



Bulletin 2

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NITRATE AND POTASH FERTILIZATION OF WHITE PATRICIAN  
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Tests two years ago at this station indicated that five different levels of  $\text{NO}_3$  (20 ppm to 100 ppm) gave no significant differences in yield and quality of flowers, although there was a regular gradation in the results from highest yield on highest  $\text{NO}_3$  to lowest yield where  $\text{NO}_3$  was lowest.

The test was repeated last year using nitrate levels of 20, 40, 60, 100 and 140 ppm. Two of the four plots of each level had potash added at the same times and at the same rates as the ammonium sulfate used to raise the nitrate tests. Each nitrate treatment was repeated four times.

Tensiometers were used in each of the twenty plots, and surface hand watering was done whenever the instrument gave a three inch reading.

Flowers were graded as "first, medium, short and split." The highest total yield came from the 60 ppm  $\text{NO}_3$  plots, with 100 ppm second and very little difference in yields for the other treatments. Statistical analysis showed no significant difference in yield in any grade except the "splits." Here there was a significant difference to the 1 percent level in favor of the highest  $\text{NO}_3$ , there was less splitting where the nitrate was consistently high, than on the lowest  $\text{NO}_3$ .

Because Patrician is a plant of large leaves and stems, it is doubtless a heavier feeder than many varieties. The 60 ppm  $\text{NO}_3$  which gave best yields here may be higher than would be suitable for other varieties and in other climates. Also,

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since plots were kept uniformly quite moist by watering on a three-inch tensiometer reading, the plants probably responded differently to this  $\text{NO}_3$  level than would be the case if no tensiometer were used or the soil was allowed to get extremely dry before watering.

Less splitting on the highest  $\text{NO}_3$  is probably due to less fluctuation of  $\text{NO}_3$  in this case rather than to the  $\text{NO}_3$  level itself.

There was no difference for or against the addition of potash.