

Innovation in MISCOMAR

MISCOMAR will provide new knowledge to underpin a better understanding of the suitability of marginal land for Miscanthus cultivation, taking into account both crop and soil properties.

This knowledge will be used to develop novel concepts around the integration of Miscanthus production at both a farm and landscape level in a sustainable way.

A range of aspects will be considered:

- ✦ The impact of marginal soil properties on crop yield
- ✦ The potential for Miscanthus production to improve soil health
- ✦ Economically viable end uses of the crop in relation to biomass quality



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Project partners



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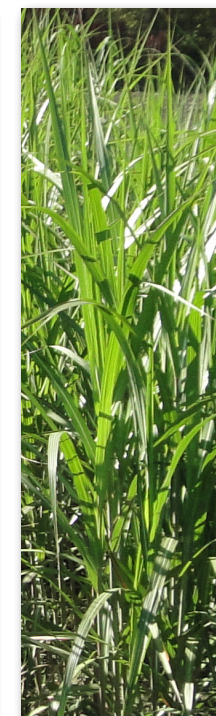
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Associated partner



Terravesta Ltd., Great Britain

Miscanthus biomass options for contaminated and marginal land: quality, quantity and soil interactions



www.miscomar.eu



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MISCOMAR context

Bioenergy is a key element of the EU renewable strategy and exists at the interface of policies on agriculture/land use and energy generation. Currently the majority of biofuels are produced from food crops grown on agricultural land, whereas the majority of solid biomass used for heat and power is woody and comes from forests. To avoid tension between food and fuel production, changes to the current approach are proposed by the European Commission to grow energy crops on medium or low quality agricultural land wherever possible. MISCOMAR contributes to the implementation of these approaches.

MISCOMAR goal

The project goal is to develop techniques for biomass production on marginal land in Europe by:

- improving the understanding of land suitability for *Miscanthus* cultivation in general and especially on marginal land
- developing concepts for sustainable integration of *Miscanthus* on farm and landscape levels

The project will consider both: the impact of the crop on soil health and condition, and the impact of these soil parameters on the crop itself and on potential end uses in relation to crop quality.

What is investigated in MISCOMAR?

- field performance of novel, stress tolerant *Miscanthus* hybrids in comparison to the standard genotype *M. x giganteus* on economically marginal and heavy metal contaminated soils
- impacts of *Miscanthus* production on soil parameters
- impact of varying environmental conditions on potential *Miscanthus* end-uses
- utilisation options for the produced biomass
- concepts for the integration of *Miscanthus* into existing landscapes, crop rotations and farming systems

Investigations are carried out at three marginal land test sites in Poland, Germany and United Kingdom.

OUR FOCUS:

MARGINAL LAND

- low grade soils
- soils under unfavorable climatic conditions
- contaminated soils



photo by Terravesta Ltd.

MISCANTHUS

- Miscanthus* as a second generation, ligno-cellulosic biomass energy crop
- Novel, seed propagated and stress tolerant *Miscanthus* hybrids

Who should get interested in MISCOMAR?

FARMERS

MISCOMAR shows how to improve and diversify their income by introducing biomass production on non-profitable land to their crop rotation.

MARGINAL LAND OWNERS AND MANAGERS

MISCOMAR introduces alternative management options for contaminated land and helps to avoid introduction of harmful substances into the food-chain.

POLICY MAKERS

MISCOMAR helps drive an agenda of reduced health risks, environmental resilience and economic recovery in rural and polluted areas.



photo by Terravesta Ltd.

Expected results of MISCOMAR

- biomass quantity and quality estimates (including chemical composition) for a core set of *Miscanthus* hybrids and *M. x giganteus* control grown in diverse conditions,
- determined production potential and biomass quality of novel *Miscanthus* hybrids for anaerobic digestion and combustion,
- concepts for integration of *Miscanthus* in existing crop rotations and landscapes with maximized environmental and economic benefits,
- provision of policy-relevant data on the balance between food/fuel production, with a particular focus on the scope for optimisation of land-use in contaminated and marginal areas.

