When seedlings are lifted at the Mt. Shasta Nursery, they are put into 14 - by 19 - by 29 -inch field crates. The crates hold about 2,000 2-0 pine seedlings.


When filled, the crates are hauled to the packing shed to be graded and packed. Most seedlings are grouped into one of two grades--large for machine planting and small for hand planting. Grading standards, based mostly on stem diameters, have been established by the Nursery.

The packing shed has two grading tables and a packing circle at the end of each table (figs. 1, 2). Overhead elevators transport packing material to the packing circles. The tables are equipped with 30-foot-long rubber belts that have been divided into spaces about 6 inches wide. Each space has a circle with a letter painted on it.

Each table has the following staff of 19:
13 graders ( 6 on each side of the table and 1 extra grader at the end)
1 buncher or counter at the end
1 tyer at the end (working on a separate table)

Figure 1.--General view of packing circle.


Figure 2.--Layout of packing and working area in packing shed. Material and equipment used for packing and tree storage are shown (scale $1 / 2^{\prime \prime}=1$ ).

1 handyman to place packing crates in special jogs and help supply packing material, etc.
2 packers (1 inside each packing circle)
1 crate tyer and record keeper for both packing circles (fig. 3)
Each grader is assigned a letter on the grading table. Every time this letter passes his position (eight times per minute) he places five good trees, from a crate of trees by his side, on the space. The extra grader places five good trees on letter spaces that are not filled. The buncher gathers 10 bunches of trees ( 50 trees) and hands them to the tyer. The tyer then ties the trees into bundles,
using a special tape (\#267 Scotch Pressure Sensitive). The tape, tied by pressing the gummed sides together, is economical and durable. The bundles are then root pruned if requested, and the tied bunches are put into a special crate and pushed on the packing circle near one of the jogs.

The bundles from the special crate are alternated with layers of packing material and put in wirebound, paper-lined crates. The crates are constructed of wood veneer, bound with wire, and are open end. They are disposable and cost about 43 cents delivered. The following information is stamped on the crates:

Forest $\qquad$ Date lifted $\qquad$ Mt. Shasta Nursery
Dist. or Prov. $\qquad$ Date stored $\qquad$ U.S. Forest Service Species_Age_Zone_Quantity $\qquad$ M McCloud, California

The crates are tied with a special device called "The Rocker". The crates are then stacked on pallets (fig. 4), and a forklift takes


Figure 3.--Closing and tying crate.
them to cold storage.
The cold storage room is 30 by 60 feet and holds about 1,000 crates; 1,500 2-0 pine seedlings are in each crate. The crates are stacked on pallets with 2 -inch spacers between the crates and 5 - or 6 -inch spacing between the


Figure 4.--Packed trees on pallet in packing stand.
stacks or pallets. The temperature in the cooler is maintained at $33^{\circ} \mathrm{F}$. and the humidity at 92 percent.

