

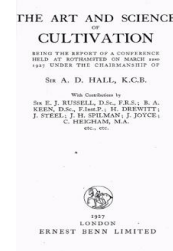
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# The Art and Science of Cultivation

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## Spring Cultivations in the West

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ex-President of the National Farmers' Union, who, after an extensive tour of the district last spring, stated publicly that he was prepared to go into any county in England and say that nowhere had he seen land better farmed than on the Wolds of East Yorkshire.

## SPRING CULTIVATIONS IN THE WEST

By J. JOYCE

*Preston Bowyer, Milverton, Somerset*

IN the successful cultivation of a farm no idea can be entertained of cultivating it intermittingly, spasmodically, or as an off-and-on business.

The farmer's watchfulness, attention and desire to do what is needful to be done must constitute a continuous weight of responsibility on the mind. To do the right thing in the right time, or as near to that time as possible, involves keen personal watchfulness of every operation for every crop, and that attention must be unceasing.

The novel, *Sussex Gorse*, by Sheila Kaye-Smith, which I read a year or two ago, if stripped of its slight exaggeration describes truthfully, I think, what takes place in the life of a successful cultivator of the soil. His care and love for the farm and the continuous pressing forward with the work even when things look their worst is a good description of his life's work.

*Spring Cultivations in the West* must mean, I take it, cultivations applied to the soil by farmers in the West of England from after Christmas each year until the late summer.

Taking over from the autumn in describing spring cultivations, no matter whether in the east or in the west, it must be taken for granted that the previous autumn cultivations on the farm have been attended to and that we take over in January, say, lands that have been properly managed during the previous four or five months. We must assume, for instance, on the heavier land, that that portion of it which has not been planted in the autumn and which is intended for spring crops has been ploughed up rough and deep, so that the hoped-for frost and thaw have what we call "weathered" this exposed soil and rendered it amenable, with a very little scratching, to the production of a fine tilth and an ashy surface.



We must also assume that on the lighter soils, apart from those portions that are in to "leys," root ground seeds and catch crops—and by "catch crops" I mean trifolium, trefoil, vetches, rye, etc.—that those fields which were not clean enough to be thus seeded out the previous spring or last autumn after cleaning—that these also should have been ploughed up, like the heavy lands, in the late autumn or winter, ready for cleaning in the spring or summer.

### *Objects*

The main objects of cultivation are :

To so thoroughly move the entire soil to such a depth that the rootlets growing out of the seed sown or out of the plants inserted will readily and freely be able to penetrate round them, below them and above them, and so be easily able to acquire the nourishment they need, or at any rate to get at what nourishment that particular soil contains for them.

To so pulverize the soil thoroughly and deeply as to leave no hard places in it, but rendering it consistently all alike down to a sufficient depth, so as to increase its powers for the absorption of moisture, and for the retention of that moisture for a good long period in the dry weather.

This stirring and mixing also equalizes and distributes the plant food in the soil, and by hoeing, spudding and other operations to destroy the weeds injurious to plants.

### *Cereal Crops* ✓

We will take, first, the spring cereal crops and the cultivations necessary and helpful to them—cereals such as oats, barley, dredge corn, tares or vetches, etc.

Returning first to our heavy land again, where it has been ploughed and "weathered" by the frosts and thaws. Provided that such natural events have happened to them, and that the month of March is also a genial one—dry, with a few showers—these lands are as easily cultivated for spring cereals as any land you could wish for, but, of course, provided these things have happened.

We just harrow the furrows the same way as it was ploughed, with sharp-tined harrows, and then harrow crossways with the same; we apply, perhaps, a spring tooth harrow a little deeper but not too deeply, then another harrow in front of the drill and a harrow after, and generally we should have a good seed-bed.

On the lighter loams and more friable soils such as the "leys," and where the trefoil or other catch crops were growing, these



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should be ploughed down, and in doing so, all that which was on the top should be turned well underneath. And in the West we have come to use for these light soils the turn-over or one-way plough, either with a digger plate or the longer broadside, and we also use the spiner.

Personally, I use a digger plate always, for everything, and never change them, except for new ones, and nearly always use the spiner.

This ploughing should be performed during the months of January and February. Then in late February and March opportunities in the weather are waited for, and all available teams and horses are out to till the best lands first, the poorer lands a little later; and I may say here that the poorer our land is in heart, or the more deficient it is in residual manures, the more particular we must be in the cultivation, and an ideal seed-bed must be secured in order to grow a crop.

Conversely, the saying exists in the West that a farmer whose land is in tiptop condition and fertility may cultivate and drill his land when he likes and how he likes, and still will grow a good crop. This is not altogether true; but what is true in it is that crops in land which is in good heart will get over difficulties much more easily than those on poor land. But I still hold that no matter how good a condition the land is in, the best that is known suitable for that soil and crop should always be done to it. Although a farmer may get what looks to be a good crop on good land in good heart *put in badly*, yet it may not be a good crop to him; and there is always this unknown factor, What would that crop have been had it been put in in first-class condition?

There is an old saying, and a true one, "Better to be out of time than be out of tune." Better to be late and the crop put in well than to be early and the crop put in badly.

With all spring cereal crops, at the time of drilling the seed the soil should be fine, loose, and well mixed, so that one can easily drag one's toe along the soil to a depth nearly up to the instep, and, if called upon, be able to drag it from one end of the field to the other without coming across any entanglements, hard places, bulges or lumps. What I generally do on entering a field just ready to be tilled is to search for the worst places and try dragging along my toe there, and if my foot will not go easily, then the soil of that field is not fit to take the crop, and further cultivations must be transacted to make it answer this test.

On the land where roots have been during the autumn and winter, and these have been folded down with sheep, there has always been a contention as to what depth this land should be ploughed for spring oats and barley.

Now if the land is otherwise poor except for this crop of roots



which has been grown, and the manure resulting from the same, I have no doubt, to get as much back again as possible in the coming cereal crop, it would be wise, perhaps, to plough only 4 or 5 in. deep, work it with implements at that depth, render it loose and fine, and put in the crop. But where the land is in good heart, and has been previously well managed and farmed, and the soil will allow of it, I prefer the deep ploughing—about 7 or 8 in. even here; mix it all up together, get the soil evenly fine and loose, 6 in. deep, and put in the crop. Now the cereals are in. The only thing that remains to be done to this soil if the weather keeps fine is, before the grain appears above ground, to give it another harrowing, and when it has appeared, and got well up and strong in the blade, we then put in the seeds in the land that has previously been to roots, or in the land that is in rotation for seeds, clover seeds, etc., for hay fourteen months after; while in the remaining part that is not intended for hay the year after the corn is harvested, and yet is free from couch, we seed out in the corn trefoil, at the rate of about 12 lb. an acre without Italian, and 8 to 10 lb. an acre with about 1 peck of Italian.

Cultivations for the seed, provided the corn was put in as described, would be a light roll, sow the seed, then drag light seed harrows or chain harrows over to cover—for the seed should be only just covered—then roll with a rather heavier roller.

#### *Mangold Crops*

Probably the cultivation of beet is similar to that of mangolds, but my experience of beet-growing has been for only three years, and I feel I may have much to learn respecting it.

I maintain that where either mangels or beet are grown, to save expensive hauling, both of the farmyard manure for these crops and also hauling away the roots when grown, a course of cropping should be adopted, and a long-sighted plan should be made for the growth of these crops, so as to save as much long-distance cartage as possible. That would mean that a certain number of fields or parts of fields should be selected near a good road if possible, and also not too far from the buildings where the manure is made; and as mangolds can be grown often on the same land, much economy of labour and expense can be afforded by this sort of long planning.

Personally, I have six fields, all of them abutting on to a good highway—three on one side and three on the other of it—on to which the dung can be carted up in a heap at any time there is to spare. At a place where these six fields converge we place our mangold clamp every year. It is a fairly long clamp to the inside of the road hedge, and we have three gates leading from the road to this clamp—



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one at the far end of the clamp, one at the near end, and one in the middle—and thus we have a hard road to most of the mangold clamp for the purpose of carting the roots both *on to it* and *out of it*, and also the dung for them earlier.

The mangold crop is usually taken in the West after a cereal crop the previous year, although some farmers lately have come to put them in after swedes or kale, fed off late in the spring.

Personally, on a loam fairly light, I grow the mangolds every year after a catch crop of early trifolium and vetches mixed. This trifolium and vetches is the first crop to be tilled the previous August. After the corn is carried, the field is skim-ploughed and rubbed out fine with chain harrows, early trifolium sowed in at the rate of 20 lb. an acre and 1 to 2 pecks of vetches broadcasted by hand. The stubble and any weeds that were rubbed out by the chain harrows are ignored while seeding, then when dry flung about over the surface plant of trifolium. This trifolium crop is begun to be folded about the middle of April. The farmyard manure, which has been carted out in a heap all ready during the winter, is put on it as the sheep leave the folds, and dunging and ploughing about 8 in. deep is kept up to the hurdles with the one-way plough. Part of the field is put in to mangolds about the 7th or 8th of May. The sheep generally have finished and come out on the 10th or 12th May, and the remaining part of the field is got in by the 15th or 16th May.

Those who put their mangolds in after their last pieces of swedes are folded off treat the soil for mangolds in much the same way as I do after the catch crops which I have described.

In a very dry spring, possibly, the mangolds after swedes or kale, or after a winter fallow, would start away a little faster than after the trifolium and vetches, though for thirty years I have followed the other course and never failed to have a fair crop of mangels or a good one.

On heavy land it is very necessary to plough down the dung deeply in late autumn or early winter, and allow the frost, and thaw after, to pulverize it; and I notice the best managers on this kind of land do not give it a lot of spring cultivation, except with the sharp-tined harrows, to get an even, fine surface at a depth of 2 or 3 in., and they generally put in the mangolds at the end of April or just the beginning of May.

With the loams and lighter soils, other than after the catch and swede crops that I have described, the dung may be ploughed down later in the winter or spring, but the ploughing should be as deep as the soil will admit of, up to 8 or 9 in., both where there has been a catch crop and where not. And I like a good deal of stirring and mixing, gradually rising in depth with the implements



to finally shallow harrowing and rolling, and this leaves a fine, loose tilth for 2 or 3 in. only on the top, with the remainder of the 8 in. of soil gradually tightening as it goes down. This can be accomplished by first loosening and mixing the soil as deep as one can without pulling up too much manure in the earlier workings, and with the treading of the horses, and the harrowing and rolling later, this firmness in the bottom and fineness and looseness on top may generally be accomplished.

We drill the mangold and beet crop with drills 18 in. apart, putting in plenty of seed. A harrow over after the drill completes the process of planting.

#### *The Swede and Turnip Crop*

In the far west counties—Somerset, Devon and Cornwall—swedes are not planted until June, and in my immediate neighbourhood, and the red soil from Taunton down to Exeter and below, not generally until nearly midsummer. Common turnips follow in July.

First-class feeding for ewes and lambs in the spring can be got with mixed swedes and kale planted as late as the 10th July, and this date is about the ideal time for turnips if they are not required early in the autumn.

We need not deal with these crops on heavy land, for they are seldom planted in it. On the lighter soils, where the climate is good, early and late trifolium and vetches are often grown as catch crops in the same year previous to these root crops. Personally, I grow mangolds after trifolium, beet after trefoil, swedes and kale after trifolium and winter vetches, and common turnips after vetches and rape sown in the early spring, keeping the whole of the land constantly cropped.

In order to grow roots successfully after catch crops—that is, the two crops in the one year—it is necessary for the plough to follow tightly up to the sheep-folding, and that all the machinery, horses and man power be kept up to the mark; and the farmer himself must be able to “catch” opportunities as they occur, and the land must never be allowed to be foul, although with these crops always growing it is difficult for the farmer to boast absolute immunity from couch.

In the hill country and less favourable climates in the West, where catch crops are not suitable, swedes and kale and turnips are grown after a corn crop has been taken the previous year, with the errish ploughed in the autumn, the land allowed to lie during the winter, and cross-ploughing taking place as early as possible after the cereals in the other lands have been put in



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and teams are available; then after cross-ploughing thorough cleaning of the couch and other weeds takes place, and the land is ploughed often two or three times more, the last ploughing taking place in June for swedes, and the end of June or July for turnips.

This constitutes a thorough pulverization and cleaning of the swedes and turnip land on the hills where a five-course system is generally adopted, and with two years down to temporary grasses and one year to roots and two to corn.

### *Weeds and their Eradication, etc.*

I now deal with the third object of cultivation. A maximum crop cannot be grown on any land encumbered with weeds, so that the killing and clearance of them is absolutely necessary and must be proceeded with. They cannot, as the Scriptures say, be allowed to grow together till harvest.

With the crops that are drilled, such as the root crops, we use the horse-hoe and the hand-hoe, which not only kills these weeds, but also moves and aerates the soil; and the old saying is that the more the roots are pulled about the faster they grow, and the soil also seems better able to retain the moisture in a dry time with plenty of early hoeings.

Corn crops are often pestered with thistles, dock weeds, poppies, wild oats and the charlock plant, and many other smaller weeds of less consequence.

Thistles, if not cut out and fought with, will greatly lessen any crop. I have found the best way to tackle the common thistle in arable land is by constant deep ploughing for all the crops, and then most of them will disappear in time. One never sees the best farmers with a large amount of thistles growing, and it is to this one thing that I principally attribute their disappearance: most good farmers plough and cultivate deeply, or as deep as their soil will admit. My father impressed on me that neither thistles nor coltsfoot could live long on the same farm with a good farmer.

Charlock. I maintain that it is not economy to grow charlock and crops together, even in cereal crops. For myself, if I had now a charlock field—and I had over 20 acres thirty years ago where charlock was as thick as the corn—I should decide on one of two courses: either to get rid of the charlock, or lay down the land to grass.

Charlock can be got rid of, and it will pay for ridding, if arable crops are persisted with; and the same man who gets rid of it will never allow it to get back again, but another man may who comes



after him and who has not seen the successful fight which caused its disappearance.

Docks, of course, are not difficult on most lands, but they need hand-digging and pulling, and to clear them there must be rigid picking after the plough and harrows. The easiest weeds to destroy, I am told, are widow's weeds, for a man has only to say, "Wilt thou?" and they generally wilt.

There are other weeds to contend with, but my time is gone, and there may be questions which I shall be delighted to answer.