



STATE FOREST NOTES

Office of the State Forester
Sacramento

No. 16

August, 1963

A MONTANEY PINE PLANTING - FRAZIER PLANTATION^{1/}

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Fig. 1. Edge of Frazier Plantation in 1963 showing twelve-year old Montaney pines.

^{1/} Named for W. F. Frazier, Forest Technician, Jackson State Forest, 1952-1953, deceased 1953.

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Some 14,000 Monterey Pine (Pinus radiata) 1-0 seedlings were planted on about 30 acres on Jackson State Forest during the winter of 1951 and spring of 1952. The area planted was a portion of the North Fork Woods fire of September 1951. The fire burned hot and clean leaving snags and only an occasional live tree. Prior to logging the forest type was predominantly old growth coast redwood (Sequoia sempervirens) with some Douglas-fir (Pseudotsuga menziesii).

The planting is located in west central Mendocino County, the central part of the California Redwood Region, about 15 miles airline from the coast, at an average elevation of 500 feet above sea level. A Mediterranean climatic pattern typical of the coastal redwood belt prevails, with long dry summers and cool wet winters. Annual rainfall averages about 50 inches. Average temperature ranges from a low of 25 degrees F. early on a cold winter morning, to a high of 80 degrees at the hottest part of a warm summer day. Coastal influences of fog or cool ocean air occurs frequently during the summer.

Results

As would be expected the entire area came back heavily to "fire weed" (Epilobium angustifolium) and "blue blossom" (Ceanothus thyrsiflorus). The area was observed by the writer in the winter of 1952-53 and the "blue blossom" seedlings were about one foot in height at that time (Fig. 2.).

A survival check of the plantings in 1954 indicated that there was an overall survival of 44 percent. The survival on the north facing slope was 61 percent and 41 percent on the south facing slope. Survival in the gulch bottom was very poor due to heavy erosion and siltation. Height measurements in 1954 ranged from 9 inches to 45 inches. Generally speaking, those trees that were alive in 1954 managed to stay ahead of the "blue blossom" (Fig. 3.).

During 1956 it was felt that an attempt should be made to cut fire trails through this planting to gain a little protection in case of fire. The "blue blossom" was 12 to 15 feet in height and it was all but impossible to work through the area. Conservation Camp crews were assigned to open up a 50 foot strip leaving all coniferous trees, natural or planted (Fig. 4.). The brush was piled and burned on a strip 50 feet wide about 400 feet long. This strip started from the road and ran down a ridge in a north-south direction. Due to pressure of other work the project was abandoned for the season. Shortly after this strip was opened up it was noted that the deer started rubbing the small pines, then 6 to 8 feet high and 1 to 2 inches in diameter. Many of the trees were completely girdled, several broken off and practically all trees in the strip were damaged to some degree. The construction of fire trail openings was stopped permanently when the deer damage was observed.



Fig. 2. Monterey pine two years after planting over 6 feet tall.



Fig. 3. Monterey pine over 12 feet high 4 years after planting. Note dense brush competition.



Fig. 4. Fire trail constructed through Frazier Plantation in 1956. Note Monterey pines in opening and "blue blossom" in background.



Fig. 5. Largest Monterey pine tree in the Frazier plantation 12 years after planting, 1963.

During the past 12 years these Monterey pines have made spectacular growth (Fig. 1.). A few trees were overtopped by the brush and are small, 6 to 8 feet in height. These trees are gradually working through the brush canopy as the "blue blossom" is starting to die out. The majority of the surviving trees in 1962 were 30 to 50 feet in height and from 6 to 11 inches d.b.h. For the most part they top the brush 20 to 30 feet and are maintaining their rapid growth rate. The largest tree in the spring of 1963 was 74 feet high and 11.3 inches in diameter at breast height (Fig. 5.).

During October of 1962 three of these trees were felled to provide raw material for a test to be run by the Masonite Corporation of Ukiah, California. The trees felled were medium in size, 6 to 7 inches in diameter at ground level and 25 to 30 feet in height. These trees were chosen because of their accessibility and ease of removal. One of the trees had two 7 foot spaces between branch whorls. This distance between whorls is not unusual as many trees show this growth. The growth is so rapid that the tops tend to be crooked as apparently the leader is not mechanically strong enough to hold the top upright.

There are drawbacks in that this species does not do well in colder climates and practically any snow breaks the trees down. Further, the western gall rust (Cronartium harknessii) is showing here and there. As yet the rust is largely in lower limbs and has affected very few of the leaders. At present, there are no particular plans for thinning or pruning.

Removal of bark by gnawing in places on limbs has been observed periodically on a few trees. This damage is attributed to wood rats (Neotoma fuscipes).

Some trees have developed multiple leaders. This is thought to be a matter of genetic strain, rather than from mechanical damage or environmental factors.

Conclusion

Monterey pine has become well-known as a super tree for growth in certain foreign lands while its performance at home has been somewhat obscure. Despite some possible problems, the Frazier Plantation on the Jackson State Forest has given an indication in a 12 year period of the tremendous growth potential of Monterey pine in this or similar areas in the coastal redwood belt.

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