

Deepvelo accelerates global agricultural innovation with eco-friendly water treatment device 'ZOECORE'

Deepvelo's ZOECORE boosts global agri-innovation with eco water tech, raising yields by 30–43% while slashing input costs in farms and golf courses.

PANGYO, GYEONGGI-DO, SOUTH KOREA, September 23, 2025 /EINPresswire.com/ -- For decades, chemical fertilizers, pesticides, and GMOs have boosted agricultural productivity but at the cost of groundwater pollution, ecosystem damage, and public health risks. The UN Food and Agriculture Organization (FAO) has warned that such chemical-based farming threatens human survival. While smart farms and vertical farming are emerging as alternatives, their high costs and long payback periods have limited broad adoption.

[Deepvelo](#) (CEO Sunguk Hong) has introduced a new solution called "[ZOECORE](#)," rooted in the philosophy that "the core of life (ZOE) is water." The technology uses high-voltage electric fields to micro-cluster water molecules, allowing them to pass more easily through aquaporins—the channels by which plant roots absorb water.

As a result, plants absorb water faster and more efficiently. Certified experiments showed an



Sunguk Hong, CEO of Deepvelo



Deepvelo's eco-friendly agricultural water treatment device ZOECORE

11% increase in water uptake, a 16% improvement in photosynthesis efficiency, and an average yield boost of more than 30%. Field tests with crops including canola, kale, peppers, tomatoes, cucumbers, and mushrooms have confirmed these effects. In U.S. hemp farms, ZOECORE demonstrated a 43% increase in yield and 8% improvement in quality.

CEO Sunguk Hong, a thermal-fluid engineering specialist, said, "We found research showing that water molecules structurally change under high-voltage electric fields. I became convinced this could be applied to agriculture," explaining the origins of the technology. The company is currently securing private investment, negotiating overseas distribution agreements, and pursuing global expansion to promote sustainable agriculture.

ZOECORE's key advantage lies in its simple installation and versatility. Unlike smart farms, which require heavy infrastructure and long ROI periods, ZOECORE can be installed easily in open fields, greenhouses, or smart farms. This reduces farmers' upfront costs and delivers rapid, visible results.

Deepvelo is targeting three initial markets for stable growth. First, the legal hemp cultivation market, valued at 34 trillion won, where large farms in North America and Canada have already validated 43% yield increases. Second, the golf course market, which uses significant amounts of water, fertilizer, and pesticides, is where ZOECORE can reduce operating costs and achieve ROI in as little as six months. Third, the Korean greenhouse farming support market, worth 10 trillion won, where government subsidy programs are expected to accelerate adoption.

The company forecasts profitability by 2026 and aims to sell 170 units annually by 2027, with revenues of about 16.5 billion won. CEO Hong said, "ZOECORE is a sustainable technology that boosts productivity while reducing environmental burdens. We want to contribute to solving the global food crisis through the worldwide spread of K-AgriTech."

Deepvelo is also participating in the Global Accelerating (AC) program, organized by the [Gyeonggi Business and Science Accelerator](#) and operated by Y&ARCHER. Based at the Pangyo Startup Campus, the program provides promising startups with office space, global market entry consulting, IR training, and overseas demo day support. Participants gain strategic guidance, investor engagement skills, and access to expert networks, helping them establish footholds in global markets.

Pangyo Techno Valley is a global R&D hub that integrates Research (R), People (P), Information (I),



and Trade (T) across the IT, BT, CT, NT, and mobility sectors. It is a leading innovation cluster in Gyeonggi-do, established to drive technological innovation, talent development, job creation, and international business competitiveness.

The Gyeonggi Business and Science Accelerator's Techno Valley Innovation Group has continuously promoted Pangyo Techno Valley's value by hosting events such as the Pangyo Evening Meet-Up, Pan-Pan Day, Joy of Work in Pangyo, and Pangyo Startup Investment Exchange - In-Best Pangyo. These initiatives have facilitated networking between Pangyo companies, domestic and international investors, and the media. Similar events are planned for this year to support the growth and global expansion of Pangyo startups through various assistance programs.

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