



**Name**

Sultan Gül Yalçın

# CLOSED-LOOP HYDROPONIC FARMING POWERED BY INDIGENOUS POSTBIOTICS.

SMART PLANT  
FACTORIES



# Problem and Innovative Solution

## Sectoral Barriers

### → High Input Costs

In traditional vertical farming, the costs of electricity, water, and imported synthetic nutrient solutions are very high.

### → Technical Limitations

Artificial light shading on fixed shelves leads to yield loss; seasonal variations cause quality fluctuations.



## Our Technological Solution

### → Mechanical Rotation

We mechanically solve the shading problem with a 5-story cylindrical vertical farming design that rotates slowly on its own axis.

### → Resource Savings

We reduce resource consumption by 60% with rooftop solar energy and heat pump moisture recovery.

# Biotechnological Power and Efficiency



## "Emek" Postbiotic Solution

Thanks to our formula produced in our own laboratory, dependence on chemical fertilizers is eliminated, and 2.5 times higher yields are obtained per unit area.



## Twice the Shelf Life

Thanks to our circular food inputs, the shelf life of harvested premium strawberries and gourmet microgreens is doubled; Brix (sugar) and aroma levels are maximized.



## Zero Chemical Residues

A sustainable food supply is guaranteed year-round, completely organic, without the use of artificial pesticides and hormones.



# Meet Our Team



**SULTAN GÜL  
YALÇIN**

Chief Technology  
Officer (CTO)



**AHMET YALÇIN**

Mechanical Engineer:



**ANIL AKÜZÜM**

Computer Engineer

