Minutes of the CFGRP Advisory Council Meeting April 23, 1997

Announcements

1. Greg Powell received the IFAS superior accomplishment award. No one is more deserving of this award than Greg.

2. CFGRP currently has six graduate students. There are two masters students, Jeremy Brawner and Victor Sierra. Jeremy is wholly funded while Victor is partially funded by the CFGRP. Jeremy is working on the economic evaluation of realized gains in rust resistance and Victor is going to investigate genotype by environment interaction in Florida loblolly pine. Four Ph.D. students complete the total: Luis Fernando Osorio, Uilson Lopes, Pengxin Lu and Javier Lopez-Upton. Pengxin Lu is supported by the CFGRP. All other Ph.D. students are externally funded. Luis will be investigating clonal eucalyptus data, Uilson is exploring the optimal analysis of binary data, Pengxin examines assumptions in the use of mixed models for breeding value prediction, and Javier is analyzing the hybrid data and describing cold and pest damage.

3. CFGRP cooperators are invited to participate in a post-SFTIC tour of forestry in northeast Florida. The dates are June 16th, 17th and 18th. Please let us know if you wish to participate.

Advanced-Generation Breeding

1. For the second generation of slash pine sixteen polymix tests and the full-sib selection plots have replaced the twelve hundred tests used in first generation.

2. Polymix breeding should have been completed as of spring of 1997. Full-sib breeding will continue through spring of 1998 when the needs for full-sib selection plots and the elite population should be satisfied.

Research Projects

1. All necessary measurements have been completed for the evaluation of sweep for 135 Florida loblolly pine parents. Breeding values for sweep will be predicted and distributed this summer.
2. Hybrid test measurements for 1997 will be: survival, cold damage, pitch moth and tip moth in May; and status, rust, height, tip moth and pitch moth in the fall. Evaluation codes will be developed to allow recording all pertinent conditions. After 1997 the next scheduled measurement in the hybrid tests will be the fifth-year measurement.

3. For polymix tests, which will be planted in December of 1997, five-acre square uniform sites which would be operationally planted to slash are desirable. The CFGRP staff will be visiting each site. Please contact Dudley Huber when you are ready for a visit.

4. Top grafting studies have been installed by Champion International, Georgia Pacific, Georgia Forestry Commission, Kimberly Clark, Jefferson Smurfit, Rayonier, Saint Joe and Tenneco Packaging. It was decided to wait on results from this preliminary study before beginning a more detailed formal study. Data sheets will be composed and sent to all who are participating in the preliminary study.

Fiscal Matters
1. The budget for fiscal year 95-96, the projected budget for fiscal year 96-97 and the proposed budget for 97-98 were reported. The proposed budget for 97-98 was accepted. Consideration of a dues increase was postponed until 1998.

Other Matters
1. Clem Lambeth posed the idea that CFGRP should be active in the testing of pine hybrids in small scale tests. During the discussion, Bob Kellison voiced the opinion that any hybrids that were made should include our best improved material as one of the parents.

2. Support was expressed for subsidizing another graduate student position providing the student was academically suitable and would tend to work in the southeastern U.S. upon graduation.

ORCHEVAL
1. ORCHEVAL computer program will be extended to include sand, longleaf and loblolly pine orchard evaluations.

2. A committee consisting of Paul Belonger, Charlie Chase, Hank Page and Greg Leech volunteered to steer the development of an allocation program for seed inventories.

Genetics of Sweep of Loblolly Pine
1. Sweep for Florida loblolly behaved similarly to other studies of sweep in loblolly pine with heritability values of approximately 0.2. There is also a strong provenance component to consider when addressing sweep. Among provenances tested Marion County Florida loblolly tends to be the most crooked.
Genetics of Sweep (Cont.) 2. Sweep results will be extended to predicting the percentage of trees in two-inch sweep classes in a stand.

Tip Moth Resistance 1. Results from the November 1996 hybrid tests indicated there were large taxa differences with little to no family variation for tip moth resistance.

2. Loblolly was the least resistant to tip moth of all taxa while slash had the highest resistance. The hybrid between slash and loblolly tended to behave more like loblolly.

Predicting BVs Using Unbalanced Data 1. Using reduced mixed models biased heritabilities and breeding values upward relative to full models.

2. Full models always provided unbiased heritabilities and breeding values no matter the genetic architecture or imbalance.

3. All models produced the same ranks for parents.

Analysis of Binary Data Conventional methods of data analysis (ANOVA, etc.) using zeroes and ones as data produce acceptable results for heritability estimates when the disease incidence (zero) is between 5% and 65%. After 65%, conventional methods tend to underestimate the realized heritability.

Yield Gains from Rust Resistance The economic value of rust resistance is being evaluated for loblolly and slash pine under four different silvicultural treatments using tenth-acre block plots partitioned from quarter-acre plots.

Executive Committee The executive committee now consists of:

Russ Pohl, Chair
Clem Lambeth, Future Chair
Charlie Chase, Past Chair

Our thanks to Gene Schreiber for his excellent service to CFGRP as an Executive Committee member. Good work, Gene. Also, thanks to Charlie Chase for serving as the Executive Committee chair during 1996-1997.