

Iron Sequestrene For Rose Chlorosis Control

By Robert Lateer and Ray Hasek

Considerable work has been done during the past summer testing Iron Sequestrene, a commercial form of Iron E.D.T.A., on roses for the prevention and control of iron chlorosis. Tests were conducted at Twin Nursery, Avansino-Mortensen Nursery, Kuramoto Nursery Co., Kawai Nursery Co. Niven & Sarrat Nursery, James Knecht Nursery and the Mt. Eden Nursery Co.

In all cases, the material used was Iron E.D.T.A. containing 12% iron expressed as the metallic ion. Rates and results are based on this material and should be corrected to compensate for the lower iron content of other materials which may be used. In some tests, a new material called Chel 330 Fe (containing 10.5% iron as the metallic ion) was applied to similar plots and compared to Iron Sequestrene. No differences were detected between plants treated with comparable amounts of the two materials even though in some cases the pH of the soil was as low as 5.0-5.5. Chel 330 Fe has been reported to work better on high pH soils and might have possibilities where this problem exists. Considerable injury occurred when foliage applications were made with both materials even though dilute solutions were used.

The following varieties were tested:

Red Delight	Talisman
Better Times	Briarcliff
Yellow Gloria	Delightful
Rose Elf	Red Garnet
Elf Supreme	Pink Garnet
Rome Glory	Fashion

With the exception of Red Delight, excellent results were obtained on all varieties. Red Delight was slower to show results and unless badly off color at the time of treatment showed very little response. Better Times showed a marked increase in growth response as a result of iron applications. Better breaks and stem caliper was observed on Better Times plants treated at the Kuramoto Nursery. In the case of Rose Elf, many chlorotic plants thought to be diseased or having imperfectly healed buds on the understock responded to Iron Sequestrene applications. The leaves became dark green, flower color deepened and plant vigor approached a normal level. As a matter of pure speculation, it has

been thought that if past observations are indicative then properly timed applications of Iron Sequestrene to field stock at or about the time of budding might result in a better "take" or "stand" of plants.

The material was most easily applied when mixed with a regular feed at such time control of iron chlorosis was needed. From past results initial rates of application should be 2 - 4 oz. per 100 sq. ft. of bench depending upon the severity of the iron chlorosis. Preventive feeds of 2 - 4 oz. per 100 sq. ft. can be made three times a year on roses. The lower rate is of course less costly and should suffice for most circumstances. Suggested application periods would be October 1, January 1, and June 1. High phosphorus content fertilizers should be avoided at the time of iron applications since phosphorus is capable of tying up available iron in the soil and might react with the Iron Sequestrene products.

Applications of Iron Sequestrene to a rose range in excellent growing condition did not show results until such time as cultural conditions changed to make the plants go off color. The time lag between application and appearance of noticeable results was usually 10 to 21 days depending upon existing conditions.

Several adverse conditions can be responsible for rose chlorosis. Some are:

- Iron Deficiency
- Lime-induced chlorosis (high pH)
- Poor drainage
- Hot weather
- Root injury from over fertilization
- High phosphorus in the soil
- Soil pests such as symphylids or nematodes

Iron Sequestrene is not a miracle product and will not correct adverse conditions of plant growth. It will serve as a stop-gap measure and aid the plants to respond faster when unfavorable conditions are corrected. Plants treated with Iron Sequestrene as a prevention of chlorosis seem to retain their color better at such times as unfavorable conditions are present.

--U. of Calif. Ext. Service Flower

Notes: 15