THE PORTABLE POST HOLE DIGGER AS A TREE PLANTING MACHINE

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Many planting sites on the Big Bar District of the Shasta-trinity National Forest in California are too steep and rocky, or too obstructed by debris to permit the use of the continuous slit type of planting machine. Soles for the trees must be dug individually, a laborious and slow task, and one in which it is difficult to obtain truly satisfactory work from many laborers,

In April 1958, a portable power post hole digger (Little Beaver) with a 2-inch auger bit was used to dig such holes. It was found that one man with the machine could keep three or four men busy planting. The machine with a 4-inch auger was again used in December, and the output of the crew contrasted with the output of the same crew using hand methods in November. A total of 30,000 trees has been planted using the machine, increasing production 30 percent per man. This includes time lost by servicing and breakdowns.

Survival counts made of trees planted in April in 2-inch diameter holes show no difference between those planted in machine-made holes and those planted in hand-made holes. Further examinations are scheduled to determine the effect of 4-inch diameter holes.

The power unit and auger bit cost $245, plus additional expense when it was found necessary to have the factory apply a hard surface to the screw, cutting blade, and tip of the auger. With a hard surface, the bit stood up well in drilling 1,500 holes each day, 10 inches deep on rocky sites. Since the power unit can also be used on timber stand improvement work of girdling, thinning, and pruning, its cost as a planting machine is proportionately reduced.

There was no particular safety hazard in using this machine on clear cut areas where the slash had been bunched and burned. However, digging the holes by hand was found to be more efficient among piles of cull logs and where slope prevented bunching of slash.

The forest supervisor believes that this tool has real value on planting sites similar to those on which it has been used successfully on this forest. It would be especially useful on areas with slopes in excess of 10-15 percent, irregularly shaped areas, and tracts too small to justify the cost of hauling in a planting machine and tractor.