

Use of Metalosate® Iron Foliar to Reduce the Quantity of Fe-DTPA Fed Through Drip on Roses in Kenya

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INTRODUCTION

The application of Metalosate® Iron as a foliar spray has proven very effective in solving iron deficiencies. This is due to the fact that the iron supplied by the Metalosate® Iron is in the form of an amino acid chelate which is easily absorbed and bioavailable to the plants. It readily passes through the plant cuticle and is then quickly utilized by the plant. In leaves of most plant species, chlorosis is the most commonly seen symptom. The required concentration of iron in green plant tissue is in the range of 50 - 150 ppm.

MATERIALS AND METHODS

The purpose of this experiment was to determine whether spraying Metalosate® Iron will reduce the quantity of iron required by roses through the drip system in a daily feeding program.

The experiment was conducted at Finlay Flowers II Farm in greenhouses H 88 variety 'Eskimo' and H 58 variety 'Tropical Amazone'. These varieties normally show symptoms of iron deficiency very rapidly. Both greenhouses had six gate valves, and each of the gate valves comprised a total of twelve beds. Each gate received different treatments of iron, as shown in Table 1. Metalosate® Iron was sprayed once a week at a rate of 1

L/Ha (14 fl. oz./acre) (i.e. 1 ml/L) in 1000 L/Ha (100 gal./acre) per week on treatments 2-5.

Leaf samples were taken from both greenhouses and tested for the total iron present in leaf tissues before the experiment began and then six weeks after the onset of the experiment. Scouting was done weekly to check for interveinal iron chlorosis.

TABLE 1 TREATMENTS SPRAYED IN H 88 VARIETY 'ESKIMO' AND H 58 VARIETY 'TROPICAL AMAZONE'

Treatment #/Gate Valve	Treatments Applied
1	100% Fe-DTPA through drip (5g/m ³) Daily for 7 days a week
2	100% Metalosate® Iron. (One foliar spray per week)
3	75% Fe-DTPA + 25% Metalosate® iron (5 days of Fe-DTPA, 1 foliar spray Metalosate® Iron per week)
4	50% Fe-DTPA + 50% Metalosate® iron (3 days of Fe-DTPA, 1 foliar spray Metalosate® Iron per week)
5	25% Fe-DTPA + 75% Metalosate® iron (2 days of Fe-DTPA, 1 foliar spray of Metalosate® Iron)

RESULTS AND DISCUSSION

Interveinal chlorosis was observed on treatment 6 (beds not receiving Fe-DTPA or Metalosate® Iron) after a period of 1 week. Therefore, all twelve beds had to be sprayed with the Metalosate® Iron once, then fed with the Fe-DTPA daily through the drip to correct the iron deficiency.

Results also showed that beds sprayed once a week with Metalosate® Iron (T2) had higher content of iron in leaf



FIGURE 1. ESKIMO ROSE

tissues, compared to beds fed with Fe-DTPA through drip for seven days a week. No significant differences were observed on all of the plots treated with the combination of Metalosate® Iron and Fe-DTPA. All of these plots did have higher iron content in the leaves when compared to plots that were treated with Fe-DTPA through the drip. Weekly scouting revealed that plots treated with Metalosate® Iron had greener leaves when compared to plots treated with Fe-DTPA.

The results showed that a single spray of Metalosate® Iron once a week supplies enough iron to leaves of plants to be within the required standards (50-150 ppm). For additional information on how Metalosate® Iron or any of the Metalosate® products can benefit you or your customers please contact your local Albion Plant Nutrition representative. [representative.☞](mailto:representative@albion.com)