

SEEDLING LIFTING AT
ITT RAYONIER

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There are several types and makes of seedling lifters in use today ranging from one row to eight rows and most lifters have been modified to meet the needs of individual organizations. Rayonier has used one-row lifters, built by Mathis, to lift bare-root slash and loblolly pine seedlings since 1972 with very good success.

The lifters are powered by P.T.O. driven hydraulic pumps with a 50 gallon oil reservoir. Prior to lifting, seedlings are undercut to loosen the soil. Two, 3-groove soft back belts lift the seedlings from the soil, pass them by a root knocker to remove excess soil from the roots and deposit the seedlings on a conveyor. From the conveyor, the seedlings are placed by hand into K-P bags, 1,500-2,000 to the bag along with 5 pieces of reject pulp from our pulp mill that has been soaked in water as a moisture carrier. The bags are sewn shut right on the lifting machine using 12-volt D-C sewing machines. The total amount of exposure time for the roots using this system is 30 seconds or less between the time they leave the ground and the time they are in the bag.

Using ten people, four on each lifting machine plus two tractor drivers, we can normally lift and pack 500M seedlings in an eight hour work day. The bags are either loaded onto open trucks or a refrigerated van for transportation to the field, usually the same day they are lifted.

This system of lifting is efficient and fits very well with the philosophy of seedling production used at our nursery. We try to eliminate the production of cull seedlings by growing them at a lower seed bed density and giving good cultural practices to get maximum growth and, therefore, eliminate the need for hand grading (or culling) of seedlings.