

Organizational Decisions

These decisions were made jointly by the associated members of this breeding program: 1. The breeding strategy for the first-generation should be as simple, cost-effective and yet powerful as possible, using well-known technology for the species. 2. The primary objective is to make near-optimal genetic gain in the most important traits. The major characteristics for breeding are volume growth and straightness; but the first generation strategy must be flexible enough to permit each member to pursue traits of special own interest. 3. All breeding and testing efforts will be conducted cooperatively with free exchange of genetic material among members. 4. The production population (seed orchards in the first-generation) for commercial production of propagules will be developed individually by each member. 5. The strategy will maximize gain for clonal seed orchards as this is the primary type of production population.

FORMATION, COMPOSITION, STRUCTURE AND SIZE OF THE FIRST-GENERATION BREEDING POPULATION

Formation of the main population

The material potentially available for inclusion in the main-breeding population consists of:

- Selection from genetic resources already present in Argentina. This includes: 1. Selections in commercial plantations from age seven to age twenty-five (rotation-age). 2. Backwards selection from selected trees from 1984 to 1992. 3. Forward selections from new progeny tests whose parents are not present in the country.
- Selections from a new seed collection from the native range. This collection will be made probably in 1997 or 1998. The only requirement will be that the trees been healthy and dominant growing in wild stands from the southern area of the native range.

Composition

The first-generation main breeding population will consist of 600 OP-families established at up to nine test locations (**Figure 1**). Half of the families will be from local selection and the other half from the new US collection. The final composition of the main breeding population will have a clear emphasis on the Florida and Livingston Parish sources (70%) with lesser representation of the local unknown provenance (20%), other American provenances (5%) and Zimbabwean and South African (5%) provenances.

Structure and size

The main breeding population of 600 selections is sub-divided into 12 sublimes of 50 OP-families in each subline. Each subline should be formed with 50 OP-families from a variety of sources with the intent of starting with 12 genetically-equivalent sublimes. That is, each

