**Characterization of seed storage protein diversity in Faba bean (Vicia faba)**

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Faba bean (Vicia faba L., 2n = 12) is a cool-season legume with high average seed protein content and yield potential for temperate regions. It has an average seed protein content of 30% which is the highest among other cool-season legumes, but less than it’s warm-season counterpart, soybean. Improving the seed storage protein quality and content is an important target for advancing faba bean as a sustainable source of plant protein. The most abundant class of seed storage proteins in faba bean are globulins, which are composed of vicilin/convicilin and legumin. The faba bean reference genome is annotated for 17 vicilin, 2 convicilin, and 18 legumin encoding genes, although previous storage protein characterization suggests that more are present. To begin characterizing the seed storage protein diversity in faba bean, PacBio Iso-Seq transcriptomes from seeds sampled at 25 DAP were generated for a diversity panel of ~200 accessions. Individuals from the same panel has also been evaluated for chemical amino acid composition and protein content and a seed proteome will be generated using LC/MS-MS. This comprehesive profile of seed protein diversity and content will be used in the indentification of markers for improved seed storage protein profiles in faba bean.

*(maximum 250 words, but title, authors and affiliations are not included; figures or tables are not allowed)*

***References:***

[1] Jayakodi, M. et al. “The Giant Diploid Faba Genome Unlocks Variation in a Global Protein Crop.” Nature 615, no. 7953 (March 2023): 652–59

[2] Skovbjerg, C. et al. “Genetic Analysis of Global Faba Bean Diversity, Agronomic Traits and Selection Signatures.” TAG. 136, no. 5 (April 19, 2023): 114.

*(max. 2 references (first author followed by et al., year of publication, journal abbreviation, volume and pages)*