

Smooth Start of Production

FARM INOVA
SEEDLING FACTORIES



CANTEK GROUP



In 35 years, we have delivered more than 15,000 projects in over 75 countries, building food security with every project.

"We build food security with each project."



Who Are We?

Cantek offers turnkey solutions in food storage, processing, and production, and manufactures equipment.

"Food Security" is ensuring people's continuous access to aordable and healthy food.

"Our Philosophy" is to find innovative solutions for food security.

What is **Farminova?**

Farminova Plant & Seedling Factories are the result of Cantek Group's philosophy of developing innovative projects for "**Food Security**".

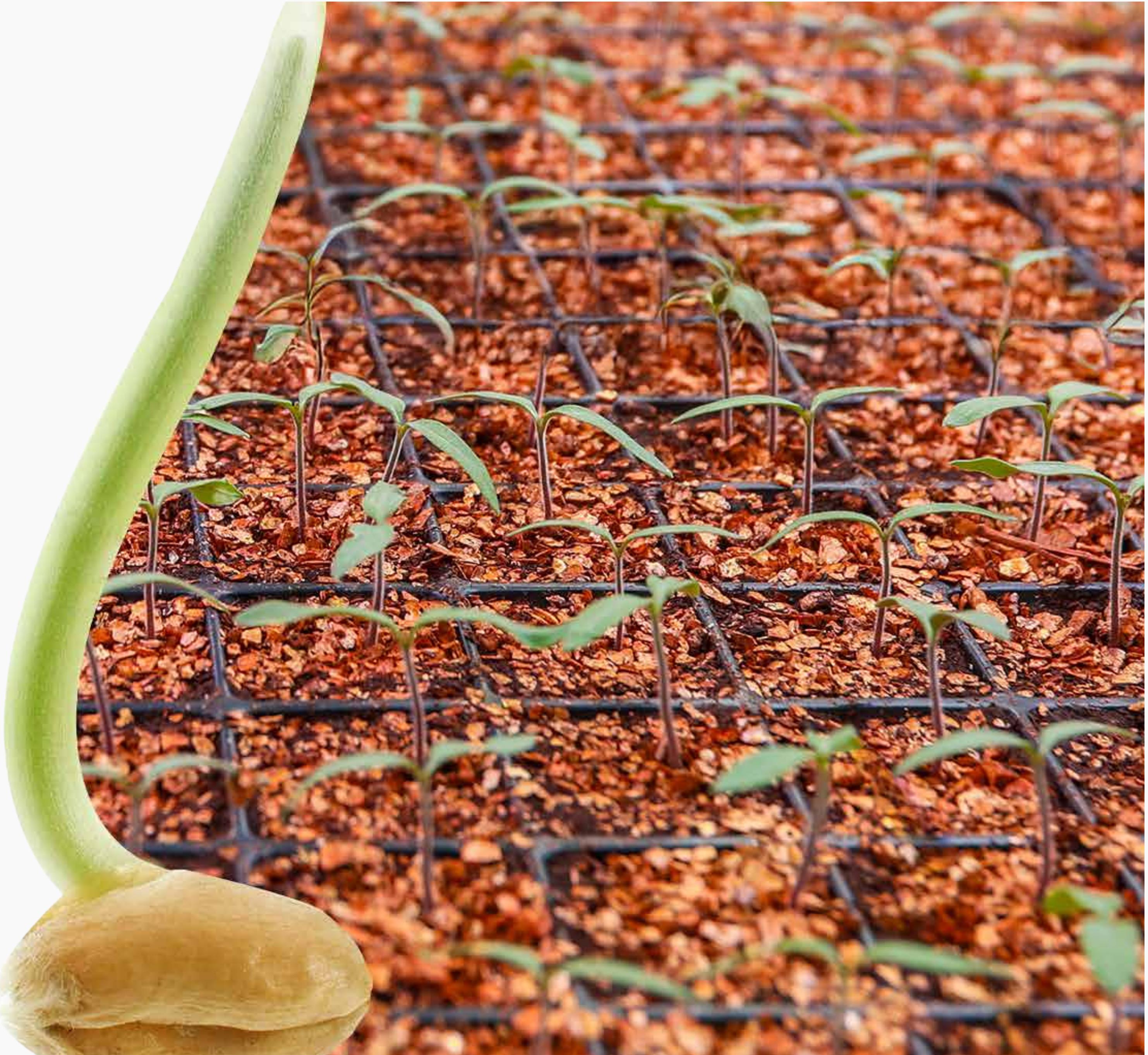
Its vision is to enable year-round production in every region of the world. With this vision, Farminova has completed 7 years of cost and feasibility studies on the production trials of leafy greens, mushrooms, and strawberries.

Through its own R&D team, Farminova has developed plant lighting, nutrition, climate control, and automation technologies, and now offers **Farminova Seedling Factories** to the market.



Every Seed a Miracle

For sustainable agriculture, every seed must first become a strong and healthy seedling, then a productive plant, and finally transform into food with full nutritional value.



Farming Gets Harder Every Day

Our water is running out, farmland is limited. Our soils are polluted. The climate crisis is at the doorstep. Producing toxin-free agricultural products without pesticides has become impossible.

Population

By 2050, the global population is expected to exceed 9 billion, creating unprecedented demand on food systems. Rapid urbanization, changing dietary habits, and limited farmland are intensifying pressure on natural resources. To meet this demand, agriculture must advance with innovation, sustainability, and efficiency hand in hand.

Air

Air quality and climate are deeply interconnected with food systems. Rising greenhouse gas emissions not only alter growing conditions but also contribute to extreme weather events that disrupt global supply chains. Cleaner air means a more stable climate and a safer, more predictable future for food production.

Soil

Healthy soil is the foundation of food security. However, years of over-farming, erosion, pollution, and excessive chemical use have severely degraded arable land. With fertile topsoil disappearing at an alarming rate, restoring soil health through regenerative practices is vital for resilient and productive agriculture in the decades ahead.

Water

Agriculture consumes more than 70% of fresh water, and climate-driven droughts increase pressure on ecosystems, making water scarcity a major global issue that threatens food production. Sustainable water management is therefore essential to feed future generations. Unless urgent measures are taken, water scarcity will increasingly threaten global food security.



The Key to Efficient Production: Strong, Healthy & Stress-Free Seedlings

A solid seedling is like the first button of a shirt – it must be fastened correctly. A healthy seedling means sustainable agriculture, healthy food, and profitable business.



Farminova Seedling Factories

- ✓ Operate in a completely enclosed environment
- ✓ Temperature, humidity, CO₂, light, and nutrition are provided exactly at the levels plants require
- ✓ Precise and perfect control ensures the seed transforms into the strongest, healthiest, and quickest-growing seedling

Farminova Plant Factories

- Uses **4 times less land and volume**

“Conditioning small volumes is easier. 100% automation and hygienic conditions provide great advantages in seedling production.”



Every Seedling Grows with Years of Knowledge!

Expertise and Experience in Precisely Conditioned Environments

- ✓ Deep knowledge and experience in seedling cultivation
- ✓ Expertise in producing billions of grafted & non-grafted seedlings
- ✓ Agricultural engineers specialized in their field



Eggplant



Melon



Pepper



Watermelon



Cucumber



Tomato



Non-grafted Seedlings

(Tomato, Cucumber, Pepper, Melon, Watermelon, Eggplant)



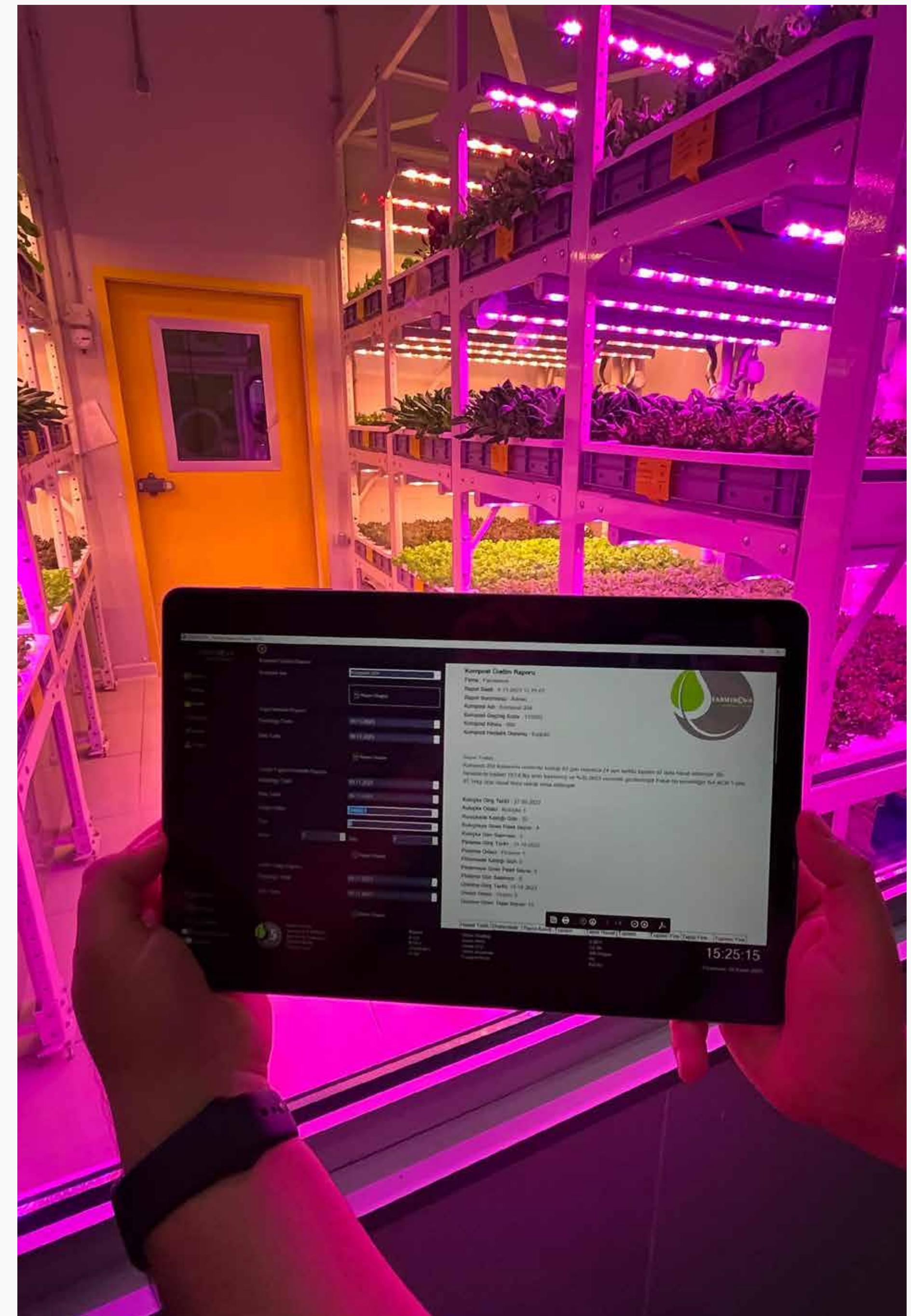
Grafted Seedlings

(Tomato, Cucumber, Pepper, Melon, Watermelon, Eggplant)



Environmentally Friendly & Cost-Effective Production

- ✓ 95% less water consumption
- ✓ Pesticide-free production
- ✓ 70% less fertilizer use
- ✓ Controlled seedling height with precision conditioning
- ✓ Designed entirely with recyclable materials

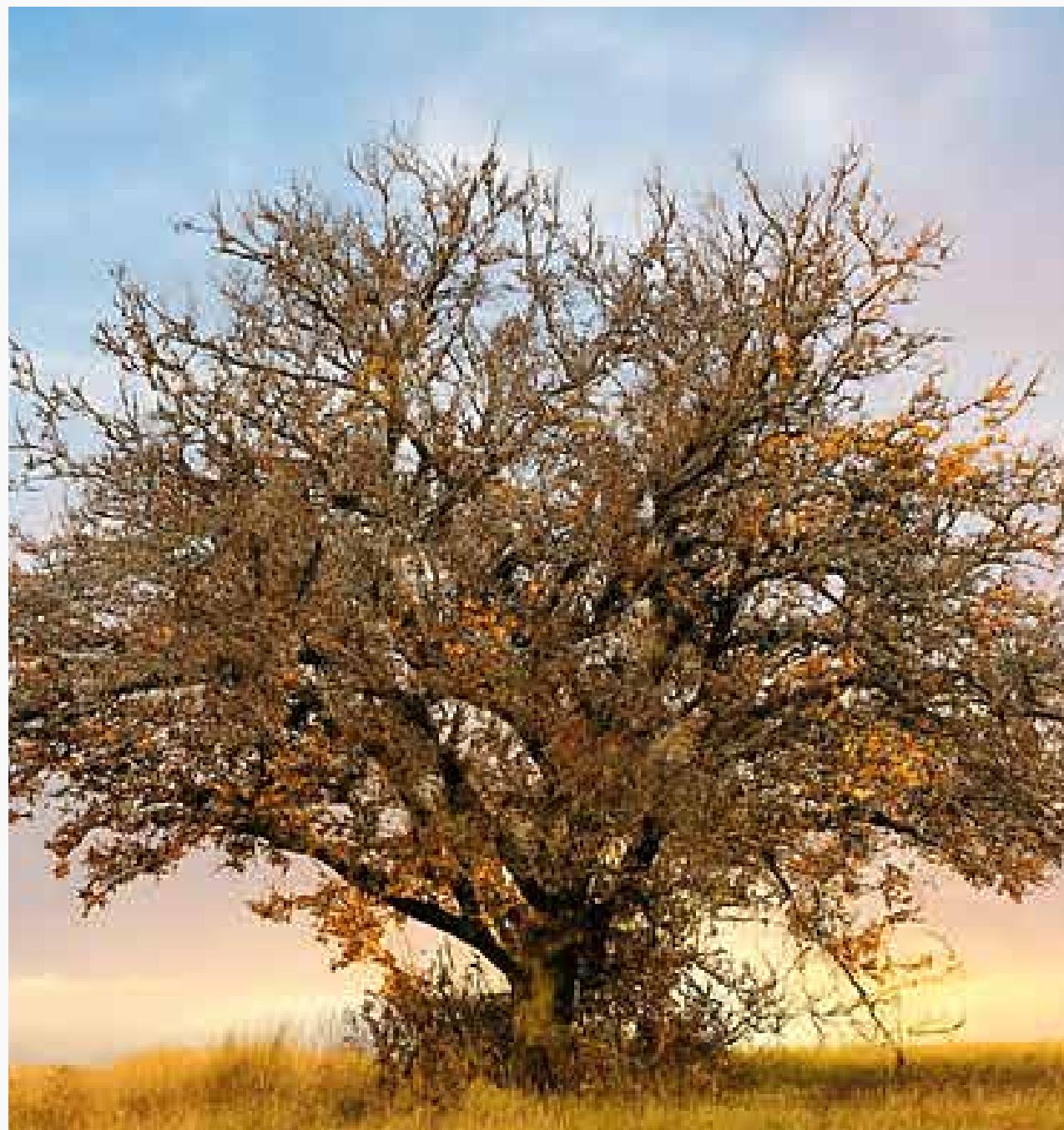




You Can't Manage What You Can't Measure.

In Farminova Seedling Factories, you can easily monitor, test, and manage KPIs of your seedling production.

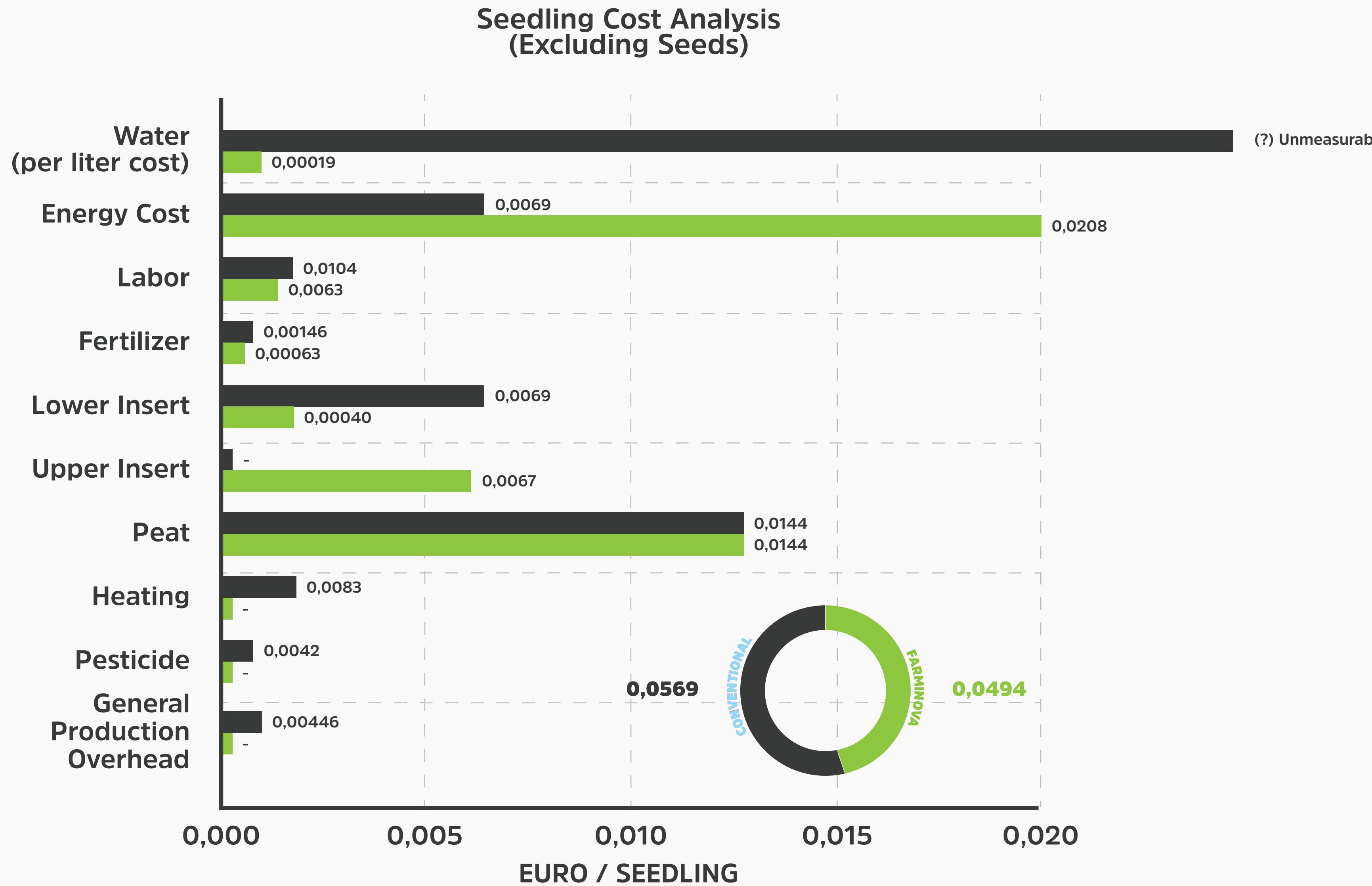
All parameters such as water, electricity consumption, losses, and efficiency are charted, enabling you to manage your nursery easily and effectively. You can remotely access and control the entire system.



With Farminova
Strong Seedlings,
High Yield, in Every Season
and Every Geography!

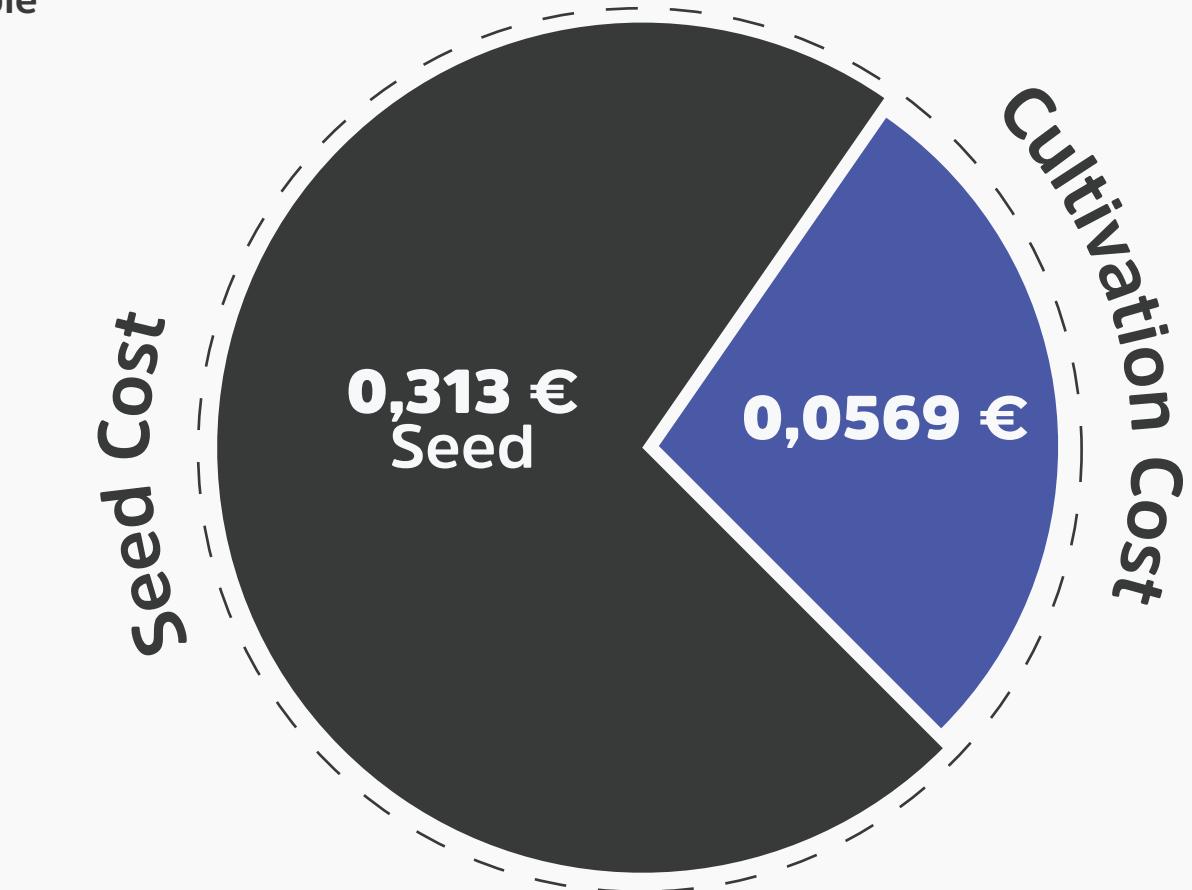


Seedling Cost Analysis and Comparison



Seedling Cost Analysis (Including Seeds)

Conventional Seedling Cost:
0,369 €



VS.

FARMINOVA

Farminova Seedling Cost
0,363 €

Farminova Cultivation Cost
0,0494 €



Farmnova Seedlings

- ✓ Fixed 25-day production cycle regardless of season
- ✓ Stable seedling quality under all conditions
- ✓ Trials show 100-110 g more fruit weight per truss
- ✓ Strong and thick stem structure
- ✓ No pesticides used in fully controlled environment
- ✓ Irrigation and climate control prevent spread of possible pathogens

Conventional Seedlings

- Winter production cycle up to 45 days **✗**
- Seedling quality depends on external conditions **✗**
- Fruit remains smaller due to plant stress conditions **✗**
- Weaker and thinner stem structure **✗**
- Pesticide use is required against greenhouse pests **✗**
- Excessive irrigation may spread pathogens across the greenhouse **✗**

Techniques Used in Farminova Seedling Factories



Advanced Climate Control & Adjustable Temperature Conditions

Rooms allow precise temperature adjustments between 10°C and 30°C
Special growing scenarios can be created for different plant species



Remote Monitoring & Management

The entire production system and processes can be monitored and controlled remotely



Smart Irrigation & Fertilization System

Irrigation operations can be scheduled via remote access
pH and EC values can be dosed precisely



Photoperiod (Light Cycle) Control

Light durations can be adjusted remotely
Farminova LED systems allow spectrum and dimming adjustments



CO₂ Level Management

CO₂ levels are continuously monitored and optimized with Farminova-made devices



Humidity Management

Humidity is balanced with Farminova-made humidification and dehumidification devices



Disease & Pest Control

Closed design protects against external pests and diseases
Local isolation reduces disease spread to a minimum



Uninterrupted Monitoring of Production Processes

Live and instant monitoring system allows continuous tracking of temperature, humidity, light, and CO₂ values



Advantages of Farminova Seedling Factories



Short Production Cycles & Continuous Production

Shorter cycles than greenhouses thanks to stable climate
Higher efficiency with multiple cycles per year



Resource Management & Cost Advantages

Up to 95% water and 70% fertilizer savings.
Low labor and energy needs reduce costs and increase efficiency.



Production Free from Abiotic Stress Conditions

Stable climate ensures plants grow unaffected by external factors
Eliminates phytotoxic effects and damage from outdoor conditions



Minimized Disease Risk

Closed system ensures minimal disease risk
Localized control possible if diseases occur



Uniform Lighting & Optimum Germination

Standard light and climate reduce germination issues in seedling trays
Minimizes staggered seedling problems



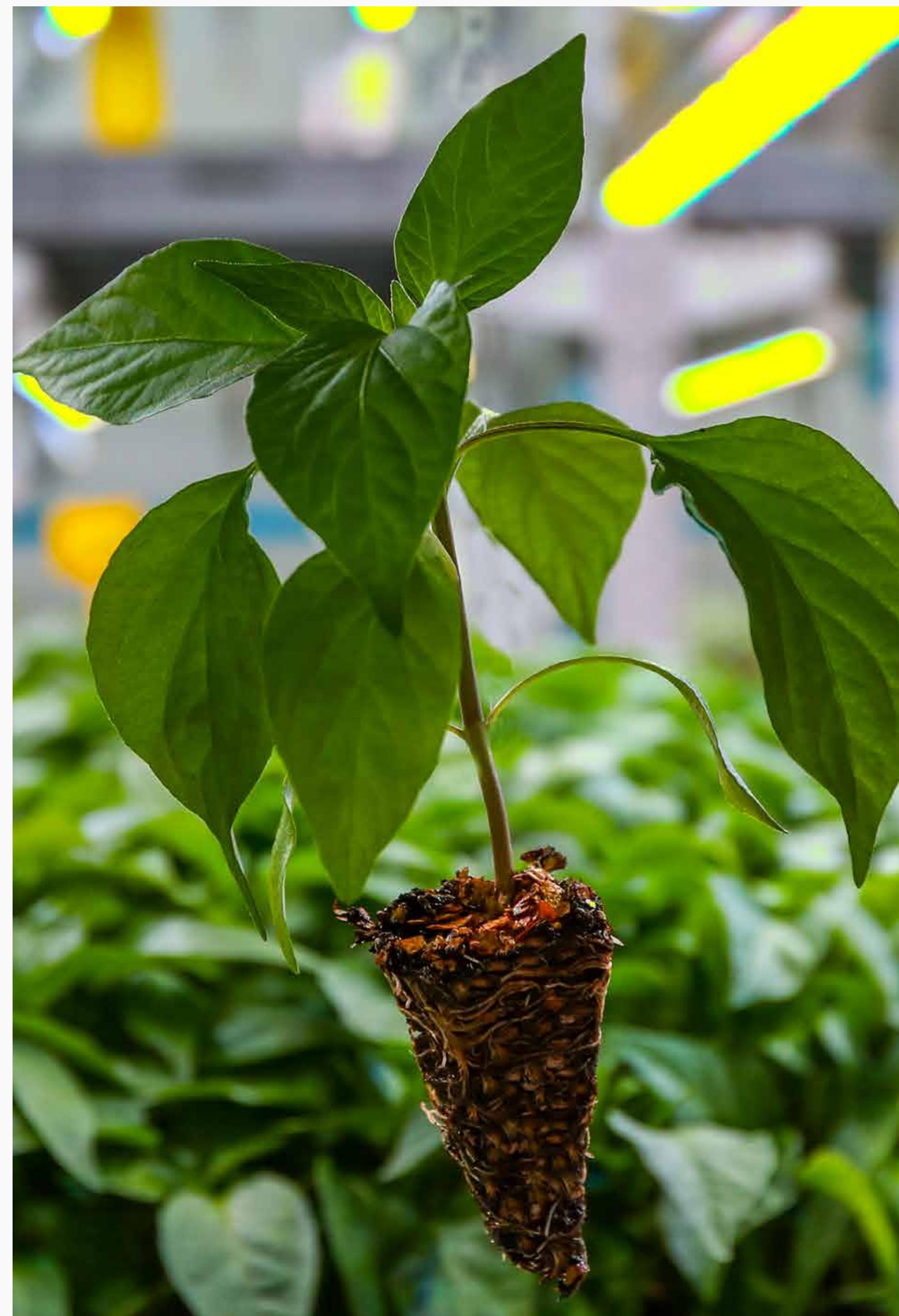
Faster Production & Operation Processes

Faster disinfection thanks to closed environment
Shorter transition times to new production cycles



Space Efficiency with Multi-Layer Production

Multi-layer system enables higher production per unit area
Enables high-volume production in smaller areas



2.000 Tray Capacity Seedling Factory Projection

Total Area
500m²

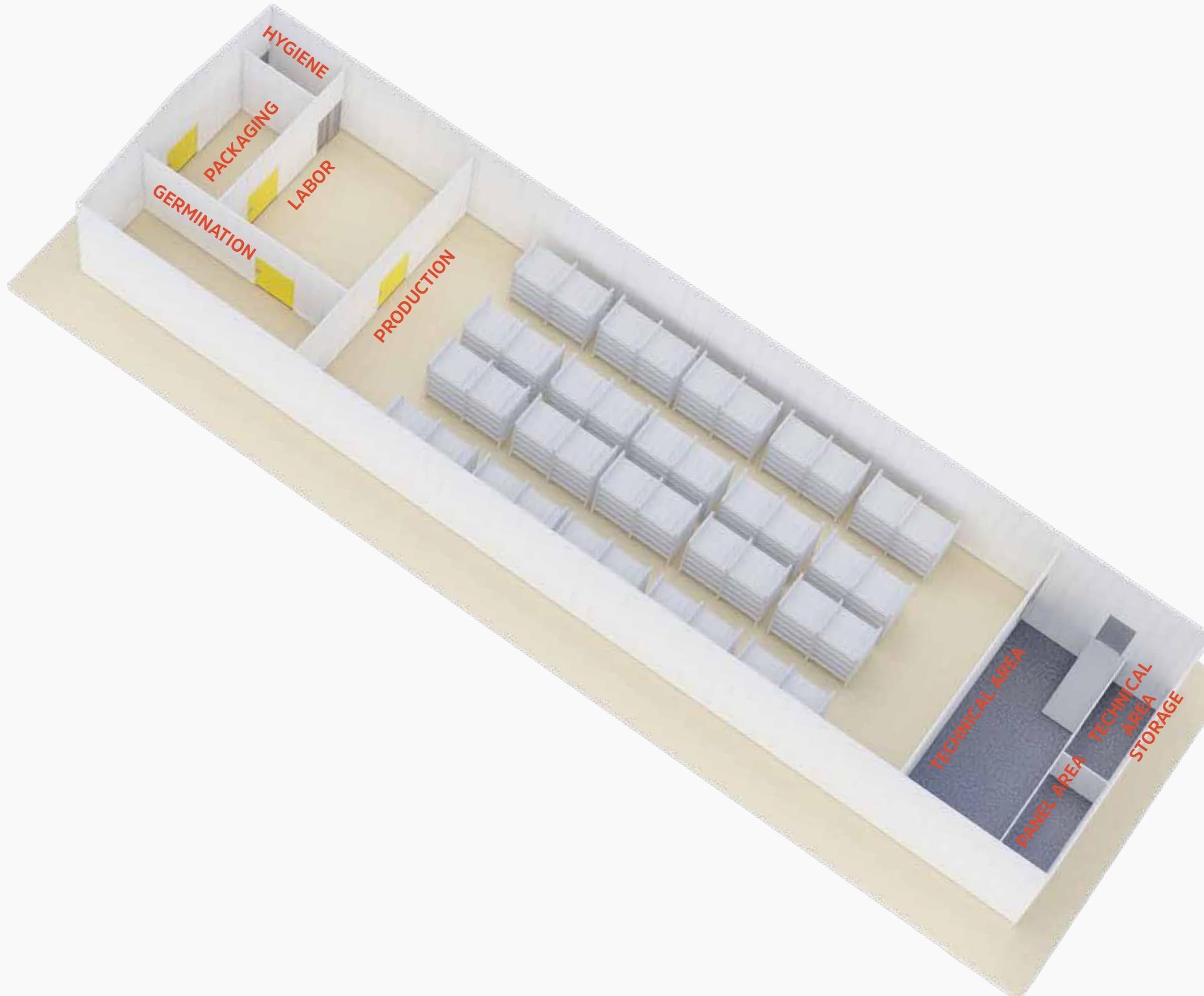
Production Area
290m²

Technical Area
67m²

Administrative Area
103m²



Seedling Sowing Area | 520m²



Optimal Need: 1 Decare = 3,000 seedlings

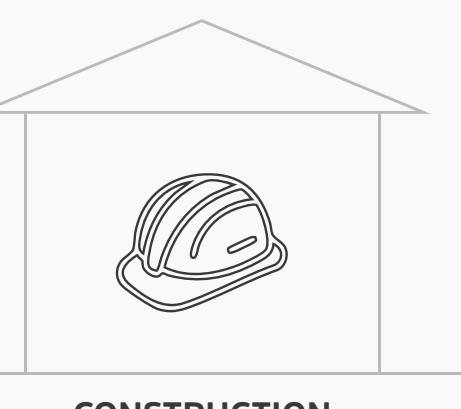
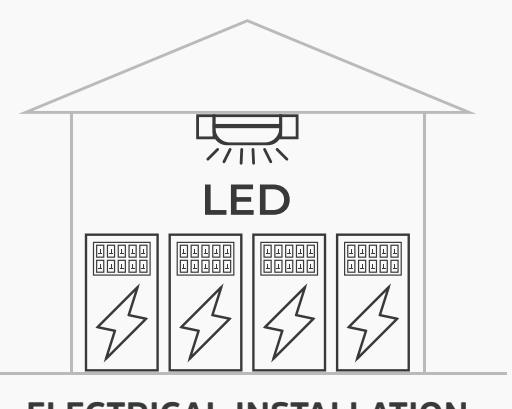
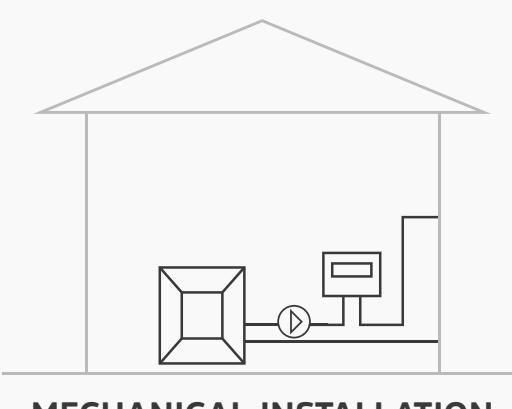
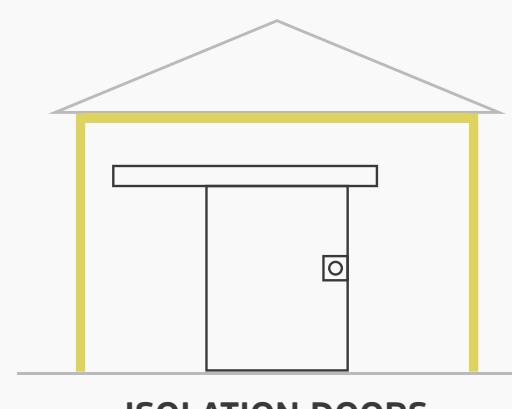
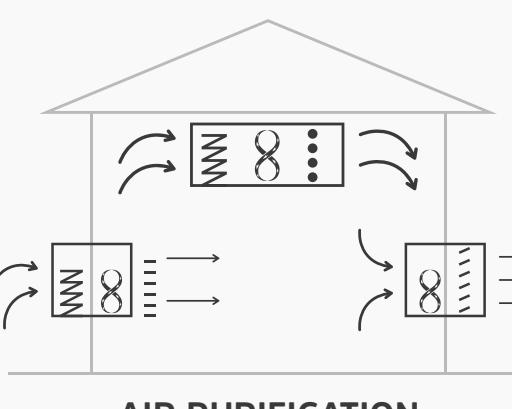
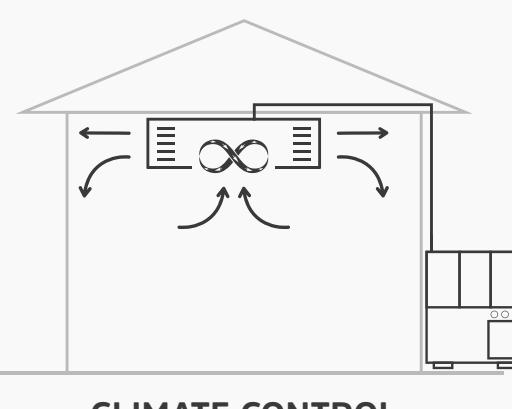
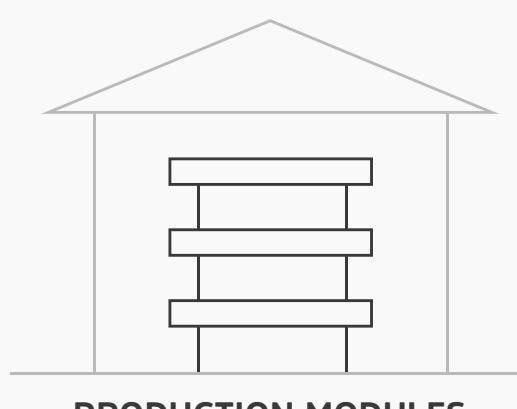
Project Scope:

- Production Area = **290m²**
- Plant production modules = **20 racks**
- ✓ Each module produces 100 trays of seedlings
- ✓ The facility has a total production capacity of 2,000 seedling trays

- **With 98-cell trays 196.000 seedlings**
- **With 128-cell trays 256,000 seedlings**
- **With 171-cell trays 342,000 seedlings**

can be produced.

Capacity meets **at least 65 decades** of greenhouse seedling demand per sowing.



4,000 Tray Capacity Seedling Factory Projection

Total Area
980m²

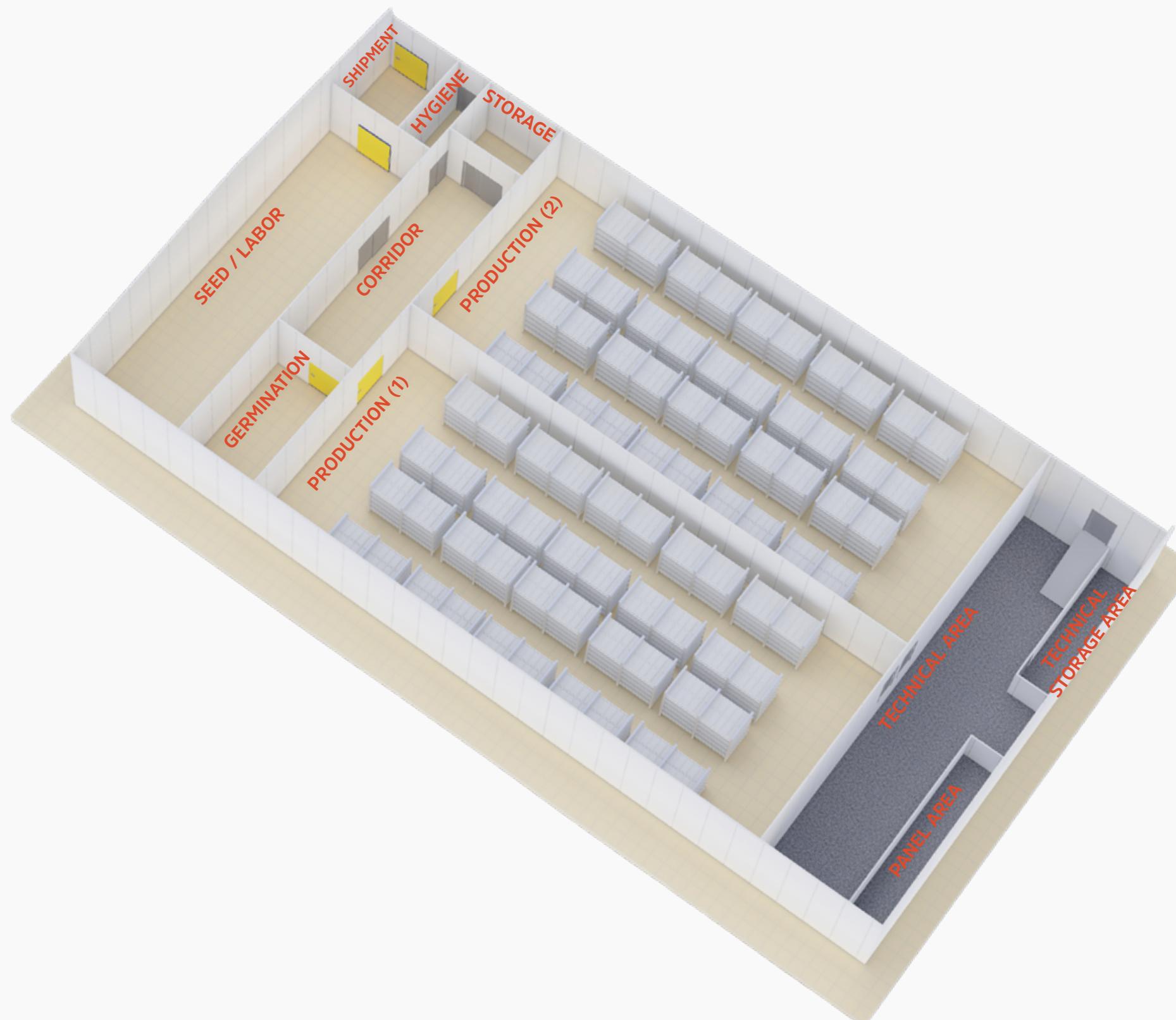
Production Area
580m²

Technical Area
134m²

Administrative Area
206m²



Seedling Sowing Area | 1,040m²



Optimal Need: 1 Decare = 3,000 seedlings

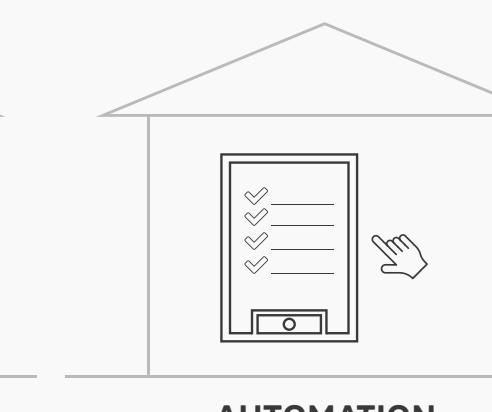
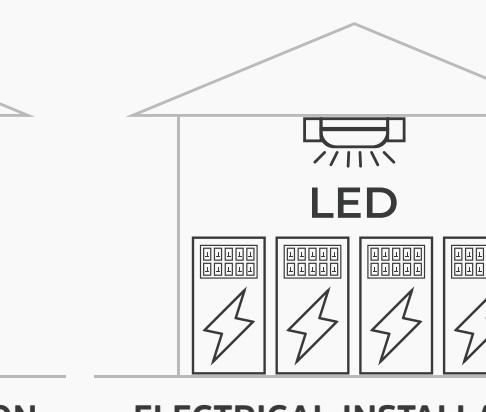
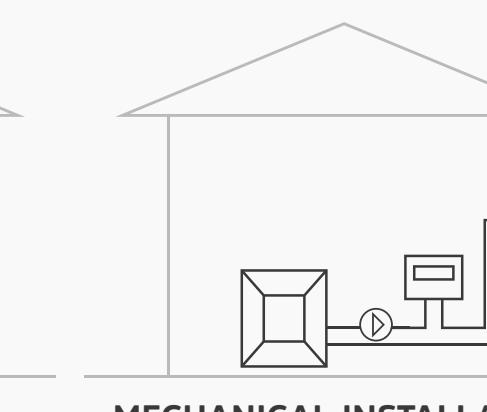
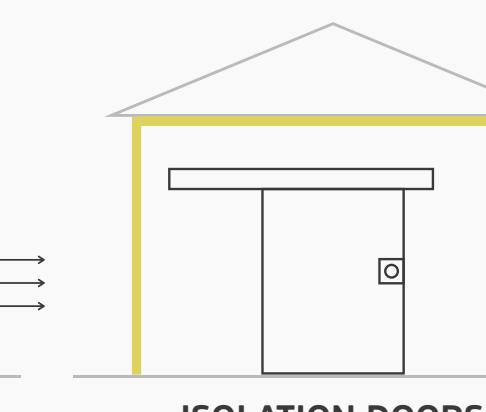
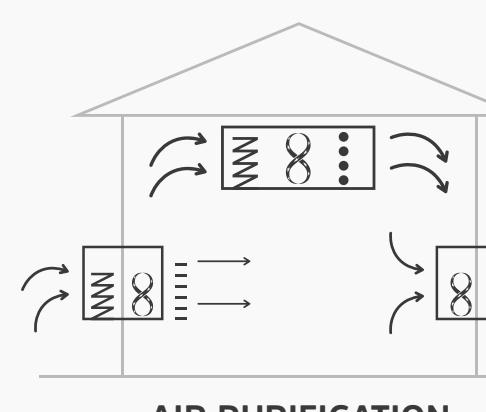
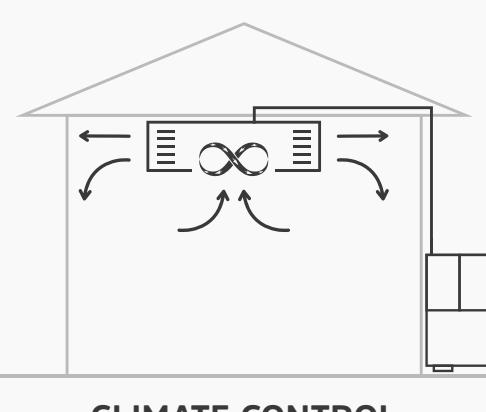
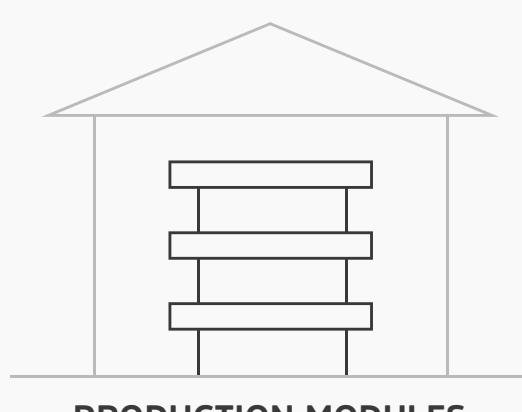
Project Scope:

- Production Area = **580m²**
- Plant production modules = **40 racks**
- ✓ Each module produces 100 trays of seedlings
- ✓ The facility has a total production capacity of 4,000 seedling trays

- **With 98-cell trays 392,000 seedlings**
- **With 128-cell trays 256,000 seedlings**
- **With 171-cell trays 342,000 seedlings**

can be produced.

Capacity meets **at least 131 decades** of greenhouse seedling demand per sowing.



6,000 Tray Capacity Seedling Factory Projection

Total Area
1,651m²

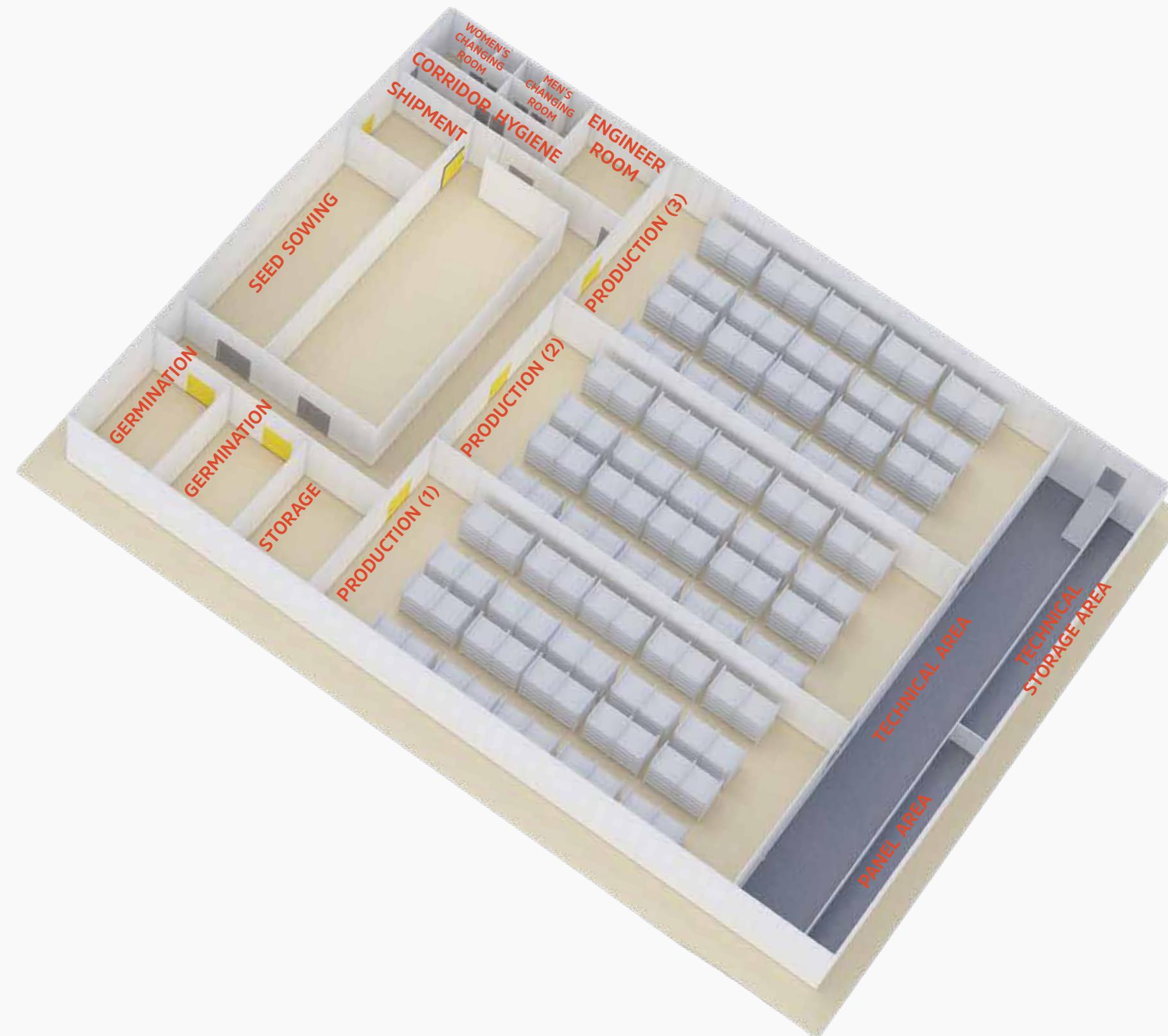
Production Area
880m²

Technical Area
210m²

Administrative Area
506m²



Seedling Sowing Area | 1,560m²



Optimal Need: 1 Decare = 3,000 seedlings

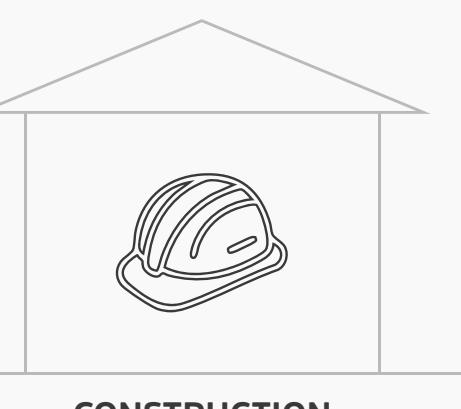
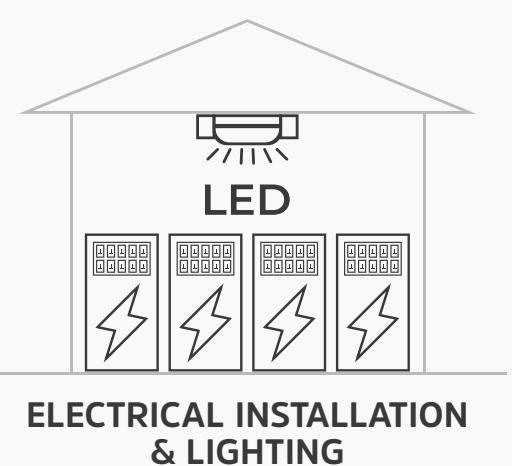
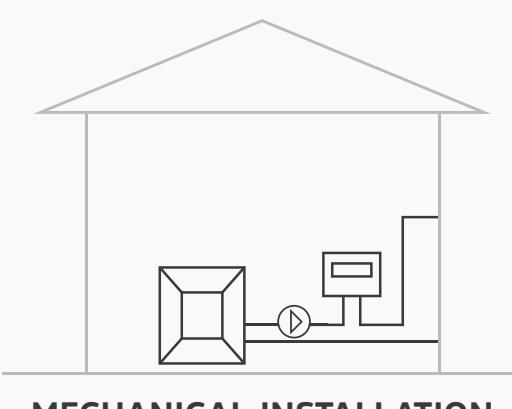
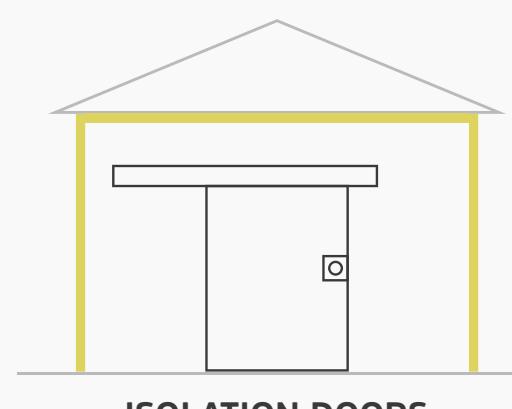
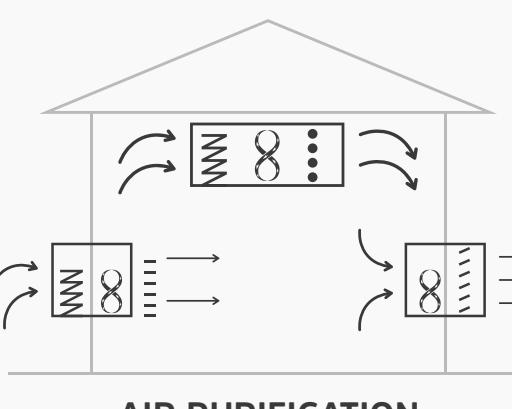
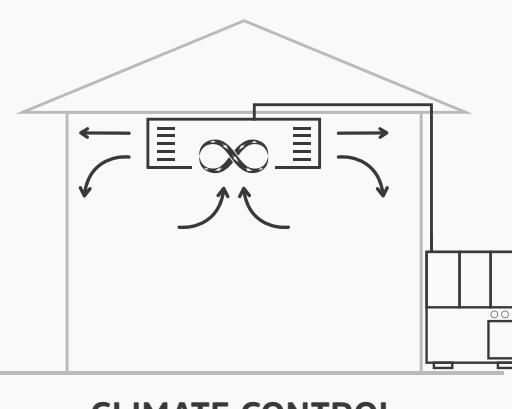
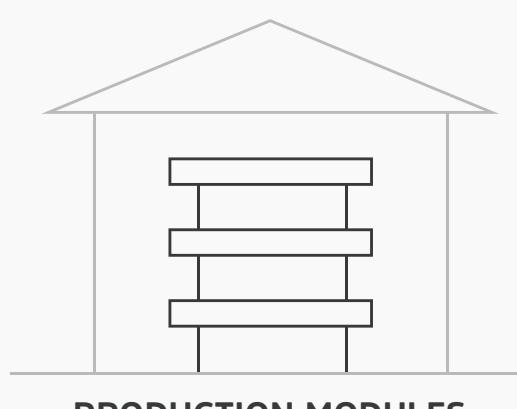
Project Scope:

- Production Area = **870m²**
- Plant production modules = **60 racks**
- ✓ Each module produces 100 trays of seedlings
- ✓ The facility has a total production capacity of 6,000 seedling trays

- **With 98-cell trays 588,000 seedlings**
- **With 128-cell trays 768,000 seedlings**
- **With 171-cell trays 1,026,000 seedlings**

can be produced.

Capacity meets **at least 196 decares** of greenhouse seedling demand per sowing.



12,000 Tray Capacity Seedling Factory Projection

Total Area
2,560m²

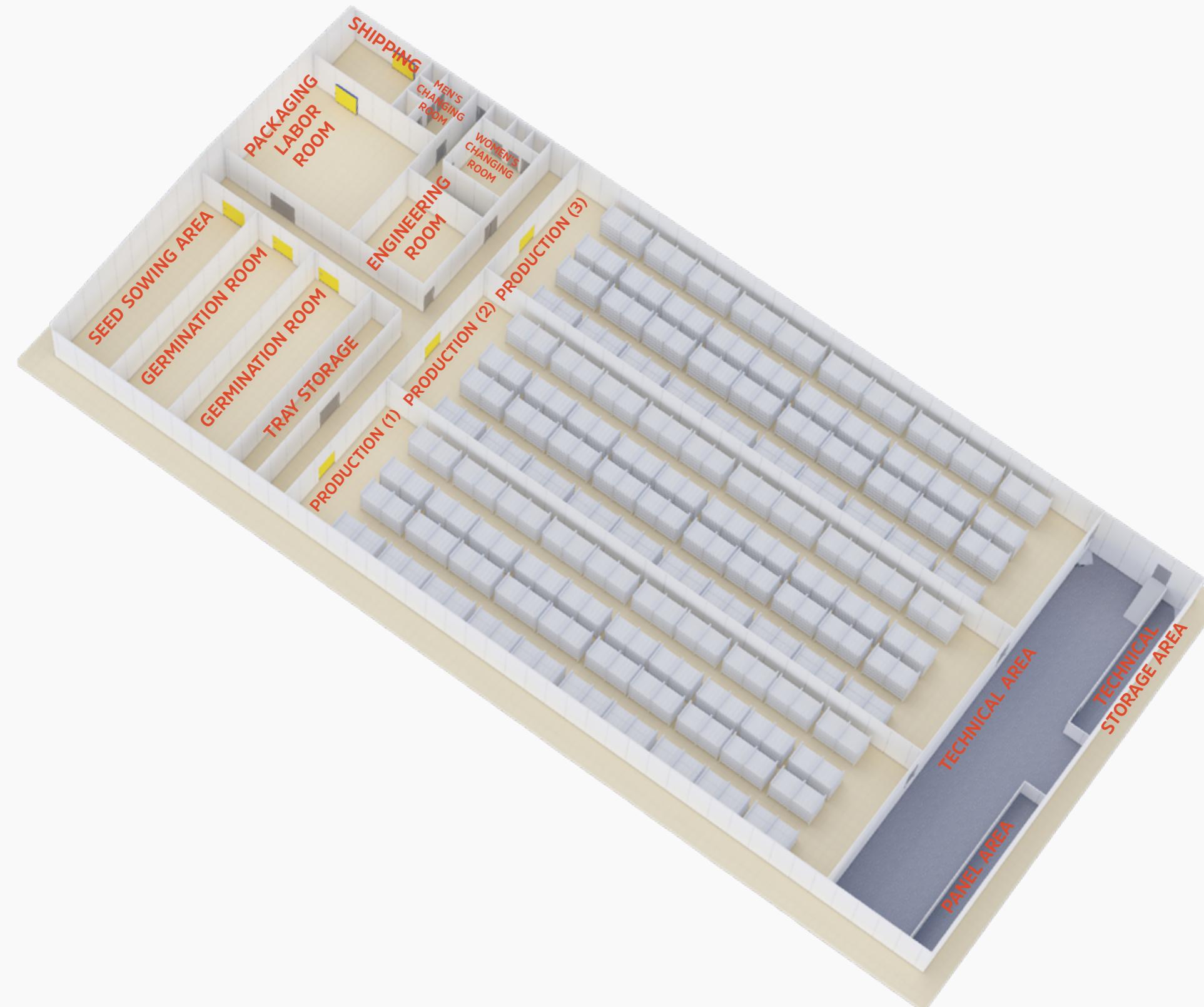
Production Area
1,520m²

Technical Area
280m²

Administrative Area
688m²



Seedling Sowing Area | 3,150m²



Optimal Need: 1 Decare = 3,000 seedlings

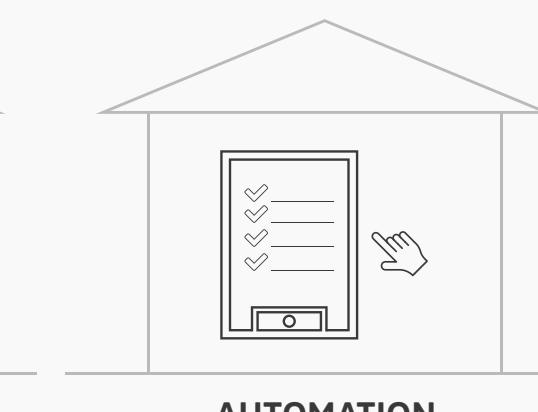
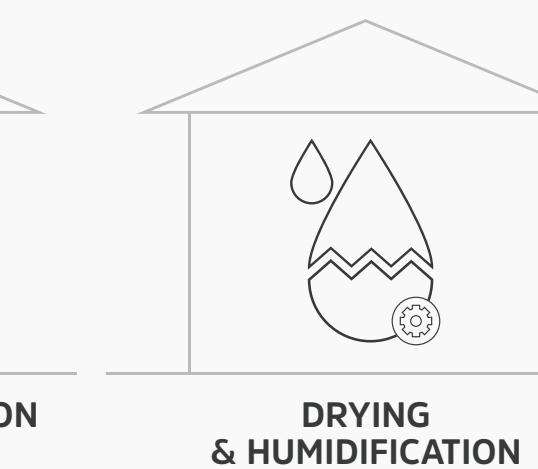
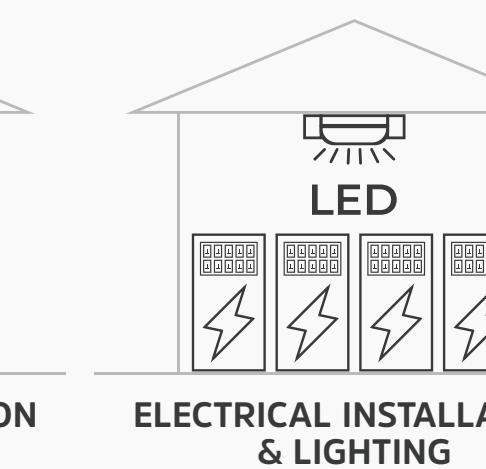
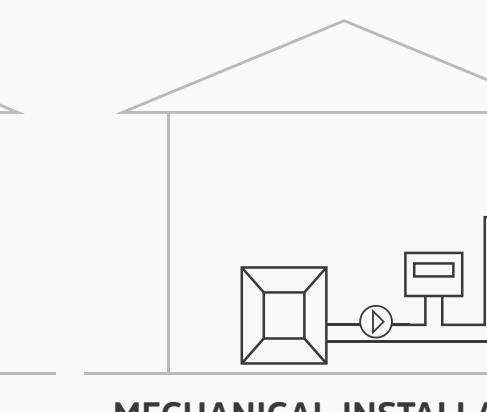
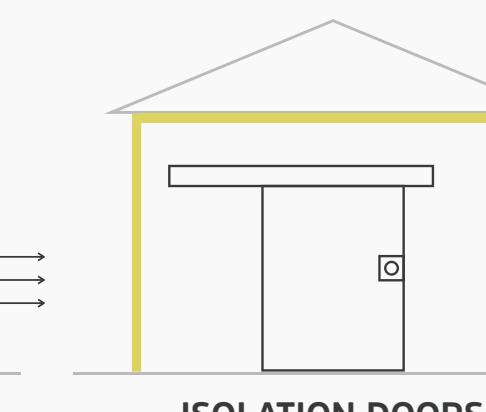
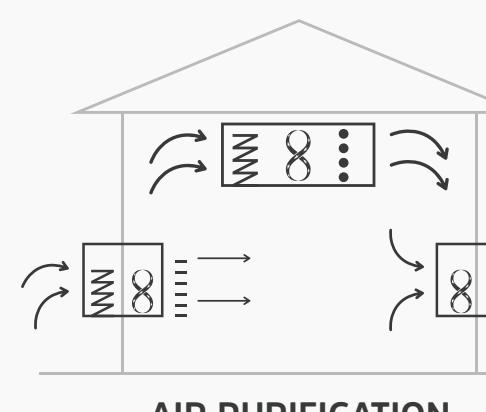
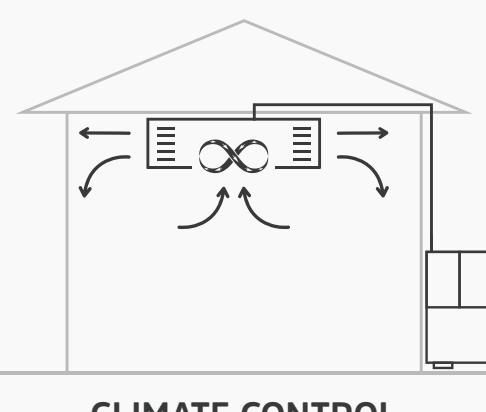
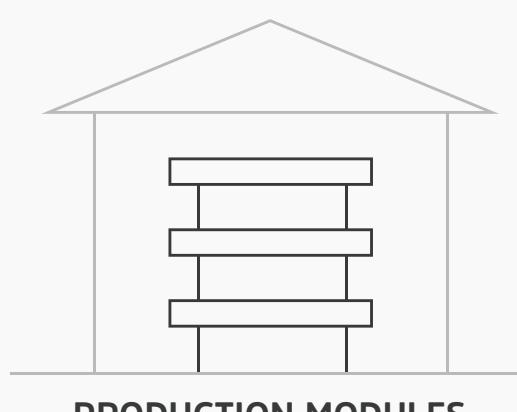
Project Scope:

- Production Area = **1,500m²**
- Plant production modules = **120 racks**
- ✓ Each module produces 100 trays of seedlings
- ✓ The facility has a total production capacity of 12,000 seedling trays

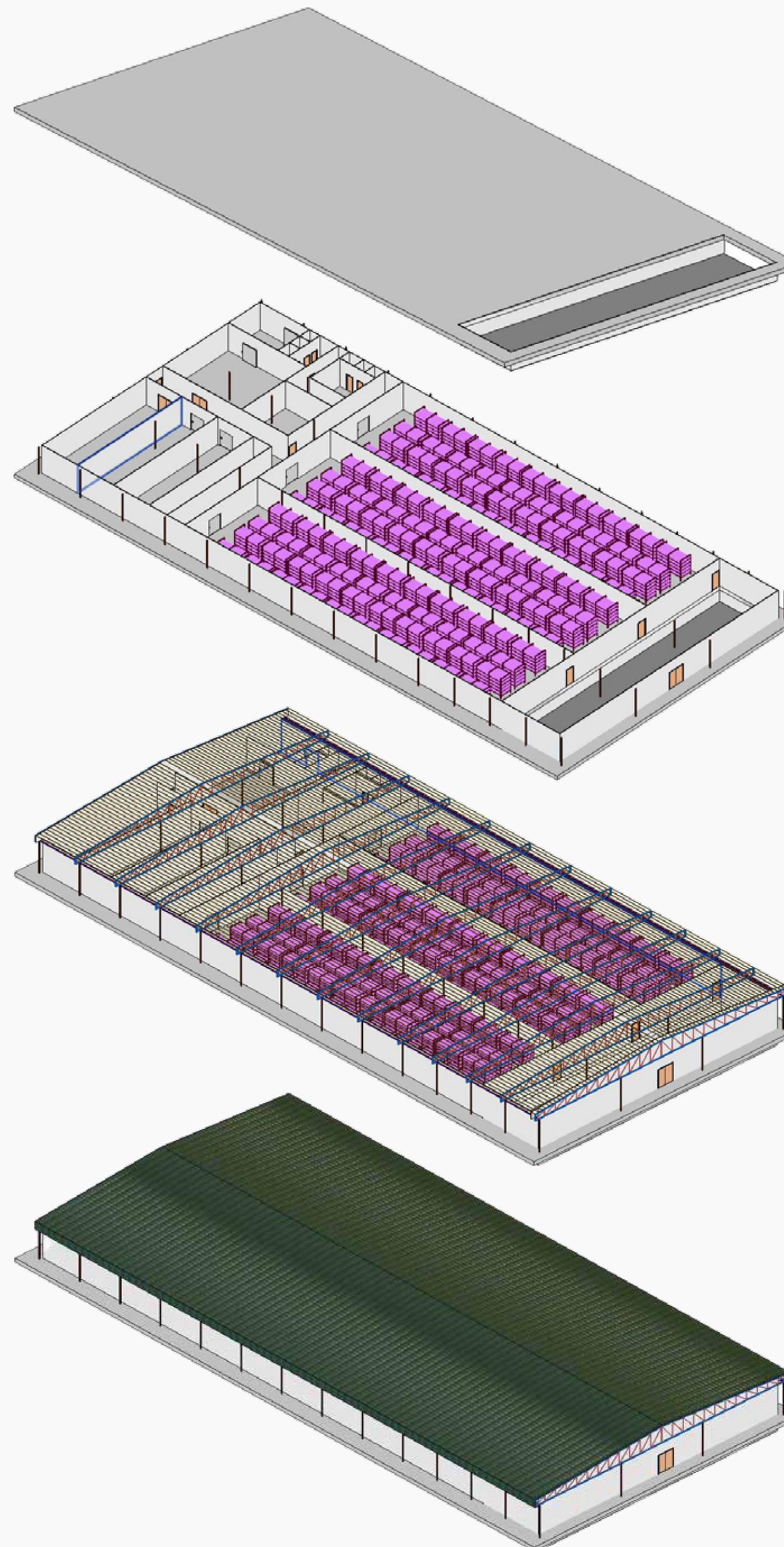
- **With 98-cell trays 1,176,000 seedlings**
- **With 128-cell trays 1,536,000 seedlings**
- **With 171-cell trays 2,052,000 seedlings**

can be produced.

Capacity meets **at least 400** decades of greenhouse seedling demand per sowing.



Main Construction Works in Farminova Seedling Factory

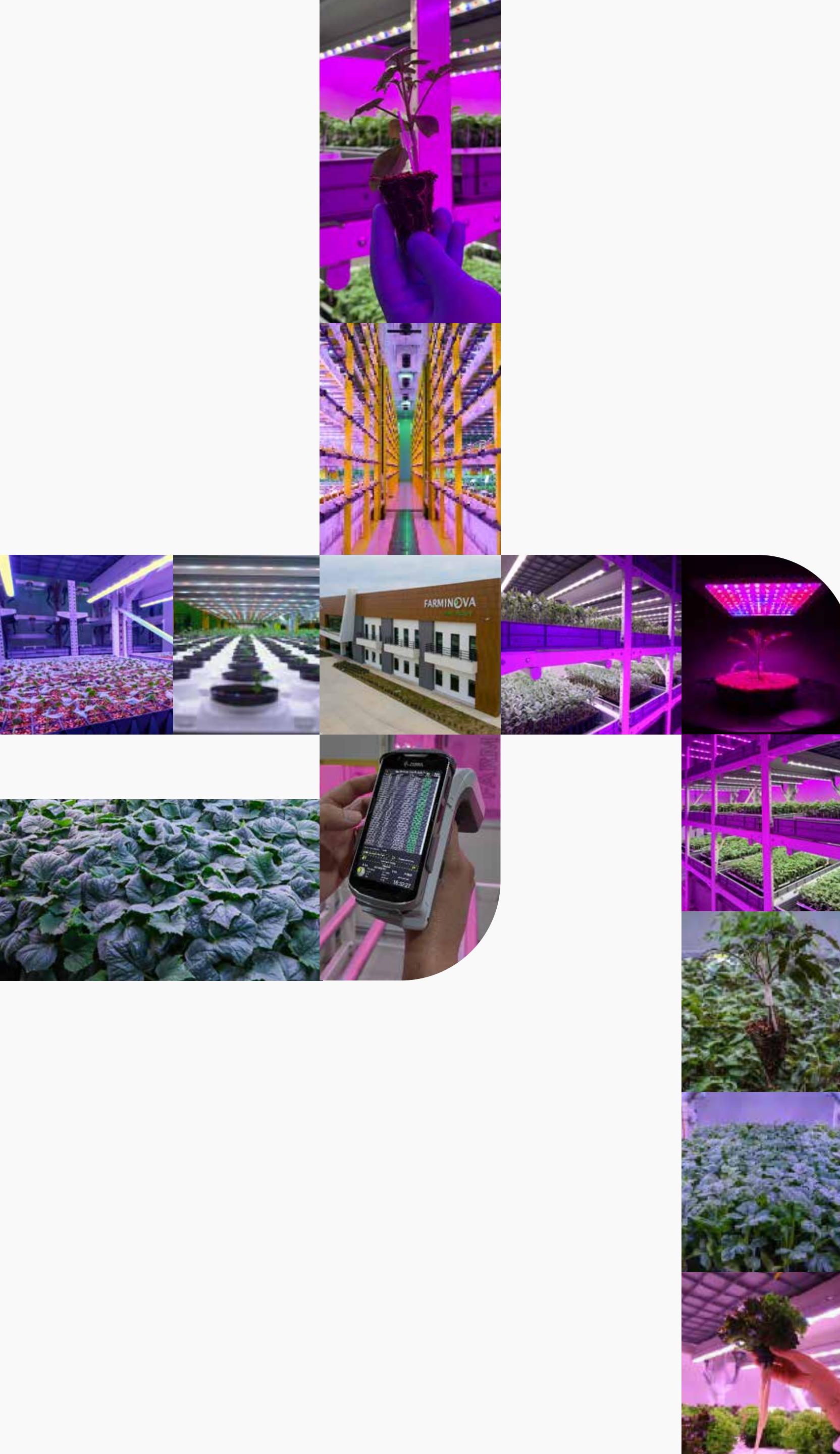


Ground Concrete

Panel Assembly

Steel Construction Assembly

Roof Assembly



Thank You

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www.cantekgroup.com

www.farminova.com