

Agricultural Experimentation in Box Butte County

PROF. E. W. HUNT,
DIRECTOR

The Potato Stalk Weevil

Prof. Hunt hands us Circular No. 8, issued Aug. 17, '08, from the office of the state entomologist, from which we make the following extract, which we think is more timely published now than later in the season:

Potato raising in Nebraska has for several years past been one of our important agricultural industries, and many thousands of bushels of this tuber are shipped from the state annually, while still greater quantities are retained for domestic consumption. The light sandy soil along the Missouri in the northeastern corner, and the soil of the plains bordering the sand hills on the northwest, when intelligently handled, are remarkably well fitted for the profitable production of this staple article of food.

The potato stalk weevil has long been known as an important enemy of this crop and has attracted a great deal of attention from time to time, although many potato growers have no conception of what the insect itself is really like, owing to its obscure method of feeding.

In Nebraska it is probably found quite generally over the state, but is pre-eminently a pest in those regions where potatoes are raised on a commercial scale, notably the northeastern corner along the Missouri and in the northwest, principally in Sheridan and Box Butte counties. The former county suffered a severe infestation of the potato stalk weevil during the year 1907, the crop being almost ruined, and during the present season the writer found almost all early potatoes in the northeastern corner of the state to have been greatly reduced in yield by its presence.

The potato stalk weevil is a small snout-beetle. Its general color is a light gray, which is caused by a covering of tiny scales of that hue; beneath this covering the insect is jet black. One of the most conspicuous characters of the beetle is the presence of three black spots at the base of the wing covers. The grub or larva, the stage during which the damage is done, is also pale in color and has a dark colored head. When full grown it is from one-third to one-half an inch in length and is without legs.

Some time during the spring, either the latter part of May or early in June, depending upon the latitude and the weather, the beetles begin their egg-laying for the new brood. This is accomplished by making a small slit in the stalk in which a single egg is deposited. According to Faville and Parrott these eggs hatch in from 7 to 11 days and the young grub immediately begins to work its way downward toward the root. As it eats and grows in size the channel which is made is gradually enlarged until it occupies the entire pith cavity. Right here is where the damage is done, this channelling interfering with the flow of sap and causing the plant to wilt. In this latitude the beetles become adult during August. They remain within the potato stalk during the winter and emerge in the spring through the holes cut by the larvae.

Potato growers as a general rule attribute the wilting of plants, due to the work of this weevil, to blight or dry weather, and the effect of this infestation is usually called "blight" by them. Whether or not the wilting is caused by the presence of the weevil or by drought may be easily ascertained by cutting the stalk open.

Owing to the fact that this insect passes the winter within the old stalk of the potato the matter of its control is rendered very simple. In the fall, just after or just before the crop is removed, the field should be thoroughly harrowed in order to pull the vines with their roots, and these should be raked into piles and burned, thereby destroying all weevils contained within. Some growers have made a practice of mowing the vines and burning them; this method fails to get a large percentage of the beetles because of the fact that the portion of the stock in which the insect is contained is often below where the sickle cuts it off, leaving it still in the ground. To secure the best results from this method strict cooperation among growers is essential. A single field in which the above directions are not carried out will furnish enough beetles to infest a considerable area in that vicinity, so that the efforts of those who had attempted to eradicate the pest would be fruitless.

Potato Bugs

For the first time in many years these insects are doing considerable damage to the growing crop. This part of the state has been singularly free from its invasion. The present activity is undoubtedly due to the warm, dry weather we have been having. It is very rapid in its development and in the damage it works. If its ravages are to be checked so as to save the crop in infested fields, immediate action must be taken. A delay of only a very few days will result in irreparable loss. At present the damage is confined to a comparatively few fields, but there the onslaught was so sudden and unexpected that it escaped observation until it was too late.

The Colorado potato beetle is the insect that does the greatest damage. The mature beetle does practically no harm. The injury is done by the several forms of the

insect through which it passes from the egg to maturity. The "slugs," as the young, unarmored forms of the beetle are called, are voracious feeders and, appearing in such incalculable numbers, soon strip the plant of foliage.

There are several methods recommended for combating the pest to which I wish to call attention here and suggest the best way of using them.

ARSENICAL POISONING

(a) By using paris green: Some persons put one pound of paris green in fifty gallons of water and spray or sprinkle the vines with the mixture. When using it in this way it is necessary to keep the mixture at all times thoroughly stirred, so that the poison may be equally distributed. Unless this stirring is well done, some plants will receive too little while others may receive enough to do damage to the leaves by burning them. If two pounds of caustic lime are slaked and mixed with the paris green this danger of burning may be prevented. Lime that has been partly slaked is worthless for this purpose.

(b) By using paris green with bordeaux mixture: To make the bordeaux mixture, inclose four pounds of copper sulphate or blue vitriol in a cloth sack; suspend it in twenty-five gallons of water until dissolved. Make a smoothly flowing lime paste by slaking six pounds of unslaked lime in a little water, using care that there be water enough to prevent the lime from burning, then gradually dilute, stirring all the time, until there is twenty-five gallons of the lime solution. This solution should be in a separate vessel from the copper sulphate solution. These should be run together into the spraying barrel, being constantly stirred, and used at once as the mixture becomes valueless after standing. To this mixture add one pound of paris green. Properly made bordeaux mixture with paris green added, will control both potato bugs and potato blight without injury to the foliage. It will also secure increased yields of tubers even when neither bugs nor blight are present.

(c) By using lead arsenate with water: Some people prefer lead arsenate to paris green because there is not so much danger of injuring the foliage by carelessness, and because they think it adheres to the leaves better. To use, dissolve one pound of Swift's arsenate of lead in fifty gallons of water and use as directed for paris green.

(d) By using Sodium Arsenate: To prepare, put two pounds of white arsenic and eight pounds of soda salt in eight gallons of water and boil till the arsenic is dissolved. This will usually take about fifteen minutes. Replace the water evaporated by boiling. Keep this mixture in tightly stoppered jugs labeled "poison." Use one quart of this to fifty gallons of bordeaux mixture.

(e) By using arsenite of lime: To prepare, boil together one pound of white arsenic, two pounds of unslaked lime and one gallon of water for about forty-five minutes, or until the arsenic is all dissolved. This makes a stock solution which will keep in good condition for a long time. The vessel containing it should be labeled "poison" and kept where it will do no harm. Use one quart of this to fifty gallons of water.

(2) Gathering and killing the bugs: For this purpose place a stout hoop in the opening of a grain sack so as to hold it open. Place the open mouth under and to one side of the vine, and with a brush or a large whisk broom jar the slugs into the sack, and afterward kill them by drenching with kerosene oil. Where only a comparatively few of the vines are infested, this is undoubtedly the best way in which to handle them. It will do no good to knock them to the ground and cover them with dirt as in a few minutes they will creep out and climb the vine again.

I cannot too strongly urge all potato growers to keep a sharp eye on their growing crop so as to note the first appearance of the bugs, and take immediate action. A short delay gives them such a start that they become a serious menace.

Sometimes the vines are infested with the blister beetle which are troublesome, but rarely do serious damage. These, if they become too numerous, may be driven away from the field as they fly readily and are easily frightened, or they may be poisoned by either of the above methods. Sometimes the bite of the beetles causes some inconvenience, as it usually raises a large blister, which may develop into a bad sore. I know of one instance in which septicemia developed and the victim died from blood poisoning.

Have you a farm to sell or exchange? It costs only a cent a word per day to run an advertisement in The Omaha Bee. It will reach over 40,000 subscribers and is almost sure to find a buyer. Write today.

Before ordering anything in the line of office supplies of traveling salesman or mail order houses call up the Western Office Supply Co., and let them show you samples. Phone 58 or 340.

If you need help of any kind, tell as many people as possible. There are more than 40,000 people who subscribe for The Omaha Bee. You can tell them all for one cent per word per day. Write today.

Lawn Swings at The Gadsby Store. 26-1f

Neighboring Notes

From Mitchell Index:

Mrs. M. Bristol returned Wednesday from Thermopolis, Wyo. Mr. Bristol met her at Alliance.

President Morey of the Great Western Sugar Beet Co., and several of the directors and others visited the North Platte valley on Tuesday, coming on a special train and making stops and investigations of the country at Torrington, Mitchell, Scottsbluff and we presume other points. They stated that the location of the proposed factory is not yet fully determined, but the supposition is that if the required acreage can be secured they will build a factory somewhere in the valley this year. It is to secure this acreage with the idea of having a factory built at Scottsbluff that the people of that town are now making a special effort. The sugar factory men went from this valley to Sheridan, Wyo.

From Minutary Free Press:

Miss Ethel Bowman came home from Alliance to spend the Fourth.

Robert L. Alkire was a passenger for Alliance Tuesday, to return the following day.

Alex White went to Alliance Saturday to meet his nephew, Jimmie White, who has come from Havelock to visit his grandfather and aunt.

H. L. Nehne went to Alliance to meet Miss Emma Roth, who came out here from Switzerland to visit her brother, Albert Roth.

Two automobiles from Alliance, going to Scottsbluff, broke down in the Abe Smith neighborhood Sunday.

From Nashville Standard:

Roy Beckwith and wife came over from Alliance Monday to visit his brother and family and on Thursday went to Neligh for a visit with other relatives.

Miss Wilma Wood came over from Alliance Sunday evening on the train. On Monday her parents came across country in the automobile and Miss Wilma joined them on their camping trip up on the Extension.

W. W. Woods and wife automobilized over from Alliance Monday and went with Dr. Wilson's family up north of town for a week's camping out. Mr. Wood runs his auto like an expert.

From Crawford Courier:

Professor Hunt of Alliance came up on the Burlington Thursday afternoon, going to Chadron in the evening where he will meet Wm. E. Curtis of Chicago, and S. L. Miller and Mr. Walters, general freight and passenger agents of the North-Western R. R. The party left Chadron Friday morning for Lander, Wyo. Prof. Hunt accompanied the party in the interests of western agriculture.

From Bayard Transcript:

John King returned home Saturday from several weeks' stay in Alliance.

Dan Bullard, wife and son, Clifford, are visiting friends in Alliance this week. They left Wednesday.

Cook Bracken, salesman for the popular Newberry Hardware Co., of Alliance, was in town the first of the week.

Link Lowery of Alliance was in town the first of the week on business. Link established quite a "rep" as a horse shoe pitcher while here.

Jack Grimm is another one of the good people from this vicinity who was looking after business in Alliance Wednesday and Thursday.

Mrs. S. J. Holdridge accompanied Mrs. T. F. Watkins home from Alliance last Sunday for a few days' visit. They drove through and it is needless to say that they got off the road, or ran up against fences with no gate in sight. However Mrs. H. says the B. & M. will be good enough for her going back.

MARSLAND.

(Received too late for issue of July 8th)

A nice shower fell Saturday and it was needed very much.

Tom Hunsaker is clerking for Bellamy & Miller this week.

The new hardware store adds very much to the looks of Grand avenue.

The patients at the hospital are doing well and some of them have gone home.

Mr. Clatterback's new residence is nearly ready for the plasterers and painters.

Geo. Gregory and family took in the 4th of July Saturday and Sunday at Crawford.

Mr. Bellamy has been beautifying his park and has just added a new fountain to the same.

Mr. Hesser is building Mr. Clatterback's new house and doing other carpenter work in Marsland.

Tom Squiba has sold his blacksmith shop to Gene Kendericks, who will attend to the shop after this.

The new druggist, Mr. Hanson, arrived Monday and is doing business at the old Willis place on Grand avenue.

The new furniture and hardware store on Grand avenue is neatly finished with a glass front and will soon be running full blast.

B. Furman, the banker, will have his new residence ready to occupy soon and

SPECIAL

Piano Bargains

For the next thirty days we will offer high-grade pianos at bargains never before heard of in Alliance

We have some special bargains as low as **\$100** on easy payments

If you contemplate purchasing a piano it will pay you to see us while this Special Sale is on

For particulars call on the

G. A. Crancer Piano Company

1st door west of the Jollo theatre

IDA M. ROSS, Manager

we all will expect a royal welcome when we call.

Trussell and family, Woodie, wife and child, Hoffman and family, Gregory and family, Ellsworth and family all went to Crawford Monday.

Mr. and Mrs. Bask and children went to Crawford Saturday to celebrate the 4th of July and they got caught in the big shower Saturday evening.

Mr. Bellamy is building another new house, it being situated on Park street. It is a neat little cottage and will add very much to the appearance of the street.

As a compliment to the dear old Herald it is said to be one of the very best papers in the state to place your advertisements in. Just give it a trial and see the business men of Marsland take notice.

What the Editor Cannot Do

Don't think because the reporter sees you getting on the train that he ought to know who you are and where you are going, or if he sees you greet some friends that he knows who they are and where they are from. We aim to get all the news, but you may be the one we don't happen to know. We try to become familiar with names and faces if possible, but during the years past we have been to church and failed to see you there; we have hung around the town pump, but some of you were not there; we have loafed on the street, we've even risked our reputation on back streets, but you weren't all there. And we'll be hanged if we know where to find you all. So if you are going or coming or know anybody cutting up queer capers, let us know.—Norton (Kan.) Telegram.

Horses Wanted

To pasture. Grass and water, good and plenty, one mile west of town.

A. R. Wilson.

BRENNAN'S SANITARY FOUNTAIN

It couldn't be better
IT'S BEST

Conrad Koch

Jewelry
and Watch Repairing

Special attention given to
RAILROAD WORK

BRENNAN'S DRUG STORE

LEGAL NOTICE

To J. B. Wyatt, W. N. Corns and Barney Riley:

You and each of you are hereby notified that on the 4th day of November, 1907, I, the undersigned, John Keeffe, purchased at public tax sale of the treasurer of Box Butte County, Nebraska, the following described premises situated in Box Butte County, Nebraska, to-wit: Lot No. 10, in Block No. 27, original town of Alliance, Box Butte County, Nebraska, for the years 1906 and 1907; that said land was taxed for years 1906, 1907 and 1908 in the name of J. B. Wyatt, and for the year 1908 in the name of W. N. Corns.

You and each of you are further notified that after the expiration of three months from date of service of this notice that I will apply to the treasurer of Box Butte County, Nebraska, for a tax deed for said Lot No. 10, in Block No. 27, original town of Alliance, Box Butte County, Nebraska.

Dated this 7th day of July, 1909

JOHN KEEFFE,
Purchaser and Owner of said Certificate.

Ep July 7-2

Acheson Bros.

Refrigerators
Ice Cream Freezers
Gasoline Stoves and Ranges

OPERA HOUSE BLOCK

Palace Livery Barn

H. P. COURSEY, Prop.

(Successor to C. C. Smith)

ONE BLOCK WEST OF THE NEV ZBINEN BUILDING. Phone

Good turnouts, strict attention to our business, and courteous treatment to all has won for us the excellent patronage we enjoy. Try us.

LEGAL NOTICE

To Lizzie Jackson:

You are hereby notified that on the 4th day of November, 1907, I, the undersigned, John Keeffe, purchased at public tax sale of the treasurer of Box Butte County, Nebraska, the following described premises situated in Box Butte County, Nebraska, to-wit: Lot No. 11, in Block No. 25, original town of Alliance, Box Butte County, Nebraska, for the years 1905 and 1906, and C. W. Brennan, then County Treasurer of Box Butte County, Nebraska, issued treasurer's certificate of tax sale No. 39, therefore, and I have since paid as subsequent taxes after same I came due and delinquent, the taxes for the years 1907 and 1908; that said land was taxed for years 1905, 1906, 1907 and 1908 in the name of Lizzie Jackson.

You are further notified that after the expiration of three months from date of service of this notice that I will apply to the treasurer of Box Butte County, Nebraska, for a tax deed for said Lot No. 11, in Block No. 25, original town of Alliance, Box Butte County, Nebraska.

Dated this 7th day of July, 1909.

JOHN KEEFFE,
Purchaser and Owner of said Certificate.

Ep July 8-2

LEGAL NOTICE

In the District Court of Box Butte County, Nebraska.

In and for the Guardianship of Order to Show Cause.

Adella Ramsdell, an insane person and estate of Adella Ramsdell, an insane person, praying for a license to sell the Southeast Quarter (SE 1/4) of Section 18, Township 21 N., Range 30 W., in Holt County, Nebraska, or a sufficient amount of the same to pay the sum of twelve hundred eighty dollars (\$1280.00) for the payment of expenses incurred in the support, maintenance and maintenance of said ward, there not being any personal property and the income of said ward being insufficient to pay the said debts and expenses, and maintain the said ward.

It is, therefore, ordered that the next of kin and all persons interested in said estate appear before me at Chambers at 9 A.M. on the 28th day of July, 1909 at nine o'clock A.M. to show cause why a license should not be granted to said guardian to sell so much of the above described real estate said ward as shall be necessary to pay said debts and expenses. I specify that this order newspaper, published at Alliance in said county for three weeks prior to the date of said hearing.

Dated June 25th, 1909. J. J. HARRINGTON,
Ep July 1-3w Judge District Court.

CONTEST NOTICE

DEPARTMENT OF THE INTERIOR,
UNITED STATES LAND OFFICE.

Alliance, Nebraska, June 12, 1909

A sufficient contest affidavit having been filed in this office by Harry Derr, contestant, against homestead Entry No. 0163, made October 20th, 1908, for S. W. N. 1/4 section 8, N. 1/2 section 17, N. E. 1/4 of section 18, township 21 N., of range 30 W., of the 6th P. M., in Holt County, Nebraska, in which it is alleged that the said Elbert Stindl does not reside on the said land and has no buildings or improvements thereon and that he has abandoned the same for more than six months prior to the date of this contest, said parties are hereby notified to appear, respond, and offer evidence touching said allegation at 10 o'clock a. m. on July 23, 1909, before the Register and Receiver at the United States Land Office at Alliance, Nebraska.

The said contestant having, in a proper affidavit, filed June 7, 1909, set forth facts which show that after due diligence personal service of this notice cannot be made, it is hereby ordered and directed that such notice be given by due and proper publication.

Ep July 12-5w W. W. Wood, Register.

ORDER FOR HEARING

State of Nebraska, Box Butte County—ss.

At a County Court held at the County Court Room in said county on the 3rd day of June, 1909.

Present L. A. Berry, County Judge.

In the Matter of the Estate of Nancy C. Watson, Deceased.

On reading the petition of Francis M. Watson filed herein, praying that Administration of said estate be granted to Allen D. Rodgers as Administrator.

Ordered: That said petition will be heard on the 28th day of July, 1909, at 10 o'clock a. m. That all persons interested in said estate may appear at County Court on said date, and show cause if any there; be why said petition should not be granted; and that notice of the pending said petition and of said hearing be given to all persons interested in said matter by publishing a copy of this order in the Alliance Herald, a weekly newspaper published in said county for three successive weeks prior to said hearing.

L. A. BERRY,
County Judge.

Ep July 1-3w

Ranchmen Stockmen Farmers

We cordially invite you to make our office your headquarters when in Alliance. Big rest room. The daily and weekly papers on file. Easy chairs and a good, clean place to rest.

Remember, when you have land for sale that we have a big organization and can sell it for you.

Buyers and Sellers
We get them together

Phillips-Thomas Land Company

Ora E. Phillips Lloyd C. Thomas
B. M. Thomas

Combination Jack



Lifter,
Post Puller,
Splicer and
Wire Stretcher,

most useful tool on a farm. Can't be seen and tested at

604 Yellowstone Av.
Alliance, Neb., by
L. M. E. Anderson