SEED CERTIFICATION IN SOUTHERN FORESTRY TODAY

Earl W. Belcher, Jr.-1/
Eastern Tree Seed Laboratory - Macon, Georgia2/

INTRODUCTION

Seed Certification is defined briefly as the guarantee of seed character and quality by an officially recognized organization (3). Today's standards vary somewhat from state to state, but provide essentially the same levels of certification in each state. Each level is designated by a colored tag which is firmly attached to the seed or seedling container.

> Yellow tag = source-identified tree seed are defined by means of administrative and/or geographic boundaries.
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> Green tag = select tree seed are from trees or stands which have been selected for phenotypic superiority. They may have promise, but not proof of genetic superiority.
>
> Blue tag = certified tree seed are derived from trees of proven genetic superiority.

As you can see this arrangement could lead to some confusion. There are certified seed (blue tag), and there is a certification program (three tags). Although we are mainly interested here with the program; I will, at some points, be discussing both. To minimize the confusion we will refer to certified seed as "elite" seed in this article.

HISTORICAL

The first blue tag in forestry was given the Siouxland cottonwood in 1954. It was certified for its resistance to Septoria leafspot and rust (6). Since its release 100,000 to 300,000 trees have been certified each year.3/ Then, in 1966, the northwest certification program produced source-identified (yellow-tagged) Douglas-fir (4).

The first attempt to prepare certification standards in the South, took place in Georgia in 1959. In the same year, the International Crop Improvement Association (ICIA) adopted a set of minimum forest tree seed certification standards. After this, several other states then prepared

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1/ Chairman, Tree Seed Certification Committee, SE Section SAF.
2/ Operated cooperatively by the Georgia Forestry Commission, Georgia Forest Research Council, Southern Forest Experiment Station, and State and Private Forestry, U.S.FForest Service.
3/ Personal communication with J. D. Colburn, Manager, Seed Certification Service, University Station, Brookings, South Dakota.

standards. Of the 13 southern states, nine states now lave the legal basis for tree seed certification guidelines (Table 1). This is a considerable increase since 1963 when no southern state had published standards (7). The states with published guidelines are Louisiana, Mississippi, Alabama, Georgia, South Carolina, and Texas. All but Texas offer all three tags.

In 1974, Mississippi was given the second blue tag in forestry (5). They released five clones of cottonwood certified to produce volume growth at a rate of 10 percent or more above average. As yet no green or yellow tag has been issued in the South, however, Georgia is on the verge of issuing a green tag for pine seedlings and some seedsmen have already taken the step toward issuing yellow-tagged pine seed. Also, both Georgia and Mississippi are on the verge of issuing blue tags for elite pine seed and seedlings.

NEED FOR CERTIFICATION

Most orchard owners have already conceded that they do not expect to have more seed than they need for a long time to come. Therefore, it seems likely that wild collected seed will still be in demand for quite a while yet. Why then should we not continue to upgrade this product while we wait for the select and elite seed?

Exchange of seed has been treated very loosely in the past, with seed source and quality usually being accepted by word of mouth; often to the seed purchaser's disappointment. After all, how much guarantee can you really give third or fourth hand seed which has lost any record of its history. It is time foresters demanded source-identified (yellow-tagged) seed. The added cost is minimal when you consider the importance of getting maximum production by planting the correct source. Recent popular articles in Forest Farmer (1, 2) offer guidance to private land-owners in the correct source to use; now they need assurance they they can obtain the seed or seedlings they need.

For those presently attempting to produce improved seed, the excuse that I will not be selling any of this seed is not sufficient to ignore certification. There are three points which these people usually over-look: seed value; prestige; and, demand.

First, genetic improvement is a costly undertaking, but the product is also of considerable value, or it would not have been of interest in the first place. The value of improved seed is dependent on the amount of genetic gain and the actual value of that pin at some future date. According to both Zobel1/ and Porterfield2/ a 10 to 15 percent gain in growth of pines is not unrealistic. At 8 percent interest and a 25-year

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1/ B. Zobel. Increasing Productivity of Forest Lands Through Better Trees. Paper provided Seed Lab April 1974.

2/ R. Porterfield. Economics and Efficiency of Tree Improvement. Thesis Summary No. 14 by Don Smith on work by Porterfield at Yale University. Received by Seed Lab March 1974.

Table 1.--Current Tree Seed Certification in the South

STATE	SEED CERTIFICATION REGULATION	MINIMUM GERMINATION %	APPLY TO
Alabama	Yes - 1974	50% Sycamore 80% Other	Alabama Crop Improv. Assoc.
Arkansas	Proposed but not adopted.		
Florida	Law provides for only blue tag. No proposals adopted yet.		
Georgia	Yes - 1966 (Amended 1974)	85% All	Georgia Crop Improv. Assoc.
Kentucky	No		
Louisiana	Yes - 1966	85% All	La. Dept. of Agric. & Immigr. Dept.
Mississippi	Yes - 1973	70% Sycamore 80% Other	Mississippi Seed Improv. Assoc.
North Carolina	No		
Oklahoma	No		
South Carolina	Yes - 1969	80% All	Seed Cert. Dept., Clemson University
Tennessee	No		
Texas	Yes - ?	85% All	Texas Seed and Plant Board
Virginia	Law amended 1966. No proposals adopted yet.		

rotation, the improved seed may be worth from $116 to $162 per pound, if more than 8 pounds of seed per acre per year is produced; and possibly more in prosperous times. At values such as these, how can one not afford to certify the seed, especially when certification would give more credence to an improvement program.

Second, is the prestige of being the leader in forestry. The rest of the country (and much of the world) is watching trends in southern forestry, and with good reason. Did you know: (9)

--of the 38+ million acres planted to trees in the United States in Fiscal year 1973, 56% were planted in the 13 Southern States,

--76% of all trees planted in the United States were planted on private land,

--of the top 10 states in private acreage of forest plantings, 8 were in the South,

--of the 963 million trees grown in the United States in 1974, 70% were grown in the South,

--42% of the 3.3 million acres direct seeded were in the South.

That adds up to a lot of seed, and it is not all coming from seed orchards and seed production areas, but of the more than 6,000 acres of seed orchards in the United States, 89% are in the South (8). Beside the orchards, there are nearly four times as many acres in southern seed production areas (10).

Finally, the demand. In spite of all the seed orchards, seed production areas and wild collections, approximately 500,000 pounds of tree seed are imported into the United States each year,1/ and an equal amount, or larger, is exported from the United States.2/

The South is more involved with the exports than the imports, although both are important to us. With increasing demands on seed quantity, and now quality, by other countries, we will soon be forced to consider seed certification more closely. And, where will your state be when all this demand reaches its peak?

FUTURE OF CERTIFICATION

Seed going overseas are receiving more pressure to meet the standards of OECD (Organization of Economic Cooperation and Development). The United States is also participating in this. Thus, import and export

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1/ Personal communication with Havel, Plant Quarantine, Hoboken, New Jersey.

2/ Personal communication with Anglin, Bureau of Census, Washington, D.C.

of tree seed will, in all probability, eventually be restricted to those meeting OECD certification standards. In the United States this certification is handled by the individual states. At present, only seven Southern states have agreed to participate. These are Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina, and Texas. Several states will have to obtain a legal basis, through state legislation for tree seed certification before they can participate in these programs. But, in general, the South is well-represented considering that ()ply 19 states have agreed to participate in OECD at this time.

CONCLUSIONS

Active tree seed certification is again a reality in the South, although we still have a long way to go. With increasing demand for improved seed, both at home and abroad, it is now almost impossible for those who buy, sell, or plant tree seed or seedlings to ignore tree seed certification. It will not be long until all tree seed in export and import will be restricted to seed which has been certified to source and quality. Are you going to be ready for the impact in the South? Are you ready to accept the inevitable? It's only to decide then, whether you want to take the lead or drag up the rear.

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