

LOGPOLE 2000, EVALUATION OF PURPOSE BUILT HARVESTER AND CLAMBUNK EXTRACTION SYSTEM

Where results are stated they must be treated as interim and subject to further work and review.

Further information on any of the topics shown can be obtained from the individuals associated with the individual projects.

BACKGROUND

This project is a continuation from the Phase 2 project commissioned in 2000. The results from the previous phase of the project indicated that the harvester was able to process logpoles on slopes of 25%+ with outputs reducing as steepness increases. Extraction studies of the Ponsse Clambunk were limited to slopes less than 20% with no difficulties indicated.

The report contains the results obtained from the data collected on the evaluation of the purpose built Ponsse HS16 harvester and the Ponsse Buffalo clambunk, felling and extracting logpoles to roadside. Due to the limited number of studies and high number of variables affecting outputs the findings are considered to be a case study only. Further studies would be required to confirm these findings.

HARVESTING LOGPOLES

Three different types of harvester presentation, right angled, parallel and 45° were compared on slopes varying from 0% to 50%+.

The harvester worked without any difficulty on slopes up to 50%+ although the time taken to harvest logpoles, across the tree size range, was found to increase on the steeper slopes (>35%).

Analysis of the harvesting data indicates that there was little difference in the time taken to harvest between presentation types on the steeper slopes. On the less steep slopes there is an indication that the larger tree sizes give a slightly lower time when presented at right angles to the rack.

EXTRACTION OF LOGPOLES

The clambunk extraction results indicate that the outputs are higher when the clambunk extracts logpoles from parallel presented produce on the lower slopes. The overall outputs from the presentation types were 40% higher on the lower slopes than those obtained on the steeper slopes.

During extraction of 'long' logpoles, soil disturbance was evident outside the brash mat but this could be minimised by careful load formation on the clam.

The change over from clambunk to forwarder mode on the Ponsse Buffalo takes c. 1.50 hours and a similar time to change back. Assuming a minimum of 2 changes per site the cost penalty would be £135 and a loss in production of between 72 m³ and 104 m³ depending on the presentational method.

The 'short' logpole (maximum length 10 m) extraction trial showed that the Buffalo in forwarder mode could carry a larger load than when in clambunk mode but the output from the clambunk was 2 m³/shr higher.

RECOMMENDATIONS

The main recommendations are as follows:

- The best method of presentation of logpoles is parallel to the rack.
- Straight extraction routes should be used by the clambunk.
- Harvesting and extraction of logpoles should be on slopes up to a maximum of 50%.

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