When we harvested the oats we found that the treated oats did not contain as much rust as the untreated. In 1904, 104 members of the Wisconsin Experiment Association made tests in 29 counties, and it was found that the untreated oats on the average contained 10 per cent of smut, which effected a loss of over two and one-half million dollars in Wisconsin. Would it not be a great advancement in agriculture by increasing the value of the oat crop two and one-half million dollars? This can be done by treating seed oats with formaldehyde.

TESTING AND TREATING GRAIN FOR SMUT.

GOTTLIEB MUEHLEISEN, ALMA, BUFFALO COUNTY.

As a rule we must treat diseases to prevent spreading and check the power of increasing. Some years ago the Experiment Station worked out a scheme to kill oat smut in our grains, which is worth a large sum of money, not only to the Wisconsin farmer, but to other states and countries as well. The prospects are that this treatment to grains affected with smut will be a great thing for the growers of grain in the future.

My last summer’s experience has shown me that the farmers who stay continually at home have no agricultural paper nor any reports of what has been done. It is quite a job to get them started in progressive agricultural work. In my community I found that only about one out of ten knows anything about this,—at least that is about the figure that treat their grain for smut prevention.

Professor Moore sent me some blanks and requested me to make tests on oat fields. This matter came a little late, for the oats were already ripening, which is too late to make a close test, but had results as follows:

Thirteen fields tested, which varied from six to eighteen per cent smut. The farmer owning the one field testing six per cent, treated his seed oats by sprinkling it with this formaldehyde solution, but this shows that this method is not satisfactory. I
followed the formula given by the Station—one pint of formaldehyde of 40 per cent solution to thirty-six gallons of water. The grain was put in gunny sacks and soaked for ten minutes, then drained and emptied on a floor, not too thick, and shoveled over several times. It was then ready to seed the following day.

I sowed some oats treated and untreated along beside each other, same nature of soil, and the result was that the untreated grain showed a loss of 13 per cent, and on the treated side no smut was noticeable.

I will give a little example: Say we threshed 1,000 bushels of oats and lost 13% = 130 bushels. Let this be Swedish oats at 75c a bushel, would bring $97.50. For a few hours’ extra work nearly enough money to pay one term in the Short Course.

I haven’t said anything yet as to how I made the test. I used an ordinary barrel hoop, swung it in the field, and then counted the total number of stalks encircled; then counted the diseased, subtracted the diseased number from the healthy ones, divided the difference by the healthy ones, which will give the per cent of loss. I made a composite test in each field. I have also noticed that barley contains a high per cent of smut,—fully as much as oats, or more. I have not had any experience in that line yet, but as I understand it the operation is much similar to that of the oats, with the exception of a little stronger solution.

GENERAL DISCUSSION.

Mr. Moore: I made mention in smut bulletin 111 of the best method to destroy barley smut. I have carried on tests at the Wisconsin Station and I find the same solution used for oats is not sufficiently strong to be effective for barley. One pint of formaldehyde to twenty gallons of water is recommended for barley, and even this does not eradicate all the smut. There is something about the barley hull or the smut spore that is more resistant than that of the oat. I think the time is ripe now for a crusade against this barley smut and we must work out a thorough method of eradication of this disease. We had to educate people to eradicate the oat smut, and it will now only take a short time to have them eradicate the smut from their barley.