GEO ADDL MSS 52
2040

Essay III.

Of the best method of conducting a farm that consists all of grass land.

A Farm that contains nothing but grass appears at first sight to admit only of the most plain and simple conduct, and to exclude variety; but this is a mistake for the profit is very different according to the modes of conduct.

We shall suppose the grass good enough to fat a large Ox; The questions are whether the farmer should apply it to the feeding cows, to the fatting of cattle or sheep; whether he should keep his stock through the Winter as well as through the Summer, and whether he should mow the whole for hay.

If Cows are his stock whether for the dairy or suckling, he must provide winter as well as summer food

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GEO ADDL MSS
32 (2041)

Essay II.

Of the best method of conducting a farm that consists all of arable land.

Farms that consist entirely of arable land are conducted in some few parts of the Kingdom in a very judicious manner; but this not being general a few words on this subject may be of use.

Food is so absolutely necessary in every farm for cattle that no farmer is found without it; what requires examination is the best method of securing it under difficult circumstances.

There is no article in husbandry of such consequence as the just proportion of grassland arable; the common mischief is the having too little of the former, the obvious remedy is the laying down in a masterly manner a sufficient quantity of the arable land to grass.

Many farmers depend upon clover for feeding their horses (the only cattle they concern themselves about) and yet expect to gain a crop every season, and will not give that crop the chance of a fallowing; others others lay a field or two down to grass but in so slovenly a manner, that the constant loss they sustain, is a burthen upon them as long as they remain in their farms.

In the first case they take two, three, four, or perhaps more corn crops and when the soil will yield no more, throw in clover seed and take the chance of a crop; if they succeed in any degree, they plow it up again the first year for harrowing in wheat on one earth

by

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by which short mode of husbandry they run the chance of being defeated in their resource. In the other method of remedying the evil viz. of laying down a field to grass, they take as many crops of corn as the land can yield; after this many of them let it alone to graze itself, never sowing any grass seeds; others who are more industrious throw in some common clover and dray grass which are cheap seeds.

There is no occasion to expatiate on these absurdities, but before we make the following propositions it will be proper to remark that there may be reasons and not bad ones against laying a part of the farm down to natural grass in a sufficient manner; we must therefore for the sake of argument suppose the reasons are good.

The course of Crops most to be recommended to a farm in this situation provided the soil is light enough for turneps is

1. Turneps.
2. Barley.
3. Clover for two years
4. Wheat

A farm in this management is thrown into fifths, two of which are always in clover, half one year and the other two years old, which is grass enough for feeding the necessary cattle; before one year's clover is ploughed up for Wheat the success of the new crop is known, so that if it fails there remains no danger of starving the cattle, for instead of ploughing the last crop for wheat it may remain to answer the demand of the new year; and at the same time the

usual

usual quantity of wheat be sown, which could not be done if one fourth of the farm was only in clover.

In the provision for such cattle as clover will keep, this method fully answers the purpose of natural grass; but clover will not do for all ases; beasts cannot be fatted upon it, nor must Cows be fed on it whose butter is made into pounds to be sold fresh; but for a dairy that pats down the butter salt in firkings or for sucking cows it is excellent; Sheep are better kept and fatted on it than on natural grass. Hogs like it, and it agrees well with horses, it is also remarkably profitable in preparing the land for Wheat, which is sown after it on a single earth, and yields in that cheap method crops equal to those the best fallowed for.

If the turneps are well hoed and managed on the best principles the same good management must be followed in the succeeding crops the clover must be sowed with the barley and then after two years the Wheat is to be sowed.

Turneps and clover require much cattle to consume them; Suppose the farm only 100. acres 40. will be clover, 20. turneps. if four horses and sixteen Cows are kept as the regular stock, these may be allowed 30. acres of clover for their summer food, and will spare enough for a few hogs or sheep to feed after them, the former are best; ten acres mown twice, for hay will serve them in Winter (if the horses are not hard worked) with the assistance of the straw and five acres of turneps;

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there remains consequently 15. acres of turneps, which will winter fatten 25. heifers or Steers of five pounds value each, so that besides horses and swine the Stock of cattle will amount to 200£.

The gaining of good crops of corn must ever depend on possessing plenty of manure, and the course of crops here proposed if well stocked with cattle will raise considerable quantities; and as the ameliorating crops viz. clover and turneps amount to 60. acres and the exhausting ones to only 40. that favourable proportion is another capital advantage to the corn crop.

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40. Acres of turneps and 20. of barnet will winter 500 sheep
66. clover with now and then following the oxen will fatten them in summer.
30. Carrots and 20. of sainfoin hay will winter fat in warm sheds 100. Steers of 50. stone each
30. Cabbages and 20. of natural grass hay will winter 150. load
50. Lucerne for them in summer
20. Cabbages and 20. of clover hay will winter fat 80. steers or heifers of 40. stone.
40. clover hay at 240. tons and 60. of turneps will winter 240. oxen of 60. or 70. stone
480 grass will fatten them in summer.
50. pease and 50. of potatoes with 10. of carrots will fatten 400. hogs in winter
10. carrots with the assistance of a dairy of 50. Cows and the offal corn of the farm yard will winter 20. sows, and wean their pigs throughout the year at the calculation of 200.
20. clover for the sows and pigs in summer.

The straw and stubble of all the corn of this farm are sufficient for littering the cattle, but as they can make more dung straw and stubble ought to be purchased.

By this plan there is

660. acres of tillage applied to fattening and feeding cattle
529. of natural grass.
250. only to wheat and spring corn.

We may venture to assert that the land will by this management be so rich and clean that the corn will be better than many crops of 1000. acres.

The

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The cattle kept in winter are those to which a farmer should look for raising manure; these are

240. oxen.
150. Cows
100. Steers
80. do
30. draught cattle.
600.

These ought to raise in the course of the winter twelve loads per head of dung, such as is such as is carried at first out of the yard before it is rotten, or mixed with earth &c. that is 7.200
400. Swine fatted at two load each . . . . . 800.
20. Sows at five loads each . . . . . 100.
8.100.

But this cannot be done without purchasing straw or stubble regularly, for should the corn land be increased in proportion to the want of straw, the number of draught cattle must also be increased consequently the disproportion would never cease.

The team for carting the year round and extras of other cattle amounting to another, with the team in the two small three wheeled carts will carry at an average 9009. loads per annum at the rates of thirty loads a day for 300. days, which leaves time after removing the farm yard dung, to carry 900. loads of marle, chalk, clay, ditch earth &c. annually.

In general it is advisable to cart a large quantity of marle, chalk, clay, or earth into the farm yard to fodder the cattle upon, after winter

to

to mix that and the dung well together and cart the compost on to the land; the reason it has be varied from that maxim in this particular sketch, is the nature of the vegetables cultivated on this farm, that most require dunging; viz. cabbages and potatoes first; secondly turneps and carrots, and lastly clover; to the annual manuring of 9000. loads we must add 300. waggon loads of town manure; if the farm is within five or six miles many more, as it may go twice a day in summer, or above 900. cart loads, the total may therefore be called 10000. loads annually; which ought to be divided into

100.	acres of cabbages and potatoes at 50. loads an acre.	5000.
120.	turneps and carrots at 30. loads an acre.	3600.
100.	clover (the half) at 14. load an acre.	1400.
		10.000

As this is so thorough manuring the doubling the quantity of clay becomes needless, but in farms where a greater proportion of corn is sown that is absolutely necessary, because raw dung should never be laid on corn land; but is very proper for cabbages and potatoes; yet the addition in so considerable a farm of one team if the objection is thought a good one, is so trifling, that it may be complied with and will enable the farmer to carry 9000. loads of earth &c. annually to the farm yard.

As to the labour necessary the six ploughs will require six men and four boys; the harrowing team requires one man, one boy for rolling; two men for the horse hoeing teams; one man and a stout

lad

lad to the waggon team for bringing manure; and two men for the miscellaneous team.

One man must be ready to drive the ox carting team, and when it is doubled another, or a stout lad will be wanting; a man and a lad will manage very well two sets of the small three wheeled tumbrils, one man to be assigned to the extra horses to work with them at whatever they are set about.

The 500 sheep will require a shepherd, but as they will be kept in inclosures he may also assist with the cows.

The 240. Oxen must have one servant to attend them, in winter he will want the assistance of some of the other spare hands.

The 180. Steers that are winter fatted must be attended by six men and as many boys; if the conveniences are not compleat three times as many hands must be kept for this article.

600 fatting swine and 20. sows with the pigs and young hogs may easily be managed through the winter by three men and two boys, but this also depends upon the conveniences.

The 150. Cows are divided into 50. for the dairy, and 100. for suckling; these will require three men and three boys.

In the dairy one head dairy woman and two others, with the assistance of the boys at milking.

Thus far the servants, labourers and boys are

S.	L.	B.	
6.	0.	4.	for the plough
1.	0.	0.	harrowing team
0.	0.	1.	rolling
7.	0.	5.	carried over

S.	L.	B.	
7.	0.	5.	brought over
2.	0.	0.	horse hoeing
1.	0.	1.	road team
2.	0.	0.	Ox team for sundry carting
1.	0.	0.	Do carting dung &c.
13.	0.	6.	carried over.

S.	L.	B.	
13.	0.	6.	brought over
1.	0.	0.	Extra team.
0.	1.	0.	Shepherd.
1.	0.	0.	the 240. Oxen.
0.	5.	5.	the 180. Steers.
1.	2.	2.	the swine
0.	3.	0.	the Cows.
16.	11.	16.	3a

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In some situations it would be better to have more of them labourers, but in others servants are more advantageous; this depends on circumstances.

By this plan a certain proportion of hands are assigned to each business, but at times some will want more; while the cows are milking and suckling the Cowherd, must take some of the tillage boys, as they are not to be employed in feeding and dressing the draught cattle, they will have time both in the morning and in the afternoon.

Four horses in the teams are to be allotted to a man, for the care in cleaning and feeding, therefore the 16. horses require 4. Men, the 14. Draught Oxen one Man and a stout lad; but the man that drives the road team must have at all times the assistance of a boy as he is to unload his waggon every day. The teams therefore require five men and two boys, so that out of the above table there remains nine men and four boys for any kinds of work both of mornings and Evenings.

The additional labourers that must be employed upon the crops above mentioned, (remains to be proportioned) all the plowing, harrowing, horsehoeing, carting, the drivers, and all the cattle are provided for; the best method of calculating them is by saying what the work will cost, and then divide the sum into labourers annual earnings

	£ s. d
Sowing 150. acres of wheat, 150. of spring corn 100. of turneps, and 100. of clover at 3d. per acre	6:5:0
Water furrowing 300. acres at 6d. per acre	7:10:0.
reaping 150. acres of wheat at 5s. per acre	37:10:0.
mowing 150. acres of spring Corn at 1s. 6d. per acre	11:5:0
carried over	62:10:0

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	£. s. d.
brought over	62: 10: 0.
Thrashing 300. acres of Corn, six quarters per acre 1500 quarters at 1s. 6d. on an average. — — — —	112: 10: 0.
hand hoeing 100. acres of turneps twice at 7s. per acre.	35: 0: 0.
Drawing and throwing into carts 60. acres at 3s. per acre.	9: 0: 0.
planting 50. acres of cabbages at 5s. per acre.	12: 10: 0.
hand hoeing Do. twice at 6s. per acre . . .	15: 0: 0.
Cutting Do. and throwing them into carts at 2s. 6d. . .	6: 5: 0.
Dibbling fifty acres of potatoes at 5s. (each man to be allowed a boy to tie them) . . . — — —	12 :10: 0.
hand hoeing Do. three times at 12s. . . .	30: 0: 0.
N.B. they are ploughed up, the potatoes picked up by boys.	
Sowing 50. acres of carrots. — — — — —	2: 10: 0.
hand hoeing them at 2£. . . . . — —	100: 0: 0.
N.B. in farm not kept so clean from weeds as this it will cost 3£. but that circumstance should not be forgot	
Digging them up, and throwing them into carts at 8s.	20: 0: 0.
hand hoeing 50. acres of lucerne three times at 10s.	25: 0: 0.
Mowing Do. five times raking together, and loading into waggons at 12s. . . . — — —	30: 0: 0.
Mowing, making, and cocking 50. acres of sainfoin at 4s.	10: 0: 0.
Do. 90. acres of clover hay twice at 4s.	36: 0: 0.
Do. 25. acres of natural grass at 5s. . . .	6: 5: 0.
N.B. the most eligible method in so large a farm of having a good stock of hay before hand is to go through the first year with a moderate stock of cattle by which means several large stacks will remain always in hand.	
Carried over	525 :0 :0

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	£	s.	d.
brought forward	525	0	0
Filling and spreading 8100. loads of dung, forty bushels each at 2s. 6d.	50	12	0
N.B. the price of small carts proportioned.			
Filling and spreading 900. loads of ditch earth bs. thirty bushels each at 2½d.	9	7	6
Ditching and hedging 500. perch at 1s.	25	0	0
	609	19	6

As it is mostly piece work suppose each labourer can earn 1s. 3d. per day the year round that is £19. 11s. 3d. per annum; but we will call it £20. the above total is at that rate equal to 30. labourers which is enough in addition to those before mentioned.

Nothing is here allowed for extraordinaries nor for small articles not inserted, as in the first account of labour seven men besides boys are mentioned for winter employment alone, who will fully suffice for extras and unspecified articles.

The general state of land, cattle and labour will appear in the following sketch.

250. acres of wheat, barley and oats.	500. Sheep.	1. Bailey.
50. of pease	420. beasts fatted.	16. Menservants.
250. of turneps, cabbages, carrots and potatoes	150. Cows.	41. labourers.
320. of clover, lucerne sainfoin and burnet	400. Hogs fatted	16. Boys
529. of grass land.	20. Sows	3. Dairy Maids
	30. Draught cattle	
1399. Acres.	1.520 Cattle.	77. persons employed.

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