

Low-input Strategies Needed in Tree Breeding and Genetic Conservation

Findings and recommendations from the joint IUFRO Division 2 conference held in Antalya, Turkey from 9-13 October 2006, by Fikret Isik (summarized by the Editor)

Projection of human population growth indicates a high likelihood of a growing need for wood and other forest commodities. In order to meet this demand, forest tree breeding and intensive plantation management efforts will be increasingly important, especially as lands continue to be withdrawn from production and allocated to wildlands, parks and reserves. Tree breeders should keep in mind planning for diversity for current and emerging biotic and climatic stresses.

While "high-input" breeding programs of primary forest species can contribute to increased productivity and efficiency of planted forests, "low-input" strategies are essential to continue to do breeding and conservation work with many tree species, particularly in developing countries. Thus, breeding programs require a combination of "high-input" and "low-input" strategies and should always have a strong conservation component as well.



Photo provided by Fikret Isik, Conference Chair

The term "low-input" does not imply low-level technology or a low-interest program but refers to relatively small budget programs that may, in fact, use complex and highly technical methodology and scientific knowledge. Low-cost methods can often accomplish multiple and complex objectives. For example, *in situ* conservation is a low-cost approach that is highly efficient and allows species for continuing adaptation to changing environments.

In any case, the methods should be readily usable by the people who work the land. The programs should match local needs, especially where high-value timber species may be missing. Of course "low-input" for users often requires "high-input" from program managers. Long-term planning and strategic thinking on how to avoid pitfalls are essential in making the process of resource allocation simple, transparent and effective. Developing partnerships between farmers, industry representatives, NGOs and forestry owners is a key to developing successful low-cost programs and applying them in the field. Such partnerships should be encouraged and supported. Collaboration and cooperation should also be developed and enhanced between countries working on the same species.

In the future, a range of other topics need to be addressed in forest tree breeding and conservation discussions as well, e.g.: the integration of ecosystem services and biodiversity conservation with planted forests; the need for long-term program stability; the potential for agroforestry as a means to bridge the gap between forest genetics and biodiversity conservation; and the need to make international seed exchange more "user friendly".

Summary and Recommendations of the Conference on "Low-input Breeding and Genetic Conservation of Forest Tree Species": <http://www.iufro.org/science/divisions/division-2/20000/activities/>

The Conference Panel: Lauren Fins (panel chair), Lokendra Purush Dhakal, William Dvorak, Yousry El-Kassaby, Bruno Fady and William J. Libby, Kani Isik (local organizing coordinator) and Fikret Isik (conference chair)

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Definitions: <http://www.iufro.org/science/special/silvavoc/definitions-scic-summaries/>