V Convegno AISSA#under40
Le Scienze Agrarie nell'Antropocene: dalla produttività alla tutela del patrimonio materiale e culturale
Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI), Università degli Studi di Firenze.
Firenze 26-27 giugno 2024

Evaluation of Innovative Cropping System for marginal land: the MIDAS project

Alexandro Ferreira[1*], Federica Zanetti[1], Andrea Parenti[1], Andrea Monti[1]

[1] Department of Agricultural and Food Sciences, Alma Mater Studiorum, University of Bologna, 40127 Bologna, Italy

** Corresponding author Alexandro Ferreira (e-mail : alexandro.ferreira2@unibo.it)*

In Europe, a significant portion of land is already classified as marginal, and it is likely to increase due to climate change (Von Cossel M., et al.). The HE-MIDAS project aims to evaluate the suitability of a number of resilient industrial crops on marginal land. Among these, safflower, hemp, crambe and miscanthus have been evaluated in North Italy at the experimental farm of the University of Bologna (Ozzano dell'Emilia). The site is characterized by poor chemical composition (sand >65%), and a medium slope (10-15% varying across the site). In order to achieve a differentiate feedstock production and to promote biodiversity, a strip intercropping system had been set up, including alternate wide strips (4-12 m) alternating annual and perennial crops. The project is currently in its second year of trial. In the first growing season (2023), the three annual crops achieved satisfactory production levels, reporting for safflower and crambe a seed yield of 1.7 and 2 Mg DM/ha, respectively, while for industrial hemp the total harvested biomass was 12 Mg DM/ha. In summary, the production levels of individual annual crops were on average with previous results under non-limiting conditions. The perennial grass, miscanthus, has not been harvested yet, since it is still at the establishment phase, which a problematic part of its management and the past year precipitation occurred in May had a negative effect on its vigor.

Preferenza per la presentazione: Orale o Poster
Qualifica del proponente: *Dottorando*
Indicare uno o più settori scientifico-disciplinari principali e secondari di afferenza della tematica:
SSD principale/i: AGR/02

Growing industrial crops on marginal land could be an opportunity for farmers, as it can contribute to soil and biodiversity rehabilitation, climate change mitigation and the creation of economic opportunities.

Bibliography:

Von Cossel, M., Lewandowski, I., Elbersen, B., Staritsky, I., Van Eupen, M., Iqbal, Y., ... & Alexopoulou, E. (2019). Marginal agricultural land low-input systems for biomass production. *Energies*, *12*(16), 3123.

Funding :

This research has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement no. 608622.

Keywords:

strip intercropping; marginal land; industrial crops; bio-based prodocts

Preferenza per la presentazione: Orale o Poster
Qualifica del proponente: *Dottorando*
Indicare uno o più settori scientifico-disciplinari principali e secondari di afferenza della tematica:
SSD principale/i: AGR/02