



**e-Arik Publication No.4**

# **Bordeaux mixture preparation and their uses in citrus orchards**



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2008**

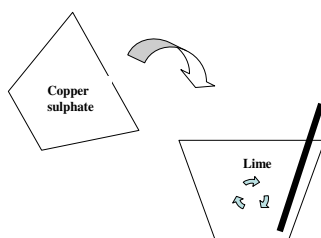
## Bordeaux mixture preparation and their uses in citrus orchards

The mixture of copper sulphate and lime was known as Bordeaux mixture.

### Preparation of 1 per cent Bordeaux mixture

1. Dissolve one kilogram of copper sulphate in fifty liters of water in a plastic bucket.
2. Dissolve one kilogram of quick lime in fifty liters of water separately in a plastic bucket.
3. Pour copper sulphate solution into the lime water slowly with constant stirring using a wooden stick.

If the prepared mixture is in the acidic range, it can be brought to neutral or near alkaline condition by adding some more lime solution into the mixture. To test the neutrality of the mixture, dip a well polished knife or a sickle in the mixture for few minutes. If reddish deposit appears on the knife/ sickle, it indicates the acidic nature of the mixture. Bordeaux mixture should be sprayed while fresh. Don't store it on standing it losses its fungicidal property. However, the mixture may be stabilized by adding sugar or jaggary at the rate of 1 kg in 100 lit of mixture. The stabilized mixture will not deteriorate for 3-5 days.



Bordeaux mixture preparation

### Precaution

- (i) The solution should be prepared in earthen or wooden or plastic vessels. Avoid using metal containers for the preparation, as it is corrosive to metallic vessels.
- (ii) Always copper sulphate solution should be added to the lime solution, reverse the addition leads to precipitation of copper and resulted suspension is least toxic.

### Merits

2. A natural adhesiveness or tenacity
3. Relative cheaper
4. Controls a wide variety of diseases
5. Safety to handle

### Demerits

1. Phytotoxic on certain crops like apple and peaches
2. Delay the ripening
3. Corroding action on metallic container

### Uses

1. Controlling of Citrus Canker: The canker disease affects nursery, seedling, leaves, twigs, branches and fruits. Affected nursery plants should be sprayed with 1% Bordeaux mixture immediately after visualization of symptoms.
2. In old orchards, pruning of affected branches before monsoon and followed by spraying of 1per cent Bordeaux mixture 3 to 5 times at 15 days interval.



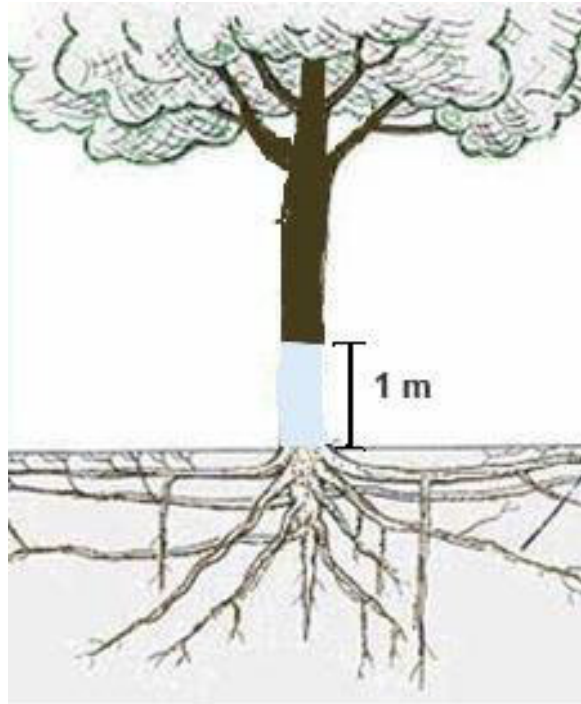
Citrus canker on leaves and fruits

### **Bordeaux paste**

Bordeaux Paste consists of same constituents as that of Bordeaux mixture, but it is in the form of a paste as the quantity of water used is too little. It is prepared by mixing 1 kg of copper sulphate and 1 kg of lime in 10 litres of water. The method of mixing solution is similar to that of Bordeaux mixture.

### **Uses**

Disease affected twigs and branches should be pruned including a few cm of healthy portion and then burn it. It should be followed by application of Bordeaux paste at cut ends. It can also be painted up to 1 m from the base of the tree. Bordeaux paste applied usually during Feb-March, Sep-Oct, and Dec-Jan to protect healthy plant from soil borne pathogen. It is a wound dresser and used to protect the wounded portions, cut ends of trees after pruning etc., against the infection by fungal pathogens.



Bordeaux mixture application at base of the tree at 1 m level

**For more details;**

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**Acknowledgement:** *This publication is prepared with the support from the Technology Information Facilitation Programme (TIFP), Department of Scientific and Industrial Research (DSIR), Grant No.: DSIR/TIF086/2007; Dated March, 2007.*