

5. STUDY OF SEED SOURCE IN REVERSE

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The Crossett Company started its program of tree improvement in 1922 when it was decided to cut the virgin forests to a seed tree basis. The logging boss in those days was a farseeing man in that he felt that only the best trees should be left for seed. This was perhaps best exemplified by a visit paid to his operations by one of the Board of Directors and the late Austin Carey. Both of the latter felt, and expressed themselves, that the monetary loss by leaving the best trees was too great when most any old tree would do the job of seeding just as well. The logging boss was somewhat startled but never batted an eye in replying that he couldn't see why the best trees shouldn't be left for seed when even the sorriest farmer wouldn't permit a runt bull to run with his herd. Needless to say, he won his point and Crossett has benefited by the regeneration of a new forest from good parent trees.

Through the intervening years, starting in 1934, Crossett's raw material production from its own lands has come from selection cutting and thinnings. Since most of this cutting has been of an improvement nature, the quality of the stands with respect to tree form and vigor has improved considerably through the years.

Because we feel that our forest has a head start with respect to potential production of high quality seed, we were pleased to consider a test to determine how good our seed is within a reasonable distance of Crossett.

The progress of the broad southwide study on geographic sources of seed has just been reviewed for us. As has been pointed out, this project has for its objective the determination of provenance boundaries for the four major southern pines beyond which it is not desirable to import seed for planting. Because of the broad scope of the study, however, the results may only apply in a very general way in specific localities. Therefore, local seed source tests in which local seed is checked against that from outlying areas are necessary to fill in the gaps left by the broader, parent study.

Both the over-all study and the local supplements to it have considerable practical significance. We now find it profitable to use all of a pine tree with the exception of its branches. Why not

extend this into the branches and use the good cone crops when they occur? If one can prove that his local pine has genetic characteristics making it superior or at least equal to a given local source in its own area, the possibility of harvesting and marketing seed as well as lumber, pulpwood, or poles has interesting possibilities.

One's first reaction is that collection and handling of seed is such a tedious procedure that it would be difficult to make any real showing or profit. It has largely been a slow procedure in the past because most of us have not made any provisions in our normal operations to expedite seed production. The research which has been done in seed stimulation and in the management of seed orchards or seed producing areas, about which we will hear during this session, points the way to how we can do this and successfully integrate it with our other operations.

The periodicity of seed crops is a factor with which we all must contend. In our Crossett area, the nine-year post-war period has given us one excellent seed year, one very good, three fair, and four failures. The good or better years have been four years apart and there seems to be a tendency for failures to occur two years at a time. Of course, heavy collection in good years and adequate storage is one way to get around the variable supply. Storage presents some problems, however, and one cannot always anticipate just what his needs are going to be. A reliable source from somewhere besides one's own territory would be extremely useful at frequent intervals. It is not too clear just how local in nature seed failure is in given years. If it proves to generally cover rather large areas of several states at a time, the investigation of seed source differences within this area becomes of less practical importance. There is considerable reason to think, however, that failure is often much more local in nature, making the filling in of gaps in the broad southwide study much more useful.

The foregoing comments are primarily further justification of the value of not only the local seed source tests, but the parent study of geographic sources of seed as well. Current forestry practice no longer allows us to wait indefinitely for nature to do the seeding. The future points toward a situation of even greater intolerance toward leaving forest land partly idle for even a few years.

Local seed source studies can take varying forms. In the Crossett seed source study we are interested in exploring the possibility that seed collected in the Crossett area can be used to advantage in adjacent states and localities in place of their local seed. This type of study has been referred to as "a seed source study in reverse". This is in contrast to the normal type of study in which seed from a number of outlying areas is tested along with a local source. Such checks are being made, however, with many of them integrated with the Crossett study. The objectives of the Crossett study are two-fold: (1) to certify Crossett seed and seedling stock as equal to or perhaps superior to local seed within carefully defined

