

Okla. Extension Service

STINKING SMUT OF WHEAT

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EXTENSION SERVICE
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STINKING SMUT OF WHEAT

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Wheat smut has caused considerable damage to the wheat crop of Oklahoma this year. Both the loose and covered smuts were present, but the greatest damage was done by covered smut. This form is also known as bunt or stinking smut. In addition to reduced yields, smut also injures the quality of wheat and makes it less desirable for commercial use. Smutty wheat is sometimes penalized in price.

The control of stinking smut is an important factor in producing good yields of high quality wheat. With acreage quotas in effect, smut control along with other improved practices in wheat production, becomes of even greater importance to wheat producers.

HOW STINKING SMUT IS SPREAD

Stinking smut is wide-spread in the wheat section of Oklahoma and does considerable damage each year. It first becomes apparent just before harvest time. Instead of grain, the heads contain balls of smut which resemble grains of wheat in size, but are shorter and wider. When the smut balls are crushed, they are found to contain a black, foul-smelling powder, which consists of the spores of the fungus causing the disease.

In threshing, hauling, and storing the wheat, many of the smut balls are crushed and the spores are mixed with the grain, adhering to the surface of the kernels. In this way, the entire lot of grain may become infected with the spores of the disease. When infected grain is planted, the spores germinate along with the wheat kernels, sending fine fungus threads into the seedling plants. These fungus threads continue to grow within the developing wheat plants which show no outward sign of disease. At heading time, however, smut balls are formed instead of kernels.

THE COVER

Healthy kernels of wheat with a heavy mixture of smut balls. These balls break open scattering smut spores throughout the entire mass of grain.

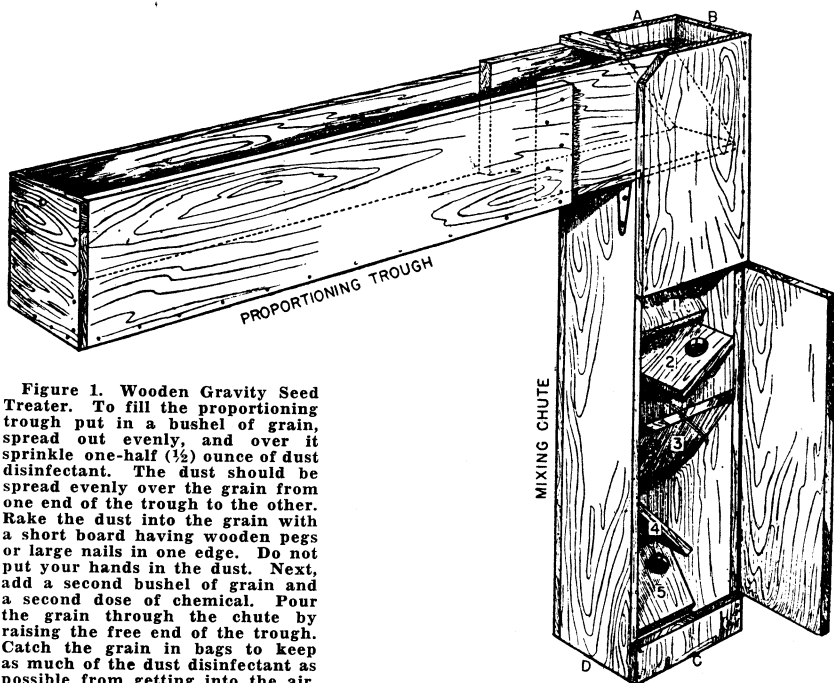


Figure 1. Wooden Gravity Seed Treater. To fill the proportioning trough put in a bushel of grain, spread out evenly, and over it sprinkle one-half ($\frac{1}{2}$) ounce of dust disinfectant. The dust should be spread evenly over the grain from one end of the trough to the other. Rake the dust into the grain with a short board having wooden pegs or large nails in one edge. Do not put your hands in the dust. Next, add a second bushel of grain and a second dose of chemical. Pour the grain through the chute by raising the free end of the trough. Catch the grain in bags to keep as much of the dust disinfectant as possible from getting into the air.

CONTROL

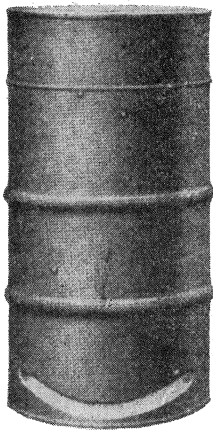
Fortunately, stinking smut can be controlled by treating the planting seed with Ceresan M or with New Improved Ceresan. These chemicals are equally effective, but Ceresan M has some advantages over New Improved Ceresan. When properly used, it greatly reduces the hazard of skin irritation to those using it. This chemical is practically odorless unless excessive amounts are used.

The chemical should be used at the rate of one-half ($\frac{1}{2}$) ounce per bushel of seed. Excessive rates should be avoided. Seed may be injured if too much chemical is used.

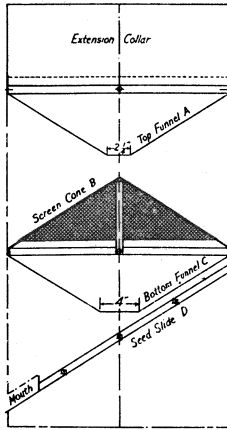
The dust should be thoroughly mixed with the seed. This can be done by using a homemade gravity treater. For treating large quantities of seed, a commercial treater may be used. Portable cleaners and treaters are available in some sections of the state.

Before applying the dust chemical, the seed should be thoroughly cleaned to remove smut balls, weed seeds, and shriveled kernels.

Wheat may be treated any time after the seed has been well-cured following harvest. Treated seed may be placed in bins or porous sacks.



55 GAL. DRUM



CROSS SECTION

Figure 2. Metal (oil barrel) Seed Treater. Pour one-half bushel of wheat into hopper. Measure out one-fourth ($\frac{1}{4}$) ounce of chemical and sprinkle evenly over surface of grain. Mix seed and chemical by stirring with a stick. Do not use hands. Pour in another one-half bushel of grain and add an additional one-fourth ($\frac{1}{4}$) ounce of chemical. Open hopper and allow the grain and dust to pour slowly down through the treater. Catch the grain in bags to keep as much of the dust as possible from getting into the air.

It should be stored in a dry, well-ventilated place. The seed should be treated at least twenty-four hours before planting.

CAUTION: TREATED SEED IS POISONOUS. IT SHOULD NOT BE FED TO LIVESTOCK NOR SOLD FOR MILLING PURPOSES.

Seed treatment costs only a few cents an acre. In addition to the control of stinking smut, Ceresan M and New Improved Ceresan will control other seed-borne diseases. It will often improve stands by protecting the seed and seedlings against disease organisms which cause seed decay and seedling blight.

TILLAGE PRACTICES IN SMUT CONTROL

Smut spores do not germinate in the soil when the temperature is above 65 to 68 degrees. Consequently, wheat germinating in a warm soil may escape smut infection. The normal planting date for wheat, in most sections of the state, is September 15 to October 15. At this time soil temperatures are usually above 68 degrees. Early preparation of the seedbed to provide soil and moisture conditions favorable for seeding wheat at the usual time is therefore an important factor in the control of stinking smut.

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SEE YOUR COUNTY AGENT FOR ADDITIONAL INFORMATION ON SEED TREATMENT AND PLANS FOR MAKING SEED TREATERS.

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