

The European Union selects Biome Makers standard for an ambitious soil health assessment plan in Farmlands

- *The plan will be developed through fields4ever, a global soil health action for the conservation and monitoring of soil health in agriculture.*
- *Biome Makers will make available for farmers and researchers 20,000 functional soil tests, that have been developed by the startup using the most advanced technologies of DNA sequencing and Intelligence Computing.*
- *The first actions of fields 4ever will focus its reach in the EU region, and will include open access to soil health testing tools, training, and education for farmers, digital integration of functional soil data with other precision agriculture tools and support to agro-input providers to measure the impact of their products in soil bioactivity.*

Sacramento, 1st April 2020 –We already knew the crucial role of agriculture to feed the planet, but it has been especially highlighted because of the recent pandemic scenario.

Analyzing and protecting soil health has become one of the five key missions included in the incoming European Union research and innovation program (Horizon Europe). In order to foster this purpose, the EU has decided to support fields4ever initiative, promoted Biome Makers. This agtech startup combines Next-Generation DNA Sequencing and Intelligence Computing technologies offering advanced analytic tools to enable farmers to assess the soil microbiome as the most powerful and natural bioindicator of the soil bioactivity and functionality.

As the promoter of fields4ever, Biome Makers is contributing with 20,000 functional soil tests, valued at €4 million, that will be available via open calls and direct actions to agricultural players and researchers.

Fields4ever

Fields 4ever is a global initiative for the conservation and monitoring of soil health by promoting the development of more sustainable and respectful agriculture management. Fields 4ever is promoted by Biome Makers, biotech startup specialized in the identification and understanding of the microbiome via DNA and Intelligent Computing technologies. Fields4ever is open to any public or private organization willing to contribute to expanding this global action.

The role of soil health in climate change and food production

Improving the soil health of agricultural lands holds the potential for achieving meaningful conservation and economic benefits, as well as mitigating the growing threat of climate change. Indeed, unhealthy soil is becoming a worldwide issue.

More than 1 billion people are employed in agriculture worldwide, an active engine to feed the world population. While as a society we have been able to increase the

agriculture yield in the last 40 years, the cost of this increase over the natural resources has been also high. Indeed, roughly 1/3 of the world's arable land has been lost in this period, while farmer's economics remained lineal.

"Soils are the primary support of life on earth and, we aim at helping Agriculture to feed the world while preserving soils, biodiversity and reducing climate change. Maintaining the soil healthy is imperative for long-term sustainable intensification", explains Adrián Ferrero, Co-founder and CEO of Biome Makers.

Fields4ever areas of activity

In order to move forward from theory to action, for providing a pragmatic and measurable approach and to homogenize soil quality assessment, the Biotech Startup Biome Makers has promoted the initiative [fields 4ever](#) that is involving relevant stakeholders in the global agriculture ecosystem such as farmers, agroinput providers, technical support service operators and regulators. The European Union's Horizon 2020 research and innovation program has contributed to fields4ever initiative to impact European agriculture and soil positively.

Fields4ever is an initiative with global reach that will promote actions in the following main areas:

- Support **scientific researchers**: granting access to advanced soil quality assessment tools
- Support **farmers**: promoting soil quality assessment and training
- Support **manufacturers**: measuring the impact of agro-inputs in soil's bioactivity
- Support **digitalization**: soil data connection and integration with precision agriculture platforms.
- Support **agriculture policy**: soil quality measurement standardization and data

Open access to Soil Health assessment tools for farmers and researchers

fields4ever initiative looks at the soil as a living ecosystem and utilizes the soil microbiome as biomarker for soil health and productivity. Soil is a precious natural resource inhabited by a community of microorganisms – the soil microbiome, a connected microbial network that reflects any modifications happening in-field. Indeed, the soil microbiome is the most powerful and natural biomarker of the soil bioactivity and its functionality. Furthermore, the soil microbiome plays an essential role in crops' development and productivity and is being considered as the external plant immune system.

For this reason, the first project within fields 4ever initiative consists in the monitoring of up to 1M acres (0.4M ha) during 18 months, which will result in a detailed insight into the soil health status. Biome Makers has developed advanced soil quality assessment tools that combine technologies of DNA Sequencing and Intelligent Computing to monitor this biomarker. As its first contribution to fields4ever, Biome Makers has contributed with 20,000 of these monitoring tools, valued at €4 million, that will be offered via open calls to agricultural players and researchers worldwide.

The world is rapidly evolving thanks to the great technological breakthroughs happening in all sectors. However, it is essential to rationalize the impact of human activities to ensure that we can overcome the challenges and to sustain life in the long-term. In order to achieve this, it is necessary to execute collective actions to secure the preservation of natural resources and, the

conservation of soils' quality and productivity, is one of these key resources, states Alberto Acedo, Co-founder and CSO of Biome Makers.

Open Initiative for partners in agro ecosystem

Fields4ever is born with a global ambition. For this reason, Biome Makers is looking for public and private partners and supporters to join this initiative for expanding this global action. The purpose of fields4ever is to become a worldwide community of health soil crusaders willing to contribute by their coordinated actions to restore life in agriculture land, to promote sustainability across soil biodiversity, and to increase yield. Fields4ever has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 947084 . Any organizations can contribute to the initiative in different forms. Together, it is possible can expand the scope and goals of this initiative putting soil health in the center of the action.

"It is the first time a company is creating direct soil health action to support farmers and researchers worldwide with an initial focus in the United States and Europe. We are calling to other organizations to join us and, together, expand the scope and goals of this initiative putting soil health in the center of the action" said Ferrero.

fields4ever

Fields4ever is a global initiative powered by Biome Makers for the conservation and monitoring of soil health by promoting the development of more sustainable and respectful agriculture management. It is open to any organization supporting agriculture, public or private.
<https://fields4ever.biomemakers.com>

Biome Makers

Biome Makers is a global agtech company modeling soil functionality to enhance the productivity of arable soils. Starting in 2015, we have developed a patented technology integrating DNA Sequencing and ecological computing technologies cracking one of the more complex biomarkers, soil microbiome. Its multidisciplinary team has been widely recognized and awarded from the industry that we can drive sustainability and help regenerate the soil. We are on the mission to become the leading soil functionality platform by enabling soil data integrations with other precision agtech platforms and lead data-driven recommendations of most suitable inputs and currently working with farmers Worldwide to enhance their living soil.
<https://biomemakers.com>

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