

## BSc thesis

### Sortenvergleich in Speise-Platterbse (*Lathyrus sativus*) Comparison of grasspea (*Lathyrus sativus*) accessions

Grass pea is a robust grain legume that is considered one of the most resistant to climate change. It can be grown on various soil types, tolerates abiotic stress factors such as drought, heat and flooding, and it is an efficient nitrogen fixer. Thanks to 18-34 % protein content in the seeds, it is also promising as crop for human food. Its cultivation is widespread in the Mediterranean region, on the Indian subcontinent and sub-Saharan Africa and has been cultivated in Europe for 10,000 years. For decades, there was little interest in the pea because of the double stigma attached to it: Firstly, it was considered a food of the poor as it was mainly grown by resource-poor farmers on marginal land. Secondly, it was given overemphasized attention due to its suspected toxic properties. Excessive consumption of the seeds during famines triggered by drought has been linked to a neurological disorder known as lathyrism. In India and China, grass pea has been listed as toxic plant and the sale of seeds has been banned. However, as part of a balanced diet, neurotoxicity is not a problem. On the contrary, there are reports of the potential of the grass pea as a health-promoting nutraceutical. In the face of climate change, this highly adaptable and nutritious orphan plant deserves more attention.



In 2025, we will cultivate a panel of 30 grasspea accessions in Göttingen. This panel consists of accessions from the Gatersleben genebank, landraces from farmers in Germany, Austria and Portugal, and breeding material from Poland and Serbia.

**The aim is to characterize a diverse panel of grass pea accessions for agronomic and physiological traits under Central European conditions.**



#### Tasks include:

- Assessment of plant-growth related traits (plant height, begin of flowering, flower color, growth habit), yield related traits (pods per plant, seeds per pod, seed yield) and seed related traits (seed shape, color, size, TSW)
- Optional: Protein content, ODAP content, attractiveness to pollinators
- Data analysis and presentation (R, Plabstat)

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