



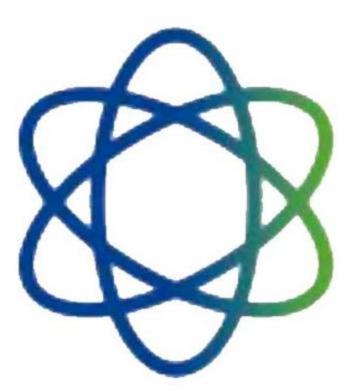
GREENARK AGRICULTURE TECHNOLOGY

The Shipping Container Farming

GREENARK was created to grow local food for local communities. It integrates indoor vertical farming and hydropoics in one shipping container, ready to be deployed under any climate across the globe.







For All Climates

Flexible Deployment

Stable and Productive







Leafy Greens



Pasture



Fruiting Crops



Medicinal Plants

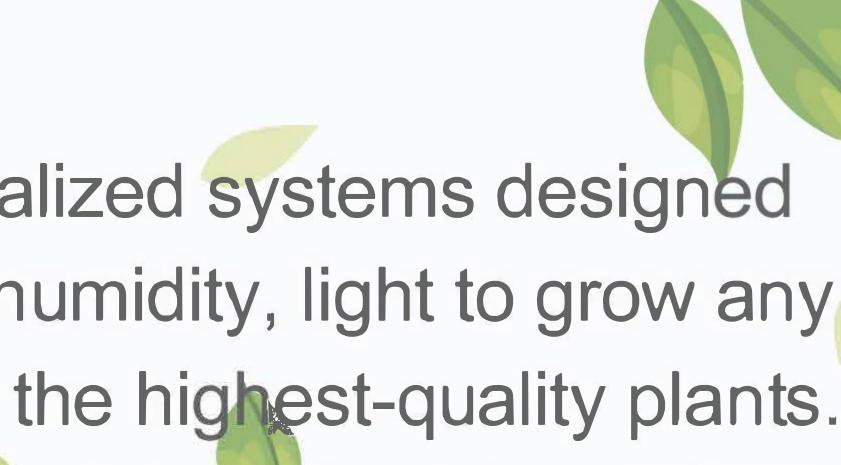
For All Climates

GreenArk Farm is engineered with a refrigeration house-grade structure that features a thermal conductivity index as low as 0.03 W/(m·K). Equipped with PCT heating, water heating, and solar energy storage, GreenArk Farm is proven to operate in a cold environment as low as -40°F on a highland 15,000 feet above the sea level, while maintaining the interior temperature above 59°F, nurturing the growth of fresh lettuce.

Flexible Deployment

Technology Farm is a mobile farm built inside a shipping container so it can be transported to communities across the globe, bringing food production back to the community.

Stable and Productive



A 40-foot ARK is built with several specialized systems designed to optimize space, control temperature, humidity, light to grow any place and anytime with local year-round the highest-quality plants. Our farm containers feature an adjustable light-to-bed distance so that 300+ varieties can be grown inside it, 365days/year.

Proven daily yield: 80KGS/Day of lettuce 60KGS/Day of Strawberries 680KGS/Day of Pastures



Versatile Application

GreenArk Farm monitors and controls temperature, relative humidity, lighting, CO₂ concentration, and nutrient ratio through its sensors and climate control system. Islands, deserts, highlands, polar regions, or metropolises, ARK is applicable in these scenarios as a lab, a demonstration base, or a commercial farm.







Commercial Research

Suitable Crops

GreenArk supports the growth of 300+ varieties: leafy green, microgreen, fruiting crops, edible flowers, herbs, and medicinal plants.



Leafy
Greens

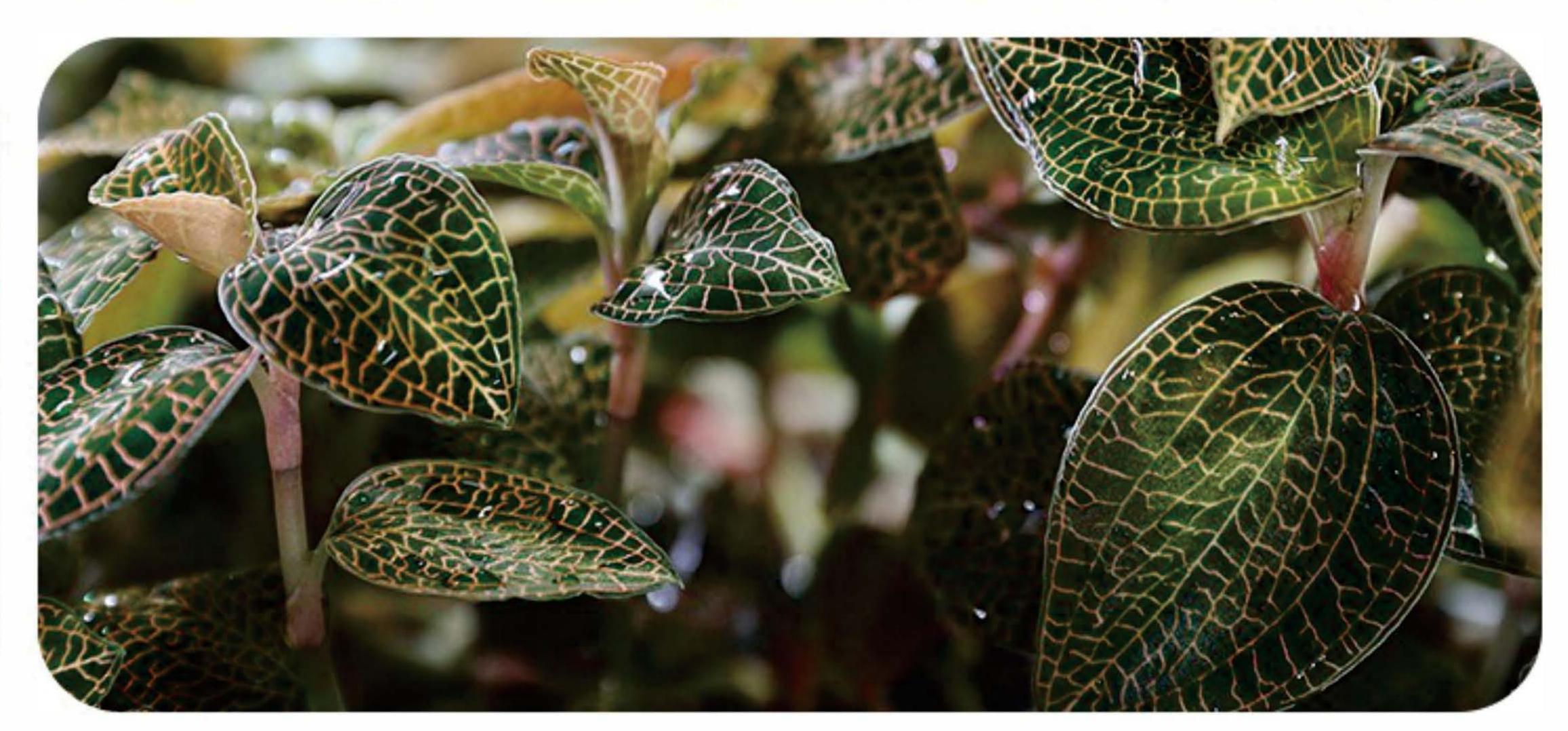




Pasture

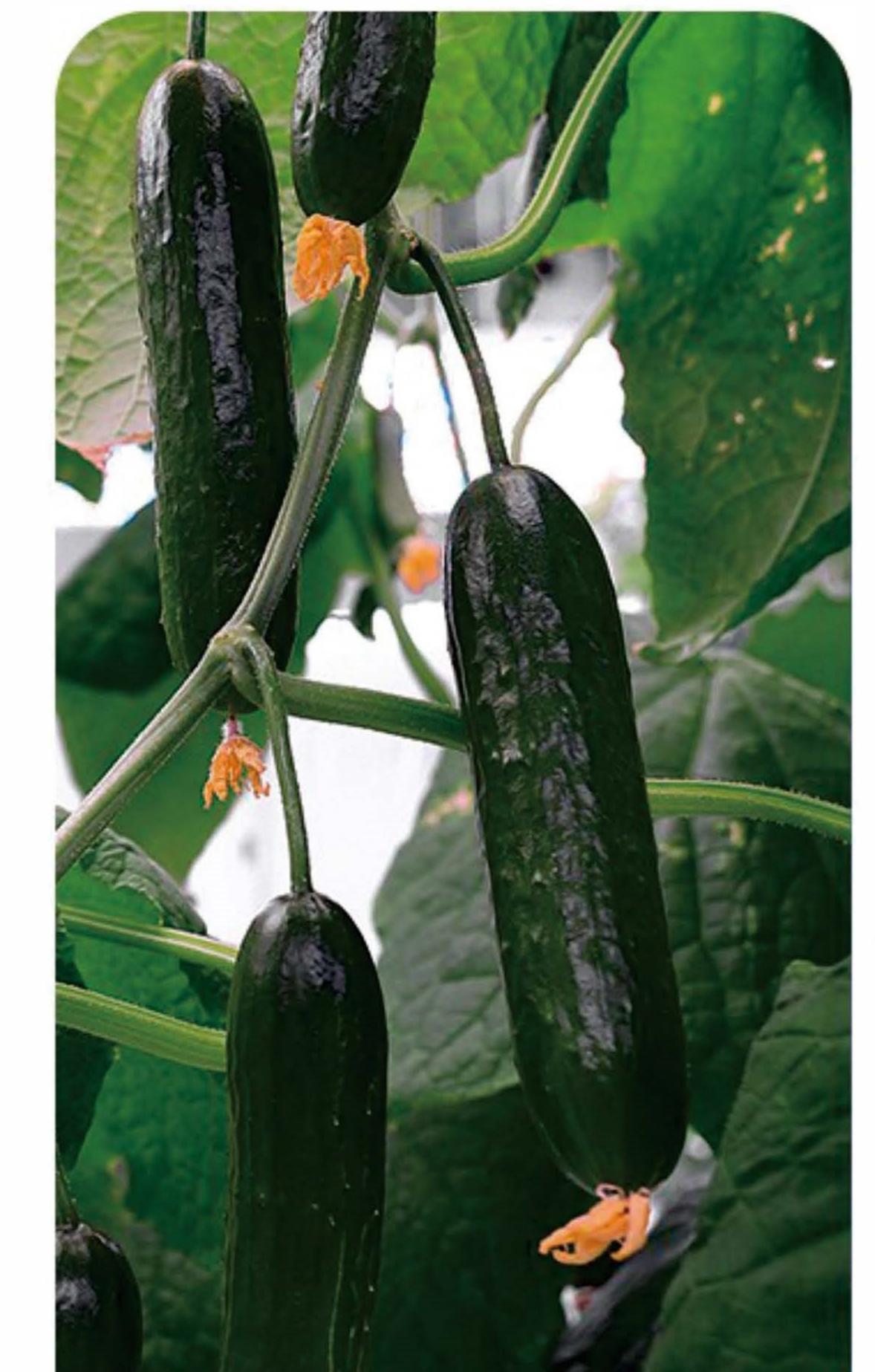












Fruiting Crops





Edible Flowers



Micro Green

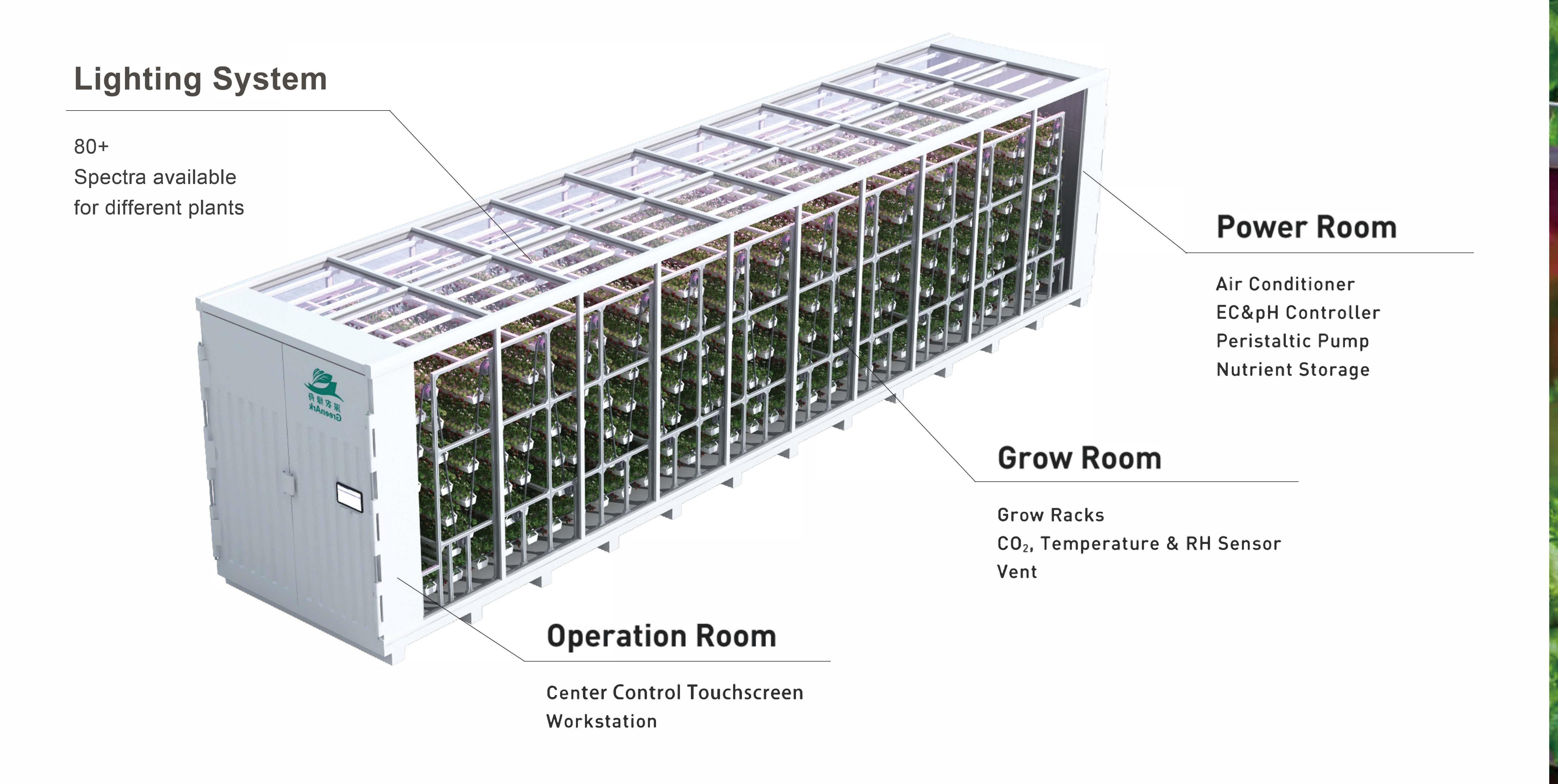




Aromatic Herbs

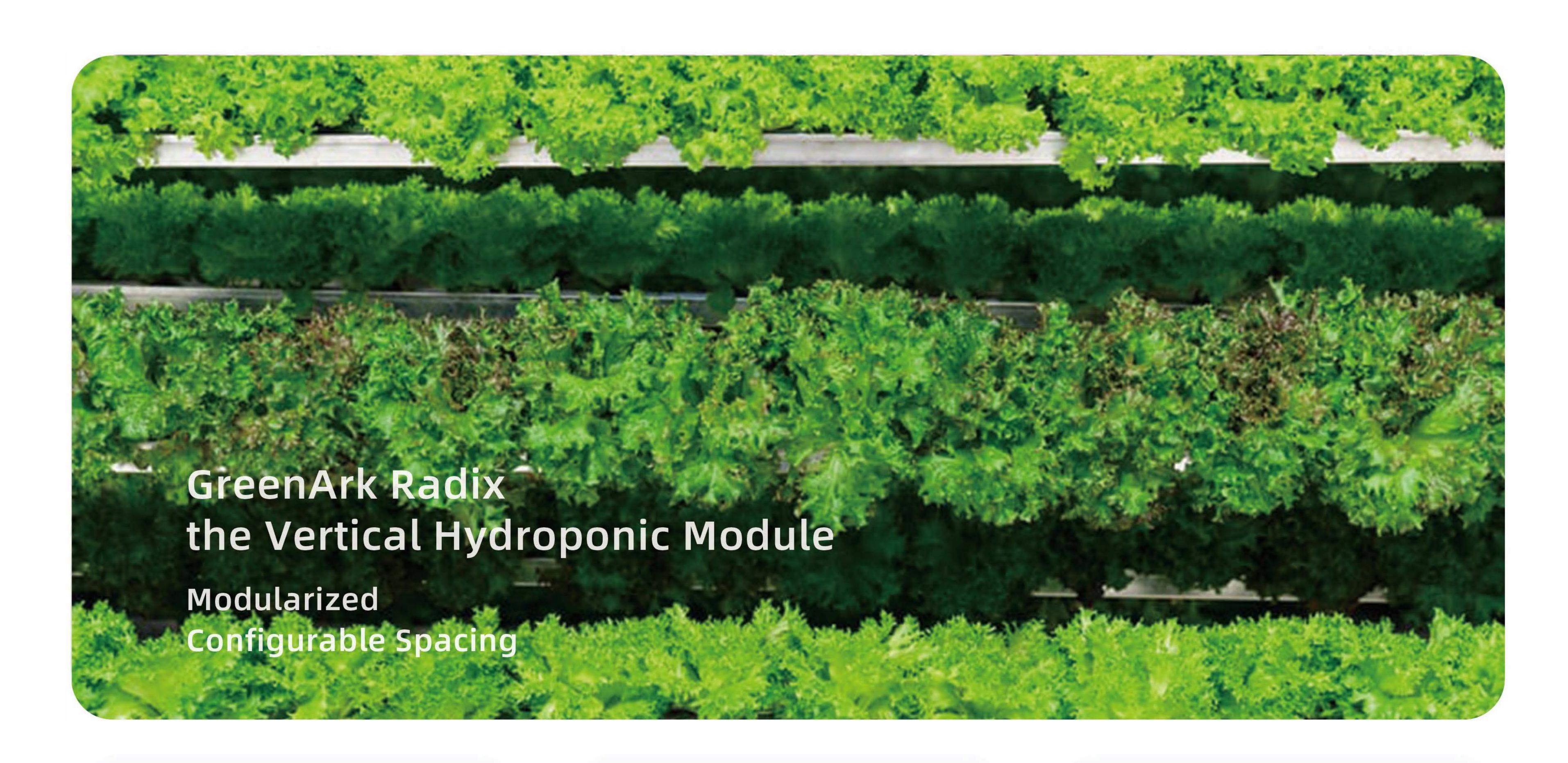
Spatial Utilization

GreenArk is built in a 40-foot shipping container. Customization of the container size is available. Grow rack arrangement is available in four formations with the ARK grow rack or Radix.





Grow System

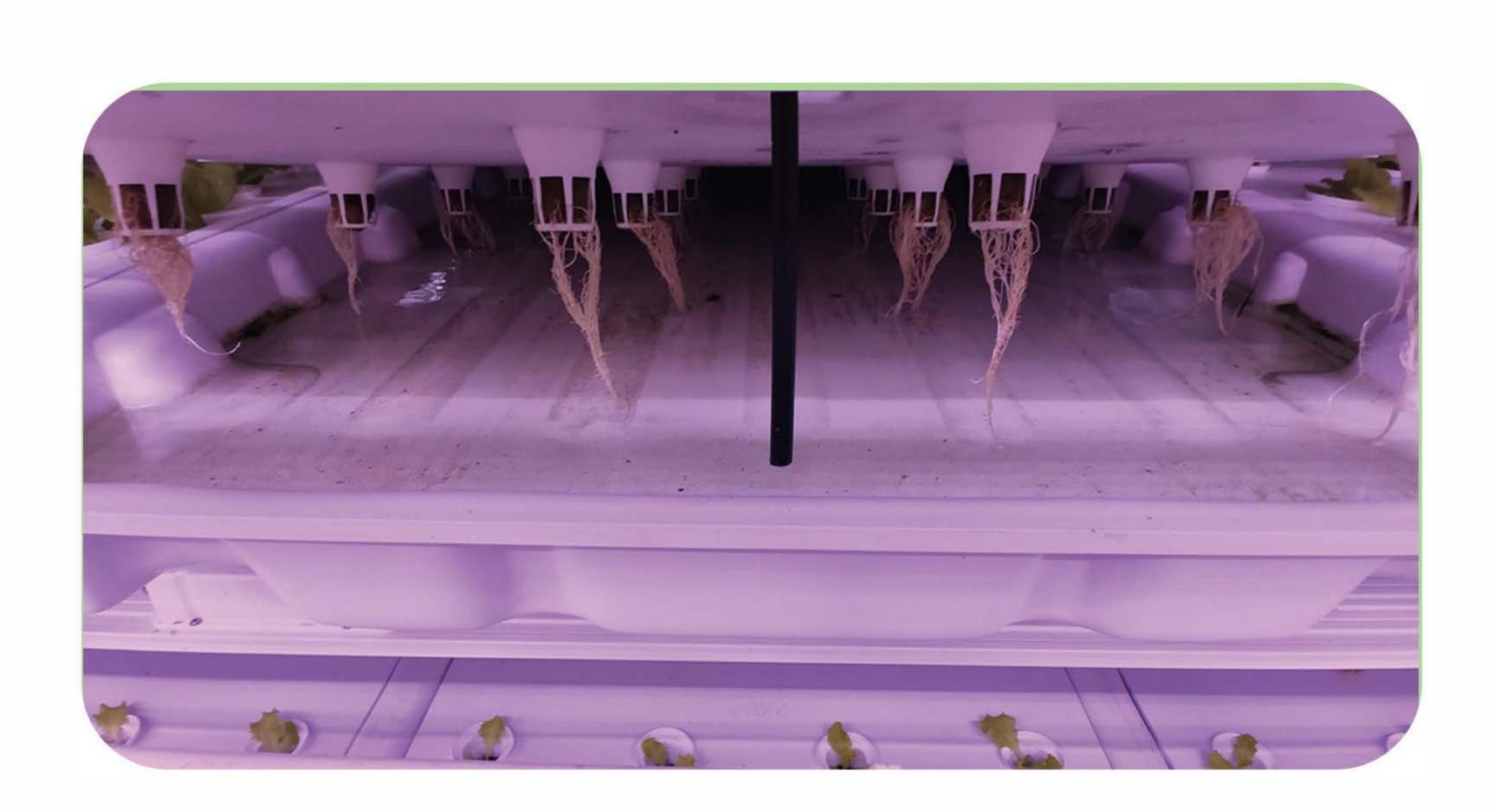






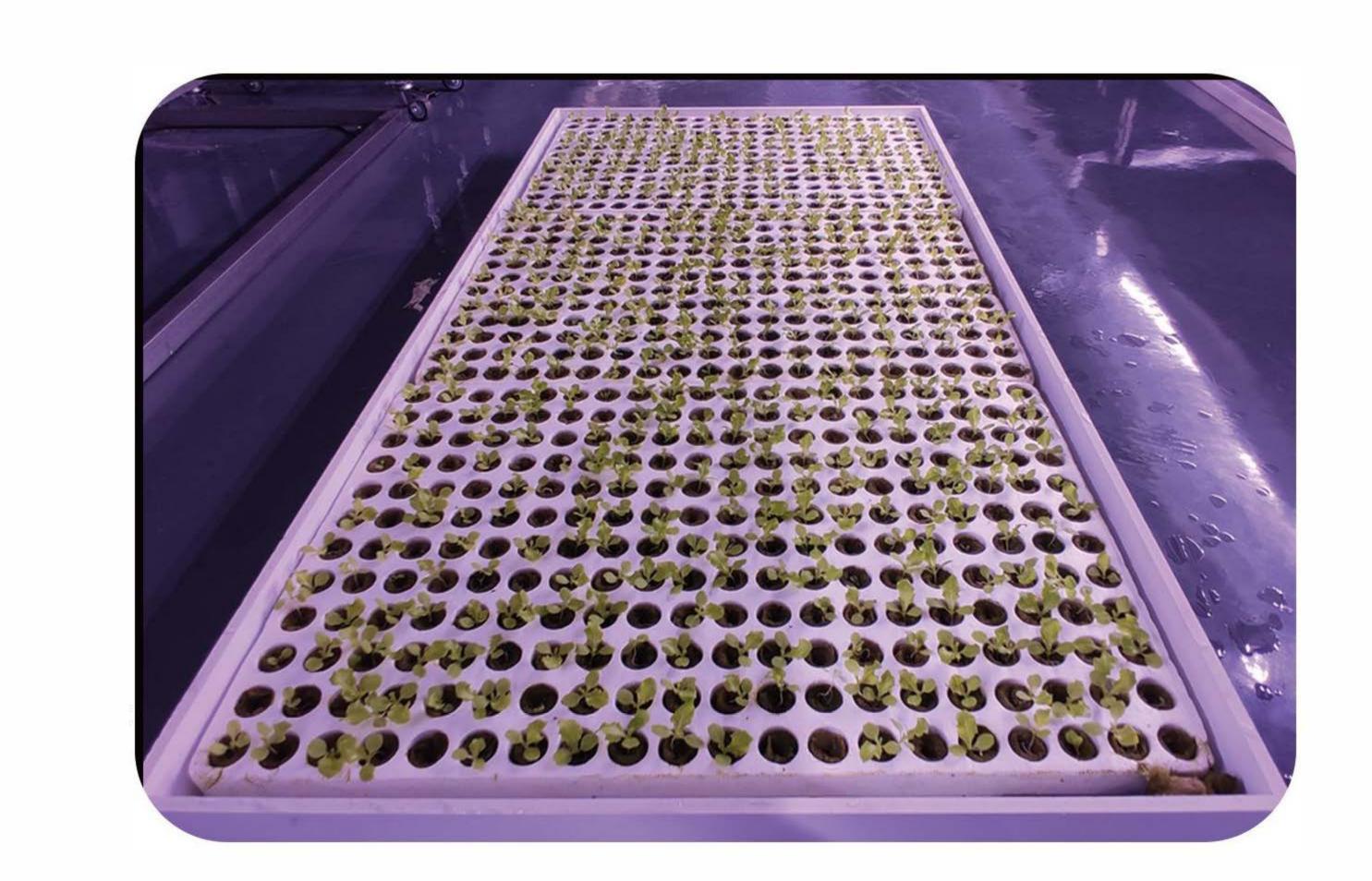






Plant Density

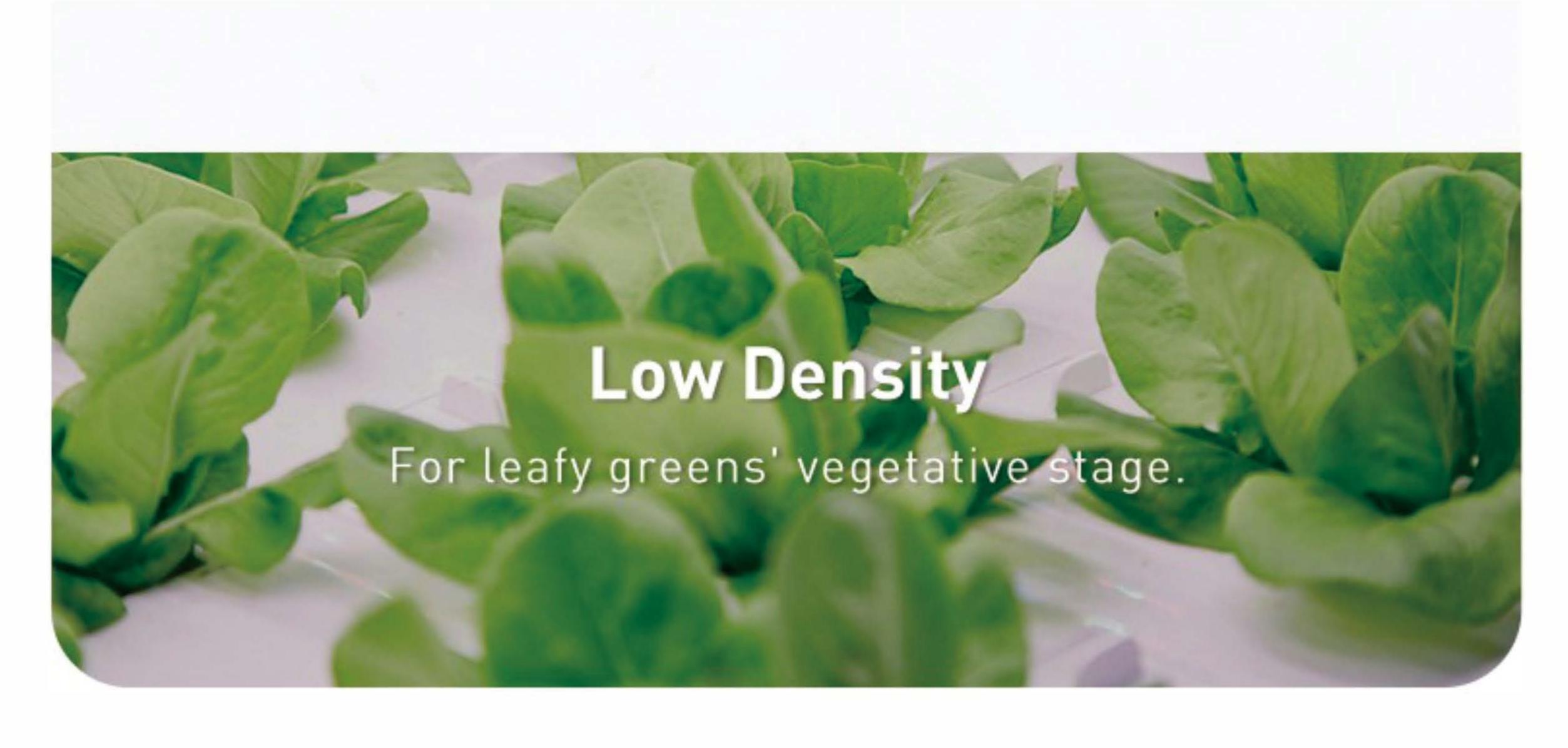


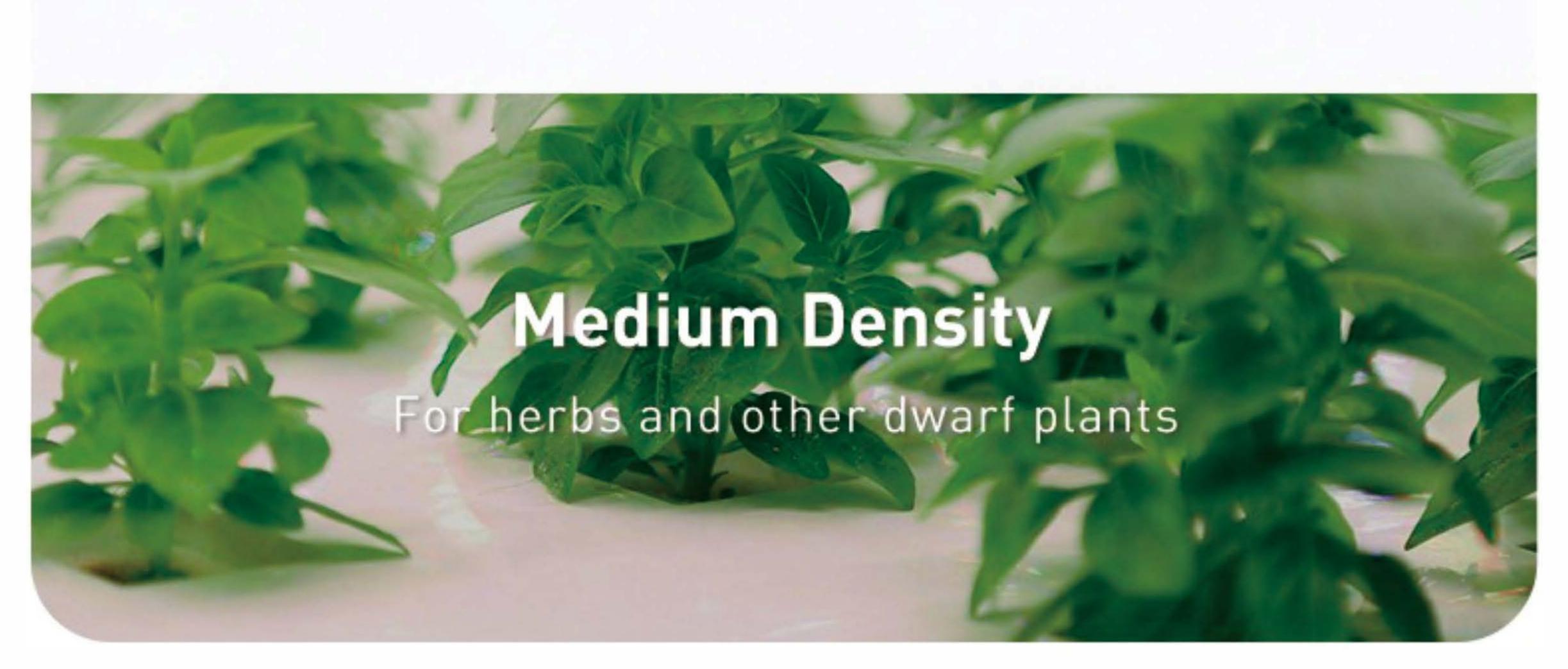


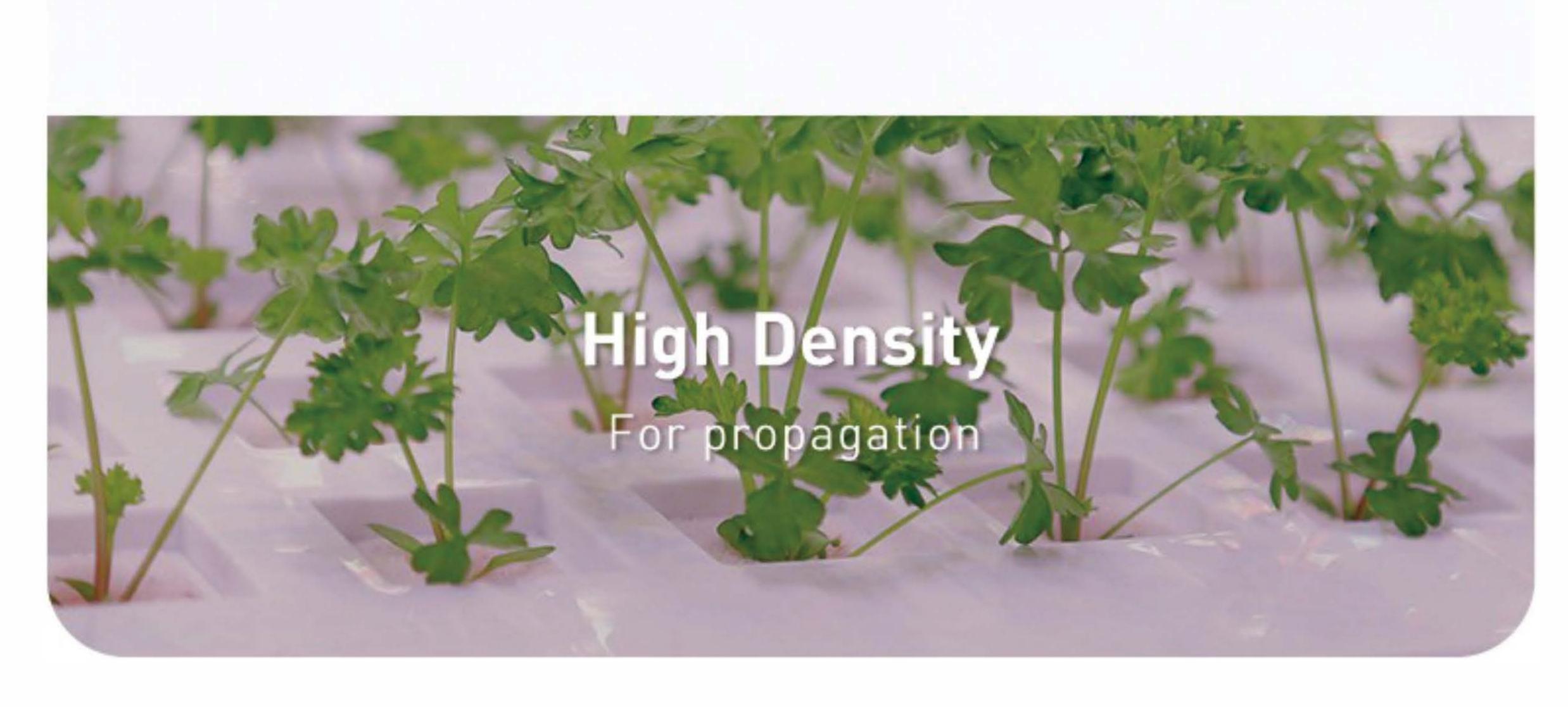




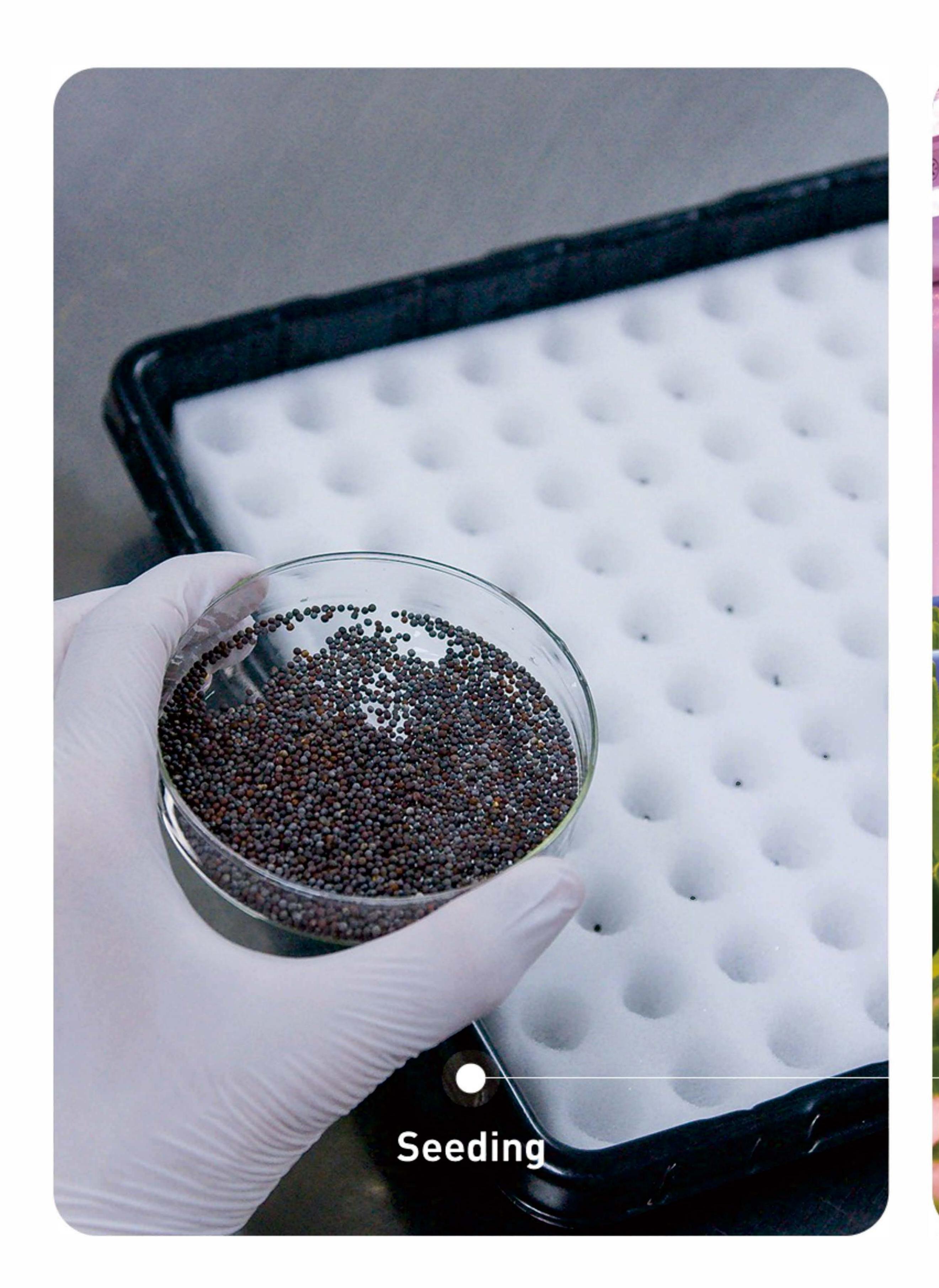


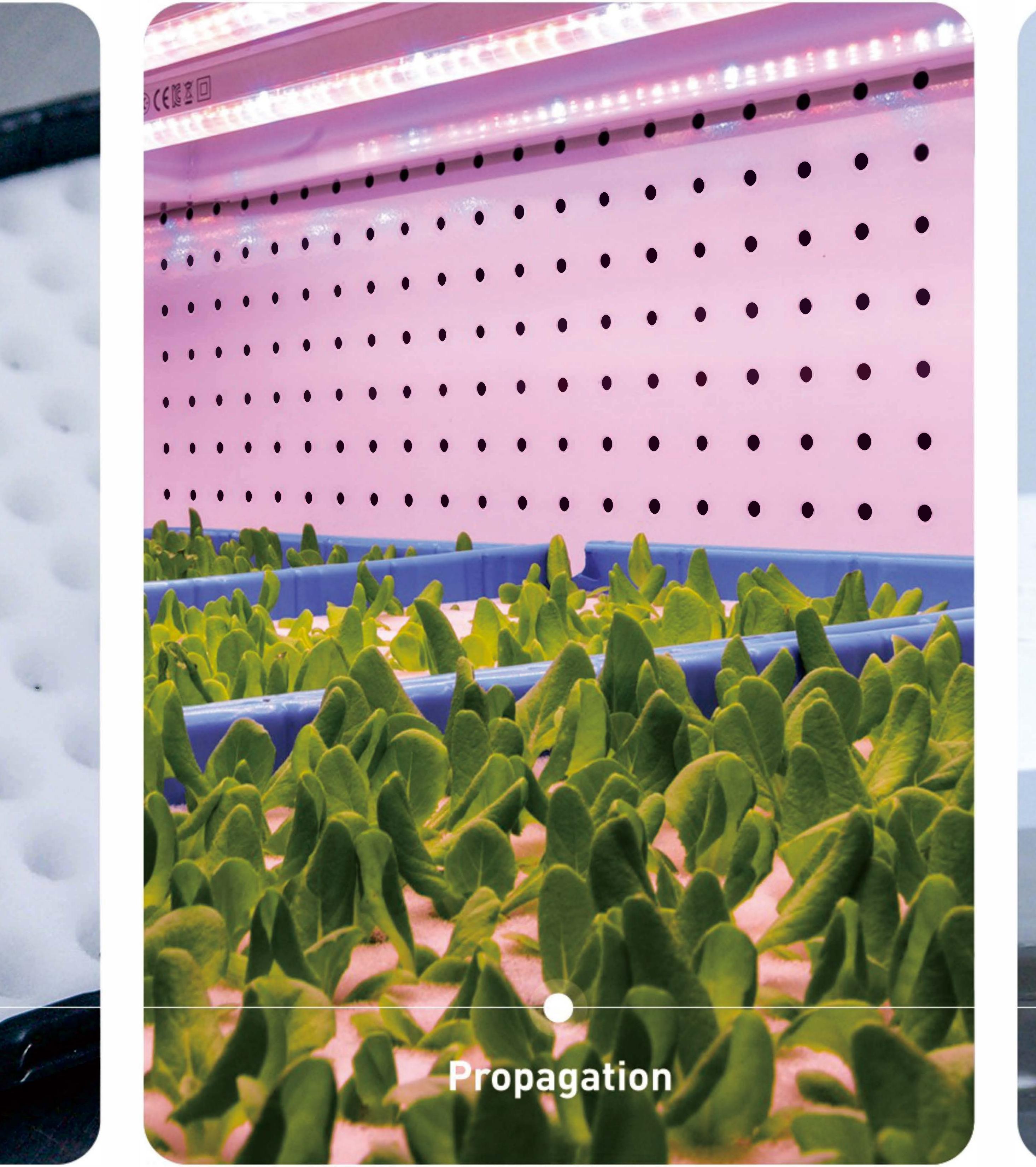


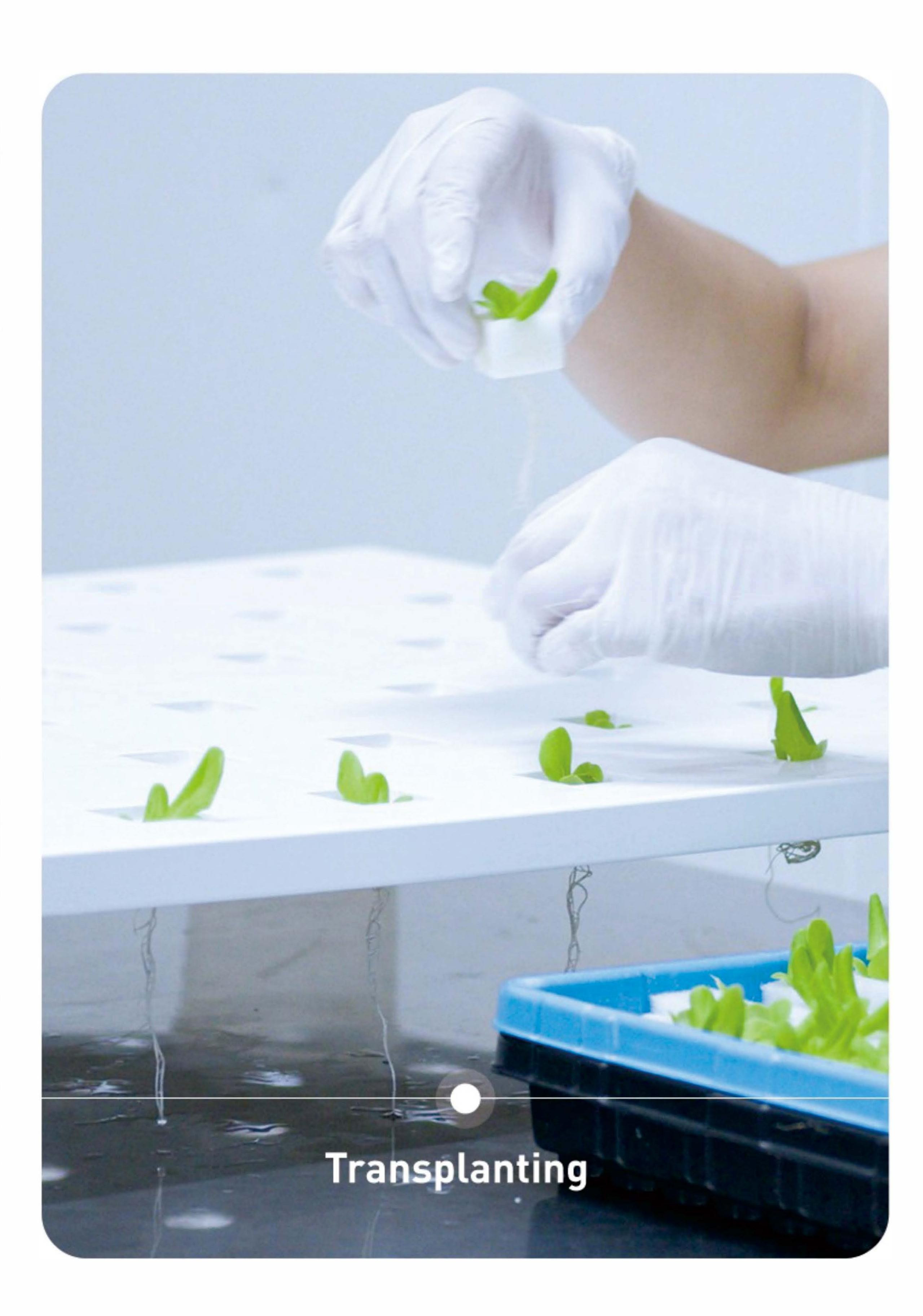




From Seeding to Harvesting







From Seeding to Harvesting







SAFE & HEALTHY FOOD

Current research indicates there is a growing global trend in consumers demanding safe and healthy food options.



SUSTAINABLE FARMING

The proven environmental and social benefits of locally grown food, and sustainable methods of production and distribution, will help reduce carbon footprints.



POPULATION CAPACITY

Ensuring our food production can feed the projected global population growth of 10 billion people by 2050.



TECHNOLOGY & AUTOMATION

Innovative indoor farming solutions are needed to address resource depletion in arable land, biodiversity, and fresh water supply.



FARMER SUCCESS

With the increasing farming risks of unpredictable weather, pests, and disease, we need to help our farmers be successful.

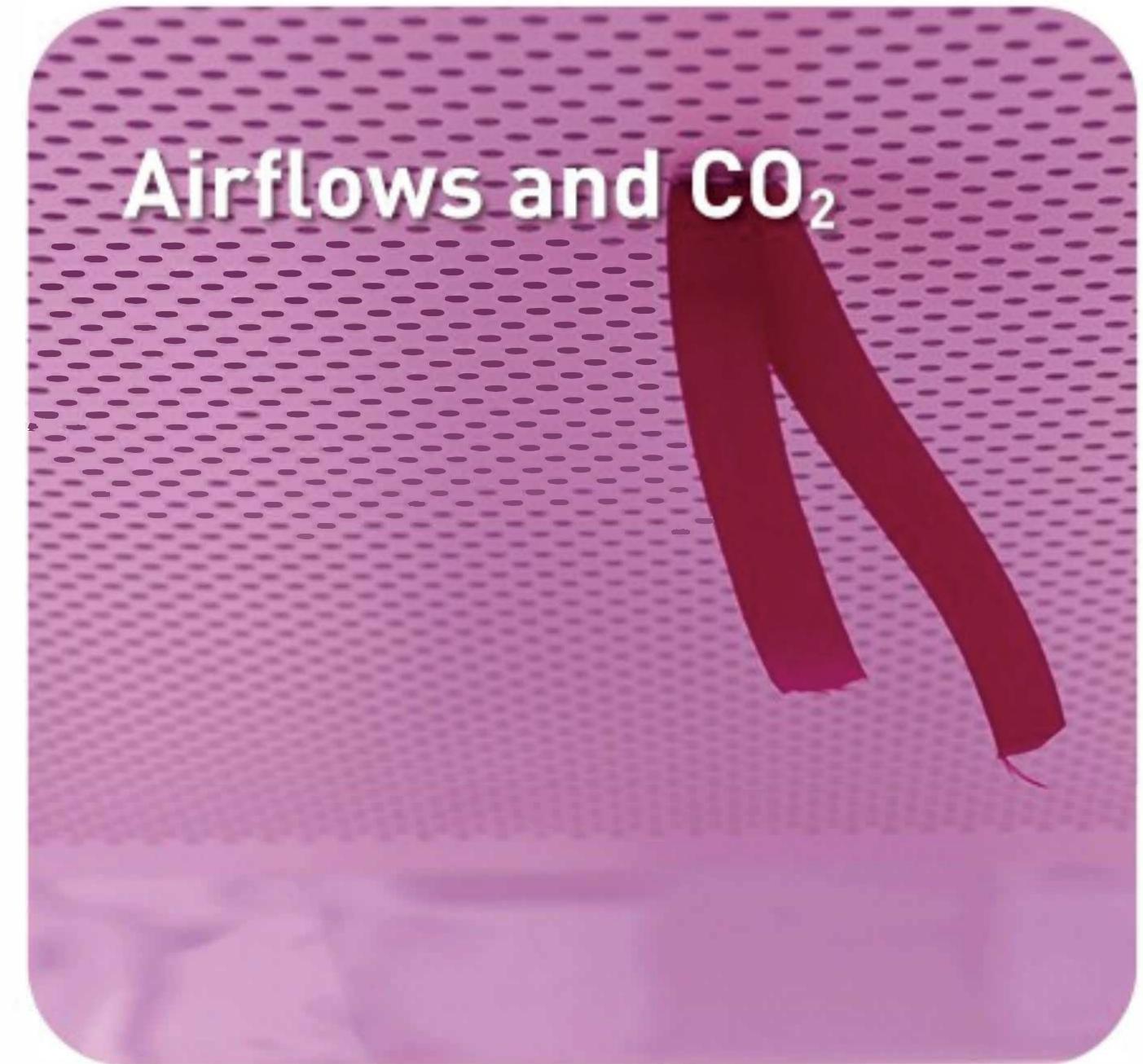


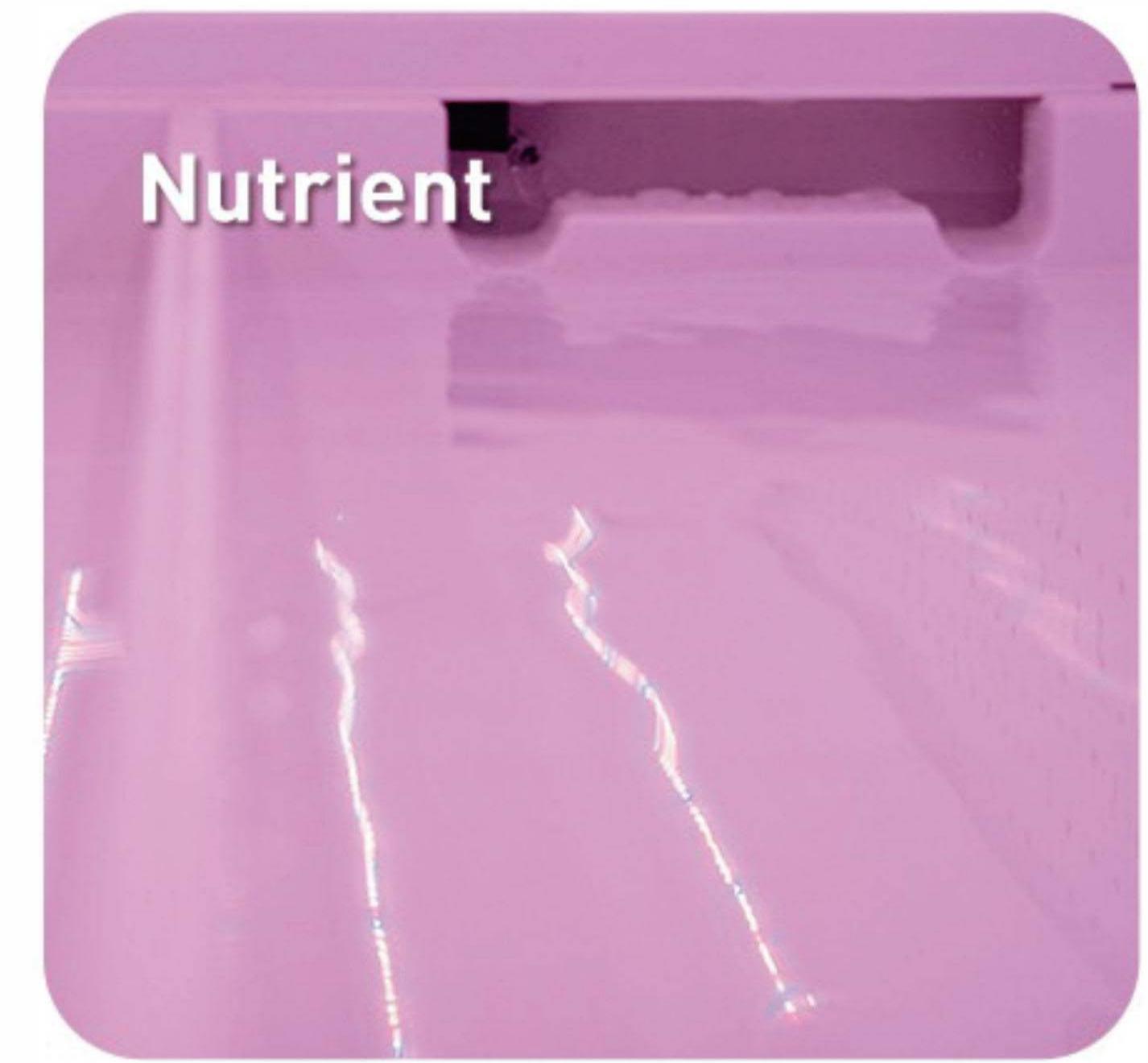
SUPPLY CHAIN CONFIDENCE

With the Coronavirus pandemic, labour, and transportation challenges, now more than ever we need confidence in our local food sources and supply chain.

GreenArk 's proprietary farm management system, which empowers growers with minimum experience to start growing food in a short period of time and monitor farm conditions on their phones.





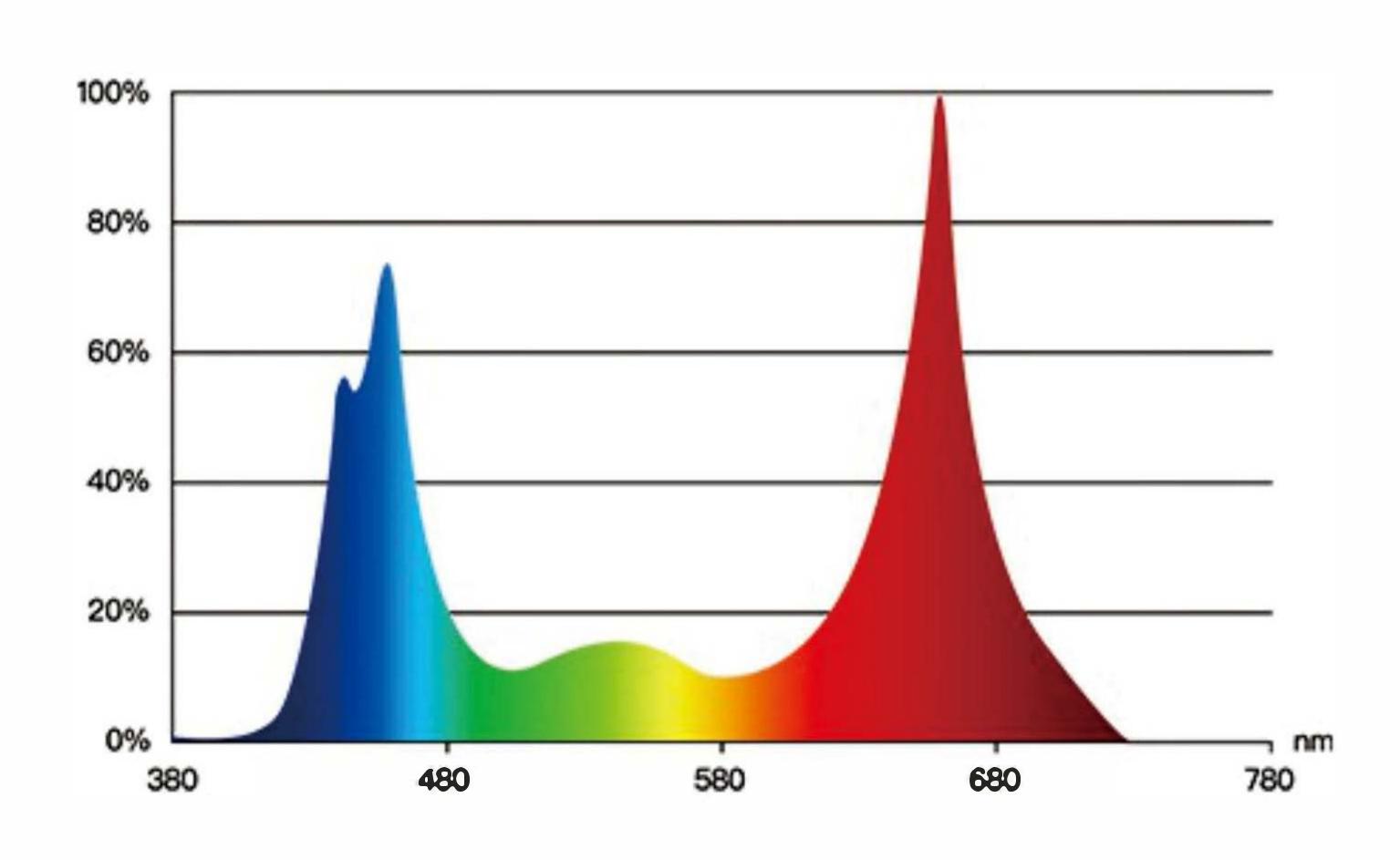


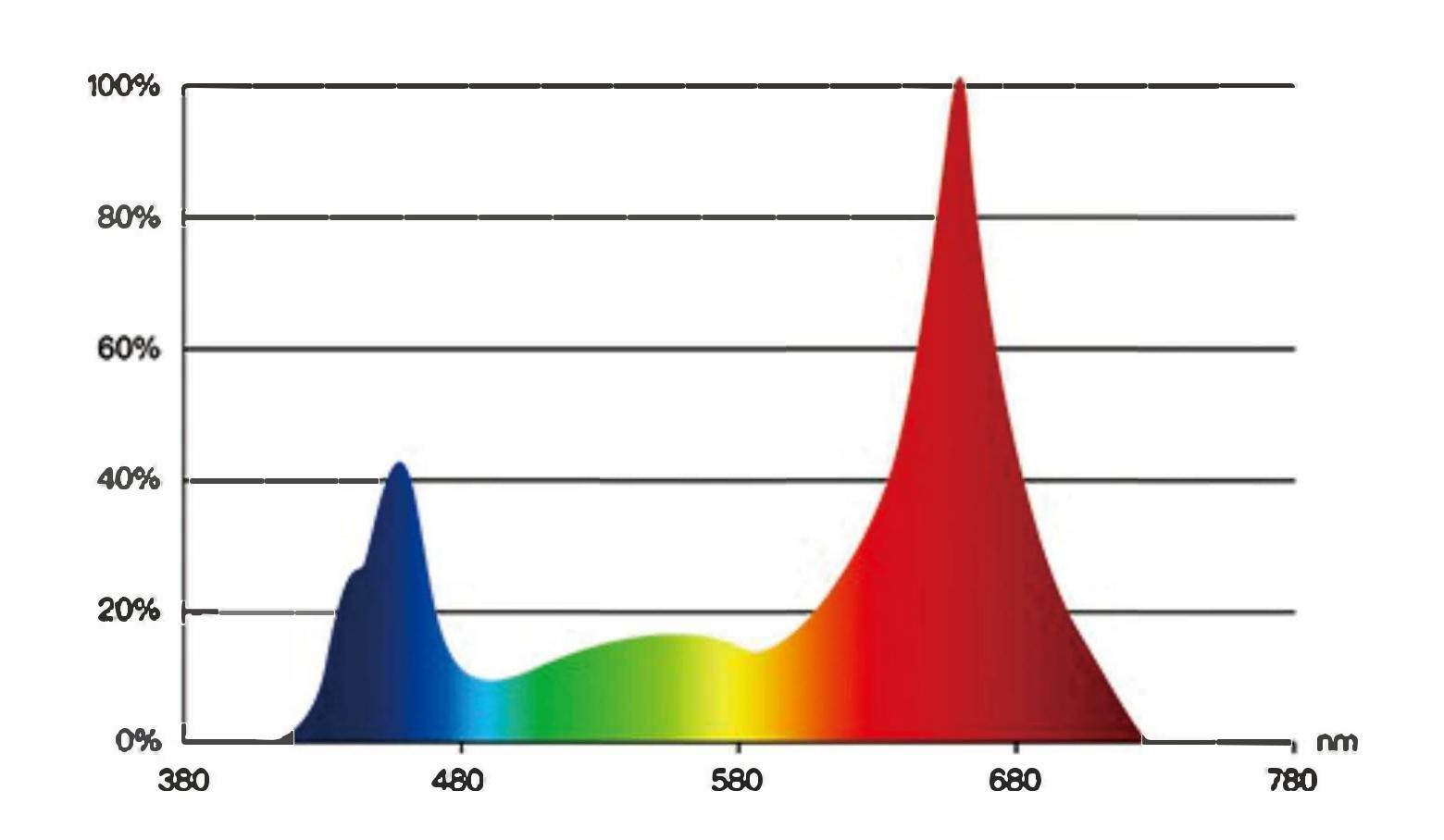


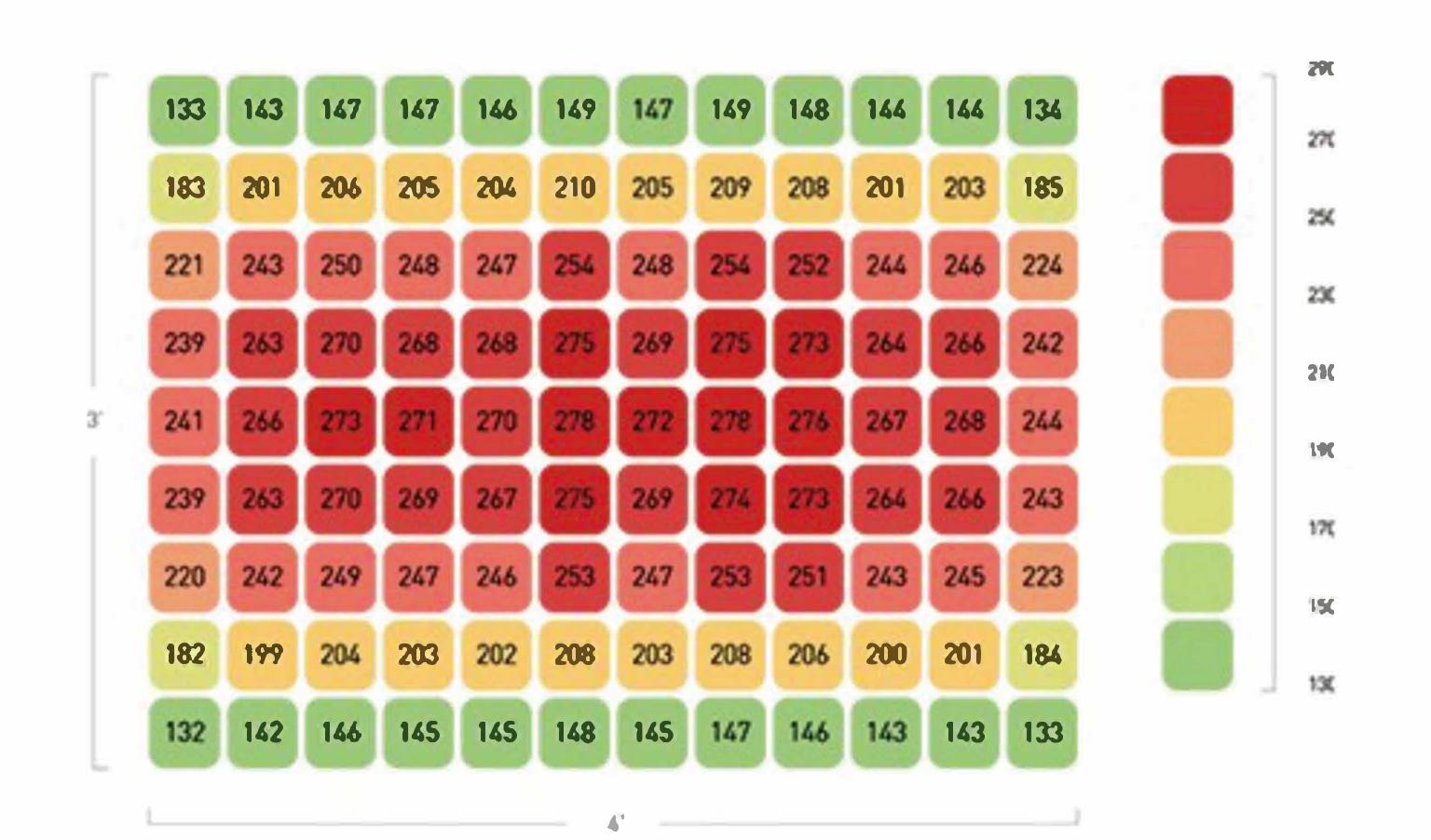


Lighting System

GreenArk ARK utilizes GreenArkSkylark grow lights to empower the growth of 300+ varieties throughout their life stages with 80+ spectra available.









Skylark-GE Spectrum For Leafy Green

Power: 11.5 W PPF: 24 µmol/s

Light-to-bed distance: 20 cm (0.65')

Avg. PPFD: 225 µmol/s/m²

Skylark-VE Spectrum For Leafy Green

Power: 13.5 W PPF: 28.5 µmol/s

Light-to-bed distance: 28 cm (0.92')

Avg. PPFD: 230 µmol/s/m²



Installation and Operation

Locating

GreenArk Farm needs to be positioned horizontally and is suggested to be placed on 6 concrete bases (1.31'*1.31'*0.16') to avoid flooding in rainy days.

Input Voltage

220V±10%.

Water Consumption

32 gal/day.

Consumables and Accessories

GreenArk also offers extra grow rafts and germination trays to growers.

Data Transportation

GreenArk Farm able to transfer data to growers via the Internet or IoT SIM Cards. Data traffic is projected to be 1G/month if no picture needs to be transferred.

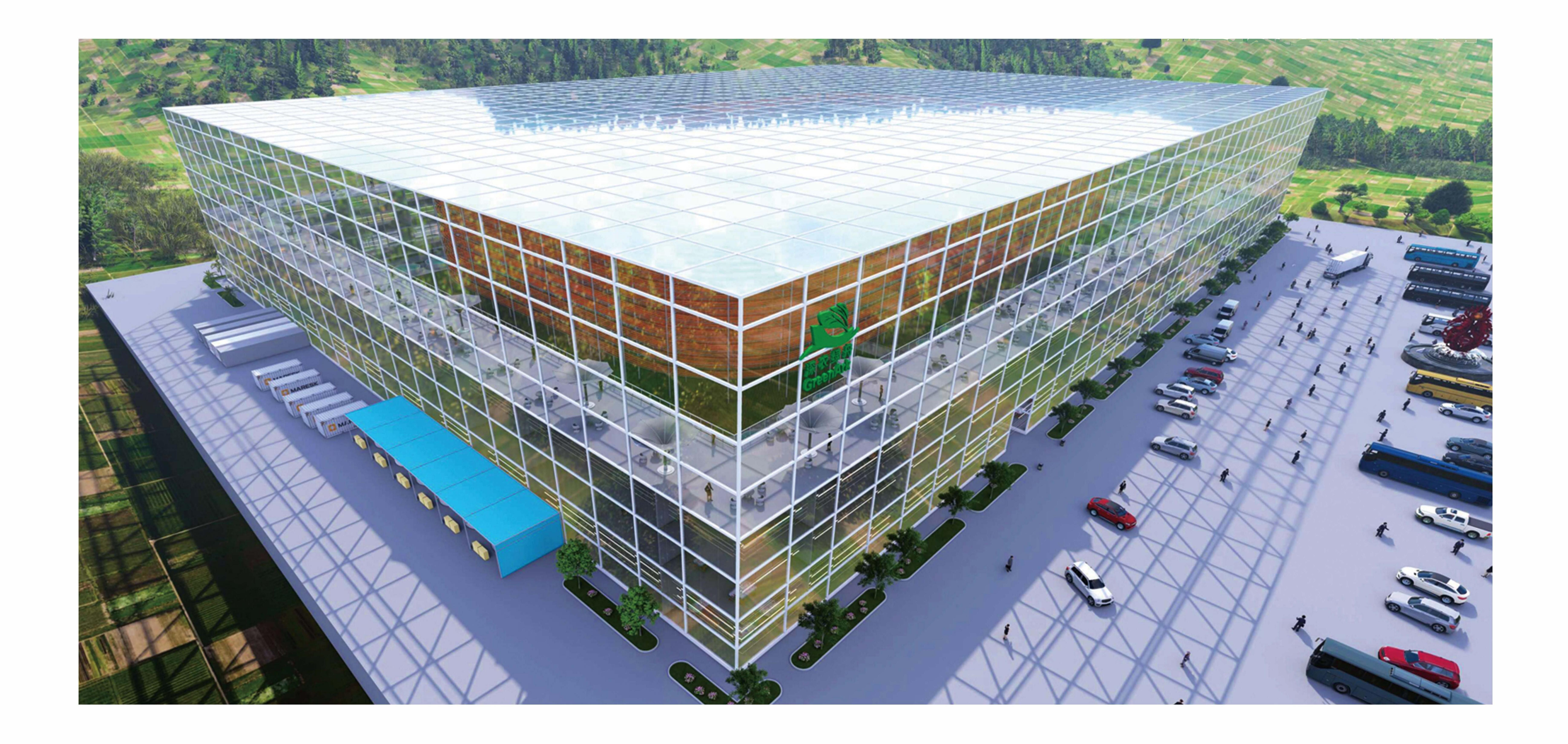


Specs

Specs				
	Product	40-Foot Container Farm		
Dimension	L*W*H	40' * 8' * 9.5'		
	Gross Weight	30,864.71 lbs		
Climate Control	Climate Control System	Plant Keeper TM		
	Insulation Material	Polyurethane 0.3'-thick/ Rock wool board 0.16' -thick		
	Air Conditioning	Domestic air conditioning/Air conditioning geared for cold areas		
	CO ₂ Supply	44 lbs/88 lbs of CO ₂ stored in gasholders		
Electrical	Power	10 KW		
	Voltage	220 v ± 10% (Customizable)		
	Frenquency	50 Hz ± 1 Hz		
Data Collection and Transfer	Types of Sensors	EC&pH sensor, Three-in-one sensor (CO ₂ , temperature and RH)		
	Data Traffic	1G/month (If no pictures need to be transferred)		
Annual Yield	Lettuce	7,936.64 lbs		
	Cucumber	3,306.93-4,409.25 lbs		
	Arugula	7,716.18 lbs		
Consumption (Based on the data of lettuce)	Electricity	70 kW·h/day		
	Water	32 gal/day		
Other	Accessories Available	Energy storage and water storage systems		
	Certification	CNAS, CCS		

Grow System				
	GreenArk Grow Rafts			
L*W*H	205x16x16cm			
Number of Lights	24			
Grow Area	79ft ²			
Number of Grow Rafts	234			
Plant Sites per Raft	52 holes/180 holes			
Material	Galvanized Iron	Food-Grade PP		

Lighting				
Grow Light	Skylark-GE Spectrum	Skylark-VE Spectrum		
Power	11.5 W	13.5 W		
PPF/Light	24 µmol/s	28.5 µmol/s		
Efficacy	$2.1 \mu mol/J$	2.1 µmol/J		
Average PPFD/Layer	225 µmol/s/m²	230 µmol/s/m²		



GreenArk is a diverse group of growers, engineers, scientists,designers,and business professionals working to build a sustainable and resilient global food system. We are empowering growers globally with cutting-edge indoor vertical farming and horticultural lighting technologies that allow them to meet local and global market demand for essential agricultural products. Our team of controlled environment agriculture (CEA) experts in conjunction with our industry leading technology, creates unmatched value.we are creating the STANDARD in indoor vertical farming and horticultural lighting. We solve complex problems to build you simple solutions



