but slowly, its real value became developed; choice roots were selected for the propagation of seed; new sorts were raised, and introduced. Originally a bad kind of long "red beet" was all we could get. These in the course of a few years were, by careful selection, crossing, and attention, wonderfully improved; our crops exceeded by from ten to fifteen tons per acre those previously grown, and were produced also with less detriment or drawing of the land, and the roots of far better quality. Soon the red and the yellow globe mangels were brought into notice, followed by the long yellow. These discoveries have caused great advancement in the culture, inasmuch as a variety can now be adapted to almost every soil and climate in the United Kingdom. Indeed, we are now happily situated, and so favourably supplied, that a bad sort is scarcely to be found. Our seedsmen vie with each other in the production of superlative stocks, and the varieties are so good, the roots so fine and heavy, that it is almost immaterial from whom or from whence seed may be procured for sowing. The principal care should be to select a variety to suit the nature of the soil and condition of the land, as to fertility. A rich loamy soil should rather be planted with the best long reds, or long yellows; but capital crops of yellow globes are grown thereon; in fact, such soils are adapted for any good variety. The difficulty is to select a kind to suit a poor soil to advantage. If the soil is thin, but of open texture, I should prefer the yellow globe. I say "yellow," because I have never seen a red variety of equal value with our best yellows; long sorts do not do so well on thin soils. On stiff soils, worked up to a good tilth, any variety will do well; but I think the globes are most suitable, as from their habit of growth they do not send down their roots like the long sorts. I think, however, the long sorts have a slight advantage in their productive qualities. They strike deeper for food, and obtain thereby an increase of weight, but they do not retain their quality like the globes, when kept for spring service. Much is said about the exhaustive character of this crop on the majority of soils. There is common sense in this remark; but if the proper manures are used, and plenty of it, and the crop is fed upon the farm, it becomes mainly a question of cartage as respects the expenses. The return of the manure made by the consumption of this crop in the fold-yard, or it may be in part upon the field where grown, will fully compensate. There cannot be much deterioration of the farm, so long as this crop is fed upon it. Potatoes, on the contrary, are sold off; and yet such is the attention and liberal management bestowed upon this crop, that I venture to assert that, wherever it is extensively grown, the farm has been improved by it. I name this to show that modern ideas of artificial aids can and do in practice overcome all these objections to heavy cropping. It is impossible to continue a course of heavy cropping without adopting such a course. This is one of the "slight improvements" in the culture of mangolds—a further judicious outlay in artificial aids.

The practice now becoming general is—first, the adoption of the ridge system; next, to give a liberal application of fold-yard dung between the ridges; then to follow by a dressing of superphosphate, or guano or blood manure, or other similar manures, or a mixture of two or more of them, which is most approved. This dressing of from three cwt. to four and a half cwt. per acre, to be sown along the ridge upon the fold-yard dung; then ploughed in, and a further dressing of superphosphate, or the like, at the rate of two and a half cwt. per acre, mixed with ashes or decomposed vegetable matter, night-soil, &c., &c., to be drilled in with the seed. In this way surprising crops are produced—almost to exceed belief as an ordinary farm crop in common rotation or course. Another practice is somewhat popular, and is gaining ground. It is to sow about ten cwt. of salt per acre between the ridges upon the fold-yard dung as above. This has likewise been productive of extraordinary crops. Soot is also now added to the salt in many cases, with great success.

The crops I allude to may not be astonishing to market gardeners or amateurs; but when in ordinary farm practice thousands of farmers can produce by applications and such management as I name from thirty-five to fifty tons per acre of these valuable roots, I say it is surprising; and more, it is a more profitable crop than a crop of corn at average prices. It is true tenant farmers must consume the crop on the farm, which materialy lessens its value, but consider the weight of food to be eaten, what a large amount of cattle, sheep, &c., &c., can be thus provided for and supported, what beef and mutton is yielded per acre, what excellent fold-yard dung is made. These courses may be considered expensive, and so they are; but what of that? It is but seldom a failure occurs, and failures do occur in all trades and speculations. It is one of the safest of all outlays of capital. It is simply putting more capital into the farmer's business, for which he will upon the average be abundantly repaid. Mind, it must be judiciously carried out. No pains must be spared to produce the crop, and every care and judgment put in exercise to manage it throughout, so as to make it profitable. One little item in attention to its growth I will name. If the weather is warm and dry, it is good practice to go over the crop ridge by ridge, and apply salt to every sickly plant. I say nothing in this paper relative to its harvesting or consumption. The only thing I wish further to moot is this: I think the whole farming community should endeavour to prevail upon the landlords to permit its sale from the farm, and to induce railway companies to carry this heavy produce upon the same tonnage rates as coals, gravel, stones, &c., &c. This would speedily produce a general demand in every populous town, and form a new department in the farmer's business. Cow-keepers, horse-keepers, and pork-feeders, would only be too happy to become purchasers.—*Mark Lane Express.*

Root Pruning of Indian Corn and Hoed Crops.

Some of our old farmers, who are bound to stick to their old ways of planting corn, will contend that it is a benefit to corn, sometimes, to run the plough so close to the hills that it will tear out roots enough to choke the plough. Such reasoning is perfectly absurd! Indian corn, or any other *annual* plant, never needs root pruning; because they never throw out any more roots than will be useful in promoting the growth of the plant. Therefore every root that is torn off or broken by the plough or hoe, cuts off a source of nourishment for the plant.

Suppose, for example, that we cut off or separate the roots on every side of a hill of corn. Will not its growth be retarded? It seems almost folly to ask such a question. Therefore, just in proportion to the number of roots that are broken off from the hill, will the growth of the plant be retarded. If those were not useful, or absolutely essential to the perfect growth of a hill of corn, they would not be there. And if they be cut off or torn off with a plough, the plant must almost stop growing, and must use the material for forming another system of roots, which would have been employed in promoting the growth of the stalk.

Now, when a farmer runs a plough on each side of the rows of Indian corn, close to them, almost every root will be cut off on two sides of the hills, and only a narow portion of the soil will be left where the hills stand. Then if the plough be run the other way between the rows, the roots will be pruned off on every side of the hills, so that they would appear more like the top of a young tree which had been all browsed off by cattle, than like a hill of corn with long, tender roots.

The argument which the advocates for root pruning Indian corn offer, in favor of the practice, is, "we raised an excellent crop of corn." But nothing is said about the evidence that the crop of corn would not have been much better than it was if it had not been root pruned. Reason and common philosophy both teach us that it is a bad practice to tear off or cut off the roots of annual plants like Indian corn.

Root pruning is never advantageous to any plant or tree, except where it has become old and needs renovating. But there are no circumstances or conditions in which it can be made to appear, that root pruning Indian corn or potatoes is in any way advantageous or beneficial. But the contrary may be easily established.—*Country Gentleman.*

Sowing Forest Seeds.

The time is at hand for sowing some kinds of forest seeds, such as the elm, and red and silver leafed maples. According to the *Forest Tree Culturist* their seeds are ripe in the latitude of New York city from the 1st to the 15th of June.

The elm casts many of its seeds before they are ripe and fit to sow., when thus cast they are of a green color, but when mature they are brown. They are very thin and oval, and much resemble the parsnip seed. The seeds of the maple are well known. They grow in pairs—all varieties—with one long wing projecting from each seed. The seeds of both maple and elm very soon lose their vitality, and should be gathered as soon as ripe and sown immediately, which if done, the litle shoots will rise one or two feet the first season, and elm will even exceed that, under favourable circumstances. They will grow in almost any soil, especially the elm, but the most rapidly in moist, rich ground. The red or soft maple is highly esteemed for cultivation. It is not as valuable as sugar maple, but its rapid growth more than compensates for lightness of quality.—*Wisconsin Farmer.*

Land Measure.—Every farmer, at this season of the year more particularly, should have a rod measure—a light, stiff pole—just sixteen and a half feet long, for measuring land. By a little practice he can learn to step a rod at five paces, which will answer very well for ordinary farm work. Ascertain the number of rods in width and length of a lot you wish to measure, and multiply one into the other, and divide by 160, and you have the number of acres, as 160 square rods make a square acre. If you wish to lay off one acre, measure thirteen rods upon each side. This lacks only one rod of full measure.

Underdraining Land—Its Effects.—Experiments in underdraining land were made in Scotland last year, for the purpose of determining the effect on the temperature of the soil, compared with that in the same vicinity which was not drained. The result was that the draining raised the temperature 1.5 degrees, equal to a removal of the land from one hundred to one hundred and fifty miles south. This is an important consideration connected with the compact, heavy soils, whose retentiveness of water renders them cold and comparatively inert with respect to vegetation. Draining land involves considerable expense, but its increased productiveness soon repays this, besides assuring increased profits for the future.

Slugs.—Mr. Mechi sends the following notes on "Lime as a cure for slugs," to the British Agricultural papers:—"At midnight we sowed lime at the rate of four bushels per acre on the one and a-half acre of wheat which they had attacked. The lime was sown against the wind, and the lantern showed that they were out feeding and had been destroyed by the lime. Not a blade has disappeared since. It is clear to me that we have been neglectful in not applying it earlier. As soon as a few plants were missed, the lime should have been sown. We had, however, attributed the loss of plant to the wet weather. Our attack from wireworm on the light land was at once arrested by the salt dressing, which I have always found a certain cure if taken in time. The damage done by slugs this season has been very considerable, and wireworm, on the light lands, has done much mischief. As it is, half my peck of wheat per acre is uneaten by slug, and the adjoining three pecks per acre will probably be all the better for having been partially destroyed. I have fifty acres of wheat a full plant from one bushel per acre—in fact, some of it would be, in my opinion, better if not sown so thick. It is clear to me that lime should be sown late on a mild night, and against the wind, in order effectually to destroy the slug."

The Barley Question.—It is in the production of malt liquor and ardent spirits, and in the fattening of live stock, that our barley crops are chiefly consumed. We have no doubt that it would be better for the whole community if this grain were more largely used in the form of butcher's meat and greatly less in that of beer or whisky. It has been customary for farmers to look upon distillation as beneficial to them from the ready market which it affords for barley, and more especially for the lighter qualities of this and other grain crops. But this is a very short-sighted view of the matter, for careful calculation shows that when the labouring man spends a shilling in the dramshop, not more than a penny of it goes for the agricultural produce (barley) from which the gin or whisky is made; whereas when he spends the same sum with the butcher or baker, nearly the whole amount goes for the raw meterial, and only a fraction for the tradesman's profits. And not only so, but the man who spends a part of his wages upon strong drink, diminishes both directly and indirectly, his ability to buy wholesome food and good clothing; so that, apart from the moral and social bearing of this question, it can abundantly be shown that whisky or beer is the very worst form for the farmer in which his grain can be consumed. Were the 50,000,000*l.* at present annually spent in Great Britain upon ardent spirits (not to speak of beer), employed in purchasing bread, meat, dairy produce, vegetables, woollen and linen clothing, farmers would on the one hand be relieved from oppressive rates, and on the other have such an increased demand for their staple products, as would far more than compensate for the closing of what is, at present, the chief outlet for their barley.—*Mr. J. Wilson, of Edington Mains, in British Farming*