Is Italian agriculture ready for climate change?
Let’s hear the voice of the Agroscenari project

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Climate change effects on the suitability of an agricultural area to maize cultivation: A new Land Evaluation Hybrid System for maize

A. Bonfante¹, A. Basile², S.M. Alfieri², E. Monaco³, F. De Lorenzi², J. Bouma²

¹ Institute for Mediterranean Agricultural and Forest Systems – ISAFOM (CNR), ² em.prof soil science, Wageningen University, the Netherlands.
antonello.bonfante@cnr.it

Climate cases

Crop evaluated: Maize
Eleven hybrids of maize

Step 1: Evaluation of thermal conditions for maize

The effects of temperature variation due to climate change were analysed in three steps:

- Evaluation of thermal windows during the cropping seasons
- Evaluation of thermal windows for each genotype
- Evaluation of thermal windows of maize hybrids

The climate data were obtained from the weather data station of the Italian National Institute of Meteorology (INAMAF).

Step 2: Land Suitability for maize

A qualitative evaluation of the suitability of the study area to maize crop cultivation was performed by means of a hybrid land evaluation approach

The suitability of each soil for hybrid maize

CONCLUSION

A case study in the Dorsa Salie showing that:

- Expected high temperatures during the growing season would limit the potential of hybrids

- New hybrids would not be able to withstand very high temperatures during the growing season.

- The use of irrigation is crucial to ensure the productivity of maize hybrids.

- The use of irrigation would allow the cultivation of maize hybrids in the study area.

- The use of irrigation would increase the productivity of maize hybrids by 20-50%.

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