

A short note on different adhesives to Bordeaux mixture.

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Bordeaux mixture is a mixture of copper sulphate and of lime in equal quantities of water. This mixture is sprayed on to plants for checking fungus diseases. Adhesives are substances added to make the constituents of the mixture adhere to the plants without being washed down.

A small trial was made in the Botanical gardens and round about Coimbatore to find out the comparative adhesive properties of different substances namely, Resin with soda, Casein with soda, Casein in lime water and Fish oil soap.

Spraying was done against Rust on figs, Sooty mould on guavas and sapotas, Fruit-rot on papayas, Die back on orange and against Mildew on grape vine.

A short description of the method of preparation of different adhesives is given below:—

Resin with soda For every 50 gallons of Bordeaux mixture 2 lbs. of resin and one lb. of soda are added. Soda available in the bazaar is boiled in a gallon of water and in the process resin is added in small quantities at a time and well stirred. This solution is boiled gently over a slow fire until the colour is like that of coffee decoction. Now it will stick on to your fingers if you dip them. This is just the stage when the vessel should be removed and the contents added to the Bordeaux mixture. Insufficient boiling, however, results in a non-sticky gritty mixture which will clog the nozzle of the sprayer. It takes about 40 minutes for the above process.

Casein with soda. The strength of the solution made was 10 oz. of Casein and 5 oz. of soda to 50 gallons of the mixture. This process is the same as above except that casein replaces resin. In 20 minutes the solution assumes the whitish colour of rice kanji. When the solution is added on to the mixture Casein readily disappears in the mixture and does not alter the sky blue colour of the mixture while resin does to a slight extent.

Casein in lime water. To make a 50 gallon mixture 1 lb. of casein and 1 lb. of lime are required. Lime is dissolved in a gallon of water to which casein is added and stirred well for about

15 minutes and the solution added to Bordeaux mixture. The Mysore Agricultural Department, however use casein with lime water. The resultant mixture is always efficacious

Fish oil soap. In this mixture fish oil soap forms only 6 per cent. To make a mixture say of 50 gallons, dissolve 3 lbs of Fish oil soap in about 16 gallons of water. This should be well manipulated until the soap is fully dissolved and added to the mixture. Don't use water containing salt as the mixture gets curdled and chokes up the nozzle of the sprayer.

Results of trials are below :—

Adhesive.	Kind of tree.	For what fungus.	No. of trees sprayed.	Effect of spraying.	Remarks.
1. Resin and soda.	Figs.	Rust.	24	Three sprayings (after the leaf fall season) once in a fortnight, keeps down the disease.	Good adhesive. It stands rain, cheap and available in any bazaar.
2. Casein and soda.	Figs Grape vine	Rust Mildew	5 6	„ „ Three sprayings after pruning checks the disease.	Very good adhesive. Costly not easily procurable anywhere. Easily damaged by insects when the bottle containing it is exposed.
3. Casein and Lime water.	Orange Roses	Die back Mildew	10 7	Pruning the dead twigs and spraying checks the disease.	Do. Do. Do. Do.
4. Fish oil soap.	Guavas and Sapotas	Sooty mould	25 9	3 sprayings minimise the degree of attack.	An adhesive of doubtful character. Easily washed down by rain. A good remedy for a combined attack of insect and fungus.

It is added that of the above adhesives spraying with the last one alone requires supervision, the other three show themselves out by their very nature on the leaves and plants even long after spraying while the last is easily washed down by rain.

So far the trials with the adhesives at Coimbatore show that resin and soda is the one that can be safely recommended to ryots.

EXTRACTS.

Newspaper Entomology.

The cutting herewith speaks for itself. If this be an average sample of newspaper information what about other matter we read day by day?

"The 'plague' of caterpillars in the Farmullen district of Lisbellaw (Fermanagh) has been the happy hunting ground of entomologists and Government officials during the past week. Since the announcement of the 'plague' these caterpillars have been discovered also in force in other parts of the country.

"Our correspondent who visited the scene of the outbreak, writes that the fields in which the caterpillars are in force are masses of crawling, black creatures, about an inch in length. Even the roadways and lanes are covered with them, particularly in the sunshine. Some farmers to prevent their ingress to their homesteads have laid around the houses a line of tar.

"Major Henderson, of Lisbellaw, who is home from British Columbia, where he has a large fruit farm, and who has experience of caterpillar plagues, being an authority on entomology, is of opinion that the 'plague' will have passed in a month or so.

"Already some fields have been partially burnt by the farmers, where the long tufts of grass were found thick with the caterpillars.

"Sir Chales Langham, Bart., Tempo Manor, has identified the caterpillars as harmless *melitoea aurinia*, known as the 'greasy fritillary.' He says the caterpillars feed on weed in wet pasture land and, therefore, do good."—Northern Whig., May 4th.

(Page 94, Entomologist's Record, and Journal of Variation
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