



**COLORADO FLOWER GROWERS
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Control of Rust Using Plantvax in Fertilizing Systems

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Previous work has shown that Plantvax watered into soil in which carnations were growing may control rust (Colorado Flower Growers Association Bulletin No. 211). The treatments were applied by watering can as a drench periodically. The results suggested that Plantvax might be injected by liquid proportioners into modern feed systems along with nutrient solutions. This paper reports the success of such attempts.

Most liquid injectors now in use proportion at the rate of one part concentrated nutrient solution to 200 parts water. Plantvax is soluble up to concentrations of 1000 ppm. Thus, the maximum concentration which could be applied to the plants would be 5 ppm. Treatments were set up so that the maximum of 5 ppm was applied to plots beginning immediately after planting with other rates of 1 and 0.1 ppm. A nontreated control was also included.

Plants were benched in June, 1967, with each plot containing 30 plants at standard spacing replicated three times. This included two buffer rows per plot so that only 20 plants were read for signs of rust in each plot. Plants were inoculated at intervals through the fall of 1967, and final rust incidence was recorded May 15, 1968.

Table 1 illustrates results. The 5 ppm rate was very effective in control. Some control was achieved at 1 and 0.1 ppm. Since these plants were inoculated under conditions favoring rust development, it is possible that these results give only a conservative idea of the control possible in commercial greenhouses.

It is now possible to recommend formally that Plantvax applied at 5 ppm to plants through liquid

fertilizer solutions be tested in commercial ranges. This is being done at present on a relatively large scale.

NOTE: U. S. Rubber Company, manufacturers of Plantvax, have indicated that Plantvax may be available commercially by January 1, 1969.

Table 1. Average number of plants and leaves/plot with rust treated with various concentrations of Plantvax applied through liquid injector systems with nutrient solutions.¹

Concentration of Plantvax	Number of Plants with rust	Number of Leaves with rust
ppm	avg	avg
5	4	9
1	14	47
0.1	14	43
Control	20	104

¹Total of 20 plants/plot in three replications.