

1994 TAPPI/Biological Sciences Symposium

Technical program spotlights progress in tree biotechnology.

ROBERT LAZAR

Research Manager, Union Camp Corp.

On Oct. 3–6, 220 people attended the joint 1994 TAPPI/Biological Sciences Symposium and the Second International Symposium on the Applications of Biotechnology to Tree Culture, Protection, and Utilization. This meeting, held in Minneapolis, MN, consisted of 13 sessions covering a variety of areas including tissue culture, molecular biology, stress physiology of trees, insect and disease resistance, biopulping, biobleaching, lignin biodegradation, biofilms, and information sciences. The 120 papers and posters covered the extraordinary progress made in recent years in all of these areas.

The Symposium led off with four overview talks plus a panel session involving these presenters:

- Kent Kirk, USDA Forest Products Laboratory—technical overview
- David Luke III, Westvaco—corporate management overview
- Tom Crow, USDA Forest Service, Rhinelander, WI—environmental overview
- Jim Ferris, Weyerhaeuser—corporate research overview.

The challenge

David Luke's challenge to the combined government, university, and industry participants to muster the forces that would lead to a three- to four-times increase in forest productivity made a particular impact on the attendees: The achievement would match what has already been achieved in Brazil. This area became the focus of many formal and informal discussions throughout the week of meetings and culminated in a commitment to strive for a major national forest research initiative centered around intensive cultivation of trees.

Robert Lazar (at the podium), (from left) Kent Kirk, USDA Forest Service, David Luke III, Westvaco Corp., T.R. Crow, USDA Forest Service, and J. L. Ferris, Weyerhaeuser Paper Co.



Advances in cloning and embryogenesis technology

Presentations by personnel from Tasman Forestry, the New Zealand Forest Research Institute, and Carter Holt Harvey indicated that biotechnology in the form of clonal forestry of *radiata* pine is moving toward implementation. For example, Tasman Forestry currently produces 2.5 million *radiata* pine plantlets per year from 32 clones and has some 2000 other clones in a testing phase. Tasman is using mapping technology to help select clones. Carter Holt Harvey is working toward implementing the New Zealand Forest Research Institute somatic embryogenesis technology for *radiata* pine. Silvagen, Inc., Nova Scotia, is developing a pilot-scale system for the production of large numbers of spruce somatic seedlings. This system is based on the spruce embryogenesis technology of BC Research, Inc. Weyerhaeuser personnel gave a presentation on that company's advances in Douglas-fir embryogenesis, while Westvaco was represented by a pair

Conference Report

of papers discussing advances in loblolly pine embryogenesis and in genetic transformation systems for loblolly pine embryos.

Enzymes enhance pulp bleaching

A series of papers provided information on the impressive technical as well as commercial strides that have been made in the areas of biopulping, biobleaching, and biofilms. There are now more than a dozen companies worldwide employing enzymes to enhance pulp bleaching. The presentations illustrated how the incorporation of an enzyme stage in the midst of a variety of types of bleaching sequences allowed for reductions in chemical usage or increases in brightness ceilings. As was the case throughout the conference, the presentations were accompanied by lively discussions and question-and-answer periods.

Conference viewed as success

The enthusiastic reception of the participants to the updates in many areas of biological sciences associated with the forest products industry led to a number of requests for another symposium in this area within the next two years. TAPPI's Research and Development Division, one of the sponsors of

Charles H. Michler (at podium), USDA Forest Service, chairman, Tree Biotechnology Symposium Committee



the program, will be evaluating the feasibility for sponsoring such a program at that time.

The 1994 Biological Sciences Symposium Proceedings may be ordered from TAPPI PRESS by calling 1-800-332-8686 (U.S.) or 1-800-446-9431 (Canada). This 8-1/2-in. x 11-in. soft-cover book of 39 papers covers 290 pages and is priced at US\$ 60 for TAPPI members and US\$ 90 for non-members. The order code number is 01059194. 