

Scientific Farming

THE CORN ROOT WORM.

Thorough Cultivation an Aid in Checking Ravages of This Insect.

The destruction of the corn root aphid causes heavy losses to farmers every year. This insect belongs to the sucking class of true bugs and does its work on the roots of the corn plants, where it sucks the life out of the plant. Being mostly underground, it is difficult to reach with insecticides.

Land sodden because of water with these aphids until the second or possibly third year. If therefore a three or four year rotation is practiced in which corn appears only once there will be but little damage done by the insects. Then too, the proper fertilization of the soil is of great importance, as it often enables the corn to make a crop in spite of the aphids.

It is a good plan to plow the land, which is intended for corn the second year, as late in the fall as possible



CORN DAMAGED BY ROOT WORM.

and as deeply as possible, in order to break up the aphid nests. A couple of good, thorough, deep cultivations during the month of April will also help to hold them in check. This will also assist in destroying the weeds, which serve as a starter for the aphids in the spring.

Various kinds of materials have been tried with a view to finding something that would act as a repellent and so prevent the bug from attacking the plants. We have found that a hundred pounds of wood per acre drilled in the row at the time the corn was planted served almost completely to protect the plants, but owing to the European war it is quite likely that it will be difficult to get kind this season. Dr. S. A. Forbes of Illinois has found that by mixing the seed corn with a solution of oil of lemon and wood alcohol the loss was very much reduced. This was prepared for use by mixing one part of the oil of lemon with ten parts of alcohol, and three ounces of this mixture were thoroughly mixed with gallon of corn. This did not injure the germination any to speak of. The expense was only about 19 cents per acre. At the present price of the oil of lemon the expense would be even less. Either of these remedies is recommended, especially on black ground, where the aphid is commonly found. J. Troop, Chief in Entomology, Purdue Agricultural Experiment Station.

CLEAN POTATO SEED.

Of Prime Importance in Saving This Valuable Root Crop.

An organized movement is now on in Wisconsin to secure the cooperation of growers in the planting of only clean potato seed. The soils of Wisconsin have not been found to be in any way affected with such dangers as black wart and powdery scab, and the leaders in this campaign are determined, if possible, to keep such diseases out of the state.

But in common with every other large potato producing center of the country, Wisconsin growers have certain minor difficulties with which to contend. Certain of these, however, can be eliminated by careful field selection or roguing and by bin sorting.

As the planting season approaches it is therefore highly desirable that every grower determine whether his stock meets the present standard, which can be met in part at least by proper selection.

Hauling Out Manure.

The spreading of barnyard manure as it is produced is the ideal practice to follow under ordinary farm conditions, and it should be much more generally followed than it is. It seems difficult for many to realize that every ton of barnyard manure placed on the soil before it has lost much of its value through exposure to the weather is worth on an average \$2.50 per ton through the increased crops following such application. This fact has been conclusively demonstrated by the most careful experimental work.

The Cow, Past and Present.

We should abandon some of our old time notions and study the past and compare the past with the present cow. Thus we may understand why the present cow needs better care and feeding than did her ancestors.

ALFALFA PROVERBS.

Alfalfa is the best soil doctor, and it adds humus to the soil. Alfalfa increases the milk flow. Alfalfa is high in feeding value and fattens the corn raised. Grow your alfalfa—don't buy it. Alfalfa soil grows larger corn crops.

Alfalfa is the greatest of all soil doctors and has no equal as a soil doctor.

Alfalfa keeps stock in good condition and should be grown on every farm where it can be grown.

An alfalfa field is a hog's idea of heaven.

Water is the greatest enemy of alfalfa.

Growing alfalfa is good farm management.

Alfalfa does things and never looks on the job. With a fair chance it always makes good.

Alfalfa fits the hay mow and goes for the privilege. It is the cheapest and best feed for beef and cattle.

Alfalfa grows larger yields than the crops that follow. It contains more protein to the ton than clover or corn.

Alfalfa is the agricultural wonder of the twentieth century. It yields from two to three times as much as clover or timothy and is more valuable than hay.

PRODUCTION OF HONEY.

Beekeeping Can Be Made a Profitable Side Line on Most Farms.

Every farmer should raise bees. This is the opinion of George A. Dean, professor of entomology in the Kansas State Agricultural college.

Bees, according to Professor Dean, are easier to care for than chickens and yield much better returns on the investment. Children in their teens can care for bees and will enjoy doing it. From eight to fifteen colonies are the right number for the average farmer, ten being usually preferable to a larger number and still fewer being desirable to start with. For the ordinary farmer bees should be regarded as a necessary side line, just as are chickens or fruit.

The equipment cost for five colonies of bees is about \$70. There are now at a conservative estimate, 200,000 colonies of bees on 20,000 Kansas farms. The sale value of these bees would be approximately \$1,000,000, while the annual yield of honey has a value of the same amount.

The highest yield among the states of the Union in honey production is made by California.

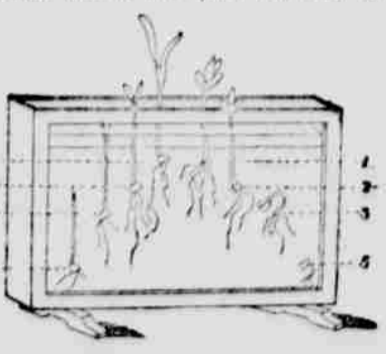
The largest apiculture in Kansas are in the alfalfa fields as alfalfa offers one of the best honey yielding materials. Alfalfa is also suitable, as is sweet clover, which may be grown to advantage in western Kansas. In fruit growing areas are practically essential because of the aid they give in pollination. This is the case particularly with the apple.

HOW TO PLANT SEEDS.

Prepared by United States Department of Agriculture.

The method of planting seeds has much to do with the results. Seeds which are small and fine must not be deeply covered with earth, for if they are the weak germ which they contain will not be strong enough to reach the air and light. Large seeds, however, which contain a considerable quantity of stored material, as in the case of peas and beans, may be planted quite deeply.

The proper depth of planting can be nicely illustrated by the device shown herewith, which consists of two panes of glass placed about one-half inch apart and held in this position by a wooden frame, the space between the



DEVICE SHOWING PROPER DEPTH TO PLANT SEEDS.

two panes being filled with earth into which the seeds are dropped and held against the glass. Beginning at a distance of five inches from the top of the glass, place a kernel of corn, on top of this place a layer of earth and continue at intervals of one inch until a series of seeds rest against the glass from five inches below to within one-half inch of the surface. Try seeds of beans and peas in like manner and note the ability of the different seeds to reach the surface of the soil when proper moisture and temperature conditions are maintained. This apparatus will give an idea of the rate of germination at different depths of soil and of the power of the different plants to force their way to the light.

The panes of glass of which the device is constructed should, except in times of observation, be kept covered with dark colored blotting paper or by sheets of tin or other light proof material to keep the growing seeds constantly in the dark.

Notice to Contractors.

Sealed proposals, addressed to the County Court of Tillamook County, Oregon, and indorsed "Proposals to Complete W. S. Cone County Road" in accordance with plans and specifications thereof on file in the office of the County Clerk of Tillamook County, Oregon, will be received by the County Court of said County, at its office, in the Court House, at Tillamook City, Oregon, until the hour of 10 o'clock A. M. on the 8th day of May, A.D. 1915, and at that time and place publicly opened and read.

Each bid shall be accompanied by a certified check on some responsible bank in the State of Oregon, in the sum of 5 per cent of the total bid enclosed therewith, said check shall be made payable to the County Clerk of Tillamook County, Oregon, to be held as liquidated damages in case the bid be accepted and the bidder shall fail to enter into the contract, and file therewith the necessary bond for the faithful performance of the work, within 5 days from the date of receiving notice from the County Court that the contract is ready for signature.

All bids shall be made on blank forms furnished for such purpose by the County Court; must state plainly the price of each item of work bid upon and must be signed by the bidder and also state his business address.

The successful bidder will be required to furnish a surety bond satisfactory to the County Court, for the faithful performance of the work, in the sum of 10 per cent of the entire amount of the bid.

Each bidder shall be required to satisfy himself, by examination, the location, nature and extent of the work to be performed, and all bids are to be compared on the basis of quantities shown on the bidding blanks and as included between Station

43 plus 00 to Station 46 plus 00 of the said road survey.

Upon the deposit of \$5.00 a set of plans, specifications, forms for proposal, contract, and bond, may be obtained at the office of the County Clerk.

The right is reserved to reject any or all proposals, or to accept any proposal or proposals as may be deemed best for Tillamook County, Oregon.

By order of the County Court,
Dated this 20th day of April, 1915,
J. C. Holden,
County Clerk.

Notice to Contractors.

Sealed proposals, addressed to the County Court of Tillamook County, Oregon, and indorsed "Proposals to Complete the Blum-Hamlock County Road Improvement," in accordance with plans and specifications thereof on file in the office of the County Clerk of Tillamook County, Oregon, will be received by the County Court of said County, at its office in the Court House, at Tillamook City, Oregon, until the hour of 10 o'clock A. M. on the 8th day of May, A.D. 1915, and at that time and place publicly opened and read.

Each bid shall be accompanied by a certified check on some responsible bank in the State of Oregon, in the sum of 5 per cent of the total bid enclosed therewith, said check shall be made payable to the County Clerk of Tillamook County, Oregon, to be held as liquidated damages in case the bid be accepted and the bidder shall fail to enter into the contract, and file therewith the necessary bond for the faithful performance of the work, within 5 days from the date of receiving notice from the County Court that the contract is ready for signature.

All bids shall be made on blank forms furnished for such purpose by the County Court; must state plainly the price of each item of work bid upon and must be signed by the bidder and also state his business address.

The successful bidder will be required to furnish a surety bond satisfactory to the County Court for the faithful performance of the work, in the sum of 50 per cent of the entire amount of the bid.

Each bidder shall be required to satisfy himself, by examination, the location, nature and extent of the work to be performed, and all bids are to be compared on the basis of quantities shown on the bidding blanks and as included between Station

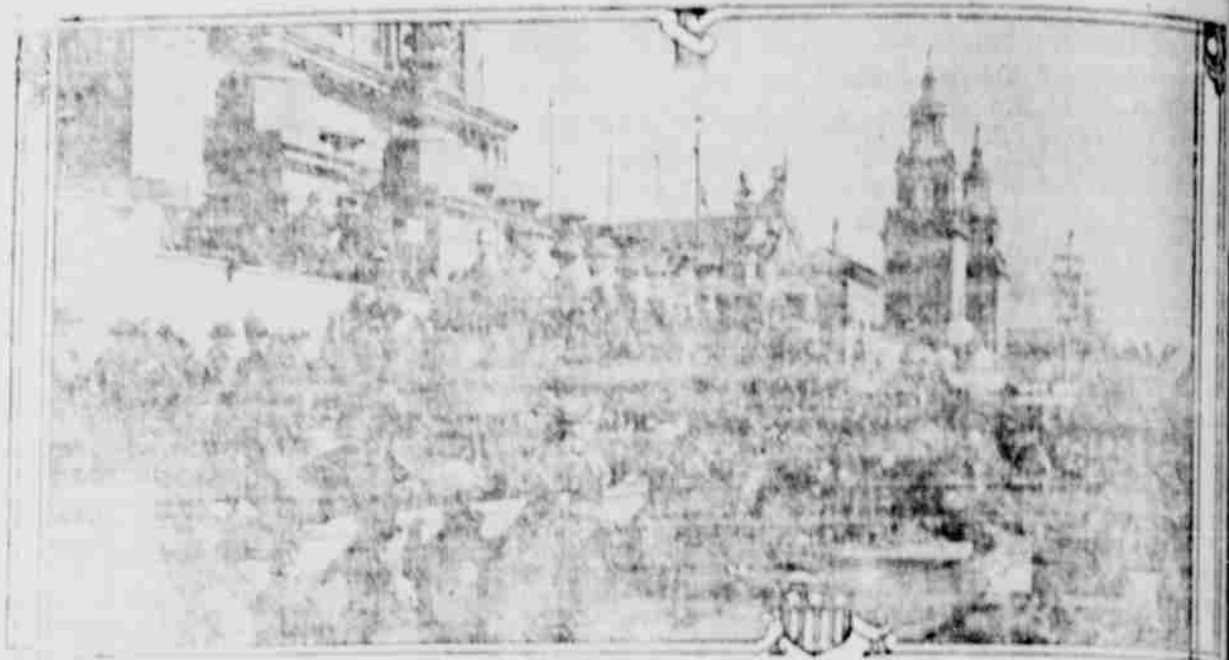
00 plus 00 to Station 24 plus 46.5 of the said road survey.

Upon the deposit of \$5.00 a set of plans, specifications, forms for proposal, contract, and bond, may be obtained at the office of the County Clerk.

The right is reserved to reject any or all proposals, or to accept any proposal or proposals, as may be deemed best for Tillamook County, Oregon.

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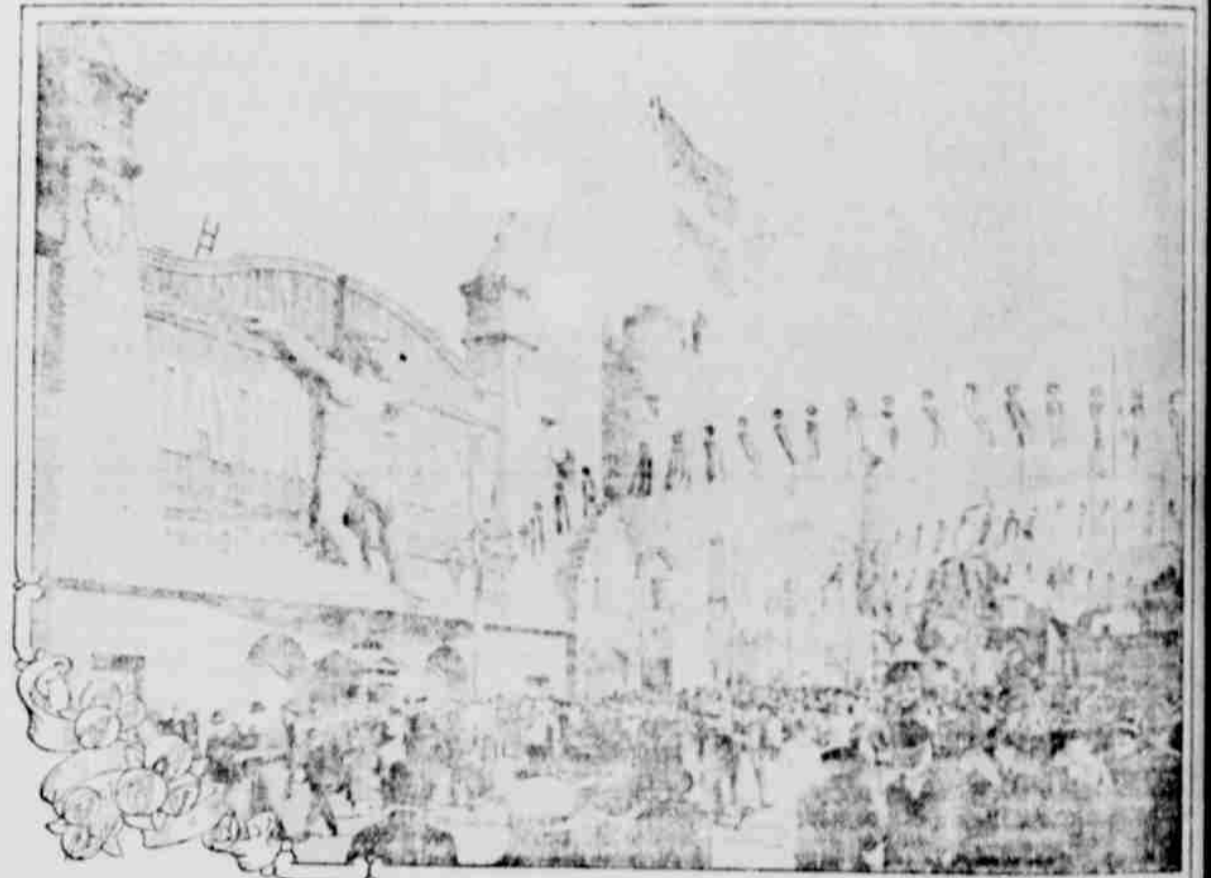
President Charles C. Moore Making the Official Opening Day Address at the Panama-Pacific International Exposition Feb. 20



HANDSOME BOOK ON PANAMA CANAL AND THE EXPOSITION FREE FOR THE ASKING.

A color book illustrating in colors and dealing with the Panama Canal, the Panama-Pacific International Exposition, San Francisco and California will be sent free of charge to any address by addressing the Manager, The Division of Publications, Panama-Pacific International Exposition, San Francisco.

Crowds on the Fun Zone at the Panama-Pacific International Exposition



VAST crowds throng the Fun Zone, the amusement and concessions section of the Panama-Pacific International Exposition at San Francisco. The Dayton Flood is shown on the left, the Chinese Village and Tropical Grove on the right. The Exposition is breaking all world's attendance records.

Dated this 20th day of April, 1915,
J. C. Holden,
County Clerk.

Notice to Contractors.

Sealed proposals, addressed to the County Court of Tillamook County, Oregon, and indorsed "Proposals to Complete part of Berrocan County Road Improvement," in accordance with plans and specifications thereof on file in the office of the County Clerk of Tillamook County, Oregon, will be received by the County Court of said County, at its office in the Court House, at Tillamook City, Oregon, until the hour of 10 o'clock A. M. on the 8th day of May, A.D. 1915, and at that time and place publicly opened and read.

Each bid shall be accompanied by a certified check on some responsible bank in the State of Oregon, in the sum of 5 per cent of the total bid enclosed therewith, said check shall be made payable to the County Clerk of Tillamook County, Oregon, to be held as liquidated damages in case the bid be accepted and the bidder shall fail to enter into the contract, and file therewith the necessary bond for the faithful performance of the work, within 5 days from the date of receiving notice from the County Court that the contract is ready for signature.

All bids shall be made on blank forms furnished for such purpose by the County Court; must state plainly the price of each item of work bid upon and must be signed by the bidder and also state his business address.

The successful bidder will be required to furnish a surety bond satisfactory to the County Court for the faithful performance of the work, in the sum of 50 per cent of the entire amount of the bid.

Each bidder shall be required to satisfy himself, by examination, the location, nature and extent of the work to be performed, and all bids are to be compared on the basis of quantities shown on the bidding blanks and as included between Station

00 plus 00 and Station 43 plus 00 of the said road survey, also Station 43 plus 00 to Station 34 plus 29.2 of the said road survey.

Upon the deposit of \$5.00 a set of plans, specifications, forms for proposal, contract, and bond, may be obtained at the office of the County Clerk.

The right is reserved to reject any or all proposals, or to accept any proposal or proposals, as may be deemed best for Tillamook County, Oregon.

By order of the County Court,
Dated this 20th day of April, 1915,
J. C. Holden,
County Clerk.

Each bidder shall be required to satisfy himself, by examination, the location, nature and extent of the work to be performed, and all bids are to be compared on the basis of quantities shown on the bidding blanks and as included between Station

43 plus 00 to Station 46 plus 00 of the said road survey.

Upon the deposit of \$5.00 a set of plans, specifications, forms for proposal, contract, and bond, may be obtained at the office of the County Clerk.

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Dated this 20th day of April, 1915,
J. C. Holden,
County Clerk.

Notice to Contractors.

Sealed proposals, addressed to the County Court of Tillamook County, Oregon, and indorsed "Proposals to Complete Pacific City County Road Improvement," in accordance with plans and specifications thereof on file in the office of the County Clerk of Tillamook County, Oregon, will be received by the County Court of said County, at its office in the Court House, at Tillamook City, Oregon, until the hour of 10 o'clock A. M. on the 8th day of May, A.D. 1915, and at that time and place publicly opened and read.

Each bid shall be accompanied by a certified check on some responsible bank in the State of Oregon, in the sum of 5 per cent of the total bid enclosed therewith, said check shall be

made payable to the County Clerk of Tillamook County, Oregon, to be held as liquidated damages in case the bid be accepted and the bidder shall fail to enter into the contract, and file therewith the necessary bond for the faithful performance of the work, within 5 days from the date of receiving notice from the County Court that the contract is ready for signature.

All bids shall be made on blank forms furnished for such purpose by the County Court; must state plainly the price of each item of work bid upon and must be signed by the bidder and also state his business address.

The successful bidder will be required to furnish a surety bond satisfactory to the County Court for the faithful performance of the work, in the sum of 50 per cent of the entire amount of the bid.

Each bidder shall be required to satisfy himself, by examination, the location, nature and extent of the work to be performed, and all bids are to be compared on the basis of quantities shown on the bidding blanks and as included between Station

00 plus 00 and Station 43 plus 00 of the said road survey, also Station 43 plus 00 to Station 34 plus 29.2 of the said road survey.

Upon the deposit of \$5.00 a set of plans, specifications, forms for proposal, contract, and bond, may be obtained at the office of the County Clerk.

The right is reserved to reject any or all proposals, or to accept any proposal or proposals, as may be deemed best for Tillamook County, Oregon.

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