

FOREST BIOTECHNOLOGY

TREE SCIENTISTS RALLY FOR 'LOBLOLLY LOBBY'

CHAPEL HILL, N.C.—Forest biotechnology has been growing too slowly, according to a new organization founded both to lobby for increased funding for basic research on tree biology and to increase communication among this field's various interest groups. The association's executive committee was scheduled to meet at the beginning of May to hammer out its goals and methods. As yet unnamed, it is chaired by Anne-Ma-

rie Stomp, who recently moved from the U.S. Department of Agriculture's Forest Service to the Forestry Department of North Carolina State University in Raleigh. The group's formation stems from a meeting here earlier this year of some 30 research and management professionals from industry and academia.

The workshop was sponsored by the North Carolina Biotechnology Center, the U.S. Forest Service, and

North Carolina State. The conclusions from the attendees—and from a preliminary questionnaire sent to 140 people in the field—include:

- More emphasis needs to be put on building research programs on basic forest biology.
- In addition to basic research, the new biotechnological techniques must be stressed.
- This research must take place in conjunction with, rather than instead of, conventional tree breeding.
- The research is interdisciplinary and will require *groups* of scientists.
- Substantial funding is needed from all areas, including federal, state, universities, and private.

One difficulty with forestry research is that different regions depend on different trees, and that no single species is thought to represent a valid model for all the others. Questionnaire respondents viewed the study of conifers to be more important than angiosperms, identifying the Douglas fir and loblolly pine as perhaps being the most important U.S. species. Other key coniferous species include Ponderosa pine and western hemlock (for the western U.S.), white pines and *Larix* species (for the northern and eastern U.S.), slash and longleaf pine (for the southern U.S.), and Norway spruce and Scots pine (for Europe). Crucial parameters to study include wood quality, tree morphology and growth, disease and insect resistance, and resistance to environmental stress.

The questionnaire also served to poll opinions on the status of the new biotechnologies as applied to forestry science. Respondents felt that clonal propagation is the most advanced of the forest biotechnologies, with this technology being more developed for angiosperms than gymnosperms. Gene transfer, however, remains in its infancy, and somatic embryogenesis and plant regeneration from small numbers of cells were also viewed as needing more attention.

"There is no question that we need more methodology, especially on the tissue culture side," Stomp says. She adds, however, that forest researchers lack the hybrid strains—not to mention the understanding of the regulation of interesting phenotypes—possessed by their colleagues working on food crops. This basic knowledge must be ferreted out, she stresses, so that "when the methodology is developed, we won't be all dressed up with no place to go."

—Arthur Klausner

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