

It will be seen that pyrox contains arsenic equivalent to 35.21 per cent. of lead arsenate ( $Pb_3(AsO_4)_2$ ), or about 55 per cent. as much as is present in the pure lead arsenate pastes; and enough copper is present to produce from 100 pounds of the paste about 80 gallons of spray equal in strength to ordinary Bordeaux.

#### FUNGICIDES CONTAINING NO COPPER.

##### *Lime-sulphur Wash.*

The lime-sulphur wash is a very active fungicide and is displacing the copper salt fungicides to a great extent. It has to be applied in a very dilute condition. The method of diluting is outlined under the previous discussion of the wash on a preceding page; the extent of the dilution will vary, but can be found in any good spray calendar.

##### *Formalin.*

Formaldehyde is derived from marsh gas (Methane,  $CH_4$ ), the same gas which everyone has seen emanating from all swamps and low places where there is stagnant water, in the form of air bubbles. The formaldehyde is a gas, which under the influence of cold condenses to a clear mobile liquid that boils at  $-21^\circ C.$ , and has the formula  $CH_2O$ . If this liquid be mixed with water until it forms 40 per cent. of the volume, we have a commercial article known as "formalin," and which is used and is valuable as a fungicide. It is especially useful as a treatment for grain smuts and potato scab.

Using the following strengths of formalin and method of treatment:

(a) Formalin . . . . .	$\frac{1}{2}$ pint,
Water . . . . .	21 gallons,
(Immersing for 20 minutes),	
(b) Formalin . . . . .	$\frac{1}{2}$ pint,
Water . . . . .	5 gallons,

(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 "