

Expertise in management of fast-growing trees plantations and harvesting and supplies of forest biomass.

*Breeding programme for hybrid aspen (*Populus tremula* L. × *P. tremuloides* Michx.)*

*Testing the performance of *Populus* spp. and *Salix* spp. clones.*

*Management of plantations of the local fast-growing broadleaved tree species (silver birch, *Alnus* spp.)*

Forest biomass production on cut-away peat lands.



Elaboration of the equations for calculating the forest tree biomass and carbon stocks.

Studies on environmental impact of biomass extraction from forest stands.

Modelling the growth of fast-growing broadleaved trees plantations.



Forest technology and bioenergy research

Different machines (from Ponsse Ergo and New Holland 215B excavator to Vimek BioCombi harwarder) and work methods in ditch cleaning and pre-commercial thinning.

Optimization of assortments structure in pre-commercial and commercial thinning – from maximal value (the largest number of roundwood assortments) to maximal productivity (biomass for energy only harvesting).

Impact of tracked (Timbear and ProSilva forwarders) and wheeled machines (without tracks or with steel and plastic tracks) on and soil damages, productivity and cost of thinning.

Productivity of road transport depending from structure of assortments, type of operation, truck and loader.

Optimization of technological design of felling sites (organization of strip-roads in thinning and final felling and pattern of soil scarification for soil scarification before regeneration).

Cost and silvicultural impact of different soil scarification methods in reforestation. Stump extraction for biofuel production and recovery of spruce stands heavily damaged by root rot.



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