

(sprinkling and stirring till thoroughly moistened), Prof. C. A. Zavitz (Bull. 140, pp. 14-15) obtained the following results with oats, the figures giving the percentage of smutted heads in the crop obtained from sowing the treated grain:

(a)	.0 per cent.
(b)	.0 "
Untreated	7.0 "

These results show that both treatments with formalin entirely destroy the smut spores adhering to seed grain. These formulæ will also serve for the treatment of wheat.

Corrosive Sublimate.

This chemical is made up of mercury and chlorine, one atom of mercury in combination with two atoms of chlorine, represented by chemists as HgCl_2 . It is medicinal in small doses, but large doses are *extremely poisonous*; and its solution in water sprayed onto plants would, for this reason, make a very deadly food for biting insects. As an insecticide, however, it is not much used, on account of its corrosive action, but as a remedy for potato scab it is very valuable when used in the following quantities (handle in a wooden vessel):

Corrosive sublimate	1 ounce.
Water	7 to 8 gallons.

The solution and treated potatoes are both highly poisonous.

Liver of Sulphur, Potassium Sulphide.

This substance is a compound of the elements potassium and sulphur (K_2S) and its solution possesses considerable value as a treatment for certain fungous diseases, such as the gooseberry mildew; but it is not nearly so energetic as are the copper compounds. It is used to some extent in treating grains for smut, for which the following quantities are recommended:

Potassium sulphide	1 pound.
Water	24 gallons.

This solution should be used in a wooden vessel, and must be applied soon after making, since on standing in contact with air the sulphide becomes oxidized to the sulphate and thus loses in strength.

ACKNOWLEDGMENTS.

The reports, bulletins, etc., of the Dominion and Provincial Departments of Agriculture, as well as those of the United States Department of Agriculture and the Experiment Stations of the various States of the Union, have been freely used in gathering the data embodied in this bulletin. Where possible, reference has been made to the source of the information, but in all cases the original source of the data could not be obtained.