

Optimal land use by Bergvik Skog in Latvia

- boosting bioenergy mobilization

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Why plantations?

- Cost effective way to produce raw material.
- Effective land use.
- An opportunity to protect natural forests
- Evens out the age structure of forest holding.
- Since the land prices goes up, we need to produce more income per hectare every year.

Growth potential of plantations

- In southern hemisphere up to + 50 m³/year (acacia, eucalyptus)
- In northern hemisphere up to + 30 m³/year:
 - Hybrid aspen – 20-25 m³/year, 20-25 years rotation
 - Poplar – 25-30 m³/year, 5-20 years rotation

Net income of poplar spp. 15 EUR / m³ (300 EUR a year per hectare).

Present land use in Latvia

2 million ha agricultural land recognized by EU,

- 0.65 million hectares used for grain and rape cultivation
- 0.65 million hectares used as pasture

=> Some 700 000 hectares not used for the traditional agricultural production, whereof 250 000 not used at all!

Can some of this 700 000 ha be used for plantation forests?

- Latvian legislation allows 15 years rotation of plantations on agricultural land, EU supports 5 years rotations in Latvia .
- In terms of income/ha, employed people and export income plantation are equal to the traditional agriculture.
- It must be up to the country and each owner to decide how to use the land. More research is on the way!

A vision

200 000 ha of plantations in Latvia by 2025

- producing 4-5 million m³ of wood materials – an increase by 40% of today's harvested volumes.
- very positive effect on Latvian forest industry, local CHPs and on the export of biofuel.
- creates thousands of work places on the countryside and millions of Euros in export income.

Bergvik Skog's land use

Bergvik Skog owns 108 000 ha of land in Latvia

- 75000 hectares of forests
- 24 000 hectares are registered as agricultural land.
- to manage agricultural land is not the core business of Bergvik Skog SIA. However for the historical reasons there are former agricultural fields inside the forests.
- How to deal with the agricultural land?

Bergvik Skog's use of agricultural land

- 6 000 ha leased to 300 local farmers.
- Annually 600 ha sold to the farmers.
- 1 000 ha Bergvik Skog declared itself to EU for grass cutting/landscaping or short rotation energy plantations.
- 10 000 ha are naturally overgrown or planted with forests.
- **7000 ha left, maybe 5000 ha could be planted** with poplars.



What to do?

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Net present values

NPV for 1 hectare (with discount rate of 4.25%) :

- poplar 4 700 EUR,
- hybrid aspen 3 800 EUR,
- birch 2 000 EUR,
- spruce 2 500 EUR.

(Lease out gives approx. 1 000 EUR in NPV)

Hybrid aspen or poplar? Which one to choose?

- Hybrid aspen have slightly better wood market with more use/application.
 - Hybrid aspen is attractive for wild animals and needs fencing, that is very expensive.
 - Poplar is a robust species that can be established from cuttings and it is less attractive to animals.
- Bergvik Skog gives the priority to Poplar

Before planting - analyze the soil

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- Hybrid aspen not suitable for organic soils, there we rather plant birch or alder or 3 meter rods of poplar.
- Hybrid aspen and poplar are not suitable for very small fields in the middle of the forests, here we plant spruce.
- Hybrid aspen and poplar are not suitable for the clay soils or very sandy soils where we prefer coniferous.
- Poplar likes medium light soils.
- **Poplars are good alternative for normal mineral soils with sufficient amount of water, short cuttings are good!**



Scientific study of cultivation of poplars

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- Bergvik Skog invested 100 000 EUR in research project on poplar cultivation carried out during 2011-2015 in cooperation with SweTree Technologies (Sweden) and Silava (Latvia).
- The main goal of the project was to select best clones of poplar for Latvian inland and costal conditions
- During the project:
 - 100 clones were tested in eastern Latvian and in western Latvia.
 - Gained positive experience of the known OP 42 clone during 10 years.
 - Established mother plantations for cutting production.

Bergvik Skog feels confidence in stepping up the scale of our work now!



Cultivation of poplars

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Thank you for attention!

Remember the saying « The man who planted a tree has not lived in vain» .