



Legume Generation

Introducing Soybean Innovation Community

Boosting innovation in breeding for the next generation of legume crops for Europe

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Innovation is risky and requires an entrepreneurial spirit to drive and manage change. Funded by the European Union as an Innovation Action, Legume Generation will combine the entrepreneurial spirit and ambition of breeders with the inventiveness of the supporting research base.



Figure 1. Partner locations for Legume Generation soybean field experiments

European elite soybean varieties

Field experiments:

Yield trials:

Y1) MG 000 and earlier: 60 genotypes

Y2) MG 00: 45 genotypes

Y3) MG 0 and I: 30 genotypes

Food-grade trials:

70 genotypes across all maturity groups

Phenotyping:

Semi-4D phenotyping, hyperspectral field analysis, and multispectral and thermal drone imaging

Genotyping:

[LegGen Soy 5K Trait-specific Marker Panel](#)



Figure 2. Individual soybean genotype (cv. ES Comandor / LIDEA) with exceptionally early maturity in experimental group Y1 at Tulln/Austria in late August 2024 (Photo: BOKU University)

Key priorities include increasing yield potential, stabilizing performance under climate stress, and improving drought and heat tolerance in southern and continental regions, alongside chilling tolerance at flowering for central and northern Europe. Extending adaptation to higher latitudes with long daylengths

For food uses, selection emphasises high protein content, large seed size, and processing traits (e.g., tofu suitability, lipoxygenase-free profiles), while reducing anti-nutritional factors such as Kunitz trypsin inhibitor and addressing food safety and sensory attributes, including cadmium and allergen contents, sucrose, isoflavones, saponins, and "jasmine" flavour.

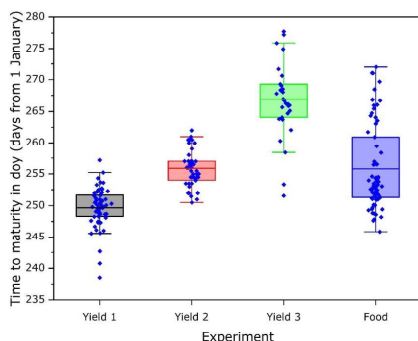


Figure 4. Variation in time to maturity (expressed in calendar days) in different yield trials as well as in the Food group at the Tulln/Austria location in 2024

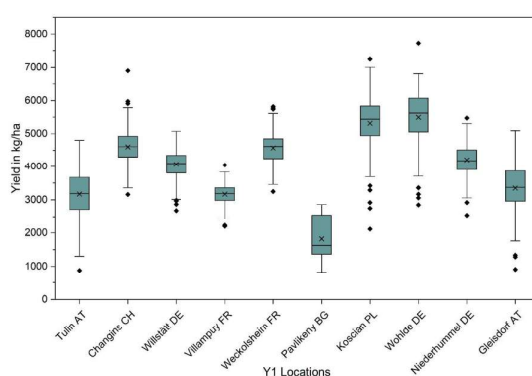


Figure 5. Variation in soybean grain yield across different partner locations in the experiment Y1 (very early maturity)

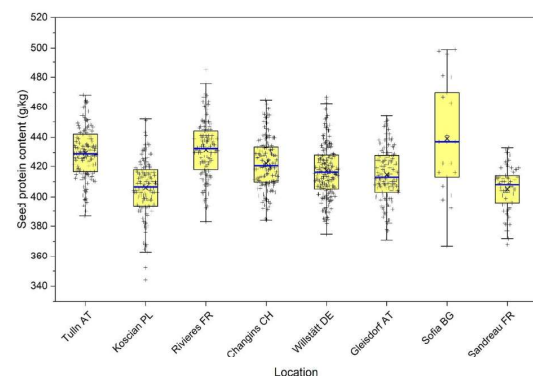


Figure 6. Variation in soybean seed protein content in samples from the Food set harvested across different partner locations in 2024

The soybean innovation community is open to all relevant actors and provides a direct route for disseminating results to other users and interested stakeholders. Its sustainability will be supported by business plans.



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