

CONTROLLED-RELEASE NITROGEN ON ORNAMENTALS IN CONTAINERS

The advantage of a fertilizer program for container-grown ornamentals that consisted of a preplant incorporation of controlled-release nitrogen as well as phosphorus, calcium and potassium and a postplant liquid or dry program was indicated in the report (1) on studies conducted in 1966 in California nurseries. Data from studies in 1967 further substantiate the advantage of this fertilizer program over either preplant incorporation of controlled-release or postplant liquid fertilizer program alone.

At the Edwards Nursery, East Palo Alto, California, plants of *Arctostaphylos uva-ursi* "Radiant" were planted in July. The soil mix for the study consisted of the following: 2 parts clay loam, 1 part lava rock and $6\frac{1}{2}$ parts redwood sawdust. The basic fertilizer incorporation by the grower consisted of the following amounts per cubic yard of soil mix:

0.7 pounds potassium sulfate	3.7 pounds calcium carbonate grits
2.7 pounds single superphosphate	2.7 pounds agricultural lime
1.8 pounds treble superphosphate	3.7 pounds cooked bone meal
4.6 pounds dolomite	1.4 pounds iron sulfate

Postplant liquid fertilizer program consisted of constant feeding with nitrogen (108 ppm) and potassium (180 ppm) from calcium nitrate and potassium chloride.

Preplant incorporation of controlled-release nitrogen was as follows:

1. No nitrogen incorporation
2. Urea-formaldehyde (38 percent N) - 1/2 pound N per cubic yard
3. Urea-formaldehyde (38 percent N) - 1 pound N per cubic yard
4. Urea-formaldehyde (38 percent N) - 2 pounds N per cubic yard
5. Sulfur-coated urea (26.2 percent N,
1 percent dissolution in 1 day)- 1/4 pound N per cubic yard
6. Same as No. 5 - 1/2 pound N per cubic yard
7. Same as No. 5 - 1 pound N per cubic yard

Results.

Best growth of plants over a three month period resulted when small amounts of controlled-release nitrogen were incorporated in the original canning mix. Chlorosis and reduced growth resulted on plants grown at the highest rate of both materials. At the lower rates, the plants receiving sulfur-coated urea were slightly better than those receiving urea-formaldehyde. All plants receiving moderate amounts of controlled-release nitrogen exhibited better growth than those without.

Literature Cited.

Furuta, T., R. H. Sciaroni, J. R. Breece 1967. Sulfur-coated Urea Fertilizer for Controlled Release Nutrition of Container-Grown Ornamentals. Cal. Agr. 21(9):4-5

Table 1 - Observations with plots ranked from best to worst growth

Treatment	August 22, 1967		September 22, 1967		October 23, 1967	
	Observation	Rank	Observation	Rank	Observation	Rank
1		5	<u>Arctostaphylos</u> Good growth	5		5.3
2		5	Excellent growth with plot 3	4	Excellent growth	2.7
3	Best growth with plots 5 & 6	1	Excellent growth with plot 2	3	Excellent growth	4.3
4	Slight chlorosis and plants stunted	4	Chlorosis of foliage, poor growth	6	Same as plot 1	5.3
5	Best growth with plots 3 & 6	1	Best growth with plot 6	2	Best growth with plot 6	2.3
6	Best growth with plots 3 & 5	1	Best growth with plot 5	1	Best growth with plot 5	1
7		5	Chlorosis of foliage and poor growth	7	Chlorosis of foliage	7

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