

HOME COURSE IN SCIENTIFIC AGRICULTURE

TENTH ARTICLE — CORN CULTIVATION.

By C. P. HARTLEY, Physiologist in
Charge of Corn Investigations,
United States Department
of Agriculture.

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 decomposition will increase 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 way it is plowed.

Corn planted early most often gives the best yield. Corn should, 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 low, wet land, but as this is rather expensive it is sometimes desirable to be able to have it tile drained. 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 soils 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.

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How Trees Are Balanced.

A tree grows in perfect balance on every side. When a large branch shoots out on one side one of equal size or two smaller appear on the other. The roots are balanced in the same way, a large branch on one side being matched by a large root. The center of gravity is thus always perfectly maintained.

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W. A. BELL

Lawyer

The Dalles, Oregon

Notice to Creditors

Notice is hereby given by the undersigned, the administrator with the will annexed, of the estate of Ida Wright, deceased, to creditors of said deceased and all persons having claims against said estate to present the same with the proper vouchers to the undersigned at the office of M. R. Elliott, in Prineville, Ore., within six months from the date of the first publication of this notice.

Dated and published first time July 3, 1913.
M. R. ELLIOTT,
Administrator with will annexed of estate of Ida Wright, deceased.

Notice for Publication

Department of the Interior,
Land Office at The Dalles, Oregon,
May 17th, 1913.

Notice is hereby given that Charles A. Stevenson, of Held, Oregon, who on June 29, 1907, and May 8, 1911, made homestead No. 15095, serial Nos. 93141 and 98993, for 3 1/2 sec. 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, township 12, south, range 12 east, Willamette Meridian, has filed notice of intention to make final five-year proof, to establish claim to the land above described, before the county clerk, at his office, at Prineville, Oregon, on the 28th day of June, 1913.

Claimant names as witnesses: Charles Fisher, of Held, Oregon; Harry Bazley, Fisher, C. Logan and Otis Logan, all of Barnes, Oregon.
C. W. MOORE,
Register.

Summons.

In the county court of the state of Oregon for Crook county.

Jack Brogan, plaintiff,
vs.
Philip Brogan, defendant.

To Philip Brogan, the above named defendant: In the name of the state of Oregon, you are hereby required to appear and answer the complaint of plaintiff filed against you in the above entitled action within ten days from the date of the service of this summons upon you, if served within Crook county, state of Oregon, or, if served within any other county in this state, then within twenty days from the date of the service of this summons upon you, or, if served by publication thereof as provided by law, then on or before the

9th day of August, 1913,

and you are hereby notified that if you fail to so appear or answer, for want thereof the plaintiff will take judgment against you for the sum of \$191.12, with interest on \$186.00 thereof at the rate of six per cent per annum from the 31st day of May, 1913, and for the costs and disbursements of this action.

This summons is published in the Crook County Journal for six full weeks in seven consecutive and successive issues thereof, commencing with the issue of June 25th, 1913, by order of the Hon. G. Springer, Judge of the above entitled court, made and entered on the 25th day of June, 1913.

Dated and published first time June 26th, 1913.
M. E. BRINK,
Attorney for plaintiff.

Notice for Publication

(Department of the Interior)
U. S. Land Office at The Dalles, Ore.,
May 19, 1913.

Notice is hereby given that John L. Walsh of Imperial, Oregon, who on April 13th, 1911, made homestead No. 98667, for 3 1/2 sec. 28, and 3 1/2 sec. 33, township 20, south, range 18 east, Willamette meridian, has filed notice of intention to make final three-year proof to establish claim to the land above described, before A. S. Fogg, U. S. Commissioner, at his office at Hampton, Oregon, on the 14th day of July, 1913.

Claimant names as witnesses: Tobias Larsen, Martin Johnson and William Eraser, of Imperial, Oregon, and Joseph Stenkamp, of Bend, Ore.
C. W. MOORE, Register.

Notice to Creditors

Notice is hereby given by the undersigned, the administrator of the estate of Lizzie M. Delano, deceased, to all persons having claims against said estate to present the same, with the proper vouchers to the undersigned at the office of M. R. Elliott, in Prineville, Oregon, within six months from the first publication of this notice.

Dated and published first time July 3, 1913.
A. H. LIPPMAN,
Administrator of the estate of Lizzie M. Delano, deceased.

Sheriff's Sale on Attachment Execution.

Whereas, on the 21st day of May, 1913, by consideration of the circuit court of the state of Oregon, for Crook county, the First National Bank of Bend, a corporation, recovered a judgment against D. V. Mackintosh for the sum of \$674.00 and interest thereon from the 21st day of May, 1913, at the rate of 10 per cent per annum and the sum of \$80.00 attorney's fees and \$17.00 costs and disbursements, in which judgment it was further ordered by the court that the property attached in said action be sold for the satisfaction of said judgment, in the manner provided by law, which judgment was enrolled and docketed in the clerk's office of said court on the 23d day of May, 1913, commanding me to sell the following described real property to-wit:

The ne1 of sec 20, township 17, S. R. 12 E. W. M., and the w1 of the sw1 of section 29, township 17, S. R. 12 E. W. M., and the sw1 of the sec 30, township 17, S. R. 12 E. W. M., all in Crook county, Oregon.

Notice is hereby given that I will, on Saturday, the 26th day of July, 1913, at the hour of 2 o'clock in the afternoon, at the front door of the court house, in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the said D. V. Mackintosh had in and to the above described real property on the 21st day of May, 1913, to satisfy the judgment, costs and accruing costs. Said sale subject to redemption as provided by law.

First publication, June 26, 1913.
FRANK ELKINS,
Sheriff of Crook County, Oregon.

Sheriff's Sale on Execution in Foreclosure.

By virtue of an execution and order of sale issued out of the circuit court for Crook county, state of Oregon, upon a judgment rendered in said court on the 6th day of May, 1913, in a suit wherein S. C. Caldwell was plaintiff and John W. Usher was defendant, in favor of the above named plaintiff and against the above named defendant, for the sum of \$285.85, with interest thereon from the 20th day of March, 1913, at the rate of 10 per cent per annum, and \$50.00 attorney's fees and the further sum of \$12.00 costs, which judgment was enrolled and docketed in the clerk's office of said court in said county, on the 12th day of May, 1913, and commanding me to sell, in the manner provided by law, the following described real property, to-wit:

Lots 4-5, blk 1; lots 12-20, blk 2; lots 1-20, blk 3; lots 6-12, blk 4; lots 5-22, blk 5; lot 18, blk 6; lots 4-13, blk 7; lots 4-9, blk 8; lots 4-11, blk 9; lots 5-12, blk 10; lots 1-2, blk 11; lots 1-14, blk 12; lots 8-14, blk 13; lots 13-14, blk 14; lots 7-13, blk 15, of the town of Harper in Crook county, Oregon.

Notice is hereby given that I have levied upon and I will on

Saturday, the 26th day of July, 1913,

at 2 o'clock in the afternoon at the front door of the courthouse in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the defendant, John W. Usher, had in and to the above described real property on the 5th day of May, 1913, to satisfy said judgment, interest, costs and accruing costs. Said sale subject to redemption as provided by law.

Date of first publication June 26th, 1913.
FRANK ELKINS,
Sheriff of Crook county, Oregon.

Notice for Publication

Department of the Interior,
U. S. Land Office at The Dalles, Oregon,
May 27, 1913.

Notice is hereby given that Walter T. Morris of Post, Oregon, who on November 11, 1907, made homestead No. 15786, serial No. 04250, for section 35, township 17 south, range 21 east, Willamette meridian, has filed notice of intention to make final five-year proof to establish claim to the land above described, before L. M. Miller, U. S. commissioner, at his office, at Paulins, Oregon, on the 5th day of July, 1913.

Claimant names as witnesses: L. W. Bennett and John O. Morris, of Barnes, Oregon, and W. A. Carson and H. S. Morris, of Post, Oregon.
C. W. MOORE, Register.

Sheriff's Sale of Real Estate Under Execution in Foreclosure.

In the circuit court of the state of Oregon for the county of Crook.

J. W. Boone, plaintiff,
vs.
Uri S. Minkler, defendant.

By virtue of an execution issued out of the above entitled court on the 6th day of May, 1913, in favor of the above named plaintiff, J. W. Boone, and against the above named defendant, Uri S. Minkler, upon a judgment against the defendant for the sum of \$1709.85 with interest thereon from the 6th day of May, 1913, at the rate of 10 per cent per annum, and \$150 attorney's fees, which judgment was enrolled and docketed in the clerk's office of said court on the 12th day of May, 1913, and whereas, it was further ordered and decreed by the court that Lots two and three and the east half of the southwest quarter of section eighteen, township fifteen south, range seventeen east of the Willamette Meridian in Crook county, state of Oregon, be sold in the manner prescribed by law, notice is hereby given that I have levied upon and I will, on the

Saturday, July 19, 1913,

at the north front door of the courthouse in Prineville, Oregon, at the hour of 2 o'clock in the afternoon of said day, sell all the right, title and interest the said defendant, Uri S. Minkler, had in and to the above described real property to the highest bidder, to satisfy said judgment, interest, costs and accruing costs, subject to redemption according to law.

First publication June 19, 1913.
FRANK ELKINS,
Sheriff of Crook county, Oregon.
By W. E. Van Allen, deputy.

Strayed

A chestnut sorrel mare branded S- on left hip. Leave word with Journal or Jas. Forrester. 6-5

Professional Cards.

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T. E. J. DUFFY

Attorney-at-Law

(Incorporated U. S. A. Bldg)

Prineville, Oregon

C. C. Brink

Attorney-at-Law

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M. R. Elliott,

Attorney-at-Law

Prineville, Oregon.

Willard H. Wirtz

Attorney-at-Law.

Office in M. R. Biggs' office,
PRINEVILLE OREGON

M. C. Brink

Lawyer

A street, Prineville, Oregon.

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Summons

In the Circuit Court for the State of

Oregon for Crook County.

George W. Watt, Plaintiff,

vs.

George N. Eckler, Defendant.

To George N. Eckler, the above

named defendant:

In the name of the state of Oregon:

You are hereby required to appear

and answer the complaint filed

against you in the above entitled

suit on or before Thursday, the 14th