



# OPTIMISC

## OPTIMIZING MISCANTHUS BIOMASS PRODUCTION

### OPTIMISC Project is about developing miscanthus as a major biomass crop in Europe

*Miscanthus* spp. is a high-yielding and robust perennial grass. Stems and leaves are used for energetic and material applications. Due to its outstanding efficiency in using water, nutrients and other resources, large-scale cultivation of miscanthus has a great potential to contribute significantly to sustainable land use and the bioeconomy.



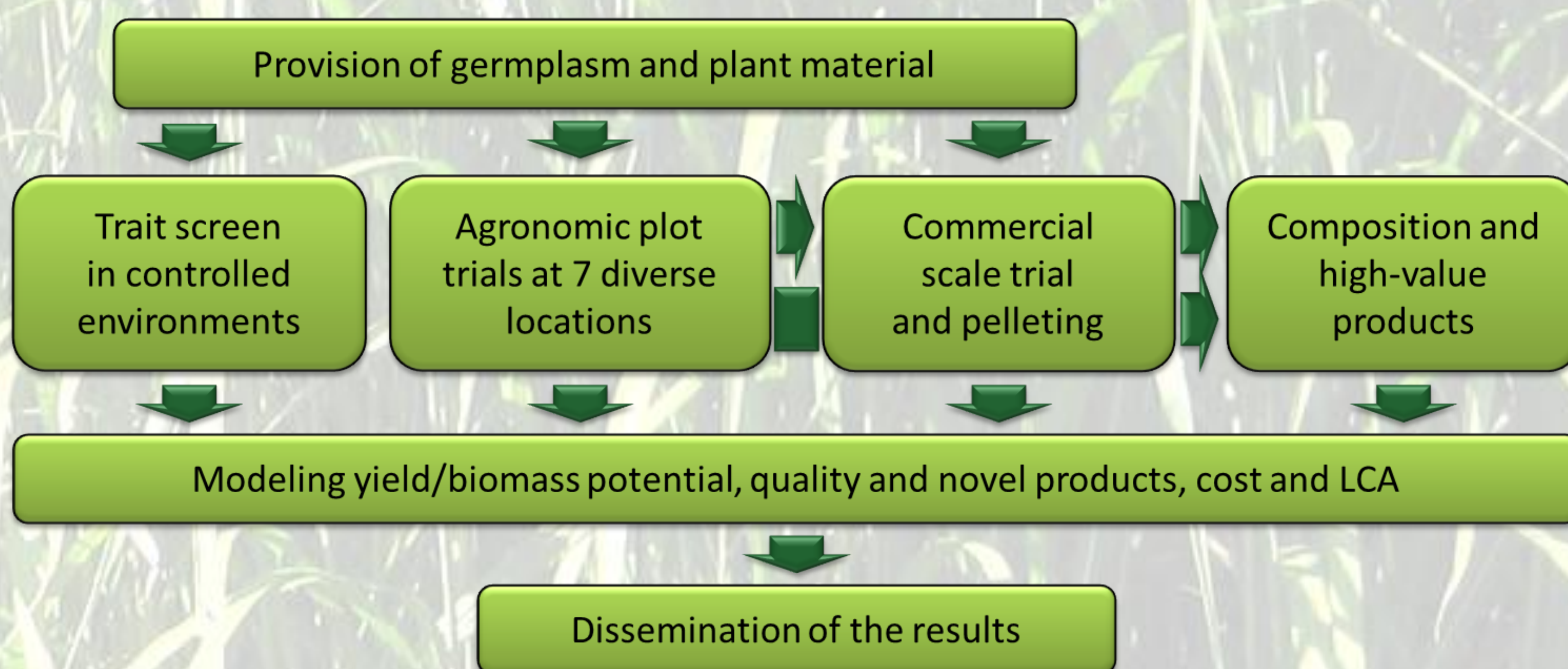
### State of the art and objectives

Up to now, only a small number of miscanthus “varieties” are cultivated in central Europe. This carries a risk with respect to potential outbreaks of pests and diseases and limits its suitability for various site conditions and specific energetic and material applications. Broadening the genetic base for miscanthus is therefore the utmost concern of the project team.

### Evaluation and screening of novel germplasm

Promising germplasm from *M. sacchariflorus*, *M. sinensis* and *M. x giganteus* and cross-breeds thereof have been selected and will be tested for their tolerance and suitability to adverse soil and climatic conditions. Team members from the universities of Wageningen (Netherlands), Cukurova (Turkey), Aberystwyth (Great Britain) and Moscow and from the institutes in China, Belgium, Germany and the Ukraine will select and characterize novel genotypes adapted to less fertile land or salt-affected soils and to conditions of cold or drought.

### Work Description



### Results expected for stakeholders along the miscanthus value chain

As a result of this process of screening and evaluating novel germplasm, farmers across Europe and in neighbouring countries will be able to extend the area of miscanthus cultivation and to grow it on marginal farmland where it doesn't compete with food crops.

Another aim of the project is the characterization of different miscanthus accessions with regard to biomass quality and hence ability to fulfill quality standards for different uses, e.g. fuel or fibre. Recommendations will be made and decision support tools developed along a set of promising value chains, defined and developed together with farmers and partners from industry. These will provide information on the environmental performance (LCA) of specific value chains. In addition, decision support will be given for the selection and cultivation of suitable genotypes intended for different applications in different environments.

Results from laboratory and field trials at the plot level will be complemented by guidelines developed for commercial miscanthus production based on experience of large-scale, fully-mechanized miscanthus production on commercial plots from a private farm in Great Britain. Project outcomes will lead to recommendations for breeders, growers, and manufacturers of miscanthus.

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If we have raised your interest and you would like to participate in or benefit from OPTIMISC as a producer or in making use of this versatile, high-yielding crop, please contact us.

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