ACCURACY OF TIMBER VOLUME MEASUREMENTS USING A HARVESTER AND A PHOTO-OPTICAL SYSTEM IN POST-WINDTHROW STANDS

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In August 2017, storms in north-central Poland caused the windthrow of nearly 10 Mil m³ of timber on 80 thousand ha. In order to harvest the timber in a relatively short period of time, 283 harvesters have been used, and it is envisaged that, by the end of 2017, 2.6 Mil m³ of wood will have been harvested. On windthrow areas, large piles of wood are created which require quick and accurate measuring before being sold. One way to do this is to take advantage of the harvester’s measuring device. However, harvester measuring instruments are exposed to inaccuracies caused by damaged timber (mainly broken stems). Alternatively, a photo-optical system can be used, although this generates extra costs. The objective of this research is to discover whether relying on harvester measurements is sufficient in post-windthrow stands. Additionally, a comparison between the measuring accuracy of a harvester and a photo-optical system will be conducted. The sites allocated for the research are currently being prepared. Pine stands of final-felling age as well as of thinning age have been selected for study. CTL timber will be measured by a harvester, forwarded to the roadside and then measured by a Dralle photo-optical sScale system. sScale consists of a number of cameras supported by infrared devices and flashing lights mounted on the roof of a car. Finally, manual measurements will also be taken: the upper and lower diameters, as well as the length of each log will be measured for the accurate calculation of the timber volume, which will be taken as the control. Data collection will be carried out in the first months of 2018 and the results will be presented at the Forest Engineering Conference.