



Norsk tittel: Nye produksjonsmetoder: Forkultivering med og uten rhizobium-inokulering av bondebønne/åkerbønne til utplantning i felt

English title: New production methods: Pre-cultivation with/without rhizobium inoculation of broad bean/field bean for field outplanting



Photo: Field beans at Vollebekk forsøksgård (Anne Kjersti Uhlen)

Summary

This thesis work will be connected to the ongoing project: “Incentiver til Virkemidler for Omstilling av Matsystemet / Incentives for Measures for Food system Transition (VOM).

A key question in this project:

Which geophysical opportunities exist for plant production in Norway using different production methods?

A barrier for many seed crops is that their climate demands result in a long developmental period and too late maturation in many Norwegian regions.

This thesis focuses on broad bean/field bean and consists of two main tasks:

1. **Transplanting:** conduct trials that combines climate regulated pre-cultivation (greenhouse/growth chambers) of field bean plants followed by outplanting in field and growing until seed maturity. Study effect of climate regulated pre-cultivation and transplanting on plant development, harvest indices and crop quality.
2. **Rhizobium inoculation:** Field bean and other protein crops can fix atmospheric nitrogen through symbiosis with soil living bacteria, thus reducing the need for N-fertilization when field grown. Little is known of the ability of the field bean plant to be able to fix N when cultivated in pots/confined containers. Investigate the effect of inoculation of field bean seeds with rhizobium bacteria prior to sowing for pre-cultivation under climate regulated conditions, followed by field outplanting. Study if inoculation affects plant development after outplanting. This is done in combination with task 1.



Bachelor or Master thesis BIOVIT 2022/23

Subject area: future plant production systems/products, growth analysis, climate, quality

Language thesis: Norwegian and/or English

Master thesis: 30 or 60 credits

Project/company: VOM ([CICERO](#))

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