

# 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 day 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 use low, flat land for corn before it is possible 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. With a good riding or walking double cultivator one man can cultivate as many acres as two men with a one horse cultivator.

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### NOTICE. SALE OF REAL ESTATE FOR TAXES.

I, R. M. Nowell, Ex-Sheriff of Johnston County, N. C., will on Monday, the 5th day of May, 1913, at the Court House door in the town of Smithfield, N. C., at 12 o'clock M., offer for sale to the highest bidder for cash, the following named real estate to satisfy the taxes for 1912: WILSON'S MILLS TOWNSHIP.

Geo. H. Barber heirs, 150 acres 14.82 Colored.

Isham Boylan, one lot ..... 10.62 John Carroll, one lot ..... 7.64 Lugenia Judd, one lot ..... 3.90 Lin McCullers, one lot ..... 10.22 Pearl Richardson, one lot, .... 9.48 L. R. Richardson, one lot, .... 8.25 CLAYTON TOWNSHIP.

T. L. Ferrell, one lot, ..... 11.13 J. T. Hinton, three lots, ..... 15.00 T. B. Johnson, 1/2 acre, ..... 4.54 Mrs. Rosa Moore, one lot ..... 7.82 W. E. Stallings, one lot, .... 10.60 Colored.

J. L. Byrd, one lot, ..... .97 Clara Cook, one acre, ..... 1.24 James Campbell, one lot, ..... 4.00 Ruffin Cook, one lot, ..... 1.36 A. A. Holder, one lot, ..... 5.10 Cicero Jones, 8 acres, ..... 3.93 Richmond Jones, 100 acres, .. 7.90 J. A. King, one lot, ..... 7.41 Frank Lee, one lot, ..... 4.00 Major Sanders, one acre, ..... 10.89 Pleasant Sanders, 25 acres, .. 8.31 John T. Sanders, one lot, .... 11.79 Robert Sanders, one lot, ..... 6.11 Tony Sanders one lot, ..... 5.55 Della Vinson, one lot, ..... 2.35 PLEASANT GROVE TOWNSHIP.

Louis Rogers, 8 acres, ..... 3.99 A. B. Curran, 22 acres, ..... 1.15 BANNER TOWNSHIP.

Laura Dannenberg, 4 acres, .... .88 J. R. McLamb, one lot, ..... 1.27 Nathan A. McLamb, 11 acres, 3.46 MEADOW TOWNSHIP.

Frank and Robert Barefoot, 7 acres, ..... 1.00 Marceline Denning, 70 acres, .. 2.80 W. J. Lee, 40 acres, ..... 1.90 G. W. Neighbors, 130 acres, 4.75 William McLamb, 18 acres, .... 1.76 BENTONVILLE TOWNSHIP.

J.M. Cruseberry, 57 acres, .. 2.53 INGRAMS TOWNSHIP.

H. I. Marler, 100 acres, ..... 3.34 R. H. Marler, 52 acres, ..... 2.12 Mrs. S. E. Moore, 21 acres, .... 1.39 Willie Stanley, 10 acres, ..... 1.01 W. E. Nixon, Col. 51 acres, .... 1.75 BOON HILL TOWNSHIP.

John T. Creech, Sr., 45 acres .. 3.41 Enoch Langley, 2 acres, ..... 1.10 A. E. Phillips, 100 acres, ..... 3.10 R. T. Renfrow, 42 acres, ..... 5.20 Condary Starling, ..... 1.10 Colored.

George Coley, 1/2 acre, ..... 1.75 Major Reid, one acre, ..... 4.10 BEULAH TOWNSHIP.

Mrs. R. D. Batten, one lot, .... 4.70 Mrs. Polly Creech, 25 acres, .. 2.20 Grover Creech, 15 acres, ..... 1.60 R. H. Crocker, 35 acres, ..... 2.50 Mrs. J. H. Hawkins, 100 acres, 12.02 David Lucas, 45 acres, ..... 2.80 J. W. Mozingo, 17 acres, ..... 2.20 Leonard Pace, 15 acres, ..... 1.45 James L. Pittman, 18 acres, .. 2.50 Ella R. Pittman, 8 acres, ..... 1.15 Sanders & Davis, 65 acres, .. 3.70 Willie T. Woodard, 48 acres, 2.80 C. R. Watson, one lot, ..... .96 L. A. Kirby, Col, one lot, ..... 1.00 ONEALS TOWNSHIP.

J. H. Aycock, 100 acres, ..... 4.13 Ellington Boykin, 24 acres, .... 1.54 W. I. Green, 54 acres, ..... 3.16 Charlie Hicks, 25 acres, ..... 1.90 J. R. Staniel, 89 acres, ..... 4.71 Nancy Taylor, 60 acres, ..... 2.86 Henry G. Tisdale, 60 acres, .. 3.43 J. A. Wheeler, 116 acres, ..... 5.50 Liba Yarborough, 30 acres, .... 2.08 WILDERS TOWNSHIP.

J. H. Green, 43 acres, ..... 3.80 W. H. Hicks, 89 acres ..... 12.20 J. B. Joyner, 50 acres, ..... 4.30 Latimia Lumber Co., Timber lands, (\$10,000) ..... 90.70 O L. Rawling, 433 acres, .... 31.22 John Wall, 80 acres, ..... 5.74 T. R. Watson, 70 acres, ..... 5.73 Florence Wiggins, 80 acres, .. 6.10 SELMA TOWNSHIP.

Nannie J. Bailey, one lot, ..... .99 Zettie Brown 9 acres, ..... 2.82 W. G. Best, one lot, ..... 4.76 A. C. Carter, 1/2 acre, ..... 2.50 J. E. Crocker, one lot, ..... 2.40 Mrs. A. G. Edgerton, one lot, .50 Sadie Johnson, one lot, ..... 4.30 Mrs. L. L. Liles, one lot, ..... 11.30 Wm. McLean, one lot, ..... 1.97 John McNeil, one lot, ..... 3.10 W. Narron, two lots, ..... 3.10 W. B. Parrish, 10 acres, ..... 4.10 N. V. Richardson, one lot, .... 1.29 W. D. Starling, one lot, ..... 5.05 Temple & Liles, 9 lots, ..... 3.40 W. H. Watson, 1/2 acre, ..... 5.91 Colored.

Carter Archer, one lot, ..... 4.20 Thomas Atkinson, one lot, .... 5.50 Amanda Baggett, one lot, .... 3.69 Milla Barnes, one lot, ..... 1.90 D. C. Bell, one lot, ..... 7.13 Daniel Burwell, one lot, ..... 4.30 Willis Berch, one lot, ..... 4.30 Amanda Chamblee, 5 Acres, .... 2.20

Victoria Douglass, one lot. .... 4.30 Charlie Duncan, one lot, ..... 2.52 Jim Farley, two lots, ..... 7.90 John Holder, two lots, ..... 5.98 Sam Horton, one lot, ..... 7.14 Gaston Jones, one lot, ..... 1.90 T. A. LaSaine, one lot, ..... 13.09 Julia Lassiter, one lot, ..... 1.90 Julia Parham, one lot, ..... 3.70 Frank Pettway, one lot, ..... 4.30 Dock Richardson, 30 acres, ... 3.81 D. R. Richardson, one lot, .... 3.58 J. M. Richardson, one lot, ..... 6.55 Royster Richardson, one lot, ... 1.90 LeRoy Richardson, 3 acres, .... .97 Algie Sanders, one lot, ..... 6.75 J. H. Sanders, one lot, ..... 1.30 Han Smith, two lots, ..... 3.58 Sam Smith, one lot, ..... 6.55 Jerry Staniel, 24 acres, ..... 5.45 PINE LEVEL TOWNSHIP. Millard Pittman, 26 acres, ..... 1.90 SMITHFIELD TOWNSHIP. W. H. & R. I Lassiter, 1 lot, 36.70 Colored. Lucy Atkinson, dec'd. Col., 33 acres and 4 lots, ..... 62.50 Handy Allen, one lot, ..... 3.78 Bettie Alford, one lot, ..... 19.27 Dollie and India Alford, one lot 6.68 John Barber, 9 acres, ..... 3.70 Emma Bridges, one lot, ..... 5.79 Willis Cole, one lot, ..... 10.67 James Dublin, one lot, ..... 1.70 Monroe Dublin, one lot, .... 4.13 Richard Ennis, one lot, ..... 10.15 Thurston Frazier, one lot, .... 11.13 D. L. Grady, one lot, ..... 8.88 Harvey Hodges, one lot, ..... 8.39 Buck Hastings, 1/4 acre, ..... 5.96 John H. Jones, one lot, ..... 17.29 Emily Kennedy, one lot, ..... 5.50 Walter Lassiter, 1/4 & 1/8 acres, 15.45 John Lassiter, one lot, ..... 7.86 Will Lee, one lot, ..... 5.06 Mary Morgan, 9 1/2 acres, ..... 3.70 Oscar Merritt, one lot, ..... 10.32 John Sanders, one lot, ..... 1.60 E. D. Sanders, one lot, ..... 1.30 Isaac Smith, 1/2 acre, ..... 8.32 James M. Smith, one lot, .... 8.65 Bynum Whitfield, one lot, ..... 2.21 This April 8, 1913. R. M. NOWELL, Ex-Sheriff Johnston County.

### SALE OF TOWN PROPERTY FOR TAXES.

I, J. H. Parker, Tax collector for the town of Selma, N. C., will on Saturday, May 24, 1913, at the court house door in the town of Smithfield, N. C., at 12 o'clock M., offer for sale to the highest bidder for cash the following named real estate to satisfy the town taxes for the year 1912. L. E. Atkinson, one lot ..... 2.70 Robert Atkinson, one lot ..... 5.20 Lula May Barrow one lot ..... 5.70 Carolina Tel. & Tel. Co., Line and office fixtures, ..... 5.70 T. G. Seay, three lots ..... 2.70 Mrs. Minnie Griffin one lot ..... 2.40 W. G. Best, one lot ..... 2.45 D. C. Bell, one lot ..... 5.45 Victoria Douglass, one lot ..... 4.20 Charlie Duncan, one lot ..... 3.45 Jim Farley, one lot ..... 5.70 Sophia Green, one lot ..... 1.20 Gilbert Gilmore, one lot ..... 5.70 Sampson Hinton, one lot ..... 5.45 John Holder, one lot ..... 4.95 C. C. Hathaway one lot ..... 5.45 Robert Hinton, one lot ..... 5.95 Wayland Jones, one lot ..... 6.20 W. S. King, three lots ..... 17.70 T. A. LaSaine, one lot ..... 7.95 Temple Lassiter, one lot ..... 3.45 John Lane, one lot ..... 5.45 Walter Morgan, one lot ..... 2.70 Julia Parham, one lot ..... 2.45 Frank Pettway, one lot ..... 4.20 Isaac Price, one lot ..... 2.45 Caroline Richardson, one lot ..... 1.83 John D. Turner, one lot ..... 6.6 Daniel Watson, dec'd 2 lots ..... 5.70 This April 24, 1913 J. H. PARKER, Town Tax Collector, Selma, N. C.

### WOOD WANTED.

We want to buy one thousand or more cords of round pine wood not split delivered at Smithfield at the lumber mill. Good price for delivery now or later. Write us, phone us or call to see us. RAND & LAWRENCE, Smithfield, N. C.

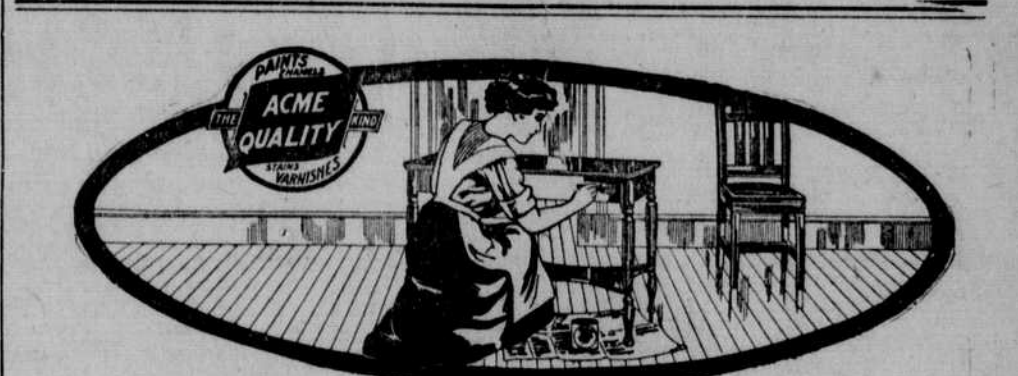
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