**Microbe Fertilizer**

“Beneficial microbes permeate most aspects of our lives through the food we eat, our health, and our environment. However, these fragile microbes typically die before they can be used by scientists or corporations. Ivu Biologics uses platform technology to store and deliver non-spore-forming microbes.

“There’s an urgent need for replacing nitrogen-based fertilizers, pesticides, and fungicides with more environmentally friendly alternatives, but existing microbe-based agriproducts can’t be deployed at scale due to their short-term stability.

“Inspired by biology and the natural world, Ivu Biologics developed a material-based platform technology that can be applied to any seed and can protect most microbes from drying out and dying before use as a seed treatment. Ivu Biologics’ technology provides a solution for the encapsulation, desiccation, preservation, release, and colonization of delicate non-spore-forming microbes. This ensures microbe solutions can work for several weeks, enabling mass distribution. The goal is to apply fertilizer and protectants to seeds that can be distributed at scale globally without supply chain limitations—even in the toughest-to-reach regions of the world.

“Ivu Biologics’ technology will accelerate the uptake of microbe fertilizers as a substitute for chemical fertilizers globally, which will lead to healthier soils and lower carbon emissions. Expanding distribution of fertilizer will improve crop productivity in Africa, Latin America, and Southeast Asia, closing yield gaps and impacting billions of people. Further, Ivu Biologics’ biodegradable, non-microplastic materials will lower environmental impact on food and water systems while also working to ensure a net-zero carbon future.”

[Ivu Biologics Inc](https://biomimicry.us9.list-manage.com/track/click?u=d3c43c6ff362de88f3c26a704&id=7fd57f56ff&e=5ed51790b5) is one of ten companies who are finalists for the 2023 [Ray of Hope Prize](https://biomimicry.us9.list-manage.com/track/click?u=d3c43c6ff362de88f3c26a704&id=b26cd1081e&e=5ed51790b5) recognizing inspiring solutions by using [biomimicry](https://biomimicry.us9.list-manage.com/track/click?u=d3c43c6ff362de88f3c26a704&id=e24ededf8e&e=5ed51790b5).

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To learn more lessons from nature visit the biomimicry website.

“Augustine (Auggie) Zvinavashe is the founder and CEO of IVY Biologics, a startup focused on microbe delivery. He earned a bachelor’s and Ph.D. from MIT, where he worked in the Marelli Laboratory for Advanced Biopolymers and the MIT Climate and Sustainability Consortium.”

“Augustine grew up in Zimbabwe, in a family of farmers. His grandmother was a farmer and his father an agricultural economist. This inspired him to work in agriculture.”

<https://www.activate.org/ivu-biologics> [and https://legatum.mit.edu/entrepreneur/augustine-zvinavashe/](https://legatum.mit.edu/entrepreneur/augustine-zvinavashe/)