

THE FOBRO 1500 FOREST NURSERY TREE LIFTER

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I manage a 40 acre transplant nursery in Northwest Washington. Our facility has a capacity of 2 million trees per year and we do both fall transplanting of plugs for plug -1's and spring transplanting of bareroot of 2-0 for 2-1's. The soils are for the most part very well drained, fine sandy loam.

Ours is what I call a one horse nursery. Capacity is such that each operation is handled by a single crew of 10 to 14 people with a single supervisor providing overhead. We have only one of each piece of equipment necessary to run the nursery. For this reason, we had to be very careful in choosing a lifter to dig our crop. We do not plan to have backup equipment available.

First of all we needed a machine that would fit our scale of operation. It had to be efficient and productive enough to allow us to complete the lifting job within the December to mid-March season with a crew small enough to meet our manpower constraints. On the other hand, our annual production placed a strict limit of funds available for equipment and our lifter had to be purchased for under \$8,000.

The Fobro 1500 was chosen for its modest price, durability and superior undercutting and lifting action. The tree lifter attaches to a category one or two three-point hitch on a tractor in the 35 to 80 hp. range. It functions to undercut the bed at a ten to twelve inch depth and raise the trees to the surface leaving the roots relatively free of soil. The Fobro is mechanically driven by a standard P.T.O. The rotational action of the P.T.O. is converted to a fore-and-aft oscillation of the undercutting blade which is angled slightly down and forward. The same mechanism drives a row of lifting fingers which move up and down to loosen soil and bring the trees to the surface.

During the 1982 lifting season, we used the Fobro to lift approximately 950M 2-1 transplants for sorting and packing. Motive power was provided by a Ford 6600 tractor equipped with the factory installed 10 to 1 reduction gears. We ran in fourth crawler gear with an engine speed of approximately 1300 rpm. The resulting ground speed was about 26 feet per minute. At our bed densities we were lifting 28,000 to 30,000 trees per hour of machine operation. Daily production demand was 31,000 trees and we were able to maintain this with three people gathering trees from the beds and hand loading into bins on a field trailer.

In my opinion, the real advantage of the Fobro over other lifting equipment in its price range is the use of an oscillating undercutting blade in combination with a lifting mechanism. An

active cutting blade, especially one with a fore-and-aft movement is very beneficial to the quality of lifted trees.

Loosening of the soil and lifting the trees is accomplished with a minimum of mechanical complexity. When operated at recommended speeds, the cutting blades and lifting fingers of the Fobro move very smoothly at relatively slow speed thus minimizing stress on these parts and their pivot points. The frame is well designed and the quality of fabrication excellent.

All in all, the Fobro is a very durable and efficient machine for lifting a nursery crop such as ours.