

TREE IMPROVEMENT IN MICHIGAN

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Following is an outline of remarks presented by Dr. James Hanover.

I. INTRODUCTION: (Background for wed. Field trip.)

--Points Covered: Tree Improvement before 1974
Tree Improvement after 1974
Organization of MICHCOTIP
Goals
Functions
Accomplishments
Procedures-Genetic & Cultural

II. TREE IMPROVEMENT IN MICHIGAN

A. Tree Improvement BEFORE 1974

Provenance tests-MSU, etc. (Kellogg Forest - selection, etc.)
USFS rust resistance program in white pine
Inst. Forest Genetics - basic genetics
Inst. Paper Chemistry - hybrid aspen

B. Tree Improvement AFTER 1974

Formation of cooperative
Building on good foundation
Focus for efforts of diverse groups
More vigorous implementation of tree improvement

III. MICHCOTIP

Organization-Membership
Personnel
Dues-funding sources - contrast to other co-ops
Functions: Genetic and Cultural
 plus: Annual report summarizes
 Directory of genetics in preparation
 Seed certification-MCIA
 Record systems & repository

IV. PROCEDURES IN TREE IMPROVEMENT

A. Genetic -- Species selection categories-Michigan has more species than any other state (50)

1. Selection-world wide
 by end use categories; 1000s
 - a. Examples: blue spruce - 16 plantings
 Jack pine
 Scotch pine
 Douglas fir

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a. Examples (Cont'd.)

Norway spruce
Red pine
White spruce - Ontario & hybridization
Yellow birch - U of M
Poplar hybrids - NE station, Canada, etc.
White birch - Michigan, Maine, Finland
Siberian larch - Finland

b. Forms - selection, work sheet

c. Record system - examples

2. Progeny testing

3. Hybridization - spruces, pines

4. Seed orchards

5. Vegetative propagation

B. Cultural

1. Integral part of tree improvement

2. Objective:

a. Produce genetically superior, high vigor, large seedlings

b. Establish in plantations

3. Accelerated-Optimal-Growth system for producing genetic materials for testing and seed orchards

a. Components

b. Methods

c. Application

d. Results

4. Plantation establishment

a. Planting

b. Site preparation

d. Weed control

Fertilization

e. Irrigation

f. Insects & diseases

V. CONCLUSION

- A. Michigan (along with other states with large forests) and perhaps the U. S., is probably entering (or reentering?) the "age of wood" or renewable resources.
- B. With present program we hope to be well prepared to meet demands for superior genetic stock for many species and many end uses,