



**LITHUANIAN
RESEARCH CENTRE
FOR AGRICULTURE
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Forest regeneration practise in Lithuania

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Physico-geographical characteristics of the country

- Lithuania belongs to the temperate climate zone.
- It lies in the western part of East European Plain and includes middle-course and delta regions of Nemunas river basin.
- Lithuanian landscape was shaped by various geomorphological processes (the main process which shaped Lithuania's landscape was movement and melting of glaciers).
- The main geomorphological types of Lithuanian landscape:
 - clayey plains – 55 %;
 - moraine hills – 21 %;
 - sandy plains – 18 %;
 - river valleys – 3 %;
 - coastal plains – 2 %.

Main regions with different soil types

A. Baltic sea coastal area with
aeronosols and fluvisols;

B. Žemaičiai Upland with albeluvisols
and luvisols;

C. Middle Lithuania Lowland with cambisols and luvisols;

D. Baltic Upland with albeluvisols and luvisols;

E. South-Eastern sandy Plain with
arenosols and podzols;

F. Švenčionys-Breslauja area with
albeluvisols and luvisols.

G. Old uplands with albeluvisols and planosols.

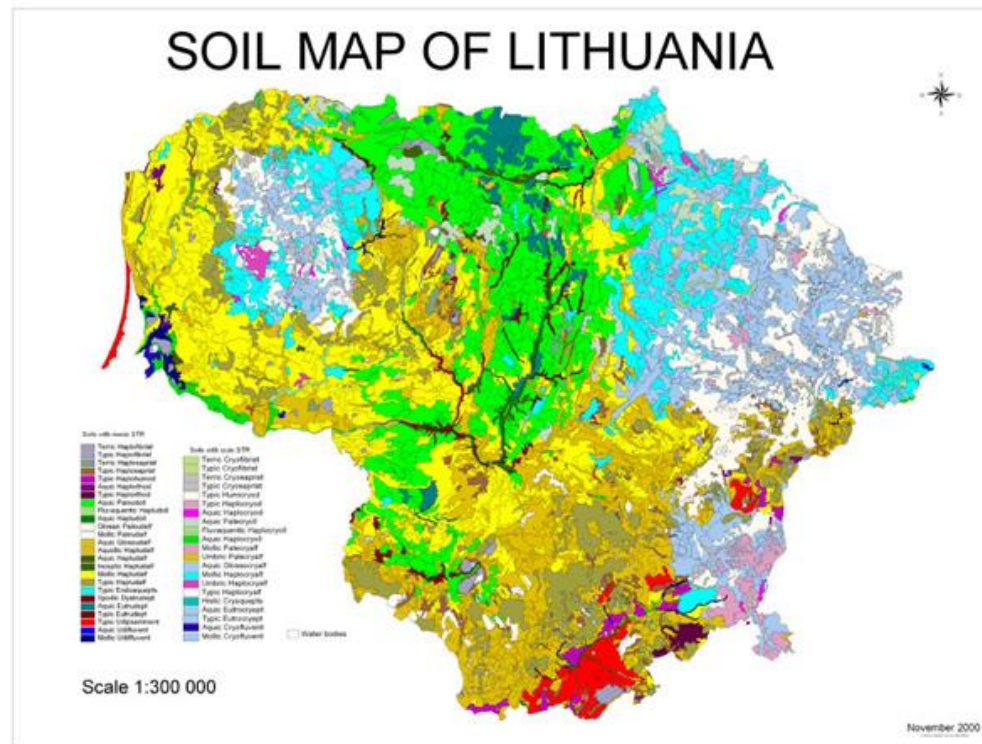


Fig. 2 Soil map of Lithuania

The habitats moisture index by national hydrotops classification

N – mineral soils of normal moisture;

L – temporarily overmoist mineral (gley) soils;

U – permanently overmoist mineral (gley) soils;

P – organic peatland soils (Vaičys, 2006).

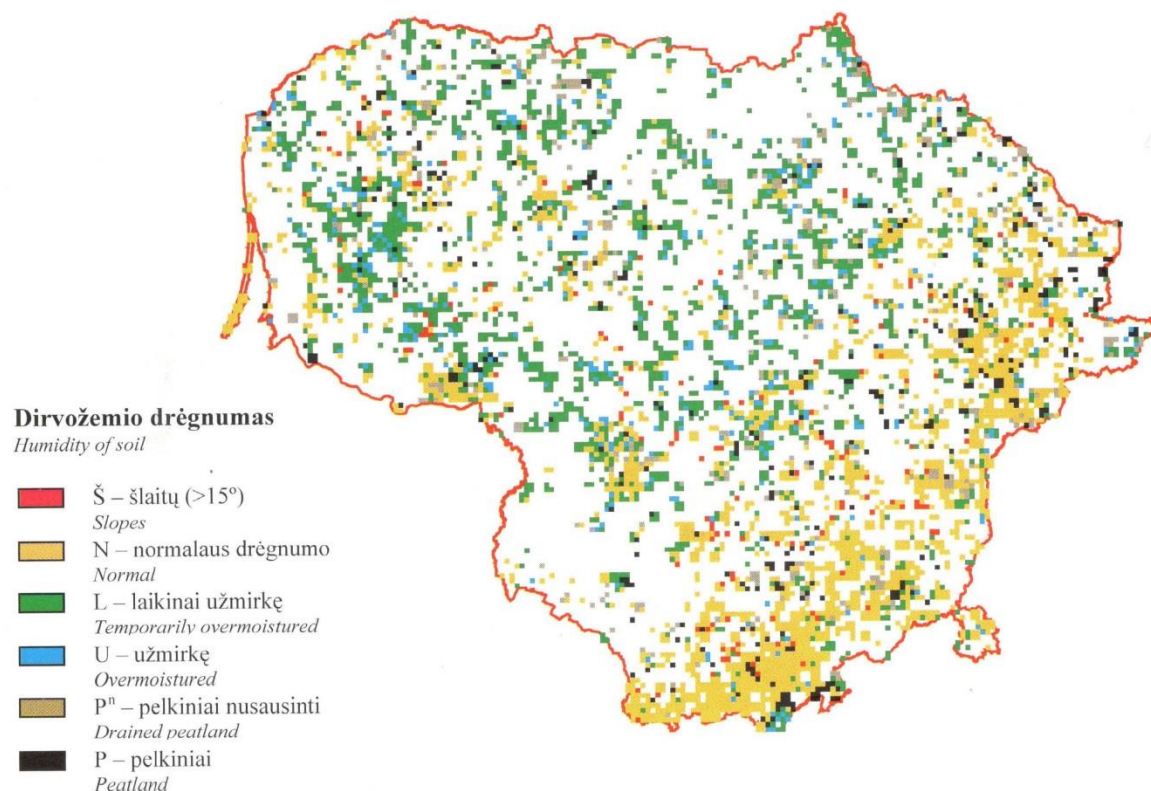


Fig. 3 Forest land by soil moisture (Kuliešis et al., 2007)

Forests in Lithuania



Image source: S.Stankevičius

Forests in Lithuania

- Lithuania is on the edge of maritime and continental sectors of the mixed zone of broad-leaved and spruce forests.
- The largest forests are pine-woods, while smaller areas can be covered by birch, spruce, aspen, black alder forests.



Forests in Lithuania

Forests by dominating tree species are:

- Pine-woods – 37,6 %;
- Spruce – 24,0 %;
- Birch – 19,5 %;
- Alder – 5,6 %;
- Black alder – 5,6 %;
- Ash – 2,7 %;
- Aspen – 2,6 %;
- Oak – 1,8 %;
- Other – 0,6 %.

The largest Lithuania's forested areas are:

- Dainavos forest – 1450 km²;
- Labanoro-Pabradės forest – 911 km²;
- Kazlų Rūdos forest – 587 km²;
- Karšuvos forest – 427 km²;
- Rūdninkai forest – 375 km².

According the national legislation and the regulations of reforestation...

- The soil should be prepared continuously (plowing, milling, cultivation) or partial (plowing up furrows, making sites, mounds and so on.) depending on the area of planting conditions.
- We can not prepare the soil in permanently overmoist and undrained peatland forest sites, 35 ° and steeper slopes.

The main methods of afforestation in agricultural areas



Plowing in the forest or stand of trees in an area where there was no previous tree cover. Trees are planted in the bottom of the furrow.

The main methods of reforestation in clear cut areas



Milling in clear cut areas the process of restoring and recreating areas of forests that may have existed long ago but were deforested or otherwise removed at some point in the past.

Trees are planted in the bottom of the furrow.

The main methods of reforestation in clear cut areas



In the temporarily overmoist mineral (gley) soils are formed hill of the soil.
Trees are planted at the top of the hill.

Tree planting machine RZS-2



Planting by one or two employees. One of them can control hydraulic distributor and to lift mechanism at the stumps.

The most popular forest regeneration practise in Lithuania

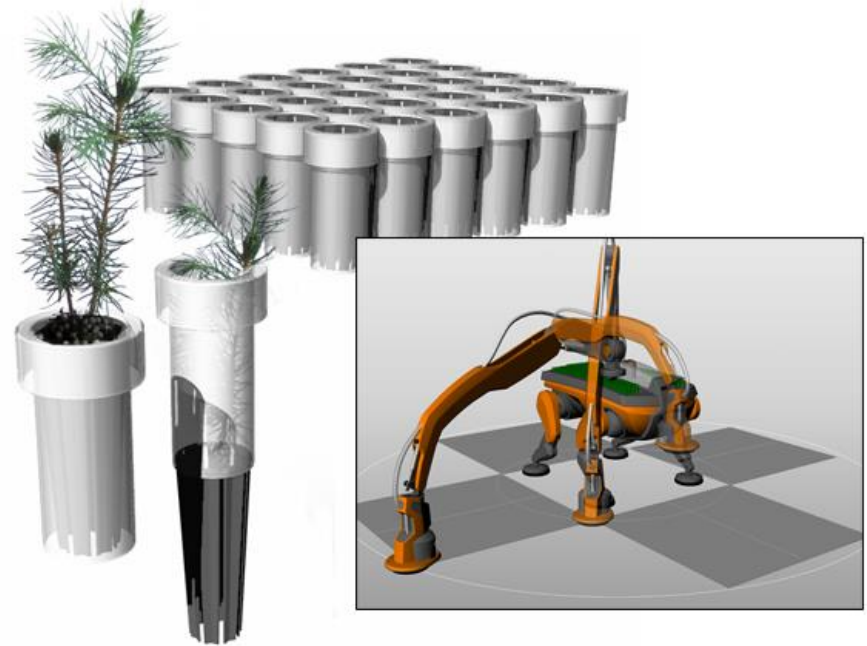


The most important thing in forest regeneration is ...



...human resources.

What will be in future?



Source: Anna-Karin Bergkvist

May this tree planting robot can save the earth?