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## Mixing The Chemicals

It still seems incredible that so many gardeners continue to treat their plants in a haphazard fashion. Buy a set of measuring spoons and a measuring cup, marked in ounces. Buy a large pail and mark it off in gallons. Then measure, exactly!

Dosage directions are usually given in pounds per 100 gallons of water, with or without translation on the label into small amounts. Not much arithmetic is required to figure a smaller dosage, if you remember a few measurements:

### Conversion table

3 teaspoons	= 1 tablespoon
2 tablespoons	= 1 fluid ounce
16 tablespoons, 8 fluid ounces	= 1 cup
16 ounces, 2 cups	= 1 pint
2 pints, 4 cups	= 1 quart
16 cups, 8 pints	= 4 quarts = 1 gallon
1 acre	= 43,560 square feet

Suppose 3 gallons of a 2 to 100 dilution of lime sulfur is desired. That is the same as a 1 to 50 dilution. Three gallons constitute 48 cups; so if 1 cup of liquid lime sulfur is added to 3 gallons, you will have a 1 to 49 dilution, and that is close enough.

Or suppose you want to make 4 gallons of Zineb at the rate of 1 1/2 pounds per 100 gallons. That is 24 ounces per 100 gallons, or .24 ounce for 1 gallon and .96 ounce for 4 gallons. That is approximately 1 ounce to weigh on your small

scales. It also works out at about 1 level tablespoon of the Dithane powder per gallon, and it is easier to measure than to weigh. There is, however, a good deal of volume variation, depending on how fluffed up the material is at the time you measure it; so weighing is preferable.

When you buy chemicals in small packages designed for the home garden, the dosages given on the labels will probably be in terms of tablespoons per gallon, and you need only follow directions. When, to save a good deal of expense, you buy the larger sizes intended for farmers, the directions may be given only in terms of pounds per 100 gallons. As a very rough rule of thumb, you can figure 1 tablespoon per gallon where directions call for 1 pound per 100 gallons, but the different mixtures have different weights so this is not very accurate.

At the rate of 1 pound to 100 you would use, accurately, 3/4 T captan 50 %, 1 T chloranil (Spergon), 1/3 T copper sulfate, 2/3 T dichlone 50 % (Phygon), 1 1/4 T ferbam, 1/2 T maneb, 1 T spray lime, 3/4 T thiram, 1/2 T sulfur, 2/3 T zineb (Dithane Z-78 or Parzate), 1 1/4 T ziram to 1 gallon of water.

Sometimes materials for soil treatment are given in pounds per acre. Knowing that one acre contains 43,560 square feet, you can make a proportion to find out how many pounds are required per 1,000 square feet.