*FOR IMMEDIATE RELEASE*

**Biome Makers joins the WISH-ROOTS Consortium**

# (West Sacramento, California - June 16th, 2022) Biome Makers joins the WISH-ROOTS Consortium to support the research of the WISH-ROOTS project. WISH-ROOTS objectives aim to advance sustainable development goals linked to food security, sustainability, food production, and climate action.

# The project WISH-ROOTS ‘Tuning the wheat root microbiome to improve soil health and optimize rhizosphere nitrogen cycling and availability’ is supported by the [European Join Programme Soil ERA-NET](https://ejpsoil.eu/soil-research/first-external-call-projects-selected) (HORIZON 2020) research and innovation program and started in the spring of 2022. The concept of [WISH-ROOTS](https://www.wishroots-ejpsoil.net/) is to support more sustainable use of land for farmers by identifying wheat root traits that tune the wheat root microbiome and soil structure to improve soil health and optimize rhizosphere nitrogen cycling and availability. The WISH-ROOTS Consortium consists of international and multidisciplinary teams: John Innes Centre in the United Kingdom, Agricultural Research Council-Natural Resources and Engineering in Pretoria, South Africa, University of Bologna in Italy, The Institute of Genetic and Developmental Biology in China Academy of Sciences, Forschungszentrum Juelich in Germany, Katholieke Universiteit in Belgium, and Biome Makers Inc.

The consortium will explore [the bread wheat germplasm at the John Innes Centre](https://www.jic.ac.uk/research-impact/germplasm-resource-unit/) and the [global durum genomic resources](https://wheat.pw.usda.gov/GG3/global_durum_genomic_resources) at the University of Bologna to identify traits related to root anatomy and secretions. The wheat germplasms will be explored for root traits in field trials running simultaneously in six countries and in controlled conditions at the unique, high-throughput phenotyping facilities at Forschungszentrum Julich in Germany.

The project will provide genetic resources and predictive models to breeders and other stakeholders for the introduction of beneficial root traits in wheat production.

Alberto Acedo, CSO, and Co-founder at [Biome Makers](https://www.wishroots-ejpsoil.net/biomemakers-spain) is participating in the WISH-ROOTS project to provide a specialized taxonomical and functional platform, [BeCrop® technology](https://biomemakers.com/becrop-technology/), for the analysis of rhizosphere soil microbiome, specifically the structural, functional, and ecological variation of wheat rhizosphere microbiome associated with nitrogen cycling. Prof. Yang Bai, Principal investigator, IGDB, Chinese Academic of Science, will participate in the WISH-ROOTS project to assist the root microbiome-related work, including field trials in China, data analysis, microbial cultivation, and functional validation.

WISH-ROOTS Consortium members, Prof. [Yang Bai](https://www.wishroots-ejpsoil.net/igdb-cas-china) and [Dr. Alberto Acedo](https://www.wishroots-ejpsoil.net/biomemakers-spain) will analyze the rhizosphere microbiome for wheat landraces and elite cultivars grown in controlled and field conditions. Also, they will investigate the link between the rhizosphere microbiome composition and functionality with wheat root traits and wheat genomic variation. WISH-ROOTS will assess the taxonomical and functional core of the rhizosphere microbiome associated with wheat nitrogen cycling and uptake under field conditions on three continents.

In parallel, the WISH-ROOTS will explore root architectural traits that can improve soil structure and increase wheat crops resilience and adaptation to environmental and climate changes.

The data sets collected will be used to functionally validate rhizosphere microbiome members associated with root traits and nitrogen cycling under controlled and field conditions and

measure ecological changes in the rhizosphere microbiome for the wheat landraces and cultivars studied. This work will be supported by the expertise of Prof. Yang Bai and by Alberto Acedo at Biome Makers Inc.

The project has been designed to enable an exchange of knowledge and expertise between participants, strong public and stakeholder interaction as well as provide advantageous varieties for farmers that support a more sustainable use of land improving soil health, microbial biodiversity, and more.

For more information, visit <https://biomemakers.com/> and <https://www.wishroots-ejpsoil.net/>

**Biome Makers Bio:**

Founded in California’s Silicon Valley in 2015, Biome Makers is one of the foremost global AgTech leaders, setting the standard in soil health with BeCrop® technology. Built on industry-leading AgTech expertise and driven by data and science, Biome Makers connectsoil biology to agricultural decision-making to optimize farming practices and reverse the degradation of arable soils. With labs across the globe, customers on 4 continents, and 1M+ acres of land impacted, Biome Makers revitalizes soil functionality and agricultural sustainability worldwide.

**WISH-ROOTS Bio:**

Tuning the wheat root microbiome to improve soil health and optimize rhizosphere nitrogen cycling and availability. The concept is an improvement of soil health by the identification of wheat root traits. ​The aim is to provide genetic resources and predictive models to breeders and other stakeholders for the introduction of beneficial root traits in wheat production.

The objective is to enhance the potential beneficial effects of wheat cultivation on soil health through the identification of root traits that can improve soil structure and optimize nitrogen (N) cycling. For this, the WISH-ROOTS project will aim to identify key traits associated with functionality of microbial and fungal guilds in the rhizosphere and root system architectural traits, find the genes, genomic regions or metabolic pathways in wheat that can benefit soil health, develop genetic tools for breeding to introduce these beneficial traits in commercial cultivars. These aims will provide advantageous varieties for farmers that support more sustainable use of land improving soil microbial biodiversity, N cycling, and structure.

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