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# Homemade Bordeaux Mixtures

Instant Bordeaux Easy to Make

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**B**Y use of a new "instant" method of preparation, bordeaux mixture can now be made much more quickly and easily and with less equipment than by the old standard method.

This is important to farmers for two reasons: (1) Bordeaux is one of the most useful of all spray materials; (2) freshly-prepared homemade bordeaux mixture is usually much better and cheaper than the prepared mixtures offered on the market. Both the instant and the standard methods are described in this leaflet.

The bordeaux mixture most often used contains 4 pounds each of copper sulphate and hydrated lime to 50 gallons of water. This 4-4-50 bordeaux is used to control early blight, late blight, flea beetles, and leaf hoppers on potatoes, tomatoes, and related plants; blight on celery, spur blight on raspberries, strawberry leaf spot, and mildew of grapes.

### **Instant Bordeaux Mixture**

Only a finely-pulverized grade of copper sulphate should be used in the instant method. The copper sulphate powder, known on the market as "snow," will dissolve in cold water when thoroly agitated, in  $1\frac{1}{2}$  minutes. This method also requires a chemically hydrated lime containing 70 to 73 per cent calcium oxide. (Dolomitic lime, containing a high percentage of magnesium, is not desirable.)

To make a 4-4-50 bordeaux mixture in a 100-gallon sprayer:

- (1) Fill the spray tank one-fourth ( $\frac{1}{4}$ ) full of water.

- (2) Pour 8 pounds of copper sulphate (powder) on the intake strainer and allow the inflowing water to wash it into the tank. Agitate the solution in the tank while adding water. (With a power sprayer this may be done by running the motor. A traction sprayer may be driven around while the mixing is being done or a special agitating lever may be used.)
- (3) When the tank is three-fourths ( $\frac{3}{4}$ ) full, add 8 pounds of dry chemically hydrated lime, pouring it slowly through the intake strainer with flowing water, while the contents of the tank are being agitated. It is sometimes preferable to stir the lime into a small amount of water to make a thin, creamy paste before adding it to the tank.
- (4) If calcium arsenate, paris green, or arsenate of lead is to be added to control chewing insects, they should be made into a thin paste and added to the bordeaux mixture in the amounts recommended on the package.
- (5) Continue to add water until the tank is full and keep agitating one minute longer. The spray will then be ready for use.

### **Standard Bordeaux Mixture**

Make a stock solution of copper sulphate by dissolving 50 pounds of copper sulphate crystals in 50 gallons of water. If the copper sulphate is put into a gunny sack and suspended just under the surface of the water, it will dissolve over night. The crystals can be dissolved more quickly in a little hot water, after which cold water is added to make as many gallons of spray as pounds of copper sulphate were used.

The stock solution of lime is prepared from hydrated lime (preferably chemically hydrated lime). Stir 50 pounds of the lime with enough water to make a thin paste and then add water to bring the total to 50 gallons of milk of lime.

These stock solutions will keep almost indefinitely if protected from evaporation and rain.

To prepare 100 gallons of 4-4-50 bordeaux mixture, fill a 100-gallon spray tank three-fourths full of water and add 8 gallons of copper sulphate stock solution. Agitate thoroly and add 8 gallons of lime stock solution and agitate again. Then add poison in thin paste form and more water until tank is full. Agitate thoroly before starting to spray.

In making smaller quantities of spray, be sure to use the same proportions.

### CAUTIONS

Copper sulphate solutions should not be made or kept in metal containers. Wooden or earthen containers are satisfactory.

Bordeaux mixture should be used soon after it is prepared as it deteriorates rapidly after the copper sulphate and lime solutions are united.

Air-slaked lime should not be used. Fresh lime in air-tight bags insures best results.

If bordeaux mixture is to be used on plants with a smooth, waxy surface, such as raspberry canes, it is desirable to add an adhesive agent such as calcium caseinate (Kayso) or sweet skimmilk. One pound of calcium caseinate or one gallon of sweet skimmilk to 100 gallons of bordeaux mixture will increase the spreading and sticking properties.

If plant lice are troublesome on the crop to be sprayed, add one pint of nicotine sulphate to each 100 gallons of bordeaux mixture.

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