COPPER DEFICIENCY IN AZALEAS

According to Dr. Roy Branson, Extension Soils and Water Specialist, and R. H. Sciaroni, Farm Advisor, copper deficiency in azaleas has been observed at two nurseries in San Mateo County. In the advanced stages of copper deficiency the new leaves on azalea plants are small and there is considerable leaf scorch on some varieties. The below listed varieties were most severely affected:

- Snow
- Hino-Crimson
- Hexe
- Ballerina
- Paul Schame
- Coral Bells
- Greeting
- Duc de Rohan
- Pink Champagne
- Pink Gumpo

The causes of copper deficiency are mainly: (1) peat contains only small quantities of copper and prolonged container culture without addition of copper can cause deficiency symptoms and (2) copper is generally not present in liquid fertilizer programs. Dry fertilizer materials commonly used in past years apparently supplied copper in sufficient quantities to prevent deficiency symptoms from developing.

Experiments were conducted to determine if copper-containing sprays would correct the symptoms. Spray applications of 0.2 lb. and 0.4 lb. of copper sulfate per 100 gallons of water applied to run-off appeared to correct the problem without injuring the plants. Severe foliage burn and even death of some plants occurred with spray applications containing 1-1/2 and 3 pounds copper sulfate per 100 gallons of water.

If copper deficiency is suspected, contact your farm advisor for additional information. Remember—it is safer to try small test plot treatments at first.

R. H. Sciaroni

OPENING CHRYSANTHEMUM BUDS

Chrysanthemum growers often find it necessary to "clear" a bed in order to prepare the ground for the next scheduled crop. Some of the late flowers are cut as buds showing color or in more advanced stages of maturity, but not opened sufficiently to be marketed. The following treatments were tried in three different tests in Santa Clara County with the cultivars 'Albatross' and 'Fred Shoesmith.'

1. Plain water, low light (5 F.C.)
2. Plain water, high light (50 F.C.)
3. Petalife
4. Everbloom, low light
5. Everbloom, high light
6. F.M. Super
7. 2% Sucrose plus 200 ppm 8-Quinolol Sulfate

Approximate temperature of 70 degree F. was maintained for all treatments.

Neither of the plain water treatments opened satisfactorily, while all preservative treatments opened reasonably well, with the high light being an improvement over the low light treatment. The F.M. used at the rate suggested by the manufacturer caused severe foliage damage. Although no satisfactory measurement could be carried out, visual evaluation favored the "Everbloom" over the sugar and 8-QS, followed by "Petalife." Time to open varied from 2 to 4 days depending on the stage of maturity of the buds. There was a slight tendency towards reflexing of petals in all treatments which opened.

This information agrees closely with the preliminary work being done by the Agricultural Research Service in Florida and Beltsville as well as results obtained by Farm Advisor Seward Besemer some years ago at Cornell. In addition to routine grower use, it opens up possibilities for shipment of immature chrysanthemum flowers.

P. J. Lert