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Fall Plowing.

A few words on plowing can seldom be unseasonable in an agricultural journal. In other countries the plow is kept at work during the whole year, with few days intermission. The plowman's labours are not so uninterrupted here. We are compelled to take our plow from the furrow for a season, and this necessity makes it the more imperative on us to make the most of our plowing seasons. We, too, have our fall and spring plowing, but our fall plowing does not run into our spring plowing. There is a pretty wide gap between them.

Plowing having from the earliest days of agriculture been in constant operation, it may seem strange it is even now the subject of such different opinions and never-ending controversies. Should plowing be deep or shallow?—Should we plow in fall for spring crops?—Would we not raise better crops if we were by some means to merely loosen the soil, without turning the surface under in the furrow? These and similar questions are still asked.

In considering these questions, or subjects, the question arises—Why do we plow? It is a work requiring the expenditure of much money and labour. We answer—the first object we desire to obtain by plowing is the loosening of the soil. To obtain this, plow, and spade, and hoe have been in continued use for thousands of years. It is necessary to loosen the soil to admit air. Without air there would be no germination of seed. But the germination is not all we require. The germ may die. It is necessary that the soil be loose that the roots may more easily go down into the soil. The plant requires not only to take and keep hold of the soil; from it, it must also take the greater portion of its food. The vegetable and mineral substances in the soil must be decomposed, and for this object air and moisture must have ready access to the soil. Day by day, during the growth of the plant, its roots descend deeper in search of the required food, so that not only is a loosening of the soil necessary, but also that the loosening extend to a sufficient depth. A deep soil—a deeply tilled soil—is sure to yield the heaviest crops, as in it the plant can obtain the most food, such as it requires to make luxuriant growth and abundant yield. There are exceptions to this rule. The surface soil may be rich in plant food. This fertility may be the effects of recent manuring or tillage, or it may be a virgin soil; or at the depth of a few inches there may be a poor, hungry soil, or a stiff, cold clay. It is unnecessary to say that in such instances it would be folly to turn the rich surface soil in a deep furrow, under a soil comparatively barren. Or beneath a shallow surface soil may be in the earth minerals injurious to plant life and growth, as the poisonous oxide of iron. If this soil be plowed deep, it will take years of good culture to remedy the ill done. Plowing deep in such exceptional cases has had the effect of raising up opponents of deep plowing as a general rule.

Fall plowing for spring crops is very beneficial to the soil, and consequently to the crops. The more fall plowing, then, the easier and more expeditiously can the farmer get through his spring work. And this, though a great gain itself, is not the only one. Land plowed in the fall profits to the fullest extent by the ameliorating influence of

the winter—the season designed not merely for rest, but also for improvement. Light soil is not so much improved by fall plowing as heavy clay soils. The frost breaks up their stiff, heavy clods, separating the components and rendering available for plant use the elements of fertility that otherwise would be of much less service. Even to light soils fall plowing does good service. For many years I tilled soils of various kinds, but the greater part strong light soil, which was plowed in the fall, and I always profited by it.

By merely loosening the soil, without turning down the surface, instead of the usual method, very little would be gained. It is claimed that the germ would thrive better in the immediate surface soil, but with proper tillage, the soil far deeper than the seed is the best tilth, and, after germinating, the surface or lateral roots extend throughout it, while the descending or tap roots go down to a greater depth and from it obtain other food than is imbibed by the lateral roots. Besides, plowing—turning down some and bringing up other soil—disturbs the organic parts of the soil to the depth plowed, and thereby provides a more nutritive food for the plants.

Planting Trees.

A subscriber asks for some directions for planting trees—when and how to plant them. Articles on this subject have already appeared in our journal, but as "Subscriber," and other subscribers as well may not have seen them, we will, as briefly as we can to be explicit, give the required information.

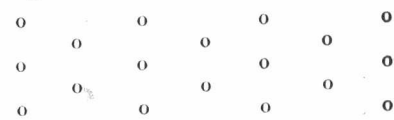
Shade or forest trees may be planted now in the fall, or the planting may be deferred till spring. The latter time is generally preferred. Each has its peculiar advantages. By not transplanting till spring, there is less danger of their being injured during the long winter. We prefer fall planting, if it is well done in land properly prepared, and if there be any shade to break off the winter storms so that they do not disturb the young trees, they having as yet but little hold in the ground, and being apter to be killed by disturbing the roots than from any other cause. The earlier in the fall you plant the better, once the sap has descended from the limbs. This is easily known by the leaves withering and falling.

The ground should be well prepared before planting. It will not do to dig a hole in the hard ground and plant a tree in it. The whole ground designed for trees should be in good tilth. A lot from which roots have been taken the same season is in good condition, or stubble ground plowed before planting, if it be not run out by cropping. Open holes so wide as to spread the roots to their full extent, and having partly covered, pull up the tree a little that the earth may the better settle between them. Fill up the hole and press down firmly with the foot. The same rule holds good in planting evergreens as in deciduous, though with evergreens there is oftener a failure; and there is a greater diversity of opinion as to the best time to plant. If raised in a nursery, there is less uncertainty of their doing well than if brought from the woods. The first transplanting from the seed bed makes the final transplanting safe. Some having had much experience in planting, say that the months of May and August are best for the purpose. I have planted for myself

on a small scale in May, June, August, September and October; of the May and June plantings, a greater proportion failed than in the autumn months, though this may have been in part from having planted more trees in the earlier season.

Of our native trees we can make a very good selection of the varieties to plant. The pine, common cedar, and Canadian balsam among our evergreens, are first in my estimation; the balsam I prefer of the three. I have been more unsuccessful in growing pine taken from the woods than any other tree. Of deciduous trees there are more varieties to choose from. Oak, maple, elm, ash, cherry, walnut and butternut are hardy and valuable for shade and future profit. This does not by any means exhaust the list of valuable trees in our woods, of different ages and sizes for transplanting.

The trees should be planted in straight lines, and each tree in a line be opposite the vacancy in the adjoining line. This planting in the quincunx form has great advantages, especially in plantations designed for shade. It is followed and recommended by modern planters, though it is of great antiquity, having been recommended by Virgil in his work on agriculture, written two thousand years ago. The quincunx form is shown in the figure:



It pleases us to have such queries from farmers. It shows that they see the necessity of transplanting, that farmers are not indifferent to the improvement of the country, and that they see the policy of planting for shade for their cattle and crops, and for beautifying their homes and enhancing their value. To stimulate property owners to engage more energetically in this very useful work, we take from our exchanges throughout the continent brief extracts showing that no branch of farm industry more engages the attention of all classes at the present day than the preservation of the remnants of the old forests, and the planting in towns and highways and on portions of every farm young trees for the present improvement of the country and the supply of timber in years and ages yet to come.

Forest Tree Borers.

In selecting varieties of trees to plant for shade, we should not overlook the question of their being hardy, or being liable to be injured or killed by blight or by borers. Hundreds of locust trees have been destroyed in this neighborhood by the borer, and bare stems and branches are to be seen instead of foliage and blossoms. The insect foes of farmers and gardeners undoubtedly are more destructive than in former years. Even the maple, the Canadian tree, is attacked by a borer, and the borers of each variety of tree, whether for shade or fruit, have characteristics distinct from the borers of other varieties.

From the roots of the destroyed locusts there are young suckers shooting up, but they are liable to be attacked at any time by the same foe. Let us select for planting such varieties as we know are hardiest, and best able to resist the attacks of blight and borer.