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## The BEST-CROP Project Meets After 12 Months to Assess the Progress Made During the First Year and Plan Future Activities.

The BEST-CROP Project, funded by the European Union Horizon Europe Research and Innovation Programme under the topic HORIZON-CL6-2022-CIRCBIO-02-02-two-stage, continues to pursue its objective of using groundbreaking technologies to improve the photosynthetic properties and ozone assimilation of barley, to develop novel crops with tailored straws for industrial use. The working group met in person at IMT Mines Alès (France) to mark the first 12 months of the project, discuss the results achieved, and outline the future project phases.

In recent months, the teams from UMIL, UNIPD and UTARTU have worked and collaborated to develop barley lines with increased photosynthetic efficiency. They have targeted various characteristics of barley plants, such as increasing chlorophyll, adjusting plant structure for better light use, speeding up light protection, reducing energy loss, and controlling how much ozone the plants absorb. These changes aim to boost the plants' growth and yield.

The teams from UNIVDUN, CREA, JHI and UP have also been engaged in the identification of genotypes with improved straw composition for different industrial purposes, focusing on lignin and protein content. They aim to increase the protein content of straw to make it suitable as an alternative feed source and to control the cellulose/lignin content and lignin properties to suit downstream applications. Additionally, the teams from UTARTU, CREA, ULUND and IMT are also working on the physiological and agronomical characterization of barley lines under greenhouse and field conditions.

Finally, a team from JHI is focusing on data management and biostatistics/bioinformatics support through the integration of two different platforms: GridScore and Germinate. The partners ITB and FRD-CODEM are taking care of the communication, dissemination, and exploitation of results obtained during the development of the project through a carefully planned communication program using social media pages, a website, and the development of communication materials. This strategy explains the benefits of creating Next Generation Barley Plants, which aim to replace non-renewable resources with renewable alternatives, thus promoting the development of the circular bioeconomy.



Università degli studi di Milano - Department of Biosciences

Prof. Paolo Pesaresi

Via Celoria 26 - 20133 - Milano (MI), Italy

phone: +39 02503 15057

web: <https://www.unimi.it/><https://dbs.unimi.it/it/>e-mail: [paolo.pesaresi@unimi.it](mailto:paolo.pesaresi@unimi.it)