Research objectives for silviculture in JSC “Latvijas valsts meži” (Latvia’s state forests)

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Company Overview

- Founded in 1999
- Manages 1.62 million ha
- JSC «Latvijas valsts meži» (LVM) representing state interests in forestry by sustaining and increasing the forest value, while gaining maximum possible value from forest management
- One of Baltics’ leaders in efficient and innovative forestry
Silviculture
Roundwood Production & Supply
Forest Seeds and Plants Production
LVM Real Estate
Hunting and Recreation
Forest Infrastructure Development
Roundwood Production & Supply
LVM Silviculture

Silviculture aim: growing of productive, valuable and healthy forests for manufacturing of timber products.
Project: Quality of the young stands on the organic soils depending on soil preparation method

- Avg. annual artificial regeneration: 9.8 thou ha
- Avg. Annual early tending: 20.0 thou ha
- Avg. Annual precom.thining: 30.0 thou ha

**Task:** Inspection of planted young stands, evaluation and analysis of regeneration results, comparing trenched and mounded areas should be carried out.

**Result:** Particular recommendations of regeneration and management methods for more efficient result.
Project: Management of stands on drained peatlands

- Drained stands are affected from wind, drought and previous production activities;
- The previous management mode has to be changed according to current market demand and knowledge and experience;

**Task:** Establishing of most effective way for forestry (incl. method, tree species, stand type) on drained peatlands. Preparing model of net present value prognosis.

**Result:** Recommendations of management mode for forestry on drained peatlands
Project: Animal damage risk evaluation depending on accomplished activities

• Monitoring 2015 – damage intensity:
  Medium – 68%; High – 24%; Main stand are gone -8%

Task: Evaluation impact of precomercial and comercial tending and other contributing factors on deer (Cervus elaphus; Capreolus capreolus; Alces alces) damage

Result: Recomendations for planning and implementation of precomercial and comercial tending, other activities with purpose to reduce damages in territories with high density of animals.
Project: Adaptation of mechanized planting and technology for peatlands and wetlands in Latvia

- 25% of clearcuttings are located in peatlands and wetlands;
- Expenses of traditional and mechanized regeneration methods are nearly comparable;
- A lack of skilled labour in the near future may endanger forest regeneration plans.

Task: Analyzing related research results in Scandinavia and evaluation opportunities of M-planter use in the field. Evaluation of method’s impact to productivity and expenses of soil preparation and planting.

Result: Recommendations for soil preparation and mechanized planting for peatlands and wetlands based on field research results.
Project: Promotion of collaboration with contractors and their quality.

• Collaboration with 600 companies and 2000 workers;
• Service has to be bought through open procurement procedure;
• Condition of law - the lowest price has priority;

Task: Evaluation of current collaboration practise and effectiveness of selection for economically most beneficial tender; evaluation options of extra benefits for quality of service.

Result: Guidelines for organisation of procurement and work; requirements of education for workers and supervisors has to be made.
**Project: Forest management risk prevention according to global climate changes**

According of current experience:
- The avg. temperature increasing;
- The vegetation period longer already;
- There will be much more wind storms, heavy rains and high temperature peaks;

**Task:** Evaluation of prognosis for forest management risks and define possibilities to minimize them.

**Result:** Guidelines for forest regeneration and management with aim to decrease impact of climate change.
Project: Define the prevalence factors of root rot

- The economical loss in EU are 500 (790) milj. EUR per year;
- 22% of Norway spruce in «commercial age» Latvia are infected by root rot.

**Task:** Analysis of prevalence contribution biological and anthropological factors; 
(Heterobasidion spp., Armillaria spp.) resistance test of coniferous with different origin;

**Result:** Root rot prevalence limiting recommendations for production activities in coniferous stands.
Project: Determination of options to increase productivity of stands by fertilization

- Fertilization is one of the best solution to promote CO2 accumulation on forest lands;
- Fertilization gives extra growth and income;

Task: Evaluate economic effect of nitrogen and wood ashes fertilizer and impact to environment;

Result: Description of most effective fertilization method for stands of different age and type.
Thank you for your attention!