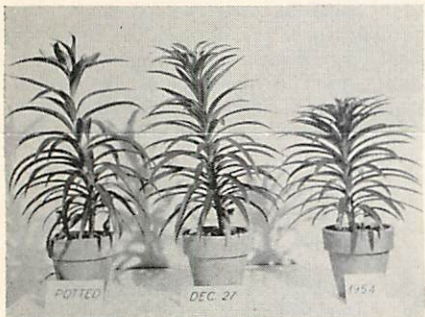


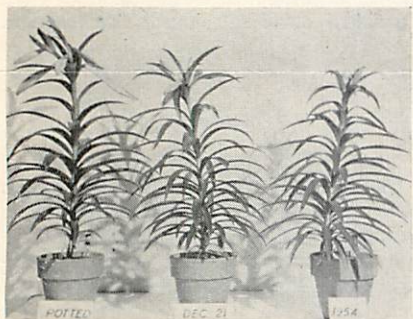
LILY NUTRITION

In 1955 and 1956 nutritional experiments on lilies were conducted by the Floriculture Section to determine the cause of tip burn. The experiments were designed to determine whether the nutrition of lilies affected the height and instance of leaf scorch on lily plants. The conditions of very tall plants and foliage showing scorching can, singly or in combination with each other, seriously reduce the expected income from a crop of lilies.



Lily on left received high calcium with phosphorus added showing some tip burn.

To study this nutrition factor in lilies, various levels of nitrogen (N), phosphorus (P), potassium (K) and calcium (Ca) were established. Results of this experiment showed no statistical difference in the height of the lily plants. Previous work done by investigators at other institutions have noted that the stretching of lilies is due to improper or careless watering methods and poor management of lily spacing requirements.

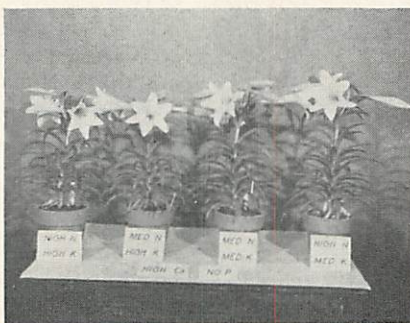


Lily on right received high calcium and low phosphorus showing no tip burn.

The lily plots were established with high and medium levels of N, P, K and with high, medium and low levels of Ca. All high plots of N and K re-

ceived one ounce per two gallons of water of nitrate of soda (N) and muriate of potash (K) every two weeks. The medium plots received wheelbarrow of soil. Low plots of phosphorus received no additional phosphorus because the potting soil contained 2 ppm phosphorus and this amount was sufficient to establish the low range of phosphorus. The source of P was in each instance superphosphate. Calcium (Ca) in the form of dolomitic limestone was added to the low calcium plots at the rate of a 3-inch clay pot per wheelbarrow of soil. Calcium was added to the high plots at the rate of a 7-inch clay pot per wheelbarrow of soil, and at the rate of a 5-inch clay pot per wheelbarrow of soil.

Tip burn as a result of these nu-



Lilies fertilized at various levels of nitrogen and potash showing very little difference in height due to the different rates of fertilization.

tritional plots was evident in the low Ca and high P plots. No tip burn was recorded in the Ca and low P plots. Tip burn was reduced in all cases in the high calcium plots, but never completely eliminated. The most serious

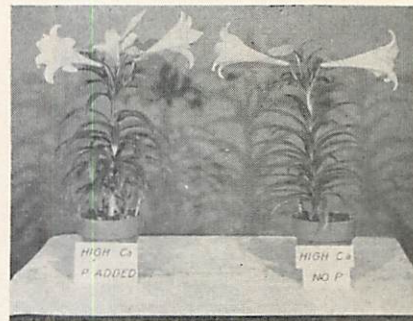


instances of tip burn was evident in the plot low in Ca where P was added to the potting soil.

Recommendations on the basis of these nutritional plot studies are as follows:

1. Add dolomitic limestone at the rate of a 5-inch clay pot per wheelbarrow of soil if the pH of the soil is low.
2. If the pH of the soil is high, or above 6.0, use gypsum at the same rate in place of the dolomitic limestone.

In most areas of North Carolina the pH of the native soils is low and dolomitic limestone can be used in the rates recommended above. If these native soils have been phosphated for previous crops, add no phosphorus to these soils. If the native soils have not been phosphated and test low in



Lily on left received low calcium and phosphorus resulting in tip burn.

phosphorus, phosphorus can be added at the rate of a 3-inch clay pot per wheelbarrow of soil.

From the results of this lily nutrition work at N. C. State College, lilies can be safely fed every 10 days with nitrate of soda plus muriate of potash. This feeding should not be started until the lilies are 4 inches high.

