

Determining the Impact of Felling Method and Season of Year on Coppice Regeneration

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Abstract

There is an increasing interest in the establishment of plantations in the Southeast region with the objective of producing biomass for energy and fuel. These types of plantations are called Short Rotation Woody Crops (SRWC). Popular SRWC species are Eucalypt (*Eucalyptus spp.*), Cottonwood (*Populus deltoids*) and Black Willow (*Salix spp.*). These species have in common strong growth rates, the capability to adapt to several weather conditions, the ability to coppice and rotations of 2-10 years. SRWC have generated interest to many forest products companies and timber producers. Although they are a big promise to the bioenergy market, there are still several concerns about the best way to efficiently harvest them maximizing the ability to coppice. Plots were installed at several locations in Florida, Mississippi and Arkansas, and divided in 4 treatments. The plots were cut using a shear-head feller-buncher and a chainsaw; also, two harvest seasons were compared: winter and summer. Stump mortality and number of new stems regenerated were evaluated. Preliminary results for the winter harvest indicate that, for eucalypts, shear head has a negative effect on the ability to coppice (~5% less than sawed), and that diameter has an effect on the regeneration of new stems and stump survival (larger stumps presented better results). For cottonwood, stump diameter affected the regeneration of sprouts (larger stumps produce more), and sheared stumps produced more new sprouts/stump (~1 more sprout/stump). For black willow, stump diameter affects survival and sprouts regeneration (larger stumps presented better results).

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