



## HAWAII COOPERATIVE EXTENSION SERVICE

College of Tropical Agriculture and Human Resources

University of Hawaii

GENERAL HOME GARDEN SERIES No. 27

### FERTILIZATION OF ROSES

by Wade W. McCall\*

Roses need an adequate supply of plant nutrients to produce good growth and beautiful flowers. In addition to the beautiful foliage and flowers, other benefits result from a desirable fertilization program. A vigorous healthy rose can better withstand attacks by diseases and insects than those struggling for survival. They can also better withstand wind damage and adverse weather conditions.

#### Nutrients Needed

Complete fertilizers—those containing nitrogen, phosphorus and potassium should be used. In addition the micronutrients or trace elements may be needed on the highly weathered soils of Hawaii, the sandy soils and alkaline soils (those with pH 7.1 or above). The rose plant requires relatively high amounts of phosphorus, which promotes root development and growth and flower formation. Most of the soils in Hawaii are deficient in this element and have the ability to fix large amounts when added to the soil. For this reason fertilizers with an analysis such as 10-30-10, 13-39-10, etc. are considered best. Where pH or other conditions indicate the need for micronutrients these may be mixed with the 10-30-10 or other analysis and are obtainable as “plus” or premium grade mixtures. If these nutrients are desired, the grower should request a fertilizer containing them.

It is best to have your soil tested, to eliminate the guesswork from your fertilizer program. Your County Agricultural Agent can assist you in getting your soil tested. Carefully follow directions in taking soil samples or your soil test results may be meaningless.

#### Fertilizer Types

Fertilizers may be organic or inorganic. Organic may be synthetic such as urea or natural—those derived from once living plant or animal sources such as tankage, manures, cottonseed meal, compost, etc. Inorganic fertilizers are those derived from other sources.

Organic fertilizers are less likely to burn the plant, reduces leaching losses, and add organic matter to the soil. They are generally low analysis, variable in

composition, and expensive per pound of plant food.

The inorganic fertilizers generally have higher analysis; are more uniform in amount and form of plant nutrient; and can be used without harm when applied according to recommendations. If used improperly it can burn plants. When using inorganic fertilizers a program of adding organic matter to the soil is needed to maintain good soil structure.

Fertilizers may be applied as dry powder or granulated material, high analysis, all soluble material, or liquid materials. The form used is not as critical as the proper balance of nutrients in the proper concentration to meet the needs of the plant. With any of these materials carefully follow directions on the package. The adage that “if a little fertilizer is good, more will be better” is misleading and can do more harm than good to your plants.

#### How To Apply Fertilizers

Fertilizers should be applied uniformly to the soil. For dry fertilizers, be sure that the soil is moist to reduce the danger of burning the roots. Water the plants the day before you apply the fertilizer. When applying the fertilizer, place it no closer than 3 inches from the base of the plant and out to the leaf drip line; then scratch the fertilizer lightly into the soil. Better still make small holes in the soil some 6 inches deep, some 12 and some 18. These holes should be placed randomly in the area 3 inches from base of plant out to the leaf drip line. Place a proportionate amount of the fertilizer in each hole and cover. Thoroughly water after either method of application.

Liquid fertilizers can be applied directly to the soil or can be injected into the soil within the root area. Apply within the same areas as for dry fertilizer and exercise same precautions. The high analysis all soluble materials may be applied in the dry form or may be dissolved in water and applied as a liquid.

Liquid fertilizers may be diluted in water and applied as a foliar spray as may the all soluble materials. Foliar sprays are an excellent supplement

to the regular fertilizer program. It is an excellent method of applying the micronutrients. The spray should have a sticker-spreader (a common household detergent works fine) to insure even application and adsorption of plant nutrients. Spray both surfaces of the leaf thoroughly until solution just begins to drip off. Regular dry fertilizers are not suitable for foliar sprays.

#### **When To Fertilize**

Fertilizer properly when preparing the soil for planting. This greatly reduces the problem of getting nutrients to the plant roots and maintaining an adequate supply of nutrients. Apply fertilizer just after the plants have completed one burst of bloom. This provides the needed nutrients for new growth and next bloom. Then make an application every six to eight weeks. You may apply every two, three or four weeks but apply less fertilizer each time.

You may alternate with dry, liquid and foliar feeding if you follow this method.

A consistent program of fertilization is best. Follow recommendations on the package carefully as fertilizers in any form can cause damage to plants if used incorrectly. If using foliar sprays, do not spray if temperature is 90°F or above as this may cause leaf burn even though you follow all directions carefully.

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**NOTE:** The use of trade names is for the convenience of readers only and does not constitute an endorsement of these products by the University of Hawaii, the College of Tropical Agriculture and Human Resources, the Hawaii Cooperative Extension Service, and their employees.

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