

PRELIMINARY WORK ON OAT SMUT IN BOX BUTTE COUNTY

The Box Butte Farmers' Association realizing that there was more or less loss by oat smut in Box Butte county every year, decided to work along this line. The first step was taken on March 23, when the county agent sent out a circular letter to the majority of farmers throughout the county calling attention and giving directions for the treatment of seed oats to prevent smut. The letter also enclosed a blank to be filled in as to the number of acres the cooperators would treat and leave untreated. An envelope was enclosed for the return of this blank to the office of the county agent. As result of this circular letter several farmers throughout the county either treated all of their oats or at least a portion. The cooperators were asked to leave a portion untreated and to treat another portion so as to carry on a cooperative demonstration. Many men treated all of their oats, while others treated a part in one field that had been cropped different than the other untreated portion on another field.

This would not permit a bushel per acre comparison, but nevertheless has shown the effectiveness at any rate of formalin treatment for oat smut. A few men were found whose treated portion and untreated portion were of the same variety on the same kind of land, cropped previously in the same manner.

These fields were carefully measured by the county agent with the assistance of the instructor of Agriculture from the Alliance high school. At present time one or two of the demonstration fields have not been threshed, while in other cases damage from stock, trouble in threshing, etc., have made it impossible to get a correct demonstration on the bushel per acre basis. Oat smut counts were made on 118 untreated fields in the county and sixteen treated fields. This shows the extent to which oat smut was prevalent in Box Butte county, and also shows the effectiveness of the formalin treatment for oat smut as done by the cooperators themselves.

It was the observation of the county agent as well as all of the cooperators that the treated oats was either entirely free from smut or else a very low per cent as compared to the untreated oats. In addition to this the treated oats showed a stronger vitality than the untreated oats. On the ordinary year the plants affected with smut are much more stunted and consequently not so plainly visible. They are found lower down than the healthy oats.

The fact that smut was entirely eliminated in many of the treated portions of the field while the untreated portion showed a high per cent of smut has demonstrated to many of the cooperators that smut is a disease controllable by proper treatment and not a pure development of the weather. One cooperator stated that a conservative estimate on the amount he saved by treating his oats for smut would be at least \$150. At a later date when the result from threshing of the treated and untreated oats are in, a more complete report will be made.

This work was not carried on under project form during 1915 but will undoubtedly be carried on as one of the active projects for 1916.

BOX BUTTE COUNTY OAT SMUT DATA

Per Cent Smut in Oats in Untreated Fields by Precincts

PRECINCT	NO. FIELDS	PERCENT SMUT
Lawn	6	7.80
Dorsey	16	5.84
Running Water	6	9.13
Liberty	3	7.15
Nonpareil	12	5.64
Box Butte	28	6.53
Snake Creek	0	0
Wright	11	13.47
Lake	20	8.24
Boyd	17	4.43

Per Cent Smut in Fields Treated for Smut

NAME	PERCENT SMUT
1. J. A. Keegan	0
2. L. D. Blair	1.4
3. Powell and Ats	1.1
4. D. E. Purinton	0
5. *F. H. Kaufford	0
6. *F. H. Kaufford	0
7. *Robert Anderson	.1
8. *Robert Anderson	.1
9. Theo. Colvin	0
10. E. W. Purinton	0
11. F. H. Nason	0
12. J. L. Wiltsey	0
13. *A. S. Enyeart	0
14. *A. S. Enyeart	0
15. *A. S. Enyeart	0
16. J. B. Leith	0

*Total Field Treated.

OAT SMUT COMPARISONS—TREATED VS. UNTREATED

NAME	TREATED PERCENT SMUT	UNTREATED PERCENT SMUT
1. J. A. Keegan	.0	2.0
2. L. D. Blair	1.4	8.6
3. Powell and Ats	1.1	33.1
4. D. E. Purinton	.0	7.3
5. Robert Anderson	.1	11.1
6. Theo. Colvin	.0	6.4
7. E. W. Purinton	.0	1.4
8. F. H. Nason	.0	1.1
9. J. L. Wiltsey	.0	.6
10. J. B. Leith	.0	6.8

Oat Smut Totals in Box Butte County

	No. Fields	Percent Smut
Untreated Fields	118	5.73
Treated Fields	16	.16
Direct comparisons of Treated and Untreated Fields	26	7.84

CO-OPERATIVE FIELD TEST OF NORTHERN VS. HOME GROWN EARLY OHIOS

In eastern Nebraska it is easily demonstrated that the Northern grown Early Ohio seed potatoes give greater profits than the Native Ohios.

This is something that had not been tested systematically in this county, or under western Nebraska conditions. Northern Ohios normally cost when laid down here about twice the price of the native Ohio seed potatoes. Furthermore, it was known that these Northern seed potatoes were practically no more free from disease than the native Ohios.

The Northern grown potatoes in general represent a truer Early Ohio shape and type than the native potatoes. But the real questions confronting the potato growers of this county were whether it was profitable to pay the difference in price of the seed, and would the difference in yield and shape warrant this practice? The economic question facing the Box Butte Farmers' Association was: Could they permit the constant shipping in of disease, when one object the organization had in view was the elimination of as much of the potato disease as possible?

A car load of Northern potatoes was shipped into the county by a potato dealer. In view of these questions it was decided to test the northern and home grown potatoes as to yield. This being simply a test, no definite conclusions could be made from just one year's work as to yields of each.

It must be remembered that this was an abnormal year so far as rainfall is concerned. It has been a season more nearly like the climate the northern potatoes are adapted to. On a dry or normal year the yield of native Ohios might be much better than the northern seed.

It has been demonstrated however that the northern seed produced potatoes of better shape. This same thing can be accomplished by hill selection of our native potatoes, for seed purposes. The growers however received the same price for their produce of each kind of seed.

The most important demonstration was that the northern potatoes in the field showed all diseases common to Box Butte potatoes. In general, there was more bacterial wilt in the northern than in the native potatoes. This means that for our potato growers to take the chances on paying higher prices for northern seed, the non-advance in eradication of potato diseases, there must be a considerable difference in yield to make the use of northern seed a profitable practice.

CO-OPERATIVE FIELD TEST, NORTHERN VS. NATIVE OHIOS

Box Butte Farmers' Ass'n cooperating with Extension Dept. Nebraska College Agriculture and United States Dept. of Agriculture:

(Continued on page 8)

Two Plow
\$750.00 Cash

F. O. B. Laporte, Indiana
Complete with Plow

Three Plow
\$950.00 Cash

F. O. B. Laporte, Indiana
Complete with Plows

RUMELY

all Purpose

TRACTOR

Rumely All Purpose Tractor

In introducing this new Rumely model we believe that we present a one-man outfit which embodies all the necessary qualifications for a successful small farm tractor. It is a one-man outfit in every sense; a tractor designed for use on the small farm, where a tractor of light weight, convenient handling and economy is desired for field and belt work.

In the first place, this new Rumely Tractor is a general utility tractor, capable of efficiently and economically handling not only plowing, but all the power jobs, tractive and belt, encountered on the average farm.

This tractor, besides plowing, will pull your harrows and discs, drills, packers, binders; it will haul your belt machines from one setting to another, haul loads over fields and on the road. As for belt work, it will run a small size grain separator, operate your silage cutter, sheller, feed mill and saw rig—in short, handle every and all power jobs within its power.

FOR PLOWING

As a one-man power plowing outfit the Rumely General Utility Tractor meets all requirements for efficient work, simplicity and ease of operation. Tractor and plows are combined in one machine, and the control of the entire outfit is centered in front of the operator's seat.

The above illustration clearly shows the arrangement of plows—two bottoms, attached to the frame by means of a swinging draw bar, all mechanism and plows directly in view of the operator. The plows are automatically raised and lowered—the simple pressure of the foot on the trip raises or lowers the plows at the will of the operator.

The plows are hitched to one side so that all three wheels are on unplowed ground—at the same time the load is so unbalanced that there is no draft on the tractor.

The depth of the furrow can be changed without leaving the seat or stopping the tractor. When used for other purposes than plowing, the plows and plow frame are detached. It is a simple matter for one man to quickly take them off.

FOR OTHER JOBS

For other tractive jobs the tractor runs in the opposite direction to that in plowing. This brings the operator on the left hand side. For instance, in pulling binders, the operator can easily see just how close to the grain he is running, as he is sitting on the side next to the grain. Another feature in this connection—the binders are so hitched to the draw bar that the drive wheel, idler wheel and steering wheel have plenty of clearance on the standing grain.

This reverse action is secured by the simple operation of swinging the seat around so that the operator is facing the steering wheel in front. Releasing a pin permits the swinging of the seat, which action automatically reverses the steering mechanism. In other words the operator controls the tractor in exactly the same manner regardless of in what direction it is traveling.

A belt pulley is located on the side, operated from a clutch inside the transmission case—furnishing ample and steady power for the many belt machines used on the small farm.

The Power Plant

The motor is a four-cylinder heavy duty type, and especially constructed to withstand severe tractor strains. The bearings are larger, metal thicker, castings heavier—all constructed with a view to hard usage and wear. It is Rumely made throughout—in our own shops.

It is governor controlled, and the speed of the engine can be adjusted while the motor is running. The hand throttle enables the operator to run his engine at low speed when idle.

The tractor is equipped with a simple automatic carburetor—the ignition is the dual system of jump spark and magnet—the engine is water-cooled with radiator, fan and circulation pump.

Enclosed Gearing

Every gear in the transmission case on the Rumely General Utility Tractor is a cut gear—all gears are encased, including the bull gear. Not only are the gears in absolute dirt and dust proof cases, but all are running in oil.

Roller Bearings

Roller bearings exclusively are used throughout the Rumely tractor, insuring increased tractor efficiency, no adjustment and the minimum amount of attention.

Frame and Wheels

The outfit is mounted on a frame of rigid "I" beam construction, securely riveted to form a solid unit that will withstand the severest usage and strains.

The drive wheel is open construction—a new Rumely feature—making it self-cleaning and especially strong gripping on hard, rigid ground. The drive wheel is provided with municipal type lugs for ordinary and road work; spikes are supplied for heavy field work.

The steering wheel is a double wheel operating through bevel gears on a ball bearing mounted turnable.

Control

Full control is from the operator's seat—the clutch control, raising and lowering the plows, the lever to control the depth of plowing. The spark control and hand throttle are on the steering post.

Clutch

We use the three disc type clutch—the simplest type of construction and operation. To operate, there is a simple movement forward to go ahead and the pull back to reverse. There is no shifting of gears—quick and positive action and no change for confusion. This clutch is of course running in oil.

OTHER FEATURES

As will be seen from the cut shown herewith the heavy tractor wheel runs in front of the plows, breaking down all weeds and stubble in front of the plows. Notice the position of the plows from the driver's seat. The hang of the plows on the lever gives greater traction on the tractor wheel by dropping the plows.

From all angles—design construction and operation, the Rumely General Utility Tractor promises to successfully fill the bill for a one-man plowing outfit and general purpose tractor. We can also furnish this same type tractor with three plows.

Demonstrators on display at Alliance by

Nebraska Land Co. and

E. T. Kibble & Company

Agents for Northwestern Nebraska