful Arts.

A Gentleman at Chelsea has obtained a patent for an invention, for applying any description of paper capable of being rendered elastic, to the purposes of leather, by tanning, currying, or dressing it in any of the various methods already known for finishing leather from hides or skins. The methods principally used are, by taking wool or woollen rags, either alone, or mixed with those of linen, cotton, hemp, flax, or junk, the properties intended to be given being those of strength and elasticity.

LONDON PRICES OF GRAIN for *June*, 1803.

MARK-LANE, *Monday, June* 6.

Price of Grain, on board Ship, as under

WE had a good ſupply of all Grain to-day. Wheat, at firſt of the market, obtained nearly laſt Monday's prices, but afterwards declined, and is from one to two ſhillings per quarter cheaper.

Barley and Malt is likewiſe lower—ſay, two ſhillings per quarter.

Oats, a good ſupply, and about one ſhilling and ſixpence per quarter cheaper.

Peas and Beans, of both ſorts, alſo very flat, and do not uphold their prices.

Flour is plentiful, and dull.

Wheat	50s to 64s	Barley	23s to 27s od	White Peas	43s to 48s
Fine	65s to 66s 6d	Malt	42s to 48s od	Grey Peas	33s to 36s od
Rye	33s to 36s od	Oats	21s to 24s	Sm. Beans,	32s to 36s 6d
		Polands ditto	26s to 27s od	Ticks,	30s to 33s od

Monday, June 13.

Though we have now an uainterrupted ſupply of all Grain, the Wheat trade is briſk, and 2s. per quarter dearer than laſt Monday.

Barley is lower; Malt the ſame; the firſt 1s. and the latter 2s. per quarter cheaper, with very little demand for either.

In Oats we have little variation; the ſupply being good and prices nearly as laſt.

Peas and Beans are both cheaper.

Wheat	48s to 65s	Malt	40s to 45s od	White Peas	42s to 48s od
Fine	66s to 67s od	Oats	19s to 24s	Grey Peas	32s to 35s od
Rye	33s to 36s	Polands	25s to 26s od	Sm. Beans,	31s to 34s od
Barley	20s to 25s 6d			Ticks	27s to 31s 6d

Monday, June 20.

We have a good ſupply of all Grain to-day. Wheats obtain laſt Monday's prices, with a ſmall advance on very prime ſamples.

Barley is on the decline, and 1s. per quarter cheaper.

In Malt, ſcarce any thing doing, and prices equally dull with Barley.

Oats are in requeſt for Government uſe, and 1s. 6d. per quarter dearer.

Peas and beans heavy, and a trifle lower.

Wheat	50s to 64s	Malt	40s to 45s od	Grey Peas	32s to 35s od
Fine	66s to 67s 6d	Oats	20s to 25s	Small Beans	29s to 34s 6d
Rye	33s to 36s od	Polands ditto	26s to 27s 6d	Ticks	27s to 31s 6d
Barley	20s to 24s 6d	White Peas	42s to 49s od		

Monday, June 27.

Our ſupplies of Grain to-day were not great, yet Wheat has declined, ſince laſt Monday, from 3s. to 4s. per quarter.

Barley and Malt offer little for obſervation, as there is ſcarce any thing doing in thoſe articles.

The calls of Government for Oats, keep up the price fully to laſt week's ſtandard.

Peas and Beans experience but little variation.

Flour is in plenty, and may be fairly ſtated at 3s. per ſack cheaper.

Wheat	46s to 61	Malt	41s to 46s	Grey Peas	32s to 35s od
Fine	62s to 63s od	Oats	20s 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		

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

Price of Hops.	First Week	2d Week	3d Week	4th Week
Bags.	*s.* *s.*	*s.* *s.*	*s.* *s.*	*s.* *s.*
Kent — —	140 to 150	140 to 155	135 to 155	120 to 140
Suſſex — —	135 to 145	140 to 150	130 to 150	120 to 135
Eſſex — —	120 to 147	140 to 147	130 to 147	120 to 130
Pockets.				
Kent (new) —	140 to 165	140 to 168	140 to 168	126 to 160
Suſſex — —	140 to 155	140 to 160	140 to 160	120 to 150
Farnham — —	— to —	200 to 240	200 to 240	160 to 200
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 —
Trefoil, ditto —	— to —	— to —	— to —	— to —
Carraway ditto —	46 to 48	46 to 48	46 to 48	46 to 48
Coriander ditto —	30 to 34	30 to 34	30 to 34	30 to 34
Turnip, (per buſhel) —	20 to 46	20 to 46	20 to 40	18 to 28
Rye Graſs, (per quarter)	— to —	— to —	— to —	— to —
Cinque Foil, ditto —	— to —	— to —	— to —	— to —
Rape Seed, (per laſt) —	421 to 451	421 to 451	421 to 451	421 to 451
Meat at Smithfield,	*s.d.* *s.d.*	*s.d* *s.d.*	*s.d,* *s.d.*	*s.d.* *s.d.*
To ſink the offal, p. ſt. 8lb.				
Beef — —	4 8 to 6 4	4 8 to 6 2	5 0 to 6 0	5 0 to 6 0
Mutton — —	5 0 to 5 8	5 4 to 6 4	5 0 to 6 0	5 4 to 6 4
Veal — —	4 8 to 6 2	5 0 to 6 4	5 0 to 6 4	5 0 to 6 0
Pork — —	4 4 to 5 2	4 8 to 5 8	4 0 to 5 0	4 4 to 5 0
Lamb — —	5 8 to 7 8	6 0 to 7 4	6 0 to 7 4	6 0 to 8 0
Head of Cattle—Beaſts about	1,800	1,800	2,000	1,800
——— Sheep and Lambs	11,500	7,000	9,500	9,000
Price of Leather.	*d.* *d.*	*d.* *d.*	*d.* *d.*	*d.* *d.*
Butts, 50lb. to 56lb. each	21 to 23	21 to 23	22 to 23	22 to 23½
Ditto, 60lb. to 66lb. each	23 to 24	24 to 25	24 to 25½	24 to 25½
Merchants Backs —	20 to 20½	21 to 21½	— to 22	21½ to 22
Dreſſing Hides —	19½ to 21	20 to 22	21 to 22	21½ to 22
Fine Coach Hides —	21½ to 22½	22 to 23	22½ to 23½	22½ to 23½
Crop Hides for cutting	22 to 23	22 to 23	22 to 23½	22 to 23½
Flat Ordinary —	20½ to 22	21 to 22	21½ to 22½	21½ to 22
Calf Skins, 30 to 40lb. *p.* doz.	28 to 33	28 to 33	28 to 34	28 to 34
Ditto, 50lb. to 70lb. do.	27 to 32	27 to 32	28 to 33	28 to 33
Ditto, 70lb. to 80lb. do.	26 to 27	26 to 27	26 to 27	27 to 32
Sm. Seals (Greenland)	45 to 48	44 to 48	45 to 48	42 to 45
Large do.	51 to 71 10s	51 to 71 10s	51 to 71 5s	51 to 71 5s
Tanned Horſe Hides	18s to 34s	20s to 34s	18s to 34s	18s to 34s
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 4	4 4	4 3	4 4½
Clare Market — —	4 4	4 4	4 4	4 4
Whitechapel Market —	4 4	4 4	4 3½	4 4½
Per ſtone of 8lb. Average	4 4	4 4	4 3½	4 3½
Town Tallow — —	74 0	74 0	73 6	74 0
Ruſſia ditto (Candles) —	74 0	74 0	75 0	75 0
Ruſſia ditto (Soap) —	69 0	69 0	70 0	70 0
Melting Stuff — —	60 0	60 0	61 0	62 0
Ditto rough — —	42 0	42 0	43 0	42 0
Graves — — —	14 0	14 0	14 0	14 0
Good Dregs — —	10 0	10 0	10 0	10 0
Yellow Soap — —	78 0	78 0	78 0	78 0
Mottled ditto — —	86 0	86 0	86 0	90 0
Curd ditto — —	90 0	90 0	90 0	94 0
Candles, per dozen, —	11 6	11 6	11 6	11 6
Moulds — — —	12 6	12 6	12 6	12 6

Prices of Raw Hides, Hay and Straw, &c. for June, 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 3 8	3 8 to 4 0	3 8 to 4 0	4 0 to 4 4
Middling — —	3 2 to 3 4	3 2 to 3 4	3 4 to 3 6	3 6 to 3 8
Ordinary — —	2 10 to 3 0	0 0 to 3 0	3 0 to 3 2	3 0 to 3 4
Market Calf — —	9 6	9 6	9 6	9 6
Eng. Horſe — —	14s to 17s	14s to 18s	14s to 18s	16s to 18s
Sheep Skins — —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0
Lamb Skins — —	2 0 to 3 0	2 3 to 3 3	2 0 to 3 4	2 0 to 3 0
Prices of Hay and Straw.	*l. s. d.*	*l. s. d.*	*l. s. d.*	*l. s. d.*
St. James's—Hay —	5 18 0	5 10 0	6 — 0	5 17 6
Straw —	2 7 3	2 4 3	2 5 0	2 8 9
Whitech.—Hay —	5 15 0	5 15 0	5 13 0	5 12 0
Clover —	6 18 6	6 18 0	6 18 6	6 16 6
Straw —	1 18 0	1 15 0	2 — 0	2 — 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 — — —	55s to 68s	48s to 67s	45s to 66s	47s to 67s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Barley — — —	20s to 25s	20s to 25s	19s to 23s	20s to 22s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
Oats — — — —	20s to 25s	20s to 24s	19s to 24s	20s to 25s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s

BANKRUPTCIES AND DIVIDENDS,

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

BANKRUPTCIES.

The Solicitors' Names are between Parentheſes.

ALLEN, Henry, Liverpool, merchant. (Wiatt and Foreſt, Liverpool

Aglen, John, Providence-row, Finsbury-ſquare, carver and gilder. (Kebblewhite, Gray's-inn place

Anderſon, John, Miller's Wharf, merchant and wharfinger. (Carruthers, Clement's inn

Baird, John, Tottenham-court, Pancras, ſtone-maſon. Tebbutt, Devonſhire ſtreet, Queen ſquare

Ballantine, William, Savage-gardens, Tower-hill, merchant. (Oakley, New London ſtreet

Bayley, Thomas, Biſhopſgate ſtreet, wine and beer merchant. (Parnell, church ſtreet, Spitalfields

Binns, Thomas and James Brown, Tottenham ſtreet, engine manufacturer. (Orrell, Winſley ſtreet, Oxford road

Bird, Henry Merttins, and Benjamin Savage, Jefferies ſquare, merchants. (Winter, Kaye, Beckwith, and Freſhfield, Swithin's lane

Buxton, Thomas, and Thomas Bentley Buxton, Leiceſter, bankers. (Firm Bentley and Buxton's.) Cardale, Hallward, and Spear, Gray's inn

Bryan, William, late of White-lion court, Birchin lane, merchant, ſince of Jamaica, and now of Camberwell. (Forbes, Ely place

Beatſon, William, ſenior, Robert and John Beatſon, and William Beatſon, jun. Meiſborough, brewers. (Holden, Rotherham

Cole, Charles, York, merchant and taylor. (Barber, Gray's inn

Courteen, Richard, jun. Great-bell alley, merchant. (Partner with William Hambly, late of Great bell alley, and of Falmouth, merchant.) Highmore, Bucklersbury.

Challener, James, Coventry, victualler. (Inge and Carter, Coventry

Campbell, Barnabus, Princes ſquare, Ratcliffe highway, inſurance broker. (Haynes, Fenchurch ſtreet

Cook, John, Warren ſtreet, Tottenham-court road, linen-draper. (Adams, Old Jewry

Drake, William, Ratcliffe Highway, linen-draper. (Burt, Gould ſquare

Dawſon, John, late of Liverpool, now of St. James's ſtreet, London, merchant. (Ward, Dennett, and Greaves, Henrietta ſtreet, Covent Garden

Ellerton, Charles, Hull, horſe jobber. (Evans, Furnival's inn

Froſt, John, Bedminſter, baker. (Lewis and James, Gray's inn

Fryer, Philip, Manchester, malſter and corn-factor. Huxley, Temple

Grayſon, John, East Cheap, inſurance broker and merchant. (Sherwood and Parrell, Canterbury ſquare, Southwark

Georgi, Balthaſar, Ratcliffe Highway, chemiſt, (late partner with David Cannon, Firni, Georgi, and Co.) Jones and Green, Salisbury ſquare

Hobbs, Thomas, Barking, Eſſex, dealer. (Bodfield, Lawrence lane

Hornby, William, Gainsburgh, eſq. and Sir Joſeph Eſdaile, Marden Aſh, bankers. (Allen and Exley, Furnival's inn

Harmer, John, Tunbridge, Kent, baker. (Johnſon, Ely place

Harding, Mary, and John Harding, Swanbourne, dealers. (Clark and Richards, Chancery lane

Hopkins, Samuel, Leeds, merchant. (Evans, Furnival's inn

Huddleſtone, William, Manchester, draper. (Ellis, Curſitor ſtreet

Hemens, Thomas, Dumford, miller. (Batten and Anſtice, Temple

Jeffs, Thomas, Stoke Newington, carpenter. (Syddal, Addle ſtreet

Jarratt, John, Briſtol, hop-merchant. (Cardale, Hallward and Spear, Gray's inn

Johnſon, Robert, late chief mate of the Woodford East Indiaman. (Lodington and Hall, Secondaries office, Temple

Kirkman, Nathaniel, Great Bolton, counterpane manufacturer. (Meddowcroft, Gray's inn

Knight, Charles, London ſtreet, Fitzroy ſquare, engraver and printſeller, forme ly partner with William Dickenſon. (Saxon, Temple

Littler, Joſeph, St. Clement Danes, goldſmith. Platt Bride court, Fleet ſtreet

Linard, John, Bridgewater, jobber in cattle. (Parker, Chedder ſtreet, Axbridge

Lewis, Thomas Welton, Falmouth, merchant. (Rearden, Corbet court, Gracechurch ſtreet

Lees, John, and Samuel, Halifax, merchants. (Allen and Exley, Furnival's inn

Lammon, John, Saffron Walden, ſeedſman. (Turner, Margaret ſtreet, Cavendiſh ſquare

Lowman, John, Whitchurch, coachmaſter. (Menckton, Whitchurch

Lewis, Henry, and William Chambers, Rathbone place, ſhopkeepers. (Pincro, Charles ſtreet, Cavendiſh ſquare

Malleys, Simeon, Sculvates, merchant. (Roſſer, Kirby ſtreet
Manning, James, Thomas Heavyſide, and Thomas Boreman, Barge yard, Bucklersbury, Mancheſter warehouſemen. (Edge, Temple
Markham, William, Collingham, merchant. (Roſſer, Kirby ſtreet
Morris, William, Coventry, mercer. (Pearman, Coventry.
Myall, William, Woodbridge, victualler. (Alexander, Bedford row
Neale, John, and Peter Tanner, Cockhill, Ratcliffe, dealers in coals. (Heard, Hooper's ſquare, Goodman's fields
Parker, William, Liverpool, plumber and glazier. (Topping and Bradford, Warrington
Plowes, John, Leeds, merchant. (Allen and Exley, Furnival's inn
Paley, Richard, Leeds, ſoap-boiler. (Blakelock, Temple
Pizey, Henry, Sun ſtreet, Baker. (Mills, Ely place
Reilly, John Deaſe, Bond court, Walbrook, inſurance broker. (Harvey and Robinſon, Lincoln's inn
Rideout, Thomas, Mancheſter, merchant. (Ellis, Curſitor ſtreet
Rippon, John, Bermondſey ſtreet, (ſcrivener. (Kayll, Garlick hill
Smith, William, and John Aſhton, Newgate ſtreet, linen drapers. (Adams, Old Jewry
Smith, Peter, Farnhill Kildwick, Shalloon maker. (Sykes and Knowles, Boſwell court
Soden, James, Coventry, ſcrivener. (Kinderlay, Long, and Joice, Simmonds inn
Smith, George, jun. Lovel's court, Paternoſter row, ſilverſmith. (Bland, Raquet court, Fleet ſtreet
Swannee, William, Red-lion ſtreet, Clerkenwell, broker and auctioneer. (Henrick, Palſgrave place, Temple Bar
Stewart, James, High ſtreet, Shadwell, chinaman. (Smith and Tilſon, Chapter houſe, St. Paul's church yard
Towndrow, John, Wannington, hawker and pedlar. (Field, Friday ſtreet
Thomſon, Andrew, and Bartholomew White, Bow lane, hoſiers and factors. (Firm, Thomſon, White, and Co. (Crowder and Lewis, Frederick's place, Old Jewry
Townly, Ann, Shepperton, ſchoolmiſtreſs. (Saunders, Clifford's inn
Van Dyke, Peter Dubbeidemuts, Arnold John Gevers Leuven, and Wrynand Adriaen de Gruiter Vink, Circus, Minories, merchants. (Walton, Girdler's hall
Weſt, John, Somers place, Eaſt, Pancras, plaſterer. (Phillips and Ward, Howard ſtreet, Strand
Wilde, James, John Watts, and John Beddy, Upper Thames ſtreet, wholeſale grocers and ſugar refiners. (Dann, Threadneedle ſtreet
Williams, Charles, Lower Tooting, mealman. (Tebbutt, Devonſhire ſtreet, Queen's ſquare
Watſon, William, Kennington lane, corn-factor. (Richardſon, Bury ſtreet, St. James
Whally, Edward, Bolton, cotton manufacturer. (Boardman, Bolton.
Wallas, Robert, King ſtreet, wholeſale linen-draper. (Pearce and Dixon, Paternoſter row
Warner, Henry, Briſtol, baſket maker. (Hartley, Briſtol
Waller, Emanuel, Grantham, coachmaſter. (Fitzgerald, Leman ſtreet

DIVIDENDS ANNOUNCED.

Alderſon, Chriſtopher, Beccles, ſhopkeeper, July 5
Barratt, John, Wakefield, gardener, &c. June 16
Barber, Ralph, Mancheſter, innkeeper. June 16
Brady, James, Ipſwich, linen-draper, June 29
Baker, Thomas, and John Shorland, Exeter, woollen drapers, July 5
Blyth, Alexander and Charles, Alderſgate ſtreet, linen-drapers. June 25
Bride, Edward, Duke ſtreet, Artillery ground, dyer, June 25
Bright, Samuel, Coventry, grocer, June 25
Barnard, Joſeph, jun. Bedford, corn-factor, June 29
Burkett, Miles, Gray's Thurrock, Eſſex, and Three Cranes wharf, London, ſoap manufacturer, June 30
Bernley, Charles, and Joſeph Dale, Norwich, warehouſeman, June 27
Beaton, Sarah, Yeovil, haberdaſher and milliner, July 2
Brooke, Francis, William Farrar, and Robert Roſe, Baſinghall ſtreet, warehouſemen, July 5
Craik, James, Union court, Broad ſtreet, ſurviving partner of William Harden, inſurance broker, June 25
Calton, Godfrey, Sheffield, linen-draper, June 22
Collinſhaw, Charles, Wych ſtreet, cabinet-maker, July 2
Calvert, Francis, Cleveland ſtreet, Pancras, ſtable-keeper, July 2
Creighton, William, Great St. Helens, merchant, July 9
Cooke, James, St. Philip and Jacob, Glouceſter, maſter, &c. July 6
Caſtley, Robert, Doncaſter, dealer in horſes, July 9
Chapman, John, Yarmouth, linen-draper, July 12
Daniel, William, York, coachmaker, June 20
Dagg, Thomas, South Shields, ſhip-owner, June 21
Durand, John Nicholas, Milliman ſtreet, Bedford row, merchant, July 1
Duff, James, Finsbury ſquare, merchant, July 19
Davies, Richard, Lamb ſtreet, Spitalfields, cheeſemonger, July 16
Dring, William and David, Brighthelmſtone, ſhopkeepers, July 5
Drake, Ann, Hereford, linen-draper, July 16
Epps, William and John, Epſom, innkeepers, June 21
Fawcett, Thomas, Chiſwell ſtreet, rectifier, &c. June 4
Fenwick, Edward, Kingſton, Hull, innkeeper, June 27
Greatwood, Robert, Glouceſter, grocer, June 14
Golding, Bartholomew, and J. S. Macnamara, Queen ſtreet, merchants, June 25
Geddes, Alexander, late of Capel court, now of Mark lane, partner with George Laing, of Demerara, June 18
Gigney, William, Hackney, baker, June 21, final
Graham, John, Berwick, baker, June 27.
Green, Joſeph, Birmingham, merchant, June 28
Gosford, Robert, Hayward, Pitfield ſtreet, baker, July 26
Gillat, John, Joſeph Hawkſworth, and William Gillat, Sheffield, Brewers, June, 16, joint and ſeparate eſtates
Hughes, Robert, Chandos ſtreet, Covent Garden, draper, June 25
Hamaway, Daniel, Brandon merchant, June 18
Holt, Charles, and Edward Davis, Hatton Wall, jewellers, &c. June 21
Heald, William, Timothy, and Richard Henry, Wakefield, Joſeph Heald, King ſtreet, London, and Richard Foſter, Wakefield, merchants, ſeparate eſtates of William and Timothy Heald, June 18
Hewlett, Grant, Shepton Lee, dairyman, June 21
Hurrell, Thomas, Conduit ſtreet, taylor, June 24
Howett, John, St. Martin's lane, carpenter and builder, July 5
Hinde, John, late of Preſton Hows, now of Houndſditch London, July 5
Hardy, William, Glouceſter, linen-draper, July 6
Hammond, George, Stamford, mercer, July 14
Horne, James, jun. Woodbridge, corn merchant, July 14
Hitchen, William Ratherton, corn-dealer, July 25
Hitchen, Abraham, Walgherton, miller, &c. July 25
Holmes, William, Pudſey, dry-ſalter, July 13
Jones, John, Birmingham, draper, June 28
Johnſon, Thomas, Kidderminſter, grocer, June 14
Jameſon, Richard Bayley, Droitwich, miller, July 1
Jackſon, Nicholas Man, and George Bardett, Gerard ſtreet, Soho, ironmongers, July 2
Jackſon, Richard, and John Hankin, Oxford ſtreet, rectifiers, &c. July 12
James, Launcelot, Middle row, Holborn, linen-draper, July 26
Kirkpatrick, James, Pope's-head alley, merchant. July 9
Lonſdale, Thomas, Lower Brook ſtreet, linen-draper, June 14
Lane, Benjamin, Birchin lane, inſurer, July 1
Liddell, George, Newcaſtle, merchant, June 14
Longman, James, and Francis F. Broderip, Cheapſide, &c. muſical-inſtrument makers, June 28
Lane, John, Thomas Fracer, and Thomas Boyleſton, Nicholas lane, merchants, July 5
Lanchester, Ann, Sackville ſtreet, Piccadilly, June 25
Leith, Andrew, Shoe lane, Fleet ſtreet, ſmith, July 2
Lewes, Thomas, Abingdon, hemp manufacturer, July 13
Langwith, John, Grantham, builder, July 7
Monday, Joſeph, Kingſton, Hull, corn factor, July 5
Mercer, William, Tunbridge, miller, June 25
Martin, Robert, and Mark Laſt, Watling ſtreet, warehouſemen, July 2, final
Mallinſon, George, and Joſiah Sheard, Huddersfield, dyers, July 5
Mendes, Lewis, Crutched friars, merchant, July 9
Nesbit, Harriet Deborah, Louiſa Sophia, and Frances, milliners, June 18
Neale, John, Brick lane, Spitalfields, faleſman and butcher, June 28
Norman, John, Fletcher, Briſtol, baker, June 18
Onion, Francis, jun. Croydon, miller, July 5
Perkins, John Hinchley, baker, July 7
Pyne, Thomas, Southwark, victualler, July 16
Peckover, Harris, Ipſwich, woollen-draper, July 14
Redhead, Robert, Mark lane, wine-merchant, June 25
Ruſſell, John and Edward, William Hartland, and Thomas Williams, Worceſter, merchants, June 14
Robinſon, John, Prelcot ſtreet, ſcrivener, June 21
Rowan, John, Burton-on-Trent, hawker and pedlar, July 14
Sheringham, John, Great Marlbro' ſtreet, paper-ſtainer, June 11
Sutherland, James, Bath, haberdaſher, June 11
Smith, Robert, Streatham, and Charles Smith, Croydon, brewers, July 5, joint eſtate, and ſeparate eſtate of Robert, both final
Syers, Thomas, Mancheſter, ſtationer, June 20
Scott, James, and Francis Roach, Caſtle ſtreet, Leiceſter fields, linen drapers June 25
Smith, William, Monkwearmouthſhore, ſhip-builder, July 4
Sheermur, Thomas, Woodcheſter, clothier, July 6
Stahlſchmidt, Frederick, Whitchapel road, grocer, July 12, final
Stanley, John, Fleet Market, brandy-merchant, July 16
Tatlock, Charles, merchant, Cateaton ſtreet, July 5
Taylor, John, Worceſter, draper, June 25
Turner, Samuel, jun. Laytonſtone, farmer, July 1
Tatlock, James, Finch lane, broker, July 2
Wickerſon, Edward, Weſt Grinſted, dealer, June 7, final
Wrightſon, Thomas, Doncaſter, mercer, &c. June 13
Wrightſon, Daniel, Little Alne, flax dreſſer, June 29
Whitehouſe, Sarah, Tamworth, mercer, June 24
Watſon, William, Fenchurch ſtreet, merchant, June 25
Wapſhot, Thomas, Tuſton ſtreet, carpenter, June 18
Warren, John Spooner, Birmingham, dealer, June 27
Wallis, John E. Colcheſter, merchant. July 6
Wilkinſon, Samuel, and Joſeph Burrough, High Wycomb and Great Marlow, bankers, and linen-drapers, July 5
Woodbridge, George, Wimborminſter, dealer, July 9
Wild, James, Hulme place, brewer, July 7

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

Names of Coals.	Mon. 6th.	Wed. 8th	Frid. 10th	Mond. 13th	Wed 15th	Frid. 17th	Mond. 20th	Wed 22d.	Frid. 24th	Mond. 27th	Wed. 29th
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Adair's Main	42 6			42 3					42	43 6	
Baker's Main											
Bedford Main							38 9				
Benton	45 6		45	44 6	44			42	43 6	43 6	
Biddick Main											
Bigg's Main	49	50	49	48 6				45	46	48	
Bladon Main											
Blyth	39 9			41 6							
Boundry											
Bourn Moor	40 9	41					39	39	42	42 9	
Brandling				44			40			43 6	
Birtley				39 6			37 3	45		41	
Byker											
Byker, High & Low											
Cowpen	40 9				42 3		41 6	41 6			
Derwent											
Eden Main	40 9									42 9	
Eighton Main		44 3					40				
Flockton											
Greenwich Moor											
Haigh Moor											
Hartley	39 9				41 9		41				
Heaton Main	48 6		49	48 9				45	46	47 6	
Hebburn Main	48 9		49 3	49	49			45	46	47 6	
Holywell		51									
Kenton Main	48 3		49	49				44 6			
Lambton's Low d:t.											
Lawson's Main											
Morley Hill											
Montague Main				42 9							
Mount Moor											
Murton											
Murton High Main											
Newbottle											
New Tansfield											
Pitt's Tansfield M.				45	45			42 9	45		
Primrose	40 9						39		38 6		
Pontop		45		44 6				42 3	44		
Pecey		50									
Rectory											
Russel's Main	40 6						39				
Sheriff Hill				42 6							
South Moor							39				
Stanley Main											
St. David											
Team											
Tyne Main											
Usworth Main											
Walbottle Moor				42			39	38 6			
Walker	48 3	50	49	49	48			44 6			
Wall's End		51	50	50	49 6			40	47 6	48 6	
Warwick	37 6	37 6						36 6			
Wharton											
Willington	48 9			48 9			45		46		
Wylam Moor											
Wentworh											
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 JUNE 18, 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	65	8	36	0	27	3	26	4	35	0	39	9		
Surrey	64	4	34	0	26	5	24	0	35	6	36	0		
Hertford	56	10	35	6	26	8	24	4	36	0	38	3		
Bedford	55	2	35	2	24	0	24	0	33	10				
Huntingdon	52	9			22	4	19	6	27	9	33	7		
Northampton	55	6	30	0	21	0	19	6	29	3	28	0		
Rutland	60	3			24	6	20	0	32	0			57	3
Leicester	58	10			23	10	20	9	32	7	31	1	35	4
Nottingham	64	4	40	0	29	9	20	4	39	6				
Derby	64	4			26	0	22	2	39	4	32	0	26	6
Stafford	63	8			28	6	22	7	37	11			29	5
Salop	61	8	40	4	26	5	25	8					63	7
Hereford	58	7	35	2	24	9	24	4	37	3	35	8	61	1
Worcester	60	10	29	4	27	4	28	3	35	11	42	4		
Warwick	61	9			26	0	22	5	37	0			37	7
Wilts	57	4			23	8	22	0	38	8	35	0		
Berks	63	0			24	9	24	1	35	11	35	3		
Oxford	56	4			23	2	22	3	32	0	33	10		
Bucks	58	0			24	0	23	4	33	9	40	3		
Brecon	62	4	36	8	28	0	20	0					34	8
Montgomery	62	8			35	7	19	6					42	5
Radnor	57	10			24	1	22	3					60	8

Maritime Counties.

Essex	60	10	32	6	25	0	25	4	32	3	34	6		
Kent	63	0			26	6	25	10	32	2	36	0		
Sussex	60	4			32	0	23	8						
Suffolk	60	2			23	7	22	1	30	1	32	9	52	6
Cambridge	53	9			23	6	19	8	29	7				
Norfolk	60	5	36	0	22	10	21	0	30	4	44	0		
Lincoln	56	4	29	1	24	7	18	11	32	4				
York	58	9	36	9	23	8	19	3	33	10	58	8	40	3
Durham	64	8					22	5						
Northumberland	59	9	40	0	22	6	22	2	34	0	38	0		
Cumberland	70	0	45	0	28	10	26	5						
Westmorland	77	6	54	0	31	4	28	4					21	2
Lancaster	62	3			29	8	21	10	42	0	48	0	18	3
Chester	61	6					21	8					19	10
Flint	68	9												
Denbigh	66	5			30	9	21	4					38	2
Anglesea														
Carnarvon	63	4			26	0	18	3					35	9
Merioneth	67	10	48	0	32	0	21	9					36	0
Cardigan	58	10			18	11	15	0						
Pembroke	53	2			20	10	15	4						
Carmarthen	72	0			21	10	14	8						
Glamorgan	61	4			27	9	22	7						
Gloucester	58	4			23	11	22	1	31	2				
Somerset	60	3			23	2	19	10	30	8				
Monmouth	64	9			24	2	26	6						
Devon	69	0			24	4	21	5						
Cornwall	67	1			28	8	24	0						
Dorset	61	7			25	0	24	0						
Hants	62	2			24	0	23	4	35	0				

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

Days	Bank Stock.	3perCt. Red.	3perCt. Consols.	4per Ct. Consols.	5perCt. Navy.	5perCt. Loyalty	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	India Stock.	Omnium	5 per Ct. Irish	Consols for Act.	Exchq. Bills.
June 1	147¼	57⅝	Shut	73½	93½	93⅛	17⅞	3⅞	56¼					58⅞	
2	151½	58⅛		74½	Shut	92⅝	17¼				178			59⅜	
3		58¼		74¼		93⅛	17 5-16		56⅞		Shut			59⅛	
6		57		72¾		92⅜		3 13-16		10				58½	
7		57⅛		73¼		92¾	17 1-16		56	10				59¼	
8		57⅜		73⅜		92¾	17⅛							59½	
9	150½	57⅜		73⅜		92⅝	17 1-16							58⅞	
10	149½	58		74		92¾	17 1-16		56¼					58⅞	
13	150	57¼		73⅞		92½	16⅞					½ 1¼ p. ⅜ dis		58¾	
14		57		73¼		92	16 15-16					par ½ 1¼ dis.		58½	
15	145	56		71⅝		91¼	16 5-16		54¼			1½ 3⅜ dis.		57¼	
16	146	56⅛		71¾		91½	16 3-16		54⅛	9 1-16		4 2¾ dis.	82¼	57½	
17	147	56⅛		72¼		91⅝	16⅝	3 11-16	55¼			2¾ 1¼ dis.		58½	
18		56⅛		72½		91⅝	16 11-16		55¼			2½ 1¾ dis.		58⅛	
20		56⅛		72¼		91⅜	16 9-16		55⅛			2¼ ¾ dis.		57¾	2 1 dis.
21	146	56½		72⅝		91⅝	16 9-16		55	9 15-16				57⅞	1 2 dis.
22		56½		72⅝		92	16⅝	3 11-16				2½ ¼ dis.		58	
23	145¼	56		72⅛		91⅝	16 9-16	3⅝				2¾ 3 dis.		57⅝	
25		55½		71⅜		90⅞	16 7-16							57	
27		55½		71½		91⅛	16 7-16		54⅝	9 13-16		3½ ¾ dis.		57⅛	
28		55⅞		71¼		90⅞	16 7 16					3½ 3 dis.		57½	3 4 dis.

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

TO OUR CORRESPONDENTS.

HAD we in our last number given an answer to the enquiry of our Correspondent Rusticus, it would have been not only vague, but unpleasant both to his feelings and likewise to our own, and would, at the same time, have been a reflection upon the zeal and spirit of such friends of agriculture as spend a considerable part of the winter in London. We hope, however, that we are now enabled to announce a prospect, at least, of Mr. Nicholls's liberal plan being carried into execution, in the course of next winter. The proposal seemed to meet with general approbation, in various conversations, at the Woburn Sheep-shearing, and likewise at the Holkham Meeting. The plan is, to purchase a House in, or in the neighbourhood of, Spring Gardens, that will afford a Lecture Room, a Library, and a Conversation Room. The Library is intended to contain every book, in different Languages, that can be obtained on the subject of Agriculture. It is likewise proposed to purchase a small piece of land, as near London as may be, in which the operations of the various newly invented implements of husbandry may be perfectly exhibited and minutely explained by the Lecturer. The expence of purchasing the premises, books, &c. to be defrayed by a Subscription. We heartily wish success to the undertaking.

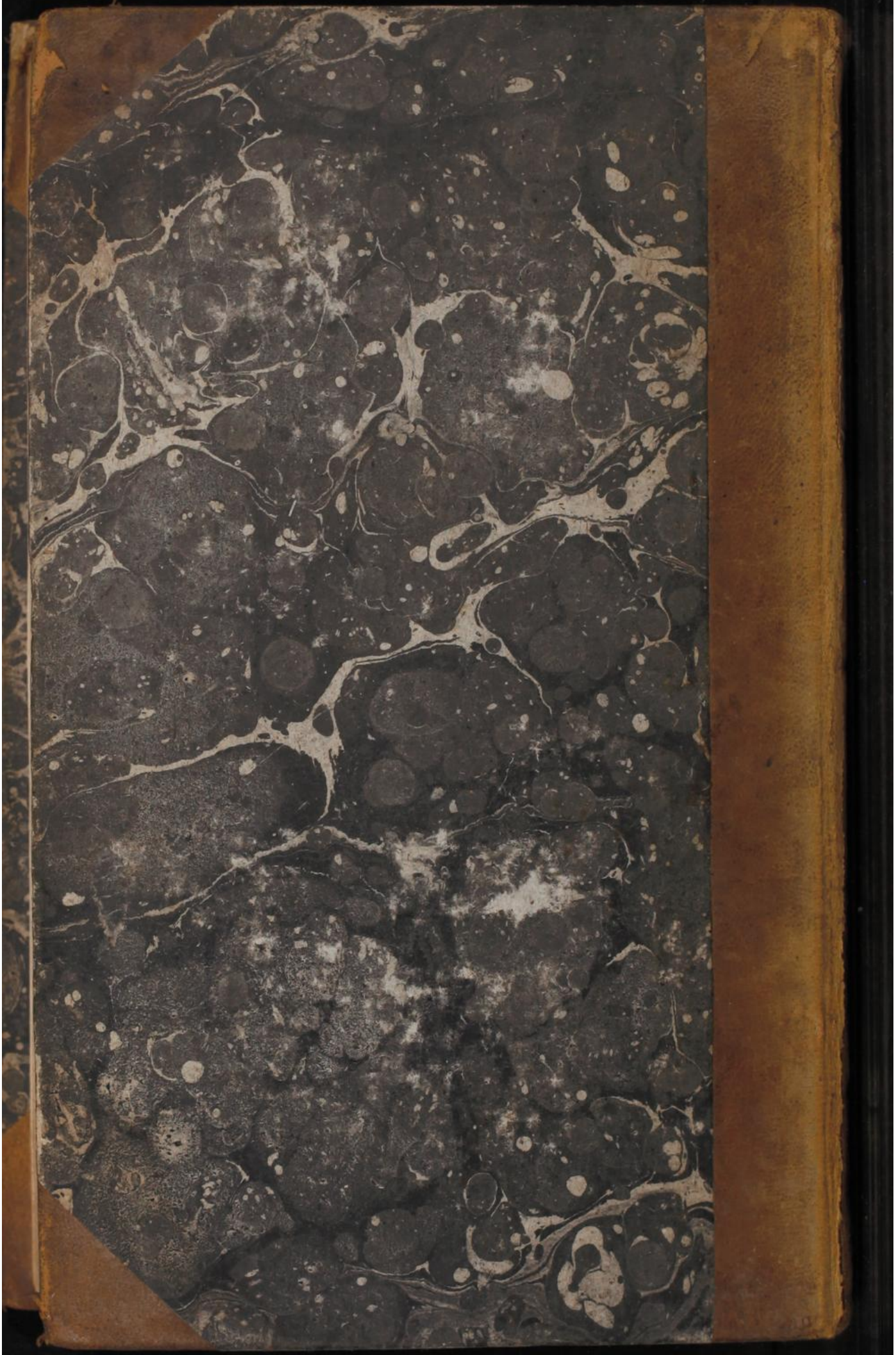
Our Engraving of Mr. Johnes's Feeding House, will, we hope, induce our readers to honour us with drawings of any improvements which they may have made, or have seen. We had a promise, a few months ago, of a sketch and description of the admirably well constructed Farm Yard of Mr. Crook, of Tetherton, but have not yet received it.

We thank Philalethes for corrections of errata, and should feel ourselves much obliged to any of our Correspondents who will favour us in a similar way: as we wish to make our Magazine as perfect a vehicle of information, and as perfect a Book of reference, as possible.

Wiltoniensis in our next.

We are sorry Mr. Grebell's Account of the proceedings of the Agricultural Society of Kent, arrived too late for insertion in this number.—It is what we wish to receive of every Society in the united kingdom.

The Title, Preface and Index to this volume, will be given with our next number.



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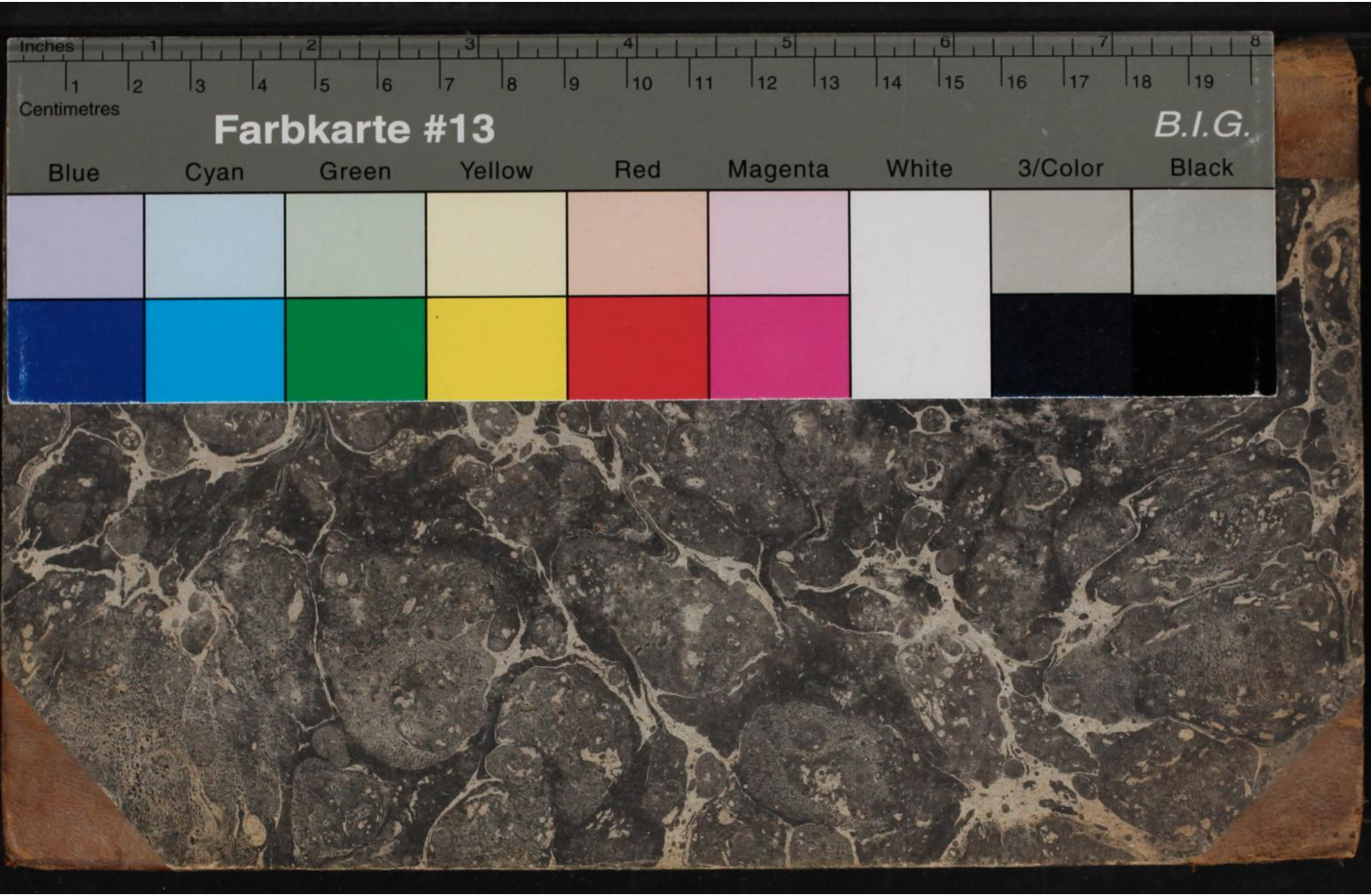
Inches
Centimetres
Farbkarte #13
B.I.G.
Blue
Cyan
Green
Yellow
Red
Magenta
White
3/Color
Black