

## METHODS OF TREATMENT.

*Formalin :*

Use one full pound of formalin in every forty gallons of water and proceed as follows :—

If the seed is from a smutted crop, immerse in the solution, stir thoroughly, and skim off the smut balls. Leave the seed in the solution for two hours before taking it out to dry. Or remove the seed from the solution at the end of fifteen minutes, pile, and cover closely with canvas or sacking to keep in the fumes of the formalin. Leave in the pile for two hours and then spread out to aerate. Sow as soon as possible.

If the seed is from an unsmutted crop, wet the seed thoroughly with the solution, pile, and cover with canvas or sacking. Leave the grain in the pile for two hours, then aerate.

Formalin is a forty per cent. solution of formaldehyde, and this strength should be guaranteed to the purchaser.

*Copper Sulphate (bluestone) :*

Dissolve one pound of copper sulphate in twenty gallons of soft water. Immerse the grain for about twelve hours, stirring occasionally. Then spread out in a thin layer and dry rapidly. Sow as soon as possible.

The purest copper sulphate is sold in the form of crystals. These are readily dissolved in a small quantity of hot water.

After removing from the solution, some recommend an immersion of the grain for five minutes in lime water, made by putting one pound of good lime into ten gallons of water.

## PRECAUTIONS.

1. Take particular care to guard against living spores falling on the seed or coming into contact with it after treatment, otherwise all the labour of treatment may be in vain. Smut spores are produced at the enormous rate of two to five millions in every smut ball ; they are extremely light, and are easily carried by air currents. If the seed is dried on a floor, the floor must first be washed with a solution of one pound of copper sulphate to ten gallons of water ; if on a canvas, the canvas must first be dipped into boiling water. Likewise, dip the sacks into boiling water, and dry before filling them with the treated seed.

2. Use vigorous seed. Immature, shrunken seed, or seed enfeebled by disease or age suffers from treatment, and their seedlings are more susceptible to infection from smut than those from strong seed.