

SOIL PHOSPHORUS AND LILY LEAVES

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Phosphorus has long been known to be involved in lily leaf scorch. (Figure 1) With the introduction of new lily cultivars, scorch has ceased to be a serious problem. But it does occur occasionally on some cultivars, while others may exhibit tip burn.



Figure 1. Leaf "scorch" on 'Nellie White'.

The question of toxicity from multiple phosphorus applications arose when superphosphate or MagAmp was incorporated into the soil, a complete fertilizer was used, Phosfon was applied to reduce height, and demeton (Systox) was applied to the same lilies for

aphid control. All of these phosphorus sources might be sufficient to induce scorch on normally tolerant cultivars.

- a. All soils prepared with limestone to obtain pH ca 6.7
- b. This soil was then treated with:
 1. MagAmp
 2. 0-20-0
 3. Control
- c. From the above treatments, secondary applications were made of:
 1. Phosfon L
 2. demeton
 3. demeton plus Phosfon L
 4. control

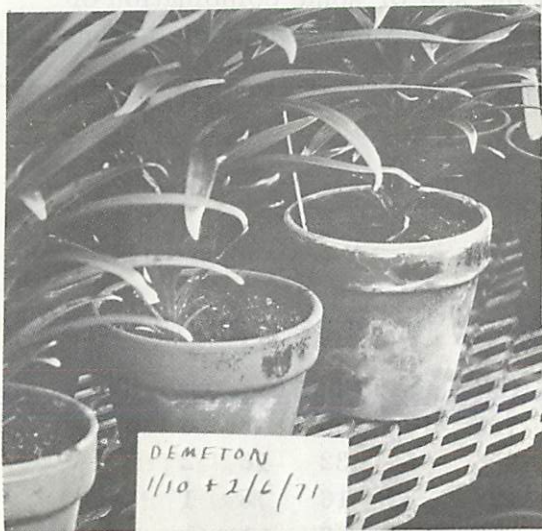


Figure 2. Foliar burn on 'Ace' lilies drenched with demeton. The bronzed and burnt leaf tips exhibit symptoms quite different than scorch.

In each of the preceding 12 combinations, 'Ace', 'Nellie White' and 'Arai' bulbs were planted. Demeton treatments were made on January 9 and February 6. Phosfon L was applied January 16 when lilies were 2 to 4 inches tall.

In all combinations, only one treatment exhibited foliar burn. This was demeton. (Figure 2) This appeared irrespective of the other phosphorus treatments. It must be considered a phytotoxic response rather than a phosphorus induced nutritional disorder.

This demeton phytotoxicity to lily has been reported by several sources (Florists Newsletter, 3/66). But in many instances where entire crops have been treated in Connecticut, the foliar burn has not appeared. It would seem that the soil or some combination of factors prevents the injury in some greenhouses.

LIQUID MEASURE EQUIVALENTS

	<u>Gal.</u>	<u>Qt.</u>	<u>Pint</u>	<u>Cup</u>	<u>Oz.</u>	<u>Tbsp.</u>	<u>Tsp.</u>
Tsp.	768	192	96	48	6	3	1
Tbsp.	256	64	32	16	2	1	
Oz.	128	32	16	8	1		
Cup	16	4	2	1			
Pint	8	2	1				
Qt.	4	1					
Gal.	1						