

**XI SILVOTECNA
“BIOTECNOLOGIAS APLICADAS
A LA SILVICULTURA DE ESPECIES
FORESTALES DE RAPIDO CRECIMIENTO”
1998**

**MEJORAMIENTO GENETICO MOLECULAR
EN ALAMOS. LA EXPERIENCIA DE LA COOPERATIVA
DE GENETICA MOLECULAR DE ALAMOS**

**Expositor : Sr. Toby Bradshaw
Coop. de Genética Molecular de Alamo
USA**

**The Poplar Molecular Genetics Cooperative
Toby Bradshaw
University of Washington
College of Forest Resources
Box 354115
Seattle WA 98195 USA
1-206-616-1796 (voice)
1-206-685-2692 (FAX)**

The Poplar Molecular Genetics Cooperative (PMGC; <http://poplar2.cfr.washington.edu/pmgc>) was formed in 1995 as a collaboration between fourteen forest products companies, two government agencies, and two universities. The PMGC is headquartered at the University of Washington. The goals of the PMGC are to:

- Increase understanding of the molecular genetic mechanisms causing variation in productivity and quality traits in hybrid poplar.
- Use research results to accelerate progress in poplar breeding.

Major accomplishments of the PMGC include:

- The breeding of 15,000 new hybrid poplar clones to be tested for commercial fiber production.
- The construction of multi-generation pedigrees with large family sizes suitable for mapping quantitative trait loci (QTLs) controlling economically important traits such as growth, form, frost hardiness, and disease resistance.
- The development of microsatellite markers for genetic mapping.
- Collaborative construction of a bacterial artificial chromosome (BAC) library of the poplar genome.
- The map-based cloning of a gene for resistance to poplar leaf rust caused by *Melampsora medusae*.
- The identification of candidate genes regulating the length of the growing period and frost tolerance.

The emphasis of current PMGC research is on the cloning and characterization of genes that are QTLs.