

Biotechnology Specialist Report
June 2006

The major events of the past year have been the funding of major projects on genomics of conifers, the continuation of current large genomics projects in the US, as well as the completion of genome sequencing of the first woody species. In summary, the past year achievement include:

- Completion of the first draft of the *Populus trichocarpa* genome sequence by the Joint Genome Institute, Department of Energy. The official publication of the sequencing results is expected until the end of 2006.
- Funding of two projects on genome of spruce (CAN\$10-15M) by Genome Canada, that will extend significantly the knowledge about the genome sequence, targeting particularly expressed genes. These projects will also generate substantial information about the genetic and transcription diversity in natural populations and seek for associations with disease and wood quality and growth traits. The funding has been awarded to the University Laval in Quebec (PI: Dr. J. Mackay), and to the University of British Columbia (PI: Dr. J. Boehlman and K. Ritland).
- Completion of two *Pinus* genome sequencing project, lead by the University of Georgia (PI: J. Dean) and Georgia Tech (PI: J. Cairney). The major result from these projects has been the increase in existing expressed sequence tags (i.e. gene coding sequence information) to over 300,000 in the past year.
- Continuation of pine genome projects headed by the University of California in Davis (PI: D. Neale) and Mississippi State University (PI: Dan Peterson). The project headed by UCDavis is targeting the DNA sequence characterization of 5-10,000 pine genes in natural population, and the use of this information to carry out association genetics studies. Potentially the study will identify genes associated with disease and wood property and growth. Currently the sequence characterization of the first set of genes is ongoing. A second project headed by MSU is generating the first full-genome library for loblolly pine.