

80 farming initiatives from 4 continents are working to enhance the relevant role of Soil Health

- *In its first phase, closed on August 31, researchers, scientists and farmers from Europe, Asia, Africa and America worked together to enhance soil health globally thanks to the fields4ever initiative. The second phase of this call will be opening new challenges and research opportunities.*
- *80 projects are currently investigating aspects of soil health in more than a dozen types of crops, such as soybeans, cereals, horticultural crops, or high-value crops such as olives, coffee or grapes.*
- *Fields4ever is a global initiative, promoted by Biome Makers, a biotechnology startup which has opened its technology of genetic sequencing and computing, BeCrop, for the first time to promote the initiative.*

Sacramento, October 14, 2020 - fields4ever is a global initiative for the conservation and monitoring of agricultural soil health, promoted by Biome Makers, a biotechnology start-up specializing in the identification and understanding of soil microbiome through DNA and computer technologies. Fields4ever is open to scientific and research institutions, farmers and agronomists from all over the world, who are invited to develop projects related to different areas of soil health.

Dedicated to the cause of better soil, better food, better life Biome Makers has opened its technology and made it available to the global research community with 20,000 samples. Each beneficiary project has access to the BeCrop technology, the latest generation of functional soil microbiome analysis, developed by the Californian startup. These tests allow farmers to evaluate the soil microbiome, which is the most powerful and natural bio-indicator of soil bioactivity and functionality.

80 projects in 25 countries

In this first phase, 80 research projects on soil health have been launched in 25 countries over four continents, and nearly 6.000 soil samples are being analyzed. Among the topics being researched, the following stands out:

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differences of the crops in same soil with similar conditions; monitoring the impact of the use of bioactive products in the soil; analysis of the risk of diseases in soil by using different management practices; differentiation between different types of soil (terroir, regionality); promotion of soil bioactivity, including carbon sequestration, among others.

From small farms, to large research institutions or food corporations, many have joined fields4ever to contribute with their analyses to generate a detailed knowledge of soil health across the globe. Amongst them:

- **Agroscope, the Swiss Research Center for Agricultural Excellence**, is affiliated with the Federal Office of Agriculture (FOAG) and conducts research throughout the food and agriculture value chain.
- **The Alliance of Biodiversity International and CIAT - International Center for Tropical Agriculture**, delivers research-based solutions that harness agricultural biodiversity and sustainably transformed food systems to improve people's lives. Alliance solutions address the global crisis of malnutrition, climate change, biodiversity loss and environmental degradation. The institution develops long-term trials of selected treatments in Kenya, Ethiopia and Vietnam.
- **Italian Association of Biological Agriculture, AIAB**, researches the increase of resilience in organic and biodynamic plots and the reduction of the use of phytosanitary products in olive trees, vegetables, soya and vineyards.
- **Danone**, an international food company is working with **Biospheres** together, developing a project focusing on soil microbes as an available KPI for Regenerative Agriculture projects.
- **Corteva**, based in the US, an important agronomy company entirely dedicated to agriculture, and offers agricultural services such as seeds and traits, crop protection, seed treatments, fodder, inoculants, grasses, vegetation and urban pest management among others.

Any crop, any soil

The analysis of the microbiome as a marker of soil health is suitable for any type of soil and any type of crop. In fact, the 80 ongoing projects are developing research which have been applied to more than a dozen different crops, ranging from soybeans and cereals, horticultural crops to high-value crops such as olives, coffee or vineyards.

These projects are related to the functionality and bioactivity of the soil, both in traditional and organic farming systems. Some seek to identify parameters that

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allow the optimization of the use of certain inputs, which could result significant changes on expenditure, especially in certain types of crops that need a very tight fertilization. Furthermore, tests are being developed related to soil health in urban agriculture, or the impact and effectiveness of microbiological products (bacterial inoculations) on microbial biodiversity.

Corn and soybeans, crops with potential for impact on a global scale

Corn and soybeans are two of the most widespread crops in the world for both human and animal consumption. Given the large scale of these crops, any optimization on the production will have a positive global impact.

Towards differentiation in high-value crops

Vines, olive trees, cocoa or coffee are crops by nature, destined to produce raw material for high value products. Refining agricultural practices, through knowledge of the soil microbiome is one of the key strategies to achieve a final product capable of differentiating itself from other competitors, and thus generate a higher profit margin in high-value crops. Sometimes, they can even be considered as unique in the world.

Horticultural crops

Studying the degradation of horticultural soil, and analyzing the impact of pesticides and synthetic fertilizers, to see their effect on the microbiome and look for alternatives for their reduction are some of the types of tests being developed in the field of horticultural crops.

Fields4ever future

Thanks to the first call of fields4ever, a multitude of projects has been unified to help the recovery of soil health. The startup Biome Makers wants to continue promoting the initiative and get others to join to achieve a significant change on global scale, therefore, a second call for projects will be held before the end of October. As indicated by Alberto Acedo, scientific director of the company Biome Makers; "We believe that this first phase of the initiative has achieved great results, fields4ever has enabled our technology to be used globally and helps soil health recuperation. Our mission as a company is to restore soils, help mitigate CO2 emissions and to improve the crop hence food quality".

Fields4ever

Fields4ever is a global initiative driven by Biome Makers for the conservation and monitoring of soil health by promoting the development of more sustainable and respectful agricultural management. It is open to any organization that supports agriculture, whether public or private.

<https://fieldsforever.biomemakers.com>

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Biome Makers

Biome Makers is a global biotechnology company that models soil functionality to improve the productivity of farmland. Created in 2015, we have developed a patented technology that integrates DNA sequencing and green computing technologies to decipher one of the most complex biomarkers, the soil microbiome. Its multidisciplinary team has been widely recognized and awarded by the industry as we can drive sustainability and help regenerate the soil. We are the leading platform for soil analysis, enabling the integration of soil data with other precision farming technologies and leading recommendations for the use of more appropriate agricultural products. We are currently working with farmers around the world to improve the life of their soils.

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