Bachelor or Master thesis BIOVIT 2022/23

Norsk tittel: Proteininnhold og frøstørrelse/frøstørrelsesfordeling i sorter av åkerbønne

Engelsk tittel: Protein content and seed size distribution in varieties of faba bean

Summary: The analyses of protein content by using the near infrared reflectance (NIR) or near infrared transmission (NIT) have been very successful in cereals and other seed crops. These are fast methods with no requirements for pre-extractions using chemicals. In faba bean, the NIR/NIT methods have not shown satisfactory results. The thesis will include analyses of protein content in samples of faba bean by different methods, and testing samples of both whole seeds and milled flour. The seed size as well as seed size distribution within a variety are important traits in faba bean. Seed size distribution can be analyzed by image analyses, and two different systems are available at NMBU and NIBIO, respectively. The aim will be to analyze seed size and seed size distribution in a set of different varieties in faba bean grown in Norway. Finally, the thesis can also include a study of variation in protein content, seeds size and seed size distribution based on variety trials conducted at several sites and in two different seasons.

Keywords: Protein crops, analytical methods, image analyses, faba bean, protein content

Language: The thesis can be written in English or Norwegian

Bachelor or Master thesis: The topic can be adjusted for both Bachelor or Master thesis**.**

Credits: 15/30/60

Project/company: The thesis will be linked to the project FutureProteinCrops, and the established cooperation between NMBU-BIOVIT and NIBIO. Researcher Chloe Grieu at NIBIO and Prof. Anne Kti Uhlen, NMBU will be responsible.

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