Unique technical innovations for short rotation woody crops research and development

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Often technology that is available to conduct short rotation woody crops (SRWC) research is too expensive, difficult to operate, cumbersome, and/or impractical for meeting sample size requirements. Thus, we have designed, constructed, and tested technical innovations that have allowed us to meet our specific experimental needs. Such research and development is important to help other researchers and resource managers use specialized equipment and to help foster more meaningful SRWC studies in the areas of production systems, environmental opportunities, and genetics and tree improvement. In addition, these innovations will help the general public get a supply of wood products while maintaining the native forests for aesthetics and recreation. Specifically, we detail the design, construction, and testing of: 1) an observational system (rhizotron) for acquiring two-dimensional, horizontal root growth measurements over time without disturbing aboveground plant growth and without the need for destructive sampling of roots, 2) a weed compaction roller system for use with a four-wheeled all-terrain vehicle to flatten invasive weeds prior to herbicide application (patent pending), and 3) an inexpensive, reliable, and durable monitoring station to be used with lightweight, compact data loggers.

SRWC Production Systems for Wood Production, Bioenergy and Environmental Services

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