

Performance of a Tigercat 726B Feller-Buncher

ISSUE: Drive-to-tree feller-bunchers have revolutionized the logging business in the southeastern US. Accumulating heads coupled with high-speed circular saws have contributed to enhanced productivity of logging operations across the South, especially in thinning operations where tree size is small. In addition, by reducing the number of workers on the ground, workers' compensation costs have greatly declined. Equipment manufacturers are continually improving these machines. It is of interest to both loggers and managers to know the capabilities and costs of these new machines while operating under certain conditions.



Study Description: During August 2000, the USDA Forest Service, Southern Research Station, observed a Tigercat 726 B drive-to-tree feller-buncher operating in a clearcut harvest of a loblolly pine plantation in Macon County, Alabama. The study area was comprised of 0.9 acres that contained 301 trees per acre and a Quadratic Mean Diameter of 9.41 inches. There was a small component of hardwood in the stand that consisted of sweetgum and water oak.

The feller-buncher was recorded on videotape while cutting 290 previously numbered trees that were measured for DBH. Total tree heights were sampled using a hypsometer. Merchantable volumes were estimated using appropriate top diameter limits. Time study elements were analyzed using video analysis software. Elements included move/cut, move-to-dump, and dump.

Status: Analysis showed that productivity of the feller-buncher averaged 134 merchantable tons per PMH. Mean total cycle time was 0.56 min. The machine spent 70 percent of the time moving and cutting while 30 percent of the time was attributed to performing dumping related tasks. The number of trees per accumulation averaged 4.0 with a minimum of 2 and a maximum of 7. Machine cost was \$63 per SMH with a cost per ton of \$2.00.

Benefits:

- *Valuable for loggers to know production potential of new models*
- *Enables loggers to evaluate investment by knowing machine cost per ton*

Cooperators: USDA Forest Service; Taylor Logging

Contact: John Klepac – USDA Forest Service

