



LEGUMINOSE
the way to a green transition

A community-based decision support system for intercropping of cereals and legumes



Main results and practical implementation

The LEGUMINOSE project is developing a web-based tool to help users find the optimal crop combination for intercropping, i.e. simultaneous cultivation of two or more crops in the same field. The tool is accessible via browser at: <https://leguminose.farming.software>

Users can select or draw a field and choose a combination of cereal and legume crops. The tool provides the soil and meteorological data for the selected field and within seconds calculates and displays the most effective intercropping mixture based on specific condictions, such as the sowing date or fertiliser use. The tool simulates daily crop growth and resource demand, including plant dry mass production, phenological development, leaf area development, light use, dynamics of soil water, carbon, and nitrogen (N), etc.

Ultimately, the tool helps users explore alternatives to their current cropping plan, enabling informed decisions about switching to an intercropping system. The tool's user-friendly interface enables users to assess whether any European field is suitable for intercropping with a few mouse clicks.



Benefits and impact

The entire intercropping community benefits from a tool for exchanging information and practices of intercropping throughout Europe, overcoming language barriers.

Farming advisors can better assist clients in identifying suitable intercropping techniques, while interested farmers can use the tool themselves to evaluate different strategies. Policy makers benefit from being able to simulate the effects of increasing climate variability and biodiversity.



Challenges (and solutions)

Intercropping can provide a number of advantages, if applied in the right way. But what are the optimal crop combinations for local soil and weather conditions, fertiliser use, and management practices? Our web-based tool supports users by modelling various scenarios and suggesting the optimal crop combinations adapted to the user's location and management practice. The results are presented in an easy-to-apply format.

Get in touch for more support!

Thomas Neubauer, TU Wien, thomas.neubauer@tuwien.ac.at
Ahmad Manschadi, BOKU, ahmad.manschadi@boku.ac.at



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