

brehtaking crimson as they ripen along toward autumn.

Another lavish spectacle on our vacation was the sight of thousands of trees of *Gordonia lasianthus* in full bloom in Florida along part of the route we took to Daytona Beach, where we visited a college age daughter. And I managed to get through this trip down home with some lagniappe from John Giordano, carefully carried in the car. It was a plant of *Magnolia pyramidata* he had grown from seed, potted up, and was holding for just such a deserving fellow as me, willing and ready to tackle the

woods in our sunny homeland to see this stunning collection of Magnolias and other plants in their natural setting.

A couple of years ago I germinated seedlings of the Texas form of this plant, but they didn't make it through the Maryland winter. Now I'll try again with the Mississippi form, and I hope I'll be able to profit from past mistakes and give it adequate protection not only from the cold but also from the hot summer sun and the drying winds until it's big enough to shift for itself. I've got to see what this little girl looks like all decked out with flowers.

## Root Hardiness of Magnolia

by Dr. John R. Harris

Producers of container stock are aware that some kind of winter protection is needed for many species to prevent low-temperature kill of the roots. In our publications (1, 2) on the root killing temperatures of nursery crops, both *Magnolia stellata* and *M. × soulangiana* were rated at 23° F. Mr. Michael Johnson of Summer Hill Nursery in Connecticut challenged me on this, saying that of the two *stellata* has significantly harder roots. With one-year plants grown from rooted cuttings provided by Mr. Johnson, root hardiness tests were conducted on three Magnolias: *stellata*, × *soulangiana* and 'Ricki,' the latter an introduction from the U.S. National Arboretum.

In January, 1980, root balls were held four hours at test temperatures consisting of 3° intervals between 26° and 11°. Afterward, the plants were forced in a warm greenhouse and roots and top growth were observed for evidence of injury.

### Results

Roots were examined for discoloration

four weeks after the freezing tests. Temperatures that produced obviously more than 50 per cent root kill were *soulangiana* 23° F, 'Ricki' 20° F and *stellata* 17° F.

Eight weeks after freezing, leaves had expanded and growth had begun. Careful measurement of leaves at mid-height of the plants revealed that leaf-size was markedly smaller (compared with unfrozen controls) on those with roots frozen at: *soulangiana* 23° F, 'Ricki' 20° F and *stellata* 17° F.

These results confirm Mr. Johnson's observations that *stellata* and 'Ricki' roots are 3° to 6° F harder than *soulangiana*, which can be of considerable importance to survival in winter storage.

### Literature Cited

1. Havis, J.R. 1976. Root hardiness of woody ornamentals. *HortScience* 11:385-386.
2. Havis, J.R. and R.D. Fitzgerald. 1976. Winter storage of nursery plants. Cooperative Extension Service Pub. 125, University of Mass., Amherst.