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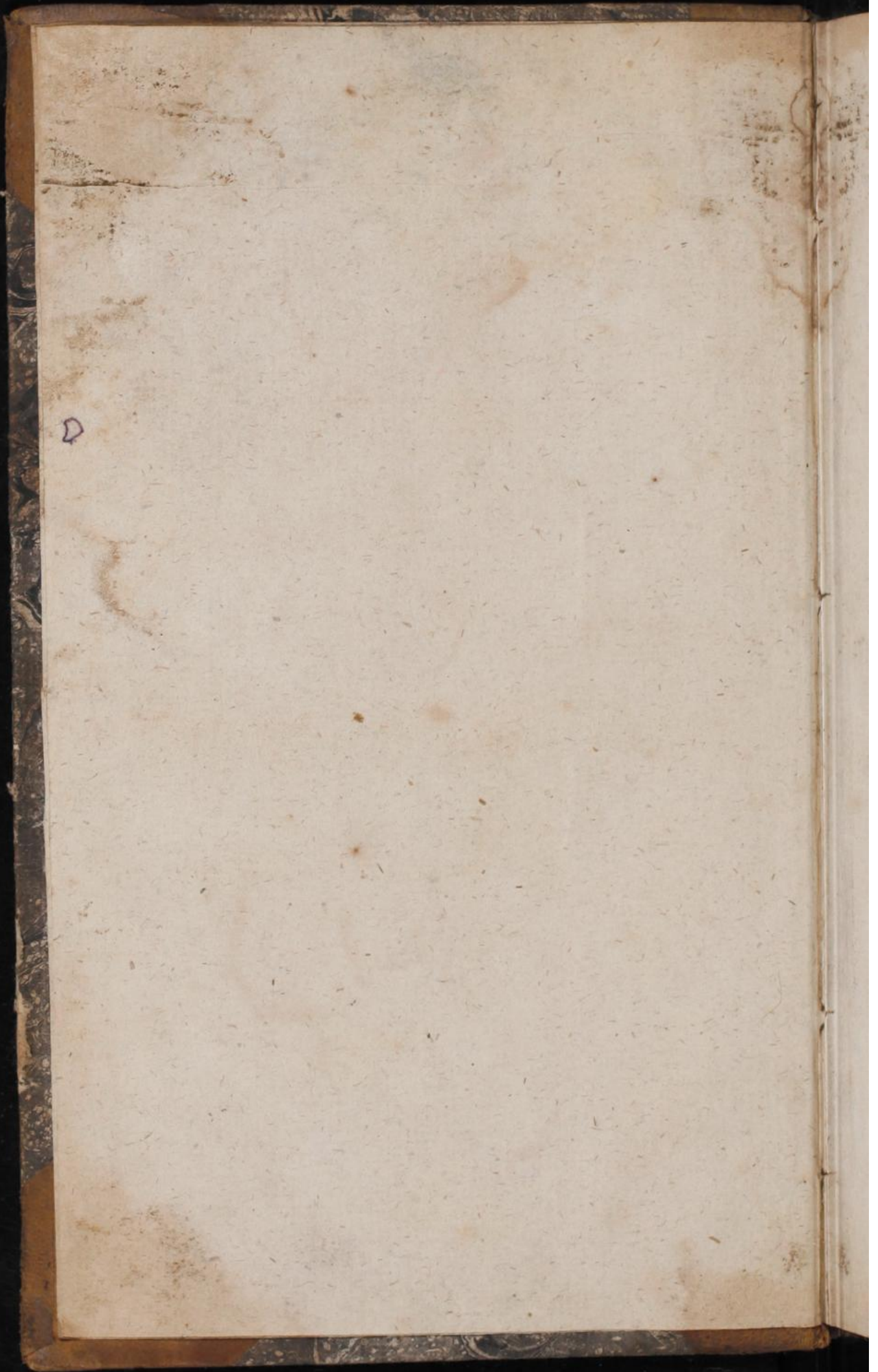
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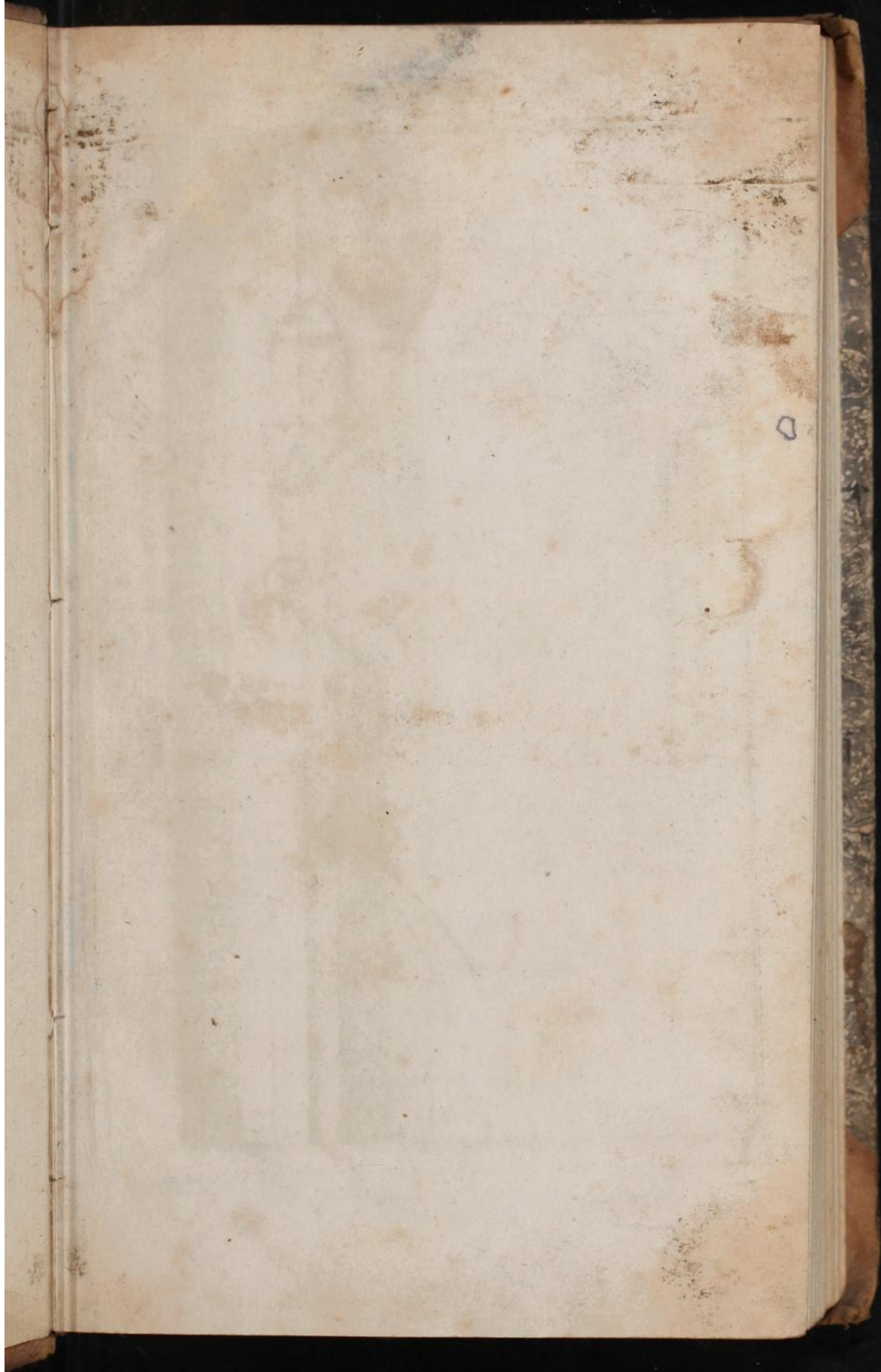
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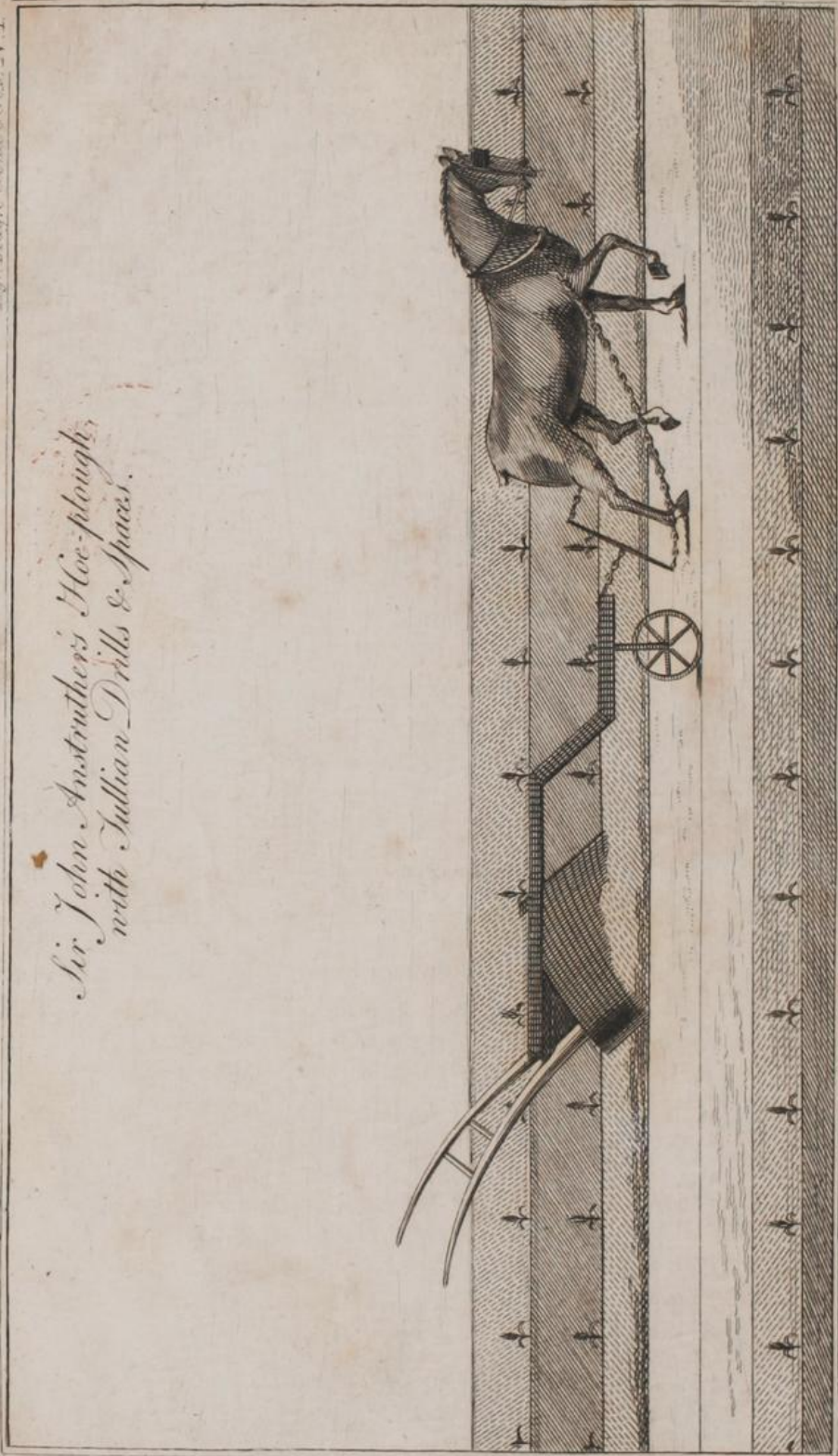
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*Sir John Astruc's Hoe-plough,
with Tullian Drills & Spacers.*



Pub. by T. Griffiths, 1 Paternoster row Aug. 12 1806.

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THE
AGRICULTURAL
MAGAZINE,

FOR

1806.



A MONTHLY PUBLICATION,

DEVOTED TO

Farmers, and to Rural Affairs.

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

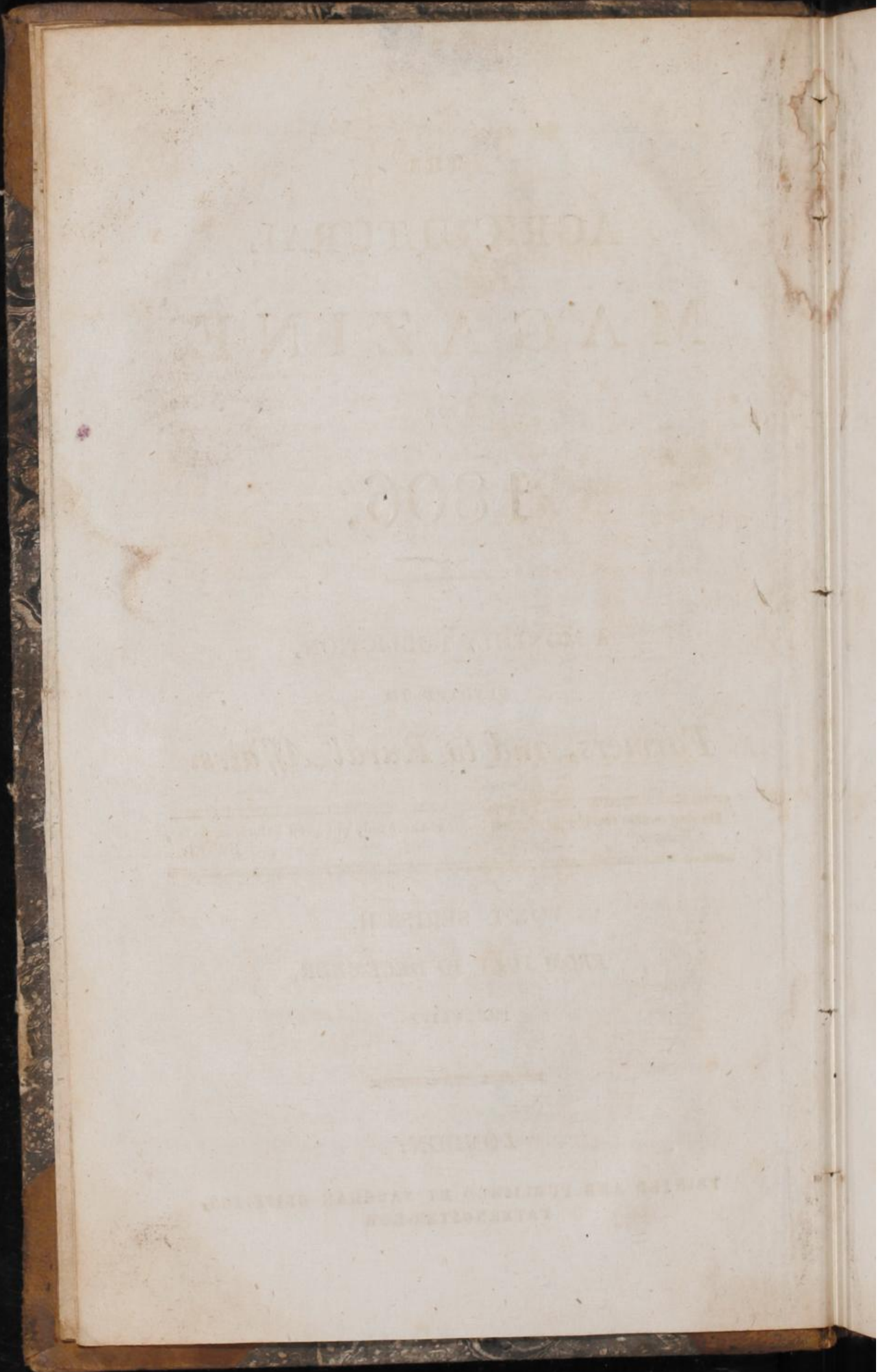
VOL. I. SERIES II.

FROM JULY TO DECEMBER,

INCLUSIVE.

LONDON:

PRINTED AND PUBLISHED BY VAUGHAN GRIFFITHS,
PATERNOSTER-ROW



P R E F A C E.

*T*HE first Volume of the New Series of our Rural Labours, having been brought to a conclusion, we may, perhaps, without the charge of vanity or affectation, be permitted to hope that our numerous intelligent readers, will not find any deviation from the general plan that has been hitherto adopted, in conducting the work, or perceive any diminution in the value or practical utility of the materials with which we have been enabled to provide it. They will, we are willing to flatter ourselves, discover a continuance of the same energy, the same disregard of toil and expence, and the same anxiety to render the undertaking practically useful and interesting, to the farmer and the country; and at the same time a strenuous endeavour to bring the great business of husbandry from the state of a rude conjectural art, to that of a perspicuous practical Science.

*I*n the accomplishment of these and other objects, (which the nature of the plan obviously comprehends) the reception the work has met with, and the honour conferred upon it by the patronage and support of so many of the first and most enlightened cultivators; induce us to believe that our claims are not less solid or legitimate, than those of any similar publication in this, or any other country.

*B*ut that while thus flattered by an almost unexampled attention, we do not forget what we owe to the public; but feel that it is only by the same unremitting exertion, and regard to usefulness of communication, that we can be entitled to a continuance of its favour.

*H*owever independent of these considerations, great as they must be allowed to be, the peculiar situation in which

PREFACE.

the country has been recently placed, in respect to its AGRICULTURE, by the tyranny and injustice of a powerful enemy, calls upon us in the most imperious manner, for a still more ACTIVE EXERTION of our best endeavours to promote a better and more extended cultivation of the soil, in order that an adequate supply of BREAD CORN may be raised within the Island for the support of its increased and increasing population.

In this endeavour, the contents of the present volume, will, we are persuaded, shew that we have not been inattentive or idle spectators; but that while we have anxiously deplored the barren and shamefully unproductive state of our extensive wastes and commons, we have not neglected to bring the necessity of their amelioration and improvement, to the view of the cultivator, the economist and the public, as a measure of the utmost importance to the safety, happiness and prosperity of the nation.

At the same time that the Conductor of the work feels the fullest confidence in his own resources, he cannot but call upon those able Correspondents who have hitherto contributed so largely to the utility and establishment of the undertaking, to continue their valuable assistance, as it is only by their means that it can be carried to that state of useful perfection, which the importance of its objects demands.

THE
AGRICULTURAL MAGAZINE.

No. I.]

SECOND SERIES.

[VOL. I.

FOR JULY, 1806.

“ We may talk what we please of lilies and lions *rampant*, and spread eagles, in fields *d'or* or *d'argent*; but, if heraldry were guided by reason, a plough in a *field arable* would be the most noble and ancient arms.”

COWLEY.

THE TULLIAN HOE-PLOUGH.

[*With a Plate annexed.*]

SMALL's Scotch plough was used for hoeing by the late Sir John Anstruther, and perhaps no other tool will do the business so conveniently and effectively in wide intervals. This plough may be had in perfection of M'Dougale, Oxford Street, London. Tull's favourite method was, to drill on ridges, two rows of corn, or one of turnips, ten inches apart, and large spaces without-side each row, as may be seen in the plate. In the end, Sir John Anstruther preferred equidistant rows, whether of turnips, &c. or corn.

Hereafter follow a few particulars of the practice and opinions of Tull, on the turnip culture.

“ When I sowed turnips by hand, and hoed them with a hand-hoe, the expence was great, and the operation not half performed, by the deceitfulness of the hoers, who left the land unhoed, and *covered it with the earth from the part they did hoe*, (the writer of this article has been too often so served) and then the grass and weeds grew the faster: besides, in this manner a great quantity of land could not be managed in the proper season.

“ When I drilled upon the level, at three foot intervals, a trial was made between those turnips and a field of the next neighbour's, sown at the same time, (broadcast) whereof the hand-hoeing cost ten shillings per acre; the latter, measured by the bushel, had not quite half the crop of the drilled.

Second Series, Vol. 1. B

“ But it is impossible to hoe-plough them so well when planted upon the level, as when they are planted upon ridges; for if we plough deep near to the row, the earth will come over on the left side of the plough, and bury the young turnips; but when they stand on ridges, the earth will almost all fall down on the right side, into the furrow in the middle of the interval. *And I have found, that turnips on the same land planted on ridges, with six-foot intervals, make a crop double to those that are planted on the level, or even on ridges with three-foot intervals.*

“ Drilled turnips, by being no where but in the rows, may be more easily seen than those which come up at random, and may therefore be sooner singled out by the hand-hoe, which is another advantage, because the sooner they are so set out the better they will thrive.

“ The distance need not be regular; for when a turnip has six inches of room on one side and eighteen inches on the other side, it is almost as well as if there was one foot on each side.

“ The least number will be the largest turnips, yet we should have a competent stock, which I think is not less than thirty to a square perch.

“ Three or four ounces of seed is the usual quantity to drill upon an acre, though three or four pounds are commonly broadcast, which coming so thick must exhaust the land.

“ The six-foot ridges, whereon turnips are drilled in single rows, may be left higher than for double rowed crops, because there will be more earth in the intervals, as the single row takes up less.

“ It is beneficial to hoe turnips (especially the first time) alternately, i. e. to hoe every other interval, and throw the earth back again, before we hoe the other intervals; for by this means, the turnips are kept from being stunted. It is better to have nourishment moderately given them at twice.

“ Dry weather does not injure turnips when horse-hoed, as it does sown; the hand-hoe does not go deep enough to keep the earth moist, and secure the plants against drought.

“ Turnips of nineteen pounds weight, I have several times heard of; and of sixteen pounds have often known. Twelve pounds may be reckoned the middle size of great turnips: and I see no reason why every turnip should not arise to the full bigness of its species, if it did not want part of its due nourishment (in rich earth.) I had turnips on poor undunged land that weighed fourteen pounds a piece, but they were only such as had more room than the rest.

“ The most experienced broadcast turnip farmers will have no more than thirty to a square perch left in hand-hoeing;

and find that when more are left, the crop will be less; but in drilling the rows at six-foot intervals, there may be sixty to a perch, and the horse-hoe, by breaking so much more earth than the hand-hoe does, can nourish sixty drilled, as well as thirty are nourished by the sowing method, which has been made appear upon trial: but I think about forty or forty-five better than sixty on a perch, and the number of plants should always be proportioned to the natural and artificial pasture which is to maintain them; and sixty turnips on a square perch, at five pounds each, (which is but a third of the weight of the large size of sheep turnips) make a crop of above eighty quarters (near seven hundred bushels) to an acre."

The above extracts will demonstrate whence came the Northern turnip culture; and certain it is, as has been often remarked, that the Northern people became Tullians as to the turnip culture only, and the Southern exclusively for corn.—I was particularly engaged at Mr. Burgoyne's shew and ploughing-match, which you will doubtless accept as a sufficient apology for the lateness of this—*valeatres rustica!*

AN ESSEX FARMER.

ON DIBBLING AND DRILLING, IN ANSWER TO FARMER SANDY, AND ON MR. CLARKE'S LAMBS.

To the Editor of the Agricultural Magazine.

SIR, *Pickworth, near Stamford, July 14, 1806.*

I AM quite at a loss to know what Farmer Sandy would be at: he appears from his very soul to hate dibbling, yet he keeps requesting information concerning it, though he seems resolved not to adopt it.—I dare say the country will be perfectly satisfied if he never dibbles an acre; and as it is a "barbarous, immoral practice, which Adam pursued, the worst of two modes of row culture, and a disgrace to our husbandry," Farmer Sandy can never think of becoming a dibbling disciple.

First, Why is it a barbarous practice? It certainly is a more mathematical practice than drilling. In dibbling every plant may stand at the exact distance the cultivator wishes—in drilling the plants in the rows are sometimes too much crowded. I imagine he will allow the system to potatoes, and cabbages; perhaps he will be surprised when I tell him; some are of opinion, that a plant of wheat requires as much room as a cabbage.

Secondly, The immorality of it is ridiculous in the extreme, for women need not be employed in it; men generally making the holes, and children dropping in the seed.

Thirdly, We are very right in pursuing Adam's method, or any other person's, if we are convinced it is a good one.

Fourthly, That it is a disgrace to our husbandry I can by no means allow; and I think I can answer for Agricola Norfolciensis not considering it as disgraceful to Norfolk.

Clover-lays may be drilled, though not so well as tilth land; a set of narrow, sharp, wrought-iron coulters should be used for that purpose.

Beans dibbled two adjoining furrows, and miss one, have, within a few miles of me, produced eight quarters, or sixty-four Winchester bushels per acre, by this "barbarous" method.—Does Farmer Sandy usually get more by drilling?

Let him not from this infer I am averse to drilling, as I am only averse to drilling where it is most proper to dibble.

He seems to think that what he said in Number 81, I viewed in a wrong light; which could not be, for it only admitted of one application.

MR. CLARKE'S LAMBS.

The lambs said to have been lost by Mr. Clarke of Bisbrooke, Rutland, were dressed with mercurial ointment, which is all the rage now, in these parts, for the scab; it is made of quicksilver and hogs' lard; it appears too much was applied, which salivated the ewes, and their milk salivated the lambs. Mr. Clarke did not, however, quite lose the lambs, as he sold them to two butchers, as soon as he discovered it, who slaughtered them and sent them to London.—You Londoners, Mr. Editor, come in for a little of every thing. I believe, however, part of the lambs are alive now, and am of opinion, if they had been taken from the ewes as soon as discovered, they would all have lived. This is the best account I can give to your correspondent S. W.

I am, Sir,

Your, &c.

JOHN WRIGHT.

ANSWER TO PASTORIUS ON LEICESTER
MERINO SHEEP.

To the Editor of the Agricultural Magazine.

SIR, *Pickworth, near Stamford, July 14, 1806.*

PASTORIUS seems inclined to have the last word on the merits of Leicester and Merino sheep; and though I believe I could reply to him again and again, and he to me, yet I fear the subject is too much exhausted for our communications to be sufficiently interesting to your readers. I

shall just glance over his letter, and then we had better call up some other topic.

I am very glad to find him in good humour, and he may rest assured I have no wish to offend him, nor any other person. Pastorius says, his lambs in October will make "far more" than 30s. each. I presume he knows I mean his ewe lambs, taking the whole throughout; the wedders we may suppose would make three shillings per head more: therefore the average of the whole will be a guinea and a-half. If his lambs will make far more than this, he certainly has got a very valuable breed of sheep, and must have some very excellent land to depasture them upon. I imagine his lambs to be yeaned the beginning of April, and weaned from their dams the beginning of August, as is customary here.

His remarks on short-woolled, and inferior breeds of sheep, suckling their lambs well, and their not progressively improving after, is perfectly just; these are certainly the best sort to be kept by those who sell their lambs fat; but whether this remark holds good with the Spanish sheep, I am not certain. If Pastorius expects those inferior breeds of sheep to be "nicked on the tail head," he must make them very fat, as they will be good mutton before they have any point; which is disadvantageous to the seller, as he must kill one to give the butcher ocular demonstration before he will buy, if he has not been in the habit of buying them.

Pastorius seems very apprehensive of the Merino wool declining in value. If he would look at the obstinacy of farmers, and breeders, in being wedded to old customs, and observe what slow and tardy steps alterations and improvements in agriculture make, he need not fear that happening for many years, particularly as the wearing of broad cloth increases so fast; and when it does, we can but return to our old beaten path.

Farmers and breeders should be constantly upon the look out, to observe what is likely to pay them best. 'Tis true, I would not advise breeders to listen to every new fangled scheme, and be continually altering their breeds; if they do, they will probably never get a good one, as it is a work of time in any species.

The comparative statement of Pastorius is not at all to my mind; to alter it, however, would but renew the dispute. But his twenty-six pound of mutton per quarter being worth more than one of twelve is per pound, is truly an admirable argument, and what I never can agree to, though "Birnam wood should come to Dunsinane."—A friend of mine told me he saw two shoulders of mutton in London that weighed twenty-eight pounds each—they were sold at one Guinea each, ninepence per pound; more I imagine for curiosity than luxury.

I saw in Stamford market, a few weeks back, a shoulder that weighed twenty-one pounds. The butcher informed me he bought forty of those sheep, and they weighed from forty to forty-seven pounds per quarter—would not the same food have produced forty moderate sized sheep, and some Beef, or eighty sheep of half the weight?—a certainly much more saleable commodity.

I asked him who principally bought it: he replied, the farmers, to salt down. I never tasted any salted mutton but once, and think it disagreeable eating, much inferior to beef or bacon. We are astonished at the Russians eating train oil; how many degrees weaker is their stomachs who feed on a roast shoulder of mutton weighing twenty pounds, fed on cole or oil-cake?

In all the markets that I am acquainted with, a few small sheep to be constantly brought in would be a desirable acquisition to small private families: a leg of mutton is a favourite dish with many. How is a man and his wife, retired on a small income, ever to enjoy one of Pastorius's legs of mutton of twelve or thirteen pounds? seven or eight shillings for one hot dish! To cut it would spoil it, to cook it whole they must live all the week upon cold meat, and be brought to table so often as almost to find the way by itself. Now, could this man meet with a fat leg of mutton of six or seven pounds, would a penny per pound more, be an object to him? Pastorius, I think will say, Certainly not.

I will now be a mediator between Mr. Bartley and Pastorius, if they will allow that friendly office: I will propose terms of peace; but if they will be so fashionable as to plunge again into war, I cannot avoid it.

Mr. Bartley shall find us all our fine clothing wool, without importing any from Spain, and all our small mutton, for the accomodation of small private families; and Pastorius shall find us blankets, coarse woollen cloths, and mutton fat as Falstaff, "three inches on the rib," for the happy digestive powers of the labouring community.

I am, Sir,

Your very humble servant,
JOHN WRIGHT,

ON SHEEP-FEEDING OF WHEAT.

To the Editor of the Agricultural Magazine.

SIR,

I WAS a little in hopes that I should have seen the opinion of some of your practical correspondents on sheep-feeding of wheat, but as I have not, and as your new correspon-

dent has reminded me of my promise, I shall now venture my opinion on the subject.

Feeding off wheat with sheep is used for many purposes; the first I shall mention is to prevent the wire-worm from eating it. Very many farmers suppose that treading the land with sheep makes it so firm that the worm cannot run in it to eat the root of the plant. This may hinder the worm a little, and I believe but a very little, for land that is trod with sheep is made firm only just on the surface; and this crust on the surface, I am quite certain, often destroy smore wheat than the worm, particularly on stiff clayey land; or even on light sandy land I have known a large lain of wheat nearly all destroyed by being very much trodden with sheep; and I believe after all the treading the sheep can give it, the wire-worm will eat it just as before. There is certainly a little deception in this method; the time of the year comes for the wheat to grow about the time the sheep are taken from it, and if they have not destroyed it all before they leave it, it will soon grow too strong for the worms to hurt it; and I must think that it gets out of the way of the worms much sooner when it is not fed off or trodden with sheep at all. When wheat is a thin crop on the ground, (no matter what is the cause) the sheep are thought of as a cure, which they are to perform by eating every blade of wheat they can find. This is done to make it branch out from the stem, and likewise to make it grow stronger too. I much doubt whether this can be done, particularly on poor land; for if a farmer with the help of his sheep should make two blades of wheat grow where only one grew before, I think he is a creator to no good purpose; if he should get two ears of wheat where otherwise there would have been but one, they certainly will be much smaller, and the straw will be shorter and weaker, and it will be considerably later at harvest. This I have seen often, but never plainer than this year.

A friend of mine that has always fed off all his wheat with sheep, this year fed off part of a field at the time he usually did, and, with a little persuading, left the other part "as nature best was pleased." This wheat I saw a few weeks since, and by what I could then observe, and what I have heard from my friend since, I think there will be very near as much more wheat on that part where the sheep have not been, as there will on the one which was fed off very close. In this neighbourhood I daily see a large field of wheat that was fed off rather late in the spring, and it has not recovered since; the dry weather has been too much for it. It never has grown to a good length; the ears are small, and the straw stands thin on the ground.

This field of wheat was not fed off with sheep because it was a thin crop, but for the sake of getting a pretty deal of seed for a very little trouble; and I have no doubt but this wheat would have stood much thicker, if it had not had the sheep on it at all. To them that can persuade themselves that feeding off wheat does it good, it certainly must be very handy to have a few fields to feed off, when they have not provided any turnips or rape, and at a time when the natural grasses are not to be found. This is an easy way of getting sheep-feed, but it is something like "saving the feathers and losing the goose." If there be any fear of wheat being too strong a crop, I believe sheep-feeding of it is an effectual remedy; at least, as far as I have made any observation it always has been so.

The last spring being a very mild one, the common red earth worms came up very much on many pieces of land, particularly such as had been manured with yard dung. Now I think a slight treading with sheep might be a very good preventive against those worms, as the mischief they do is principally done on the surface of the ground, by drawing of the blades of wheat into their holes, and very often pulling the plant quite up. Indeed I am persuaded these worms did more harm to the wheat last spring than the wire worms.

I hope some of your able correspondents will have the goodness to let us see their opinion on this method of destroying wheat, for so I must at present call it; your New Correspondent has made some observations on it, and I should very much like to see his opinion on the subject.

Your engraver has omitted a small but very useful part of the Sussex plough. In the draft, near No. 5, on the plough beam, there is a pin which should be made of iron, and nearly in the form of a T. Its use is to hold one end of the roadbat. And there is another little mistake I must mention, where I give the width of the plough-share; you have made me say two feet and a half, instead of two inches and a half. This last width some people may think too wide, but it is the width we always use in stony land.

I am, Sir,

Your, &c.

Falmer, July 16, 1806.

E. DOWLEN.

COMPARATIVE HUSBANDRY.

To the Editor of the Agricultural Magazine.

SIR,
NOT only has the information I have uniformly received, but my own notions of good management also, led me to believe that the husbandry of Norfolk, Kent, and Essex, is preferable to that of Northumberland, Roxburgh, and Berwickshires; and I am really sorry to see that your southern correspondents, are either flinching from the comparative investigations, or admitting the superior practice of the three latter counties. In the latter branch, Agricola Norfolciensis has taken the lead; and, contrary to my expectation, has not contradicted Farmer Sandy's remarks on dibbling. Certainly it has been well ascertained in Norfolk, that dibbling is better husbandry than the broad-cast, or drill methods of sowing. If this is not true, I have been greatly deceived; but notwithstanding what your northern friend has advanced upon this branch of southern farming, I am inclined to rely upon my information; and if some south country farmer does not speedily do justice to it, in your Magazine, I will endeavour to collect such facts as I conceive will put the matter beyond all doubt.

With respect to the course of cropping in the north and south, in adverting to which, Agricola Northumbriensis has been pleased to say, "that I have betrayed a great want of agricultural knowledge," I am not yet satisfied as to the superiority of the former. Indeed, I cannot conceive how the unfortunate circumstances of the country, with respect to grain, can be improved, by diminishing the quantity of tillage land. This, it is obvious, would be the effect of introducing the northern rotation; and I must here remark that Farmer Sandy seems to allow (page 259, Number 81,) that "the profit of the agriculturist is not so great during a part of the time the lands are under grass, as when they are under grain crops." This is somewhat in my favour; and I cannot also avoid remarking an appearance of inconsistency in Agricola Northumbriensis, upon the rotation of crops. He recommends the northern system, under which the grounds are kept four to six years in grass; and yet it appears clearly, from some of his papers, that he considers tillage land as most advantageous. I must likewise take the liberty of informing him, that in page 249, Number 81, he begins his account of experiments in the culture of wheat, by "a mode of cropping," which is not sufficiently explained for my comprehen-

sion. I ask, what is it? And I am sure that our examination of his letter, will shew that I have reason for what I have said. I am in favour of his turnip culture, so far as I am enabled to judge; yet I must remark, that the conclusion he draws respecting the superior advantages from drilling that root, over those from drilling grain, does not seem to be so clearly and logically deduced as I expected from him.

The intelligence of Farmer Sandy and your other northern friends, has been much praised, perhaps justly. They seem, however, to carry matters with too high a hand, which is grating to me as a southern cultivator; and I mean to check them a little when I can. Mr. Wright seems to have got the advantage of Farmer Sandy, respecting his supposed immoral effects of dibbling.

I am, Sir,

Your friend,

June 4, 1806.

R.

P. S. Since I wrote the above, I have been called upon by a traveller, who was frequently in Northumberland about fifteen or twenty years ago; and he assures me, that though the husbandry was generally good in the N. W. part of the county, it was bad, or indifferent, in most other parts. He particularly mentioned some of the worst husbandry he ever saw, between the towns of Wooler and Belford. In the southern parts of the county he considered it as generally very defective. Can A. N. deny these matters?—In many parts of Berwick and Roxburghshire, he also considered the agriculture as much inferior to that of most parts of the south.

ON SHEEP-FEEDING WHEAT AND BEANS.

To the Editor of the Agricultural Magazine.

SIR,

MR. Dowlen, of Sussex, and another correspondent of the Magazine, have adverted to the practice of feeding wheats in the spring with sheep, with two, and those opposite views; in the one, to reduce the bulk of rank-grown wheat, in the other, to cause a thin and poor plant to shoot and tiller from the stems, by their being nibbled close by the sheep. I have, all my life, seen such practice, and doubtless, it has a considerable effect in both cases. As to the first view, bulk is obviously reduced by the corn being eaten down, and we see that meadow grass is thickened at bottom, from the bite

of sheep, whence we expect the same effect upon the grass of corn; it must be allowed, however, that in the former case, the cropping is constant.

This custom of feeding down the wheats is carried to a still greater height in Kent, where, although I never witnessed such a mad prank, I have been told the farmers will turn into their wheat, even in the middle of April, their whole stock of pigs, of horses, and sheep altogether; notwithstanding a good crop may ensue, I am convinced the damage done by such practice must be enormous; nor in truth, can I judge any otherwise than that the damage in any such management, even with sheep alone, must ever outweigh the supposed benefit, more especially on high and rank wheat, the stems of which are beaten down and broken in an irrecoverable way, not to speak of the quantity destroyed and torn up. It has besides been often observed, that those parts of the wheat on which the sheep have laid, are always the worst in the field. In fine, I never yet found myself inclined to venture on such methods, but had resolved this spring, if my wheats had been too bulky in the grass, which they were not, to have mown them, which I have known occasionally practised. I recommend the trial of this to others. As to thin wheats, I generally allow them a top-dressing at the time of rolling them. I have used a mixture of lime and good earth for that purpose very successfully. In the midland counties, they have a very stupid practice of what they call *sheeping* their beans, that is to say, of turning in their sheep in order to spare weeding and hoeing, with the happy expectation that the sheep will make choice of the weeds, and leave their beans untouched. I have known sheep turned in with the beans nearly a yard in height, the beans eaten half down, the stalks broken, and such havoc made, that had it been on my farm, I should scarcely have got over the sight by harvest time; but such is the effect of custom, particularly on farmers, that the owner of the crop in question neither perceived any thing wrong, nor apprehended any damage. The virtue subsists in the custom, not in its rationality or effects. A man sits his weekly portion of time at church, sheeps his beans, pickles his seed-wheat as well as his pork, and all is right.

I should be glad to have the benefit of Mr. Dowlen's promised opinion on this subject, with that of other practical farmers, correspondents of the magazine.

AN OLD FARMER.

West Herts.

ON THE QUESTION OF SUMMER FALLOWS, DRILLING AND
DIBBLING—MANAGEMENT OF CLOVER-LAYS—NECESSITY
OF ROWS FOR HOEING—NEW CORRESPONDENT—GLOS-
SARY—NORFOLK AGRICULTURAL REPORT.

To the Editor of the Agricultural Magazine.

SIR,

Fakenham, July 10, 1806.

AT the time this letter will probably meet the eye of your readers, the season for preparing land against wheat sowing will have nearly approached. I am confident I shall be pardoned by you and your friends, for presuming to offer them one hint on that subject, of the utility of which an accidental circumstance that has occurred in my own practice this very year, and the repeated trials made by some neighbours of mine on a larger scale, have fully proved the great utility.—It has often been a matter of inquiry among the *thinking* part of our community, which method of preparing land for wheat is the most likely to insure a satisfactory return; and the majority have I believe decided in favour of a thorough summer fallow both on the weakest and strongest soils. Respecting the latter, I acknowledge my inability to advance one word by way of argument, either for or against the practice, except that I have uniformly observed the best wheat growing on the tilth-lands: but on our light soil, I am convinced such treatment of them is injurious. Repeated ploughings during the summer months, however conducive to cleanliness, do certainly impoverish a light soil, and by destroying that closeness of texture, so congenial to the nature of the wheat plant, do most assuredly (notwithstanding the positive counter-assertions of veteran practitioners) a greater injury to a field so treated, than a moderate dressing of manure will be able to compensate. This idea, together with a wish to obtain a few weeks more feed from the clover stubble, most probably led the ingenious inventor of the dibble, to try it upon the inverted flag; and such extraordinary success attended his first essay, that others immediately adopted the plan with equal good fortune, and it has now become the almost general practice of this and the adjoining county of Suffolk, particularly where the weakness of the soil pointed out the inutility or rather the prejudicial consequences of the summer fallowing.*

* Mr. Lawrence, and some others, have strongly argued for the non-existence of any necessity for fallowing on any land. For my own part, I felt extremely inclined to agree with him on that score, till an excursion I made into some of the midland counties staggered my faith as to strong soils, and I returned home pretty well convinced that the practice of these counties was not devoid of reason, and that the general system of the old school

Within very few years, the introduction of the drill machine has in some measure set this practice wholly aside with a few spirited cultivators, but the proportion which A. Northumbriensis states to exist between those who drill and sow broadcast is very far from being so much in favour of the drill *as yet*. I believe that it daily gains ground, though but slowly.—Dibbling I have always much approved, but I consider it as too expensive to bear a competition with the drill. It costs us ten shillings and sixpence to get an acre of wheat sown by the dibble, and not more than two shillings by the drill; and though the produce from either of these modes will prove superior to the broadcast, yet I am not sure that the dibbled corn will yield a better crop than the drilled, *if the latter is well executed*: for there lies the grievance. The misapplication of this most useful implement has been the sole cause of the disrepute into which it has fallen among many sensible and unprejudiced men. They see, for instance, wheats drilled upon the flag generally too thin a plant, and a mildew very often seize the gathering crop. They blame the drill, when in fact it is to the abuse of it they ought rather to impute the failure. It is the purpose of my present address to you, Mr. Editor, however circuitous a road I may appear to have taken, to offer to such of my brethren as may not be aware of the fact, the following simple and easy method of obviating, as far at least as human precautions are likely to obviate, such a defect, viz. *to plough the clover-lay intended for wheat a month or five weeks before it is sown*. If I am asked upon what principle our expectations of success from using this precaution of ploughing early are founded, I should reply, that by this method two essential purposes are

was, on such lands, the best that could be adopted. It must be recollected however, that I had at that time seen only broadcast farming on those soils, and scarcely believed the drill husbandry was practicable on clays. My last journey into Hertfordshire and Essex, which took place in May last, has removed every doubt which I before entertained, and has convinced me that Mr. Lawrence is perfectly right; and your readers may more readily conceive, than I describe, with what pleasure I rode over a gentleman's farm in the neighbourhood of Buntingford in Herts, of considerable extent, which had been for some time under repeated crops of white grain, pulse, grass, and turnips, and with the exception of one solitary fallow piece for the purpose of underdraining, had not been idle once since he farmed it, yet (thanks to the drill and horse-hoe) was at the time I saw it, altogether as clean as a garden, and in the highest possible condition.—The judicious farmer and owner of this estate has not, however, been able to make a single convert to his practice among his tenants or neighbours, so bigotted to their old customs are most farmers. "My father did this and that, I must do the same." Which in plain English is neither more or less than this: "My father always laboured hard for two years to fill his land with all the rubbish that the earth would spontaneously produce, and the third he consumed in cleaning it. So must I." Excellent reasoners!!

answered. The first is, that by letting the flag lie sometime downwards before sowing, it becomes partly rotten, consequently a greater depth of mould is acquired by well harrowing for the drill coulters to work in, than could be had on a fresh tough sward; the seed will of course be better buried, and be less exposed either to the depredation of birds, or the severity of winter. The next advantage I hold to be this, that the young plant will hereby be much earlier provided with a rich nutritive soil to strike into, than an undecayed flag could supply, and that thus, strength is acquired at its first commencement of growth, to resist and overcome every difficulty it has to encounter. Is there not also a considerable portion of firmness of texture obtained by suffering the earth to lie undisturbed a few weeks before sowing, below that surface which the harrows pulverise? A new turned flag is a very spongy, frothy substance, compared with undisturbed mould; is it not therefore likely that wheat which delights in a strong soil, will thrive better with such a substratum to strike into, than if planted upon, or rather amongst, a collection of loose fibrous substances in a green undecayed state? Whether I am right or wrong in my conjectures as to the *cause*, the effect is not to be controverted—a *stale earth*, as we call a ploughing which has been executed some time, appears to be equally well adapted to the reception of both autumn and spring-sown corn. To the greater part of your readers, I am sure I am making no new remark, when I observe, that on both light and strong soils it is by far the best plan to have all lands intended for spring-corn ploughed under before Christmas. Let any impartial spectator decide whether a surface can be given by any artificial means to land, better adapted to the use of the drill, than which exposure to frost and snow creates; and as to the futile argument which I have heard some broadcast farmers advance against autumn ploughing, of the plentiful crop of weeds which ever follows in the spring, what avails it in the drill system while an hoe is to be found? In fact, these are the very enemies which I think every sensible cultivator had rather openly encounter in the field, than have them lurking privately in ambuscade in the heart of every clod, ready to bolt upon him when he least thinks of it, and to take him by surprise at a time perhaps when he is least prepared to meet them. But crops must be all *in rows*, or it will be impossible to avail ourselves of the use of the hoe in the most effectual manner, and no method of sowing corn in rows has ever yet, in my opinion, equalled that of the drill machine. On again mentioning this most useful implement of husbandry, I am reminded of the opinion which a very sensible man who lives not far from me, and occupies a few

acres, holds of all our late invented drill ploughs, scarifiers, cultivators, &c. &c. ad infinitum. He laughs at them all (as he does at the Leicester and Southdown breeds a little while since imported among us) as a parcel of new-fangled nonsense; for that after all our schemes and whims, the *old ways are the best*. I have frequently heard him maintain stoutly, that the art of farming *lies in a nutshell*. "Keep your land clean," says he, "muck well, and do not sow too often." All this may be very right, perhaps, but I would ask, How are you to keep your land clean? I believe but few broadcast farmers can tell us; and if we enquire of their farms I fear but few can give a satisfactory answer. I say but few, for I certainly know some honourable exceptions: but I have every reason to think that they are obliged to keep a stronger force of teams, and are at a greater expence to effect their purpose than a drill-farm requires. Let us hear my friend again: "Keep your land clean, muck well, and don't sow too often, and then"—I suppose he would add, "you will be sure to get good crops".—I deny his consequence: the treatment of land, which he so laconically and confidently prescribes, will not always insure a crop, be the season ever so favourable, or the state of the land ever so good, as in the present instances which I have mentioned both of autumn and spring-sown corn. The field may be as clean as a garden, may be as rich as a dunghill, and may have been under grass two, three, or four years, yet has experience convinced us that it may, notwithstanding, be in a very improper state to receive the seed, and unable to produce a good crop, merely from this simple circumstance of being sown too soon after the plough.* So far from thinking that the art of farming is comprised within a very small compass, I do maintain, Sir, that it comprehends such an infinitude of multifarious skill, experience, scrutinizing observation, and powers of reasoning justly, that not only the contracted period of one man's life, but whole centuries are unequal to the task of acquiring a thorough knowledge of this most useful and necessary of all arts, the cultivation of the earth; nay, as long as seasons and soils shall have such an endless variety, so long (will I be bold to assert) it will require a skill *almost more than human* to guard as far as possible against the casualties of the one, and to discover the most advantageous methods of rendering each and

* I beg leave to observe, that the complaint of a thin plant of wheat is by no means confined to drilled corn. I have seen both dibbled and broadcast wheats (i. e. harrowed in upon the flag) miserably deficient in the spring. Whatever may be the cause, I am persuaded that a stale earth, if the season permits us to break the clay up, would, in a great measure, if not wholly, prevent the failure of plants so generally lamented.

every one of the other subservient to the use of man. Hence the utility of recording experiments, and collecting for the use of aftertimes, the mutual communications of practical men in such a work as this, fully appears; and for your encouragement, Sir, to persevere in your truly patriotic undertaking, I am gratified that I am able to announce a probable accession of correspondence from the quarter I have just now mentioned; this gentleman reads your magazine, and has lately purchased the set from its first commencement; these favourable symptoms give me reason to hope that he will shortly publicly recall his hasty and general condemnation of all attempts at improvement in agriculture under the opprobrious name of "innovation." So if my conjectures are wrong, and if we fail to bring him over to us, still do I hope that he will at least draw his pen, and give us in some early number his *quid pro quo*. If he remain silent much longer after this challenge, I mean to attack him in the words of the old Latin bard:

———*Si quid novisti rectius istis,*

Candidus imperti: si non, his utere, mecum. Hor.

That is in honest English.—We shall request him if he knows a better, a cheaper, or a more productive method of tilling land, to be so good as to divulge it: and if not, that he will please to spare his jokes on our way, till he can shew us a better.

Your's truly,
AGRICOLA NORFOLCIENSIS.

P. S. I hope that what I have said above will sufficiently account to F. S. and your other correspondents for my silence on the subject of dibbling. By no means is F. S. right in his conclusion that I condemn it as a barbarous practice: on the contrary, I consider it as the very best method of seeding land; but *from its expence, not so eligible as the drill*.—I cannot say that I have discovered that it gives that encouragement to vice to which F. S. alludes, from the mixture of both sexes; scarcely any but very young girls are employed by us in dropping, and the dibbling is almost exclusively done by men. I am desirous, Mr. Editor, of promoting the intended Glossary to the best of my ability, and for this purpose, my plan is, the first rainy day to turn over Johnson's Dictionary from A to Z, and wherever I meet with an agricultural term, I shall enter it, and the Norfolk term against it if it varies. I am not sure this plan will succeed.

AGRICULTURAL REPORT FOR NORFOLK.

One of the most piercing droughts we have experienced for a long time, has for the last six weeks made terrible havock among our barleys. Our wheats are very good; and the peas, which appeared to suffer more than any grain, are much recovered by the late most acceptable showers; they will load well, though not bulky. Turnip sowing is now the order of the day, which may possibly last longer than we wish, as the flies appear resolute. From the shortness of feed, it was to be expected that sheep and lean stock would have fallen, but such I believe is not the case; the *buyers* at least complain of the high prices. At Mr. Coke's late clipping, a few south-down ewes fetched five guineas a-piece. Little corn at market, and prices scarcely more than nominal. Good wheat will fetch about 80s. per quarter. From the present inferior appearance of the barleys on the ground, it is expected that this grain will be high; but there is so small a quantity in this county on hand, that I hardly know what price is obtained.

I am at present engaged in sowing my turnips on the Northumberland plan: how it happens I know not, but I cannot give up the opinion I before entertained, of its being by much the most expensive way of sowing. I trust, however, the produce will make an ample amends, if the flies will spare them.

A. N.

 NOTICE OF MR. SMITH'S WORK ON THE STRATA OF ENGLAND AND WALES.

To the Editor of the Agricultural Magazine.

SIR,

FIFTEEN years have elapsed since I first conceived the idea of ascertaining, as far as might be possible, the order and phænomena of the Strata in this Island. The nature of my professional avocation, and the confidence reposed in me by persons of the highest consideration, appeared to offer every facility for such an investigation. I entered upon the task, and I have been led on by the hope of being useful to my country. At the expiration of ten years a great quantity of matter having been collected, I issued proposals for publishing; but having communicated my intentions to some eminent patrons of science, and among others to the late Duke of Bedford, his Grace recommended me to defer publication until the observations my whole plans embraced

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were completed. That period, I flatter myself, is now arrived.

The work is preparing for the press. It will be published in parts, and I hope the first will be ready for delivery at Christmas next. I am unable to state precisely the price and manner of publication. They shall, however, soon be made known through the public prints;—in the mean while I am eager to assure my friends, that the delay in bringing out the book has arisen from a determination to render it as perfect as time and care would permit. It now only remains for me to assure them of its speedy appearance, and to solicit their support and the public patronage.

I am, Sir,

Your humble servant,

WILLIAM SMITH.

Norwich, 5th July, 1806.

ON DRILLING AND CLEANING LAND—WIDTH OF ROWS—
MR. SECRETARY YOUNG'S VARIATIONS ON THE DRILL
HUSBANDRY—MAGNIFICENT BUT ABSURD STATEMENTS
OF THEORISTS—THE ULTIMATE RATHER THAN MINOR
ADVANTAGES OF ROW-CULTURE TO BE CONSIDERED.

To the Editor of the Agricultural Magazine.

SIR,

June 16, 1806.

YOUR truly valuable correspondent, Agricola Northumbriensis, having done me the honour to put various questions to me in his last communication, I set down, from an interval of respite and fatiguing out-door duty, to give him all the satisfaction in my power; but as my leisure will be short, I hope that circumstance will be accepted by him and your readers in general for the irregular mode in which this will most probably be written.

I still see no reason to doubt the authenticity of my information respecting the extent of the drill-husbandry in Northumberland, and in the north generally, where my still later information demonstrates to me, that, *comparatively*, they drill scarcely any thing but pulse and turnips; and curious it is, that although they learned to drill the latter from us, we have long forgotten it. They have of late very gradually learned also from us to drill culmiferous crops—Heaven forbid we should act with these as we did with turnips, that is, quit the practice as soon as our northern brethren shall have become thoroughly accustomed to it! Twenty years ago, according to the account of my near relation, who made the tour of the bishoprick and of Northumberland, on the grazing account, he was unable to find any drilled white corn; and

what was amazing, although not peculiar to the north, since I have witnessed the same fact even in Essex, out of more than a dozen farmers, whom he met at different markets and fairs in the north, and questioned on the subject, only two of them even understood what he meant by drilling. Your correspondent A. N. having this year seventy or eighty acres of drilled wheat, is, I must suppose, the largest driller at present in his county. The Northumberland, Roxburghshire, and Lothian agricultural practice is nearly similar, and doubtless equal to the best broadcast husbandry of South Britain. In reclaiming and improving bogs and wastes, and in machinery, the Scots are assuredly before us. Indeed their business of that species has been more urgent than ours; and, as Robinson Crusoe tells us in his immortal story, "necessity is the mother of invention."

If A. N. is, as he asserts, as decided an advocate for the superiority of the general drill husbandry, as I am, why does he continue to broadcast a grain of any kind? Did not a circumstance, no way to the present purpose to mention, interfere, no consideration should tempt me to waste either my land or my seed of *any possible species* (excepting perhaps natural grass, turnips, and carrots) by broadcasting it, where I could possibly make a row, either by drill or dibble; and the latter in some situations must be the substitute of the drill, on which one of your northern correspondents does not appear altogether well informed, by condemning the practice.

My opinions on turnip drilling and on other particulars of their culture, seem strange to A. N. and he seems to take it for granted, that I am unacquainted with the Northumberland method of their culture, in which he is not altogether correct. True, I have never drilled turnips myself, but have been long acquainted with all the various modes of doing it, from those of Tull, on the report of my father in his journeys westward, to that of the one-bout ridges with Mure's drill. That method had its advocates awhile in Suffolk, and elsewhere, but did not last. In fact, we have been unsteady turnip-drillers in the south, excepting some individuals, amongst whom the Rev. Mr. Close has been the most eminent. The Rev. Mr. Munnings also in Norfolk. These gentlemen, I believe, have generally preferred casting the dung into the drills both for turnips and potatoes, an old south country practice, as well as the drilling itself. It has sometimes appeared to me to injure the plants, and to produce the anbury in the turnips. I apprehend a good coat of manure mixed with the whole of the soil will in general equally affect the whole, and the hoed spaces will be perfectly accessible to the absorbent roots of the plants. I repeat, that in sands, good substantial hand

hoeing with heavy hoes, will sufficiently æerate, and that the land may be kept clean, since the turnips standing distinct, the hoes have fair access; and as moisture is the grand desideratum in such soils, a flat and level tilth must be best, provided there be depth enough. As to quantity, I instanced our weighing a turnip on my father's land, which, topped and tailed, gave 28lbs. The roots ran generally large and heavy the field through, about eight acres; they stood as thick upon the flat surface as they properly could, and large as they were, I ask, how could the land have well carried a heavier crop had it been drilled? But why not drill turnips for correctness sake, and carrots also? I would ever rather do so. All that I contend for is, if accidentally rowing must be omitted, by all means let it be with turnips, or such crops to which the hoers can have fair access; but that can never be the case with corn crops. Of all branches of field culture, that of the hoe is the most important and least thought of; nor was there ever a more stupid piece of sophistry than that formerly so common in the bulk of our writers on husbandry, the no-necessity for, and even disadvantage of, drilling culmiferous crops. Granting, that because the seeds grew *in culmine* or a top, and so having plenty of air, their roots needed none, an unfortunate speculation, these speculators totally overlooked the transcendent consequence of a *perfectly* clean tilth, and whoever saw such a thing in broadcast husbandry? I have looked in vain for it in Norfolk, Suffolk, Essex, Herts, Surrey, Sussex, Bucks, Middlesex, Hants, Berks, Wilts, and in the west. A friend of mine who cultivates a vast track of some of the best land in England, and who I think might on some spots grow even seven quarters of wheat per acre, and who is pretty nearly in the first style of broadcast farming, shewed me his wheat stubbles last year, which he pretended to call perfectly clean. On pointing out to him a moderate crop of weeds, he observed—Oh! that is our country *gold-weed*, that you know will never be got out!!

Your correspondent states (No. 83, page 372) that horse-hoeing his experimental wheat was omitted by mistake of his servant, and that otherwise he should have found no greater difficulty in horse-hoeing intervals at nine inches apart, than those at ten inches and a half. I should be glad to know how he could *well* even ass-hoe either. I have seen such slovenly and mischievous work here, in horse-hoeing twelve inch rows of wheat, as has made me heartily sick of the practice. The wheat totally cut up in many places, trodden into the earth, and the stems broken and thrown down, a havock in corn, or any growing vegetable, to which I have a peculiar disgust. Probably in a rank grown, or as they say in the

West, a winter-proud crop, all this superfluous vegetation may be well spared; but if so, I should like to take it away purposely and give it my lambs, or transplant elsewhere. Nor do I like to see large heavy cattle employed in this business; and I have at this time two light thorough bred brood mares, which we occasionally work in a light cart, that I intend also to employ in hoeing light land rows of potatoes, &c. The wheat on our best lands, dibbled at six and nine inches, is generally so thick and close, that it is scarcely to be distinguished from broadcast, but by the stoutness of the reed peculiar to dibbled corn.

As to the comparative merit of width of intervals, A. N. seems to have no better argument, than the presumed infallibility of judgment of the present enlightened times. But that is a very unsatisfactory mode in which to silence so important a question. He ought, rather primarily, to prove our right to the boast of having superior light on the subject. His quotation from Mr. Young will serve him but little indeed, for various and obvious reasons. In the first place, Mr. Young, who certainly stated all that A. N. quotes, and more than A. N. is aware of, on that side, has also stated far more, and in a manner infinitely more to be depended on for correctness, on the contrary. Does A. N. recollect that Mr. Young it was, who of late published so circumstantially and so decisively the success in drill culture of wheat at eighteen inch rows, as well on poor as good land, of the Rev. Mr. Hill, of Buxhall, in Suffolk, continued through a course of years without intermission, and which, I am informed, is practised at this moment with unabated success? And yet none of Mr. Hill's neighbours or countrymen will imitate his example on a single experimental acre. Now what does this shew, particularly as to the six and nine inch drillers? Why, that their rule and guide, like that of the gradation next to them, the broadcast farmers, is custom simply. I have associated with farmers in Berks and Hants, who were middle aged men, in Tull's days, and I found no reason to doubt the integrity or correctness of the statements published by that famous cultivator; as little reason have I to doubt the same of his drilling successors in Oxfordshire, Berks, and Essex. Is then all this dead letter, or romance? If not, surely it behoves us to look into the matter at a period when our seed stands us in such sums of money, and when from the vast rise of rents, taxes, and charges, it behoves us to clean our land in the most compendious, as well as most perfect way, and to give it that yearly amelioration which the wide interval allows, that we may obtain from it as great a repetition of crops as possible. The author of a most excellent memoir in last number (*Man of Kent*) quotes

three bushels of seed, and seven inch rows. What will that able cultivator say, on being assured, that with one bushel of seed sowed at the distance of eighteen inches, he shall obtain at harvest an acreable quantity of corn, equal to that which he now does, and probably superior in quality? I do not pretend to engage all this to him, since I have never yet put the matter to the test of experimental proof; but I do pretend to say, that the fair and actual experiment is worth his making. I have indeed often put this to our narrow row drillers, who have smartly enough retorted upon me—Why not try your favourite method yourself? A well grounded reproach I must own, which I do not intend to merit much longer.

To recur to Mr. Arthur Young's statements with all our respect, and indeed the highest is due to that veteran friend and promoter of agriculture, he has, under the favourite idea of giving *facts*, collected and amassed in his voluminous works, among a vast quantity of precious materials, the crude, indigested, and uncertain notions of a great number of simpletons, or, as some pretend, of pleasant fellows, who had maliciously predetermined to hoax the travelling farmer and author. A number of old farmers even at this day, in different districts, boast among us youngsters, how they used to *smoke Arthur*. At any rate, we see and know, that this gentleman has written very differently, on his own authority, at different periods, respecting the subject of drilling: and I don't precisely recollect, whether Mr. Young, or a certain well known Scotch writer of former days, speaking of the drill culture, emphatically, but weakly exclaimed, "When will this nonsense be put to rest for ever?"—or the same sense in better phrase. Very little dependance indeed can be placed in the random and ill-conducted experiments of certain careless lovers of pudding, who are pressed into the business first, and half tired with the advice alone, before they begin the practice. It is a known fact, that the practice of drilling has failed in most places, where it has failed at all, from the mere indolence of the learners, who at any rate never would endure the preposterous, useless, and abominable labour of weeding and hoeing! And there never was a better joke, than several years back; when at a great and celebrated farming establishment, the premium for drilled land was lost, because of a trifling omission to be sure; the candidate had only forgotten to hoe! I marvel much, that he did not also forget to sow.

From A. N. observing, that "he cannot think the drill husbandry so very advantageous as some writers have represented" and his subsequent remarks, surely he has not sufficiently reflected on the subject, to be thoroughly grounded on what the grand advantages of this invaluable system consists. Yet to

quit the main ground, if a premium of thirty shillings per acre, the rent of our best lands here, will not satisfy him, of what extent and capacity must be his Northumbrian conscience? In truth, he has stated the particular and minor advantages of the drill over the broadcast, at a higher rate than we are accustomed here to find it, or even read of it. I have ever understood, that on an average of experiments, the broadcast quantities of wheat have, at least, equalled the drilled, but were they superior, they must be largely so indeed, to counterbalance the grand advantage and purpose of row-culture. As to quality both of straw and corn, the drilled and dibbled have ever carried away the palm. The quotations from Dr. Dickson, where the enormous superiority of the drill is stated, may be press errors, or not; since in a work of professed compilation we have no right to expect any thing farther, than the author should give us such accounts as are before him. I really cannot perceive much force in the objection made by A. N. to Mr. Amos's experiments; nor does it appear to me to be of the smallest consequence to know, whether his experimental land was in condition, good, bad, or indifferent, since it was the same, and equal, to both experiments; and he has stated the value per acre, but does not leave a superiority per acre, in favour of the drill, half so great as A. N. makes it. With respect to drilling on old tillage land, full of root, weeds, and rubbish, a happy beginning I have too often had to smile at, I can assure A. N. far from turning out advantageous, it often, in the end, renders a gingerbread account.

I shall conclude my long letter (for, like Martin Luther, or Calvin, I forget which, I sat down to write a duodecimo, and behold it turned out a folio,) with the hope that A. N. who has for several years past rendered so much service to the farming world, through the channel of this Magazine, will also in due time reap the additional honour of placing the drill husbandry, by his experiments, on its useful and profitable basis, and of causing its extension throughout the Northern districts of our country. I am labouring hard, Mr. Editor, to procure you new friends here and in Suffolk, and remain a hearty well wisher to the success of your publication, &c.

AN ESSEX FARMER.

P.S. The difficulty of which I lately complained to you by post, is now done away: I get the Magazine regularly, and on the day after publication, either from Chelmsford or Witham, as it suits my convenience.

ON THE OLD QUESTION OF SMUT, IN ANSWER TO FARMER SANDY—RECENT APPEARANCE OF BLIGHTED WHEAT ON THE FARM OF A NOBLE LORD—ON THE LABOURERS—MERINO DISPUTE—OX LABOUR, &c.

To the Editor of the Agricultural Magazine.

SIR,

WELL fare the perseverance of your excellent correspondent, Farmer Sandy; he is worthy of a good cause. What! smut again—*iterum iterumque*. But my parable (allow a priest to speak in parables) or problem, or conundrum, has almost burst his very brains! from the intensity with which he has considered it. Alas, Sir, I should be very sorry to have any hand in bursting such fertile and ingenious brains; on the contrary, I would sincerely wish they might be reserved intire, sane and possessing their naturally extensive powers. Now as the exercise of moderate reflection, far from having any injurious, will have salutary, and corroborating effects, I beg to be allowed to prescribe him a farther dose, to be repeated occasionally p. r. n. until the patient's brains be recovered, and restored to that acumen of judging, which they really possess on other subjects. On this ground I must presume to withhold any solution of my problem, asserting most positively, and publicly at the same time, that this sphinx's riddle of mine, is so plain, that the observer of nature who runs may read, and he who reads may easily understand.

“The confident manner” of Clericus. It arose from that confidence which is generated by long experience in a subject: and if I decline going farther into the dispute, it is far enough from such a motive as F. S. has stated, but from an apprehension of the ill consequences of occupying the valuable pages of the Magazine with mere words, which the old philosopher truly said, are but wind. This question has been agitated nearly a century; if we do any thing farther in it, and much is promised, in several quarters, let it be by statement of the result of actual and immediate experiment: yet even that, in my opinion, is now no desideratum; the question, as it appears to me, ought to have been long since at rest.

As to the quotations from old authors, an extract from Ecclesiastes or the Proverbs, which, had I time, I would now transcribe, would be, without *quibbling*, far more to the purpose, in regard to the question in agitation. All that F. S. has quoted from Malpighi, may be, and indeed is, consonant with truth, and yet is, probably, harmless in the present dispute.—The reasonings of the respectable writer in the Bath papers,

on his experiments, as far as I am able to judge, sufficiently prove that he knew nothing at all of the matter. And for a reply to F. S.'s question therein, I refer him to what I have already said on the subject, which appears to me to be a full and complete answer. I shall only add, that in this neighbourhood, particularly in north-east exposures, we have this spring, and part of the summer, had plenty of blight, blacks, and *burnts* on the wheat and oats; and the insects were coming, had not the favourable showers washed them away, together with the powder. The wind has remained here stationary between the south and north-west upwards of ten days, by which incalculable benefits have resulted to vegetation; and should this favourable temperature of the air continue, no damage of any very considerable extent will arise from the blights of the spring. A neighbour of mine, who holds nearly a thousand acres in hand, has a head carter and ploughman from East Lothian, a very acute, steady, and sensible fellow. I took this man over the wheat and turnips, and pointed out to him the nature, obvious and visible effects of the atmospheric stroke. A singularly accidental circumstance led us to a discourse on steeps for seed wheat. He sowed the field of wheat we were upon, and, from haste, with dry seed, a thing I believe never done on the farm before. Three fields off, was a piece of wheat belonging to another person: this last was brined and limed. The condition of the two pieces were perfectly equal, as to their being discoloured, but in the former I think there were most *burnts*, which indeed might be expected, from its being far more exposed. A piece of oats rather more exposed still, was full of *burnts*, the stalks covered with powder, and the insects apparently hatching fast. Both pieces are immensely improved by the change of weather, and the wheat has nearly got through its flowering. I asked the Scotch ploughman his opinion of steeping seed; he replied, "they always did it in his country, but he never saw any good it did, or any difference it made." Yet he too must have a *hobby*: "change of seed, in his opinion, was the only remedy for the first two or three years; afterwards the effect ceased."

I was sorry to observe such a slip from the pen of the enlightened Farmer Sandy, as that "hasty pudding and milk would longer invigorate the labourer, than animal food and ale." Still more, at his idea of the luxurious living of the lower class of Englishmen. This is as bad as the *Jeremyads* of Arthur Young and others, at the labourers' wives drinking tea; or the sumptuary opinions of our sage newspaper writers, on the dress and expensive habits of life of farmers' families: all possess an unrestricted right to their property, in whatever that may consist, goods, labour, or time, and the labourers in

an opulent country have an imprescriptible right to their just share of the good things thereof. Consumption, indeed, is the grand source of reproduction.

As to the dispute between Pastorius and Mr. Bartley, I really think with my old friend, Mr. Brightley, that the latter has clearly obtained the victory. I have never understood that Mr. Bartley proposed any thing farther than the substitution of Merinos and Anglo-Merinos for our native short woolled sheep. Respecting his more speculative comparison of the Merinos and Leicesters, I believe it is generally well founded. The high prices said by another correspondent (Mr. Wright) to be obtained for Spanish fleeces, by Lord Somerville, every body knows must be a temporary thing, supposing an extension of the breed. The fact, however, has been well attested; but it ought to be considered, his Lordship's is the finest flock in the kingdom. A correspondent having supposed the engraver had flattered the above noble Lord's ram, No. 20, I think the animal is called, I have made it my business to enquire of a gentleman who saw the ram at Fitzhead, and he says, he thinks by no means, as to size or shape, which are full as good as the portrait; and that whether he were or not, at the time of drawing, so fat as he appears, is perfectly immaterial, since it is plain enough he can easily be made so.

On the question of Ox Labour, also, there is an *assumption* of victory, by the Northern disputants. This naturally excites enquiry as to the grounds. Some Correspondent, whose designation I have forgotten at this moment, in a late Number, states, that, respecting the ox question, Agricola Northumbriensis produces facts, whilst his opponents have nothing to boast of but bare assertions; farther, that the former has in one of the first volumes of the Magazine exhibited such statements, as were at once decisive on the subject. Now the reverse of all this, Mr. Editor, appears to me to be the case. A. N. not living in a district, where either ox labour is practised, or the proper species of cattle for labour are to be obtained, and besides professing no practical acquaintance with the subject, gives no decisive facts: such appear to be found only on the side of his antagonists. The position used by your critic, *that oxen equally well fed, will, beast for beast, do as much labour at plough, as horses are any where accustomed to do*—is doubtless assertion, and for a very good reason, no one, I believe, has ever made the essay. *But it shall be fairly made.* The practice of Lord Somerville, I mean as to equality of labour performed, comes the nearest to the point, of any instance that can be adduced.

CLERICUS et COLONUS.

ON COVERING SHEEP—NORTHERN NEW LEICESTERS; DIS-
 PUTE CONCERNING THEM AND THE MERINOS—DRILLING
 IN THE NORTH—AUTUMNAL PLOUGHING—AGRICULTU-
 RAL REPORT FOR THE NORTH.

To the Editor of the Agricultural Magazine.

SIR,
IT appears from Mr. Bartley's answer to his friend in Wales, that he entertains some doubts as to the *fact* which I stated in a late Number of your Magazine, relative to the *jacket* that was put upon a Spanish ram (in Northumberland) in the last spring.—I *positively* stated the *fact* upon undoubted authority; and I cannot account for Mr. Bartley's doubts otherwise than by adverting to what he has informed his friend; namely, that he had not seen the Number which contains my observation.—I repeat, however, that the ram was covered with a *jacket*; and for what purpose could this covering be applied, but to protect him against the inclemency of our northern climate? If I am wrong, I say *again* let Agricola Northumbriensis contradict me.

It is true that the rams of the New Leicester breed attain to such excessive fatness, that it is necessary to shear them very early in the season; and the weather being then rather cold at night, and their skins, like those of other profitable feeding animals, very thin, some of their owners* protect them with a *jacket* till the wool grows to some length. This covering is the more necessary when we consider how very close they are shorn; for their skins are completely filled, and not *wrinkled* like those of the Anglo-Merinos and other comparatively lean sheep.—These *jackets*, however, are used only for a short time after the sheep are shorn, and not, as in the case of the Merino ram near Alnwick, when the wool is almost at its full length.

It is highly pleasing to observe the great perfection to which the New Leicesters have now attained in this district; and it is the more so, when we reflect upon the difficulty of raising food for the consumption of our well employed and numerous population. Many large flocks of these animals have been sold in Morpeth market, this season, wanting their wool, at from two guineas to two guineas and a half per sheep, and only from twelve to about fifteen months old. They were very fat, and sold at about seven to sevenpence halfpenny per pound, sinking the offals. What a valuable breed is this, and how admirably adapted to the circumstances of this country!

* Ram letters.

Until I read *Farmer Sandy's* letter, in your last Number, I did not fully advert to the conduct of some of my opponents; and I am even now not well prepared to animadvert upon it, some Numbers of your Magazine being in the hands of my bookbinder.

I am not a little surprised that Mr. Brightley should have given Mr. Bartley the *victory* in the controversy respecting New Leicester and Merino sheep. When I consider the abilities of my opponent, I am fully prepared to expect that *some* of your readers will maintain that he has gained the superiority. I firmly believe, however, that a very great majority entertain a contrary opinion. Perhaps I do not go too far when I say that this majority of *British farmers* is in the proportion of some hundreds to one.—Nay, I should suppose that it cannot be less than a thousand to one, if the question to be decided is the propriety of expelling all our New Leicester sheep to make room for Merinos.—Some will say that this is going an extravagant length. But I think there is no difficulty in making this appear to be the plain and simple question from some of Mr. Bartley's papers in your *Miscellany*.

For the reason already given, I cannot at present examine certain Numbers of your Magazine. If I am not mistaken, however, one of them contains a letter from Mr. Brightley, wherein he states that the advocates for the Anglo-Merino sheep never entertained an idea of permitting that breed to supplant our New Leicesters; that such an extensive diffusion of the foreign blood would be injurious; and that they only wished to introduce such a number as would render us independent of importation in the manufacture of superfine cloth.—But it seems obvious that this statement is at variance with some of the communications of Mr. Bartley; and if my memory is good, the *very same* Number of your work has published a paper of mine, wherein I maintain the advantages that would result to this country from keeping about two millions of Anglo-Merinos, instead of our native short woolled sheep, upon part of our *inferior pastures*. It clearly follows, then, that though I am hostile to such an introduction of the foreign breed as would dispossess our New Leicesters of our *productive lands*, which Mr. Brightley calls their *proper domains*, I am an advocate for it under avowed limitations. Now where lies the difference between Mr. Brightley and myself?—His sentiments appear to be very nearly, or rather, precisely, similar to my own; yet he says that Mr. Bartley “has carried the victory over Pastorius.”—Had your friend, when he gave this opinion, forgotten his former communications?

Before I leave the subject of New Leicester and Spanish sheep, I beg to have it understood, that I have not given a decided opinion as to the necessity of covering the latter with a *jacket* on all descriptions of our northern pastures. It is long since I opposed Mr. Bartley, when he asserted that they are sufficiently hardy for all or most of our Scottish and Cheviot mountains. But I should suppose there are some well sheltered situations on our improved and enclosed lands, where *jackets* would not be absolutely necessary. Perhaps I am not very correctly informed relative to the hilly pastures of Wales; but from what I have heard of some of these sheep walks, and the climate of that part of the kingdom, I should suppose them pretty well adapted to the Anglo-Merino breed.

Your correspondents, *Agricola Northumbriensis* and *An Essex Farmer*, are engaged in the discussion of an important subject, which I hope will be pursued till it be brought to a satisfactory conclusion.—An appeal having been made to your Scotch friends, I shall now offer a few remarks.

The drilling of culmiferous crops is indubitably pursued to a much greater extent in some of the southern counties than it is in Northumberland, and upon a more extensive scale in the latter county than in Scotland. In this part of the kingdom some farmers doubt that it is the most advantageous method of culture. Others, however, are inclined to give it the preference; and for my own part I have no hesitation in saying, that I think it deserves it. But I cannot go with many of your southern agriculturalists in the superiority of produce; and I am much inclined to the opinion of *Agricola Northumbriensis*, that the great difference of produce, in favour of drilling, is imputable to the foul or exhausted state of the land in many parts of the south.—It is impossible that the difference can be nearly so great as several southern experimenters have represented, when the soil is in a clean and proper state.

On some future occasion, perhaps, I may communicate my sentiments upon this subject, in a more detailed manner; and I may also, perhaps, attempt a similar discussion of another important one—the comparative advantages of autumnal and spring ploughing. The latter subject was brought into the view of your readers, some months ago, by Mr. Brightley; and from the intelligence and experience of your correspondents, I supposed it would have been amply investigated ere now. What is the reason of the delay? Surely it is not that your friends are unacquainted with the effects of autumnal and vernal tillage; for they have been long tried and are well known. It appears to me, that the reason lies in the

difficulties of a thorough investigation, owing to Mr. Brightley's able manner of treating the subject; from which it is clear that a mere statement of effects will not afford complete satisfaction. A great deal seems to be expected on causation, and on some intricate cases which he has ingeniously noticed. I should be sorry, Sir, to take the lead upon this subject; for I have long since informed your readers that I am far more a shepherd than a tiller of the ground. But as my experience in the latter capacity is pretty considerable, I purpose to attempt the requested discussion, if it does not soon fall into abler hands. *Farmer Sandy* seems to have been *fencing* with its difficulties for some months; and I am really sorry to observe, that in all that time he has not attempted to shew your readers a single vigorous *allonge*. I am not a little surprised, that a Scotchman, so well furnished with powerful weapons as this intelligent correspondent, should have had patience for so much *parrying*, without once even attempting to come to close quarters. I am sure such conduct is by no means consistent with our national character.

I am, Sir,

Your humble servant,
PASTORIUS.

P. S. My papers in your last Publication contain some errors. Except one, however, they seem of little consequence. At page 386, line 34, for *without any concessions on ANY part*, read *without any concessions on MY part*. The difference is important, to which I request the attention of your readers.

The Agricultural Report, in your last Number, from *Agri-cola Northumbriensis*, appears to me to have been pretty well calculated for Berwickshire, at the time of its date. Since that time, however, a most lamentable change has taken place in most parts of this district. From the 15th or 16th of June, the weather has been almost constantly dry, and generally cold. Our nights have been always, and some of our days have been extremely so. The present appearance of our turnip, and indeed of all sorts of crops, is very far from auspicious. The same may be stated, I fear, with regard to much the greatest part of Scotland, Northumberland, and the North of England. I wish not, however, to spread any alarming accounts: let us wait patiently for ample information. Yesterday brought us heavy rains, which appeared to be general. Perhaps this favourable change, and a continuance of genial weather, may promote greater growth and fructification than we can reasonably expect.

Upon our light soils, however, I never saw the corn and grass crops so much injured, in so short a space of time. A great proportion of them are past recovery.

July 15, 1806.

P.

ON LORD SOMERVILLE'S TWO-FURROW PLOUGH, AND THE
DOUBLE PLOUGH OF THE MIDLAND COUNTIES.

To the Editor of the Agricultural Magazine.

SIR,

July 10, 1806.

SOME time in the past year, one of your correspondents, (I believe a Novice) enquired respecting Lord Somerville's two-furrow plough. This inquiry was more particularly addressed to Mr. Bartley, than to any other of your intelligent friends. To this gentleman the enquirer appealed, after stating much that he had heard in favour of the implement. I long looked anxiously for Mr. Bartley's reply; and am sorry that I have been disappointed. From his silence, and some rather unfavourable information from another quarter, I was led to conclude that a Novice had been mis-informed, and, therefore, lost hopes of being able to plough my land on such moderate terms as I once expected. A friend, however, has lately informed me, that in Leicestershire he has heard that a double mold-board plough, on one side, which turns two furrows at once, and goes steadily without a holder, is much used. Now, Mr. Editor, I should be very much obliged to you, or any of your readers, if they will inform me fully concerning this uncommon plough; not only how she answers, but also the expence; and likewise the sort of land upon which she is used. I really have some doubts as to the correctness of my friend's information; however, if there is such a plough, that she is the best is as plain as

A. B. C.

P. S. It will also be obliging, if any of your readers will inform me, how much this double Leicester plough will plough in a day; how many horses or oxen are generally employed in her; and whether they have seen her at work, or had their information from any person that had seen her ploughing; and also, whether she is generally made by the wrights in that county, or only by some particular one.

COMPARISON OF NORFOLK AND NORTHUMBERLAND HUSBANDRY—PROTECTING ARTIFICIAL GRASSES—HIGH RENTS IN THE NORTH—OX LABOUR—LATE STATE OF THE WEATHER AND CROPS IN NORTHUMBERLAND.

To the Editor of the Agricultural Magazine.

SIR,

July 17, 1806.

I AM very ready to acknowledge the well-earned fame of the husbandmen of Norfolk. I cannot, however, admit that the rural economy of that county, "is at least equal to that of any other district in the kingdom."* Neither can I allow the superiority of the soil of Northumberland; and your correspondent will observe, that even if he could satisfy your readers as to this superiority, much would remain to be stated on the subjects of climate, quality of produce, and markets. In these respects he will not, I presume, deny the superior advantages of Norfolk. Yet our rents in Northumberland are much the highest; and when I combine these with the greater wages of our labourers, and the other circumstances just mentioned, I should suppose they would be almost universally admitted as satisfactory criteria of the general pre-eminence of our northern management. I say general, because, though I entertain no doubt of our merits, *upon the whole*, being greater than those of our Norfolk brethren, I admit that in some respects we must yield the palm to them. In ploughing, in harvesting their crops, and in the collection of materials for manures, for example, the husbandmen of Norfolk, as far as I can learn, deserve the tribute of the greatest praise. I will also acknowledge that in several of the southern counties the farmers are more attentive than those of Northumberland, in scraping roads, collecting stubble, &c. to increase the quantity of their manure. This I observed, last April, in Yorkshire, and some other parts of the kingdom, where many of my brethren were breaking down, and raking the stubbles upon their artificial grasses—a practice I beg leave to recommend to the cultivators of Northumberland and the adjoining counties. But if we northern husbandmen are thus inferior in these several points, does it not forcibly strike your respectable correspondent, "John ———," *when he considers our very high rents, &c. &c.* that in other respects—in other sources of profit—we must stand eminently superior? To be satisfied of this, he should maturely consider the advantages

* This is asserted, in page 288, No. 82, by one of your Norfolk correspondents.

we derive from the excellence of our turnip culture; rotation of crops; and breeds of black cattle and sheep.

The conclusion which your correspondent has drawn from his premises, is incontestably just. His error does not lie in his reasoning, but in the foundation upon which he has reared it. I am perfectly satisfied of the superior profit of cultivating good land at fifty shillings per acre; compared with that on inferior soil at a lower rent. But the lands, &c. of Norfolk being equal, if not superior, to those of Northumberland, his arguments and calculations, however elaborate and ingenious, fall to the ground.

Lands in the southern counties produce (besides corn and grass) saffron, wood, hops, liquorice, &c. Those in Northumberland, however, which are now let at three or four pounds per acre, do not produce the latter *very valuable articles*. Their products are grass, oats, barley, wheat, beans, pease, turnips, tares, potatoes, and cabbages. One farm (a twenty-one years' lease of which expires on the 12th of May, 1807) contains about four hundred acres at the highest rate. It was taken for another term of twenty-one years, in the last spring or winter, at about three thousand pounds per annum. The average rent under the former lease was about 800*l.*, and that for the last seven years 1000*l.* per annum. Besides this, many other farms have been let in this county, since Martinmas last, on leases from twelve to twenty-one years, at astonishing rates. Below you have the late and present rents of a few of them.

	Late Rent.			Present Rent.			
	<i>L.</i>	<i>s.</i>	<i>d.</i>	<i>L.</i>	<i>s.</i>	<i>d.</i>	
No. 1.....	322	10	0.....	1050	0	0	per annum.
2.....	900	0	0.....	2400	0	0	ditto.
3.....	900	0	0.....	1700	0	0	ditto.
4.....	300	0	0.....	700	0	0	ditto.
5.....	270	0	0.....	1200	0	0	ditto.
6.....	760	0	0.....	1642	0	0	ditto.
7.....	450	0	0.....	1100	0	0	ditto.

Most of these farms were let from fifteen to twenty-one years ago on liberal covenants. No. 3. was let only nine, and No. 6. about twelve years ago. The tenants are very respectable, and I heartily wish them much success. I cannot avoid remarking, however, that apprehensions are entertained that their farms will not leave adequate profits.

I observe the statements in the 355th and 397th pages of your last Number on the comparative merits of horses and
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oxen in farm labour I have also observed your assertions (in several late Numbers of your Magazine) Mr. Editor, in favour of the latter animals. In reply I have only to say, that your Numbers for 1803 or 4, contain my sentiments upon this important question, at great length; that I conceive I have therein demonstrated the great superiority of horses; that, (as your correspondent, *A Novice*, has justly observed) you have advanced *assertions without either facts or arguments*; that if my calculations or arguments are fallacious, you ought to have pointed out the errors; and that I now throw down the gauntlet to you. I am perfectly ready to attempt a defence of my former statements with such alterations as the present prices of the animals in question render necessary. These alterations will certainly be against horses. Still, however, the balances will be *greatly* in their favour.

Your correspondent, *A Novice*, says, that "oxen are laid aside in Yorkshire." I can assure him, however, that was not the case last April, for then I saw several oxen ploughs at work on the southern banks of the Swale, upon flat and excellent turnip soil, where four of these animals were employed in a plough. Upon the same kind of land, on its northern banks, I saw two horses and two oxen employed in each plough. These lands, if I am rightly informed, are let at about twenty-five to twenty-eight shillings per acre. In this county they would let, readily, at from fifty shillings to three pounds; and I am persuaded, that with the latter rents, their cultivators would be under the necessity of preferring the more profitable mode of using two-horse ploughs. I cannot quit this subject without informing *A Novice*, and all your Yorkshire readers, that such soils are better cultivated and more productive in Northumberland with two-horse ploughs only.

Almost ever since the date of my last report, the weather, in this district, has been very dry and often cold, and consequently very unfavourable to vegetation. Our corn crops, particularly upon the light soils, are very much injured. Almost the whole of our turnips, upon our most adhesive turnip lands, have a very unpropitious appearance. Within the last few days we have had some pretty heavy rains, but I apprehend they have been too late for the crops of corn upon the light grounds.

I am Sir,

Your, &c.

AGRICOLA NORTHUMBRIENSIS.

We have to apologize to this respectable writer for the non-appearance of an Errata which was attached to this article, relative to his Essay in the preceding Number.—The compositor mislaid it, and we are under the necessity of troubling A. N. for another copy.

ON NEW LEICESTER AND SPANISH SHEEP—FOOT
ROT—PRICE OF FINE WOOL DESIRED.

To the Editor of the Agricultural Magazine.

SIR,

July 12, 1806.

I HAVE paid great attention to the controversy between Mr. Bartley and Pastorius, upon the subject of the different breeds of sheep, especially the varieties called new Leicesters and Anglo-Merinos; and am perfectly satisfied with the facts and arguments of the latter correspondent, which, I find, agree with the opinions of almost the whole of the practical farmers with whom I have conversed upon the subject. I intend, therefore, to continue my preference to the new Leicesters on my good lands. But having a portion of inferior quality, and rather hilly, upon which I think South-downs or Anglo-Merinos would be most profitable, I am induced to try one or both of these breeds. I am told, however, that they are remarkably subject to the foot-rot, or foot-halt; and that considerable loss is frequently the consequence, even in seasons which are not very wet, and upon pastures not rough. This, I observe, has been noticed by Pastorius. He appealed to his opponent for the truth of his statement, and Mr. B. made no answer that I can find. I therefore suspect, that these short-woolled breeds are really very tender footed, upon which subject I shall be much obliged by the remarks of any of your experienced readers, through the medium of your excellent Magazine. I shall also be much obliged, if they will mention this year's prices of South-down and Anglo-Merino wool, washed, scoured, and as it comes from the shears; and also the weights per fleece of each sort.

Your constant reader,

A MERCANTILE FARMER.

ON DRILLING—TURNIPS, &c.—BRAIN-HUSBAN-
DRY OF THEORISTS—NORTHERN CULTURE.

To the Editor of the Agricultural Magazine.

SIR,

I HAVE read, with great pleasure, the observations and arguments of Agricola Northumbriensis, in answer to your correspondent, *An Essex Farmer*; for it seems of great moment to discuss the various questions they have brought forward. I shall, therefore, as far as I know, answer the enquiry respecting the extent and success of the drill-culture of culmiferous

crops in Scotland. In this county, that mode of culture is practised only upon a small scale; and I understand the same observation will apply to almost every part of this northern division of the kingdom. Perhaps experiments have not been made in this quarter, with accuracy sufficient to decide the question as to the comparative advantages of drill and broadcast husbandry, or the most profitable width of interval, &c. But from what I have seen, and all the information I can obtain from northern husbandmen, I am inclined to think that the difference in favour of drilling is not great; and that nine, ten, or twelve inches, according to circumstances, are the most advisable distances of the rows. The saving of seed in this new husbandry is, in several cases, not material, but generally about a fifth or sixth part. I cannot learn that the superiority of produce in the drill method has, in any case, exceeded a very few Winchester bushels per acre. But the quality is generally thought to be somewhat better. For these reasons I think the drill husbandry will increase in Scotland.

Some farmers in this county doubt that the drilling of turnips is superior to the broadcast mode, in so great a proportion as that stated by *Agricola Northumbriensis*: namely, a fourth part in weight. His opinion, however, which seems to rest on the results of several accurate experiments, is agreeable to that entertained by a great majority of our most exact farmers. Taking it then as well founded, I was much surprised at your Essex friend's assertion, that the drilling of culmiferous crops was followed by advantages which reduced our northern turnip culture to "a mere matter of straw." I had previously heard of the results of the experiments conducted by some reverend agriculturists, which shewed that drilling would treble or quadruple our crops, &c.; but as these advantages were too great for my credulity, I supposed that every practical farmer would receive their statements with as much caution, as he would display with respect to the wild schemes of speculators and projectors in some other departments. Hence my surprise at the assertions of "An Essex Farmer." I do not mean, however, to question the veracity of the reverend husbandmen to whom I have alluded. But in plain terms, I really do question their agricultural judgment and accuracy. What, Sir! do they, or those who follow their opinions, expect to induce the cultivators of this district to believe that drilling would quadruple, or treble, or even add a fourth part to our crops of grain? Here, Mr. Editor, I with infinite satisfaction, refer your readers to the observation of your Northumberland correspondent, towards the conclusion of his letter in your last Number; because I think it is well calculated to shew the

extreme absurdity of the assertions which his opponents have made. "What (says he) would be the increase of our already enormously high rents, if we could, like some southern cultivators, quadruple the present produce of our broadcast crops of wheat? If we could raise from one hundred and sixty to two hundred Winchester bushels of wheat per acre, Northumbria's bleak hills and cold retentive plains would exceed the fertility of the Delta or Bengal." When those husbandmen of the south, who, with all the advantages of soil, climate, &c. can obtain only about twenty bushels of wheat per acre, in the broadcast mode, hear of forty to fifty bushels being obtained in the north, they may for a while, perhaps, become converts to the opinions of certain reverend agriculturists, and to such as those which are propagated by your Essex correspondent. But Scotch or Northumberland farmers, who frequently reap the latter quantities of wheat in the broadcast husbandry, both after autumnal and spring sowing, would stare at a man attempting to convince them that drilling would quadruple, treble, or double such productive crops. They would not only refuse credit to such an extravagant assertion, but probably conclude that all was not right about the region of b——n. It appears to me that "An Essex Farmer," when he answered *Agricola Northumbriensis*, was not aware of our prolific crops under the broadcast husbandry. If he had been well informed on this point, he would not have advanced such bold assertions.

These prolific crops are the consequences of a judicious rotation, liberal manuring, complete tillage and cleaning, weighty crops of turnips, &c. And it will be very difficult to induce me to become an advocate for committing the seed to the ground, either in the drill or broadcast husbandry, without such complete preparation. From all the information I have obtained, I conclude that the general appearance of our crops, in this district, is unfavourable.

Your, &c.

July 16, 1806.

FARMER SANDY.

ON MULES AS BEASTS OF DRAUGHT, AND ON A SCARCITY OF WHEAT.

To the Editor of the Agricultural Magazine.

SIR,

IN answer to P. P. from Finchley, dated May last, on mules as beasts of draught, and the cause of scarcity of wheat, I should, perhaps, in the first instance premise, as a new Correspondent, that I have farmed for above twenty years

in different counties, somewhat for profit, partly for amusement, and principally from the economical comfort and independence of being well supplied in many of the necessaries of life at nearly first cost. Of course I am not confined to the rigid rules of any country, or become the slave of custom; at the same time I am well aware that it is equally rash to condemn the practice of any local spot without very mature observation. Farmers in general are a thoughtful race of men, not easily moved from what they find profitable. From four years residence in South Wales, I found the race of horses so inferior, that I substituted mules in their stead, partly complying with the practice of two mules and two oxen in each plough or cart—the mules of course before. In my experience, I found them a most valuable animal, perfectly docile if kindly treated and kept in constant work, able to endure more fatigue on less and worse food, not subject to so many disorders as horses, particularly in the feet; their pace better adapted to the ox: together they make the steadiest plough I ever beheld, quickening the pace of the latter. I used them in all manner of work, even liming. On leaving Wales I sold a pair of very small ones for thirty-five guineas, so tractable, that the gentleman who bought them, and farms a good deal of his own estate, intended occasionally to drive them in his curriole. Let us suppose a case that often occurs; two farmers take their ground at ten or fourteen years' lease:—If the one commences with fresh horses, and the other with young mules, at the expiration of their leases the horses will have to be renewed, at probably the expence of a year or more rent of his land, when the other will have his mules in their prime, fit to wear out one or two such leases, provided they have sufficient weight to accomplish their work, which, mixing them with oxen, will in a great measure remedy. Perhaps they will not answer equally well in all countries; in heavy land, flat countries, and good roads, I question much whether their length of service, or economy of keep, will give them the preference of horses: but here I have no doubt of the profitable application of oxen, at least in part.

With regard to his second question, I think it in a great degree involved in the first; that in such districts where horses only are used in the purposes of Agriculture, the quantity of oats they necessarily devour will materially lessen the quantity of land that would otherwise be appropriated to wheat, so as to affect the price generally, and in unproductive seasons cause scarcity, of course oblige us to resort to foreign markets. It is, I believe, an acknowledged fact, that moderate sized horses (for large ones are unfit for farmers' use) in con-

stant work of eight hours a day or more, cannot keep up their condition, and perform it with alertness, under a bushel of oats a week, and frequently a portion of beans; which on a computation of two teams of eight horses, with an extra one in case of lameness, &c. for a clay or strong farm of 150 acres, yielding perhaps 50 bushels of oats to the acre, or a light gravelly or sandy farm of 250 acres, producing about 35 bushels, (and perhaps this is an high average) it would require $9\frac{1}{2}$ acres of the strong farm, and $13\frac{1}{2}$ of the light one to oat their horses. But it is well known, that between the ridiculous pride of some masters, and the theft of some servants to see their teams look fatter than their neighbours, a bushel a week is, I apprehend, much under the average consumption. Most carriage horses, or those engaged in pleasurable pursuits, or those employed in manufactories, &c. consume more than double: much of this may be spared by cracking or bruising their oats, when I am convinced three pecks will afford more nourishment than a bushel unbroke, especially when mixed with chaff. Much of that unbroke corn is voided without mastication, and affords little nourishment except to multiply sparrows and vermin. That oxen and mules cannot be substituted throughout in the room of horses, I will readily admit; but if the evil can in part be remedied, it will not only prove of vast national consequence, but individual profit. Prejudice, and the difficulty of dealing with workmen and farming servants, especially as that class of mankind are becoming scarce, and of course less tractable, is the great obstacle. Gentlemen who reside much upon their landed estates have most in their power to overcome this prejudice; let them set the example in their own interior management, and bind their tenants to perform a portion of their labour with oxen or mules, who will not require so much corn, and noblemen, and others of large properties will follow; as the result in a few years will be wheat in great plenty, farms in better condition, and both landlord and tenant considerably enriched.— Were I not supported by the ablest authority, most critical observer in all rural affairs, and the most practical farmer in England, Lord Somerville, I should not presume to be so strenuous in enforcing this opinion.

If my crude ideas can assist your useful and instructive Publication, or throw any light upon doubtful subjects, you shall sometimes hear from

A CLAY FARMER,
In the heart of Surrey.

APOLOGY AND ERRATA FROM R. W.

To the Editor of the Agricultural Magazine.

SIR,
UNAVOIDABLE engagements have rendered it impossible to send you any farther remarks on the poor laws at present, and also an answer to the last communication of Agricola Northumbriensis on the corn laws; on both of which subjects I intended to have sent you something this month, but which must now be deferred till the next.

In the mean time I will thank you to publish the following list of errata in my last.

Page 213, line 32, for *of* read *upon*.

40, after *extent*, add *that*.

313, 47, for *that*, read *wheat*.

315, 21, for *which*, read *wheat*.

317, 17, for *the*, read *this*.

318, 6 and 7, for *countries*, read *counties*.

321, 20, for *reports*, read *remarks*.

Page 314, there should have been no division of the paragraph at *rejected*.

320, the paragraph ending line 36, should have been continued to line 41.

And in page 321, the paragraph should have ended at line 11.

I am, Sir,

Your obedient servant,

Norfolk, July 20, 1806.

R. W.

B. B. presents his respectful compliments to the Editor of the Agricultural Magazine, and requests his influence with his Northern correspondents for the present state of the horse breeding system in Northumberland, the Bishopric of Durham, and the adjoining districts; the sorts bred, and probable numbers. Prices of stallions, brood mares, colts, and horses fit for service.—At what age generally disposed of, and where.—Whether any large and considerable studs, and the supposed profits.—The method of breeding, rearing and treatment.

Hyde Park Corner, July 20.

ENUMERATION OF PATENTS LATELY ENROLLED.

April 1, SAMUEL Miller, of the parish of Saint Pancras, 1806. S in the county of Middlesex, Engineer; for various improvements in the working of coal, tin, lead, and other mines, by which there will be a great saving of fuel and labour, and many accidents prevented.

..... 3, James Keir, of West Bromwich, in the county of Stafford, Esquire; for an improved method of manufacturing white lead.

..... 5, William Henry Lassalle, of the city of Bristol, Apothecary; for certain improvements in soap.

*PREMIUMS offered by the SOCIETY, instituted at London,
for the Encouragement of Arts, Manufactures, and Com-
merce, for the Year 1806.*

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 many THOUSAND POUNDS, advanced by voluntary subscriptions of their members, and legacies bequeathed.

The Register of the Premiums and Bounties they have given, which may be seen at the SOCIETY'S HOUSE in the *Adelphi*, will show 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 are elected.

Each member has the privilege, at the meetings of the SOCIETY, of proposing any person who is desirous to become a member, provided the proposal containing the name, with the addition and place of abode of the proposed member, is signed by three members of the SOCIETY.

Peers of the Realm or Lords of Parliament are, on their being proposed, immediately balloted for; and the name of every other person proposing to become a member, is to be delivered to the Secretary, who is to read the same, and insert the name, &c. 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 balloted for; and, if two thirds of the members, then voting, ballot in his favour, he shall be deemed a *perpetual member*, upon payment of not less than *Twenty Guineas* at one time; or, a *subscribing member*, upon payment of any sum not less than *Two Guineas* annually.

Every member is entitled to vote, and assist in all the transactions of the SOCIETY, and its several Committees. He has also the privilege of recommending two persons as Auditors, at the meetings 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, executed by the late JAMES BARRY, Esq. which, with some valuable busts and statues, decorate the Great Room. He has likewise the use of the 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.

Article 1. ACORNS.

FOR having set, between the first of *October*, 1804, and the first of *April*, 1805, 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

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be delivered to the Society on or before the first *Tuesday* in *December*, 1806.

3. RAISING OAKS. To the person who shall have raised, since the year 1802, 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*, 1807.

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, 1806.

6. **CHESNUTS.** For having sown or set, between the first of October, 1804, and the first of April, 1805, the greatest quantity of 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, 1807.

8. **ELM.** For having planted the greatest number of the English elm, not less than eight thousand, between the twenty-fourth of June, 1804, and the twenty-fourth of June, 1805; and for 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 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, 1807.

10. **LARCH.** For having planted out, between the twenty-fourth of June, 1803, and the twenty-fourth of June, 1804, 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, 1806.

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

12. **ASH.** For having sown or set, in the year 1803, 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.

13. 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, 1806.

N.B. It is the intention of the Society, that such lands only as are not calculated for the purposes of Husbandry, should be employed for the purposes specified in these advertisements.

14. **FOREST-TREES.** To the person who shall have enclosed 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 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 first of October, 1803, and the first of April, 1804; the gold medal.

15. For the second greatest quantity of land, not less than seven 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 December, 1806.

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.

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.

16. 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. The accounts, and certificates of the efficacy of the method, to be produced to the Society on or before the first Tuesday in December, 1806.

17. 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 equidistant rows, in order fully to ascertain which is the most advantageous mode of cultivating wheat; the gold medal. 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 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, 1807.

18. BEANS AND WHEAT. To the person who shall have dibbled or drilled, between the 1st of December, 1805, and the 1st of April, 1806, the greatest quantity of land, not less than ten acres, with beans, in equidistant rows, and hoed the intervals twice or oftener, and shall have sown the same land with wheat in the autumn of the year 1806; the gold medal. 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, 1807.

19. BEANS. To the person who, in the year 1805, 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. 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 were made, together with an account of the produce, the weight per Winchester bushel, and a sample of not less than a peck, be produced to the Society on or before the first Tuesday in December, 1806. 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, 1806.

20. PARSNIPS. To the person, who in the year 1806, 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.

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 Tuesday in February, 1807.

21. 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, 1807.

22. 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.

23. RAISING GRASS SEEDS. To the person who shall raise the greatest quantity of each of any of the following named grass

seeds, viz.--Meadow fox-tail (*alopecurus pratensis*), sweet-scented vernal grass (*anthoxanthum odoratum*), Timothy grass (*phleum pratense*), meadow fescue grass (*festuca pratensis*), smooth-stalked meadow grass (*poa pratensis*), rough-stalked meadow grass (*poa trivialis*); the silver medal. 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 1st day of February, 1807.

24. **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. 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 December, 1806.

25. For the next in quantity and merit, on not less than two acres, the silver medal.

26. **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.

27. For the next in quantity and merit, on not less than two acres, the silver medal. Conditions the same as for preserving turnips, Art. 24. And the *accounts* to be produced on or before the first Tuesday in December, 1806.

28. **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 gold medal. Conditions the same as for preserving turnips,

Art. 24. And the *accounts* to be delivered in on or before the first Tuesday in December, 1806.

29. For the next in quantity and merit, on not less than two acres, the silver medal.

30. **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 gold medal, or thirty 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 December, 1806.

31. For the next greatest quantity, not less than fifty bushels, the silver medal.

32. **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 sample; to be produced on or before the first Tuesday in January, 1807.

33. **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, 1807.

34. **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, 1800, to be produced to the Society on or before the last Tuesday in November, 1806.

35. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in November, 1807.

36. 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.

37. 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 enclosed, 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, 1807.

38. MANURES. For the most satisfactory set of experiments, to ascertain the comparative advantages of the following manures, used as top-dressings on grass and 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 ten guineas. It is required that the above experiments be made between two or more of the above-mentioned manures, and that no 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, 1807.

39. 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, 1807.

40. 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 first of January, 1807.

41. 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, 1807.

42. 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, 1806. Simplicity and cheapness in the construction of this and the preceding machine, will be considered as principal parts of their merit.

43. 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, 1807.

44. 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, 1807.

45. **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 silver medal, or ten guineas. The *accounts*, with proper *certificates* to be produced to the Society on or before the first Tuesday in January, 1807.

46. **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, 1807.

47. **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 silver medal, or ten guineas. The *accounts*, with proper *certificates*, to be delivered to the Society on or before the second Tuesday in December, 1806.

48. **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, 1807.

49. **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 silver medal, or ten 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, 1807.

50. **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 ten 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 first Tuesday in December, 1806.

51. **PROTECTING SHEEP.** To the person who, in the year 1805, 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 ten 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, 1807.

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.

52. **CULTURE OF HEMP IN CERTAIN PARTS OF SCOTLAND.** The Society 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 1806, 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.

53. To the person who shall sow with hemp, in drills at least eighteen inches asunder, the next greatest quantity of land in the above-mentioned district, not less than twenty-five acres, statute measure, in the year 1806, 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, 1807.

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

54. PRESERVING SEEDS OF VEGETABLES. For the best method 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, 1806; the gold medal, or thirty guineas.

55. 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, 1806.

56. 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, 1807.

57. 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, to be produced to the Society, on or before the second Tuesday in February, 1807.

58. 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 pro-

duced to the Society on or before the second Tuesday in January, 1807.

59. 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, 1806.

60. 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, 1807.

61. 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, 1807.

62. 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, 1807.

63. 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 manufacturers, 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 thirty guineas. *Certificates* of the superior quality of the quantity so prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1807.

64. **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 above mentioned, 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, 1807.

65. **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 January, 1807.

66. **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 alkaline salts; the gold medal, or thirty guineas. *Certificates* and conditions as for premium 65.

67. **RENDERING MUSLIN LESS COMBUSTIBLE.** To the person who shall discover to the Society a method of rendering muslin less combustible, to be effected by a cheaper and more effectual mode than any hitherto known; the silver medal.

Specimens of the muslin so prepared, with a full account of the process employed for the purpose, to be produced to the Society on or before the first Tuesday in February, 1807.

N.B. It is expected that the means employed should neither injure the quality nor stain the muslin, nor damage any print or dye with which it may be coloured.

68. **SUBSTANCE 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, 1807.

69. **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, 1807.

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.

70. **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.

71. **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, 1807.

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.

72. **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, 1807.

73. PREPARATION OF ANY ALKALINE OR EARTHEN 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 alkalis, 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, 1807.

74. 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 being converted 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, 1807.

75. 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, 1807.

76. 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 so 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, 1807.

77. 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, 1807.

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78. REFINING COPPER FROM THE ORE. To the person who shall discover to the Society 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, 1807.

79. 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, 1807. The map to remain the property of the Society.

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

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

82. NATURAL HISTORY. To the author who shall publish, in the year 1806, 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, 1807.

PREMIUMS IN POLITE ARTS.

83. 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; the honorary medal of the Society in gold.

84. The silver medal for the best copy.

85, 86. 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.

87. HONORARY PREMIUMS FOR DRAW-

ING, BY GENTLEMEN. For the best original drawing, of any kind, by young gentlemen under the age of twenty-one; the gold medal.

88. For the best copy, the silver medal.

89, 90. 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.

91. HISTORICAL DRAWINGS. For the best historical drawing, being an original composition of three or more human figures, the height of the principal figure not less than eight inches, by persons of either sex under twenty-one years of age; the gold medal.

92. For the next in merit, the silver medal.

93. DRAWINGS OF OUTLINES. For the best outline, after the plaster cast, of any antique statue, by persons of either sex under the age of twenty-one, the figure not less than eighteen inches; the silver medal.

94. PAINTINGS IN OIL. For the best painting in oil, of a landscape after nature, the size thirty-six by twenty-eight inches, by persons of either sex under twenty-five years of age; the gold medal.

95. For the next in merit, the silver medal. Each candidate must mention from whence the view was taken.

96. DRAWING OF LANDSCAPES. For the best drawing, in water-colours, of a landscape after nature, not less than eighteen inches by twelve, by persons of either sex under twenty-one years of age; the gold medal.

97. For the next in merit, the silver medal. Each candidate must mention whence the view was taken.

98. DRAWINGS BY ENGRAVERS. For the best finished drawing of the Hercules Farnese, the size of the drawing not less than eighteen inches, by persons under twenty-one years of age; the silver medal.

99. DRAWING AND ENGRAVING. To the person who shall complete the best portrait, engraved in the line manner; the gold medal. It is required that the drawing, and two impressions of the engraving, be produced, such impressions to remain the property of the Society.

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

101. LINE ENGRAVINGS OF HISTORICAL SUBJECTS. For the best historical engraving of any size; the gold medal.

102. For the next in merit, the silver medal.

103. LINE ENGRAVINGS OF LANDSCAPES.

For the best line engraving of a landscape, the size of the engraving not limited; the gold medal.

104. For the next in merit, the silver medal.

N. B. It is not necessary, in the classes of line engravings, for the artist's name to be concealed. The first aquafortis proof is required to be sent in with two finished impressions. The aquafortis proof, and the two impressions, to remain the property of the Society.

105. PERSPECTIVE DRAWINGS OF MACHINES. For the best perspective drawings of machines, by persons under twenty-one years of age; the silver medal.

106. ENGRAVING ON WOOD OR METAL BLOCKS, &c. For the best engraving on wood or metal blocks, or 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 medal. Two or more impressions, with the block, to be produced to the Society. The impressions, but not the block, to remain the property of the Society.

107. 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, together with a full explanation of the whole process.

108. 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.*

CONDITIONS

FOR THE POLITE ARTS.

All the claims under this class are to be produced to the Society on or before the last Tuesday in February, 1807.

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.

No person shall be admitted a candidate in any class, who has already 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 first Wednesday in June, 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, or academy, 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.

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, residence, and age; which paper is not to be opened unless the candidate be successful, or by a special vote of the Society.

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, whether the performances are originals or copies; and if copies, whence they were taken.

PREMIUMS FOR ENCOURAGING AND IMPROVING MANUFACTURES.

109. CLOTH FROM HOP-STALKS, &c. To the person who shall produce to the Society the greatest quantity, not less than 30 yards of cloth at least 27 inches wide, made in Great Britain or Ireland, 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, 1806.

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.

110. HOGS BRISTLES. To the person who shall prepare the greatest quantity of bristles, from swine bred in the united kingdoms, equal in quality to those imported from Russia or Prussia, and at as cheap a rate; the silver medal, or fifteen guineas. Certificates that not less than one hundred weight have been so prepared, and a sample of not less than fourteen pounds of such bristles, to be produced to the Society on or before the last Tuesday in February, 1807.

111. 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 wick so prepared, to be produced to the Society on or before the last Tuesday in December, 1806, with certificates that the whole quantity is equal in quality to the sample.

112. EXPERIMENTS TO ASCERTAIN THE PROPER THICKNESS OF WICKS FOR CANDLES. To the person who shall make known to the Society the most satisfactory result of a series of experiments, actually made by him to determine the best thickness of cotton wicks for candles, so as to obviate the defects of those commonly used; the silver medal, or ten guineas. Certificates that not less than one hundred weight have been so made, and six pounds of the candles, to be produced to the Society on or before the last Tuesday in February, 1807.

N. B. The intention in offering this premium, is to ascertain the proper thickness or bulk of the wick in proportion to that of the tallow, and to remove the unpleasant consequences and waste arising from the sparkling or guttering of the candles in common use.

113. PAPER FROM RAW VEGETABLE SUBSTANCES. To the person in Great Britain, or Ireland, who shall, between the first of January, 1806, and the first of January, 1807, 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, 1805, superior to any hitherto manufactured from such substances, 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, potato-haum, poplar, hop-bines, &c. which volumes may be inspected by any person on application to the Housekeeper. *Certificates* of the making such paper, and one ream of the paper, to be produced on or before the second Tuesday in January, 1807.

114. **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 foolscap, 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, 1807.

115. **CHINTS PATTERNS FOR CALICO-PRINTERS.** For the best original pattern in a new taste, of light or dark-ground chints for garment-work, or furniture, fit for the purposes of calico-printers, by persons of either sex; the gold medal. The pattern for which the premium is adjudged, to remain the property of the Society.

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

117. **COPPER-PLATE PATTERNS FOR CALICO-PRINTERS.** For the best pattern, in a new style, fit for the purposes of calico-printers for garment-work, or furniture; the silver medal. The pattern for which the premium is adjudged, to remain the property of the Society.

N. B. The patterns to be produced on or before the last Tuesday in February, 1807.

PREMIUMS IN MECHANICKS.

118. **GUNPOWDER-MILLS.** To the person who, in the year 1806, 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 February, 1807.

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 as they may appear to merit.

119. **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 January, 1807.

120. **TAKING WHALES BY THE GUN-HARPOON.** To the person who, in the year 1806, shall strike the greatest number of whales, not fewer than three, with the gun-harpoon; ten guineas. *Certificates* of the striking such whales, and that they were actually taken in the year 1806, 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, 1806.

121. **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, 1807. Cheapness and simplicity will be considered as essential parts of its merit; and the mill or a model, to remain with the Society.

122. **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, 1807.

123. **IMPROVED WALKING-WHEEL, OR CRANE.** To the person who shall invent an improved walking-wheel or crane, on which the weight and power of any person or persons shall be applied with the greatest safety and effect, and so contrived that the power can be varied according to the greater or less

weight to be raised or lowered; the gold medal, or thirty guineas. The model on a scale of not less than one inch to a foot, with a proper *Certificate* that the machine at large has been employed to good effect, to be produced to the Society on or before the second Tuesday in February, 1807.

124. 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 February, 1807.

125. ELM PIPES. To the person who shall invent and discover to the Society a substitute for the elm pipes now in common use for the conveyance of water, which shall be cheaper, equally effectual, and more durable than any heretofore employed; the gold medal, or thirty guineas. It is required that one of the pipes so employed, an accurate *account* of the method used, and every expense attending it, together with satisfactory accounts of its being effectual, be delivered to the Society on or before the second Tuesday in January, 1807.

126. LAYING WOODEN PIPES. To the person who shall invent and discover to the Society a superior method of laying or connecting the wooden pipes now in use for conveying water so as to lessen the injury they receive thereby; the silver medal, or fifteen guineas.

It is required that a model, 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 second Tuesday in January, 1807.

127. EXTINGUISHING FIRES. To the person who shall produce to the Society the best and most effectual method of procuring an immediate supply of water in case of fire, or for the means best calculated to prevent or extinguish accidental fires in buildings, superior to any now in use; 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 second Tuesday in January, 1807.

128. 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 or 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, 1807.

129. HEATING ROOMS FOR THE PURPOSE 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 purpose of painters, japaners, 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, 1807.

130. 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, 1807.

131. 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-wheeled 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 January, 1807.

132. IMPROVING TURNPIKE AND OTHER ROADS. To the person who shall discover to the Society the most effectual and cheapest method, verified by actual experiments, of combining the materials ordinarily employed in making or repairing roads, so as to form them of the hardest consistency by their cementing properties, or by an artificial mixture of earth, stones, &c. altered by heat or any other mode, so as to form an even, hard, and durable carriage-road, not liable to be injured by heat or rain; the gold medal, or fifty 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, 1807.

133. 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.

134. 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 January, 1807.

135. CHIMNIES CLEANED. To the person who shall during the year 1806 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, 1807.

136. 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.

137. 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, 1807.

138. FOR PREVENTING PREJUDICIAL EFFECTS TO THE PERSONS EMPLOYED IN POINTING NEEDLES. To the person who shall invent and produce to the Society a mode of obviating the prejudicial effects that attend the operation of pointing needles, by grinding them dry, during which the particles of grinstone dust and steel, being thrown into the air, and received with it into the lungs, occasion asthma, consumption, and other painful disorders; the gold medal, or thirty guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, together with proper *certificates* of its practicability and adoption, to be delivered to the Society on or before the second Tuesday in March, 1807.

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

139. TAKING PORPOISES. To the people in any boat or vessel, who, in the year 1806, 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, 1807.

140. 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 1806, 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, 1807.

141. CURING HERRINGS BY THE DUTCH METHOD. To the person or persons who shall, before January, 1807, 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.

142. 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, 1807, with *certificates* that the conditions of the premium have been 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.

143, 144. The same premiums are extended one year further. *Certificates* to be produced on or before the first Tuesday in February, 1807.

PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH COLONIES.

145. 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 fifty 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, 1806.

146. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in December, 1807.

147. 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 1805, 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.

148. 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, 1807.

149. The same premiums are extended one year farther. *Certificates* to be produced on or before the second Tuesday in January, 1808.

150. 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, 1807.

151. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in January, 1808.

152. CULTIVATION OF HEMP IN UPPER OR 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 1806, 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.

153. 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 1806, in the manner above mentioned; the silver medal, or eighty dollars.

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

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

156. For the next greatest quantity of land, in the same province, and in the same 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, 1807.

157 to 161. 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.

162. 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 1806, the produce of Upper or Lower Canada; the gold medal.

163. 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, 1807, to testify that such hemp was grown and prepared in Canada.

164. SUBSTITUTE FOR HEMP. To the person who, in the year 1807, shall discover and produce to the Society a substitute for hemp, equally cheap, durable, and applicable to all the purposes for which hemp is now used; the gold medal, or fifty guineas. A quantity of the substitute, not less than one hundred weight, together with proper *certificates* from the governor or commander in chief, if raised in any of the British colonies, or from the Secretary of the Board of Trade, if raised in the East Indies, to prove that the same has been used with success, to be produced to the Society on or before the last Tuesday in February, 1808.

165. The same premium is extended one year farther.

Certificates to be produced on or before the last Tuesday in February, 1809.

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

166. BHANGULPORE COTTON. To the person who shall import into the port of London,

in the year 1806, the greatest quantity, not less than one ton, of the Bhaugulpore cotton, from which cloths are made in imitation of nankeen, without dyeing; 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, 1807.

167, 168. The same premium is extended two years farther. *Certificates* to be produced at the same time of the years ensuing.

169. ANNATTO. To the person who, in the year 1806, 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, 1806.

170. 171. The same premium is extended two years farther. *Certificates* to be produced at the same time of the years ensuing.

172. TRUE COCHINEAL. To the person who, in the year 1806, 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 February, 1807.

173. 174. The same premium is extended two years farther. *Certificates* to be produced at the same time of the years ensuing.

CRITICAL CATALOGUE.

Anatomical Reflections on the Form of Animals, and the New Opinions of Henry Cline, Esq. Surgeon. By John Hunt, Author of Historical Surgery; and Salutory Cautions respecting the Gout. 5s. Phillips. 1806.

THE Author of this missive sets off and concludes in a great style. Doubtless he modestly predicates that he has acted up to his motto—*Scribendi recte, sapere est et principium et fons*. In his P. S. he warns the subscribers of an important change he thought necessary to make in the title of his work; namely, to change Speculations to Reflections; and to reduce its intended quarto size, rather than incur the hazard of any delay: nor are promises spared, in case another edition should be demanded by the public eagerness for instruction.

The nature and intent of this tract will be, in part, perceived by the reader from its title. It is to controvert the speculative opinions of Mr. Cline the Anatomist, on the form of our domestic animals and the principles of breeding. For our opinion of Mr. Cline's qualifications in that line, we refer our readers to page 132 of our seventy-ninth Number. However, Mr. Cline's publication has well answered the purpose of the present author. Mr. Hunt has made the proper giants in order to kill them; for whoever heard, or where did he hear, of the great expectations formed of the extensive influence of Mr. Cline's publication, and of the new æra which it was to establish in the annals of agriculture? What man of experience, theoretic and practical, and thence competent to the subject, could find ought of novelty in Mr. Cline's speculations, or not find, that Mr. Cline could possibly know little or nothing of the matter? That which completes the jest, is, the self-same treasure will be found in the pages of Mr. Cline's redoubtable antagonist.—When Greek meets Greek then comes the tug.—The present author assumes no little from his actual residence in Leicestershire, in the very centre and hotbed of cattle improvement, and from his consequent opportunities of associating and conversing with some of the first geni of the age, in that line; a certificate of equal validity with that which a hop-merchant or dancing-master might adduce, of his anatomical abilities, from his vicinity to Thomas's and Guy's, and his habits of a morning lounge, or evening glass, with the pupils and surgeons of those hospitals. However, Mr. Hunt presents us with a far more decisive and satisfactory certificate, in most of the pages of his book; videlicet, of a total unacquaintedness, theoretical or practical, with the subject of cattle, of the illustrations and advances already made, on which, he seems to be unaware.—The sum of his veterinary knowledge appears to consist in a repetition of the Bakewellian common places, and in panegyrics, richly deserved indeed, on the memory of that phenomenon of our yeomanry. We can pretend to augur far greater success to this author in another and more appropriate attempt which he announces; and

we hope he will not find it difficult, to blow up and disperse the elegant and fashionably scientific gout bubbles of the adventurous Dr. Kinglake.

Notwithstanding what we have advanced, Mr. Hunt has published some very rational opinions on the incompetency of surgeons and anatomists, merely as such, to judge of the useful form, breeding, and management of cattle. He has, indeed, in this respect, followed a track already pointed out to him, and he had probably another light for his guide; a certain consciousness of his own.—Hewell expresses himself on this topic, as follows, in page vi of his preface, and we give him credit for it :

“ To search for the vital powers when life is gone, must prove a vain pursuit. But he who daily views the whole machine in action, who watches all its motions, and estimates its powers, and, when the balance sinks beneath the healthy standard, with cautious hand adds a few grains of salutary influence to turn the scale, will certainly know more about the vital powers than he who, when the spring of life has failed, attempts to pry into the worn-out mass, and with unnatural conjectures vainly tries to fill the empty space, and with imaginary powers presumes to show how nature moved the whole with sympathetic sway.

“ I could exemplify these observations by innumerable instances collected both from modern practice and ancient writings, if such evidence should ever be thought necessary; but for the present shall conclude, that in both instances the living evidence (the *viva vox naturæ*) is of the most importance. I am ready to acknowledge that I am much less perfectly acquainted with the practical part of the breeding and feeding of domestic animals than I am with the internal structures or anatomical illustration of the animal œconomy; but as I have so long been situated so near to the centre of the breeding system, and have had such frequent opportunities of conversing on the subject, and knowing the opinions of gentlemen of the first agricultural abilities, I consider myself more particularly called upon to guard the present state of practical improvements against the mysterious delusions of scientific representation.”

We will now skim over his airy pages, in which will be joined not only “ Bakewell, Cline, breeding in and in, like produces like, bones great and small, horns and no horns, form, crosses, Arabian horses, Chinese boars, Flanders mares, and all the rest of it,” for which he contracted with his readers at the moderate price of five shillings, but “ Hunter, Darwin, Hogarth, Sir Joshua Reynolds, philosophical theorists, ancient heroes of Greece and Rome, old English barons, British valour, cotton-spinning, and a panegyric on the late Duke of Bedford,” with even much more, which he has generously thrown into the bargain. On the alleged importance of the chest and lungs of animals, our author thus reasons :

“ If then we return to what was the first object of our attention, and at the same time admitting that a combination of all the beauties of nature is not to be obtained, it certainly would be a question deserving our attention, if we could determine the standard of perfection which we have in view. In sheep, the grand characteristics

are few, but of great importance; but the points or external appearances which are considered indicative of these perfections are much more numerous. I am as well convinced as Mr. Cline can be, that the business of digestion and nutrition depends upon the visceral functions; but the effects of the internal operations are best determined by external appearances. It is probable that the perfections of a sheep may be limited to the lightness of the bone, the quantity of flesh, and to such kind of animal as will lay on the greatest quantity of fat with the least quantity of food, and with the most expedition. The anatomist may examine the internal parts with all the accuracy in his power, and suppose them strong and healthy; still it is the external appearances which we must depend on as the characteristics of perfection. These, it will be readily perceived, are all questions of practice, and not of science; and the accuracy of the breeder's opinion must, the same as in other arts, depend alone on experience and observation."

"I am very certain that the fore parts of those animals would not escape the breeder's attention, and their success has proved the accuracy of their knowledge of the subject. But before we can say as much in favour of the anatomist, let me beg leave to ask this plain though important question: Whether if the lungs were taken out of a number of animals of different degrees of perfection, and then presented to an anatomist for his opinion, after minute examination the anatomist could determine the different degrees of perfection of the respective animals, with equal certainty as the breeders could tell by the examination of their external forms? This new doctrine might then perhaps be thought worthy of attention; but till some such experiment has been made with unquestionable success, the external evidence must certainly have the preference."

The author now gets on horseback, as if purposely to demonstrate that he is so, as much out of his place, as certain other writers have been before him. The anecdote of a horse being sold for a hundred guineas, in the Quorndon hunt, would have afforded an opportunity for discrimination in that species of skill; but when Mr. Hunt, in page 23, tells us—"how the different proportions are best adapted to different circumstances, and how *the light bone and small muscle* of the race horse are best calculated for speed," we expect nothing: *ex nihilo, nihil fit.*

This style it is, in which our modern veterinary folk speculate about running horses, animals which have generally and proportionally the largest and heaviest bones and tendons, of any of their genus; nor is smallness of bone in them a peculiar indication of speed, that being the peculiar distinction, or *best*, of many, perhaps most, large sized racers.

From the above writers, when on the subject of crossing, uninformed readers may be led to suppose, that our breed of race horses has been raised from a cross between the Arabian horse and the native breed of this country, a measure no breeder for the turf ever pursued, or probably ever thought of. Yet crossing has ever been a favourite practice on the turf.

The following ideas (page 33) are far more to the purpose, and certainly do the author no discredit.

“ If you want experiments, Mr. Bakewell made them; but not like those of Reaumur or Spallanzani, vainly hoping to discover how the operation of digestion was performed. With far more rational views,—his object was to determine which animal was most disposed to feed, well knowing that it is the blind zeal of philosophy to be searching after causes when we want to obtain a knowledge of effects. With this intent he weighed the sheep and also weighed their food; and by trying a variety of experiments on different kinds of sheep he clearly determined which would produce the most on a given quantity of food. I do not wish to have it understood that those animals, like Sanctorius, lived in scales, or that their egesta as well as ingesta were ascertained by weight and measure; but their quantity of food was regularly weighed, and their increasing weight as accurately ascertained.

“ Many of the theoretical writers on the business of digestion have endeavoured to amuse the public as much by their analysis of the different kinds of food, as the anatomists have by their investigations of the animal œconomy. Doctor Fordyce has conducted this species of refinement to its utmost limits; and, for the purpose of tracing the subject of nutrition to its first principles, endeavours to prove that air and water are the first elements of food both to vegetable and animal nature. But suppose all this was strictly true; yet this water and air must be converted into vegetable matter, and the vegetable matter must be digested and changed into animal matter; and though it may be proved that water and air are both necessary on those occasions, yet they are two processes in nature which are as far beyond our power of imitation as they exceed the limits of the human understanding: such little observations may look well on paper, but do not add a single grain to our knowledge of the subject. Dr. Fordyce tried the experiment with a grain of mustard-seed*, but Mr. Bakewell made his experiments upon acres; and though he never might attempt to investigate either the vegetable or the animal process by which these operations are performed, yet he endeavoured to show how land by the agency of water might be made to produce the greatest quantity of food for sheep and cattle, and how these animals might produce the greatest quantity of food for man.”

Again, on Mr. Cline's hypothesis, that “ an animal with large lungs is capable of converting a given quantity of food into more nourishment, than one with smaller lungs; and therefore has a greater aptitude to fatten;” Mr. Hunt remarks, that he had lately seen a fine example of a high bred sheep (New Leicester we suppose) which was exceedingly fat, and was astonished to find the lungs so remarkably small. His astonishment is surely no proof of practice, which would have proved to him, that such is a general consequence. Mr. Cline, we apprehend, in this case, to be both right and wrong. Animals with large, expanded offals, lungs, liver, &c. are surely capable of converting a given quantity of food into a greater weight of solid flesh, than those which have smaller lungs and smaller bones; but they have not, therefore, a greater aptitude to fatten. But we acknow-

* See Fordyce on Digestion, &c. page 74.

ledge no partiality for the extreme of small bones and small offal; and from the information we have had, we are led to prefer the Culley, or Northumberland variety of New Leicester sheep, to the highest bred forms of their own county. Mr. Hunt needed not to have had recourse to the turf, to prove that small females often bring very large produce, from being matched with large males; nor is the position concerning the female, as stated by Mr. Cline, of any very material import, but rather handled at the wrong end.

Sir John Sinclair's proposed enquiry respecting health and longevity in human nature, together with Mr. Cline's paper on animals, give rise to the following curious reflections of this author:

"I cannot suppose that there ever was a period of time since the origin of literature when the *cacoethes scribendi* was so truly epidemical: but whatever may be the opinion of the learned, the evidence is too striking to admit of doubt, that there are a great number of the arts which never can be brought to scientific certainty; and in many cases our knowledge at least depends so much on personal attention, that the highest perfection of the art is ultimately limited to private judgment and individual opinion. If a perfect knowledge of the arts could be delineated upon paper, the genius of a Michael Angelo or a Raphael would no longer bespeak our admiration or merit our attention. If it were possible to give the prescription of the colouring, and directions for the brush, the art might then be recorded with scientific certainty, and become transferable for ever. But in all these sublimities of taste, we are taught by the experience of ages that the accomplishment is personal, and can neither be communicated nor described. And if, in pursuit of the same argument, we should for a moment suppose that the practice of physic could be brought to the same perfection, one system of perfection would then be established, and the different branches of the profession would all be reduced to the same level; and any old woman, who was capable of reading a plan of domestic medicine, would then be equal to the first physician of the age. And with respect to domestic animals, it must be equally evident, that if the whole was once reduced to book knowledge, all the sublime mysteries of the art would be immediately exposed, and every person who could read be at once initiated into the profession."

On constitutional stamina, and on the rationality and justice of affording good keep, Mr. Hunt really writes like a philosopher:

"I do not pretend to say that those who are employed in manufactories are equally strong and healthy as those soldiers who have been well seasoned to the field; but there are numbers, in manufactories, of ingenious heads and useful hands, who never would be fit for soldiers, whose health would not enable them to bear the camp, and yet are useful members of society in their respective situations. It is a well known fact amongst military gentlemen, that if a newly raised regiment is immediately taken into actual service, very great numbers die in the first campaign, whose natural infirmities or feeble state of constitution will not stand the test of seasoning, in consequence of which those that remain prove strong and healthy soldiers. They are not made strong and healthy by their situation, but are by nature fitted for the service; and as those who are not strong and healthy die, it is only the strong and healthy which remain.

“The same observations are equally applicable to the state of the poor; whose children, exposed to hardships, appear in perfect health; but when we consider the numbers of weakly children that fall martyrs to their situation, we shall, I hope, no longer contend that poverty is congenial to health.

“The satiated moralist and epicurean physician may both write as long as they please against what is invidiously called pride and luxury; but if I am to give my opinion on this subject, I have no doubt but on an impartial inquiry, these rational dictates of nature will be found of more importance than has in general been represented;—they are both very laudable inducements to industry, and become the just reward of our reciprocal services. What is malevolently called pride is the grand spur to cleanliness and external decency, which in many instances will prove a great protection to our health against the intrusion of disease; and what is censoriously called luxury is no more than a rational cultivation of the dictates of nature, to supply the irresistible calls of appetite with palatable wholesome food, for the preservation of health and strength, and the due performances of all the important duties of human life.—It is a principle that may be traced from the palace to the cottage, and may justly be considered one of the brightest links in the chain of civilized society, which is inseparably cemented with the main-spring of human happiness.”

As if in defiance or contempt of certain late humane proposals of restriction by a celebrated political arithmetician, he adds:

“The propagation of the human species may be looked upon as the commencement of immortality, which is a business too sacred for the laws of man to prescribe the bounds. It is one of the great principles of nature implanted at the creation, and may justly be considered one of the first commands of God.”

With much propriety, also, he reprehends the stupid practice of injuring the health and procreative powers of tups, by exhibiting them in such a monstrous state of obesity. To conclude, we advise all our readers to purchase this book; in the first place, for the sake of the amusement it contains, in the second, as a *beacon*.

HISTORY

OF

Agriculture.

LONDON, JULY 12, 1806.

Lean cattle are still low in price, and slow in sale. Hay is not very abundant. The prospect of the crop of barley and oats is not yet the most promising. The late rains have advanced the second growth of the meadows

Mr. Curwen's sheep-shearing took place at Harrow-slack, on Friday evening. It was ascertained, by a comparative trial, that a Fell sheep consumes more than a South-Down. About eighty gentlemen dined in a tent with Mr. Curwen:—and one hundred shepherds were entertained separately. —Præmia were distributed,—to George Wilson who had brought up ten out of fourteen children without parochial assistance,—to John Robinson who had been twenty-eight years a faithful servant in husbandry,—to Elizabeth Trotter who had faithfully served twenty-four years.

The Dublin Society, on the 26th of June, voted to Lord Henry the marquis of Sligo, Lord Caher, Thomas M'Carthy, esq. and a number of other gentlemen, præmia, to a very considerable amount, for planting oak-trees, rearing seedlings from Irish seed, and other efforts to promote the growth of timber trees in Ireland.

On Monday, June 30, the Duke of Norfolk and the other principal nobility and gentlemen of Herefordshire, were present at the Agriculture meeting in the city of Hereford. A colt exhibited by Mr. Hughes of Marcle, was judged to be one of the finest specimens ever seen for a good breed of horses for the team.

The only mines of antimony, in Great Britain, are at Glindinning, ten miles from Langholm, in the county of Dumfries.

Malt liquor is much used in Flanders. That of Louvain has the preference. Its peculiar excellence is attributed to the water it is made with, as the merit of London porter to the Thames water.

The beautiful Scottish marble from the Duke of Argyle's island of Tirey, with green spots like leaves on a rose-coloured ground, is exceedingly admired at Paris, and may be there sold at any price. It is harder than our common marbles.

At an average, an Irishman with his wife and four children will eat 37lbs. of potatoes in a day.

At the Hacknesh cattle show in Yorkshire, last Whit-Tuesday, a premium of four guineas was awarded to Mr. Peter Taylor, of Ayton for producing the best two years old bull.

At a late meeting of the Society of Leominster for the improvement of Agriculture, Edward Jones, esq. of Fawley, presided. Various prizes for rams, heifers, boars, bulls, and cows were awarded. The cattle were judged to be the best ever exhibited at Leominster.

At Sir John Lawson's, Brough Hall, near Richmond, Yorkshire, was lately slaughtered an ox, of which the four quarters weighed 168 stone and 10lb.—14lb. to the stone.

It is particularly recommended to farmers, at this time in the season, to extirpate the thistles from their grounds without suffering them to grow to seed. By this care seasonably used, they may be, at least, exterminated entirely.—The thistles in the lanes ought also to be cut down before the usual time of this plant's flowering.

The growth of grain on the Continent now promises a very abundant harvest. Flour, in Spain and Portugal, is now scarce saleable at seven or eight dollars a barrel.

At the great Irish fair of Ballinasloe, on the 5th of October, 60,000 sheep and 40,000 head of black cattle are, on an average, sold annually.

The price of land in Ireland has increased very much since the Union; and tillage is greatly extended.—Irrigation is much and successfully practised near Dublin.

The average price of labour, in husbandry, throughout Ireland is eighteen-pence a day in harvest,---eightpence a day, all the rest of the year.

JULY 19

In the province of New Brunswick, in British America, a Saw-mill has lately been erected to cut plank for the English market, which works fifteen

saws in one frame, and is capable of cutting, annually, 8,000,000 feet of timber.

The mucilaginous liquor from gratings mixed with water, and left to subside, is found to be the best preparation for cleaning silk, cotton, or woollen goods, without injury to the colour.

Dogs are liable to a well-known disease, named the DISTEMPER, and entirely different from madness, which proves, often, terribly alarming and mortal. It begins with an inflammation of the mucous membrane of the nose; extends to the eyes, the throat, the lungs, the intestines, the loins, the whole circulating blood, the brain, the lymph, and all the secretions; occasions a dry cough, purging, feebleness, convulsions, and death. It attacks the dog just when his growth is complete. It is almost universal, like the measles or small pox in the human species. No certain remedy has been, till of late known for it, in this country. From sentiments of humanity, therefore, not less than the value put upon dogs, in the economy rural and domestic of the people of these kingdoms, and in their amusements, we have peculiar satisfaction in stating, that "a desert spoonful of common salt, dissolved in water for an emetic; next day a medicinal powder of the specific preparation of Mr. DE LABERE BLAINE, for this use;—if the distemper shall not have yielded to the first dose, the continued administering of the powder, in mixture with an equal quantity of calcarilla-bark; will, in every case of the disorder, which has not been too long neglected, accomplish an entire cure. Mr. BLAINE'S POWDER is the grand specific. Its discovery is, in fact, one of the most considerable which have been made in veterinary medicine. Mr. B's preparations, and his admirable little BOOK on the DISTEMPER, ought to be kept constantly ready, in every family, in town or country, where there are dogs.

JULY, 26.

The late lightnings have been beneficial to the growing grains and fruits, by destroying multitudes of insects which infested them.

27,894 quarters of barley, 6,689 of beans, 722,921 of oats, 72,345 bolls of oatmeal, 6399 bolls of pease, 1474 quarters of rye, 287,262 quarters of wheat, 175,151 cwt. of wheat flour, were imported from Ireland into England and Wales in the last five years, ending Jan. 5, 1806.

The bounties and drawbacks paid within the last twelve years on grain exported from England and Wales to Ireland, were 12,398l. 10s. sterling.

87,787 quarters and 5 bushels of barley, 2 quarters of beans, 228 quarters of oats, 106 quarters of pease, 499 quarters of wheat, 2 cwt. 189 quarters and 2 bushels of wheat flour, were exported in the last five years from England and Wales to Ireland.

Wheat, barley, oats, and the second crop of grass, have grown very fast, since the late rains fell.

The prices of Cotton-wools have also fallen this week; that of Bourbon, from 2s. 2d. to 2s.; Pernambuco, from 2s. 0½d. to 1s. 11d.; Smyrna, from 1s. 6d. to 1s. 3d. per lib.

At Ross fair, last Monday, the best wools were sold at 4s. per lb.; lamb's wool at, from 24s. to 26s. per stone.

At Worcester market, last Saturday, hops were sold at, from 4l. 4s. to 5l. 5s. per cwt.

The common rate of hire for washing sheep in England, is 4d. a score: and it is stated, that one man who is expert in the task will wash 1000 sheep, thus earning 16s. 8d. in one day.

An agricultural writer, insists; that the beef and mutton of very young cattle is more agreeably juicy and delicate than the flesh of the old; and that our preference of five years old mutton is mere prejudice.

LONDON PRICES OF GRAIN for *July*, 1806.

MARK LANE, *Monday*, June 30, 1806.

Owing to a short supply of Wheat this morning, an advance took place upon the currency of this day se'night, of about 2s. per quarter. From the reduction in this article last week, fine Flour hardly keeps at 70s. per sack; there was much ordinary, and some out of condition offered at all prices.—Barley is rather declining in value, and not much in demand.—White Pease continue dear, and Oats are scarce; but in the last-mentioned, and other articles not named, we have no material alteration.

Price of Grain, on board Ship, as under.

Wheat	50s 60s 68s	White Peas	48s to 52s od	Ticks, new	26s to 42s
Fine	70s to 75s	Boilers	56s to 60s.	Ditto, Old	—s to —s
Superfine	84s to 88s	Suffolks	63s	Oats	24s 28s to 32s
Rye	38s to 45s	Grey Peas	36s to 43s	Polands	—s to 35s od
Barley	28s to 36s od	Beans, new	44s to 51s od	Oats for seed	—s
Malt	68s 72s od	Beans, Old	—s		

Monday, July 7.

Our supply of Wheat to-day was rather a short one, and fine samples advanced from 3s. to 5s. per quarter; a proportionate price was not, however, to be obtained for the inferior and ordinary sorts, the sales of which, at the close of the market, had not the same briskness as in the morning.—Barley and Malt remain steady at our last reported prices.—White Pease, good boilers, still continue on the rise; and Grey Pease are likewise dearer.—Beans, of both sorts, are cheaper; viz. Kentish Ticks about 3s. per quarter.—Although we had not many fresh arrivals of Oats, the stock on hand was found adequate to the demand; prices of this article nearly as last.—Seventy-five Shillings per sack was asked for Fine Flour in the course of the day.

Wheat	56s 70s to 75s	White Pease	46s to 56s	Ditto, old,	—s
Fine	—s 80 10s 84s	Boilers	60s to 64s	Ticks, new	34s to 40s
Superfine,	85s to 87s	Suffolks,	—s to 66s	Ditto, old,	—s
Rye	38s to 44s	Grey Peas	40s to 46s	Oats	23s 27s to 33s
Barley	30s to 36s	Beans, new	43s to 49s	Polands	—s to 34s 6d
Malt	60s to 72s				

Monday, July 14.

This market again was but thinly supplied with Wheat to day, which occasioned our Factors to demand rather more money for fine samples; the advance, however, could not be supported through the day, and the trade left off heavily upon last Monday's terms.—Barley and Malt are both dearer; the supply of the former, of prime quality, being short.—White and Grey Pease likewise come sparingly to market, the last-mentioned dearer.—Beans are not lower; but Oats, of which we have several fresh arrivals, hardly acquired last week's currency.

Wheat	58s 65s 75s	White Peas	48s to 56s	Ditto, Old	—s
Fine	80s to 84s	Boilers	58s to 63s	Ticks new	33s to 39s
Superfine	86s 88s	Suffolks	—s to 65s	Ditto, Old	—s
Rye	37s to 43s	Grey Peas	44s to 48s	Oats	22s 26s to 30s
Barley	28s to 37s	Beans new	40s to 49s	Polands	—s 33s 6d
Malt	64s to 73s				

Monday, July 21.

We had a pretty plentiful supply of Wheat from Essex and Kent this morning, in the sales of which prices declined 3s. per quarter, for fine samples, and something more on those of inferior quality.—Barley and White Pease, being a short supply, both fully maintained last quoted prices.

Grey Pease and Beans, of both sorts, are cheaper, having plenty of each.—Oats likewise, from the North, have arrived in large quantities, but they are mostly of second and indifferent quality; prices rather lower than last week.

Wheat	56s 60s to 75s	White Pease	40s to 54s	Ditto, old	—s
Fine	78s to 82s	Boilers	60s to 64s	Ticks, new	30s to 37s
Superfine	84s to 85s	Suffolks	65s od	Ditto, old	—s
Rye	38s to 43s	Grey Peas	40s to 46s od	Oats	22s 26s to 31s
Barley	32s to 38s	Beans, new	40s to 48s od	Polands	—s to 33s od
Malt	64s to 73s od				

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

<i>Price of Hops.</i>	1st Week		2d Week		3d Week		4th Week		5th Week	
	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.
<i>Bags.</i>										
Kent	100 to 140	126 to 140	105 to 135	105 to 135	105 to 135	105 to 135	105 to 135	105 to 135	105 to 135	105 to 135
Suffex	100 to 160	120 to 136	100 to 150	100 to 150	100 to 150	100 to 150	100 to 150	100 to 150	100 to 150	100 to 150
Essex	100 to 140	120 to 130	100 to 130	100 to 130	100 to 130	100 to 130	100 to 130	100 to 130	100 to 130	100 to 130
<i>Pockets.</i>										
Kent	120 to 147	130 to 147	112 to 140	112 to 140	110 to 150	110 to 150	110 to 150	110 to 150	110 to 150	110 to 150
Suffex	112 to 126	120 to 136	110 to 136	110 to 136	120 to 126	120 to 126	120 to 126	120 to 126	120 to 126	120 to 126
Farnham	120 to 200	160 to —	140 to 180	140 to 180	140 to 180	140 to 180	140 to 180	140 to 180	140 to 180	140 to 180
<i>Seeds.</i>										
Broad Beans, (per quarter)										
Long Pods										
Tares										
Rye Grass										
Carraway, (pr cwt.)										
Coriander										
Trefoil										
Red Clover										
White ditto										
White Mustard Seed, pr bu.										
Brown ditto										
Canary Seed										
Turnip,										
Rape Seed, (per last)										
<i>Meat at Smithfield,</i>										
To sink the offal, p. ft. 8lb.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Beef	3 8 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 4 to 5 0	4 4 to 5 4	4 4 to 5 2	4 4 to 5 2	4 4 to 5 2
Mutton	4 0 to 5 0	4 4 to 5 0	4 4 to 5 0	4 4 to 5 0	4 4 to 5 0	4 4 to 5 0	4 4 to 5 4	4 4 to 5 0	4 4 to 5 0	4 4 to 5 0
Veal	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 0 to 5 0	4 6 to 5 6	4 6 to 5 6	4 0 to 5 4	4 0 to 5 4	4 0 to 5 4
Pork	4 8 to 5 4	4 8 to 5 4	4 4 to 5 4	4 4 to 5 4	4 4 to 5 4	4 8 to 5 4	4 8 to 5 4	4 8 to 5 4	4 8 to 5 4	4 8 to 5 4
Lamb	4 8 to 6 0	5 0 to 6 6	5 0 to 6 6	5 0 to 6 6	5 0 to 6 0	5 0 to 6 0	5 0 to 6 0	5 0 to 6 0	5 0 to 6 0	5 0 to 6 0
Head of Cattle—Beasts about	1,900	1,800	1,900	1,900	1,900	1,800	1,800	2,000	2,000	2,000
Sheep and Lambes	16,500	16,500	17,600	17,600	16,000	16,000	16,000	16,000	16,000	16,000
<i>Price of Leather.</i>	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Butts, 50lb. to 56lb. each	21½ to 23½	21½ to 24	21½ to 24	21½ to 24	21½ to 23½	21½ to 23	21½ to 23	21½ to 23	21½ to 23	21½ to 23
Ditto, 60lb. to 65lb. each	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26	25 to 26
Merchants Backs	— to 21½	21 to 22	21 to 22	21 to 22	21 to 21½	21 to 22	21 to 22	21 to 22	21 to 22	21 to 22
Dressing Hides	18½ to 20	18½ to 20	18½ to 20	18½ to 20	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½
Fine Coach Hides	20½ to 21½	20½ to 22	20½ to 22	20½ to 22	20 to 21½	20 to 21½	20 to 21½	20 to 21½	20 to 21½	20 to 21½
Crop Hides for cutting	21½ to 24	21 to 24	21 to 24	21 to 24	21½ to 23	21½ to 23	21½ to 23	21½ to 23	21½ to 23	21½ to 23
Flat Ordinary	18½ to 19½	18½ to 20	18½ to 20	18½ to 20	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½	18½ to 19½
Calf Skins, 30 to 40lb. p. doz.	30 to 42	30 to 42	30 to 42	30 to 42	30 to 40	30 to 40	30 to 40	30 to 40	30 to 40	30 to 40
Ditto, 50lb. to 70lb. do.	36 to 42	36 to 42	36 to 42	36 to 42	36 to 41	36 to 41	36 to 41	36 to 41	36 to 41	36 to 41
Ditto, 70lb. to 80lb. do.	35 to 38	35 to 38	35 to 38	35 to 38	34 to 37	34 to 37	34 to 37	34 to 37	34 to 37	34 to 37
Sm. Seals (Greenland)	40 to 44	39 to 44	39 to 44	39 to 44	39 to 42	39 to 42	39 to 42	39 to 42	39 to 42	39 to 42
Large do. (per dozen)	51 to 91	51 to 91	51 to 91	51 to 91	51 to 81	51 to 81	51 to 81	51 to 81	51 to 81	51 to 81
Goat Skins per doz.	— to —	25 to 65	— to —	— to —	— to —	— to —	— to —	— to —	— to —	— to —
Tanned Horse Hides p. hide	25 to 38	20s to 35	20s to 35	20s to 35	20s to 36s	20s to 36s	20s to 36s	20s to 36s	20s to 36s	20s to 36s
<i>Price of Tallow.</i>	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
St. James's Market	3	10	3	11	4	0	3	11	3	10
Clare Market	3	10½	4	0½	4	0	3	11	3	9½
Whitechapel Market	3	9½	3	10	3	11½	3	10	3	9
Per stone of 8lb. Average	3	10	3	11	4	0	4	10½	3	9½
Town Tallow	65	6	76	6	66	0	66	0	65	0
Russia (Candles)	66	0	65	0	65	0	66	0	65	0
Russia ditto (Soap)	63	0	64	0	64	0	64	0	63	0
Melting Stuff	53	0	54	0	54	0	54	0	53	0
Ditto rough	36	0	36	0	36	0	36	0	36	0
Graves	11	0	11	0	1	0	11	0	11	0
Yellow Soap	80	0	80	0	80	0	80	0	78	0
Mottled ditto	90	0	90	0	90	0	90	0	8	0
Curd ditto	94	0	94	0	94	0	94	0	92	0
Candles per dozen	11	0	11	0	11	0	11	0	11	0
Moulds	12	0	12	0	12	0	12	0	12	0

Prices of Raw Hides, Hay and Straw, &c. for July 1808.

<i>Raw Hides.</i>	1st Week		2d Week		3d Week.		4th Week.		5th Weeks	
	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>	<i>s.d.</i>
Best Heifers & Steers, pr ft.	3 0 to 3 4	2 10 to 3 0	3 0 to 3 2	3 0 to 3 4	3 0 to 3 2	3 0 to 3 4	3 0 to 3 2	3 0 to 3 4	3 0 to 3 2	3 0 to 3 2
Middling — —	2 6 to 2 8	2 6 to 2 8	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10	2 8 to 2 10
Ordinary — —	2 0 to 2 4	2 0 to 2 4	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6	2 4 to 2 6
Market Calf — —	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each	12 6 each
Eng. Horse — —	16s to 18s	15s to 17s	15s to 17s	15s to 17s	15s to 17s	15s to 17s	15s to 17s	15s to 17s	15s to 17s	15s to 17s
Lamb Skins — —	2 0 to 2 9	2 0 to 3 0	2 0 to 3 0	2 0 to 3 0	2 0 to 3 0	2 0 to 3 0	2 0 to 3 0	2 0 to 3 0	2 6 to 3 3	2 6 to 3 3
Sheep Skins — —	0 0 to 0 11	0 0 to 1 6	0 0 to 1 1	0 0 to 1 1	0 0 to 1 1	0 0 to 1 1	0 0 to 1 3	0 0 to 1 3	0 0 to 1 3	0 0 to 1 3
<i>Price of Hay and Straw.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>	<i>l. s. d.</i>
St. James's—Hay —	4 6 0	4 4 0	4 4 6	4 9 9	3 19 0					
Straw —	2 8 0	2 8 0	2 6 9	2 4 6	2 2 0					
Whitech.—Hay —	4 7 6	4 7 6	4 7 6	4 5 0	4 5 0					
New —	0 — 0	0 — 0	0 — 0	0 1 0	0 — 0					
Clover —	5 10 0	5 15 6	5 10 0	5 0 0	5 2 6					
Straw —	2 0 0	1 19 0	2 1 0	2 1 0	2 2 0					
<i>Newbury.</i>										
Wheat — — —	60s to 89s	61s to 92s	64s to 93s	63s to 92s	68s to 91s					
Barley — — —	28s to 35s	27s to 36s	30s to 36s	29s to 38s	30s to 38s					
Oats — — —	27s to 33s	28s to 35s	30s to 36s	32s to 37s	28s to 35s					
Beans — — —	—s to —s	—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	—s to —s					
Peas — — —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s					
<i>Salisbury.</i>										
Wheat — — —	70s to 80s	77s to 82s	70s to 80s	70s to 82s	70s to 82s					
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s					
Barley — — —	30s to 34s	31s to 35s	31s to 35s	30s to 36s	34s to 37s					
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s	—s to —s					
Oats — — —	30s to 33s	31s to 34s	30s to 35s	30s to 34s	32s to —s					
Peas — — —	—s to —s	—s to —s	—s to 33s	—s to —s	—s to —s					

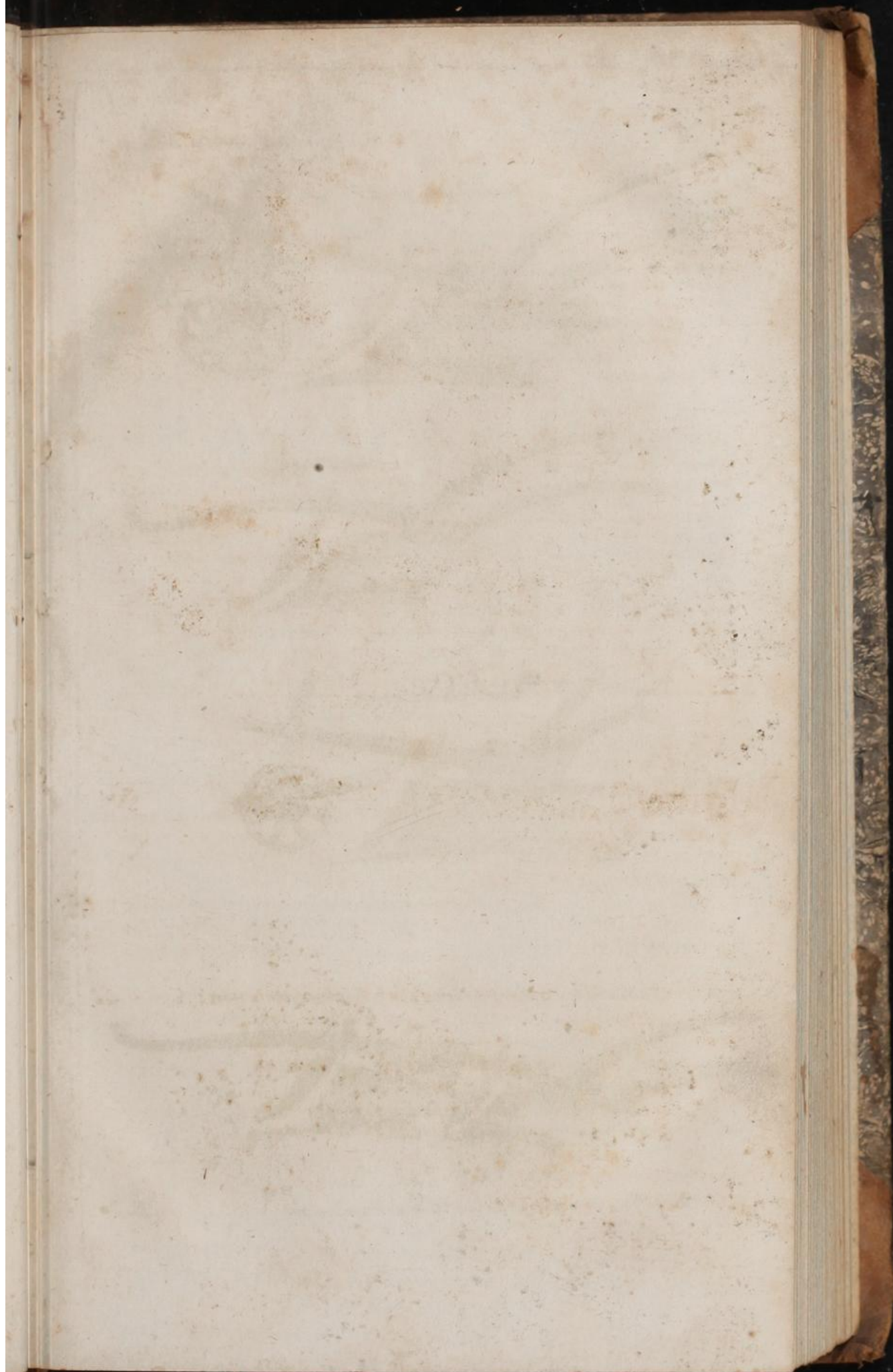
TO CORRESPONDENTS.

THE communication of Dr. Taylor, the worthy and intelligent Secretary to the Society of Arts, &c. in the Adelphi, on the management of Fruit Trees, we are sorry to say, arrived too late for this Number, but will appear among the first papers in our next.

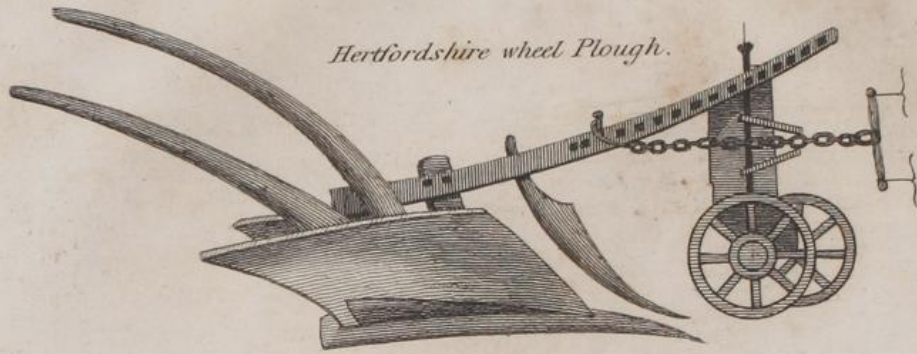
We are happy in being able to add another new Correspondent to our list—A CLAY FARMER, in the Heart of Surry.—We shall be proud of the honor of this gentleman's future Correspondence.

Our Essex Correspondent will observe that we have attended to his second communication, although from the lateness of its arrival, we were obliged to defer the publication of a considerable part relative to the Drill-husbandry, which shall appear, if possible, in our next.

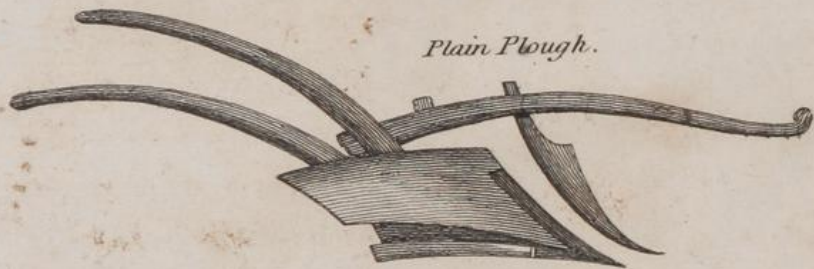
We earnestly hope that our friends in general will not forget the Glossary, on which account as well as on so many others, we feel particularly obliged to Agricola Norfolkensis. We further request the state of the weather, crops, and expectations, from our correspondents in general.



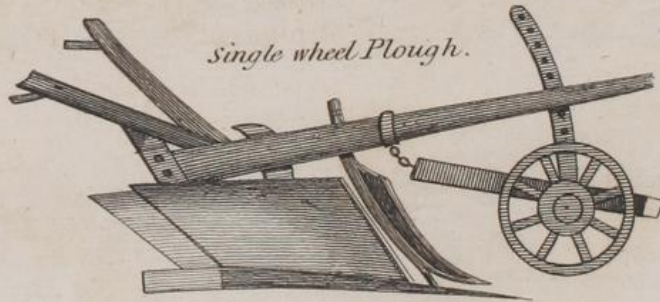
Hertfordshire wheel Plough.



Plain Plough.



Single wheel Plough.



The Double Plough, ploughing two Furrows at one time.



On Wednesday, October 1, 1806, will be published,
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The object of this work is not to add another to the vehicles of mere amusement, already too numerous. It will associate the sprightly effusions of CULTIVATED TASTE, with the earliest records of USEFUL DISCOVERIES, in every Science; and whether an invention or an improvement be of British suggestion, or devised by the ingenious of distant climes, if it have but merit, we shall take a pleasure in making it known.

About half our Monthly Number will be allotted to a Review of literary productions, uniting entertainment with useful information. Our choice of works for report, will be determined by our opinion of their suitability; and our mode of reviewing will correspond with the nature of the article under consideration. We shall designedly consult the advantage of our readers by communicating whatever is interesting or valuable in a writer; rather than the display of our learning or acumen, in the exercise of that critical dogmatism, by which, too often, merit itself is the sufferer.

A principal part of our Review, as well as of our Intelligence, will be composed of FOREIGN PUBLICATIONS. In this department we shall occasionally improve our priority of information, by announcing important performances concisely; reserving a right to resume the consideration of them in a manner proportionate to their merits. Of some we shall only remark their nature and subject; of others we may offer extracts; others we may insert entire. Our numbers will comprise Public and Official Papers; Reports from our Agents abroad; Translations from Foreign Communications, public and private; Proceedings of learned Societies, and other laudable Institutions; Literary intelligence of works in hand, or in the press; Lists of books published; Degrees taken at the Universities; Promotions, and a select Obituary. To these will be added, the State of the Markets; Prices of the principal Articles of Export and Import; Reports Agricultural, Commercial and Colonial; Patents enrolled; Discoveries made; Novelties in the Polite World, in the Fine Arts, in articles of Taste and Elegance; and, generally, communication

of every kind, which may be deemed interesting, to a learned, polite, and commercial nation.

It is evident that all Subjects cannot be treated at equal length together: yet each may expect its turn, and in order that every Number may contain a quantity considerably more than is usual in periodical works, we have determined to print on a size so much larger than common, that three of our sheets will contain as much as five of most other publications; and to obviate the too common complaint of the sheets of periodical works falling to pieces before they can be perused, our Numbers shall be delivered neatly sewed; so as to remain on the desk, or in the book-case, as compact as bound books.

By combining all the advantages of a Review of Books, a Register of Events, and a Magazine of Miscellaneous Literature, the work cannot fail of interesting the Statesman, the Divine, the Members of the Faculty, the Lawyer, the Merchant, the Manufacturer, the Agriculturist, and, generally, the Man of Business, and the Man of Leisure: the Domestic Circle, and the Recluse.

Decided and hearty friends to our most excellent Constitution in Church and State, we regard MORALS, public and private, as the solid foundation of prosperity, both national and individual; and we shall think it a part of the duty we owe to our Country, to manifest our abhorrence of whatever opposes the purity of our holy Religion, the loyalty due to our King, or the honour and welfare of our Nation.

Influenced by these sentiments, to which our endeavours will be conformable, we cheerfully commit ourselves to the candour of the British Nation, in commencing an enterprise so novel in its principle, and so arduous in its execution.

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Authors and Gentlemen who have works in the Press, will oblige the Editor by information (Post-paid) of their nature, extent, and probable price, for the purpose of appearing in our General List.

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