

PlantsProFood – New Varieties of Narrow-Leafed Lupin for Food Industry – Genetic and Molecular Analysis of New Variability

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Sweet narrow-leafed lupins shall be developed as novel protein resource for food production. The project aims at improving the competitiveness of narrow-leafed lupins in Germany's agriculture *via* generation of breeding progress. It is meant as a contribution to the political efforts to promote the use of homegrown legumes as an alternative protein resource. A network of four research groups and ten regional companies will process the entire value chain from new varieties to food production.

Based on EMS mutation novel phenotypes were selected from cultivar 'Boruta'. For phenotyping and genotyping F₂ populations have been developed. The genetic analysis revealed a 1:3 ratio, which is expected for the inheritance of recessive mutations. Molecular markers have been established from different legume genomes and will be useful for marker assisted selection. In cooperation with a lupin breeder stable and high yielded cultivars based on the novel phenotypes will be available for the food industry.