

## **CONE COLLECTION FROM THE HOODTOWN SEED PRODUCTION AREA**

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### **Introduction**

This report describes seed collection from a longleaf seed production area. In August 1964, a cone count with binoculars was made, and approximately 190 trees, with at least 1 bushel per tree, were selected to be climbed. These trees were marked with plastic surveying ribbon. The trees were climbed by personnel of a "tree expert" company whose operations extend throughout South Carolina. Ranger district employees picked up the cones after they were felled from the trees. Francis Marion Seed orchard personnel hauled the cones to the State Nursery at Wedgefield for extraction of seed.

### **Description of the Area**

The Hoodtown Longleaf Pine Seed Production Area consists of about 30 acres in the Santee Ranger District, Francis Marion National Forest, Berkeley County, S. C. The area was mapped as a 1905 stand with 130 square feet of basal area. Longleaf made up 95 percent of the stand; the remaining 5 percent consisted of loblolly and a few scattered hardwoods. The stand is even-aged and above average for Francis Marion longleaf pine. The area was marked and sold in November 1961, leaving 25 to 30 of the most desirable longleaf trees for seed production.

### **Contract for Climbing**

Climbing could be done best under contract because the trees were close together in a small area and because the Forest Service climbing crew was too small and lacked sufficient time. In August we wrote three "tree expert" companies working near the coast of South Carolina, explaining the work to be done and giving the approximate number of trees to be climbed. It was also indicated that a full week was reserved for a company representative; the area would be shown, and the work would be indicated. The cost was requested on a per tree basis because the number of trees to be climbed was a more stable figure than the number of bushels of cones.

Only one company responded; they said they would climb the trees for \$4.75 each, but they later increased the price to \$5, saying they had not understood that climbing irons could not be used.

### **The Operation**

The collection started on October 6, 1964, following a 1-day delay owing to a 5-inch rainfall the previous weekend. It had been determined from a logging area that longleaf cones on the Santee District were ripe. Three men climbed 18-foot wooden ladders, and one man supervised and moved the ladders. The

company man on the ground and a Forest Service representative helped the climbers find the cones in the crown.

If the lower branches were within reach they were used; if not, a rope was thrown over the first or second, live limb, and the man was hoisted into the crown. Climbing time into the tree was 5 to 30 minutes. It took 20 minutes to 1 hour (30-minute average) to pick a tree. The climber started picking cones at the top and worked his way down. He descended from the tree by rope, using a taut line hitch. The crews started climbing at 7:30 a.m. and finished about 5:00 p. m., taking 1 hour for lunch. Three men climbed a total of 26 to 35 trees a day, and *very* few cones were left in the trees.

The Forest Service loaned company climbers cone-picking poles, and this speeded the work somewhat. The company had limb pruners that were cumbersome to work with. A climbing rope rather than a safety belt was used in the tree. The regular sitdown harness was used. Hardhats were the only other safety equipment used.

A Forest Service crew consisting of three forest workers and a foreman picked the cones from around the trees. The cone pickers, gathering about 60 bushels a day, could usually keep up with the climbers by working two half days and then a full day. Some cones were left on the ground overnight, but none were left over the weekend. The cones were picked off the ground and placed in bushel baskets, and two basket loads were poured into a burlap bag. Each bag was labeled "Hoodtown Seed Production Area, Francis Marion National Forest" prior to its transportation to the State Nursery.

A tally was kept by removing the ribbon as a man descended from a tree. This ribbon was then replaced by one of a different color to let the men picking cones from the ground know it was ready. At no time did anyone work under a tree with a man in it. As cones were picked from around a tree the second ribbon was pulled off and discarded. At the end of each day the ribbons were counted, and a record was made of the number of trees climbed by each party.

A total of 294 bushels were collected in 62 days of climbing 205 trees. Eight bushels were given to an entomologist for a seed and cone insect evaluation and 286 were sent to the nursery for extraction.

## Review

The contractor observed the contract. He did not use climbing irons or puncture the bark of any of the trees. However, he said he could have reduced the price of climbing \$.50 to \$.75 per tree if climbing irons could have been used to get into the crown from the ladder.

The brush and grass throughout the seed production area was much too high for efficient cone collection. The area had a prescribed burn the preceding winter. Too many cones were left on the ground because they could not be found. The cost of mowing or brush hog around each tree to be climbed would be overcompensated by increased cone collection.

Access into the area was difficult due to excessive rainfall. Sacks of cones had to be carried as far as 15 to 20 chains to the truck. Since the areas are going to be used regularly for several years, construction of an access road would reduce the cost of collection.

The following procedures are recommended:

1. Build an access road.
2. Mow or brush hog around trees to be climbed.
3. Climb some trees with climbing irons and watch for insect attack.
4. Cultivate more interest by tree expert companies in this type of work.
5. The Ranger District should obtain the money for collection with help as needed from the Tree Improvement Forester.

## Cone Collection Costs

Contract climbing - 205 trees @ \$5.00 per tree	=	\$1,025.00
<b>Picking cones from the ground:</b>		
Foreman - 41 hr. @\$3.03 per hr. ....	=	124.23
Forest worker - 123 hr. @\$1.64.....	=	201.72
Equipment cost, 200 mi. @ .13.....	=	<u>26.00</u>
Total.....		351.95
<b>Hauling cones to nursery:</b>		
Forest worker - 18 hr. @\$1.50 .....	=	27.00
Equipment cost, 565 mi. @.13.....	=	<u>73.45</u>
Total.....		100.45
<b>Supervision - when cone pickers were not at seed production area:</b>		
GS-5 - 17 hr. @\$3.15 .....	=	53.55
Equipment cost, 175 mi. @\$0.055 .....	=	<u>9.62</u>
Total.....		63.17
Grand total.....		<u>\$1,540.57</u>
Cost per tree.....	=	\$7.51
Cost per bushel.....	=	<sup>1</sup> \$5.24

<sup>1</sup> The cost per pound of seed will vary greatly depending upon the amount of seed per bushel of cones and the treatment applied to seed.