

HARVESTING AND CHIPPING SYSTEMS FOR ENERGY WOOD

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Abstract: *the objective of the project is to develop criteria to test, compare and evaluate technologies to harvest and chip wood for energy use.*

Machines for harvesting and chipping of energy wood are in comparison to “traditional” Harvester, Forwarder and Skidder a quite new technology. Anyhow it is important to get the same quantity and quality of information about these machine systems as for the other established technology are available already now. It is evident to accumulate the technical details of each machine in a comparable way. Also additional collected information should be concerned, for example results of an economical calculation and elicitation of technical productivity. To reach this intention different surveys have been conducted. One questionnaire was created for the manufacturer to collect detailed technical information. Missing data are collected by telephone calls, if necessary. Another questionnaire was created to evaluate productivity information from machine-users. The results are confirmed by field studies.

The other important issue is to develop and establish a method to conduct field tests for the new technology of wood chipping machine systems. Several approved testing methods can be applied to the new technology. For example demands of ergonomically designed workplaces or exhaust gas emission of wood chippers are nearly the same as the demands of a harvester or forwarder. Furthermore there are some really new issues to take into consideration. The technical productivity of a machine and the quality of the produced chips are the fundamental attributes of a wood chipper. It is necessary to develop a test design to estimate chipping quality for different machine types on the one hand and to evaluate the different principal use of the machines on the other hand. To score that it became necessary to classify the chippers very thorough. So the testing regulations of KWF are separated into the three classes self driving, trailed and assembled chippers. Each class has a subdivision into some size groups, depending of the processible wood volume.