AGRICULTURAL EXPERIMENT STATION
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ACID MERCURY DIP FOR SEED POTATOES

by

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It has been definitely demonstrated that seed tuber disinfection is an effective means of reducing loss from scab, and Rhizoctonia. In determining the value of a tuber disinfectant, the effectiveness of the treatment in disinfecting the tubers, and the practicability of the method in the hands of the farmer should be considered.

The principal objections to the use of tuber disinfecting has been the time, trouble and labor involved. These disadvantages of the old standard treatments have been largely overcome by a method introduced by the Minnesota Experiment Station. This is known as the acid mercury dip.

During the season of 1931 this method was tested at the Experiment Station at Corvallis in comparison with the standard mercuric chloride treatment and the hot formaldehyde treatment. The new method gave results equal to those produced by the standard long time corrosive sublimate treatment, and better than those produced by the hot formaldehyde method. The experiment station therefore feels that Oregon growers need have no particular hesitancy in trying out this method, although it would be unwise to accept a single season's result as entirely conclusive. Further trials are planned.

DIRECTIONS FOR USING THE ACID-MERCURY DIP

1. Add 4 ounces of mercuric chloride (corrosive sublimate) to one quart of commercial hydrochloric acid (muriatic acid). It will dissolve immediately.

2. Measure out 25 gallons of water in a wooden barrel, tub, or concrete tank. A metal container may be used if thoroughly painted inside with heavy asphaltum paint. The solution will corrode metal.

3. Pour the quart of acid containing the mercuric chloride into the water and mix thoroughly.

4. A wooden crate, or wire basket thoroughly painted with asphaltum paint, should be used for dipping the potatoes.

5. Dip the potatoes in the solution and allow them to remain for at least five minutes. If there is much scurf on the tubers they may be soaked longer. Soaking 40 minutes will not injure them.

6. Tubers should be treated before cutting.

7. Twenty-five gallons of the solution is enough to treat 40 or 50 bushels of potatoes, after which the solution is likely to be too weak. It can be brought back to approximately original strength by adding one-half pint of the stock solution and enough water to bring the solution back to 25 gallons. After 40 to 50 more bushels have been treated the solution should be discarded and a new one made.

8. Unless the tubers are planted immediately they must be spread out to dry. Do not store treated potatoes while they are wet. This is likely to injure them.

9. The diluted treating solution is not strong enough to injure the hands in ordinary practice. The strong acid should, however, be handled with care.

10. Remember that MERCURIC CHLORIDE IS A POISON.

The Minnesota formula calls for a little stronger solution of mercuric chloride than the one given in the above directions but the 1931 Oregon experiments indicate that good results may be expected from the strength given here.

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