

TREE SEEDLING LIFTER

by

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With the rising cost of producing seedlings, in 1967 we at Weyerhaeuser began looking for possible ways to reduce labor expenditures which make up a large part of the total seedling cost. One of the largest labor intensive operations was the hand lifting of the seedlings. With this in mind, we began looking at the possibility of building a seedling lifter.

The development work was started late in 1967 at our Longview, Washington Technical Center and by the 1969-70 lifting season developments had progressed to the point that we had working machines for lifting 2-0 seedlings planted on 6-inch row centers, and 2-1 seedlings planted on 6-inch row centers, and 2-1 seedlings planted on 10-inch row centers.

From our 1969-70 lifting season we have found that:

1. The lifter will work well in sandy soils.
2. Soil removal from roots is good even in wet heavy sandy soils.
3. The lifter can be raised high enough to clear 2-0 and 2-1 seedlings, when only a portion of a bed is removed.
4. All rows within a bed can be lifted at the same time.
5. The complete lifting operation including transportation to packing shed can be accomplished with only five to six men.
6. Root damage is comparable or less than hand pulled seedlings.
7. We anticipate machine capital costs can be returned through labor savings quite quickly.
8. The machines can be pulled by a Ford 5000 tractor equipped with a Howard slow-speed transmission.
9. The basic lifting machine can be adapted to either hand boxing or mechanical boxing.

With the operational information we received from our past lifting season, improvements are now being made on the two original machines and two new ones. We are quite sure that with these improvements we will be able to lift 600,000 to 800,000 2-0 per day with a labor reduction of 35 to 40 people.