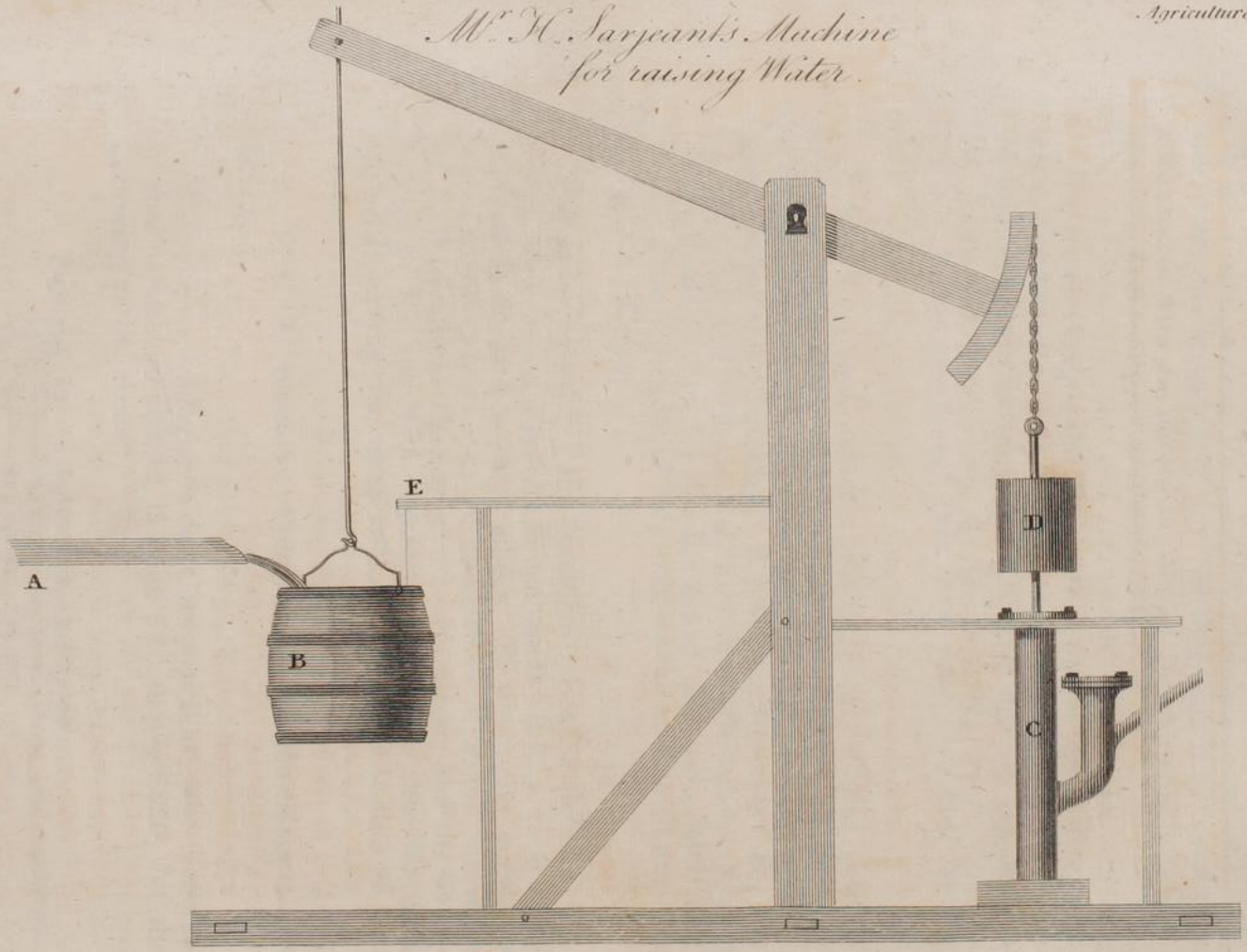
Mr. H. Sargeant's Machine for raising Water.



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THE

AGRICULTURAL MAGAZINE.

No. LIX.] JUNE, 1804. Vol. X.]

DESCRIPTION OF A MACHINE FOR RAISING WATER.

[WITH A PLATE ANNEXED.]

To the Editor of the Agricultural Magazine.

Sir,

THE annexed account refers to the Plate, of which I have requested the introduction into your work. We have descriptions of hydrostatic machines extremely complex in their construction, and consequently very expensive, and on both accounts, therefore, wholly unsuited to general use. On the machine for raising water I now recommend, no artists are employed, unless you raise a plumber, a country blacksmith, and a carpenter, to that honourable distinction; and the whole cost exclusively of the pump and pipes, does not amount to 5l.

The following description was from Mr. Serjeant, of Whitehaven, in Cumberland, and it was in imitation of a similar engine, but less complete, employed in a lead mine near Keswick, in that county.

Irton Hall, the seat of E. L. Irton, Esq. is situated on an ascent of sixty or sixty-one feet perpendicular height; at the foot of which, at the distance of about 140 yards from the offices, runs a small stream of water. The object was to raise this to the house for domestic purposes.

To this end, a dam was made at a short distance above, so as to cause a fall of about four feet; and the water was brought by a wooden trough, into which was inserted a piece of two-inch leaden pipe, a part of which is seen at A.

The stream of this pipe is so directed as to run into the bucket B, when the bucket is elevated; but as soon as it begins to descend, the stream flows over it, and goes to supply the wooden trough or well in which the foot of the forcing pump C stands, of three inches bore.

D, is an iron cylinder attached to the pump rod, which passes through it. It is filled with lead, and weighs about 240 lb. This is the power which works the pump, and forces the water, through 240 feet of inch pipe, from the pump up to the house.

At E, is fixed a cord, which, when the bucket comes to within four or five inches of its lowest projection, becomes stretched, and opens a valve at the bottom of it, through which the water empties itself.

I am, Sir, yours, &c.

June 2, 1804. L. O.

A TABLE OF THE EXTENT OF ARABLE LAND IN THE COUNTIES OF ENGLAND AND WALES, ALPHABETICALLY ARRANGED, WITH NOTICES OF THE QUANTITY OF WHEAT PRODUCED PER ACRE IN SOME OF THEM, UNDER THE PRESENT IMPROVEMENTS IN HUSBANDRY.

To the Editor of the Agricultural Magazine.

SIR,

I DO not affirm that the annexed table is perfectly accurate; my intention is only to state quantity in round numbers, and to give the best account I can produce of the comparative crops of wheat during the last three or four years.

These general calculations, although they are very far from being accurate, are both useful to the politician and the cultivator: they inform the one of the means of public, the other the sources of private subsistence, and contribute to that species of mental and corporeal energy, which is essential to the general good. I acknowledge the comprehensive view I have given is somewhat like the sweeping scheme of Chorographus in his earlier communications to your work, but I am not at all ashamed of it on that account, and I have been concerned to find, both his papers and those of Veterinarius discontinued in your last number.

Counties.	Bushels per Acre.	Acres arable.
Anglesey		200,000
Bedford	22	260,000
Berks	26	527,000
Brecknock		620,000
Buckingham	23½	441,000
Camarthen		700,000
Cambridge	25½	570,000
Cardigan		520,000
Carnarvon		370,000
Chester	25	720,000
Cornwal	22	960,000
Cumberland	24	1,040,000

Counties.	Bushels per Acre.	Acres arable.
Denbigh		410,000
Derby	26	680,090
Devon	26½	1,920,000
Dorset	24½	772,000
Durham	23	610,000
Essex	26½	1,240,000
Flint		160,000
Glamorgan		540,000
Gloucester	20	800,000
Hants	24	1,312,500
Hereford	24½	660,000
Hertford	25	451,000
Huntingdon	17	240,000
Kent	26	1,248,000
Lancaster	26	1,150,000
Leicester	27	560,000
Lincoln	30	1,740,000
Merioneth		500,000
Middlesex	26	247,000
Monmouth	22	340,000
Montgomery		560,000
Norfolk	26	1,148,000
Northampton	26	550,000
Northumberland	30	1,370,000
Nottingham	24	560,000
Oxford	22	500,000
Pembroke		420,000
Radnor		310,000
Rutland	31	110,000
Salop	22	890,000
Stafford	27	810,000
Somerset	26	1,975,000
Suffolk	24	995,000

Counties.	Bushels per Acre.	Acres arable.
Surrey	25	592,000
Sussex	28	1,140,000
Warwick	26	670,000
Westmoreland	22	510,000
Wilts	24	876,000
Worcester	26	540,000
York	24	3,770,000
	Total contents	40,000,000

I am, Sir, yours, &c.

London, June 5, 1804. VIATOR.

METHOD OF CONVERTING WEEDS AND OTHER VEGETABLE MATTER INTO MANURE.

To the Editor of the Agricultural Magazine.

SIR,

THE following article is an extract of a letter from Mr. H. Brown of Derby, which I think may very well rest on its own merit; and I am the more disinclined to obtrude my remarks, because of the complete denudation (if I may so express myself) of the principles of the following method (although not of their application) in a long series of letters, introduced into the late numbers of your Magazine. You will judge of the propriety of the insertion, and with your decision I am sure I shall be perfectly satisfied.

"According to a promise I made some years since, I beg leave to communicate to the Society for the encouragement of arts, &c. and (if thought worth notice) by them to the world, a composition for manure. Fearful it would not answer the purpose so fully as I could wish, I deferred it from year to year: but I now find, by numerous trials made by my friends as well as by myself, the very great utility of the composition, as well as its cheapness, with the capability of its being made in any situation, and in any quantity. The mode of making it is as simple, as I trust it will be found productive. It is nothing more than green vegetable matter, decomposed by quick or fresh-burnt lime. Upon a layer of vegetable matter, about a foot thick, a very thin layer of lime, beaten small, is to be laid, and so on vegetable matter, then lime alternately. After they have been put together a few hours, the decomposition will begin to take place; and, unless prevented, either by a few sods or a fork-full of the vegetables at hand, the mixture will break out into a blaze, which must be

prevented at all events. In about twenty-four hours, the process will be complete, and you will have a quantity of ashes ready to lay on your land at any time you wish. Any, and all sorts of vegetables, and weeds of every description, if used green, will answer the purpose. They will doubly serve the farmer, as they will not only be got at a small expence, but will, in time, render his farm more valuable, by its being deprived of all noisome weeds.

"But if this composition answer the purpose, as I flatter myself it will, a very short time will see almost every weed destroyed. Supposing that to be the case, I have made a calculation with clover grown for the purpose; for instance, I will take one acre of clover, which at one cutting, will produce from fourteen to eighteen tons of green vegetable matter, and will require about three tons of lime; this, when decomposed by the above process, will yield ashes sufficient to manure four acres, the value of which I estimate at something under 4l. The clover, according to the value of lands here, at 2l. which, taking the average of the kingdom, is too much: the lime also at 2l.; but that will vary according to the distance from which it is to be fetched; take them together, I think the above will be about the average value. Now if this is the case, and as far as I have been able to try it, I find it so, how valuable must this method be to the community in general. If it answers the purpose, I shall feel myself much obliged by the Society's making it as public as they possibly can."

"The vegetables should be used as soon after they are cut as possible, and the lime as fresh from the kiln as the distance will allow of, as on those two circumstances depends the goodness of the composition."

I am, Sir, yours, &c.

Sheffield, June 7, 1804. A. B.

ATMOSPHERIC PHENOMENA CONNECTED WITH AGRICULTURE.

To the Editor of the Agricultural Magazine.

SIR,

I HAVE occasionally seen in your miscellany meteorological observations transmitted by your correspondents in various parts of the kingdom. It is acknowledged on all hands, that this subject has the nearest connection with the produce of the field. It is in vain that the soil is of the richest kind, in vain that the culture is most skilfully conducted, in vain all the labour and ingenuity of man is wisely directed, if the season be not propitious. But although it is universally admitted, that the atmospheric phenomena are in this respect

powerfully operative, yet the precise means by which these wonderful influences are effectual, has been less attended to of late years than, perhaps, any other department of scientific agriculture. The annexed account is from an ancient city I have been accustomed to visit for many successive years; it is so far removed from the accidental influences so frequent on the coast, that the observations deserve particular attention. In the remarks made by one of your correspondents from Liverpool, the peculiar circumstances affecting our sea ports, seem not to have been recollected. With these strictures, I submit the article to the attention of your readers, at the same time acknowledging my obligations to the source from which I received it.

METEOROLOGICAL OBSERVATIONS AT YORK.

DURING THE YEARS 1800, 1801, 1802, AND 1803.

Average height of Fahrenheit's Thermometer in the shade, for each month; deduced from observations made at 8 A.M. and half past 2 P.M.

Months.	1800. Degrees.	1801. Degrees.	1802. Degrees.	1803. Degrees.
January	36	40	36½	36
February	38	41	39	38½
March	42	45½	44	44½
April	53	50	50½	51
May	60	59	54	55
June	61	62½	62	61½
July	69½	64½	60	68½
August	69	66½	66½	64½
September	61½	60	58½	56
October	50	52	51	50
November	42½	41½	43	40½
December	39	35	39	37½

Greatest Elevation of the Thermometer in each Summer.

1800.	1801.	1802.	1803.
July 31 and Aug. 11.	Aug. 17.	Aug. 18.	July 2.
83.	79.	81.	81.

Lowest State of the Thermometer in each Winter.

Winter of 1799, 1800.	1800—1.	1801—2.	1802—3.	1803—4.
1800,	1800,	1802,	1803,	1803,
January 1.	Dec. 31.	Jan. 15.	March 5.	Dec. 9.
11.	19.	12.	20.	9.

The following TABLE divides the Mariner's Compass into eight points, in one of which it supposes the wind to prevail every day; and it is intended to shew the number of days on which the *prevailing* wind was from the given points.

Prevailing Winds.	1800. Days.	1801. Days.	1802. Days.	1803. Days.
S.	41	37	38	40
S. W.	68	68	106	74
W.	81	79	81	71
N. W.	52	49	38	54
N.	24	32	32	33
N. E.	27	38	18	25
E.	26	28	14	28
S. E.	46	34	38	40

It will be observed from the above Table, that the S. W. and W. are the prevailing winds. It often happens that though the wind be from the N. E. S. or S. E. the upper stratum of clouds continues to move from the S. W. or W. This is particularly the case in Summer, when a breeze from the sea-coast will arise in the heat of the day and cease in the evening, being then succeeded by a W. wind. So that the predominance of westerly winds may be considered as greater than the Table indicates.

GENERAL REMARKS.

The year 1799, which preceded the above series was remarkably cold and wet. It commenced with a long and severe winter. In February, there was one of the greatest falls of snow ever remembered; and so late as the 5th of April we had a severe storm of snow. In May there was little appearance of Spring; and it was not till the beginning of June that the weather became mild. The latter end of June, a cold rainy season began, which lasted four months, with the intermission of a fortnight in September. The fruits of the earth did not ripen, and the violent and continued rains destroyed great part of the corn, and materially damaged the rest, so that a great scarcity was the consequence. The winter of 1799—1800, was cold and wet.

The year 1800 was the reverse of 1799, remarkably hot dry. The fine weather commenced the latter end of March, and lasted till the latter end of September. During this period, the quantity of rain was scanty; and in the month of July and the first fortnight of August, there was a continued draught, with a burning sun and sultry air. The pastures were burnt up; but the corn harvest was good, and would have been better had the seed of the preceding season been good, and the ground in proper condition when it was sown. The winter 1800—1801 was mild.

The year 1801 was mild and temperate. In the Spring, there were frequent returns of frost after warm weather. The Summer was warm and rather dry, but occasional falls of rain prevented the earth from being parched. The harvest was early, plentiful, and well ripened. The winter 1801—1802, was rather severe.

The year 1802 was, on the whole, temperate; less than the average quantity of rain fell, the Spring was backward, and the months of May and July unusually cold, but the harvest was good, and a course of serene settled weather, which began about the middle of September, and continued three weeks, was favourable for completing the harvest. The winter of 1802—1803, was very mild.

The year 1803 was fine and dry, there were seldom ten days without some rain, yet from the scantiness of the quantity and the dryness of the three preceding years, there was such a deficiency of water, that many springs were dried up, and it was not till the end of October that the rain fell in a sufficient quantity to replenish them. Though the season was dry it was not proportionably hot, there were some burning days in July, but the nights were cold during the whole summer, and the Autumn was early. The commencement of the winter was severe. Yours, &c. EBORACENSIS.

USEFUL MEMORANDA IN PHARMACY.

To the Editor of the Agricultural Magazine.

Sir,

I HAVE so great a reluctance to suppress any article of information, that appears to me essentially useful, that I am willing to avail myself of every opportunity to give it circulation. You will therefore not be surprised, if you should discover the subsequent particulars in a contemporary publication, the sale of which as extensive as your own, but where the intelligence will not be likely to be preserved to future times. Without regarding at all the arrangement, I give it you precisely in the form in which I have received it.

Those who keep cows in high condition should let them blood two or three weeks before they calve. It will relieve them from danger.

For a horse that has the quincy; take rosin powdered, mix it with oil or spirits of turpentine, spread it upon thick flannel, and bind it under the throat; it will soon effect a cure.

A certain and safe medicine for the cholic in a horse: put an ounce and a half of spirits of wine into three pints of warm ale; after giving it to the horse with a horn or bottle, ride or drive him about ten minutes.

For the cholic in a sheep or human being; half an ounce of spirits of wine, and half a pint of warm ale. I am, &c,

D. C.

ON TITHES. IN ANSWER TO AGRICOLA MERIDIONALIS AND NORTHUMBRIENSIS.

To the Editor of the Agricultural Magazine.

SIR,

I ACKNOWLEDGE my obligations to you for the introduction of a short letter of mine, in page 191 of your present volume. This has produced two answers from your remote correspondents, Agricola Meridionalis and Northumbriensis, and if they diffuse their principles in their own respective vicinities, and in the intermediate countries, that their desired object will soon be attained, requires no ingenuity to discover.

I belong, Sir, to an order, which if not proscribed, is exposed to very serious privations. All around us is energy and activity, directed to the pursuits of commerce and agriculture; immense wealth is acquired, and capacious ambition is filled and satisfied, while the clergy are not only prohibited the engagements of trade and commerce, but are not permitted to interfere in the cultivation of the soil, by which, by a sort of miracle, the abundance of nature and providence is supplied to relieve the necessities and gratify the passions of man for dignity and importance. Although we are thus deprived of the means, yet by the three-fold duty stated in the 4 Hen. 4, c. 12. we are required to "keep hospitality," and the residence within the parochial limit is particularly expressed to be, not only for the cure of souls, but for the exercise of this hospitality; that is, to open our doors equally to the intruder and to the indigent; to feed the plethora of the one, and alleviate the wants of the other. Our peculiar difficulties commence almost with our existence: instead of joining the gay in the hour of festivity; instead of invigorating our bodies in the manly sports of the field, at an early period we are constrained to disappoint the natural buoyancy of youthful ardour, and under the faint rays of the midnight taper, slowly and laboriously to acquire the wisdom of early times; and if, from the infirmities of sickness, or from deficiency of intellect, we are discovered to be *minus sufficiens in literaturâ*, or possessing the greatest vigour of mind, and all the holy lore of our profession, we are so deemed deficient by some ignorant and conceited examinant, all our hopes are lost, and we are thrown upon the world without the means of which other men are possessed, who have prepared themselves for the general duties and employments of active life.

In return for the disadvantages of such a situation, the legislature has thought fit to provide for the sacerdotal order a source of subsistence originating in the venerable institutions of the Jewish law; and I am very glad to see, at least, that

A. N. in the commencement of his letter, approves of my conduct, when I admit our pretensions to tithes to rest solely on legislative regulations. I will concede to him yet more, and profess to repose my claim only on these regulations as supported by British law, rejecting all those pandects, codes, institutions, councils, decrees, and decretals of the imperial or pontifical establishment, which have not been so confirmed. Let us see, then, how the case stands, without clerical prejudice on the one hand, or secular discontent on the other. Van Leeuwen, speaking of the canonical law in Holland, where it was extensively introduced, says, that it is only so far binding as it derives its force from custom and the consent of the people. This, I conceive, is good law here, and I appeal to Agricola Meridionalis, who is a formidable disputant in such matters. This is no new principle, the 25 Hen. VIII. c. 21. expressly declares, that laws may be adopted from foreign institution, and thus become a substantial, constituent, and integral part of British law. By this means, not only a portion of the papal law has become our own, but the law of nations, the marine law, and if a question came before our Courts which is properly the object of a foreign municipal law, they receive information what is the local rule, and decide by it exclusively. With these views, let us examine for a moment the citation of A. M. from the 2d and 3d Ed. VI. Alluding to me, he says, "But before he relies for defence on this favourite weapon, let him also recollect the terms of the 7th section of the statute he has adverted to, whereby the payment of this distinction of tithes *is confined to such persons and places, by whom and in which the same have been accustomably used,* and ought to have been paid;" and he adds, "where they have not been usually paid, they are not to be levied." He has entirely forgotten the concluding words of his own extract, "and ought to have been paid." So that not only where from the generosity of the Church (or from a laxity and neglect so nearly allied to it) tithe is to be collected where it has not been accustomably used, and where it "ought to have been paid." No comment can make this oversight of A. M. more obvious, I shall therefore only remark, that all the triumphant declamation of this correspondent about aerial castles, grand portals, sacerdotal arms, and episcopal mitres, depending on this statement, has lost its support, and like many other grave logicians, his argument is degraded by one of those vulgar and marvellous transitions familiar in modern farce; the giant is dwindled into the dwarf, and the proud champion is converted into an innoxious phantom.

Let us next see what are the exceptions he makes to the claim of personal tithes. 1. An inn-keeper is not liable:

2. a usurer is not liable; 3. nor a *shaving mill* (this I do not precisely understand, and perhaps A. M. will indulge me with an explanation). 4. Nor is a copper mill, a fulling mill, or a glass-house. And why are they excluded? A. M. explains it to us, they "pay no tithes, on the ground that the profits arise from the mere labour and industry applied to these undertakings." I may, therefore, with the consent and concurrence of A. M. state the converse of his own proposition, that where the profits arise in any branch of commerce, trade, or manufactures, not from the mere labour of industry applied, but from the materials employed, or partly from the one, and from the other, in all such cases, the produce is titheable. Even then, with the exception of A. M. including also his "*shaving-mill,*" the clergy have reason to be fully satisfied with the legislative stipulations in their favour.

Agricola Northumbriensis boasts, that the laity would not suffer the revival of the dormant rights of the church. I do not wonder that he is so fractious about the expression *summum jus*, for he seems very much disposed to withhold it from the sacred order. The fact is, as the law now stands, the claims due, and the rights exacted are very different, so that in the contests between the clergy and laity on the assessment of tithes, the former almost always prevail, and he will not wonder, if cloathed with these powers, we exclaim, with the English Barons, *Nolumus leges Angliæ mutari.* This is some kind of answer to his proposal for a commutation of tithes, and if, as he says, the table of the House of Commons would be *much too small* to contain the very numerous petitions which would speedily be presented to promote this object; I hope and believe that the wisdom of that branch of our legislature would be *much too great* to listen to the intreaties of clamourous and discontented partizans, who presumed to avow in the solemn hall of debate, their disrespect for the constitution in church and state as by law established.

But, says A. N. The clergy of North Britain pay no tithes. I wish to make no invidious comparisons between the episcopal clergy of England, and the presbyterian ministers of Scotland, but this I may venture to affirm, that since the subversion of the hierarchy in the latter, by the unchastised violence of Knox and his adherents, very few examples can be produced of profound learning, or enlightened philosophy amongst the Scottish teachers, however respectable they may be for the purity of their morals, or venerable for the fervour of their piety.

A. N. enquires toward the conclusion of his letter, "Can it be maintained, that the public good should be sacrificed to the right and obstinacy of the tithe-holders?" The peculiar circumstances in the history of the ancient kingdom of

Northumbria, might have convinced this inhabitant, that right and obstinacy are not synonimous; the character of the illustrious Ella, collected from the monuments of his country, would teach him with what firmness right should be asserted, and with what contrition obstinacy should be resigned. This ingenious correspondent of yours, in the multifarious subjects of his attention, loses that simplicity of thought necessary to just reasoning and sound philosophy, and in this passage he expreses a doubt, if the public good should be sacrificed to private right. It is the sublime maxim of English jurisprudence, that the public good is ever consistent with private right, and that whenever private right is violated, not only the general good is sacrificed, but the benefit of every individual is surrendered, whose security and independence necessarily reposes on the maintenance of private right. In the instances to which he adverts, of statutes for the grand scheme of internal navigation, he ought to have been aware that particular exceptions are made, that a gentleman's mansion and estate are not to be exposed to wharfingers and bargemen, and that the low scenes of mercenary traffic should not disturb the ancient bowers of the Muses he has inherited from his ancestor. These exceptions in favour of the aristocratic laity, I claim on behalf of the clergy: what they demand for the patrimonial hearth, I require for the sacred altar.

I am, Sir, your's, &c.

Rudland,
June 6, 1804.

CLERICUS.

THE PRESENT STATE OF CANAL CONCERNS IN VARIOUS PARTS OF THE KINGDOM.

To the Editor of the Agricultural Magazine.

SIR,

I AM one of those unfortunate maniacs who have considered the commerce and prosperity of the country very much to depend on the modern expedients to improve the internal navigation of the country, and if my fate were to depend upon a jury of country gentlemen of large landed estates, I should be assigned to the hospital of incurables in Bedlam. Happily for me, however, I am permitted to appeal from their sentence to a more intelligent tribunal, to those who know, that the sinews and strength of this country, do not entirely rest on the baronial lord in his antiquated castle, but on the commercial intercourse which has been established since the happy days of Queen Bess. Under these impressions I am bold enough, Mr. Editor, to suppose that some account, collected with great industry, of the present state of canal navigation, will be acceptable to you and a large proportion of

your readers: without affecting, therefore, to attribute this laborious and comprehensive investigation to my own activity and talents, I will expose to your notice a general view of the present state of aquatic communication in this country, with some occasional observations on foreign improvements of the same kind. On a subject so diffuse, it will immediately occur to your correspondents, that in some cases, the information will not be the most recent, or the most correct; in imitation, therefore, of the modesty of your friend Chorographus, I am solicitous to invite the assistance of those whose situations and connections afford them a local and minute knowledge of the particulars to which my remarks will be directed.

The canal from London to Basingstoke, which has been completed some years, conveys goods thither for 15s. per ton, for all parts of Hants and Wilts, and many parts of Dorset and Somerset, to the great convenience of the manufacturers, traders, and inhabitants of those parts. The canal from Southampton to Salisbury is in great forwardness, and it is to be hoped that it will be continued to Bristol, to communicate with the English and Bristol Channels. 1800.

The Peak Forest Canal, which affords a cheap and easy water-communication between the Peak, the neighbouring country, and the most populous parts of Lancashire, was opened on the 1st of May. The completion of this bold and difficult undertaking, through numerous hills and valleys, precepices, and declivities, is an object of general admiration, and the advantages it promises to the public are of the first importance, and at 10l. per cent. less than the first estimation. 1800.

Four hundred and fifty shares have been forfeited by the subscribers to the Kennet and Avon canal, in consequence of defaults in the payment of the calls. 1800.

In the month of July, Mr. Yates, master and proprietor of a canal barge at Colebrook Dale, lately went all the way, which is more than 400 miles by water, from that navigation to Hambro'-wharf, near London-bridge, in fourteeen days. He touched at Worcester, Gloucester, and other towns, with part of his cargo. This was the first barge that ever made the entire passage. 1800.

The Grand Junction Canal, which is now opened, forms a complete canal communication between the Thames, the Severn, the Mersey, and the Humber. 1800.

According to Mr. Dodd's report on the intended Grand Surrey Canal, it was to run from Kennington Common to the left of the road by Stockwell, Clapham, Tooting, and Merton, and across Norbiton Common to Kingston. A branch from Norbiton Common would extend to Epsom, by the right of Malden and Ewell; another branch would run

across Mitcham Common to Croydon; and from Kennington Common there would be other cuts extending to the Thames, at South Lambeth, to the King's Yard at Deptford, to Greenland Dock and Rotherhithe. The distance from the basin in Southwark to Epsom would be sixteen miles by the canal, to Croydon twelve miles, and Mr. Dodd's total estimate 87,000l. and the annual produce to the proprietors would be upwards of 8,000l. 1800.

Oct. 13, a public exhibition of Mr. Fusell's balance-lock on the Dorset and Somerset canal, was a second time made, and laden boats were with great facility transferred to and from the upper to the lower level, in a manner that gave great satisfaction to a numerous company of noblemen, gentlemen, and others, who were assembled on the occasion. The locks were continued in action two hours, that the ingenious might have ample testimony of its principles and utility, which are now fully established and admitted, not only by committees of canal companies, but also by the ablest mechanics, who have given in their inspection. There seems no doubt, that the balance will be brought into general use in all canal undertakings, where saving water is an object of consideration. 1800.

The branch of canal leading from the basin in Buckinghamshire to the Grand Junction, was opened on the 1st of May: a number of the principal proprietors, including the Marquis of Buckingham, Mr. Præd, and Mr. Selby, gentlemen of the committee; Mr. Box, the treasurer, and a large party of ladies and gentlemen, were in a barge which led the way to twelve other barges, laden with coals, slate, and a variety of merchandize. This branch, which is nine miles and a half in length, was completed in eight months, and will secure to an extensive district the most substantial benefits. 1801.

It is in contemplation to form by canals a grand junction of the rivers Thames, Medway, and Rother, in Sussex, to establish an inland communication, or union of the ports of London, Rochester, and Maidstone, &c. Rye in Sussex. The great national utility, private advantages, &c. of such a navigation will be obviously apparent, when it is considered that Rye harbour has been proved, from actual surveys, to be capable of improvement for the admission of vessels of the greatest burthen; of navigation from Gravesend, the Nore, North and South Foreland, the Downs, Goodwin Sands, and Dungeness would be avoided, and thereby lives and property to an incalculable number and amount saved: it would also be a quick, cheap, and safe conveyance of timber, or naval stores, &c. in war time, from out of the Wealds of Kent and Sussex, into five royal dock-yards, and as many private yards, in the river

Thames, and in peace would be a secure, near, and convenient intercourse from London to Rye, and, as far as it goes, to the western ports of the kingdom, and to foreign parts. 1801.

Application was made to parliament for a bill for making and maintaining a navigable canal from Spitty, in the parish of Llanelly, to or near the town of Landovery, which canal was to pass through the several parishes of Llanelly, Llangennoch, Llanedy, Llandebye, Llandinger, &c. all in the county of Carmarthen. 1801.

An application was likewise made to parliament for making a navigable canal from the town of Cheltenham, to the river Avon, near Tewkesbury, to pass through the townships of Cheltenham, Swindon, Uckington, Elmstone, Hardwicke, Elmstone Tredington, and Tewkesbury, all in the county of Gloucester. 1801.

The Thames and Medway canal has a culvert, communicating with the Thames, in which the engineer (not Mr. Dodd) has introduced a valve, by which the canal may be filled or emptied at pleasure. 1801.

The Wilts and Berkshire canal is completely navigable from Semington to Chippenham, Calne, Dauntsey Park, and Bowes Farm, near Wooten Basset, and an uninterrupted communication by water, by the junction of the above with the Kennet and Avon canal, from those places to Bath and Bristol; the neighbourhood on the line will in consequence be greatly benefitted by obtaining a supply of excellent coal at a low price, and the timber and other articles ready to be conveyed, will create a considerable trade immediately. 1801.

A canal was proposed to be cut from Newcastle to Haydon Bridge. It is a work of the most extensive and essential importance to the commerce and manufactures of Newcastle and the adjacent country. 1802.

The completion of the Glamorganshire canal from Merthyr Tidwel to Cardiff, has opened a ready conveyance to the vast manufactory of iron established in the mountains of that country, and many thousand tons are now shipped annually from thence. A commodious dock has also been formed at the end of the canal, where vessels of large burthen may lie afloat; and a little below the dock, ships are admitted into what is termed a sea-lock, which communicates with the ocean just within the entrance of Cardiff River. On the banks of the dock, spacious warehouses are erected by the proprietors of the iron-works. At Merthyr Tidwell these various operations have diffused a spirit of exertion, and will bring into action talents that have hitherto lain dormant. Mr. Watkin George, of Cafurthva, has erected a wheel, 50 feet in diame-

ter, to blow three furnaces, turned by a very small stream of water: and at Aberdare another extraordinary machine has been constructed in which two wheels, each 40 feet in diameter, working like a figure of 8, increase the power of each other so much that the water which turns the upper wheel falls down and rises in turning the lower one: the effect and utility of the above canal is exemplified in divers ways and schemes. At Margam, in Glamorganshire, a stupendous machine is erected to roll copper; two vast wheels of iron, 24 feet in diameter, are set in motion by a steam engine; one of the wheels, called a fly, makes 30 revolutions in a minute, and regulates the movement of the whole machine. Notwithstanding the iron works already established on and near this canal, nearly twenty blast furnaces are now erecting.

At the last general half-yearly meeting of the company of proprietors of the Leicester and Northampton Union Canal, at Market Harborough, it was among other things unanimously resolved, that the canal should be carried forward to Harborough, and also to join the Grand Junction Canal in the most convenient place, and a committee was appointed to procure the proper surveys. 1802.

The plan of the line of inland navigation between the east and west seas was again revived, so as to form a canal between Newcastle and Maryport, which had long been the subject of popular discussion, and rejected by Parliament some years ago. 1802.

A beautiful chart of the canals in Russia is just published, which contains all that have been formed between the White and Black Sea, and between the Baltic and the Caspian: from which may be seen the great inland navigation of the interior trade of Russia, by the establishment of canals, sluices, locks, &c. The famous Oginski canal, that communicates between the rivers Dnieper and Niemen or Memel, which was begun some years ago by the Poles, and then lay neglected, is now so far extended that it has been navigated. A new canal between the rivers Sornin and Tickwinka, eastward from Lake Ladoga, is begun. 1802.

The sum of 400,000l. has been subscribed as a stock to be employed in making a canal on the North side of London, from the basin of the Paddington canal to the London Docks at Wapping. 1802.

The canal between Glasgow and Leith is finished, and there remains no doubt but the trade of North Britain has felt the advantage of it. 1802.

The canals from Chalons-sur-Saone to Paris (being 65 leagues) has been finished and opened. The various objects of the fine arts, plundered from Italy, Greece, Egypt, &c. have been conveyed to the capital of France by water. 1802.

The new canal to the town of Horncastle was opened the 16th, Sept. 1802, when three vessels, richly ornamented with colours, entered the basins of the navigation; they were hauled by ropes, amidst the acclamations of more than 2,000 spectators, to the great benefit of that town, and the country round.

The late Duke of Bridgewater, highly to his credit, devoted much of his attention to commerce, by which he attained an immense fortune, and by means of a canal of his own, at least 40 miles long, covered with vessels of various sizes, moving in various directions, facilitating interior communications, &c. carried on an extensive and lucrative business. 1802.

A canal has been begun, which will form a complete line of inland navigation between the city of London and the port of Lynn, in Norfolk, under the direction of Mr. R. Dodd; it is to be named the North London Canal, and is expected to be the only means of reducing the price of the principal articles of provision in the London markets.

Another canal, of great national importance has been conducted from Deptford to Portsmouth and Southampton, to the naval arsenals there and at Gosport, and might be completed for 348,735l. This canal is preferred to an iron-rail road, as the carriage is much cheaper; for instance, 60 tons of corn could not be transported from London to Portsmouth on an iron-rail road for less than 125l. 10s. but by a canal for 49l. 5s. The communication between the canal at Paddington and the West India Docks, is to be effected by an iron-rail road only. 1802.

A meeting of the principal inhabitants of Sandwich and Canterbury, was held at the latter place, to consider of an application to Parliament for cutting a canal from Canterbury to the sea. Two engineers made surveys to report on this subject. 1802.

The subscription for making locks on the Somersetshire Coal Canal, for conveying coals and other articles from the upper to the lower level (in lieu of the other expensive mode of unloading, and the inclined plane) was filled up, and carried into execution. 1802.

A navigable canal is to be cut from the river Thames at Shadwell, to Waltham Abbey in Essex, and has been continued from Bishop's Stortford to Lynn, by a cut out of the river Stort into the river Cam. 1802.

Since the year 1758, no less than 165 acts of Parliament have received the royal assent for altering, cutting, amending, &c. canals in Great Britain, at the expence of 13,008,199l. the whole subscribed by private individuals; the length of ground they employ is 2,896½ miles. In this aggregate of length and expence 43 canals, (private property) are not in-

cluded; and among these are those of the late Duke of Bridgewater, Sir Nigel Bowyer Gresley, and the Earl of Thanet. Of these acts, 90 are on account of collieries opened in their vicinity, and 47 on account of mines of iron, lead, and copper, which have been discovered, and for the convenience of the forges and furnaces working thereon. Eight of these furnaces and 12 forges, in one county only, consume 24,284 tons of iron ore, and 12,324 tons of pit-coal annually, and manufacture in the same time 13,104 tons of iron goods. More than 100,000 tons of pit-coals are annually taken down the Severn from the Madely and Brosely collieries, to the towns and villages in the neighbourhood.

Although it is my intention to continue the important subject of the history of canals to the present moment, and to continue it through the medium of your Magazine, I am not yet furnished with sufficient materials for this purpose: but the subsequent scheme seemed to involve an object so important, that although it is lately formed, and interferes in some degree with the regular progression of dates, I cannot avoid imparting it to the public. Further particulars may be obtained by applying at the counting-house of Thomas Pomeroy, Esq. No. 12, Bishopsgate-within, or at his house, Grove-place, Hackney.

The increasing demand in all parts of the country for every article of consumption, while it may be ranked as a principal cause of our trade and commerce being carried to the unparalleled bounds to which they are now extended, has naturally led the attention of the public to the most economical mode of conveyance for the ready attainment of those articles, and given rise to a species of property, which (though at no very remote period in this country, but generally known) has now become the object of frequent contemplation, and of high importance, as well from the extent of its value, as for the advantages accruing alike to the public, as to the particular promoters and holders of that property.

In the contemplation of canal property, it is observable, that in many instances we have that to regret which is not very usually attendant on undertakings of magnitude, viz. the expence surpassing the means. This is the fact with respect to many of these undertakings, in various parts of the kingdom, which now lay useless, though far advanced towards completion, for want of a finishing hand being put to the labour; and while the benefits, which by completion would be received, are withheld, through the exhausture of funds. The weary promoter of the scheme has to lament his having gone so far in the expenditure, or his inability to go still further.

To obviate this difficulty, to aid meritorious individuals in such pursuits, and to promote the public good by entire

completion of such almost finished works, should be the business of some *incorporated body*, whose funds may be equal to the means required, to whom, with the public at large, the ultimate benefits will accrue, and to whom more immediate advantages are proposed in the following

PLAN.

It is proposed to raise the sum of l. by shares of ten pounds each, for the purpose of purchasing shares in canals yet unfinished, and lending money at interest to such *eligible canal companies*, as may require it to enable them to complete and render beneficial the work in which such companies are engaged.

It may naturally be asked, what are the advantages? what the benefits and inducements for *particular* persons to engage in this plan? to such as wish to make deposit of their property as a source of annual produce? The answer is, that beyond the interest arising from money lent to canal companies, would be the certain, though incalculable benefit which must arise from such shares of canals as would become the property of the incorporation, purchased through the present distressed state of the concerns, at a small and inconsiderable value, but which would be rendered a source of income to the incorporation by the completion of the works, through the assistance afforded by it.

But to such promoters of the plan who are already holders in unproductive and unfinished canals, from the causes above suggested, it holds out a near prospect of double advantage to them; it first yields equal benefit with the subscriber, who vests his money as a source of annual revenue; and in the next place, by bringing to perfection and maturity the undertaking in which the subscriber, "A Canal Holder," is engaged, it calls into action his unproductive property, and the reviving hand of the incorporation renders that gainful to him, which was at least a barren property, if not an incumbrance.

A meeting, therefore, is proposed of such persons as may be desirous of carrying this beneficial and laudable purpose into effect (of which public notice will be given) at which meeting the number of shares necessary to entitle a vote and directorship will be determined on, and at which meeting will be submitted the plan and rules of establishing the incorporation, the committee, the management and expenditure of the funds, and of such other matters as may be expedient.

I am, Sir, your's, &c.

ΑΙΜΝΗ.

To be continued.

RECIPE FOR THE COMPLAINT CALLED THE WATER IN SHEEP.

To the Editor of the Agricultural Magazine.

SIR,

EVERY question connected with this animal must effect the staple manufacture of this country, which, independently of every other consideration (and several there are at least of equal importance) would incline you to give it a place in your valuable Work. This, however, is a subject which has been visited by your peculiar favour. The present paper was intermediately received from Edward Topham, Esq. of Wold Cottage, near Driffield, and I conceive deserves a reception into your Miscellany.

It has been often remarked how little the disorders incident to sheep are even known in sheep countries. The common shepherds keep pace with the common farriers, and only observe, *that the animals have always died, must die, and they cannot help it.*

The following experiment, therefore, may be useful to the public, communicated to me by a tenant of mine.

A farmer, near Kilham, turned his flock of sheep into a field of turnips he had hired, which were remarkably strong and good. In a short time he lost twenty of them by the disorder called the water. He grew so alarmed, that he removed his sheep, and would not permit them to eat any more turnips; on this the owner of the land remonstrated, and insisted on the turnips being eaten upon the ground. After some little time and altercation, the farmer brought back his flock, and shortly after six more of them died. On this he took his final leave of the turnips, and said, "They killed sheep, and would have nothing more to do with them."

The owner of the land had them publickly cried, but the turnips had got so bad a name, that with no little difficulty they were let at half the price. The next farmer sent in his sheep, and in a short time lost about eight or ten. On this second disaster, the reputation of the turnips was gone entirely, and my tenant had the offer of them for nothing, provided he would eat them up, to which he agreed.

He sent there *six hundred and thirty sheep*, so that the experiment was a very full and fair one. The method he pursued he had heard of in Northumberland. As soon as the sheep had filled themselves with the turnips, he made his shepherd go amongst them, and move them about. They voided in consequence a good deal of water. He did this for some days at stated intervals, and sometimes made his shepherd go amongst them in the middle of the night. By this method they were never suffered to lie long, and swell with

what they had eaten. The consequence of this proceeding was, that after eating up the whole of these fatal turnips, he removed his six hundred and thirty sheep, all in good condition, without the loss of a single sheep.

Two circumstances may be deduced from the above experiment: the complaint of the water which frequently kills sheep, when put on to turnips, arises from their gorging themselves with this watery food, and then continuing without exercise to carry off the beginning complaint: the second, that this method may tend to prevent the disorder, at the small expence of a little trouble to the shepherd.

Should this method prove on trial as successful as the experiment gives me hope, the farmer will have many reasons to thank the man who tried it, and the public will be obliged by the communication.

I am, Sir, with the greatest respect, your's, &c.

P. Y.

Brighthelmstone,
13th June, 1804.

ON THE SIZE OF FARMS, IN ANSWER TO A LANDLORD, AND AGRICOLA NORTHUMBRIENSIS.

To the Editor of the Agricultural Magazine.

SIR,

THE great error in our strictures on particular arts and sciences, is that we abandon the common principles that are applicable to all of them, in order to favour some particular theory which we conceive to be referable only to one department to which we have directed our study. The fact is, that whether the question relate to law, physic, or divinity, to navigation, commerce, or agriculture, there are some leading principles which are generally admissible, and indeed to every subject on which the human mind can be employed. Persons of a contracted education, and local habits, are particularly exposed to this error: they imagine, that the object of their immediate pursuit is governed by particular laws, which are appropriated to no other circumstance or situation whatever. From this fallacy, Sir John Sinclair, your correspondent Agricola Northumbriensis, and a thousand others, have supposed, that the interests of agriculture required farms of certain restricted dimensions, by extending them beyond which the interests of the landlord, of the tenant, and of the state, would all be surrendered. I am very fond, Sir, of resorting to the most familiar illustrations, because they are not only to the level of my own capacity, but are accommodated to the major part of your country readers. On the question of the size of farms, it is most obvious, the design is, to consider those proportions which are

calculated to bring the country to the highest possible state of cultivation. What is it in the occupations of trade, that is found by experience to be the most important consideration? It is that the capital of the adventurer be equal to the advance required. Embarrassment and ruin are much more frequently the consequence of a deficient capital, than of an unproductive trade; to raise one hundred pounds by a necessitous man, often requires more time and exertion, than to gain the same sum by a wealthy tradesman, the pressure of debts occasions the manufacture of bills, which is nothing but an association of the needy to suspend their own destruction; their credit is clothed in these rags for a while, but their nakedness and poverty are soon exposed. What is true in regard to trade, is equally correct when referred to agriculture, and the defective produce, and tardy improvement of the country, is rather to be attributed to the deficiency of capital, than to any other cause; a disadvantage arising from the inferior rank the cultivators of land are assigned in society by popular opinion in this great commercial nation.

Those who are immediately connected with the annual produce of the land, may be distinguished into two classes; the first is that of landlord, the second that of tenants; or of proprietors, and cultivators. The former contributes to the produce by edifices, drains, inclosures, and other permanent improvements. The latter in the instruments of husbandry, in the stock of cattle, in the seed, and in the maintenance of his labourers employed, whether human or bestial.

We are correctly told, that part of the produce of the land which remains to him after paying the rent, ought to be sufficient, first, to replace to him within a reasonable time, at least during the term of his occupancy, the whole of his original expences, and also the ordinary profits of stock; and, secondly, to replace to him yearly the whole of his annual expences, together likewise with the ordinary profits of stock. These expences are two capitals, which the farmer employs in cultivation, and unless they are regularly restored to him, together with a reasonable profit, he cannot carry on his engagement upon a level with other employments; but, from a regard to his own interest, must desert it as soon as possible, and seek some other occupation. Yet farmers are so little suited to the active duties in the busy haunts of mankind, that they more commonly, under these circumstances, resign all activity, and descend into the vale of poverty and misery. Hence it appears that too extensive a concern, in proportion to the capital, is ruin. Your correspondent, who signs himself "A Landlord," says (page 361) "It is, however, evident, that the size of the farms ought to be relative to their situation, to the state of the markets, and agriculture

of the district, as well as to the soil." I see no occasion to quarrel with this position, but your readers will discern, that all this in fact refers to the great principle of capital from the relative situation of farms, from the state of the markets, from the agriculture of the district, and from the condition of the soil, different proportions of capital will be required.

Under these views, the first object of every prudent landlord on letting his farm, should be to ascertain whether the capital of the person proposing to be his tenant, be competent to the culture of the land to be occupied. "A Landlord" is perfectly right, where he intimates, that the condition of the soil varies the power in labour, and money required for its management. In some countries a capital of 5l. an acre will be sufficient, when in others, double that sum would be incompetent to the purpose. I have never supposed, that any criterion with respect to the size of farms, could be ascertained from the supposed extent of ability of one master to overlook a concern of particular dimensions. I boldly affirm, that a farmer is as capable of conducting 10,000 acres extent, as of 100 acres I mean that with the view of the ordinary powers of man, no such criterion can be assigned. I have assumed a comparison between the concerns of trade and agriculture, and I will apply it here. What a frivolous engagement would 10,000 acres be, compared to the gigantic interests of the merchants of London, and until lately of Amsterdam, with the four quarters of the globe; or when placed in competition with our great breweries and distilleries, depending for their success on the most curious processes in chemistry, and involving a capital in some instances of two millions sterling. From this view of the capacity of man, when applied to any object with which his interests are connected, I am not at all surprised at the information of Agricola Northumbriensis, when he places in contrast the lessees of the Duke of Northumberland, and of those of the Earl of Tankerville, and Sir Henry Grey; the former in small farms, the latter in large ones; the former increasing in value only one-fourth, the latter one-half, within a space of time not much exceeding fifteen years. Part of the success of the latter is attributed to the security of leases for twenty-one years, whereas the former is let to annual tenants, continuing indeed on the estate from the generosity of the lessor, but not possessing that "security" on which extensive improvements are founded. I mention this, as a material feature in the question, that A. N. who is a staunch advocate for large farms, may not draw a precipitate conclusion from the situations of the three estates to which he has adverted *.

* It is easy to collect, from various letters that have appeared in your miscellany, the animation with which A. N. both feels and writes. In the

Those who have considered the subject of the size of farms, have done it in two points of view; 1st, as affecting the public; 2dly, as operating on individuals. I am yet ignorant of the evil which would arise from the whole of the country being either exclusively in large or in small farms. The whole question appears to me to turn upon the resolution of this doubt: by which of these the produce of the soil of the nation would be most abundant. For which ever would produce this abundance, would afford to the people the greatest quantity of employment, and the largest means of subsistence. I must again recur to my favourite argument from analogy: the source of the commercial prosperity of this country is the freedom with which trade is permitted to expand itself on every side *. This has not been permitted in agriculture; sometimes from the avarice, at others from the envy of landlords, but in both cases from mistaken views of their own advantage. The pride of our great proprietors is sometimes wounded, while they are exposed to debts or embarrassment in the capital, and their lessees are rising into importance on the patrimonial estate. They see with mortification the prodigious success consequent on prodigious talents and well directed industry in their talents, and their passions will not admit them to endure a rival in prosperity and reputation where their lordly ancestors have ruled without controul. Such is human nature, and these defects are to be considered among the most formidable obstructions to the improvement of the country. In trade, men are permitted to roam at large, and to suit the reach of their occupation to the extent of their capital. In agriculture, this discretion is withdrawn, and hence we are constantly observing a wealthy farmer attached to a contracted estate, and an extensive territory in the hands of a needy adventurer. God and nature have appointed that, both in the physical and moral world, success and improvement should depend on the freedom enjoyed, and whenever human prejudices and political institutions interfere with this principle of universal liberty, the consequence will be, the benevolent designs of God and nature will be obstructed. Agriculture, like trade, if left to itself would find its own

paper to which I am now referring, he hastens from the miry soil of agriculture to the more dirty field of politics, and detains himself to compliment that "inflexible and able patriot, the celebrated member for Northumberland." I do not object to this warmth, I perhaps admire and venerate the man who feels it, but I have been extremely concerned to see it exposed without discretion by your Norfolk and Northumbrian friends.

* This remark must be received with a few of Selden's "grains of allowance." Your curious readers may inform themselves on this subject by a reference to the concluding part of the third chapter, book the fourth of Adam Smith's Enquiry into the Nature and Causes of the Wealth of Nations.

level, and like those expansive rivers by which the earth is renovated, would diffuse luxuriance over the globe, but if confined and contracted in one place, it will accumulate in irregular proportions in another, and the progress of improvement from which man is to derive the amelioration of his condition, will be obstructed. The effect of the system of agriculture being thus cramped within unnatural limits, is weekly heard in the market-place, and read in the gazette, and it is not less evident in the public jails of the kingdom, where many a haughty landlord finds more reason to lament the impolicy of his steward, than the extravagance of his vices.

But some timid writers apprehend the monopoly of farms. Is this monopoly feared in our trade, manufactures, and commerce? Are any public restrictions imposed to prevent such monopoly? Even in the essential articles of subsistence, no maximum in price is admitted, because, by profound statesmen, it is considered most of all dangerous where some dabbling politicians deem it to be most of all necessary. The monopoly of the produce of the earth on our favoured and exuberant soil is not practicable The materials for our manufactures very often depend upon foreign supply; the articles of agriculture are from the earth on which we tread, they are produced from it by a continual miracle; and, notwithstanding the national pride in our rustic improvement, almost every acre of our territory could be made ten times more productive.* Whatever fears then may be indulged by the weak, whatever enterprizes may be projected by the powerful, whatever doubts the theorist may entertain of monopoly in commerce; in agriculture there is an end to every anxiety about it, and the most wary will acknowledge it to be impossible.

I will now conclude, Sir, with referring you to the principles with which I commenced. It is our contracted habits and local prejudices which lead us to wrong views on this subject. The analogy I have attempted to expose will restore us to truth and reason. As in commerce, so in agriculture, no fixed boundary can be assigned to the warehouse or to the farm; the one and the other must be in proportion to the nature of the commodity and the capital employed, and according to these circumstances may be confined to a box or a garden, and extended to a town or a province.

AGRICOLA MERIDIONALIS.

* The account we have received of the produce of extensive districts in China is not a little mortifying to British arrogance.

ON THE CULTIVATION OF POTATOES.

To the Editor of the Agricultural Magazine.

SIR, *June* 1, 1804.

IN March last I proposed to have sent you a paper on the cultivation of potatoes; I did not, however, recollect my intention when I inclosed you some papers on other subjects, nor did I think of it again till I read Mr. Bartley's intelligent communication (in your April number) on the culture of that useful esculent.

According to that gentleman's letter, potatoes may be planted with success in July, I therefore send you an extract from my minute book, for insertion in your next magazine, and hope that this or next year, some of your readers who have sufficient leisure, will pursue my experiment in such a manner as fully to demonstrate the most beneficial mode of using the potatoe for seed.

"On the 23d of May, 1803, I planted a small quantity of very light poor gravelly land, *all alike in quality and condition*,* with potatoes and their shoots, in the following manner.

No. 1, with shoots a foot asunder in the drills, and intervals of two feet.

No. 2, with cuts a foot from each other in the rows, and intervals of two feet.

No. 3, with whole large potatoes, intervals and distances the same as above.

No. 4, with ditto, ditto, ditto, ditto two feet, distances in the rows 18 inches.

No. 5, with ditto, small and middling sized potatoes, intervals and distances the same as No. 4.

The seed was taken from a stock of potatoes raised in the preceding year from the cuts of a large and pretty round formed variety, in colour white, except a small part at one end of a reddish colour.†

The shoots were obtained from a part of the same stock, which (a few weeks before) were laid on horse-dung and lightly covered with earth. The time of planting was three weeks or a month two late for this climate. The succeeding weather was uncommonly dry, scarcely a single shower of rain having fallen in this quarter between about the beginning of June till near the middle of September. From this impropitious weather and the natural avidity of the soil, the plants were much injured, and many died, especially from the cuts. Those

* It produced a crop of turnips, in 1802, after dung and lime, but received no manure for the potatoes.

† Provincially, "red-nebs."

shoots which had *leaves* at the time of planting, grew more vigorously than those which were *then* only in the white state, a considerable part of the latter having been much injured or destroyed by mice. The plants were "earthed up," and the ground twice hoed in the course of the summer. In November, the potatoes were all taken up, and accurately weighed. The produce was as under.

		st.	lb.		sq. yrds.	lb.
No. 1, at the rate of		259	8	*per* acre* of	4840	14 to the stone.
— 2,	do.	261	6	do.	——	do.
— 3,	do.	331	1	do.	——	do.
— 4,	do.	324	5	do.	——	do.
— 5,	do.	389	0	do.	——	do.

A poor crop! a humid summer would undoubtedly have greatly increased the produce, particularly that from the "cuts." For two or three weeks after their appearance above ground, the plants from the latter seemed as healthy and luxuriant as those in any of the other numbers, but afterwards became more weak than the rest. Nos. 3 and 4 produced the greatest *number* of potatoes; they were, however, especially on the former, generally much smaller than those raised in the other modes. I am inclined to think, that if the shoots had escaped the depredations of the mice (which would probably have been the case if they had all attained the green leaf at the time of planting) their produce would have *greatly* exceeded that in No. 2. Various hypotheses have been advanced, relative to the cause of that baneful disease *the curl in potatoes*; and some having asserted, that it arises from damage received by the seed, I planted, in Nos. 3 and 4, several *whole* potatoes, which by exposure to unfavourable weather in the preceding winter or spring, had become green or blue at the ends; but no curled plants appeared, and those which sprung from the damaged, seemed as healthy as any from the sound potatoes."

At some future period, Mr. Editor, perhaps I may offer to you some remarks on this comparative experiment. At present, I shall only observe, that we can rarely deduce proper conclusions from a single experiment, and that if I am right with respect to the prolific powers of the shoots, the use of them instead of "cuts," may be considerably beneficial, especially to the poor, in years of scarcity.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

* The potatoes weighed 3 st. 9 lb. 14 oz. per Winchester bushel.

ON THE PRICE OF CORN AS AFFECTED BY THE EXISTING LAWS.

To the Editor of the Agricultural Magazine.

SIR, *June 2*, 1804.

AT page 241 of your 57th number, Mr. Bartley says, "the legislature with the purest and most benevolent motives, have interposed regulations to preserve an equitable mediocrity between the growers and consumers (of corn;) nevertheless, we experience the extremes of too high and too low in alternate succession." This is unfortunately too well founded, and every man who has, either as a merchant or a farmer, attended to the prices of corn in this kingdom, for the last 8 to 12 years, will long remember the great and injurious fluctuations which within that period, have taken place in our markets. It is extremely desirable that such measures were pursued, as would render our markets, for the most necessary article of human subsistence, much more steady, *at prices adequate to the greatly increased expences of farmers;* for without such measures, we may look in vain for constant and adequate *supplies* of corn. This seems consistent with reason and common sense; but, Mr. Editor, it is unnecessary to employ much reasoning on the subject. To illustrate and confirm the truth of my position, we may appeal to experience. We may adduce the state of commerce in its other branches—and thus prove, that constant and adequate supplies cannot be obtained but when those who bring them to market experience a constant demand at adequate and tolerably steady prices. In another part of the same page, Mr. Bartley says, "to some persons it may appear to be an extraordinary observation, but I consider the present low price of wheat to be a matter of regret. It is an *extreme*, oppressive to the cultivator, and which at no very distant period will be apt to beget its *opposite—both* alike injurious to the permament interests of society." I agree with him, but many, I know, will contend that five to six shillings a bushel for wheat, would leave a profit satisfactory to all descriptions of men, but the "greedy and ras—ll—y farmers." Such persons, however, know not the necessary expences of cultivation, or they would be convinced, that from 7s. 6d. to 8s. 6d. per bushel, would not (on an average of years) leave a profit of ten per cent per annum on agricultural capital. Many of these persons, however, though ignorant of agricultural *expences*, will understand and enjoy mercantile and manufacturing *profit*. Would they be satisfied with a gain of 10 per cent. per annum? Do they not generally receive from twice to quadruple that profit, and in many cases much more? If these persons possess not agricultural information, they possess common sense, and nothing more is required to enable them to perceive the necessity of giving encourage-

ment to that art *above all others*, by which human subsistence is produced; and when they compare the feelings and sufferings of the farmers of Great Britain, under the *extreme* pressure of their present burthens, with those they would themselves experience were their profits reduced from 40l. to 0l. or even 10l. per cent. per annum, they will probably discover that that most important act is extremely and most injudiciously repressed, instead of being promoted.

A few months ago I stated, in answer to the remarks of your Norfolk correspondent P. J. on the unfortunate circumstances of farmers, that I was not so sanguine as that gentleman as to their being speedily and effectually relieved by legislative regulations; and though the petitions from Norfolk, Suffolk, and a few other counties, have induced the House of Commons to take the corn laws into consideration, I am still of opinion, that the commercial preponderance in the senate, will operate against *effectual* relief being extended to the growers of corn. I heartily wish P. J.'s expectations may not be disappointed, but in such matters it is generally right to judge of the future by the past. In favour of his ideas, some strong facts may now, indeed, be urged by the landed interest, which, perhaps, could not be advanced on former occasions, namely, that within the last ten or fifteen years, the wages of the labouring class have been increased upwards of 100, and in many parts of the country upwards of 150 per cent. while those of corn have (excluding the late years of dearth) increased but little; that so far from the great and rapid increase of the price of labour having (as the advocates of the commercial system contend) injured the trade of the country, by enabling foreigners to undersell our merchants, our annual exports have increased upwards of ten millions sterling; that that increase of the exportation of British goods has been most rapid, when labour was at the highest, or nearly the highest, rate; that high wages and cheap provisions have operated against industry and morality; that farmers are not like other subjects, taxed according to their income, but in a much more oppressive manner, their rents being taken as the criterion of income, and they are therefore obliged to pay five per cent. upon three-fourths of these rents, whether they have any income at all, and even when they are losing greatly by their farms, &c. &c. If, however, it should be proved in the end, that these circumstances have operated in favour of the landed interest in the revision and alteration of our corn laws, I apprehend we shall clearly perceive that their influence has been *too small*. The important question, whether a constant supply and adequate price of corn, would be best obtained in this kingdom by a free import and export, as well as inland trade, or by one under legislative restrictions, in-

volves not only the most effectual mode of obtaining the first article of human subsistence, but the support of our agriculture, the improvement of our lands, the increase of our population and national strength, and the happiness of the country. Many powerful advocates have ranged themselves on each side—at the head of those for a free trade, stood the celebrated Dr. Adam Smith, and undoubtedly the opinion of so eminent a man—a man who so fully understood and wrote so ably on the nature and causes of the wealth and power of nations, and who, in opposition to the opinion of government and almost the whole British empire, *foretold* the advantages which would result to this country from losing the *monopoly* of the North American trade,—is entitled to great respect. Great men, however, *sometimes* err, and doubts are entertained by much the greatest number of our landholders and legislators, whether the opinion of this distinguished writer could be safely acted upon under the *peculiar* circumstances of this country; though, perhaps, many of them believe that his principles might be advantageously put in practice, were these circumstances upon a level with those of the countries from which foreign corn is received into our ports. It has pleased Providence to bless this country with a form of government, under which life, liberty, and property, are much better secured than in any other on the face of the globe. The consequences of such ample freedom and protection, have been the accumulation of much greater wealth and power than those possessed by any other nation. Some, indeed, may dispute respecting her *power*, but the vast superiority of her *wealth* is universally acknowledged, and the countries from which we receive our supplies of foreign grain, namely, Prussia, Russia, and the northern parts of Germany, but especially the Polish provinces in the former country, are more inferior to her in this respect than some other parts of Europe. The constant concomitants of a flourishing commerce, and wealth and power, are, and always have been, great consumption, high rents, high prices of labour, &c. &c. The contrary have always appeared in countries destitute of freedom, of an extensive and flourishing commerce, and of wealth. In those foreign countries, the rents of land are generally about one-fourth to one-third of those in Great Britain, and the price of labour in the same proportion. They are untithed, and (compared with ours) untaxed. Except from the Dutch, and a trifling opposition from Spain and Portugal, our merchants have no competitors in the great corn markets of the north, the voyage to which is *short*. Thus we discover a great difference between the circumstances of this country, and those of Russia, Prussia, &c. &c. and the reasons why our landholders and agriculturists are so ex-

ceedingly alarmed at the idea of a free trade in corn ‡. It was deemed the best policy to attend to the suggestions of both parties—of the agricultural and commercial—and to adopt such measures as seemed calculated to keep the price of the first article of necessity at such a pitch, as to promote the agriculture and improvement of the country without checking our manufacturing and commercial establishments. With this view, duties, which amounted to a prohibition, were imposed on the importation of wheat, when the prices in our markets exceeded certain limits, and when they were too low, a bounty was granted on exportation. An important alteration was made in the corn laws in the reign of King Charles the Second, when, says Dr. Adam Smith, "the importation of wheat, whenever the price in the home market did not exceed 2l. 13s. 4d. the quarter, was subjected to a duty of six shillings per quarter; and to a duty of eight shillings, whenever the price did not exceed four pounds" (about 4l. 16s. of our money). He also says, "the importation of other sorts of grain was restrained at rates, and by duties, in proportion to the value of the grain, almost equally high. Subsequent laws still increased these duties." From about the middle of the seventeenth century, down to 1688, the average price of wheat was nearly forty-five shillings per quarter, our agriculture was in a flourishing state, aration and improvements became more extensive, greater quantities of corn were produced, and a good deal was exported, a bounty of five shillings per quarter having been granted on the exportation of wheat, when its price was under forty-eight shillings per quarter. These beneficial regulations were suspended in 1757, and in 1773, material alterations were made. Importations of wheat were then permitted on a duty of sixpence per quarter, when the home price was forty-eight shillings, and exportation prohibited till the price was below forty-four shillings, when a bounty of five shillings a quarter was granted on exportation. By the act of 1791, (now in force) the importation of foreign wheat is permitted on a duty of 2s. 6d. a quarter, when the home price is 2l. 10s. a quarter; and at sixpence, when that price rises to 2l. 14s. Exportation is prohibited till the price is under

‡ Even Dr. Adam Smith has admitted, that "if importation was at all times free, our farmers and country gentlemen would, probably, one year with another, get less money for their corn than they do at present;" but "that the money which they got would be of more value, would buy more goods of all other kinds, and would employ more labour. Their real wealth, their real revenue, therefore, would be the same as at present, though it might be expressed by a smaller quantity of silver; and they would neither be disabled nor discouraged from cultivating corn as much as they do at present."———To such a revolution, I believe, our landholders in general are exceedingly averse; and it would be ruinous, if not unjust, to those farmers who have engaged their farms for a term of years.

2l. 6s. and when it is under 2l. 4s. a bounty of 5s. a quarter is given. So that our legislature have thought it right, within the last thirty-one years, to reduce the price for regulating the admission of foreign corn, considerably below the limits fixed in the reign of King Charles the Second. The commercial interest has unquestionably increased greatly within the last hundred years; I am decidedly of opinion, however, that the advocates of the mercantile system have proceeded upon erroneous principles, and that if the ideas which prevailed about the year 1670, with regard to the importance of *preferring* measures for the encouragement of agriculture, had continued to guide our legislature, we should, at this day, have enjoyed a still more beneficial and extensive commerce with the superior advantages and security of having it protected by a population greatly exceeding twenty, instead of sixteen millions ‡, and by a greater proportion of the *hardy* and *virtuous* sons of the plough. In spite of the obstacle of tithes, many, many more of our dreary wastes and heathy mountains would have been converted into fruitful fields, but till that obstacle is removed, we may vainly expect such a salutary change on a great part of that species of land. "Shall the (corn and) tithe laws repress the energies of man, keep the produce of the earth down to a quarter of what it is capable of, and blight our population, &c.? Forbid it, ye legislators! forbid it, all ye powers of heaven!" ‖ To prevent a recurrence of the evils we have experienced, to increase aration, and to promote the improvement of a very considerable part of our moors and waste lands, it seems necessary to prohibit the importation of foreign wheat, at the low duties, till our own rises to about 3l. 4s. to 3l. 10s. per quarter, and other sorts of grain in proportion; and to grant *large* bounties on the exportation of corn, when wheat is under fifty-six shillings a quarter. Then would the British agriculturist (in all probability) meet a constant demand for the produce of his ground at adequate and more steady prices. Such ample encouragement would *then* be offered, that, in a short space of time, our own produce, except in unfavourable seasons, would be equal to our consumption. In some years there would be an excess. It should never, however, be suffered to fall too low in price, bounties should be applied with a *liberal* hand, and I cannot conceive a more advantageous application of a part of our immense public revenue, than in thus effectually promoting the improvement, happiness, and power of the country. These bounties would amount to a large sum. That amount, however, would appear very small, when compared

‡ In Great Britain and Ireland.

‖ Mr. Middleton on Tithes, except the words (*corn and*).

with the sums lately paid for foreign corn §. Besides, we should have the satisfaction of knowing that they were applied for the laudable purpose of promoting our own agriculture. As the corn laws and some fiscal regulations relative to malt, beer, and spirits, (without which the culture of barley would probably be greatly diminished in many parts of the country) will soon be investigated by the legislature, they present themselves as fit subjects of discussion in agricultural publications. I lament my inability to do them justice, and hope one, or both, will be taken up by some of your abler correspondents. As Mr. Bartley is a gentleman of acknowledged ability, standing in the honourable situation of Secretary to the first Agricultural Society in the kingdom, I regret that he has not communicated his sentiments more fully.

I am, Sir, your's, &c.

AGRICOLA NORTHUMBRIENSIS.

QUANTITY OF SEED PER ACRE, COMPARATIVE HUSBANDRY OF NORFOLK AND NORTHUMBERLAND.

To the Editor of the Agricultural Magazine.

SIR, *May* 30, 1804.

IN former letters to you, I requested information respecting the proper quantities of seed-corn for the various kinds of land, and as you have not published these enquiries, I have again to beg that you will endeavour to spare a corner of your valuable miscellany for so troublesome, but anxious a correspondent as I am. I cannot, like many others, appear under a favourable dress, and have therefore, perhaps, been too much over-looked by your enlightened contributors; but you and them may rest assured, that such enquiries and observations as I have made, are not viewed with indifference by many practical farmers who read your excellent work, and that they will be reiterated in some shape or other, till I be so fortunate as to attract the notice of those who will condescend to favour me with ample and intelligible instruction. It is unquestionably of great importance for farmers to be thoroughly informed as to the quantities of seed most advantageously applied to the different species of soils; and I am sorry to say, it is a point upon which there is great difference of opinion, and upon which I have been unable to obtain complete instruction and satisfaction. Your correspondents, Agricola Northumbriensis and Norfolciensis, seem to be of opinion that poor soils and those of inferior quality, should receive a greater quantity of

§ Within two years, ending in 1801, these sums amounted to near twenty millions sterling, including bounties.

seed than those which are rich and good, and I find that opinion supported by some practical farmers whose judgment is much respected. There are others, however, equally respectable, who entertain a contrary opinion, and I should be very glad to see the subject fully discussed in the Agricultural Magazine, more especially if the results of accurate comparative experiments can be adduced in support of argument and observation. It has been recommended to me to make experiments of this nature, and I highly approve of such a mode of acquiring knowledge; but, Mr. Editor, I wish for *early* information, and am anxious to profit by the experience of others. Besides, an unexperienced farmer cannot, I apprehend, make trials with the necessary judgment and exactness. The Board of Agriculture, the Society of Arts, &c. and many Agricultural Societies in the kingdom, annually offer premiums for the best comparative experiments in the culture of wheat, turnips, &c.; but I have observed, that much difference of opinion exists as to the trials these Societies require. For while some practical farmers of great judgment and experience, assert that they are right in requiring that the experiments shall be conducted on six or eight acres of land *for each article,* others, whose characters for agricultural knowledge are as firmly established, contend that they should be conducted on a much smaller scale; that on the above quantities of ground the necessary accuracy cannot be observed, and, consequently, (as the results of experiments are more likely to influence the practice of husbandry than arguments or theory) that trials *to that extent,* are detrimental instead of being beneficial to the community. Now, Sir, this also appears to be a momentous subject, and it would probably afford much pleasure and advantage to see it taken up, and amply investigated by some of your intelligent correspondents; permit me, therefore, to request their attention to it. One or two other important subjects and I have done *for the present*; for though I have a good deal more to say to you, I fear, that by stating much at a time, I shall exhaust your patience, or take up too much of that room in your Magazine which you devote to such communications as mine.

In your number for December last, there is a long letter from A. Northumbriensis, in which a new mode of cultivating turnips is described. In succeeding numbers, that subject has received farther investigation by that correspondent and your friends in Norfolk. One of the latter, (P. J.) who perhaps brought forward the discussion, by asserting the superiority of the Norfolk farmers in the culture of turnips, *at first* declined to answer the arguments of Northumbriensis, but afterwards *asserted,* that "he would not yet give up the claim of the Norfolk farmers to superiority in the management of the tur-

nip crop." As this *assertion*, however, was not accompanied by proof or arguments, I confess, Sir, that I was beginning to wheel round, and to look towards the north for superiority, when all doubts on the subject were removed by the candid and able confession of A. Norfolciensis in your last number, which seems to establish the superiority of the northern mode of cultivating turnips. In making this confession, however, I remark, that Norfolciensis has used the words, "*on that score*," by which, I presume, he wishes your readers to infer, that the *general husbandry* of Norfolk still retains its once acknowledged superiority, not only over that of Northumberland, but over that of every other county in the kingdom. Which of these counties stands at the head of British agriculture, is, on the score of personal ambition, perfectly indifferent to me; my object is, to endeavour to discover truth, and to promote such an investigation as may unfold to my brethren in every part of the kingdom, the most advantageous modes of cultivation. With this view, I must remark, that Agricola Northumbriensis has enlarged on the management of light soils in Northumberland; that he has stated some strong facts in support of his arguments; that his opinions, respecting the rotation of crops, and time the land should be under grass, are, in a great degree, corroborated by the writings of the Rev. Mr. Close, and your correspondent Chorographus; that he has *condemned* the course of crops and interval in grass, which the Norfolk farmers prefer on similar soils, and that something more than *mere assertion* will be required from P. J. and A. Norfolciensis, to remove the impression made by your Northumberland and other correspondents, which indubitably tends to overthrow the basis on which the superiority of the Norfolk agriculture has hitherto rested. Agricola Northumbriensis has likewise aimed a severe blow at the Norfolk sheep, and the practice of "sheep-folding." He has, at the same time, advanced a good deal in favour of the Northumberland sheep, and as it is very important for farmers to be fully acquainted with the best and most profitable breeds of live stock, I should see, with great pleasure, more communications and discussions on that subject, in your publication, particularly as to the criterion of superiority, and the most proper and easy modes of discovering it. Being in the occupation of some light land, I feel considerably interested in those discussions in your work which relate to the management of that species of soil; and though I have been taught to look towards Norfolk for the most perfect husbandry, I must own that the letters of A. Northumbriensis have made an impression on my mind rather in favour of the northern rotation, &c. and that, *at present*, I am not inclined to believe that the Norfolk farmers stand at the head of British agriculturalists.

But, Sir, as I am but A Novice, my opinion will have but little weight, but I wish to inform Agricola Northumbriensis and P. J. that it is founded upon that entertained by a few experienced and respectable husbandmen in my neighbourhood, who conceive that much able argument and many strong facts are now necessary to prop the *tottering* reputation of the cultivators of the county of Norfolk. Yours, &c.

A. NOVICE.

P. S. If it is not too great a condescension in so distinguished an agricultural author as your correspondent Mr. Middleton, to attend to *A Novice*, I should be extremely obliged to him for a little further information as to one article in his course of crops in your 46th number, namely, what time the winter tares should be sown, and what quantity per acre? at what time they are fit for *cutting*? whether he has seen *much* "medium loam" sufficiently well cleaned and reduced after them so as to be fit for sowing in June or beginning of July with turnips? whether the latter crops are generally productive, and whether the tares withstand the severity of frosty winters? This subject, I think, deserves great attention. *Two* good crops within a few months would, in themselves, be a vast acquisition, besides the great increase of manure.

MEANS OF DIFFUSING USEFUL KNOWLEDGE AMONGST FARMERS.

To the Editor of the Agricultural Magazine.

SIR, *June* 4, 1804.

I HAVE been engaged for a great number of years in practical husbandry, to which I am, both from principle and interest, much attached. I have, for a considerable time, read your Magazine with much pleasure and advantage, and am happy to see it so well supported by many intelligent correspondents, more especially as some of them have adverted to the importance of well-conducted comparative experiments. For though I am far from condemning scientific descriptions, and discarding argument and theory, yet I must contend for the superiority of such trials, and most heartily wish that argument and theory were more generally upheld by such tests of truth, and that proper experiments were more frequently made. But it is a lamentable circumstance, Mr. Editor, that when we, sons of the plough, once get upon a track which others have long pursued, and in which we find that we can obtain pretty good crops, we never even think of varying our practice, of endeavouring to obtain a *still greater* produce, of lessening our expences, or of making an experiment or two *on a small scale*, which would be attended with but little

trouble, and no expence. No, Sir, instead of pursuing so rational a course, we are generally prejudiced in favour of the old custom, and when an advance of rent or some other circumstance renders the balance on the creditor side of the farmer's book too small, we often whine, and tease our landlords for an abatement of rent, or an acquital, at a time when such a pressure should stimulate us to greater exertions, and to endeavour to discover more beneficial modes of management; modes which might enrich ourselves, benefit our landholders, and increase the happiness, prosperity, and power of our distinguished country. Under this view of the matter, your Magazine seems a most important publication, for it is well calculated to disseminate the results of experiments throughout the kingdom, and to diffuse agricultural knowledge of every kind. Your undertaking is, therefore, highly laudable, and demands the warmest support of every British and Irish patriot, and in a particular manner of our landholders. What but the want of such publications formerly, could account for a tolerably perfect system of husbandry in one county, while others, within 30 or 40 miles, were managed under the old, unprofitable modes? Nay, in some, at this day, we may discover something of this nature. What is the reason? Why either the hands of the farmers are tied up by covenants of leases prescribed by *ignorance*, or they do not know what is passing in other districts. Perhaps they do not even know that such a useful work as yours is published; you should, therefore advertise and describe it in the provincial papers; and here it may be in point to remark, that I think you should hold out still greater encouragement for practical agriculturists to communicate to you (for publication) the results of their accurate observations, &c. You should *hint*, that you would occasionally add a word or a letter *here*, and strike out one *there*, to supply our want of knowledge in writing, and put us into a better dress, &c. &c. Real and advantageous agricultural knowledge cannot be attained but in the field of industry; and many important facts are lost to the community from the want of circulation of agricultural periodical works, and the dislike, and often inability, of farmers to communicate their sentiments in writing. Some facts have appeared which it seems of consequence to mention: a few farmers got so far out of the beaten track as to make small experiments: on the adjoining ridges or lands the crops under different management *appeared equally* luxuriant and good, the old mode therefore was pursued; more accurate trials, however, were at length made, the produce was then carefully weighed or measured, and a very considerable difference discovered in favour of the new modes. I mention this to shew, that experiments should be *completely* made, and that if great accuracy and knowledge are not employed in con-

ducting them, they may readily mislead, and produce consequences ruinous as the wildest theories.

Your constant reader and a warm friend to agricultural periodical publications, ARATOR.

AGRICOLA NORTHUMBRIENSIS, IN REPLY TO AGRICOLA NORFOLCIENSIS.

To the Editor of the Agricultural Magazine.

SIR, *June* 14, 1804.

IN your last number, Agricola Norfolciensis addresses you in these words:—"Sir, had I been blest with half the assurance that my Northern Censor possesses, I would have made each topic the subject of a long, very long letter. I would have dispatched one, two, three of them as fast after each other as I could have scribbled them; or, had I fortunately conceived but half so good an opinion of my own abilities and knowledge as A. Northumbriensis certainly entertains with regard to himself, I would never have condescended to ask questions for information's sake of any one. No, Sir, scorning such mean indignity, I would assume the office of Preceptor-general to all the agriculturalists in Great Britain. I would tell them, in the most peremptory stile, that my native country was the only spot in which farmers knew any thing, and that I was the most intelligent of them."

After this, Mr. Editor, who will doubt the towering and aspiring spirit of Agricola Norfolciensis? Sincerely thankful am I, Sir, that my ambition is of a much more humble nature, and that, notwithstanding the "assurance," &c. he has so liberally imputed to me, I have not been so imprudent as to make the most distant attempt to place myself in so elevated a situation as that he confesses *he* would have assumed; for knowledge and talents infinitely greater than mine would have been expected in a person in so exalted an office. Sensible of this, and conscious of my inability, I would have turned with indignation from the *offer* of so great and honourable a station. How different is the conduct of Agricola Norfolciensis! Couple his declaration (in the above quotation) with his having *prescribed* to A. M. and I the manner in which we must proceed if we renew the controversy respecting horses and oxen, namely, that we must advance "more matter of *fact* and less *argument*," and there will be reason to believe that he has already *assumed* the office of "Preceptor-general," and consequently that he has a "good opinion of his own abilities." Where are his proofs of the opinion, he says, I entertain "with respect to myself?" He has, I presume, no means of judging but from my letters in your Magazine; and it has happened rather unfortunately for him, that, in the very page confronting that in which he has *asserted* the opinion he says I entertain of my own talents, that

I have acknowledged my *inability*. It is lucky for me that this stubborn *fact* is placed opposite to his *assertion*, and it will, I hope, remind your readers of several confessions of a similar nature in my other communications. But probably he will say—has not this Northumberland farmer had the "assurance" to oppose the opinions communicated by several of your correspondents, and also those of our great agricultural writers, Messrs. Laurence, Close, and Amos? If this "assurance" is a crime, I am guilty. I humbly conceive, however, that the correct description given by Norfolciensis (at page 337 of your last Magazine) of the nature and design of your publication, will prove my *innocence*. Will that gentleman never "cast the beam out of his own eye?" Has he forgotten that he has himself communicated opinions very different from those expressed by several of your correspondents, and that he has condemned those of the very authors I have named, and of the celebrated author of the Agricultural Survey of Middlesex? Can he lay his hand upon his heart and say, that *all* his letters may be exhibited as patterns of diffidence, modesty, and a conciliating manner? Will he say, that none of them contains evidence of his attachment to something like that "peremptory stile" which he informs us will be adopted in discharging the *duties* of his new office? He says, "I have no reason to think that I either wrote in ridicule or censure of the controversy," (respecting horses and oxen). What! not ridicule or censure, to state "that A. M. and I had worked our horses and oxen to the bone in the *dreadful* contest for superiority; that we had left the matter where we found it; that we had introduced much irrelevant matter; that we had *wasted* our time and paper, and taken up much of that room in your collection which might be filled with more valuable matter, and that he wanted *information* for his eighteen pence?" Did he imagine that these censures would pass me without observation, because, in passing his "fiery ordeal" he thought my trial less severe than that of Mr. Middleton, whom he *promoted* from the walks of the profound rural and political economist to the theatrical stage?

I have *not* said that the matter in Norfolciensis' letters of March and October last was a farrago of poor stuff, not half so entertaining as the little scrap of politics you give us at the end of each number, I have only *hinted* what I conceive others would have said, if that matter had not been the production of *kindred brains*; namely, that it was improperly arranged, or that it contained "much irrelevant matter," and I ardently hope it will be recollected, that I neither gave these *hints*, nor interfered at all, till after he made the *first* attack. Then, Sir, I deemed it necessary to retaliate, to state the *facts* as they occurred, and to remind him of a leading precept of Christian morality. I conceived that the conse-

quences of my remarks would be favourable to your Magazine, and the great cause of agriculture, in preventing such improper and unprofitable attacks as that I resented, and I entertain sanguine hopes of being acquitted before the tribunal of your readers. If, however, contrary to my expectation, they should deem the conduct of *each* party in the controversy *censurable*, I sincerely hope that both will pursue a more agreeable course in future. If Norfolciensis should deem it proper to "*dispatch* you one, two, or three letters" for each Magazine, I would advise him not to "scribble" them, to recollect his consequence, and that much more will *now* be expected from him than from a common farmer.

I am glad that Norfolciensis "is fond of accepting challenges," and that my remarks in your 57th number have roused the able pen of Agricola Meridionalis into action. I rejoice when I can promote useful investigation. How far I have been successful I cannot determine, but I can with truth declare, that in the humble support I have given to your work, that has often been my principal object. And if I have frequently *aimed* at Norfolk, and A. Norfolciensis, and P. J., believe me, Sir, it was because the rural management of that county had been greatly, and, *for a long period*, deservedly extolled; because I admire the talents and agricultural knowledge of these correspondents, and because I conceived that in an extensive district, comprising part of the counties of Northumberland, Roxburgh, and Berwick, the management of light lands was much more judicious than in Norfolk. The particulars of this management I wished, *for the interest of my brother farmers and that of the country*, to diffuse as widely as possible; and I am happy that I have induced Agricola Norfolciensis to acknowledge that he is a *convert* to our very superior mode of cultivating turnips. Before I have done with your Magazine, I hope to convince him, and all your readers, that most of our other modes of management are also superior to those practised in Norfolk; and I now "challenge" him to refute what I have advanced on these important subjects. This, Sir, I hope, will produce a more agreeable, good-natured, and advantageous discussion, than that in which we have, for some months past been engaged. I beg, however that when I insist upon the superiority of our northern management (which I will certainly do till it be clearly proved that I am wrong) your correspondent will not suppose, I conceive this district "the only spot in which farmers know any thing," or that I am extolling an individual. No, Mr. Editor, he must clearly understand that I write (with a view of benefitting society) in favour of an excellent system, which is supported by a *vast body* of highly respectable agriculturists. I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

PREMIUMS offered by the SOCIETY, *instituted at* London, *for the Encouragement of Arts, Manufactures, and Commerce, for the Year* 1804.

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

The manner in which this money has been distributed may be seen by applying to the Secretary or other officers of the SOCIETY, at their house in the *Adelphi*. The Register of the Premiums and Bounties they have given will 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 continue to be elected.

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

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

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

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

PREMIUMS IN AGRICULTURE.

Class 1. ACORNS.

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

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

Certificates of setting agreeably to the above conditions, and that there are not fewer than three hundred young oaks on each acre, to be delivered to the Society on or before the first Tuesday in December, 1804.

3. RAISING OAKS. To the person who shall have raised, since the year 1800, 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, 1805.

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, 1804.

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

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

Certificates of sowing or setting, agreeably to the above conditions, and that there are not fewer than three hundred chesnut plants, in a thriving state, on each acre, to be delivered to the Society on or before the first Tuesday in January, 1805.

8. Elm. For having planted the greatest number of the English elm, not less than eight thousand, between the twenty-fourth of June, 1802, and the twenty-fourth of June, 1803; 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, 1805.

10. Larch. For having planted out, between the twenty-fourth of June 1801, and the twenty-fourth of June, 1802, 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, 1804.

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

Certificates to be produced on or before the last Tuesday in December, 1805.

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

14. Osiers. To the person who shall have planted, between the first of October, 1803, and the first of May, 1804, the greatest quantity of land, not less than five acres, with those kinds of willows, commonly known by the names of osier, Spaniard, new kind, or French, fit for the purpose of basket-makers, not fewer than twelve thousand plants on each acre; the gold medal, or thirty guineas.

15. For the second greatest quantity of land, not less than three acres, the silver medal, or ten guineas. *Certificates* of the planting, and that the plants were in a thriving state five months at least after the planting, to be produced to the Society on or before the last Tuesday in November, 1804.

16. Alder. For having planted, in the year 1801, the greatest number of alders, not less than three thousand; the gold medal.

Certificates of the number of plants, and that they were in a thriving state two years at least after being planted, to be delivered to the Society on or before the last Tuesday in December, 1804.

17. Ash. For having sown or set, in the year 1801, 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.

18. 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, 1804.

19, 20. The same premiums are extended one year farther.

Certificates to be delivered on or before the last Tuesday in December, 1805.

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

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

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

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

24, 25, 26. The same premiums are extended one year farther. *Certificates* to be produced on or before the first Tuesday in November, 1805.

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.

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

27. Securing Plantations of Timber-trees, and Hedge-rows. To the person who shall give to the Society the most satisfactory account, founded on experience, of the most effectual and least expensive method of securing young plantations of timber-trees, and hedge-rows, from hares and rabbits, as well as sheep and larger cattle, which at the same time shall be least subject to the depredations of wood-stealers, the silver medal, or ten guineas. The *accounts*, and *certificates* of the efficacy of the method, to be produced to the Society on or before the first Tuesday in November, 1804.

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

29. Comparative Tillage. For the most satisfactory set of experiments, made on not less than eight acres of land, four of which to be trench-ploughed,* and four to be ploughed in the usual manner, in order to ascertain in what cases it may be advisable to shorten the operations of tillage, by adopting one trench-ploughing, for the purpose of burying the weeds, instead of the method, now in common use, of ploughing and harrowing the land three or four times, and raking the weeds together and burning them; the gold medal. It is required that every operation and expense attending each mode of culture be fully and accurately described, and that proper *certificates* of the nature and condition of the land on which the experiments are made, together with a circumstantial account of the appearance of the subsequent crops during their growth; and also of the quantity and weight of the corn and straw under each mode of culture, or, in case of a green crop, the weight of an average sixteen perches, be produced to the Society on or before the first Tuesday in February, 1805.

30. 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, or thirty guineas. It is required that every operation and expense of each mode of culture be fully described; and that proper *certificates* of the nature and condition of the land on which the experiments are made, together with an *account* of the produce of the corn, the weight per bushel, and also of the straw, be produced to the Society on or before the first Tuesday in February, 1805.

31. Spring Wheat. To the person who, between the 10th of January and the 10th of April, 1804, shall cultivate the greatest quantity of wheat, not less than ten 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, 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

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

year; together with an *account* of the produce, the weight per Winchester bushel; and a sample, not less than a quart, be produced to the Society on or before the second Tuesday in February, 1805.

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

32. Beans and Wheat. To the person who shall have dibbled or drilled, between the 1st of December, 1803, and the 1st of April, 1804, 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 1804; 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, 1805.

33. Beans. To the person who, in the year 1803, shall discover and cultivate, either by the drill or dibbling method, on not less than five acres, a species of horse-beans or tick-beans, that will ripen their seeds before the 21st of August; the silver medal, or ten guineas. It is required that a particular account of the bean, the cultivation, and the expense attending it, with proper *certificates* of the nature and condition of the land on which the experiments are made, together with an *account* of the produce, the weight per Winchester bushel, and a sample of not less than a quart, be produced to the Society on or before the first Tuesday in December, 1804. 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, 1804.

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

35. Comparative Culture of Turnips. For the best set of experiments made on not less than eight acres of land, four of which to be sown broad-cast, and four drilled, to ascertain whether it is most advantageous to cultivate turnips by sowing them broadcast and hand-hoeing them, or by drilling them in equidistant rows, and hand or horse hoeing the intervals; the silver medal, or ten guineas. It is required, that every operation and expense of each mode of culture be fully described, and that proper *certificates* of the nature and condition of the land on which the experiments were made, together with the weight of the turnips grown, on a fair average sixteen perches of land, under each mode of culture, be produced to the Society on or before the first Tuesday in March, 1805. The object which the Society have in view in offering this premium is experimentally to ascertain the most advantageous method of growing turnips. To do this in a satisfactory manner, both the drilled and broad-cast crops should have the advantage of the most perfect cultivation, consequently the drilled crops should have the intervals between the rows worked by the horse or hand hoe, or by both these implements; and the rows should be either weeded or hand-hoed, or both weeded and hand-hoed. The broadcast crop should have every advantage which weeding and hand-hoeing can give it, consistently with leaving the soil a flat surface.

36. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in March, 1806.

37. Parsnips. To the person who, in the year 1804, 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 day in February, 1805.

38. 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, 1805.

39. 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.

40. Raising Grass Seeds. To the person who shall raise the greatest quantity of each or any of the following named grass seeds, *viz.* —Meadow fox-tail (alopecurus pratensis), sweet-scented vernal grass (anthoxanthum odoratum), Timothy grass, meadow Fescue grass, smooth-stalked meadow grass (poa pratensis), rough-stalked meadow grass (poa trivialis); the silver medal, or ten guineas. It is required that *certificates* from persons who have viewed them in a proper state, to identify that they are one or other of the seeds above mentioned, indicating clearly the particular species, and noticing the quantity produced of such seeds, free from weeds or mixture of other grasses, together with proper samples of the seeds, be produced to the Society on or before the first day of February, 1805.

41. The same premium is extended one year farther. *Certificates* to be produced on or before the first day of February, 1806.

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

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

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

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

45, 46, 47. The same premiums are extended one year farther. *Certificates* to be delivered on or before the first day of November, 1805.

48. 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 silver medal, or ten guineas. It is required that a full and accurate *account* of the method employed, and the expense attending the process, together with *certificates* that the produce of four acres at the least have been preserved according to the method described, and applied to the feeding of sheep and neat cattle; that the whole were drawn out of the ground before the first day of February, in order to clear the greater part of it previous to its being prepared for corn, and to save the soil from being exhausted by the turnips; and also of the weight of an average sixteen perches of the crop; be produced to the Society on or before the first Tuesday in November, 1804.

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

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

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

51. For the next in quantity and merit, on not less than two acres, the silver medal or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 48. And the *accounts* to be produced on or before the first Tuesday in November, 1805.

52. Preserving Carrots, Parsnips, or Beets. To the person who shall discover to the Society the best and cheapest method of

preserving carrots, parsnips, or beets, perfectly sound, and in every respect fit for the purpose of supporting horses, and fattening sheep and neat cattle, during the months of February, March, and April; the silver medal, or fifteen guineas. Conditions the same as for preserving turnips, *Cl.* 48. And the *accounts* to be delivered in on or before the first day in November, 1805.

53. 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 ate of them, together with a sample of one bushel, be sent to the Society on or before the first Tuesday in November, 1805.

54. 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, 1805.

55. 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, 1805.

56. Ascertaining the component Parts of arable Land. To the person who shall produce to the Society the most satisfactory set of experiments to ascertain the due proportion of the several component parts of rich arable land, in one or more counties in Great Britain, by an accurate analysis of it; and who having made a like analysis of some poor arable land, shall, by comparing the component parts of each, and thereby ascertaining the deficiencies of the poor soil, improve a quantity of it, not less than one acre, by the addition of such parts as the former experiments shall have discovered to be wanting therein, and therefore probably the cause of its sterility; the gold medal, or forty guineas. It is required, that the manurings, ploughings, and crops, of the improved land, be the same after the improvement as before; and that a minute *account* of the produce in each state, of the weather, and of the various influencing circumstances, together with the method made use of in analysing the soils, be produced, with proper *certificates* and the chemical results of the analysis, which are to remain the property of the Society, on or before the last Tuesday in February, 1805.

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

57. 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, 1798, to be produced to the Society on or before the last Tuesday in October, 1804.

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

59. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in October, 1806.

60. 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.

61. 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, 1805.

62. Manures. For the most satisfactory set of experiments, to ascertain the comparative

advantages of the following manures, used as top-dressings on grass or corn land, viz. soot, coal-ashes, wood-ashes, lime, gypsum, night-soil, or any other fit article; the gold medal, or the silver medal and ten guineas. It is required that the above experiments be made between two or more of the above-mentioned manures, and that not less than two acres of land be dressed with each manure. An *account* of the nature of the soil, quantity and expense of the manure and crops, with *certificates*, to be produced on or before the last Tuesday in February, 1805.

63. The same premium is extended one year farther. The *accounts* and *certificates* to be produced on or before the last Tuesday in February, 1806.

64. 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, 1805.

65. The same premium is extended one year farther. *Certificates* to be produced on or before the first of March, 1806.

66. 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, 1805.

67. 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, 1805. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

68. 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, 1804. Simplicity and cheapness in the construction will be considered as principal parts of its merit.

69. 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, 1805.

70. 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, 1805.

71. Destroying Worms. To the person who shall discover to the Society an effectual method, verified by repeated and satisfactory trials, of destroying worms, or of preventing the destructive effects they occasion on corn, beans, peas, or other pulse; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be produced to the Society on or before the first Tuesday in January, 1805.

72. 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, 1805.

73. Preventing the Blight, or Ravages of Insects, on Fruit-Trees and Culinary Plants. To the person who shall discover to the Society the most effectual method of preventing the blight, or ravages of insects on fruit-trees and culinary plants, superior to any hitherto known or practised, and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts*, with proper *certificates*, to be delivered to the Society on or before the second Tuesday in November, 1804.

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

75. Removing the ill Effects of Blights, or Insects. To the person who shall discover to the Society the most effectual method of removing the ill effects of blights, or insects, on fruit-trees and culinary plants, superior to any hitherto known or practised, and verified by actual and comparative experiments; the gold medal, or thirty guineas. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

76. 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, 1805.

77. 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, 1805.

78. 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, 1804.

79. Protecting Sheep. To the person who, in the year 1803, shall protect the greatest number of sheep, not fewer than one hundred, by hovels, sheds, or any other means, and give the most satisfactory account, verified by experiment, of the advantages arising from the practice of protecting sheep from the inclemency of the weather, by hovels, sheds, or any other means; the silver medal, or twenty guineas. A particular *account* of the experiments made, with the advantages arising therefrom, together with the expense, and *certificates* of its utility, to be produced to the Society on or before the first Tuesday in March, 1805.

80. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in March, 1806.

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.

81. Improving the Condition of the labouring Poor, by erecting Cottages, and apportioning Land. To the person who, in the year 1803, shall erect the greatest number of cottages for the accommodation of the labouring poor, and apportion not less than two acres of land to each cottage; the gold medal. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1805.

82. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered to the Society on or before the first Tuesday in February, 1806.

83. Improving the Condition of the labouring Poor by apportioning Land to Cottages. To the person who, in the year 1803, shall apportion to the greatest number of cottages already built upon his or her estate, any quantity of land, not less than two acres to each cottage, for the better accommodation of the respective inhabitants; the gold medal. The *accounts* of the number of cottages, and of the quantity of land apportioned to each, to be delivered to the Society, with proper *certificates*, on or before the first Tuesday in February, 1805.

84. The same premium is extended one year farther. The *accounts* and *certificates* to be delivered on or before the first Tuesday in February, 1806.

85. Culture of Hemp in certain parts of Scotland. The Society for the Encouragement of Arts, Manufactures, and Commerce, wishing to encourage the growth of hemp for the use of the navy in certain parts of Scotland, comprehending the whole county of Argyle, that part of Perthshire situated to the north of the river Tay, and west of the Military Road (see Ainslie's Map of Scotland) leading from Logierait to the county of Inverness, and such other parts of Scotland as lie north of Inverness-shire, offers to the person who shall sow with hemp, in drills at least eighteen inches asunder, the greatest quantity of land in the above-mentioned district, not less than fifty acres statute measure, in the year 1804, 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.

86. To the person who shall sow with hemp, in drills at least eighteen inches asunder, the

next greatest quantity of land in the same above-mentioned district, not less than twenty-five acres, statute measure, in the year 1804, 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, 1805.

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

87. Preserving Seeds or Vegetables. For the best methods of preserving the seeds of plants in a state fit for vegetation a longer time than has hitherto been practised, such method being superior to any known to the public, and verified by sufficient trial, to be communicated to the Society on or before the first Tuesday in December, 1804; the gold medal, or thirty guineas.

88. 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, 1804.

89. 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, 1805.

90. Clearing Feathers from their animal Oil. To the person who shall discover to the Society the best and most expeditious method, superior to any hitherto practised, of clearing goose-feathers from their offensive animal oil, for the use of upholders, in making beds, cushions, &c. the silver medal, or twenty guineas. A quantity of such feathers unstripped and so cleared, not less than forty pounds weight, with a full *account* of the process, to be produced to the Society on or before the first Tuesday in February, 1805.

91. Refining Whale or Seal Oil. For disclosing to the Society an effectual method of purifying whale or seal oil from the glutinous matter that incrusts the wicks of lamps and extinguishes the light, though fully supplied with oil; the gold medal, or fifty guineas. It is required, that the whole of the process be fully and fairly disclosed, in order that satisfactory experiments may be made by the Society to determine the validity of the claim; and *certificates* that not less than twenty gallons have been purified according to the process delivered in, together with two gallons of the oil, in its unpurified state, and two gallons so refined, be produced to the Society on or before the second Tuesday in February, 1805.

92. Manufacturing Tallow Candles. To the person who shall discover to the Society a method of hardening or otherwise preparing tallow, so that candles may be made of it which will burn as clear and with as small a wick as wax candles, without running, and may be afforded at a less expense than any at present made with spermaceti; the gold medal, or thirty guineas. *Certificates* that 112lb. of such tallow have been made into candles, and 12lb. of the candles made thereof, to be produced to the Society on or before the second Tuesday in January, 1805.

93. 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, 1804.

94. 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, 1805.

95. PROOF-SPIRIT. To the distiller who, in the year 1804, shall make the greatest quantity, not less than one hundred gallons, of a clean marketable spirit, from articles not the food of man or cattle, equal in strength or quality to the proof-spirit now in use, and at a rate not higher than the spirit produced from corn or melasses; the gold medal, or one hundred guineas. Ten gallons of the spirit, together with proper *certificates*, and a full *account* of the expense and mode of making it, to be produced to the Society on or before the first Tuesday in January, 1805.

96. 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, 1805.

97. 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, 1805.

98. Preparation of Tan. To the person who shall prepare in the most concentrated form, so as to be easily portable, and at a price applicable to the purposes of manufactures, the largest quantity, not less than one hundred weight, of the principle called by the French *tannin*, which abounds in oak-bark and many other vegetable substances; the gold medal, or fifty guineas. *Certificates* of the 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, 1805.

99. 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, 1805.

100. 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, 1805.

101. 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 100.

102. Substitute for the Basis of Paint. To the person who shall produce to the Society the best substitute, superior to any hitherto known, for the basis of paint, equally proper for the purpose as the white lead now employed; such substitute not to be of a noxious quality, and to be afforded at a price not materially higher than that of white lead; the gold medal, or one hundred guineas. A quantity of the substitute, not less than 50lb. weight, with an *account* of the process used in preparing it, and *certificates* that at least one hundred weight has been manufactured, to be produced to the Society on or before the first Tuesday in January, 1805.

103. 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 Feb. 1805.

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.

104. 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.

105. Analysis of British Minerals. To the person who shall communicate to the Society, the most correct analysis of any mineral production of Great-Britain, hitherto either unexamined, or not examined with accuracy; the gold medal. The analysis and sufficient specimens to be produced to the Society on or before the first Tuesday in Jan. 1805.

106. 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, 1805.

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.

107. 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, 1805.

108. Preparation of any alkaline or earthy Nitrate. To the person who shall prepare, in Great-Britain, the largest quantity, not less than one hundred weight, of any salt of nitric acid, with either earths or alkalies, by a method superior to and as cheap as those hitherto practised; the gold medal, or one hundred guineas. *Certificates* of the above quantity having been prepared, and a sample of not less than 28lb. to be produced to the Society on or before the last Tuesday in January, 1805.

109. Fine Bar-Iron. To the person, in Great-Britain, who shall make the greatest quantity of bar-iron, not less than ten tons, with coak, from coak-pigs, equal in quality to the best iron imported from Sweden or Russia, and as fit for converting into steel; the gold medal, or fifty guineas. Samples, not less than one hundred weight, with *certificates* that the whole quantity is of equal quality, to be produced to the Society on or before the first Tuesday in January, 1805.

110. 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, 1805.

111. 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, 1805.

112. 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 Feb. 1805.

113. 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 Feb. 1805.

114. 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, 1805. The map to remain the property of the Society.

115. Mineralogical Map of Ireland. The same premium is offered for a mineralogical map of Ireland, on similar conditions.

116. Mineralogical Map of Scotland. The same premium is offered for a mineralogical map of Scotland, on similar conditions.

117. Natural History. To the author who shall publish, in the year 1804, 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, 1805.

PREMIUMS IN POLITE ARTS.

118. Honorary Premiums for Drawing, by Nobility. For the best original drawing, of any kind, by young gentlemen under the age of twenty-one, sons or grandsons of peers, or peeresses in their own right, of Great-Britain or Ireland, to be produced on or before the first Tuesday in March, 1805; the honorary medal of the Society in gold.

119. The same in silver for the best copy.

120, 121. 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.

122. Honorary Premiums for Drawing, by Gentlemen. For the best original drawing, of any kind, by young gentlemen under the age of twenty-one; to be produced on or before the first Tuesday in March, 1805; the gold medal.

123. For the best copy, the silver medal.

124, 125. 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.

126. Drawings of Outlines. For the best outline, after a cast, in plaster, of the Venus de Medicis, by persons of either sex, under the age of sixteen, the figure not less than eighteen inches; to be produced on or before the last Tuesday in February, 1805; the greater silver pallet.

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

128. Drawings 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, to be produced on or before the last Tuesday in February, 1805; the gold pallet.

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

130. Historical Drawings. For the best historical drawing, being an original composition, of five or more human figures; the height of the principal figure not less than eight inches; to be produced on or before the third Tuesday in Feb. 1805; the gold pallet.

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

132. Drawing and Engraving. To the person who shall complete the best original drawing and engraving. The design and engraving to be executed by the same artist, and produced to the Society on or before the first Tuesday in February, 1805; the gold medal. It is required that the drawing and two impressions of the engraving be produced, and remain the property of the Society.

133. Line Engravings of Landscapes. For the best line engraving of a landscape, published in the year 1804, the size of the engraving not less than eighteen inches by fourteen; the gold medal. To be produced to the Society on or before the last Tuesday in January, 1805; and the impression to which the premium is adjudged to remain the property of the Society.

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

135. Line Engravings of Historical Subjects. For the best line engraving published in the year 1804, of an historical subject, the size of the engraving not less than eighteen inches by fourteen; the gold medal.

136. For the next in merit; the silver medal. Conditions, &c. the same as in classes 133 and 134.

137, 138, 139, 140. The same premiums are extended one year farther.

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

141. Model in Clay or Plaster. For the best model in clay or plaster of an ornamental design for the purpose of embellishing works of architecture; the silver medal or twenty guineas. To be produced to the Society on or before the last Tuesday in January, 1805. The model not to be less than thirty inches by twelve.

142. Perspective Drawings of Machines. For the best perspective drawing of machines by persons under twenty-one years of age; the greater silver pallet. To be produced to the Society on or before the last Tuesday in January, 1805.

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

144. 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 pallet.

145. For the next in merit, the greater silver pallet. Two or more impressions along with the block to be produced to the Society on or before the first Tuesday in February, 1805. The impressions, but not the block, to remain the property of the Society.

146. Bronzes. For the best drapery figure or group cast in bronze; if a single figure, not less than twelve inches high; and, if a group, not less than nine inches; and which will require the least additional labour to repair; the gold medal, or the silver medal and twenty guineas. The cast to be exhibited to the Society before it is begun to be repaired, with the original figure or group, on or before the first Tuesday in February, 1805, together with a full explanation of the whole process.

147. Ornamental Drawings for Architectural Designs. For the best ornamental drawing for the purpose of embellishing architectural designs; a silver medallion with the following engraved inscription: *The Premium given by the Society for the Encouragement of Arts, Manufactures, and Commerce, in conformity to the Will of John Stock, of Hampstead, Esq.* The drawing to which the premium is adjudged to remain the property of the Society; and to be produced to the Society on or before the second Tuesday in February, 1805.

PREMIUMS FOR ENCOURAGING AND IMPROVING MANUFACTURES.

148. Machine for carding Silk. For the best machine, superior to any now in use, for carding waste silk equally well as by hand; to be produced, together with a specimen of the cardings, on or before the first Tuesday in November, 1804; the silver medal, or twenty guineas.

149. Cloth from Hop-stalks, &c. To the person who shall produce to the Society the greatest quantity, not less than thirty yards of cloth at least twenty-seven inches wide, made in Great-Britain, of hop-stalks or bines, or other raw vegetable substances, the produce of Great-Britain or Ireland, superior to any hitherto manufactured from such substances, and which can be generally afforded as cheap as cloth of equal quality and appearance now made from hemp, flax, or cotton, and much finer in quality than any hitherto manufactured in England from hop-stalks, &c. the gold medal, or thirty guineas: One pound of the thread of which the cloth is made, and thirty yards of the cloth, together with proper *certificates* that the whole is manufactured from hop-stalks or bines, &c. to be produced to the Society on or before the first Tuesday in December, 1804.

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.

150. 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, with *certificates* that the whole quantity is equal in quality to the sample, on or before the second Tuesday in Jan. 1805.

151. Paper from raw vegetable Substances. To the person, in Great-Britain, who shall, between the first of January, 1804, and the first of January, 1805, 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, 1803, 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, potatoe-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 last Tuesday in January, 1805.

152. 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, 1805.

153. Chints Patterns for Calico-Printers. For the best original pattern in a new taste, of light or dark-ground chints for garment-work, fit for the purposes of calico-

printers, by persons of either sex; the gold medal. To be produced to the Society on or before the second Tuesday in January, 1805; the pattern to which the premium is adjudged to remain the property of the Society.

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

155. Copper-plate Patterns for Calico-Printers. For the best pattern, in a new style, fit for the purposes of calico-printers for garment-work; the silver medal. To be produced to the Society on or before the second Tuesday in January, 1805. The pattern to which the premium is adjudged to remain the property of the Society.

PREMIUMS IN MECHANICS.

156. Gunpowder-Mills. To the person who, in the year 1804, shall invent and bring to perfection the most effectual method of so conducting the works of gunpowder-mills, in the business of making gunpowder, as to prevent explosion; the gold medal, or one hundred guineas. *Certificates* and *accounts* of the method having been put in practice in one or more gunpowder-mills in this kingdom, and that it promises, in the opinion of the best judges concerned in such works, to answer the purpose intended, to be produced to the Society on or before the first Tuesday in Feb. 1805.

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

157. Transit-Instrument. To the person who shall invent and produce to the Society a cheap and portable transit-instrument, which may easily be converted into a zenith-sector, capable of being accurately and expeditiously adjusted, for the purpose of finding the latitudes and longitudes of places, and superior to any portable transit-instrument now in use; the gold medal, or forty guineas. To be produced on or before the last Tuesday in Jan. 1805.

158. Taking Whales by the Gun-Harpoon. To the person who, in the year 1804, shall strike the greatest number of whales, not fewer than three, with the gun-harpoon; ten guineas. Proper *certificates* of the striking such whales, and that they were actually taken in the year 1804, 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, 1804.

159. 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 Feb. 1805. Cheapness and simplicity will be considered as essential parts of its merit; and the mill, or the model, to remain with the Society.

160. 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 Feb. 1805.

161. 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 lesser 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, 1805.

162. 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, 1805.

163. 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, 1805.

164. Extinguishing Fires. To the person who shall produce to the Society the best and most effectual method of procuring an immer-

diate 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 Jan. 1805.

165. Boring and Blasting Rocks. To the person who shall discover to the Society a more simple, cheap, and expeditious method than any hitherto known or in use of boring and blasting rocks in mines, shafts, wells, &c.; the gold medal, or thirty guineas. *Certificates* of the method having been practised with success, with a full description thereof, to be delivered to the Society on or before the first Tuesday in January, 1805.

166. Heating Rooms for the purposes of Manufacturers. To the person who shall invent and discover to the Society a method of heating rooms, superior to any hitherto known or in use, and at a moderate expense, for the purposes of painters, japanners, and other manufacturers, so as to avoid the necessity of iron or copper tunnels going through the rooms to convey the smoke, whereby the danger from such tunnels may be prevented; the gold medal, or forty guineas. A model, or complete drawing and description of the method, with *certificates* that it has been successfully practised, to be delivered to the Society on or before the last Tuesday in March, 1805.

167. Improved Ventilation. To the person who shall invent and produce to the Society a mode of permanently ventilating the apartments in hospitals, workhouses, and other crowded places, superior to any now known or used; the gold medal, or fifty guineas. A model of the apparatus, and a full account of the means by which the effect has been produced, with proper *certificates*, to be delivered to the Society on or before the last Tuesday in February, 1805.

168. Preventing Accidents from Horses falling with two-wheeled Carriages. To the person who shall invent and produce to the Society a method superior to any hitherto known or in use, to prevent accidents from the falling of horses with two-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, 1805.

169. 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 consistence 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, 1805.

170. Cleansing Chimnies. To the person who shall invent and produce to the Society the most effectual mechanical or other means for cleansing chimnies from soot, and obviating the necessity of children being employed within the flues; the gold medal.

171. For the next in merit; the silver medal. The mechanical, or other means, with *certificates* of their having been used with proper effect, to be produced to the Society on or before the first Tuesday in January, 1805.

172. Chimnies Cleansed. To the person who shall during the year 1804 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, 1805.

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

174. Raising the Bodies of Persons who have sunk under Water. To the person who shall invent and produce to the Society a cheap and portable drag, or other machine, superior to those now in use, for the purpose of taking up in the best and most expeditious manner, and with the least injury, the bodies of persons who have sunk under water; the gold medal, or thirty guineas. The drag, or machine to answer the purpose intended, to be produced to the Society, on or before the first Tuesday in March, 1805.

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

175. Taking Porpoises. To the people in any boat or vessel, who, in the year 1804, 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, 1805.

176. Oil from Porpoises. To the person who shall manufacture the greatest quantity of oil from porpoises taken on the coast of Great-Britain or Ireland, in the year 1804, 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, 1805.

177. Curing Herrings by the Dutch Method. To the person or persons who shall, before January, 1805, cure the greatest quantity of white herrings, not less than thirty barrels, according to the method practised by the Dutch, and equal in all respects to the best Dutch herrings, the same being caught in the British or Irish Seas, and cured in a British or Irish vessel or port; the gold medal, or fifty guineas.

178. For the next greatest quantity, not less than fifteen barrels; the silver medal, or twenty guineas. A sixteen-gallon barrel of the herrings to be produced to the Society on or before the first Tuesday in February, 1805, with *certificates* that the conditions of the premium have been completely fulfilled, and that the whole were cured in the same manner as the specimen, together with a full description of the process employed, in order that the Society may judge how far the Dutch method has been adopted.

PREMIUMS OFFERED FOR THE ADVANTAGE OF THE BRITISH COLONIES.

179. Nutmegs. For the greatest quantity of merchantable nutmegs, not less than ten pounds weight, being the growth of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several Islands adjacent thereto, and equal to those imported from the islands of the East Indies; the gold medal, or one hundred guineas. Satisfactory *certificates*, from the governor, or commander in chief, of the place of growth, with an account of the number of trees, their age, nearly the quantity of fruit on each tree, and the manner of culture, to be produced on or before the first Tuesday in December, 1804.

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

181. Cloves. For importing into Great Britain or Ireland, in the year 1804, the greatest quantity of cloves, not less than twenty pounds weight, being of the growth of some of the islands in the West Indies subject to the British empire, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, and equal in goodness to the cloves brought from the East Indies; the gold medal, or fifty guineas. Samples, not less than two pounds weight, with *certificates* that the whole quantity is equal in goodness, together with satisfactory *certificates* signed by the governor, or commander in chief, of the place of growth, with an *account* of the number of trees growing on the spot, their age, and the manner of culture, to be produced to the Society on or before the first Tuesday in January, 1805.

182. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in January, 1806.

183. Kali for Barilla. To the person who shall have cultivated, in the Bahama Islands, or any other part of his Majesty's dominions in the West Indies, or any of the British settlements on the coast of Africa, or the several islands adjacent thereto, in the year 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.

184. For the next greatest quantity, not less than one acre; the silver medal, or fifteen guineas. *Certificates*, signed by the governor, or commander in chief, for the time being, of the quantity of land so cultivated, and of the state of the plants at the time of signing such *certificates*, to be delivered to the Society, with samples of the kali, on or before the second Tuesday in January, 1805.

185, 186. The same premiums are extended one year farther. *Certificates* to be produced on or before the second Tuesday in Jan. 1806.

187. Destroying the Insect commonly called the Borer. To the person who shall discover to the Society an effectual method of destroying the insect commonly called the borer, which has, of late years, been so destructive to the sugar-canes in the West-India islands, the British settlements on the coast of Africa, and the several islands adjacent thereto; the gold medal, or fifty guineas. The discovery to be ascertained by satisfactory *certificates*, under the hand and seal of the governor or commander in chief, for the time being, and of some other respectable persons, inhabitants of the islands, or other place, in which the remedy has been successfully applied; such *certificates* to be delivered to the Society on or before the first Tuesday in January, 1805.

188. Cultivation of Hemp in Upper and Lower Canada. To the person who shall sow with hemp the greatest quantity of land in the province of Upper Canada, not less than six arpents (each four-fifths of a statute acre), in the year 1804, and shall at the proper season cause to be plucked the summer hemp (or male hemp bearing no seed) and continue the winter hemp (or female hemp bearing seed) on the ground until the seed is ripe; the gold medal, or one hundred dollars.

189. To the person who shall sow with hemp the next greatest quantity of land in the same province of Upper Canada, not less than five arpents, in the year 1804, in the manner abovementioned; the silver medal, or eighty dollars.

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

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

192. For the next greatest quantity of land, in the same province, and in a similar manner, not less than one arpent; twenty dollars. *Certificates* of the number of arpents, the method of culture, of the plucking of the hemp, with a general *account* whether sown broad-cast or in drills, the expense, soil, cultivation, and produce, to be transmitted to the Society, certified under the hand and seal of the governor or lieutenant-governor, together with 28lb. of the hemp, and two quarts of the seed, on or before the last Tuesday in November, 1805.

193, 194, 195, 196, 197. The same premiums are extended one year farther. *Certificates*, &c. as before mentioned, to be transmitted to the Society, on or before the last Tuesday in November, 1806.

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

209. Importation of Hemp from Canada. To the master of that vessel, which shall bring to this country the greatest quantity of marketable hemp, not less than one hundred tons, in the year 1804, the produce of Upper or Lower Canada; the gold medal.

210. To the master of that vessel which shall bring the next quantity, not less than fifty tons; the silver medal. *Certificates* satisfactory to the Society to be produced by the master of the vessel on or before the first Tuesday in February, 1805, to testify that such hemp was grown and prepared in Canada.

211, 212. The same premiums are extended one year farther. *Certificates* to be produced on or before the first Tuesday in Feb. 1806.

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

213. Bhaugulpore Cotton. To the person who shall import into the port of London, in the year 1804, the greatest quantity, not less than one ton, of the Bhaugulpore cotton, from which cloths are made in imitation of nankeen, without dying; the gold medal. A quantity of the cotton, not less than five pounds weight in the pod, and five pounds carded, to be produced to the Society, with proper *certificates*, signed by the Secretary to the Board of Trade of Bengal or Bombay, on or before the last Tuesday in February, 1805.

214. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1806.

215. Annatto. To the person who, in the year 1804, 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, 1805.

216. The same premium is extended one year farther. *Certificates* to be produced on or before the last Tuesday in February, 1806.

217. True Cochineal. To the person who, in the year 1804, 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, 1805.

218. The same premium is extended one year farther. *Certificates* to be produced on or before the first Tuesday in February, 1806.

CONDITIONS FOR THE POLITE ARTS.

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

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

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

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

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

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

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

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

SOCIETY'S OFFICE, ADELPHI, JUNE 1st, 1804.

ORDERED,

That the several Candidates and Claimants, to whom the Society shall adjudge Premiums or Bounties, do attend at the Society's Office in the Adelphi, on the last Tuesday in May, 1805, at Twelve o'Clock at Noon precisely, to receive the same; that day being appointed by the Society for the Distribution of their Rewards: And before that time no Premium or Bounty will be delivered, excepting to those who are about to leave the Kingdom.

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

GENERAL CONDITIONS.

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

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

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

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

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

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

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

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

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

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

Where premiums or bounties are obtained in consequence of specimens produced, the Society

mean to retain such part of those specimens as they may judge necessary, making a reasonable allowance for the same.

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

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

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

The Society desire that the Papers on different subjects sent to them may be full, clear, explicit, fit for publication, and rather in the form of Essays than of Letters; and where descriptive Drawings can be conveniently sent, with the Models and Machines laid before the Society, is is recommended to be done.

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

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

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

By Order of the Society.

CHARLES TAYLOR, *Secretary.*

N. B. *The Society for the Encouragement of Arts, &c. considering that it would be beneficial to the Commerce of the United Kingdom, to bring the British Marbles into more general use, and that the most effectual method of accomplishing their object, would be,* for the present, *to make them more generally known in the capital, have come to the following resolutions:—*

Resolved,—That specimens of British Marbles be exposed in the Society's Rooms at the Adelphi for the inspection of the Public, under the following regulations:

1st, That all specimens be exact to a given size, *viz.* eight inches high, six inches broad, one inch thick, and polished on one face.

2d, That a book be kept containing the number of each specimen, and describing the situation of the quarry, the name of the parish where situated, the distance of the quarry from a beaten road, and the distance of that road from water-carriage, with the name of the donor and proprietor. Any remarks on the qualities of the marbles, or on the lime produced from them, will be gratefully received and preserved by the Society, as materials for future inquiries.

Resolved,—That as the exertions of the Society can only be beneficial to the public, inasmuch as their views are seconded by the public, the Society request, that all persons proprietors of marble quarries will favour them with a specimen of the marble, worked to the exact size above mentioned, with the description of the quarry as above, that the same may be entered in the book to be preserved for the use of the public.

Society of Arts, Manufactures, and Commerce, Adelphi.

ON Tuesday the 29th May, 1804, the Rewards of the Society were, as usual, distributed by his Grace the Duke of Norfolk, arranged under the following classes; and on Wednesday the 6th of June the Society held the last Meeting of that Session, and adjourned to the fourth Wednesday in October next.

IN AGRICULTURE.

To J. C. Curwen, Esq. M.P. of Belle-isle, Winandermere, for planting 814,956 timber-trees, class 23, the gold medal.

To J. A. Borron, Esq. Warrington, for planting 600,000 osiers, class 14, the gold medal.

To Thomas Plowman, Esq. Broome, in Norfolk, for an improved sheepfold, the gold medal.

To J. C. Curwen, Esq. M.P. Belle-isle, Winandermere, for drains extending 6000 yards, the gold medal.

To Mr. William Watson, North Middleton, near Belford, Northumberland, for the comparative culture of turnips, the silver medal.

To John Hutton, Esq. Marske, near Richmond, Yorkshire, for planting 19 acres with forest-trees, the silver medal.

To Mr. William Pearce, Landewednack, near Helston, Cornwall, for unremitted industry, the silver medal and 15 guineas.

To Mr. John Shirreff, Captain-Head, for preserving turnips in winter, class 51, thirty guineas.

IN CHEMISTRY.

To Sir H. Englefield, Bart. Tilney-street, for lake from madder, the gold medal.

To Dr. William Dyce, Aberdeen, for a mine of manganese, the gold medal.

To Mr. Matthew Gregson, Liverpool, for useful applications of burnt articles, the gold medal.

To J. Machlachlan, Esq. Calcutta, for accounts of the Eastern red dyes, and mineral products, the silver medal.

IN POLITE ARTS.

To Miss Elizabeth Penman, Glasgow, the gold medal.

To Miss Elizabeth Crutwell, Hammersmith, the silver medal.

To Miss Harriet Gough, Pontotawee Cottage, near Neath, Glamorganshire, the silver medal.

To Miss Grindall, Lower Brook-street, Grosvenor-square, the silver medal.

To Miss Sophia Charlotte Day, Lower Bryanstone-street, Portman-square, the silver medal.

To Miss Spurgeon, Lowestoft, Suffolk, the silver medal.

To Miss Andree, Hatton-Garden, the silver medal.

To John Churchman, Esq. the silver medal.

To Miss Matilda Lowry, Titchfield-street, the gold pallet.

To Mr. George Shepherd, Ratcliffe-row, City-road, the greater silver pallet.

To Mr. Henry Corbould, John-street, Fitzroy-square, the gold pallet.

To Mr. W. Heseltine, Bromley, near Bow, the greater silver pallet.

To Mr. G. Jones, Great Portland-street, the lesser silver pallet.

To Mr. Middiman, Lower Grafton-street, the gold medal.

To Mr. Henry Hole, Liverpool, the gold pallet.

To Mr. Richard Austin, jun. Paul's-alley, Barbican, the greater silver pallet.

To Mr. J. Carey, the gold medal.

To Mr. J. S. Halipenny, Stafford-place, Pimlico, the greater silver pallet.

To Mr. H. D. Thielcke, Stafford-place, Pimlico, the lesser silver pallet.

IN MANUFACTURES.

To Mr. James Birch, Tavistock-Mews, Tavistock-street, Tottenham-court-road, for an improved swivel-loom, 25 guineas.

To Mr. James Pickard, Skinner-street, Bishopsgate-street, for an improved engine-loom, 20 guineas.

IN MECHANICS.

To the Rev. D. Pape, Penn, near Wolverhampton, for improving Rye Harbour, the gold medal.

To Capt. Brodie, Royal Navy, Leith, for marine improvements, the gold medal.

To Mr. R. Seppins, Chatham-yard, for obviating the necessity of lifting ships, the gold medal.

To Mr. George Walby, Goswell-street, for a hammer for making trowels, the silver medal and 10 guineas.

To Mr. George Dodd, Duke-street, Portland-place, for an improved gun-lock, the silver medal and 10 guineas.

To Mr. James Rawlinson, Derby, for an improved colour-mill, the silver medal and 10 guineas.

To the Chevalier Edelcrantz, of Sweden, for a safety valve for steam-engines, the silver medal.

To Mr. J. M. Elliot, Little Castle-street, for an improved repeating watch, 30 guineas.

To Mr. W. Hardy, Chapel-street, for a method of banking the balance of a time-keeper, 30 guineas.

To Mr. Thomas Holden, of Petworth, in Sussex, for a machine to do all the thread-work in shoemaking standing, 15 guineas.

IN COLONIES AND TRADE.

To J. W. Clarke, Esq. Montreal, for the culture of hemp, the gold medal.

To Mr. Jacob Schneider, York, Upper Canada, for the culture of hemp, class 188, the gold medal, or 100 dollars.

To Mr. Daniel Mosher, Kingston, Upper Canada, for the culture of hemp, class 189, the silver medal, or 80 dollars.

To Walter Baine, Esq. Greenock, for curing white herrings, the silver medal.

The Number of Noblemen, Ladies, and Gentlemen, elected Members since October last, is 115.

CRITICAL CATALOGUE.

General View of the Agriculture of Hertfordſhire. Drawn up for the Conſideration of the Board of Agriculture and Internal Improvement. By the Secretary of the Board.

"HERTFORDSHIRE, or Hartfordſhire, is an inland county, bounded by Bedfordſhire and Cambridgeſhire towards the North and Weſt, Buckinghamſhire towards the Weſt, Eſſex towards the Eaſt, and Middleſex towards the South; and ſituated between the parallels of 51 degrees 37 minutes, and 52 degrees 5 minutes north latitude. According to Halley, it contains 451,000 acres. It meaſures 28 miles from Eaſt to Weſt, 36 miles from North to South, and 130 miles in circumference."

This county is divided into the eight hundreds of Odſey, Edwintree, Broadwater, Hitchin, Dacorum, Caſhio, Hertford, aud Braughin. It contains 18 market-towns and 120 pariſhes.

The climate is not conſidered to be materially different from other counties equally ſouthern.

The ſoils of this county are loam, clay, chalk, and gravel; but they mix and run into each other in a very remarkable manner. On entering the county from Hockwill, at Sawbridgworth, Gilſton, and Widford, clay or ſtrong loam prevails; but in the vales, a drier loam, on a gravelly bottom. In the angle of the county formed by Hockwill, Ware, and Buntingford, the vales and ſlopes every where contain good loam on gravel and chalk, but the tops of the hills conſiſt invariably of ſtrong loam, or of clay, partly wet and partly drained. At Little Hudham, a ſtrong loam, very wet, and not drained, upon a clay-marle bottom, exactly like the Suffolk loam. From Puckridge to Buntingford, the ſoil conſiſts of a fine, rich, deep loam on chalk. Chalk is the baſis of the whole county, and is univerſally found in digging wells. According to a map of the county, carefully meaſured, Hertfordſhire, contains 472 ſquare miles, of which 73 are chalk, 141 clay, 8 rich loam, 223 loam, and 27 poor gravel.

The principal rivers in Hertfordſhire are the Lea and Colne, which are compoſed of many inferior ſtreams, moſt of whoſe ſources lie within the county, and join the principal rivers at different diſtances from their ſource. The Grand Junction Canal, from Branſton Wharf, on the Coventry Canal, to Old Brentford, where it joins the Thames, enters the county of Hertford above Berkhampſted, and follows the courſe of the Bulburn and Gade to Rickmerſworth, and from thence the courſe of the Colne, till it leaves the county. The barges on this canal carry 60 tons, and their conſtruction coſts 2621. 10s. They are navigated by a bargeman and his boy, and one other man, with three horſes: the bargeman and boy coſt 2l. 12s. 6d. a week; the man, 17s. A voyage takes ten days; locks and dues on a load of manure amount to 5l. Hay pays three farthings a mile per ton; corn and other goods 1½d.

Property in Hertfordſhire is much divided. About 7000l. a year is the largeſt eſtate in the county: there are ſix or ſeven from 3 to 4000l.; more of about 2000l.; and below that ſome of every value. Freehold eſtates have of late ſold at 28 years purchaſe. A large portion of the county is held by copyhold tenure, with a fine certain, or

at the will of the lord; but which fine never exceeds two years rent. Such land ſells at about ſix years purchaſe under the price of freehold.

The hay and ſtraw being carried by the farmer to London, from every part of the county, and cattle not being a principal part of their huſbandry, farm-yards and buildings do not make a great figure here. The cottages have no where any land, more than the ſmall amount of inſufficient gardens. The farms are in general ſmall. Not one in the county exceeds 1000 acres, and 500 form a large one. The ſize moſt common is from 150 to 400, but there are many much ſmaller.

The average rent of the county is eſtimated at 15s. per acre. The payment of tithes in kind is not at all practiſed. The average of the compoſition 3s. 5d¼. per acre.

The manufactures of this county are ſingularly beneficial, eſpecially that of plaiting ſtraw; yet the poor rates are high. At Ware and Thundridge, on an average of ten years preceding 1800, they were 3s. 6d. to 4s. in the pound. In 1800, 6s.; and in 1801, 8s. 6d. At Bengo, 15s; and at Sacomb and Little Munden, 16s. and 17s.

In that diviſion of the county where the ſoil is ſtrong, leaſes, from ten to fifteen years are granted; but, in the greater part of the county, leaſes are not granted at all.

"The great Hertfordſhire wheel-plough," ſays our author, "is an implement in favour of which the farmers in this county are much prejudiced, and for one operation with reaſon—that of breaking up ſtrong flinty fallows in a dry ſeaſon. For this work of difficulty they are well calculated, from their great length of beam, ſole, and ſhare, which laſt has a long ſtout point, exceedingly well calculated for making way amongſt flints. I am of opinion that this plough will do ſuch work, at times when few others would ſtir in ſuch land at all. But here ends the merit; for all other works it is a heavy, ill-formed, and ill-going plough. The faults are numerous; heavier than neceſſary for every other work, they are all ſo *pitched*, that the ploughman univerſally walks on the unploughed land, reſting nearly all his weight on the handles, his body moving in angle of forty-five degrees with the horizon. It is eaſy to imagine what a ſyſtem of labour to the horſes ſuch a counteraction of powers muſt neceſſarily occcaſion; it is evident that they do labour much, even on a looſe turnip ſoil, merely by means of the abſurd conſtruction and weight of the plough. The ſhare, joint, and fin (which latter is placed on very backward, to enable the point to work among the ſtones), are at unequal levels; three or four inches of the furrow next the unploughed land, are cut three inches deeper than the reſt of it; ſo that when I have turned away the ſtirred moulds, in order to examine the unploughed land beneath, it is found all in grooves and ridges. Worſe work can ſcarcely be imagined, while the ſurface is left apparently very well and neatly ploughed. Wheel-ploughs that will not go without holding, muſt be defective in conſtruction. This plough will not move in its work one yard without the ploughman; a deciſive proof of its miſerable conſtruction."

Encloſing appears to have gone on as well in Hertfordſhire as could reaſonably be expected in a county ſo generally encloſed in former times. There remains, however, much to be done in the northern

part; with extenſive commons in the weſtern diſtrict, and ſcattered common fields in many other parts.

The plaſhing ſyſtem is underſtood and practiſed uncommonly well in this county. The hedges, in many parts of the county, are not only fences, but good fences, when tolerably preſerved, without the aid of ditches. A thorough good ditch is not to be found in the county, except ſome which the reporter made about thirty years ago.

Turnips and clover are ſuppoſed to have been introduced into this county in the time of Oliver Cromwell, who gave 100l. a-year on that account to a farmer of the name of Howe.

By far the greater part of Hertfordſhire is under tillage, for which, indeed, the county has long been celebrated. The common depth of ploughing about Weſtmill, is four or five inches; but ſome farmers plough as deep as the ſtaple will admit of. The price of ploughing varies from 11s. to 20s. an acre.

The fallow ſyſtem is not much purſued in this county. The rotation of crops varies much in different parts of the county. The following ſeems among the moſt common:—fallow, ploughed four times; wheat; clover; barley, on three earths; peaſe.

A Mr. Leach, of this county, has bought ſmutty wheat, to ſow for curioſity, and even the worſt which he could find: he ſteeped it ſix hours in a very ſtrong brine, made to ſwim a large egg; he dried it with hot lime, and ſowed it directly, and had no ſmut. The general practice in Hertfordſhire, for the prevention of ſmut, is to pickle the ſeed. For a barley crop, the uſual cuſtom is to plough turnip land but once.—There are very few beans in the eaſtern parts of the county, and thoſe but ill managed. In the pariſhes of Watford, Rickmanſworth, and Buſhy, there are 3 or 400 acres of clay land without flints, in which the bean huſbandry is practiſed in the courſe of fallow, wheat, beans; the latter being dibbled in acroſs the lands by women, who do it by lines: the field is kept clean by hand hoeing, and produces, on an average of ſeven years, four quarters per acre. Between Elſtree and Barnet alſo the ſame huſbandry prevails. Very little buck wheat is found. Very few potatoes are cultivated, but the culture of this uſeful root ſeems rather on the increaſe. Turnips are much cultivated, but not in ſuch perfection as might be expected. A general fault ſeems to be, that the cultivators hoe but once. The culture of Swediſh turnips has ſo rapidly made its way in Hertfordſhire, that they are to be found in the uſual management of great numbers of the common farmers. Cabbages, carrots, parſnips, and beets, are occaſionally cultivated. Clover has long been cultivated with great ſucceſs and profit. In the heavy land diſtricts, tares are very generally cultivated for ſoiling the teams; a practice that has been in uſe upwards of ſixty years.—Lady Melbourne, at Brocket Hall, is one of the principal promoters of drill huſbandry in this county, where, however, that ſyſtem is but very little practiſed.

The quantity of graſs land in Hertfordſhire is extremely ſmall, compared with that of arable land: there is no graſs diſtrict in it, except a very narrow margin in the ſouth line, in the vicinity of Barnet, which being near to London, is made artificially productive, by means of manures brought back by the hay-carts. Many of theſe fields let at 40s. 50s. and 60s. an acre.

"In the ſouth-weſt corner of the county (ſays our author) and particularly in the pariſhes of Rickmerſworth, Sarret, King's Langley, and Abbot's Langley, Flaunden, Bovington, and partly in Watford and Aldenham, there are many orchards: apples and cherries are their principal produce. Every farm has an orchard; but the larger the farm the ſmaller the orchard. Orchards are found chiefly in farms of from twenty to fifty acres. The apples are moſt profitable; but cherries very beneficial to the poor, in the quantity of employment which they require in gathering the crop, for which the poor are paid from 4d. to 8d. per dozen pounds."

The woods in the county between Hockerill, Ware, and Buntingford, are rented generally at about 12s. an acre, and cut at twelve year's growth, when the produce is about 9l. an acre. There are large tracts of wood-land to the ſouth of Hertford, towards London; 2000 acres almoſt together. When let to tenants, they are cut at nine or ten year's growth, that they may be cut twice in a twenty-one year's leaſe. At twelve years they produce from 4l. to 12l., and are chiefly applied to the making of faggots.

The quantity of waſte land in Hertfordſhire is very inconſiderable. There are, however, ſome ſmall commons ſcattered about, which would pay well for improving.

Hollow drains are well underſtood, and are much in uſe throughout the county. "Mr. March," ſays the report, "drains much, at the expence of 45s. per acre, at the diſtance of one perch apart; he ploughs a very deep furrow, and then takes a ſpit from eighteen to twenty-two inches deep: he has alſo uſed the mole-plough with great ſucceſs, for the drains have ſtood well five years. He put only four or ſix horſes to it, which being far ſhort of eight, ten, or twelve, uſed in common, I examined his plough, and found it with a gallows and wheels before, raiſed or ſunk in work by an iron ring and chain from the carriage, raiſed or lowered by an iron pin in holes in the beam, like the great Hertfordſhire common plough; it has alſo a ſhort roller at the heel; thus the friction is doubly eaſed: the improvement is very important."

Paring and burning are not yet in general practice, but are likely to ſpread.

Manuring is attended to in the moſt ſpirited manner. The foſſil manure of the diſtrict (chalk) and the expenſive additions from London, are uſed on a very extenſive ſcale. Bones and night-ſoil are found to have the moſt important effects on potatoe crops on a poor gravelly loam.

Hertfordſhire affords great opportunites for the important work of irrigation? but it abounds alſo with ſo many mills, as to impede it greatly. 3s. 6d. per acre are given for draining and floating.

This county, being merely arable, has no breed of cattle of its own; conſequently, thoſe which are kept are of various ſorts, according to the experience, fancy, or prejudice of their owners. The ſame remark applies to ſheep.

The uſe of oxen in huſbandry is not a common practice in any part of the county, a circumſtance which throws much doubt upon the queſtion of compariſon as to which is the more beneficial team. In general, the difference appears to be one-fifth between the work of

oxen and that of horſes in ploughing; four horſes do five roods; four oxen one acre.

The average price of the county for labour now varies from 10s. to 12s. per week. About Watford, the winter wages have riſen, in the laſt thirty-five years, from 6s. to 14s.

The only manufacture of importance, for the employment of the poor, in this county, is that of plaiting ſtraw. At Redburn, where the manufacture is moſt prevalent, women will earn a guinea a week; and, at St. Alban's, there are women who will earn 5s. a-day. The farmers complain much of this, as making the poor ſaucy, and rendering it difficult to obtain ſervants.

We ſhall conclude this abſtract, with quoting the following account of the Marchioneſs of Saliſbury's experiment ground, one of the moſt intereſting ſpectacles in Hertfordſhire.

"It is a field of ſeventeen acres, thoroughly well fenced, ſurrounded with a margin of graſs, aud with two croſs-walks, for the pleaſing convenience of viewing the crops: they are well worth viewing, and do no ſlight honour to the talents of the cultivator. I here found

2 acres ploughed after early peaſe,
2 —— lucerne,
7 —— cabbages,
2 —— carrots,
1 —— mangel wurzel,
1½ —— parſnips,
1½ —— coleſeed;

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beſides two pieces, one of turnip-cabbages for ſeed, the other mangel wurzel, which ground had yielded a crop of lettuces for hogs.

In 1795 this experiment ground was prepared.

1796. This year it produced red beets, mangel wurzel, parſnips, carrots, and cabbages.

1797. Half various ſorts of cabbages, and half different roots.

1798. Where the cabbages had been laſt year, roots were grown, and after the roots of laſt year, cabbages.

1799. The ſame proceſs was adopted of reverſing the ſame crops.

1800. Ditto, with the addition of peaſe,

1801. As deſcribed above.

Lucerne was added in 1800.

"The cleanneſs of the crops, their flouriſhing luxuriance, and the general aſpect of the whole, are truly pleaſing. I could not, however, but regret that a regiſter had not been kept of every crop, the expenſe, produce, and conſumption per acre; this field would not then have yielded pleaſure only, but an ample harveſt of agricultural knowledge; and, with a few variations eaſy to have deviſed, would have produced a fund of important concluſions. The thought had great merit, and I cordially wiſh the field to be ſo productive of pleaſure to its Miſtreſs, as to give charms to the country, ſufficient to rival the great foe to experiment—London."

We muſt juſt add, that the expenſe of cropping this field, in the year 1795, amounted to 135l. 10s. including the rent, at 30s. per acre. The produce was 598l.; conſequently the profit was 462l. 10s.

Agriculture.

PROCEEDINGS OF AGRCULTURAL SOCIETIES,

Sussex Agricultural Meeting.

AT a general meeting of the Subſcribers of the Suſſex Agricultural Society, to arrange the Prizes and Premiums for the preſent year, held at the White Hart Inn, Lewes, May 19, 1804,

The following Reſolutions were agreed to,

I. That a Piece of Plate, be given to the owner of the beſt Bull, two years old.

II. That a Piece of Plate be given to the owner of the beſt Bull, three years old.

III. That a Piece of Plate be given to the owner of the beſt Bull, four years old or upwards.

A Piece of Plate, value 10l. was adjudged at the Shew of Cattle, in 1801, to Mr. Alfrey, of Friſton; the owner of the beſt Bull produced in the field, to be kept till ſuch Piece of Plate ſhall be challenged by the owner of any other Bull. The challenge to be given on the day of the ſhew of cattle, and to be determined upon the next enſuing Day of Shew. The challenger to ſtake 5l. againſt the Piece of Plate, or to pay half forfeit; on giving one month's notice that he does not mean to ſhew to the holder of the Piece of Plate. This Piece of Plate was challenged on the laſt Day of Shew, by Mr. Purſeglove, of Hurſtmonceux.

IV. That a Piece of Plate be given to the owner of the beſt Heifer, two years old.

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

VI. That a Piece of Plate be given to the owner of the beſt Cow, four years old or upwards, under the ſame conditions as in the laſt article.

VII. That a Piece of Plate be given to the owner of the beſt yoke of working oxen, of the ſame age, from four to ſix years old.

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

VIII. That a Piece of Plate be given to the owner of the beſt South Down Ram, one year old laſt lambing time.

IX. That a Piece of Plate be given to the owner of the beſt South Down Ram, two years old laſt lambing time.

X. To ditto, ditto, three years old.

XI. To ditto, ditto, two years old laſt lambing time, which ſhall have worked the year before in the flock, not leſs than one month in the autumn, and ſhall have returned to the flock on or before the 5th day of April, and ſhall have continued with the flock till the 1ſt day of July upon the Downs and arable land.

XII. That a Piece of Plate be given to the owner of the beſt South Down Ram, three years old last lambing time, under the ſame conditions as in the laſt article.

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

XIII. That a Piece of Plate be given to the owner of the beſt pen of twelve South Down Ewes, viz. four of one year old, four of two years old, and four of three years old.

XIV. That Three Pounds be given to the owner of the ſecond beſt pen of the ſame deſcription.

XV. That Two Pounds be given to the owner of the third beſt.

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

XVI. That Two Pounds be given to the owner of the beſt South Down Ram Fleece, in weight and quality.

XVII. That One Pound be given to the owner of the ſecond beſt.

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

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

XIX. That each candidate may ſhew cattle or ſheep for all the prizes, but ſhall be entitled to no more than one prize for each ſort of ſtock, i. e. for bull, heifers, cows, oxen, rams, not kept with the flock, Rams kept with the flock and ewes. And that no animal which has gained two prizes, ſhall be entitled to be ſhewn again for any of the above prizes.

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

XXI. That three Judges for the Cattle and three for the Sheep, be appointed by the Committee, who will meet on the 26th of July next, at the Star Inn, Lewes, at one o'clock, and that the Committee do conſiſt of all the Subſcribers.

XXII. That three Stewards be appointed for the management of the buſineſs, and that John Fuller, Eſq. M. P. for Saxby, and Mr. Knight, be requeſted to undertake that office for the enſuing year.

Kent Society, for the Encouragement of Agriculture and Induſtry.

AT the anniverſary of this Society, holden at the Fountain Tavern, in the City of Canterbury, on the 1ſt of June, 1804.

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

The Reſolution of the laſt Meeting, in regard to the proceedings of the *Eſſex Agricultural Society*, was taken into conſideration and Reſolved, That it appears to this Meeting, from the ſteps already taken by the Hon. the Houſe of Commons, that any further proceedings of this Society are at preſent unneceſſary.

The following Premiums were this day adjudged.

CLASS I.—*To Servants in Huſbandry, for long and faithful ſervice.*

Married Servants.—To Robert Tumber, all works to Mr. Thomas Caſtle, of Folkeſtone, 17 years. *Two Guineas.*

To Luke Langford, waggoner to Mr. Thomas Wootton, of Weſtbeer, 15 years. *Two guineas.*

Single Servants.—To William Martin, waggoner to Mrs. Button of Warehorne, 8 years. *Two guineas.*

To William Beck, waggoner, to Mr. Tappenden, of Hothfield, 8 years. *Two guineas.*

To Sarah Windſer, all works, maid to Mr. Windſer, ſen. of Tenterden, 21 years. *Two guineas.*

To John Fryer, all works, boy to Mr. Thomas Simmons, of Petham, 5 years, being his firſt ſervice. *One guinea.*

CLASS II.—*To Labourers in Husbandry, for long service.*

To William Aſhley, labourer to John Toker, Eſq. of Oſpringe, 36 years. *Two Guineas.*

To Stephen Chandler, labourer to Richard Peckham, Eſq. of Beakeſbourne, 34 years. *Two guineas.*

To Robert Cobb, labourer to Mr. Thomas Sutton, of Boughton Aluph, 31 years. *Two guineas.*

CLASS III.—*To Labourers in Husbandry, for having brought up large Families with the leaſt aſſiſtance from their reſpective Pariſhes.*

To John Moore of Badleſmere, 12 children born, 10 brought up. *Two guineas.*

To Alexander Williams, of Bridge, 11 born, 10 brought up. *Two guineas.*

To Thomas Huckſtep, of Preſton next Wingham, 11 born, 9 brought up. *Two guineas.*

Reſolved, That the Second Premium of Two Guineas, be given to Mr. Weeks, of Aſpringe, for his Black Horſe, being the only Horſe produced.

N. B. No Bulls were ſhewn.

The following gentlemen were appointed officers for the year enſuing.

The Right Hon. Lord Sondes, re-elected Preſident.

Henry Godfrey Fauſſett, Eſq. re-appointed Deputy Preſident.

General Harris and George May, Eſq. Stewards.

Mr. Allen Grebell, re-appointed Treaſurer and Secretary.

COMMITTEE.

Hon. George Watſon, M. P.
Richard Milles,
Capt. Honywood,
Edw. Taylor,
William Hougham,
Rev. J. C. Beckingham,
Rev. Thos. Randolph,
Rev. Ralph Price,
John Lade,
James Tillard,
Robert Rich,
Thomas Gibbs Hilton,
Thomas Brett,
George Carter,
William Wightwick,
Edward Ruſſell,
John Bays,
Thomas Caſtle,
Carr Culmer,
E. H. Sandys,
Pilcher Ralfe,
Thomas Neame,
Auſtin Neame,
John Cobb.

ALLEN GREBELL, Secretary.

Herefordshire Agricultural Society.

At a general meeting of this Society, held in Hereford, on Monday, June 4, 1804,

It was reſolved,

That the premiums exhibited for this day be thus adjudged:

I. To Mr. Watkins, of Brickſop, for the beſt three years' old fine woolled Ram.

II. To J. Kedward, Eſq. of Weſthede, for beſt Yearling ditto.

III. To Mr. S. Tully, of Huntingdon, for beſt Yearling ditto.

IV. To J. Kedward, Eſq. of Weſthede, for ſecond beſt ditto.

V. To Mr. Williams, of Kingſwill, for beſt working Ox.

N. B. The Oxen to be exhibited for this premium in future, may be of any age, not exceeding five years and ſix months.

VI. To Mr. Williams, of Brickſop, for beſt Boar.

N. B. The Committee adjudged that the beſt Boars were exhibited by the Rev. Mr. Coke, of Lower Moor; but conſidered that gentleman as diſqualified on this occaſion, by having obtained a premium for a Boar laſt year.

VII. The beſt Cart Stallion was exhibited by Mr. Lewis, of Eaton Biſhop, but the Owner was diſqualified through want of due notice; and the Committee decided, that no other horſe was exhibited which was worthy the premium.

It was alſo reſolved, That no ſecond premiums be awarded in future; and that no Sheep exhibited ſhall be allowed to be forced, by clipping or trimming.

It was alſo reſolved, That the next General Meeting of this Society be held at the Crown Inn, in the Borough of Leominſter, on Friday, ths 29th inſtant, and that Silver Goblets, value 5l 5s. each, be then awarded to the Exhibitors of

1. The beſt yearling Bull
2. The beſt three years old ditto.
3. The beſt yearling Heifer.
4. The beſt three years old ditto.

Gentlemen who have engaged, or who are willing to ſupport the Leominſter Meeting, are reſpectfully requeſted to ſend their names to the Secretary, for inſertion in the Books of the Society.

Hereford, June 5, 1804. JOHN DUNCOMBE, Sec.

Kimbolton Agricultural Society.

At the Annual Meeting of this Society, held at the White Lion Inn, in Kimbolton, on Wedneſday the 6th Day of June, 1804, the Premiums were adjudged as follows:

For the beſt One-ſhear Ram, to Mr. Smith, of Stock Doyle.
For the ſecond beſt ditto, to Mr. Billing, of Harrowden.
For the beſt Theave, to Mr. Bithray, of Stoke Mills.
For the ſecond beſt ditto, ditto, ditto.
For the beſt One-ſhear Wether, graſs fed, ditto, ditto.
For the ſecond beſt ditto, ditto, ditto.
For the beſt Two-ſhear Wether ditto, ditto, ditto.
For the ſecond beſt ditto, ditto, ditto.
For the beſt Bull, not exceeding two Years old, to Mr. James Morton, of Offord Darcey.
For the ſecond beſt ditto, to Mr. Robins, of Riſely.
For the beſt Heifer, not exceeding two Years old, to Mr. Day, of Spaldwick.
For the ſecond beſt ditto, ditto, ditto.
For the beſt Boar, not exceeding eighteen Months old, to Mr. Tebbs, of Dean.
For the ſecond beſt ditto, to Mr. Maſon, of Worndith.
To the beſt Ploughman, Mr. Welſtead's.
To the ſecond beſt ditto, Mr. Maſon's.
To Joſeph Sharp, for bringing up a Family of ſix Children without Parochial Aſſiſtance, three Guineas.
To William Watts, for having lived 37 Years on the Farm in Saint Neots, now in the Occupation of Mr. Inkerſole, three Guineas.
To William Colbert, for having worked 24 Years on the Farm at Offord Darcey, now in the Occupation of Mr. James Morton, two Guineas.

Ordered, That the following Premiums be diſtributed at the next annual Meeting, which will be held at the White Lion Inn, in Kimbolton on the firſt Wedneſday in June, 1805.

	£.	s.	d.
For the beſt One-ſhear Ram,	2	2	0
For the ſecond beſt ditto	1	1	0
For the beſt Two-ſhear ditto	3	3	0

For the ſecond beſt ditto	2	2	0
For the beſt Theave	3	3	0
For the ſecond beſt ditto	2	2	0
For the beſt One-ſhear wether	2	2	0
For the ſecond beſt ditto	1	1	0
For the beſt Two-ſhear Wether, which ſhall have been fed on Graſs, Turnips, Coleſeed, and other green Food, and Hay only	3	3	0
For the ſecond beſt ditto	2	2	0
For the beſt Two-ſhear ditto, which ſhall have been fed by any other means	3	3	0
For the ſecond beſt ditto	2	2	0
For the beſt Bull, not exceeding eighteen Months old	3	3	0
For the ſecond beſt ditto	2	2	0
For the beſt Heifer, not exceeding eighteen Months old	3	3	0
For the ſecond beſt ditto	2	2	0
For the beſt Boar, not exceeding eighteen Months old	2	2	0
For the ſecond beſt ditto	1	1	0

The Cattle to be entered with Mr. Day, or ſome perſon appointed by him, at the White Lion Inn, Kimbolton, by Ten o'Clock in the Forenoon of the day of Shewing; and to be penned (under the direction of a perſon who will attend for that purpoſe) on the premiſes of his Grace the Duke of Mancheſter, and ready to be ſhewed by Eleven o'Clock.—The Premiums will be given to ſuch Owners of Cattle as were the Breeders thereof only; of which, as well as of the Ages, ſatisfactory Proof muſt be given to the Committee.—The Rams and Theaves to be produced for Inſpection in their Wool, and then to be ſhorn; and the Committee, in determining theſe Premiums, to take the Wool, as well as the Carcaſe, into Conſideration.—All the other Sheep to be produced ſhorn.—No Animal to receive two Premiums from this Society, except the firſt Claſs of Two-ſhear Wethers; which, in caſe any Corn fed Wethers ſhould be entered to be ſhewn, may be again ſhewn on the ſame day for the Premiums of that Claſs alſo.

	£.	s.	d.
To the Labourer in Huſbandry who ſhall have brought up, or be then bringing up, the largeſt Family without Parochial Aſſiſtance	3	3	0
Ditto next largeſt ditto	2	2	0
To the Servant in Huſbandry who ſhall have lived the longeſt Time with one Maſter, or on the ſame Farm	3	3	0
Ditto next longeſt ditto	2	2	0
To the Labourer in Huſbandry who ſhall have lived the longeſt Time with one Maſter or Miſtreſs, on the ſame Farm	3	3	0
Ditto next longeſt ditto	2	2	0

The Candidates for the Premiums to Labourers and Servants to deliver their Certificates to Mr. Day, or a perſon appointed by him, at the White Lion, in Kimbolton, by Ten o'Clock, as no Certificate is to be received after that Hour.—Theſe Premiums to be determined under the ſame Rules and Regulations as in the former Year.

This Society to aſſemble at the White Lion Inn, in Kimbolton, on the Morning of the annual Meeting, at Ten o'Clock.—The Committees for determining the Premiums to be appointed at Eleven, and the Shew to take place at Twelve o'Clock; after which a Committee will be appointed for ſettling the Premiums and Rules for the enſuing Year, ſo that the whole of the Buſineſs may be finiſhed before Dinner.

Publiſhed by Order of the Society,

St. Neots, 20th June, 1804. WM. DAY, Treaſurer and Secretary.

Peterborough Agricultural Society.

AT a meeting of this Society, holden at the Angel Inn, on Wedneſday the 6th inſt.

A great number of very capital ſheep and horſes were ſhewn, and the following premiums decided and diſpoſed of, viz.

Five guineas for the beſt two year old ram, to Mr. John Hicks, of Tanbor.

Five guineas for the beſt one year old ram, to Mr. Wm. Smith, of Stoke Doyle.

Five guineas for the beſt ſtallion, for hunters, to Mr. Myhill Addy, of Weſt Deeping.

Seven guineas for the beſt two year old draught ſtallion, to Mr. John Hatfield of Sawtry.

By Order, John Hook, Secretary.

Peterborough, June 11, 1804.

South Hants Agricultural Society.

PREMIUMS offered for the Anniverſary Meeting at Southwick, on Tueſday the 26th of June.

Class I.

Four guineas to the ploughman who ſhall, with four horſes, plough a quarter of an acre of land, in the leaſt time and beſt manner.

Three guineas to the next beſt ploughman in the ſame manner.

Two guineas to the third.

One guinea to the fourth.

Half-a-guinea to the boy acting as driver to the winning team.

Five ſhillings to each of the other boys.

Two guineas to the perſon who ſhall, with ſnip-ſhears, ſhear two ſheep, in the beſt manner and leaſt time.

One guinea to the next beſt ſhearer in the ſame way.

Two guineas to the perſon who ſhall, with common ſhears, ſhear two ſheep in the beſt manner and leaſt time.

One guinea to the next beſt ſhearer in the ſame way.

Candidates for the Ploughing Premiums to be at Southwick, on the above day, at nine o'clock in the morning, in order to make proper trials, which are to commence at ten o'clock preciſely; and Candidates for ſhearing at one o'clock preciſely.

Class II.

Five guineas to the perſon who ſhall ſhew the fineſt cart ſtallion, who ſhall have covered in Hampſhire during the ſeaſon.

N. B. A certificate of recommendation, ſigned by a Member of this Society, muſt be produced.

Two guineas to the perſon who ſhall produce the beſt cart colt or filly bred in Hampſhire.

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

Three guineas to the Owner of the beſt two years old bull; the bull to have been his property three months previous to the 21ſt of June inſtant, and he muſt engage to keep the bull for three months longer.

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

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

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

Two guineas to the perſon who ſhall produce the beſt ſow.

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

Two guineas to the perſon who ſhall produce the beſt heifer, two years old, and bred in Hampſhire, and to have been the property of the Owner from the 1ſt of January laſt.

Cattle produced for theſe Premiums, muſt be at the Golden Lion Inn, Southwick, before one o'clock on the ſame day.

Class III.

Two guineas to the Labourer in agriculture, who has ſupported the greateſt number of children, the eldeſt not exceeding the age of 18 years, without any, or with the leaſt, relief from the pariſh.

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

Candidates for theſe Premiums muſt ſend to the Secretary before the 24th of June inſtant, a certificate of their caſe, ſigned by the Miniſter of the Pariſh, and alſo by a Member of this Society.

CLASS IV.

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

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

One guinea to the next.

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

One guinea to the ſecond.

One guinea to the third.

Two guineas to the Boy employed in huſbandry, who has ſerved his maſter faithfully, and for the longeſt period.

One guinea to the ſecond.

One guinea to the third.

Two guineas to the Shepherd who has been the greateſt number of years (not leſs than five) in the ſame ſervice.

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

One guinea to the ſhepherd who has reared the next greateſt number of lambs,

Two guineas to the dairy maid who has ſerved one maſter or miſtreſs faithfully, and for the longeſt period, not leſs than five years.

One guinea to the ſecond.

One guinea to the third.

Candidates for theſe premiums muſt ſend to the Secretary before the 24th of June inſtant, a written character from their maſter or miſtreſs, which muſt be ſigned by the miniſter of the pariſh, and alſo by a member of this Society.

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

Fareham, June 9, 1804. W. W. MAIDMAN, Secretary.

Newark Agricultural Meeting.

The Moſt Hon. the Marquis of Titchfield, Preſident.

A Meeting of this Society will be holden at the Rutland Arms Inn, in Newark, on Monday the ſecond day of July next, at eleven o'clock in the forenoon, when the following premiums will be determined, according to the propoſals advertiſed in November laſt.

	£.	s.	d.
For the beſt ſhort horned yearling Bull, not more than eighteen Months old when ſhewn	10	10	0
For the beſt long woolled Tup Hog, wool and carcaſe taken together	5	5	0
For the next beſt	3	3	0
For the beſt fine woolled Tup Hog	3	3	0
For the next beſt	2	2	0
For the four beſt Ewe Hogs	3	3	0
For the four next beſt	2	2	0
For the beſt boar	2	2	0
For the next beſt	1	1	0

Perſons intending to become candidates, are to give ſeven days notice to the Secretary.

The ſheep may be ſeen clipped at any time after the firſt of June, on condition of the fleeces being produced with the ſheep at the meeting, and a certificate ſetting forth the weight of the fleece, as well as the day of clipping.

GEO. H. BARROW, Sec.

Southwell, 31 May, 1804.

Staffordshire Agricultural Society.

THE next meeting will be held at the George Inn Litchfield, on Tueſday the 31ſt of July next.

The following premiums are offered to the perſon who ſhall then produce the beſt ſhear hog ram, a Gold Medal.

For the ſecond beſt, a Silver Medal.

For the beſt two ſhear ditto, a Gold Medal.

For the ſecond beſt, a Silver Medal.

For the beſt two years old fat wether, a Gold Medal.

For the ſecond beſt, a Silver Medal.

For the beſt fat wether ſhear hog, a Gold Medal.

For the ſecond beſt, a Silver Medal.

For the two beſt Theaves, a Gold Medal.

For the two ſecond beſt, a Silver Medal.

For the beſt grey faced two ſhear ram, a Gold Medal.

For the beſt grey faced ewe, a Gold Medal.

For the beſt grey faced two ſhear wether, a Gold Medal.

For the beſt boar pig, a Gold Medal.

For the beſt fat pig, a Gold Medal.

For the beſt three years old bull, a Gold Medal.

For the beſt four years old ditto, a Gold Medal.

For the beſt two years old heiffer, a Gold Medal.

For the ſecond beſt, a Silver Ditto.

The ſheep and cattle to have been fed with graſs, hay, or roots, not to have had corn, and to be ſhewn by the perſons who bred and fed them.

Information in writing to be given by each perſon to the Secretary, on or before the third day of July next, of what ſheep or cattle they intend to ſhew.

All the ſheep for this ſhew, to be ſhorn on or before the 20th of June.

No perſon to ſhew the ſame ſtock a ſecond time, having gained a premium at a former meeting.

	£.	s.	d.
To any labourer in huſbandry, who ſhall have brought up the greateſt number of children, (born in wedlock), without aſſiſtance from the pariſh	3	3	0
To the ſecond	2	2	0
To any ſervant in huſbandry who ſhall have continued the greateſt number of years on the ſame farm	3	3	0
To the ſecond	2	2	0
To any labourer in huſbandry, who ſhall have continued the greateſt number of years on the ſame farm	3	3	0
To the ſecond	2	2	0

Applications to be delivered to the Secretary, on or before the firſt day of July next.

The applications muſt deſcribe the ground of claims, and be accompanied by a certificate ſigned by the reſident miniſter of the pariſh, in which the claimant lives, or by the maſter and miſtreſs under whom he has ſerved, and two other creditable houſeholders, having a poſitive knowledge of the facts certified.

Not leſs than ſix children, or fifteen years ſervice, will be deemed a ſufficient pretenſion.

The claimants are deſired not to attend, as the ſucceſsful candidate will have notice in the Birmingham and Stafford papers.

No perſon to receive any of the above premiums more than once in four years.

Mr. Anſon propoſes to give a ſilver cup of the value of fifteen guineas to the perſon who being a tenant, ſhall plough and prepare for ſowing the greateſt quantity of land upon his farm, not leſs than thirty acres with only two horſes or oxen abreaſt, and without the aſſiſtance of a driver, between the laſt and the next meeting of this Society.

A certificate of the ploughing being done in husbandlike manner, to be signed by two respectable persons in the parish where the claimant resides, and delivered to the president for the next meeting.

The premium to be confined to the county of Stafford.

Any person wishing to become a member will send his name to Mr. Bond of Litchfield, the Secretary.

The Right Hon. Lord Talbot, President.
Sir Rob. Lawley, Bart. Vice-President.

Woburn Sheep Shearing.

THE Proceedings of this distinguished Agricultural Society, commenced on Monday, June the 18th, and was well attended, notwithstanding the absence of so many amateurs on their parliamentary duty.

Previously to the Company's entering on business, the intended Monument to the memory of the late Duke, was exhibited. It is a colossal figure in bronze, nine feet in height, resting the right hand on a plough, as Hope and other figures have frequently been made to do upon an anchor, with four emblematical figures at its feet, (the model for casting of which is in great forwardness) which is to be erected in Russel-square, on a pedestal of granite, twenty-five feet high in the whole; the effect of which was shewn by a very good perspective view of the square, with the intended statue in its centre. On the pedestal, the following inscription is intended: "To the memory of Francis Duke of Bedford, this statue was erected by public subscription, in gratitude for his Grace's unwearied endeavours to improve the theory and practice of Agriculture.

The show and sale of cattle and sheep on the respective days, were arranged as follows:

Monday, in the morning, shew of Leicester tups. In the evening, sale of Leicester ewes.

Tuesday, in the morning, shew of South-down tups, shew of Hereford and Devon cattle, prize wethers, prize theaves. In the evening, Leicester tups let, sale of Hereford and Devon cattle.

Wednesday, in the morning, prize wethers, dead; show of South Down ewes, ploughing, trial of implements, sheep-shearers. In the evening, South Down tups let, sale of South Down ewes, sale of Hereford and Devon cattle continued.

Thursday, in the morning, second shew of Leicester tups, shew of Hereford and Devon cattle. In the evening, Leicester tups let, sale of Hereford and Devon cattle.

The exhibition of the new Leicestershire rams, began at eleven o'clock, P. M. at the Duke's mill, to which a party of the company repaired, in the course of the forenoon, the application of a steam engine to the purposes of agriculture, was much admired. A person in the company mentioned, that 24 well-fed ewes in Holderness had, this season, produced 70 fine lambs. It was agreed, that an examination of 8 shorn hogs, and of 7 sheep, which had been twice shorn, and one which had been twice shorn, and one which had been three times shorn, and that the rams of the present year were better than those of any former shew at Woburn. Mr. Tollet shewed some very long wool produced from Spanish sheep, formerly of his Majesty's flock, and on which the wool had been suffered to grow unshorn for two years. At three P. M. his Grace entertained at dinner in the great hall, the Duke of Manchester, the Earl of Upper Ossory, the Earl of Albemarle, Lord Somerville, Lord Sheffield, Lord Ludlow, Sir Joseph Banks, Mr. Arthur Young, and other gentlemen, to the number of 190; after the cloth was removed, his Grace gave the following toasts:

The King, Success to Agriculture, The Fleece, Good Grazing, The Union of Agriculture and Commerce, The Plough, Irrigation, The Memory of Mr. Bakewell, The Farming Society of Ireland, Earl of Egremont.

A little before six, the company returned to Park Farm. Four pens of new Leicester sheep were then sold by auction; five theaves for thirteen

guineas; five for twelve guineas and a half; five ewes for twelve guineas; five for nine guineas and a half.

Soon after eleven o'clock, on Tueſday morning, the ſhew of South Down tups commenced; different parts of the company being at the ſame time employed in examining an experiment in drilling turnips on his Grace's farm; others were engaged in examining the different implements in agriculture belonging to his Grace, and brought by others to be exhibited.

Mr. Smith, of Bath, exhibited a plan of a water meadow, conſtructed by him at Priſley, in the neighbourhood of Woburn; and alſo of the maps of the ſtrata of England. Mr. Plunket ſhewed models of his ſerging capſtan, applicable to the heaving of the anchor on board of ſhip, or to any other purpoſe where a great ſtrain is to be exerted on a rope; he alſo ſhewed a model of a reaping and mowing machine. Mr. Salmon, his Grace's ſurveyor, ſhewed his drilling machine. Mr. Runciman, of Woburn, exhibited a pen of three theaves, as candidate for the prize offered laſt year by his Grace. Mr. Circuit, of Woburn, alſo ſhewed three theaves; Mr. John Moore, of Aſpley, three; and Mr. John Purſer, of Bedford, three; which were all very critically examined by the company: as alſo by Meſſrs. Ellman and Wing, the two judges appointed to decide on their reſpective merits. His Grace the Duke of Grafton exhibited two large oxen, a croſs between the Derbyſhire and Yorkſhire breeds. Charles Weſtern, eſq. ſhewed two boars and a ſow of the Eſſex breed. Mr. Runciman ſhewed a five-ſhear South-Down ewe. Mr. Bellamy, of Bath, laid before the company certificates of the ſucceſs of his medicines for the cure of the ſcouring of cattle and ſheep. Mr. Parkinſon delivered his propoſals for two intended publications on the preſent ſtate of agriculture in Ireland, and in America. About three o'clock more than two hundred perſons, principally conſiſting of Gentlemen of landed property, and agriculturiſts of note, ſat down to an excellent dinner at the Abbey. After dinner much intereſting converſation followed, enlivened by the following toaſts:

The King, Succeſs to Agriculture, The Fleece, Good Grazing, Proſperity to all Improvements in Agriculture, The Plough, Irrigation, The Memory of Mr. Bakewell, The Farming Societies of Ireland, Mr. Forſter, The Farming Societies throughout the Kingdom, Mr. Billingſley.

After dinner, the fat wethers in the ſtables adjoining the abbey, belonging to Mr. Edward Platt, Mr. Benton, Mr. Bithray, Mr. Earl, and a tup belonging to Lady Lloyd, of Paul Patriarch's breed, were examined by the breeders and amateurs preſent; after which the company adjourned to the Park Farm, when the Leiceſter tups, ſhewn on Monday, were moſt of them ſett at very handſome prices. Three Hereford cows were ſold by auction at twenty pound, fifteen guineas, and fourteen guineas and a half; two Devon cows at fifteen and thirteen guineas and a half, and a yearling Durham Bull at eight guineas.

Among the company, which was much more numerous than on Monday, were noticed, Lord Somerville, Charles Gordon Grey, Henry Hugh Hoare, Mr. Criſp, Mr Higgins, Mr. Eaſon, Mr. Ratcliffe, Rev Mr. Mead, Meſſrs. Leſter, Gibbs, Gibblet, Walton, Bellamy, Greſham, Parry, Purſer, Foſſey, Baker, Tween, Circuitt, Buttfield, Preſton, Arnold, Cowley, Hampſhire, Smith, &c.

On Wedneſday morning, very early, a party, conſiſting of Sir Joſeph Banks, Preſident of the Royal Society, Lord Sheffield, Preſident, and Mr. Arthur Young, Secretary of the Board of Agriculture, —— Criſps, Eſq. William Smith, John Farey, &c. rode to Prieſley farm, a diſtance of four miles, and viewed the new-water meadows, and other improvements thereon: a more pleaſing object could not be preſented than the three meadows of two years, one year, and half a year's ſtanding, where the ſteril bog was found by the aid of irrigation covered in proportion to the time of its application with its beſt natural graſs.

After breakfaſt the company aſſembled at the Slaughter-houſe, adjoining his Grace's ſtables, and the carcaſes of the fat Wethers, which were examined alive on Tueſday evening, were minutely examined by the Graziers, Butchers, and Amateurs preſent, the judges appointed to decide on their merits having previouſly examined them. After this the South Down Ewes were exhibited one by one, in the ſhow-houſe; where the company repaired to Crawley Heath, a diſtance of about a mile, where ſeven ploughmen, with their reſpective inſtruments, in the breaking up of clover lea, as competitors for the prize offered laſt year by his Grace, for the plough which ſhould, with the leaſt force, turn the cleaneſt and deepeſt furrow; the ſeven ploughs belonged to Lord Sommerville, Samuel Whitbread, Eſq. Dr. Maoquin, Joſeph Cowley, James Potts, Mark Duckitt, and Mr. Leſter, the remainder being in uſe on his Grace's farm, under the care of Mr. Wilſon, the bailiff. Much intereſting diſcuſſion and obſervation preſented itſelf to the ſpectators, in witneſſing this very laudable conteſt; the judges minutely attending to all the circumſtances of pounds weight exerted by the horſes in drawing each plough, (except Mr. Leſter's, which failed at the onſet) the depth, width, and cleanneſs of furrow.

The Rev. Mr. Brown exhibited a long horſe-hoe, and Mr. Mark Duckitt a Scuffler, the operations of which were inſpected by the judges and the company, who then repaired to the Park-farm, where Runciman's horſe-hoe, Cartwright's three furrow plough, Salmon's chaff-cutter drill, and ſcuffler, were ſubmitted to the inſpection of the Mechanics and Agriculturiſts preſent. Mr. Blunt, an artiſt of eminence, attended, and made drawings of ſome of the mechanics and impliments ſhewn. Mr. Garrard, of London, the famous Modeler, was alſo preſent, and took ſketches of ſome of the moſt favourite animals. Soon after three o'clock, more than 300 perſons ſat down to dinner at the Abbey. The following toaſts were given: The King. Succeſs to Agriculture. The Fleece. Breeding in all its branches. The Plough. Small in ſize and great in value. Irrigation. Succeſs to the Farming Society of Ireland, which produced a ſhort ſpeech from an Iriſh Gentleman preſent, on behalf of that moſt reſpectable Society.

Mr. Bridge, Mr. Overman, &c.

Printed propoſals were circulated for the Premiums to be given by his Grace at the enſuing ſheep-ſhearing, in June 1805, which are equally liberal, and directed to the ſame objects as heretofore, with the addition of a premium to the Ploughman who ſhall hold or conduct the ſucceſsful plough in the trial of thoſe implements: alſo, to the Shephered who ſhall have reared the greateſt number of lambs in 1805, in proportion to his flock, Five Guineas: four other premiums, of four, three, two, and one guinea, are offered, for the next greateſt numbers in ſucceſſion: but the principal novelty in the Premiums is the handſome offer on the part of his Grace, of fifty guineas, "to the Farmer in Bedfordſhire, who ſhall, between the 1ſt of January, 1804, and the 1ſt of June, 1805, have converted the greateſt quantity of land into water-meadow, not leſs than ten acres, on the beſt and moſt approved ſyſtem."

After dinner, the company repaired to the Park Farm, and inſpected the operation of ten ſheep-ſhearers, who each ſheared four ſheep, as candidates for the prizes offered laſt year, for "the beſt ſheep-ſhearer." Several South Down tups were then lett, and South Down ewes, and Hereford and Devon cattle, were ſold by auction, which cloſed this day's buſineſs. In the courſe of the forenoon, the Portugueſe ambaſſador, Earls Lauderdale and Darnley, Lord William Ruſſel, Mr. Coke, Mr. Anſon, Mr. Northey, Mr. Lee Antonie, Mr. Byng, and ſeveral other perſons of diſtinction, arrived from London; and among the company we noticed, Sir John Sebright, and Meſſrs. Barnet, Trevor, Higgins, Godfrey Thornton, Smith, Thomas Pickford, Chandler, Riley, B. Bevan, Baker, Rutley, Potts, &c. &c.

On Thurſday Morning early the Duke of Mancheſter, Earl Lauderdale,

Lord Somerville, Mr. Coke, Sir Harry Featherſtone, William Child, Lorraine Smith, Mr. Brown, Mr. Smith, Mr. Chandler, and others, went over to Prieſtley to view the water meadows, of which a plan was hung up in the ſhow houſe at the Park Farm.

Mr. Smith, of Bath, exhibited his maps of the ſtrata of England and Wales, towards the publication of which Sir Joſeph Banks generouſly ſubſcribed 100l. and paid down half the money; an example which, we truſt, for the intereſt of the ſcience, will be followed by a ſufficient number of Land-owners and Gentlemen of Property, to enable Mr. Smith to arrange and publiſh his moſt valuable body of facts and obſervations, with a chance of gaining a juſt remuneration.

During this day the printed conditions of the premiums now offered by the Smithfield Cattle Society, were ſtuck up in the ſhew-houſe.

Mr. Bevan, a land ſurveyor, of Leighton Buzard, ſhewed his new inſtrument for the meaſuring of trunks of trees, both felled and ſtanding.

The printed propoſals for Mr. Whittle's ſale of cattle were circulated among the company: ſeveral wool ſtaplers and connoiſſeurs in wool examined the fleeces in the wool chamber, at the Park Farm. His Grace, however, does not ſell his wool in the fleece, as was formerly done, but ſends it to London to be firſt ſorted, when the different ſorts are ſold to manufacturers.

The ſecond ſhew of Leiceſter tups took place in the forenoon at the ſhew-houſe, and of Hereford and Devon cattle, in the cow-houſe.

At three o'clock, near 150 perſons ſat down to dinner with his Grace at the abbey; and after The King, Succeſs to Agriculture, The Fleece, The Union of Huſbandry and Commerce, as toaſts, his Grace roſe and expreſſed his great ſatisfaction at the increaſing goodneſs of the theaves and wethers produced on this occaſion by Bedfordſhire breeders, effected in a great degree, as his Grace with great feeling obſerved, by the exertions of his much-lamented brother, the late Duke. His Grace then noticed, with regret, that no implement of agriculture had been this year produced, which merited in the opinion of the judges, the premium of twenty guineas, which was offered laſt year; and went on to obſerve upon the experiments in ploughing, made on Wedneſday forenoon, in which he remarked, that the perſon who was to hold or conduct Lord Somerville's patent plough, having been ſuddenly taken unwell, an unexperienced ploughman had been reſorted to, whoſe work fell greatly ſhort of what he had before obſerved this plough to be capable of doing in other trials. His Grace then proceeded to notice the new premiums which had this year been added to the uſual liſt of premiums, particularly on the premium of fifty guineas to the farmer, in Bedfordſhire, who ſhould, between the 1ſt of January, 1804, and the 1ſt of Januaray 1805, have converted the greateſt quantity of land into water-meadow, not leſs than ten acres, on the beſt and moſt approved ſyſtem. His Grace then proceeded to read the determination of the Judges on the firſt claſs of premiums, by which a cup of ten guineas value was adjudged to Mr. Bithrey; and the ſecond prize of five guineas to Mr. Earl, for fat wethers. His Grace obſerved, that the fleeces of Mr. Moore's ſheep were highly creditable to him in quantity and quality of wool. The ſecond claſs of premiums, of a cup value ten guineas, and five guineas, were adjudged to Mr. Moore, of Aſpley, and Mr. John Circuit, of Woburn. In the third claſs of premiums, his Grace obſerved, that there was no competition for the prize of the beſt boar; for though Mr. Weſton had ſent two boars, no one had attended to give the required information to the Judges to enable them to decide.

Thomas Linnel was adjudged five guineas, John Maſon four guineas, Joſeph Giles three guineas, G. Wadſworth two guineas, and Job Arnold, of Crowley, one guinea, as the prizes for the neateſt and cleaneſt ſheep ſhearing.

And thus ended the moſt intereſting meeting which has for a long time been witneſſed.

LONDON PRICES OF GRAIN for *June*, 1804.

MARK-LANE, *Monday, June* 4.

SINCE laſt Monday, the ſupply of all Grain has been rather ſcanty, and moſt articles are dearer. Wheat is 1s. per quarter higher, and Barley finds buyers at a ſmall advance. Malt keeps its price. In Horſe Beans there is not much alteration, but Grey Peaſe are up 1s. per quarter; the other ſorts of Peaſe remain nearly as laſt. Oats are conſiderably dearer, as may be ſeen by the figures annexed.

Price of Grain, on board Ship, as under.

Wheat	28s to 54s	Malt	6s to 62s od	Grey Peas	31s to 34s od
Fine	54s to 56s od	Oats	22s to 27s	Beans, new	33s to 36s
Rye	23s to 27s	Polands ditto	28s to 30s od	Old ditto	—s 39s
Barley	21s to 26s 6d	White Peas	34s to 37s od	Ticks	26s to 34s

Monday, June 11.

Our market, as on Monday laſt, has been but ſparingly ſupplied with Grain today, in conſequence, Wheat continues to look upwards, and the trade briſk at 1s. per quarter advance. Fair ſamples of Horſe Beans are 2s. and both ſorts of Peaſe, 1s. per quarter dearer. We have ſome arrivals of Foreign Oats, which article, notwithſtanding, fetches better prices than laſt week. In Barley, Malt, and other corn, we have nothing material to note.

Wheat	30s to 54s	Malt	55s to 61s od	Grey Peas	—s to 35s od
Fine	55s to 57s od	Oats	24s to 29s	Beans, new	35s to 40s od
Rye	25s to 28s od	Polands ditto	30s to 31s od	Old ditto	42s od
Barley	21s to 26s od	White Peas	34s to 40s od	Ticks,	28s to 35s od

Monday, June 18.

Our ſupply of Wheat as on Monday laſt, being but moderate, the ſales were briſk, and prices ſomething better ſay 1s. per quarter. In Rye and Barley we have no alteration, except that the ſales of both, with Malt, are dull, and ſcarcely maintain our laſt reported currency. Horſe and Tick Beans, with White Peaſe of the various ſorts, are rather cheaper, but Grey Peaſe (a very ſhort ſupply) are dearer. We have plenty of Oats, which, from the great demand, keep up, though not quite equal to laſt Monday's prices.

Wheat	30s to 54s	Malt	52s to 60s od	Grey Peas	33s to 36s od
Fine	55s to 58s od	Oats	22s to 27s	Beans, new	30s to 36s od
Rye	24s to 27s od	Polands ditto	28s to 29s od	Old ditto	39s od
Barley	20s to 25s 6d	White Peas	35s to 39s od	Ticks	30s to 35s od

Monday, June 25.

We had but a moderate portion of Wheat in for this day's market; and though ſome fluctuation was obſerved in the few ſales of Wedneſday and Friday, prices may be conſidered as coming up nearly to laſt Monday's ſtandard. Barley is almoſt without buyers, and which, with Malt, are rather lower. Horſe and Tick Beans are dearer. White Peaſe are about laſt week's average; but Grey Peaſe continue ſcarce, and dearer. Having plenty of Oats, they (with the exception of very fine ſamples) are cheaper, and the ſales dull. In other articles, no material alteration.

Wheat	30s to 55s	Malt	53s to 59s od	Grey Peas	34s to 37s od
Fine	56s to 58s od	Oats	20s to 25s	Beans, new	36s to 39s od
Rye	24s to 27s	Polands	26s to 27s 6d	Old ditto	41s od
Barley	20s to 25s od	White Peas	36s to 38s od	Ticks	26s to 35s od

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

From the Returns received in the Week, ended JUNE 14, 1804.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
Middlesex	52	9	27	0	25	9	26	4	34	11	32	8		
Surrey	56	8	28	0	26	10	27	8	36	0	36	0		
Hertford	48	2	35	6	24	0	20	6	35	6	31	5		
Bedford	47	5			23	0	23	1	31	2	36	0		
Huntingdon	43	11			21	1	20	8	28	7	33	7		
Northampton	50	4	31	6	21	4	20	4	30	6				
Rutland	48	6			21	6	21	0	32	0			57	3
Leicester	52	0			25	1	20	7	34	10	32	10	35	4
Nottingham	55	8	33	6	26	0	22	8	36	0				
Derby	59	1			25	10	21	11	38	8			29	5
Stafford	52	4			29	7	24	2	42	3			34	2
Salop	51	2	37	0	30	6	28	10					65	9
Hereford	46	0	30	4	31	8	29	1	42	8	42	2	59	3
Worcester	47	6			28	6	28	1	36	8	37	8		
Warwick	52	6			30	3	26	9	38	5			42	2
Wilts	51	0			27	2	26	4	42	4	39	0		
Berks	53	8			26	2	27	2	37	2	36	6		
Oxford	48	5			24	3	25	0	34	9				
Bucks	50	7			24	4	23	10	32	7	36	3		
Brecon	52	3	32	0	27	7	22	4			32	0	38	6
Montgomery	49	7			25	7	23	9					46	7
Radnor	46	5			25	2	23	1					67	10

Maritime Counties.

Essex	49	10	27	0	23	10	27	0	32	9	34	6		
Kent	50	9			24	0	26	0	32	0	34	0		
Sussex	56	9			26	0	27	3						
Suffolk	48	0	26	0	22	6	25	7	28	8			50	10
Cambridge	43	7			21	8	17	2	29	8				
Norfolk	45	4	27	0	22	1	21	0	29	0	36	0		
Lincoln	45	6	30	0	21	10	21	0	31	7				
York	49	8	35	11	23	5	20	3	33	6	58	8	37	5
Durham	54	10					21	10						
Northumberland	50	2	36	0	23	6	22	2	31	0	36	0	16	
Cumberland	58	10	41	4	27	1	22	11						
Westmorland	59	10	39	4	27	1	22	11					19	1
Lancaster	58	9					23	0	39	6			20	2
Chester	50	6					27	1	41	0			18	10
Flint														
Denbigh	55	3			28	2	22	5					38	2
Anglesea							18	0						
Carnarvon	60	8			26	6	18	0					40	6
Merioneth	55	4	46	0	32	0	22	4					34	11
Cardigan	55	3			24	0	17	0						
Pembroke	51	10			29	10	17	0						
Carmarthen	58	3			33	8	17	0						
Glamorgan	51	4			33	4	25	9						
Gloucester	46	10			25	6	24	6	35	11				
Somerset	52	2			29	1	25	4	42	0	48	0		
Monmouth	49	9												
Devon	56	5			26	2	25	2						
Cornwall	56	10			33	5	21	10						
Dorset	51	9			26	6	24	10						
Hants	50	4			27	3	25	8	36	2				

Prices of Hops, Meat, Seeds, Leather, Tallow, &c. for June 1804.

Price of Hops.	First Week	2d Week	3d Week	4th Week
Bags.	*s.* *s.*	*s.* *s.*	*s.* *s.*	*s.* *s.*
Kent — —	100 to 122	100 to 118	100 to 118	99 to 105
Suſſex — —	100 to 116	100 to 112	100 to 112	92 to 100
Eſſex — —	100 to 116	100 to 118	100 to 118	92 to 100
Pockets.				
Kent — —	110 to 130	110 to 126	110 to 126	96 to 108
Suſſex — —	110 to 120	108 to 116	108 to 116	95 to 100
Farnham — —	160 to 200	100 to 160	120 to 160	120 to 160
Seeds.				
Red Clover per cwt. —	40 to 84	30 to 80	30 to 80	30 to 80
White Clover, ditto —	50 to 112	50 to 110	50 to 110	50 to 110
Trefoil, ditto —	24 to 44	20 to 42	20 to 42	20 to 42
Carraway ditto —	— to 75	— to 75	— to 75	— to 75
Coriander ditto —	16 to 20	16 to 20	16 to 20	16 to 20
Turnip, (per buſhel) —	22 to 24	22 to 24	22 to 24	22 to 24
White Muſtard Seed —	8 to 10	8 to 10	8 to 10	8 to 10
Brown ditto — —	12 to 16	12 to 16	12 to 16	12 to 16
Canary Seed	7 to 8	7 to 8	7 to 8	7 to 8
Rape Seed, (per laſt) —	37 to 39	37 to 39	37 to 39	36 to 39
Meat at Smithfield,				
To ſink the offal, p. ſt. 8lb.	*s. d.* *s.d.*	*s.d.* *s.d.*	*s.d* *s.d.*	*s.d.* *s.d.*
Beef — —	4 4 to 5 6	5 0 to 6 0	4 8 to 5 8	4 8 to 5 8
Mutton — —	4 4 to 5 8	4 4 to 5 4	4 to 5 0	4 0 to 4 8
Veal — —	5 0 to 6 0	5 0 to 6 4	4 8 to 5 8	4 6 to 5 6
Pork — —	3 4 to 4 4	3 8 to 4 8	3 8 to 4 4	3 0 to 4 0
Lamb — —	5 0 to 6 6	5 0 to 7 4	6 0 to 7 0	5 0 to 6 4
Head of Cattle—Beaſts about	2,000	1,300	1,700	1,700
——— Sheep	13,500	14,000	14,000	12,500
Price of Leather.	*d.* *d.*	*d.* *d.*	*d.* *d.*	*d.* *d.*
Butts, 50lb. to 56lb. each	21 to 22	21 to 22	21 to 22	21 to 22
Ditto, 60lb. to 65lb each	23 to 24	23 to 24	23 to 24	23 to 24
Merchants Backs —	21 to 21½	21 to 21½	21 to 21½	21 to 22
Dreſſing Hides —	20½ to 22	21 to 22	21 to 22	21 to 22½
Fine Coach Hides —	22 to 24	22½ to 23½	22½ to 23½	22 to 23½
Crop Hides for cutting	21 to 22	21 to 22½	21 to 23	22 to 23
Flat Ordinary —	20½ to 21	20½ to 21	20½ to 21½	21 to 22
Calf Skins, 30 to 40lb. *p.* doz.	32 to 36	30 to 36	30 to 36	32 to 36
Ditto, 50lb. to 70lb. do.	32 to 35	30 to 35	30 to 35	30 to 35
Ditto, 70lb. to 80lb. do.	29 to 31	29 to 31	29 to 31	29 to 31
Sm. Seals (Greenland)	51 to 54	48 to 52	48 to 52	51 to 54
Large do.	51 to 71 10s	51 to 71 10s	51 to 71 10s.	51 to 71 10s
Tanned Horſe Hides	25s to 36s	25s to 36s	25s to 36s	25s to 38s.
Goat Skins *per* doz.		30s to 66s	30s to 66s	30s to 66s
Price of Tallow.	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
St. James's Market —	4 3	4 2½	4 2	4 2½
Clare Market — —	4 3	4 2½	4 2½	4 2
Whitechapel Market —	4 2	4 2½	4 1½	4 1
Per ſtone of 8lb. Average	4 2½	4 2½	4 2	4 2
Town Tallow — —	71 6	71 6	72 0	71 0
Ruſſia ditto (Candles) —	71 0	70 0	70 0	71 0
Ruſſia ditto (Soap) —	69 0	68 0	68 6	69 2
Melting Stuff — —	59 0	58 0	58 0	58 0
Ditto rough — —	39 0	39 0	38 0	38 0
Graves — — —	14 0	14 0	14 0	14 0
Good Dregs — —	11 0	11 0	11 0	11 0
Yellow Soap — —	80 0	80 0	80 0	80 0
Mottled ditto — —	88 0	88 0	88 0	88 0
Curd ditto — —	92 0	92 0	92 0	92 0
Candles, per dozen, —	11 6	11 6	11 0	11
Moulds — — —	12 6	12 6	12 0	12

Prices of Raw Hides, Hay and Straw, &c. for June, 1804.

	First Week	2d Week	3d Week.	4th Week.
Raw Hides.	*s.d. s.d.*	*s.d. s.d.*	*s.d. s.d.*	*s.d. s.d.*
Beſt Heifers & Steers, pr ſt.	0 0 to 0 0	0 0 to 0 0	3 6 to 3 8	3 6 to 3 8
Middling — —	0 0 to 0 0	0 0 to 0 0	3 2 to 3 4	3 2 to 3 4
Ordinary — —	0 0 to 0 0	0 0 to 0 0	2 10 to 3 0	2 10 to 3 0
Market Calf — —	— 0	—	10 6	10 6
Eng. Horſe — —	—s to —s	—s to —s	14s to 17s	14s to 17s
Sheep Skins — —	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0	0 0 to 0 0
Lamb Skins — —	0 0 to 0 0	0 0 to 0 0	2 6 to 3 6	2 6 to 3 6
Prices of Hay and Straw.	*l. s. d.*	*l. s. d.*	*l. s. d.*	*l. s. d.*
St. James's—Hay —	4 7 6	4 6 0	4 0 0	4 4 0
Straw —	1 11 6	1 11 0	1 13 9	1 14 6
Whitech.—Hay —	4 10 0	4 8 0	4 5 0	4 8 0
Clover —	5 8 0	5 8 0	5 7 0	5 6 0
Straw —	1 9 0	1 10 0	1 4 0	1 13 0
Newbury.				
Wheat — — —	38s to 58s od	38s to 58s	35s to 61s od	36s to 61s od
Barley — — —	23s od to 27s	23s to 27s od	23s to 27s od	24s to 27s od
Oats — — —	24s 6d to 27s	24s 6d to 27s	25s to 27s	24s to 28s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s
Saliſbury.				
Wheat — — —	48s to 52s	48s to 54s	48s to 54s	48s to 52s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Barley — — —	24s to 28s od	24s to 28s	24s to 28s	26s to 28s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
Oats — — — —	24s to 28s	26s to 28s	26s to 28s	26s to 29s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s

A TABLE of the Prices of STOCKS in *June*, 1804.

1804	Bank Stock.	3perCt. Red.	3 perCt. Consols.	4 per Ct. Consols	5perCt. Navy.	5perCt. Loyalty	Long Ann.	Short Ann.	Imp. 3 per Ct.	Imp. Ann.	Irish 5 pr.Cent	Omnium	India Stock.	Engliſh Tickets.	Conſolsfor Account.
1							16 3-8					4½ 4 Pm	172	18 5 0	56⅝
2	151	55¼	56⅛	72⅛	91⅝	95⅝	16 ¼	3 1-16	54⅛			4 3¾		18 5 0	56⅝
3	151	55⅛	56⅛	71⅞	91⅜	95⅜	16 ⅜	3 1-16	54¼			4¼ 4¾		18 5 0	56¼
4	151	55	56⅝	72	91¾	95¾	16 ½		54¼			5 4¾		18 10 0	56¼
5		55⅝	56⅝	72	92	95¾	16 ⅝		54¾	9 5-16		4¾ 4¼		18 10 0	56½
7		55⅜	56	72	92¼	95½	16 5-16		54¼			4½ 3½	172	18 10 0	56⅝
8	151	55⅝	55	72	92¼	94¾	16 7-16		54⅝			4½ 4		18 15 0	56½
9	152	55¼	56	72¼	92⅜	95⅜	16 ⅜		54¼			4 3¾		18 15 0	56
11	152¼	55¼	56¼	72	92⅝	95⅝	16 ⅜					3¾ 4		19 15 0	56⅛
12		55⅛	56¼	73⅛	92⅝	95⅝	16 5-16		54¼			4 3½		19 15 0	56
14	152¼	55⅞	55⅞	71⅞	92¾	95½	16 ⅜					5¼ ½		19 15 0	56¼
15	152	55	55⅞	72	92¼	95⅝	16 ¼		54⅛			3½		19 15 0	56½
16		55⅛	56	72	92½	95¼	16 7-16	3 1-6	54½			4⅞ ¼		19 15 0	56¾
18		55	56⅛	72	92⅜	95¼	16 7-16			9 7-16		4¾ ½	172	25 0 0	57
19	153	55		72⅛	62¾	95½	16 ¼		54¼			4¾ 3¾	172		56⅝
23	152¼	55		72	93⅝	95⅝	16 5-16		54¼	9 7-16		4			56⅞
24	153	55¼		72⅛	92⅝	95½	16 ⅜	3 1-16				4			56¾
26		55⅛		72¼	92⅝	95¾									
27															
28															
29															

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

PRICES OF COALS AT THE COAL EXCHANGE, LONDON,
For JUNE, 1804.

Names of Coals.	Mon. 4th	Wed 6th	Frid. 8th	Mon. 11th	Wed 13th	Frid. 15th	Mon. 18th	Wed 20th	Frid. 22d	Mon. 25th.	Wed 27th	Frid. 29th
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d	s. d.	s. d.	s. d.
Adair's Main		43 6										
Baker's Main												
Bedford Main												
Benton	44 9		44	44			44		43 6		42	
Biddick Main												
Bigg's Main	46	45 9		47		46 6			47		46	46 6
Bladon Main												
Blyth									42			
Boundry												
Bourn Moor	42 6				41 3						39 6	39 6
Brandling												
Bowes Main												
Byker												
Bedford												
Chous												
Cowpen	44 6	44 6										
Eden Main		40			41 3							
Eighton Main												
Flatworth												
Greenwich Moor												
Harraton												
Hartley		43 9		43					42 3	42 6		
Heaton Main						47				46	46	
Hebburn Main		46	46	47	46 6					46	46 6	
Holywell	41 9		41 6	42					40	40		
Kenton Main		45 6	46	46 9						45 6		
Montague Main		40							40			
Murton												
Murton Moor												
Newbottle												
New Tansfield												
Old Ducks												
Primrose												
Pitt's Tansfield M	45 3		44 6	45		44 9	44 6	44 6		45		
Percy			40 6									
Rectory												
Ruffel's Main												
Simpsons Pontop			44	44			44 6		43 6		43 6	
Sheriff Hill												
South Moor		36 6								38		
Stanley Main												
St. David												
Team												
Temple												
Percey												
Tyne Main												
Eighton			43									
Walbottle Moor												
Walker	45 9	45 6	45 9		45 9	46			46			
Wall's End	48 6		48 3		48 6	48 6		48 6	48 3	47 6	47 6	
Willington	45 9	45 6	47	47	47							
Windsors Pontop				44							43 6	
Wylam Moor							42			40		
Wentworh												
Whitefield												
Main Wooler												
Warwidk Main												
Warwick												

TO OUR CORRESPONDENTS.

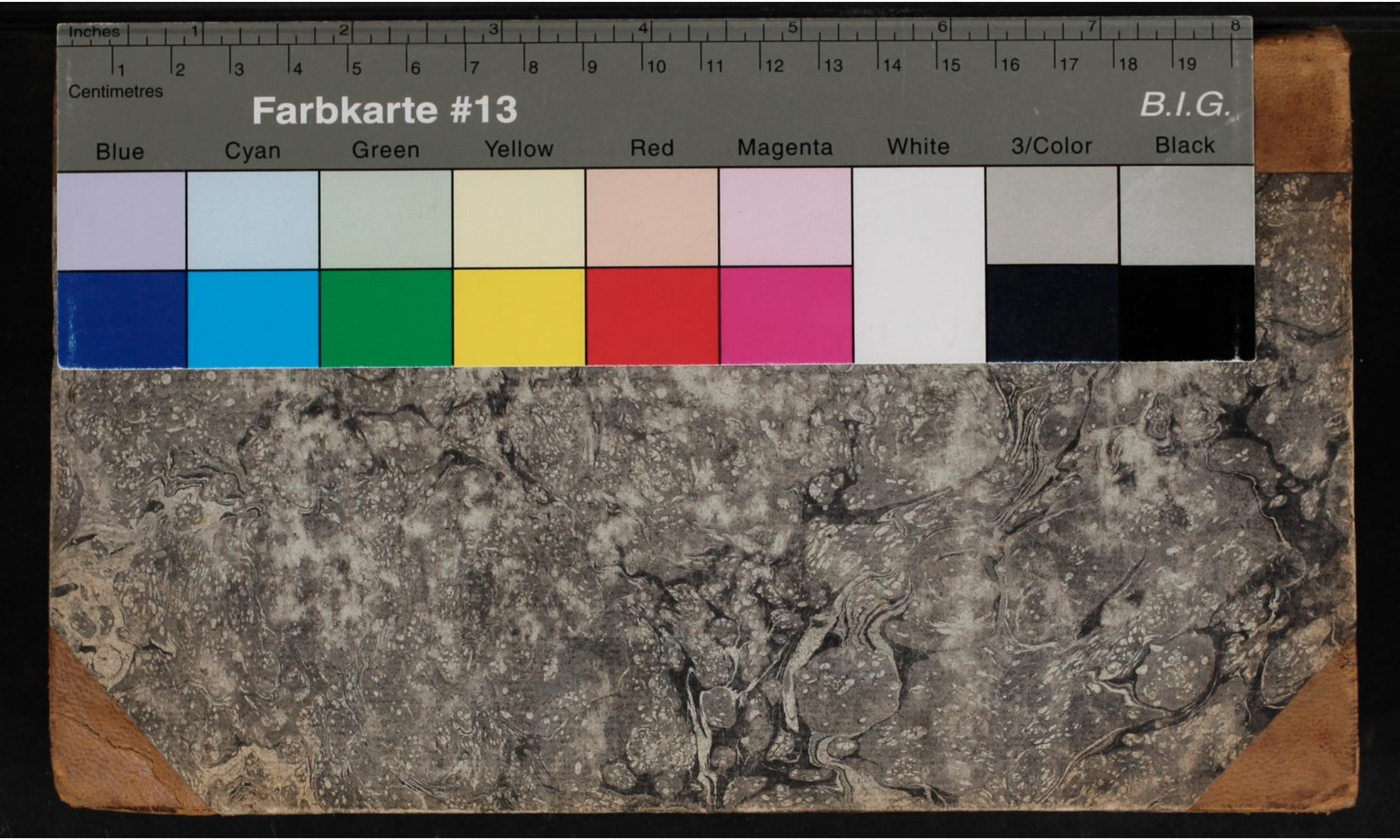
WE are very apprehensive that the few papers we have lately introduced on the subject of Tithes, may occasion a long and elaborate correspondence on an ecclesiastical and political subject, not precisely suited to a work "devoted to Farmers and Rural Affairs." We have no objection to insert a few short and occasional strictures; but we cannot feel ourselves disposed to make it a regular article in our succeeding numbers.

CATO REDIVIVUS should have taken the hint we gave him at the conclusion of our last publication; the additional paper we have received from him, will be punctually delivered to his order.

A. G.—R. L.—C. X. and CHOROGRAPHUS, have been received; the last will be inserted the ensuing month; the others are under consideration.

If VETERINARIUS will refer to the Preface compressed in the present number, he will see the confidence we have placed in his assurances, and we have no doubt the intimation we have given of his assistance will be acceptable to a very large proportion of our Readers.

COMMERCIAL
&
AGRICULTURAL
MAGAZINE


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