Master's Thesis Project description

Title
Fast growing broadleaves species in Swedish forestry: a new frontier to explore

Background, study question(s)/Hypotheses (max 200 words)
In *Populus* species (mainly H. Aspen, poplars and aspen) lie a great potential due to the high production (up to 25-30 m^3 per ha and year), short rotation length (15-20 years) and versatility.

In Sweden, many *Populus* species have been mainly planted on agricultural land. However, there has been increased interest in using alternative tree species on forest land, given the expected increase in extreme events such as storms and droughts, as a substitute for Norway spruce. Moreover, the forest land area suitable for poplar plantations is considerably greater than the available agricultural land: if only a fraction of this forest land will be planted with poplars or other fast-growing broadleaves species, it would produce enough biomass to become an important bio-economy driver. This requires improved establishment practices and suitable genotypes to tackle the challenges that poplar species might face in the establishment process. Having a better understanding of such factors could lead to great results in the implementation of poplar species on forest land.

Study questions:

- What is the effect of improved site preparation practises on the establishment of poplars in forest land?
- What is the effect of genetically selected plant material on the establishment of poplars in forest land?
- How can fast-growing broadleaves species help tackle climate change?
- Can fast-growing broadleaves species be a better replacement for more widespread species in Swedish forestry?
- Tolerance and susceptibility of poplars in forest land: is it possible to find a common denominator?

The project itself can be decided together with the supervisors but also could be a direct proposal from the student, we always appreciate a brainstorming mind!

We also have funding for any cost that the project might need.

Supervisor(s)
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Special conditions/requirements
A driver's licence is required if fieldwork is included in the project.
The project can be done including fieldwork and/or greenhouse/lab work, depending on the student's preferences.
The topic of the thesis can be discussed with the supervisors to better fit the student's preferences but it could also be a direct proposal from the student.
Fundings are available to cover project costs.

Pictures: