

HOME COURSE IN SCIENTIFIC AGRICULTURE

TENTH ARTICLE — CORN CULTIVATION.

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THE methods of corn cultivation in general use in one section of the country differ greatly from those in another section. That certain kinds of cultivators or plows or methods of planting have been in use in Georgia or Iowa for many years does not prove that implements or methods found successful in other states might not be used there to advantage.

Fall plowing cannot be recommended for all soils and localities, but should be more generally practiced than at present. If a cover crop or sod is turned under in the autumn and is decomposed, the amount of plant food available for the crop next summer. This is true to some extent even though sod is not turned under, inasmuch as the simple loosening of the soil admits atmospheric oxygen and increases chemical action upon vegetable and mineral matter. Fall and winter plowing is one of the best methods of combating insect pests. Because the surface of ground plowed in the fall is drier at planting time in the spring than that of ground not so treated, it does not necessarily follow that there is less moisture in fall plowed ground. The fall plowing has enabled the rainfall better to penetrate the subsoil, thus relieving the surface of its excess of moisture. In the spring fall plowed fields usually contain much more moisture, but at the same time have a drier surface than fields which remain unplowed until spring. In sections where there is much rain during the winter it is better not to harrow the fall plowed land in the autumn.



IOWA CORN.

This is especially true of fine clay soils that run together and pack readily. Deep spring plowing and spring subsoiling are likely to result in diminished crops, especially if done after the spring rains.

For a deep, rich soil deep plowing is best, provided it is done in the fall or does not render the soil too loose and dry. For thin clay soils subsoiling is better than very deep plowing. The plowing should not be at the same depth from year to year. A little subsoil turned to the surface occasionally allows the elements to act upon it, liberating plant food, and as it becomes mingled with surface soil and vegetable growth the soil depth will be increased. It is well to plow a little deeper each year for several successive seasons and then for one season give a plowing at about half the depth of the deepest plowing. The plow should be so adjusted that it will turn all the soil and leave the surface smooth. In every instance spring plowed land should be pulverized the same day it is plowed.

Corn planted early most often gives the best yield. Corn sown, of course, not be planted in cold or wet ground, but by good drainage, fall plowing, etc., every farmer should strive to have his land in good condition to plant at the proper time.

Underground drainage will prove most profitable in the end in handling slow, wet land, but as this is rather expensive it is sometimes desirable to use low, flat land for corn before it is possible to have it tiled. Sometimes such fields are plowed in small strips or "lands" 4 to 6 feet wide, and a row of corn is planted on the ridge or back furrow of every "land." This places the plants above surface water and for this reason is satisfactory during wet weather, but the high situation of the stalks is a disadvantage during dry weather. In a method of planting giving general satisfaction for such fields the ground is back furrowed in lands eight feet wide, making thereby dead

furrows every eight feet. On each side and two feet from each dead furrow shallow rows are marked off, and in them the corn is planted.

The labor saved by the use of planters is so great that for profitable corn growing their use is indispensable. Every spring the planter should be thoroughly tested and adjusted.

The proper depth to plant must be governed by the quality and moisture of the soil. If it is a stiff, heavy clay, containing plenty of moisture at planting time, one inch is sufficiently deep, but if it is a light, open, dry soil three or four inches is a satisfactory depth.

Fortify against dry weather by planting the seed in a furrow, covering it slightly, and then gradually cultivating the furrow full of soil as the plants grow. This method of planting is especially well adapted to deep soil where dry weather is likely to prevail during the middle or latter part of the growing season. The lister fulfills the requirements of this method.

The lister is used for planting fields that have been thoroughly plowed and also for planting directly in last year's cornfield or stubble field without previous preparation. This latter practice, however, is not recommended for shallow or stiff clay soils.

Perhaps more corn is now planted by means of a check rower than by any other device. Some successful growers of corn have found it profitable to use two row markers set the same width as their checkrowers.

A proper number of stalks evenly distributed constitute the best stand for the production of ear corn. If planted thicker than this the weight of stover increases and the production of good ears decreases. If planted thinner the weight of stover, as well as of ears, decreases. Small growing varieties should be planted thicker than varieties producing tall stalks. The distance for planting in a particular soil should be decided upon and the planter adjusted to plant accurately and regularly. Spots missed by the planter, as well as those depleted by crows, insects, etc., greatly decrease the yield per acre. The custom of planting many times thicker than the stand of stalks desired is not a good one. If the seed germinates poorly it should not be planted, for, although a stand may be obtained by very thick planting, the stalks will not be thrifty, and a reduced yield will result from using the poor seed. If the seed shows a germination of 97 per cent or more in a thorough germination test and it is then properly planted the stand will be almost perfect unless very adverse weather ensues, in which case all the plants will be so injured that the planting of the entire field again will be preferable to replanting the missing hills and will be more easily accomplished. If a field has been drilled in but one direction and for any reason a poor stand is obtained it can be replanted with a checkrower set to drop one kernel at a time and operated without the tripping chain. The checkrower is driven at right angles to the rows of the first planting and is operated so as to plant just as it crosses each row. For this purpose two men will be required, one to drive and one to trip the checkrower as it crosses the corn rows.

The most successful corn growers realize the importance of thorough early cultivation, thus preventing any check in the growth of the plants because of weeds or crusted soil. Thrifty corn plants are thick, strong and of dark green color.

Horse weeders and harrows should be used when needed to break a surface crust, check insect depredations or kill young weeds that start before the corn is up or large enough to be worked with other implements. During the first cultivation, or while the plants are very small, narrow shovels that throw the soil but very little should be used, and fenders are usually found desirable to prevent the covering of the plants.

Many comparative experiments of deep and shallow cultivation have been made, and, on the whole, the results are in favor of shallow cultivation. If excessive rains have packed the soil and kept it water soaked deep cultivation will help to dry and aerate the soil. Breaking the roots of the plants must be avoided so far as possible. After the plants have reached a height of two or three feet the soil even in the middle of the rows should not be cultivated deeper than four inches, and usually a shallower cultivation will prove better. For retaining soil moisture a loose soil mulch two or three inches in thickness is advisable.

Corn should be cultivated often enough to keep down weeds and to maintain constantly a loose soil mulch till the corn has attained its growth. To this end a greater number of cultivations will be necessary when rains at intervals of about a week cause the surface soil to run together and crust. This crust must be broken and the soil mulch restored or evaporation will soon rob the soil of its moisture.

It is a mistake to think that the longer the drought the more frequent should be the cultivations. After a fine mulch of about three inches in depth has been produced its frequent stirring is not necessary, except in so far as it is required to keep weeds from starting. Many crops are cut short by stopping the cultivation, because the corn is too tall for use of a double cultivator without breaking down the stalks. If the condition of the soil demands it shallow cultivation should continue, even though the corn is tasseling.

It is sometimes profitable to remove weeds by the costly process of hand hoeing and even at as late a date as the silking time of the corn.

With a good riding or walking double cultivator one man can cultivate as many acres as two men with a one horse cultivator.

TAKE NOTE OF HEART BEATS

When That Organ Says "Luff-Duff" It Is Full Time to Take a Vacation.

Do you know what a doctor hears when he sounds your chest and listens to your heart beating?

Your heart, if it is quite sound, makes a noise very like "lub-dup, lub-dup, lub-dup" all the time, Pearson's Weekly says. The two syllables come very quickly together and between each "lub-dup" there comes a pause, the short period when the heart is resting, as it were.

The "lub" sound is due to the blood flowing out of the heart and the "dup" is the closing of the heart's valves. Just by the loudness of these two syllables the doctor knows if your heart is working as it should be.

Supposing the "dup" is very loud, for instance; that tells him that the valves are being "slammed to," just as a door is, and that the pressure is greater than it should be. The cause of this is generally what is known as an "aneurism."

If the valves are not closing properly the doctor hears a sound like "duff" instead of "dup." The heart is then said to have a "murmur," and the physician knows what steps to take to correct it.

When the first sound, "lub," is softened into "luff" it warns the doctor that his patient has something wrong with the mitral valve. The "lub" sound is always very much weaker when one is suffering from fever, and it is this weakness, due to the weakness of the heart muscles, which makes the doctor so anxious at those times.

When the heart says "luff-duff" he tells you to knock off work for a time and have a complete rest, for your heart is in a bad way.

LIKE SO MUCH "DEAD HORSE"

Man Who Paid Debt With Check Will Die in the Belief That He Has Settled Twice.

A man made a bet with his wife—which was indiscreet.

The wife won—which was foreordained.

The man wrote the wife a check for \$5 in payment of the bet—which was sad.

The wife cashed the check at the grocery, but forgot to endorse it—which was natural.

The grocer, despite the lack of endorsement, paid it to a packing house collector—which was careless.

The packing house collector turned it in—which was all in a day's work.

A packing house office man discovered the lack of endorsement—which was good work.

He handed it back to the driver and docked the driver's salary—which was system.

The driver placed the check in his white duck coat and sent it to the laundry—which was unwise.

The laundry mutilated the check beyond recognition—which was unwise.

Which is why the driver asked the cashier to ask the grocer to ask the man's wife to ask her husband to write a duplicate check. Which is why the man feels like he is paying that bet twice.

Animal Training.

Most people have heard of the celebrated calculating horses of Elberfeld, who can do anything up to calculating square roots, in addition to being proficient at spelling. It would now appear, according to the Paris Press, that although these feats are actually performed they are due to a very clever device. An animal trainer has informed the Matin that he has utilized a system of wireless telegraphy for training animals to do all sorts of tricks. The receiver is placed on the horse's bridle, while the trainer or an assistant manipulates the transmitter, and by a code of signals, which are not difficult to teach, the animals can be made to give any desired "answer." It is suggested that this system is used in the case of the celebrated Elberfeld horses. Prior to the utilization of wireless telegraphy, the trainer mentioned employed a method of signals by means of a toothpick.

British Union Jack.

The union jack, the national banner of the United Kingdom of Great Britain and Ireland, is formed out of the combination of the crosses of St. George, of St. Andrew and of St. Patrick, these three crosses being the national banner of England, Scotland and Ireland, respectively. The first union jack, which was introduced by royal proclamation in 1606, three years after the union with Scotland, bore only the crosses of two countries, England and Scotland. This combination was proclaimed in 1707 as the national flag of Great Britain. On the union with Ireland, the cross of St. Patrick, with its four limbs, edged with white on one side, was added.

Sleep is First Necessity.

A very frequent cause of nervousness in many persons is loss of sleep. It gives rise to headaches and neuralgia, and is mainly responsible for a number of other distressing ailments. The man or woman whose sleep is unduly disturbed as the result of heavy mental work, by night watching at the bedside of the sick or through irregular hours of employment, should endeavor to secure a little refreshing sleep whenever possible in order to make up for the loss sustained. For not only will headaches and other ailments develop from sleeplessness, but the nervous system will soon become considerably deranged as a consequence. So be careful upon this point.

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