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GigaCrop to advance Photosynthesis to enhance crop productivity

24 March 2025 | News

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Biotech pioneerÂ GigaCropÂ has raised a $4.5 million pre-seed round of funding led by Playground Global. Using machine learning to improve enzymes, the company aims to boost photosynthesis, crop yields, and farmersâ?? profits. GigaCropâ??s technology will help plants use sunlight more efficiently, enabling agricultural producers of food, fiber, and fuel to grow more with the same water, fertilizer, and acreage.

â??Plants are part solar panel, part fabrication facility, which is pretty amazing,â? said Chris Eiben, founder and CEO of GigaCrop. â??Farmers, and the plants they grow, support a robust and self-sufficient biomanufacturing economy. GigaCrop is developing crops to supply the additional yield needed to massively scale this sector, and benefit everyone in the process."

Today, the enzyme Rubisco holds back the full potential of photosynthesis, the plant process converting sunlight and CO_2 into biomass. To compensate for slow Rubisco, plants synthesize huge amounts, making Rubisco the most abundant protein on earth. By using machine learning and enzyme engineering, the GigaCrop team is working to bypass sluggish Rubisco entirely. The GigaCrop approach seeks to unlock yield far beyond what traditional plant breeding can deliver.

Early-stage, deep tech venture capital firm Playground Global led GigaCropâ??s pre-seed round of more than $4.5 million in funding to accelerate photosynthesis and increase crop yields.

â??Imagine a planet where plants are twice as efficient,â? said Bruce Leak, general partner at Playground Global and GigaCrop board member. â??GigaCrop has the potential to change the world by doubling crop yields. This breakthrough could drive a more energy-abundant future and unlock economic growth by transforming agriculture at its core."

Chris Eiben founded GigaCrop under the name Perlumi as he began a two-year entrepreneurial fellowship with the Berkeley Lab Cyclotron Road program in partnership with non-profit Activate. GigaCropâ??s early research was funded by the U.S. DOE Advanced Materials and Manufacturing Technologies Office (AMMTO), the Grantham Foundation, and ARPA-E.