

## LILY MERISTEM CULTURE

The propagation of plants from sterile stem apices under sterile conditions has become commercially feasible as a means of producing disease-free vegetatively propagated planting stock. Procedures have been reported for meristem culture of 'mums, carnations and orchids. Attempts with other plants have been unsuccessful because each species seems to have slightly different nutrient requirements.

Recently, however, Kohl and Nelson (Dept. of Environmental Horticulture, U.C.D.) reported culturing lily apices in a growing medium of Hoagland's #2 plus Hoagland's trace element solution made up in distilled water to which 2% sucrose and 3 ppm iron (chelate) were added. They indicated successful cultures resulted even when plants were grown in a lighted, humid chamber at 100°F for four weeks previous to removal of the apex (a procedure which has been used for other plants to inactivate some virus diseases).

Very simply, the technique at U.C.D. consisted of exposing a lily apex by leaf removal, cutting it from the plant under a dissecting microscope, and placing it on a paper stage in a small screw-cap vial containing sterile nutrient solution.

Roots formed after 12-16 weeks under normal room lighting and temperature. Plantlets were transplanted to soil after 20 weeks and grown on in a 60°F greenhouse. Details of their procedure are given by Kohl and Nelson in The Plant Propagator, 12:2, 6-8 (1967).