This is best prepared in quantities of 24 or more pounds at a time. Place 24 lb. of lime in a barrel, add enough cold water to keep the lime slaking well, and dust 24 lb. of sulphur, which has been first worked through a screen to break the lumps, over the lime; then add enough water to complete the slaking. Stir well with a hoe to prevent the lime from caking on the bottom. As soon as the slaking is over, add enough cold water to cool the whole mass and prevent further combination of the lime and sulphur. Dilute with enough water to make up the strength of the above formulæ. Strain diluted mixture through sieve into spray-tank and agitate well when using.

Dry Sulphur is sometimes used as a fungicide to check the spread of mildews and brown-rot on plums, cherries, etc. For this purpose it is dusted on the tree, or vine, when the disease is first noticed. It is doubtful whether this is practicable on a large scale.

Potassium Sulphide (liver of sulphur) is sometimes recommended for the control of mildews. Use 3 to 5 oz. of the above to 10 gallons of water. It does not spot the foliage or fruit.

Ammoniacal Copper Carbonate.—Sometimes used where spraying is necessary when fruit is nearing maturity. Use 5 oz. of copper carbonate with just enough ammonia to dissolve it. Dilute with 40 gallons of water. If the ammonia is very strong it is advisable to dilute it with water before adding to the copper carbonate.

Bordeaux Mixture.—Where Bordeaux mixture is to be used in quantity it is advisable to make stock solutions. To make a stock solution of copper sulphate, put 20 gallons of water in a 40-gallon barrel; place in sack (preferably of a coarse nature, such as a light bran-sack) 80 lb. of copper sulphate (bluestone); suspend this in a barrel so that the bottom of the sack is 5 or 6 inches under water. In a few hours, or at least a few days, the copper sulphate will go into solution. Mark on the inside of the barrel the surface of the solution, so that if any evaporation takes place it can be replaced with water to make up the original quantity. After the copper sulphate is all dissolved each gallon of the solution will contain 4 lb. of copper sulphate. This proportion is given as an example, but any quantity can be used to suit the requirements of the maker. It is not desirable to dissolve more than is required for a month's use, as it will become weak through recrystallization at the bottom of the barrel and require dissolving again. Use only brass or wooden vessel as a container.

Lime.—Only good fresh stone-lime should be used. This can be made into a stock solution also. In slaking the lime, use just enough water to make it slake rapidly without being allowed to powder, which indicates burning through lack of water. Watch the lime carefully while slaking and keep it stirred. If the lime is not first quality, better results will be obtained through the use of hot water. If the above directions are carried out, the result should be a smooth white paste which, when water is added, will strain readily. Dilute the milk of lime with water, so it will be possible to know how many pounds of stone-lime is in each gallon of the lime-water. Mark barrel to allow for evaporation, as in the case of the copper-sulphate solution.

After the stock solutions have been prepared, to make the 4-4-40 Bordeaux mixture, proceed as follows: Use two barrels besides the spray-barrel. In one barrel put 1 gallon of the copper-sulphate solution, which, according to the strength of the solution as described above, will contain 4 lb. of bluestone. Dilute this to 20 gallons by adding 19 gallons of water. In the other barrel place stock solution of lime containing 4 lb. of lime, and dilute with water to make up 20 gallons. Stir both of these well and then pour them into the spray-barrel, so that the two liquids will unite as they enter. By following these directions carefully a Bordeaux mixture will be prepared which will stand in suspension well, stick well to the tree, and be effective. It is advisable to use this mixture within a few hours after making. It is advisable to strain the mixture as it goes into the spray-barrel. For this purpose a brass strainer fixed in a cone shape in the bottom of a pail with an outlet is