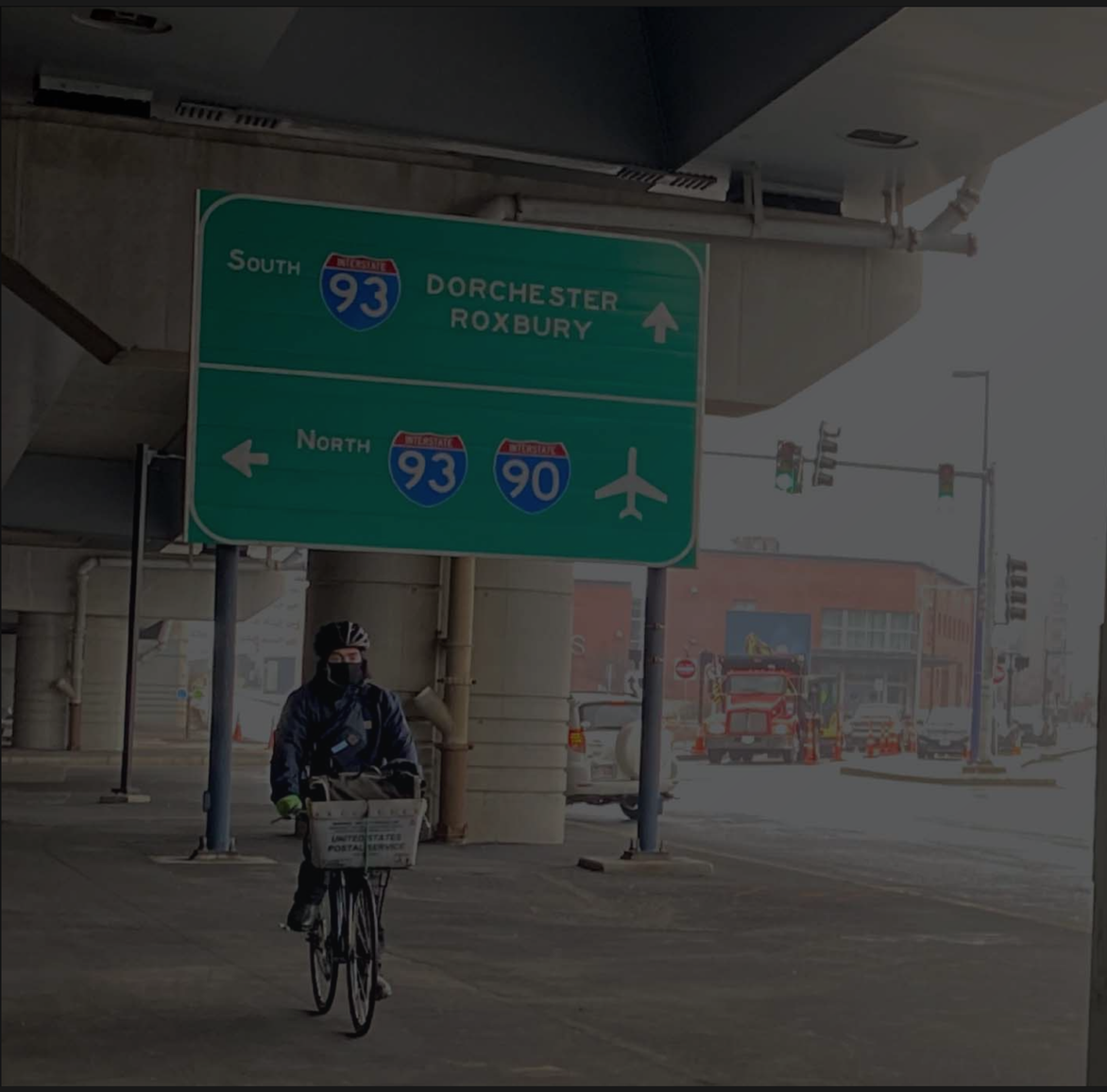
FREIGHT
FARMS



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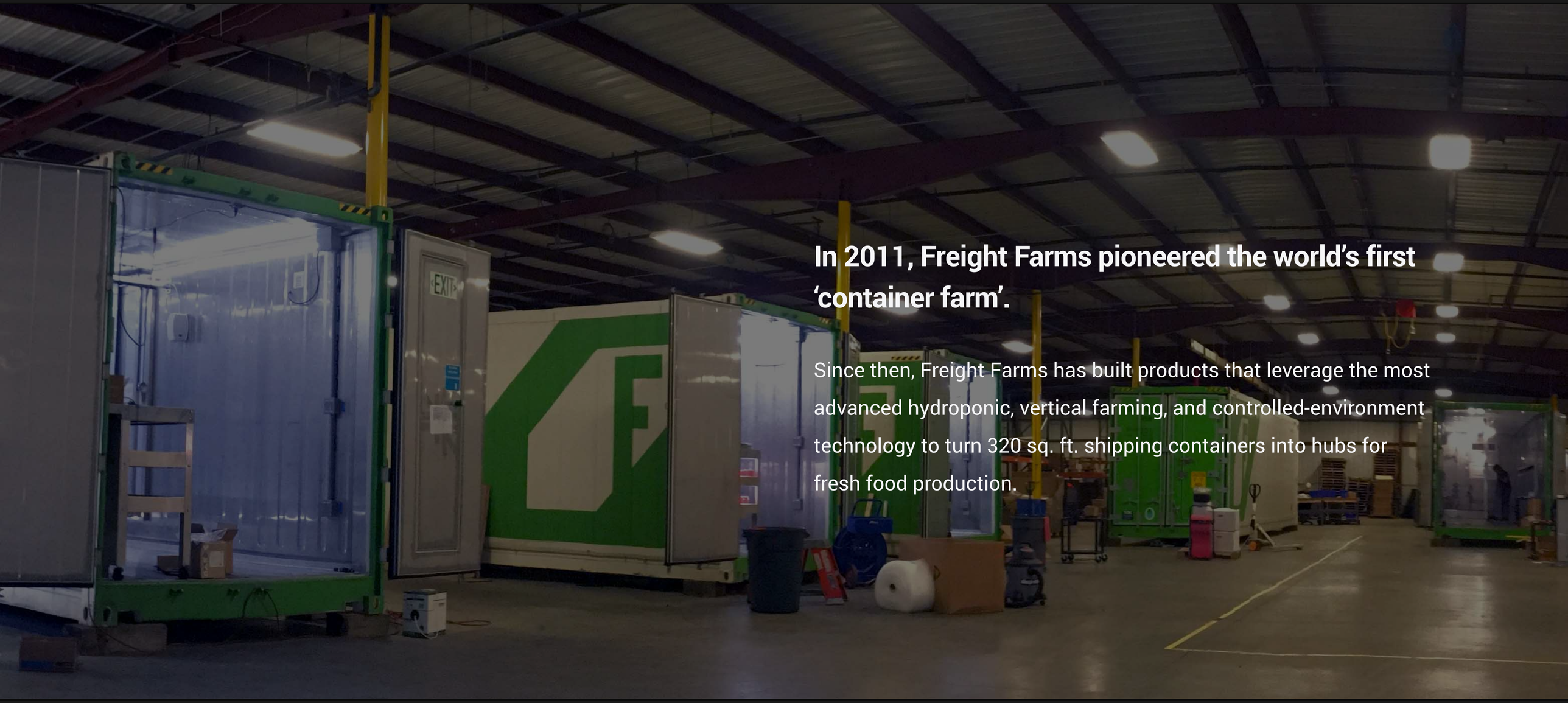
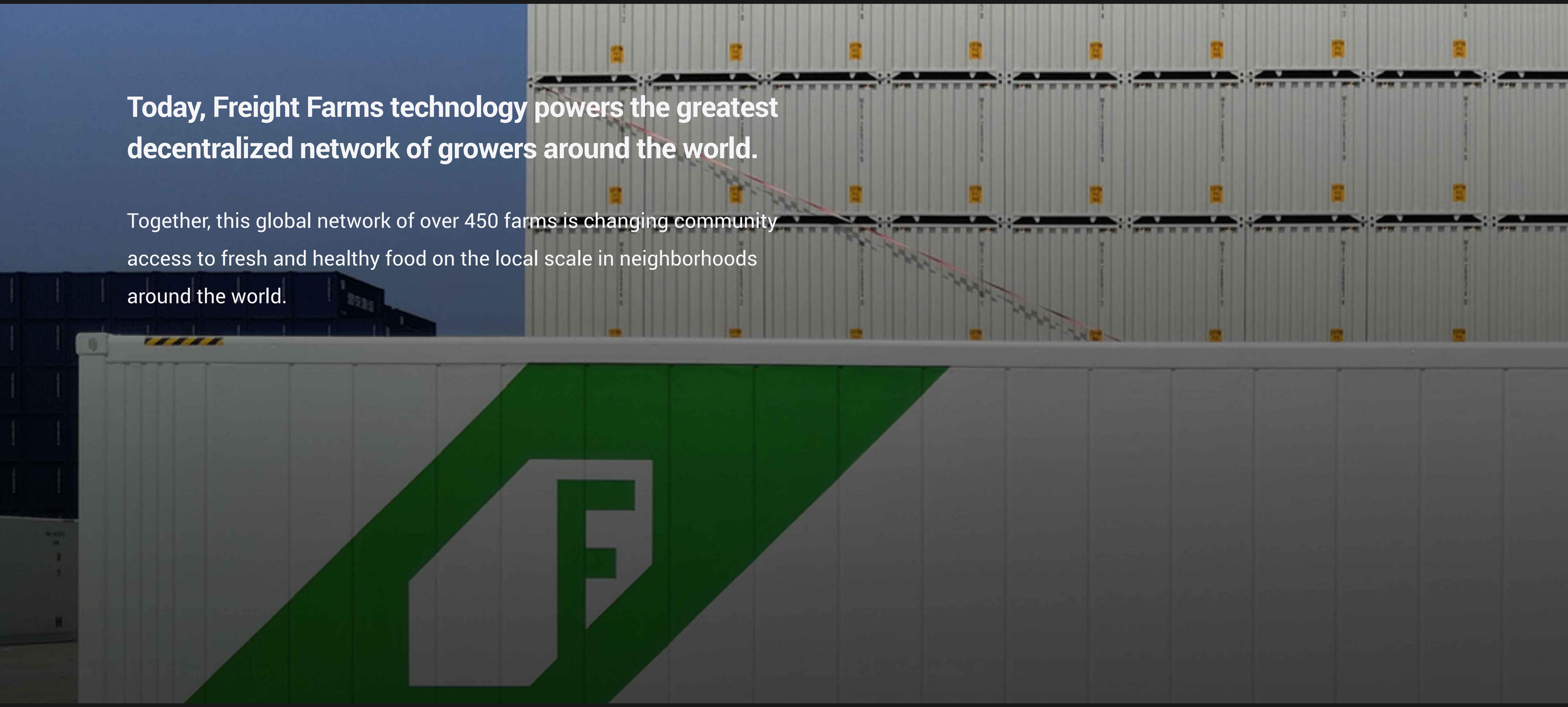


In 2011, Freight Farms pioneered the world’s first ‘container farm’.

Since then, Freight Farms has built products that leverage the most advanced hydroponic, vertical farming, and controlled-environment technology to turn 320 sq. ft. shipping containers into hubs for fresh food production.



Today, Freight Farms technology powers the greatest decentralized network of growers around the world.

Together, this global network of over 450 farms is changing community access to fresh and healthy food on the local scale in neighborhoods around the world.

GREENERY S

THE ULTIMATE GROWING PLATFORM

The Greenery S provides operators with unprecedented power, control, and ease-of-use to unlock the potential for local food production in their own communities.

The Greenery S is built on three key principles

DESIGN

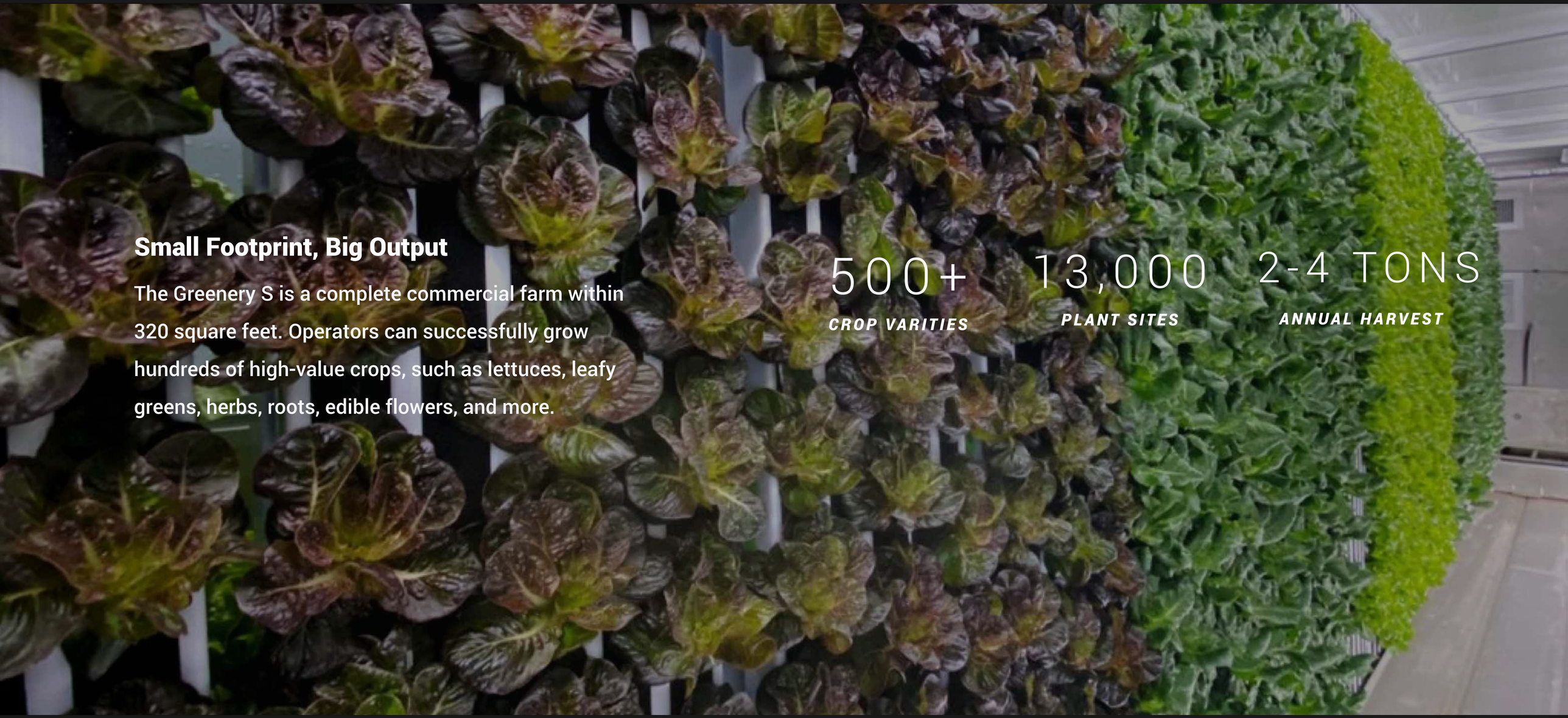
The Greenery S leverages a decade of experience in building and designing container farms. Every bespoke component gives equal priority to the needs of both plant and operator.

AUTOMATION

Above all else, the Greenery S is a smart farm. With full integration with Freight Farms' farmhand® software, operators can guarantee success by automating most of the farming process.

PERFORMANCE

Design and automation come together to drive peak performance in yields, quality, and efficiency. The result is a plant production powerhouse that will support any farming venture.



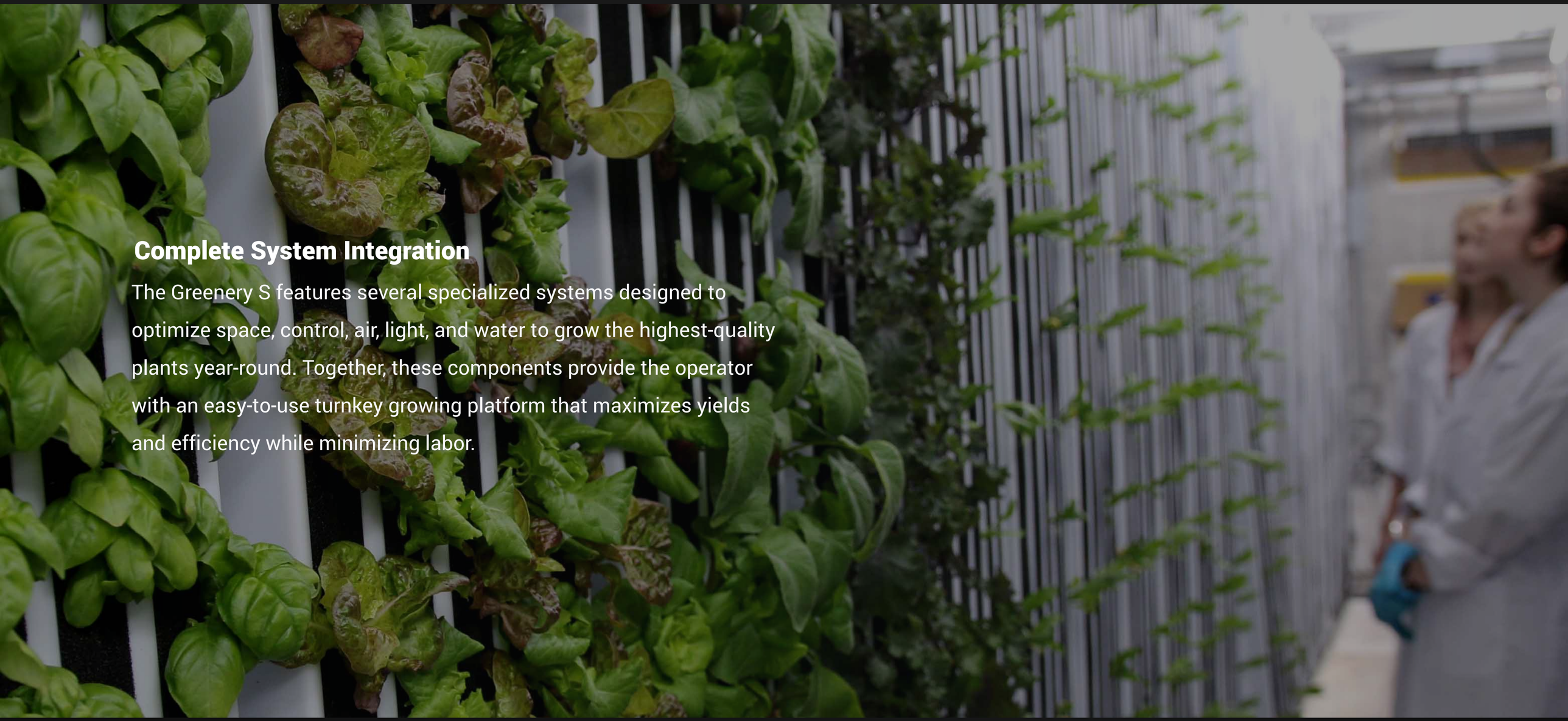
Small Footprint, Big Output

The Greenery S is a complete commercial farm within 320 square feet. Operators can successfully grow hundreds of high-value crops, such as lettuces, leafy greens, herbs, roots, edible flowers, and more.

500+
CROP VARITIES

13,000
PLANT SITES

2-4 TONS
ANNUAL HARVEST



Complete System Integration

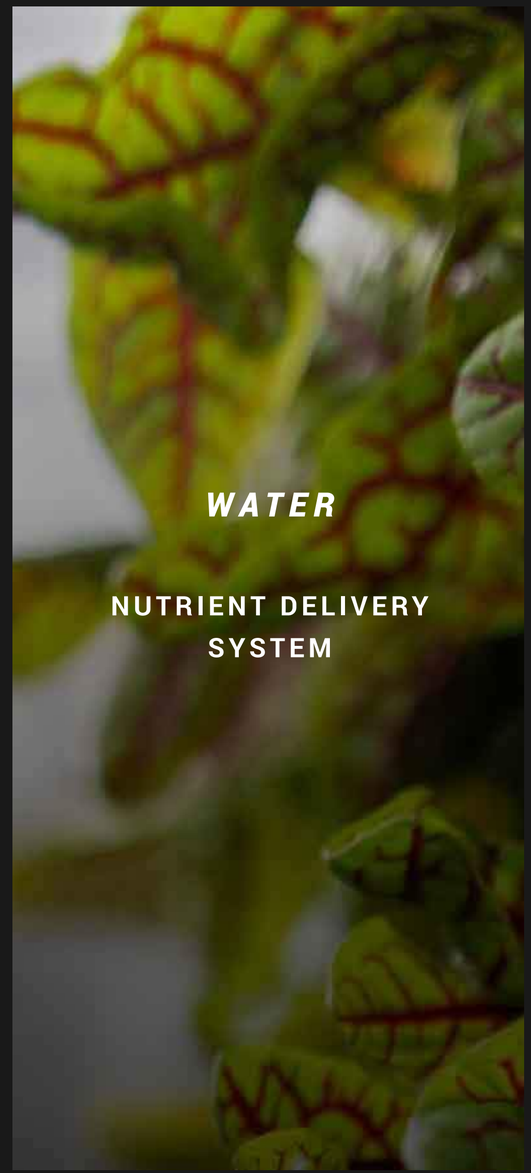
The Greenery S features several specialized systems designed to optimize space, control, air, light, and water to grow the highest-quality plants year-round. Together, these components provide the operator with an easy-to-use turnkey growing platform that maximizes yields and efficiency while minimizing labor.

SPACE

SPECIALIZED GROWING AREAS

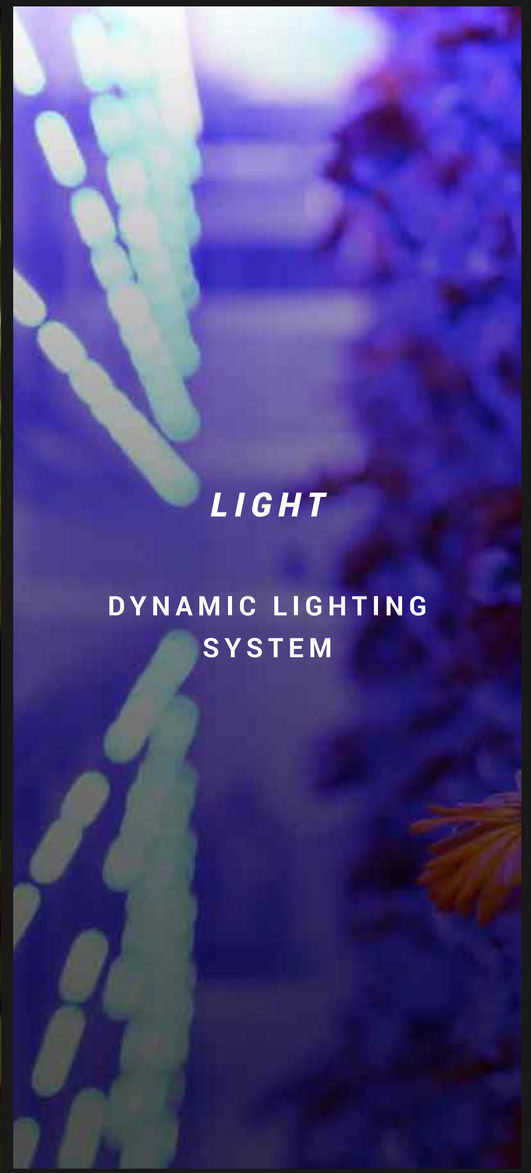
CONTROL

INTEGRATED FARMHAND® SOFTWARE



WATER

NUTRIENT DELIVERY SYSTEM

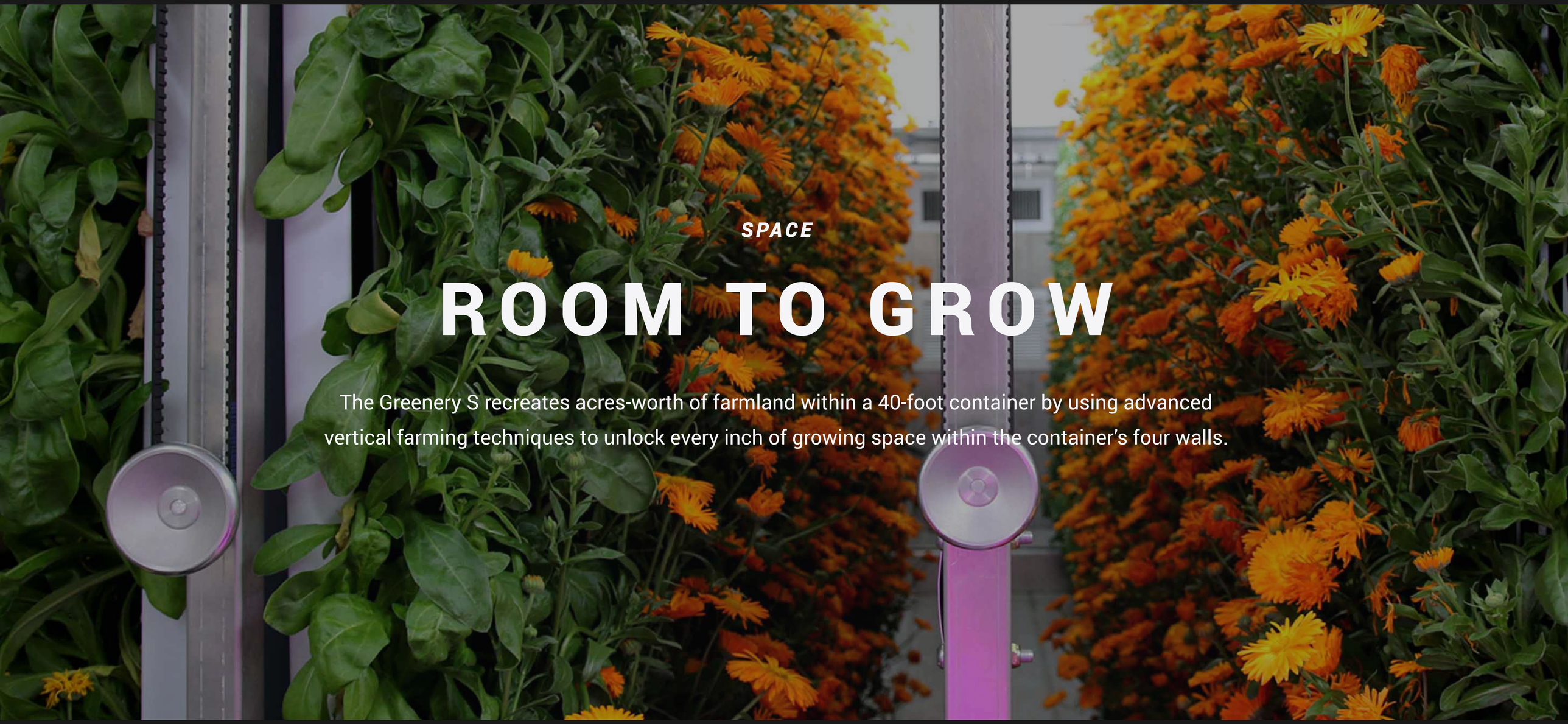


LIGHT

DYNAMIC LIGHTING SYSTEM

AIR

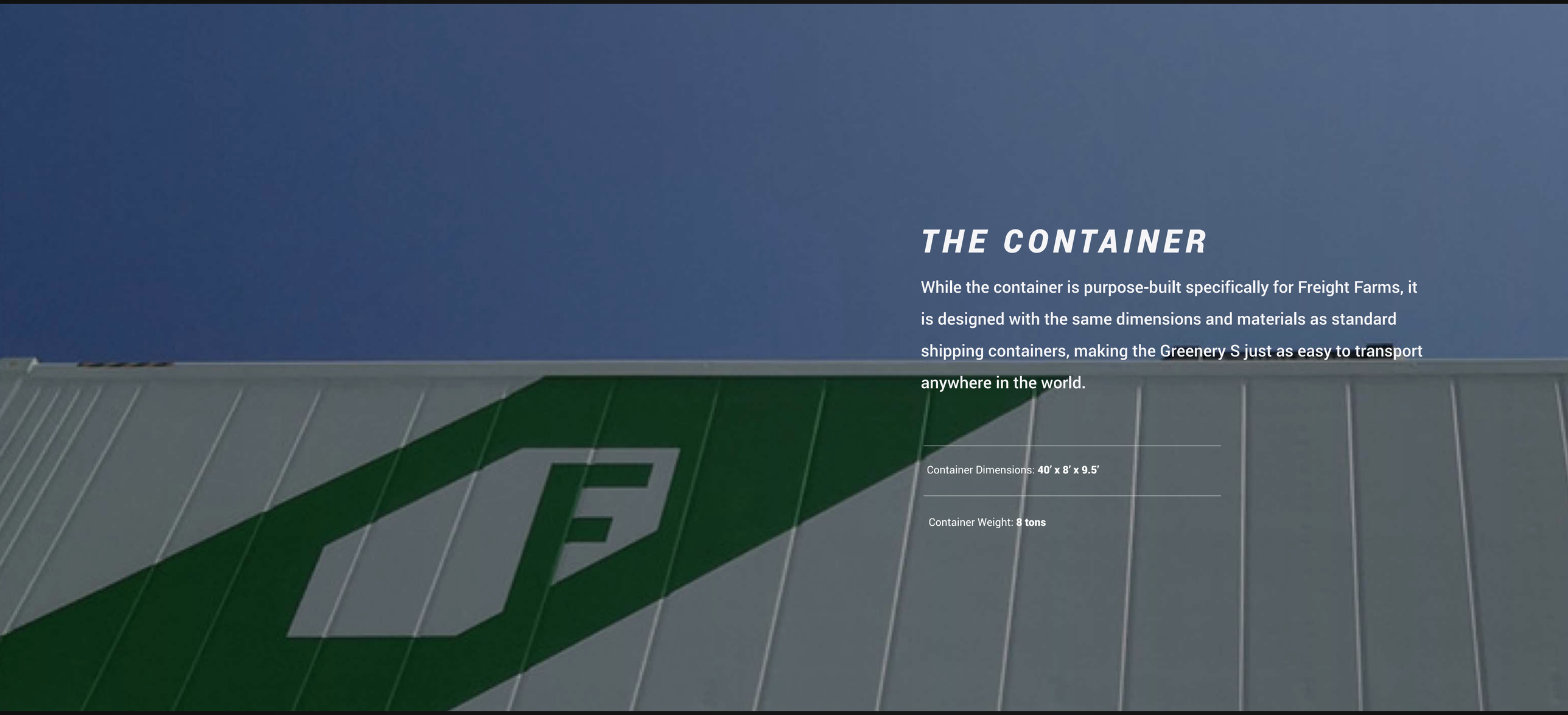
ADAPTIVE CLIMATE SYSTEM



SPACE

ROOM TO GROW

The Greenery S recreates acres-worth of farmland within a 40-foot container by using advanced vertical farming techniques to unlock every inch of growing space within the container’s four walls.



THE CONTAINER

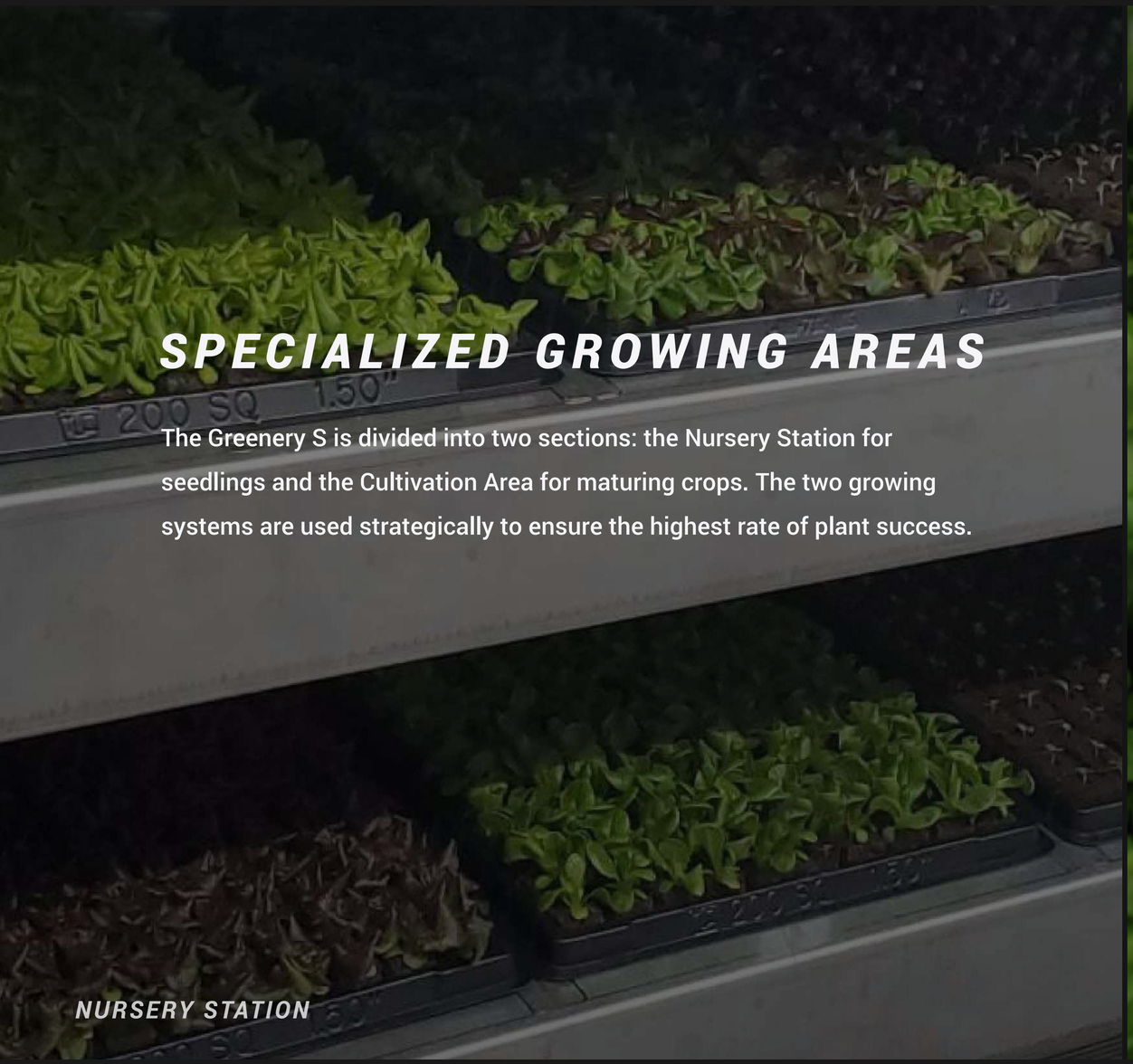
While the container is purpose-built specifically for Freight Farms, it is designed with the same dimensions and materials as standard shipping containers, making the Greenery S just as easy to transport anywhere in the world.

Container Dimensions: **40′ x 8′ x 9.5′**

Container Weight: **8 tons**

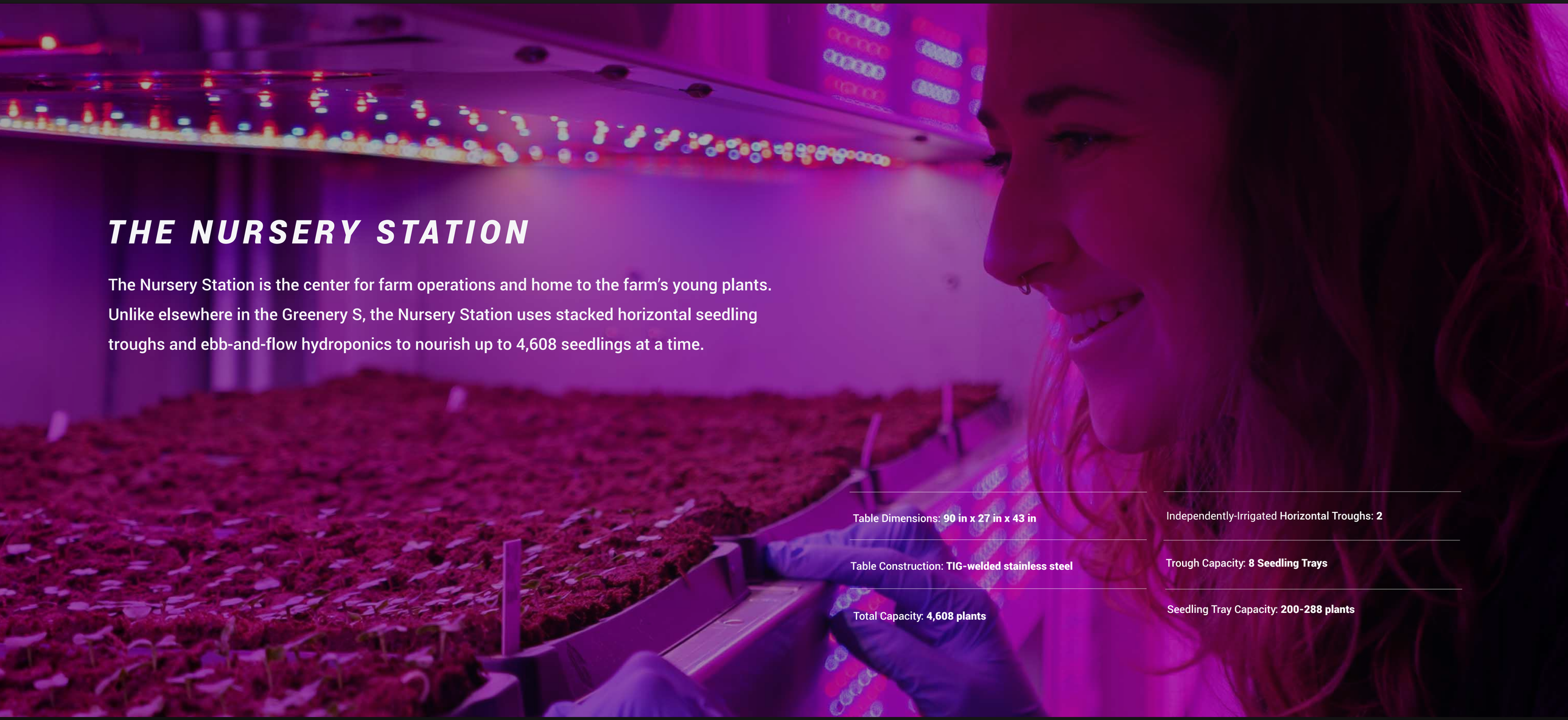
SPECIALIZED GROWING AREAS

The Greenery S is divided into two sections: the Nursery Station for seedlings and the Cultivation Area for maturing crops. The two growing systems are used strategically to ensure the highest rate of plant success.



NURSERY STATION

CULTIVATION AREA



THE NURSERY STATION

The Nursery Station is the center for farm operations and home to the farm's young plants. Unlike elsewhere in the Greenery S, the Nursery Station uses stacked horizontal seedling troughs and ebb-and-flow hydroponics to nourish up to 4,608 seedlings at a time.

- Table Dimensions: **90 in x 27 in x 43 in**
- Table Construction: **TIG-welded stainless steel**
- Total Capacity: **4,608 plants**
- Independently-Irrigated Horizontal Troughs: **2**
- Trough Capacity: **8 Seedling Trays**
- Seedling Tray Capacity: **200-288 plants**

NURSERY STATION WORKTOP

Not only is the Nursery Station designed as the perfect incubator for young plants, but it is also a fully-integrated hub for all farming activities. Every part of the table is designed for maximum ease-of-use and intuitive organization to streamline the farm work.

BUILT-IN SOUND SYSTEM

At the end of the day, farm work should be energizing and fun. Built-in speakers bring music, podcasts, and radio into the farm for the operator and plants to enjoy.

VERSATILE TOOLBELT

The Toolbelt runs along the length of the table at hip-height, making it the ideal space to keep personal belongings and farming essentials within reach, without cluttering the worktable.

STREAMLINED & ACCESSIBLE TANK DESIGN

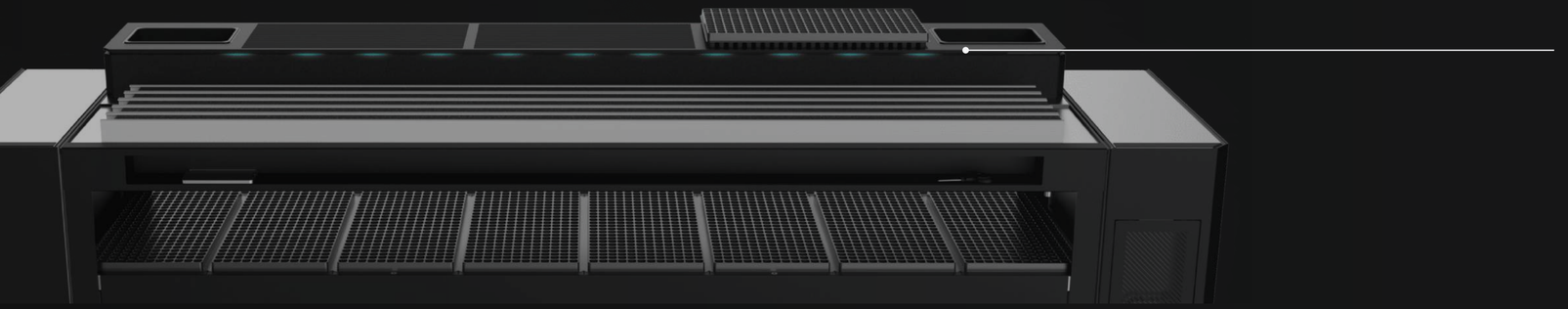
The Seedling and Nutrient Tanks are integrated into the Nursery Station vertically to maximize the length of the worktop and seedling troughs. Easy push-to-open doors give the operator immediate access to the tank's interior for refilling, cleaning, and troubleshooting.

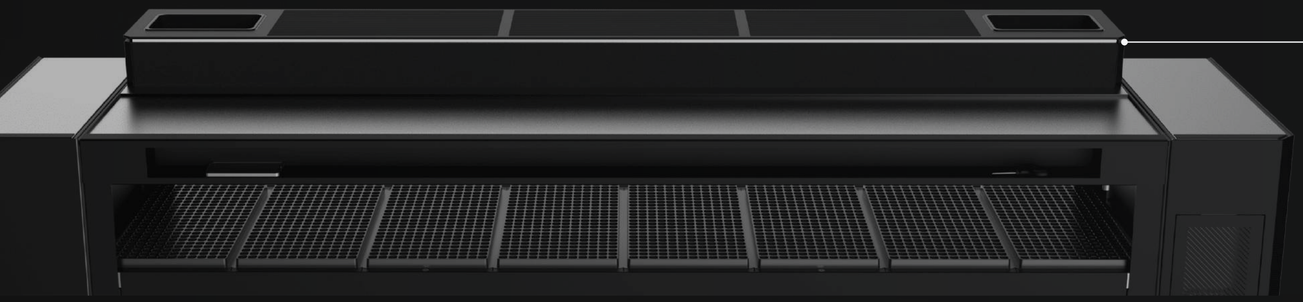
TABLETOP RISER

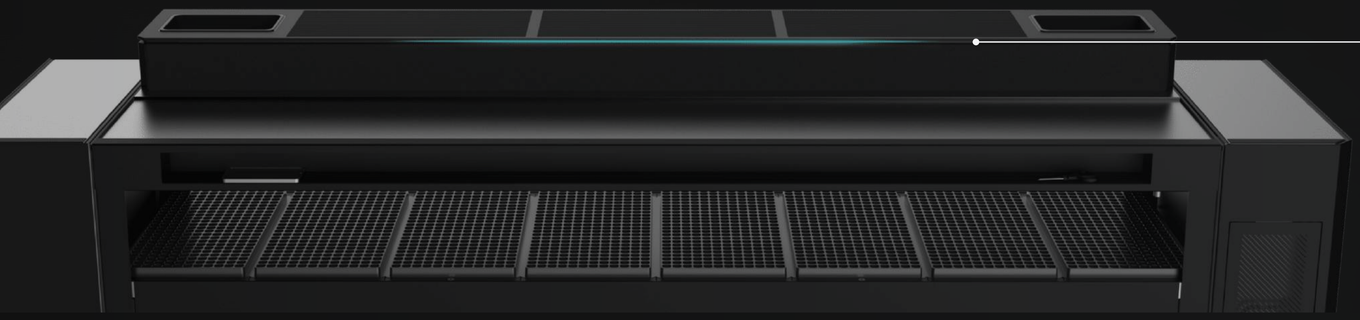
The Riser is designed for organizing seeds, grow plugs, trays, and seedlings as the operator cycles through seeding and transplanting operations.

MULTI-FUNCTION LED BAR

The front of the Tabletop Riser features one single LED bar that runs the length of the Nursery Station worktop.







The LED bar is there to provide three important functions:

1. PLANT SPACING GUIDE

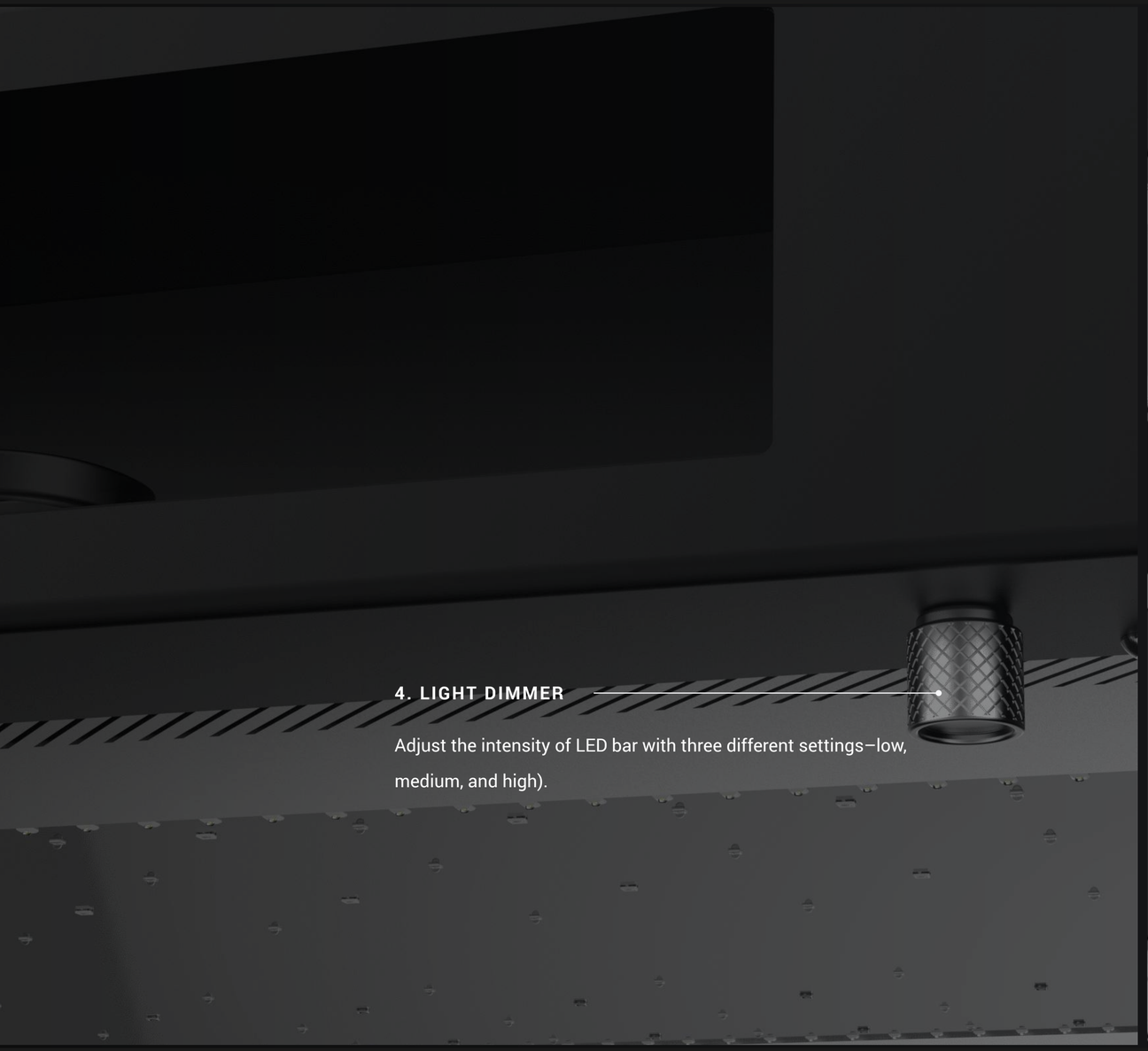
When transplanting, the LED bar provides the operator with a visual display of where to plant crops with 10 different spacing settings.

2. ILLUMINATION

When needed, the LED bar provides additional light for the worktable, perfect for intricate work, like seeding. The brightness is adjustable using a light-dimming knob.

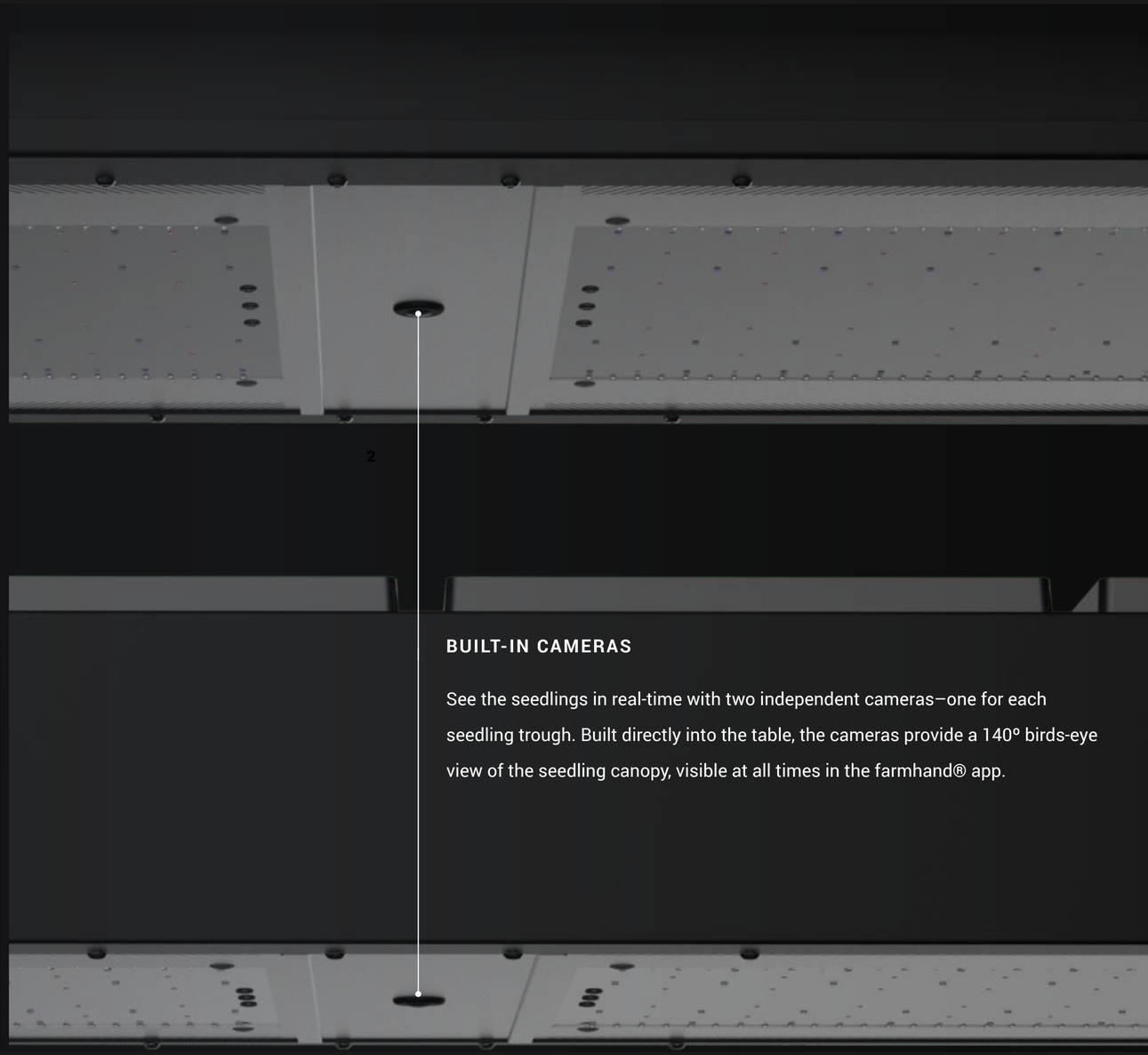
3. TIMER

The LED bar also gives the operator a visual timer display, illuminating a proportional number of diodes to the length of the times (5 diodes = 5 minutes). Operators can choose from four timer settings, ranging from 2-15 minutes.



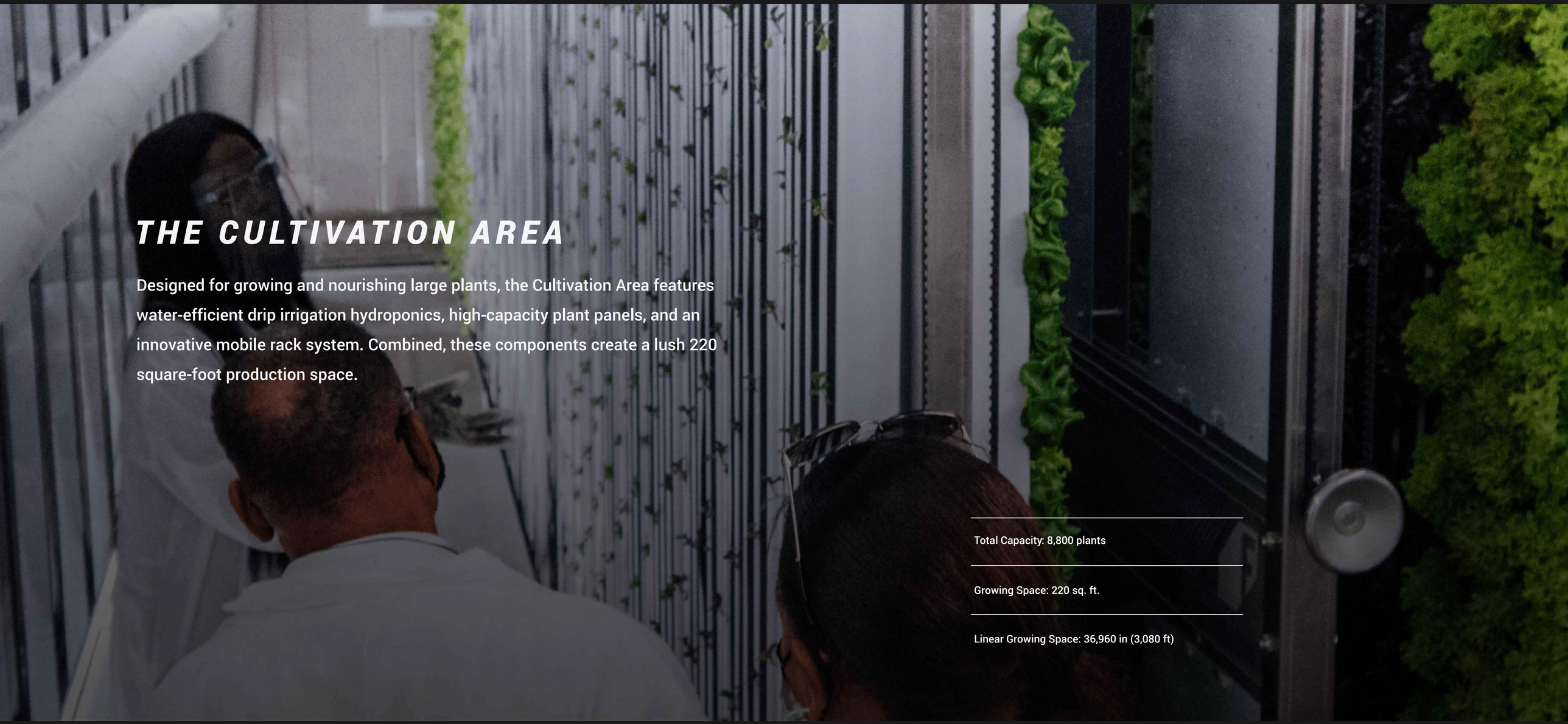
4. LIGHT DIMMER

Adjust the intensity of LED bar with three different settings–low, medium, and high).



BUILT-IN CAMERAS

See the seedlings in real-time with two independent cameras–one for each seedling trough. Built directly into the table, the cameras provide a 140º birds-eye view of the seedling canopy, visible at all times in the farmhand® app.



THE CULTIVATION AREA

Designed for growing and nourishing large plants, the Cultivation Area features water-efficient drip irrigation hydroponics, high-capacity plant panels, and an innovative mobile rack system. Combined, these components create a lush 220 square-foot production space.

Total Capacity: 8,800 plants

Growing Space: 220 sq. ft.

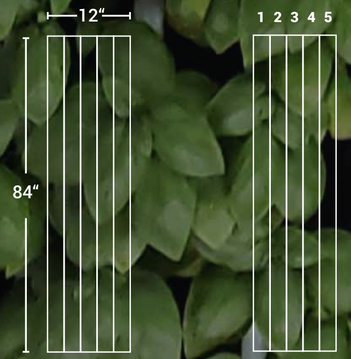
Linear Growing Space: 36,960 in (3,080 ft)

PLANT PANELS

The Greenery S high-density five-channel plant panels maximize all the usable space to unlock new crop possibilities, farming styles, and yield potentials.

The lightweight and sturdy removable panels are shaped from food-safe, high-impact polystyrene. All five channels are paired with a reticulated foam growing medium and an anti-drip wicking strip, which gives plants a structure on which to grow while making sure moisture remains at the roots.

PLANT PANEL PROFILE



Plant Panel
Dimensions

5 Channels Per Panel
Up to 100 plant sites

BUILT TO GROW

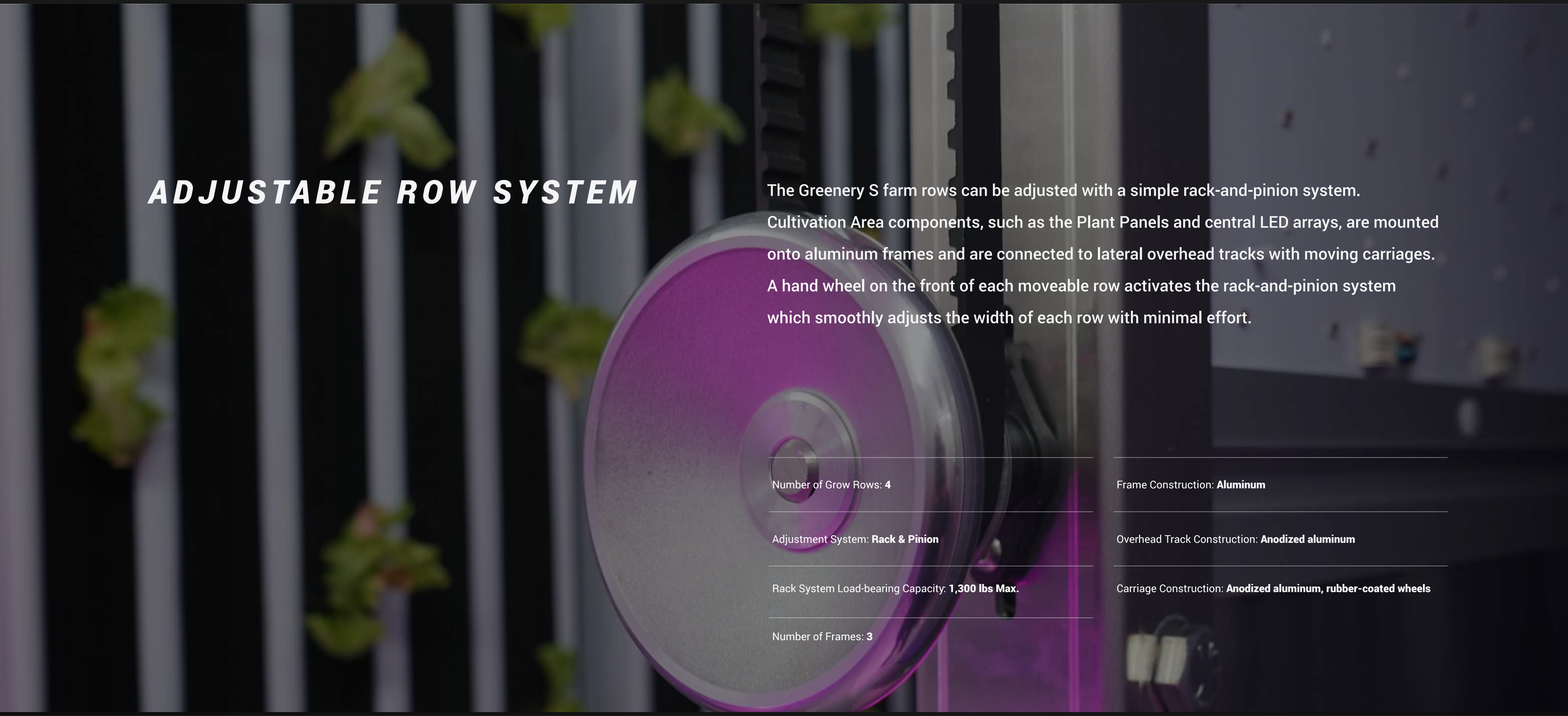
88 Plant Panels
Up to 8,800 plant sites

36,960 Inches
Total linear planting space

BUILT FROM

High-Impact Polystyrene
Food safe panel material

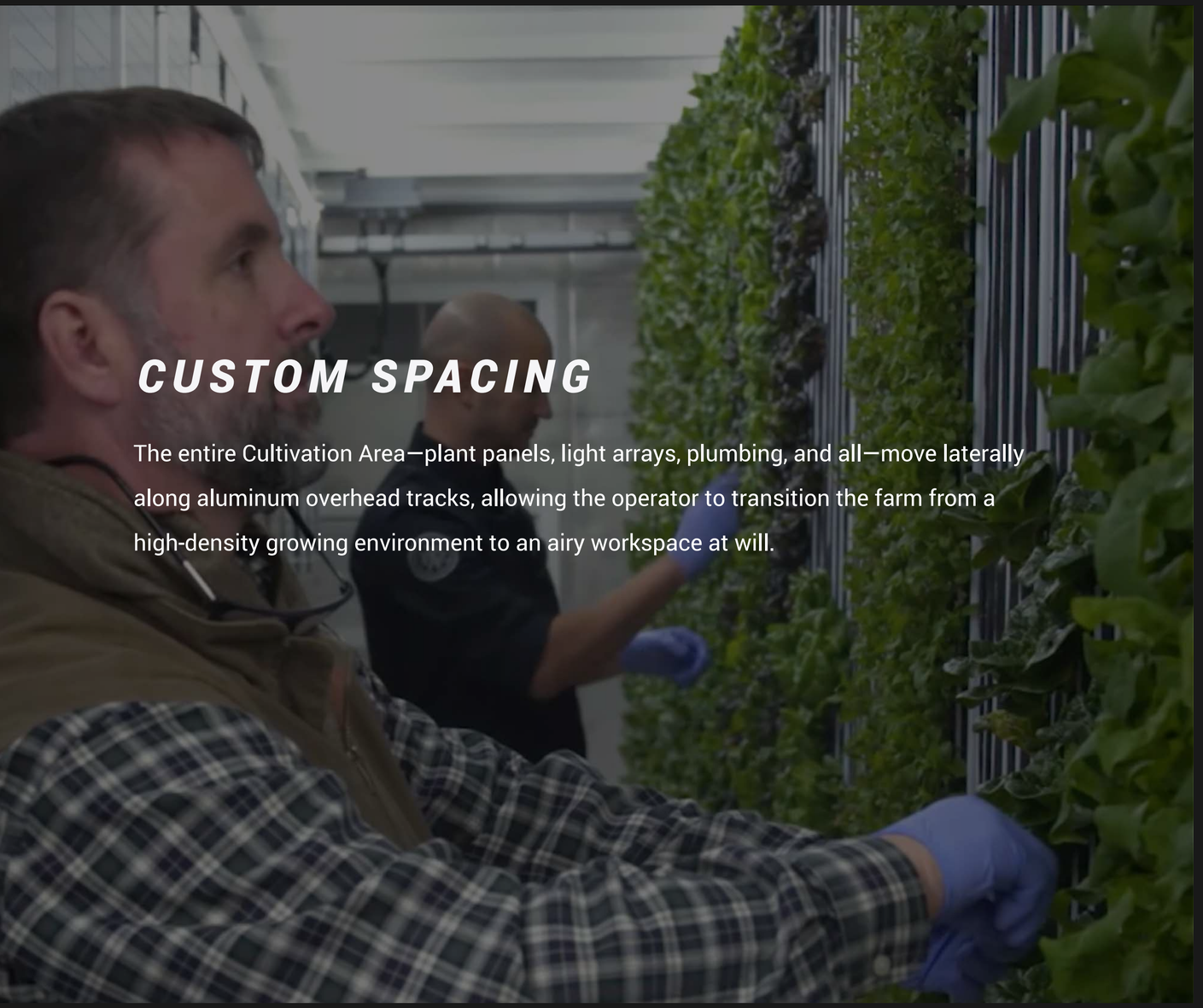
Inert Reticulated Foam
Food safe growing medium



ADJUSTABLE ROW SYSTEM

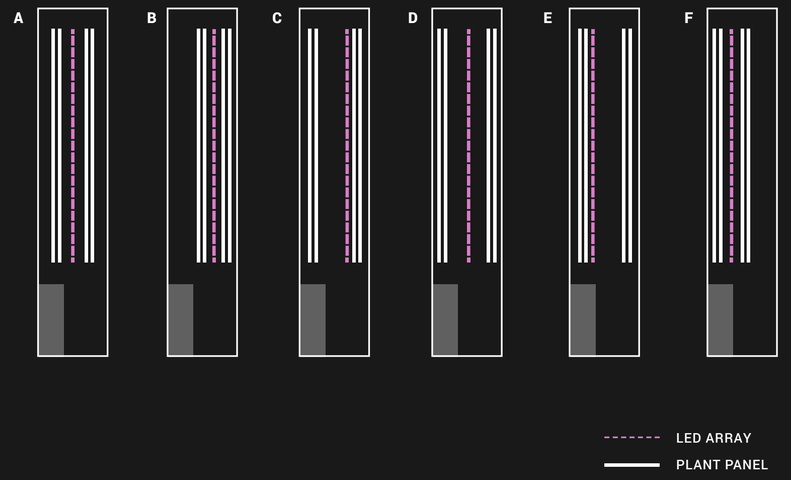
The Greenery S farm rows can be adjusted with a simple rack-and-pinion system. Cultivation Area components, such as the Plant Panels and central LED arrays, are mounted onto aluminum frames and are connected to lateral overhead tracks with moving carriages. A hand wheel on the front of each moveable row activates the rack-and-pinion system which smoothly adjusts the width of each row with minimal effort.

- Number of Grow Rows: **4**
- Adjustment System: **Rack & Pinion**
- Rack System Load-bearing Capacity: **1,300 lbs Max.**
- Number of Frames: **3**
- Frame Construction: **Aluminum**
- Overhead Track Construction: **Anodized aluminum**
- Carriage Construction: **Anodized aluminum, rubber-coated wheels**



CUSTOM SPACING

The entire Cultivation Area—plant panels, light arrays, plumbing, and all—move laterally along aluminum overhead tracks, allowing the operator to transition the farm from a high-density growing environment to an airy workspace at will.

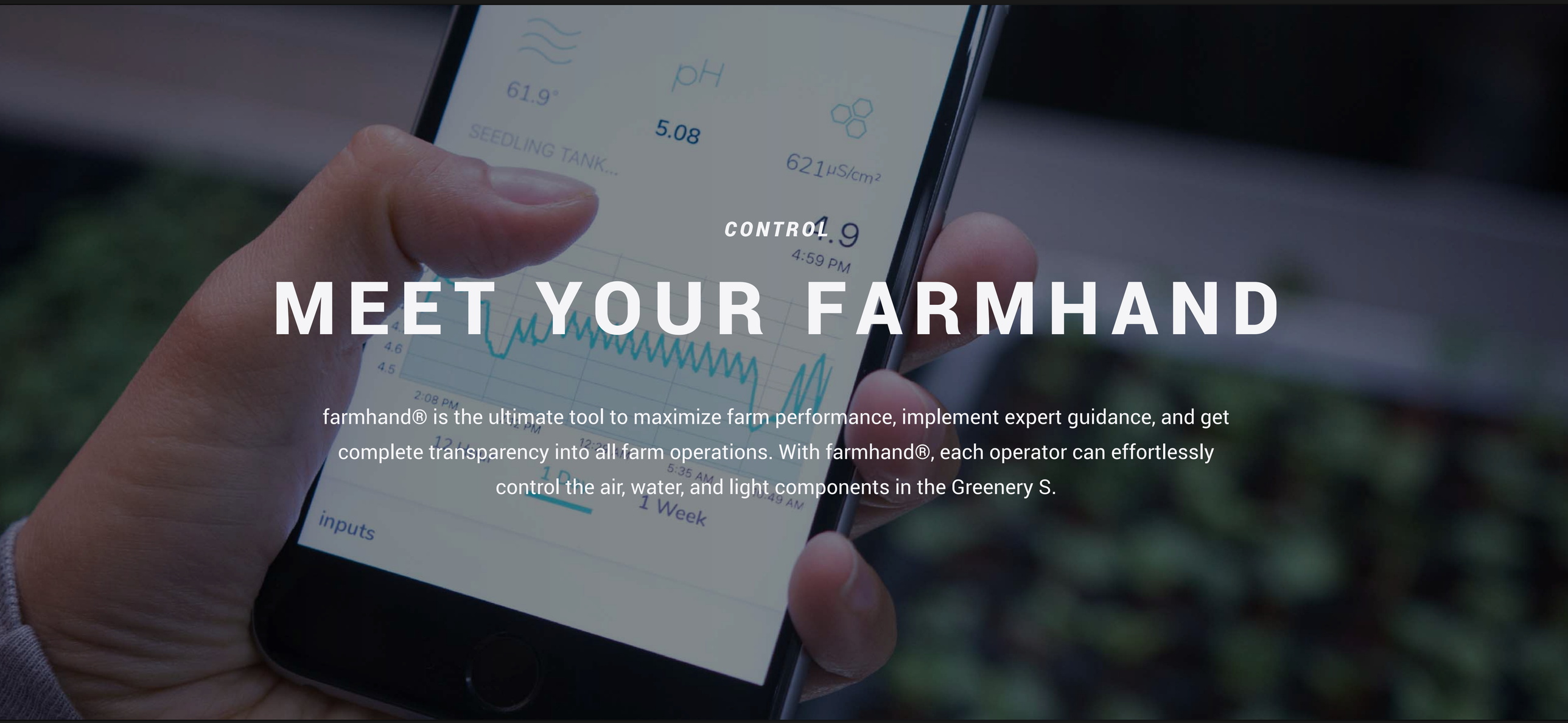


A. Standard Growing Position

For the majority of the time, the Greenery S racks remain in four evenly-spaced rows, with plant panels and LED arrays separated by 18 inches. Visual guides help operators reposition back to this default spacing.

B. - F. Custom Growing Positions

Row widths can be easily adjusted to allow for in-row harvesting, cleaning, and maintenance. Additionally, row widths can be shifted and fixed to meet the spacing needs of different plant varieties. For example, herbs grow small and close together, while vining crops need room to expand. The Greenery S is able to accommodate both simultaneously.

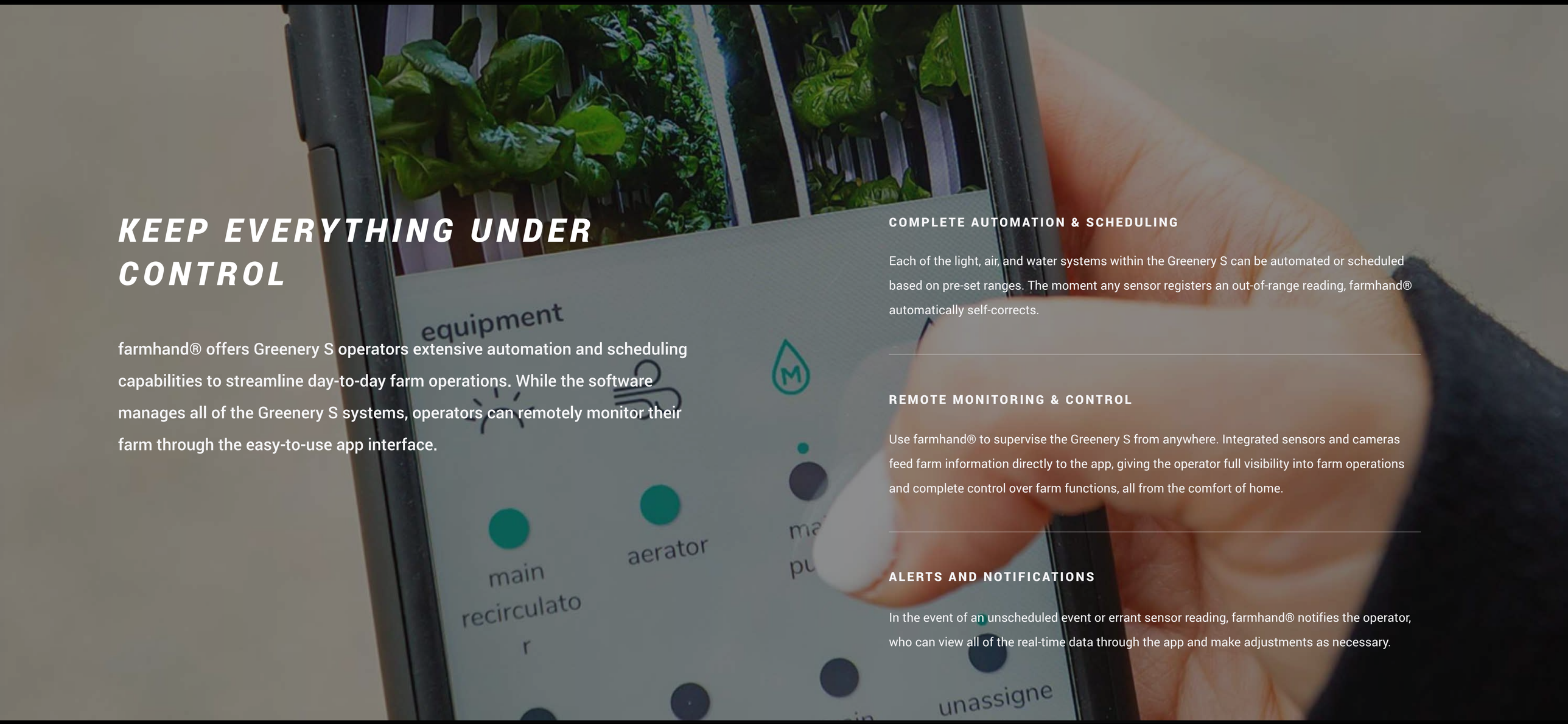


MEET YOUR FARMHAND

farmhand® is the ultimate tool to maximize farm performance, implement expert guidance, and get complete transparency into all farm operations. With farmhand®, each operator can effortlessly control the air, water, and light components in the Greenery S.

KEEP EVERYTHING UNDER CONTROL

farmhand® offers Greenery S operators extensive automation and scheduling capabilities to streamline day-to-day farm operations. While the software manages all of the Greenery S systems, operators can remotely monitor their farm through the easy-to-use app interface.



COMPLETE AUTOMATION & SCHEDULING

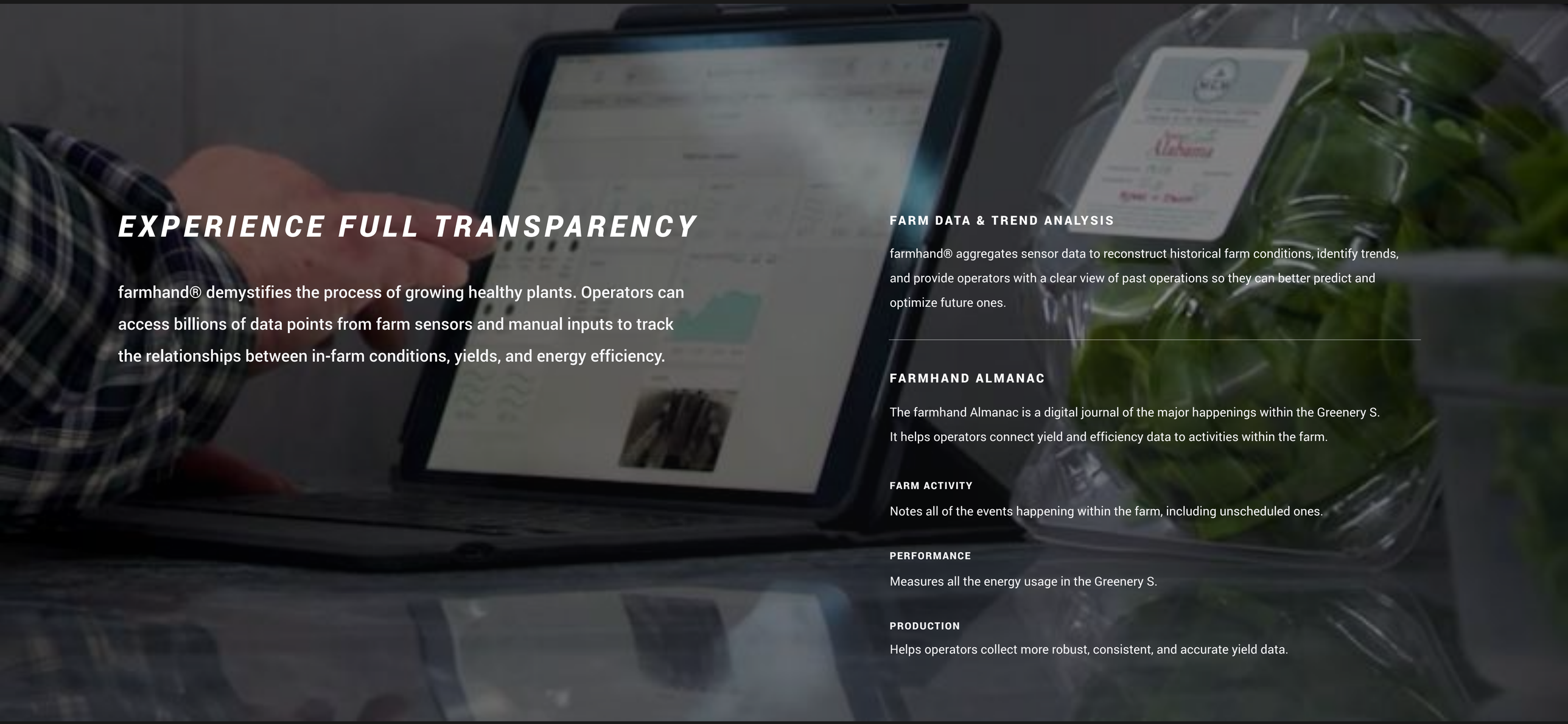
Each of the light, air, and water systems within the Greenery S can be automated or scheduled based on pre-set ranges. The moment any sensor registers an out-of-range reading, farmhand® automatically self-corrects.

REMOTE MONITORING & CONTROL

Use farmhand® to supervise the Greenery S from anywhere. Integrated sensors and cameras feed farm information directly to the app, giving the operator full visibility into farm operations and complete control over farm functions, all from the comfort of home.

ALERTS AND NOTIFICATIONS

In the event of an unscheduled event or errant sensor reading, farmhand® notifies the operator, who can view all of the real-time data through the app and make adjustments as necessary.



EXPERIENCE FULL TRANSPARENCY

farmhand® demystifies the process of growing healthy plants. Operators can access billions of data points from farm sensors and manual inputs to track the relationships between in-farm conditions, yields, and energy efficiency.

FARM DATA & TREND ANALYSIS

farmhand® aggregates sensor data to reconstruct historical farm conditions, identify trends, and provide operators with a clear view of past operations so they can better predict and optimize future ones.

FARMHAND ALMANAC

The farmhand Almanac is a digital journal of the major happenings within the Greenery S. It helps operators connect yield and efficiency data to activities within the farm.

FARM ACTIVITY

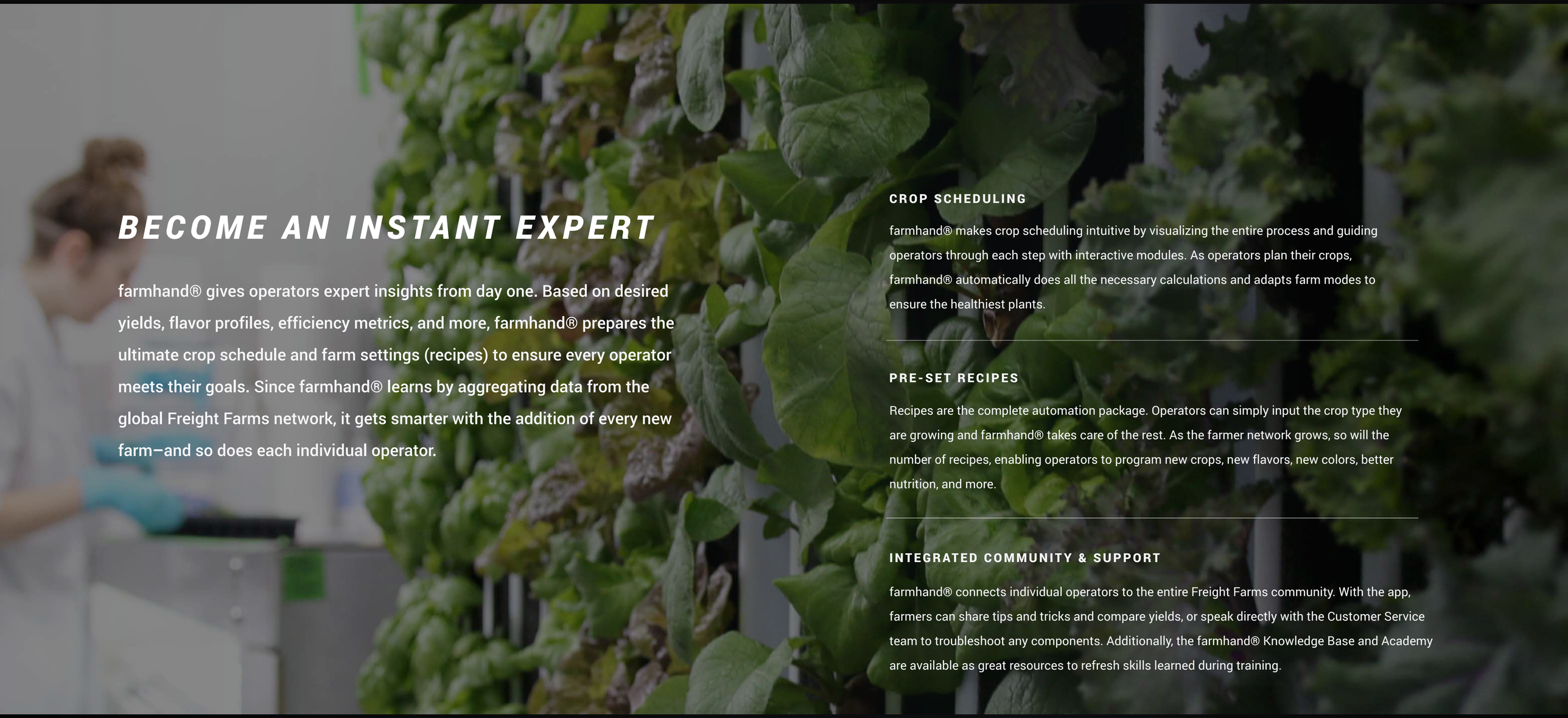
Notes all of the events happening within the farm, including unscheduled ones.

PERFORMANCE

Measures all the energy usage in the Greenery S.

PRODUCTION

Helps operators collect more robust, consistent, and accurate yield data.



BECOME AN INSTANT EXPERT

farmhand® gives operators expert insights from day one. Based on desired yields, flavor profiles, efficiency metrics, and more, farmhand® prepares the ultimate crop schedule and farm settings (recipes) to ensure every operator meets their goals. Since farmhand® learns by aggregating data from the global Freight Farms network, it gets smarter with the addition of every new farm–and so does each individual operator.

CROP SCHEDULING

farmhand® makes crop scheduling intuitive by visualizing the entire process and guiding operators through each step with interactive modules. As operators plan their crops, farmhand® automatically does all the necessary calculations and adapts farm modes to ensure the healthiest plants.

PRE-SET RECIPES

Recipes are the complete automation package. Operators can simply input the crop type they are growing and farmhand® takes care of the rest. As the farmer network grows, so will the number of recipes, enabling operators to program new crops, new flavors, new colors, better nutrition, and more.

INTEGRATED COMMUNITY & SUPPORT

farmhand® connects individual operators to the entire Freight Farms community. With the app, farmers can share tips and tricks and compare yields, or speak directly with the Customer Service team to troubleshoot any components. Additionally, the farmhand® Knowledge Base and Academy are available as great resources to refresh skills learned during training.

FARMHAND® CREATES EXCEPTIONAL CROPS

GROW SPECIALTY CROPS

Surprise customers with unique and out-of-season crops that are difficult to find year-round in the local marketplace.

RECREATE HISTORIC MOMENTS

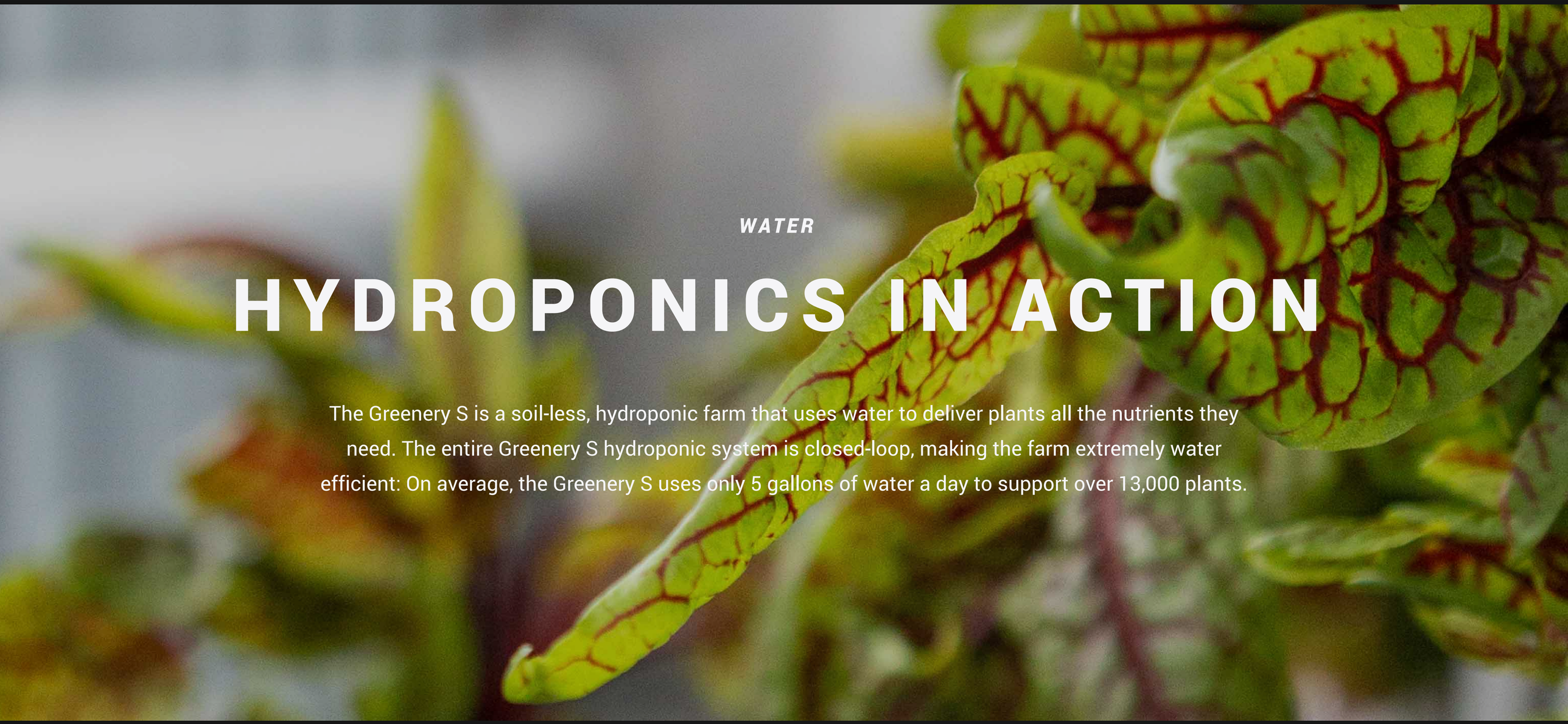
Set climate, light, water, and nutrient conditions to re-construct a specific moment in time to recreate an exceptional harvest.

BOOST THE FLAVOR PROFILE

Fine-tune the farm's indoor environment to boost plant's natural flavor characteristics and bring out stronger sweet, spicy, and herbaceous notes.

GET CONSISTENT PRODUCTION

Use farmhand® to untether crops from their typical growing season and guarantee consistent quality and quantity all year long.



WATER

HYDROPONICS IN ACTION

The Greenery S is a soil-less, hydroponic farm that uses water to deliver plants all the nutrients they need. The entire Greenery S hydroponic system is closed-loop, making the farm extremely water efficient: On average, the Greenery S uses only 5 gallons of water a day to support over 13,000 plants.

NUTRIENT DELIVERY SYSTEM

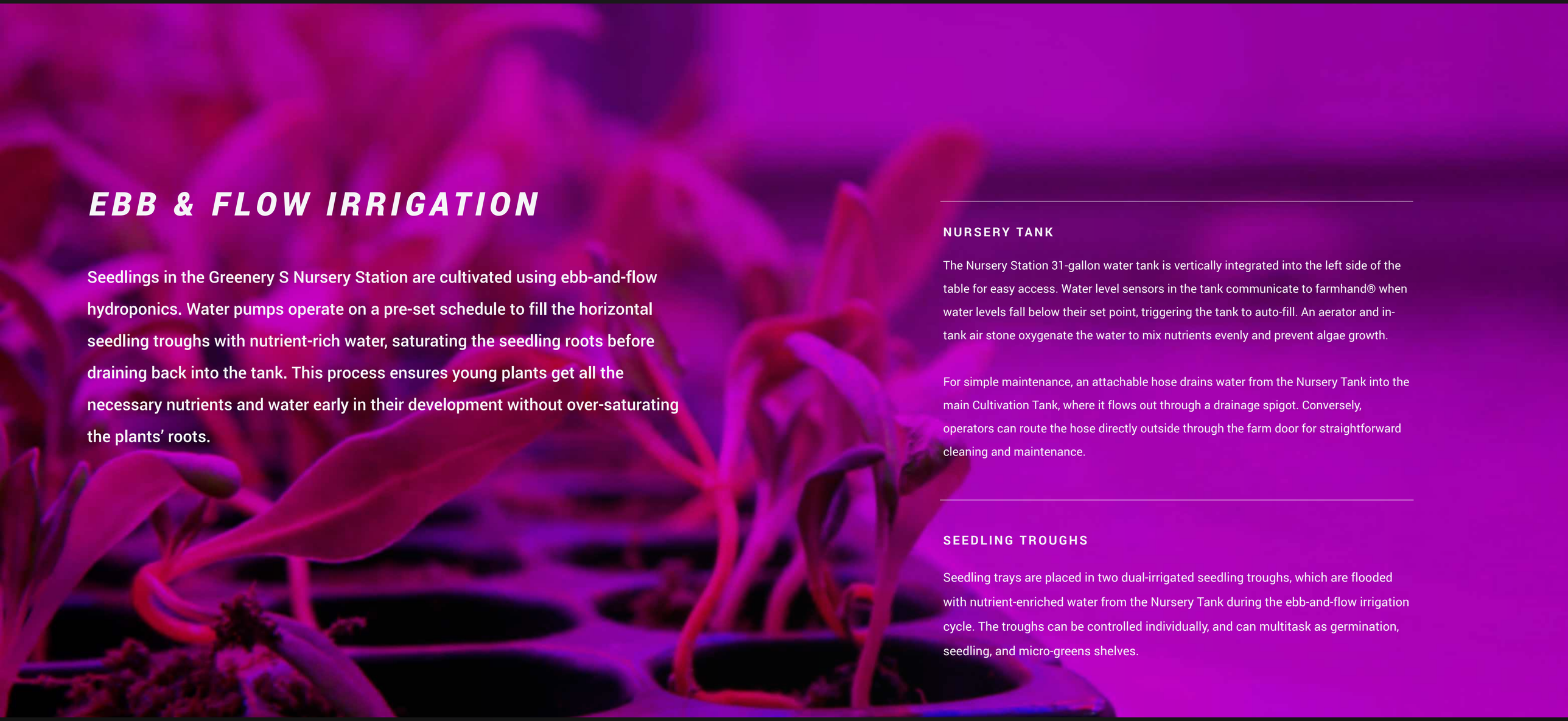
The Nutrient Delivery System for the Greenery S is located in the Dosing Cabinet on the righthand side of the Nursery Station. The Dosing Cabinet holds four 5-quart Nutrient Tanks and the Recirculation Panel with peristaltic pumps. Together, these components create the ideal nutrient and pH levels for the hydroponic systems in the Nursery Station and the Cultivation Area.

NUTRIENTS & PH

All four of the Nutrient Tanks serve a purpose. Two tanks hold complimentary nutrient solutions (A & B), one holds a solution for adjusting water pH, and the last one is empty and can be used for additional supplements at the user's discretion. Together, these solutions recreate optimized conditions for the plants, ensuring the correct levels of key nutrients.

RECIRCULATION PANEL & SENSORS

Sensors in the Dosing Cabinet constantly relay pH, EC (nutrient concentration), and temperature readings in the Nursery and Cultivation tanks to farmhand®. If any sensor readings deviate from the optimal set-point, the software activates peristaltic pumps in the Recirculation Panels, which dispense the nutrient or pH solution needed to rebalance levels.



EBB & FLOW IRRIGATION

Seedlings in the Greenery S Nursery Station are cultivated using ebb-and-flow hydroponics. Water pumps operate on a pre-set schedule to fill the horizontal seedling troughs with nutrient-rich water, saturating the seedling roots before draining back into the tank. This process ensures young plants get all the necessary nutrients and water early in their development without over-saturating the plants' roots.

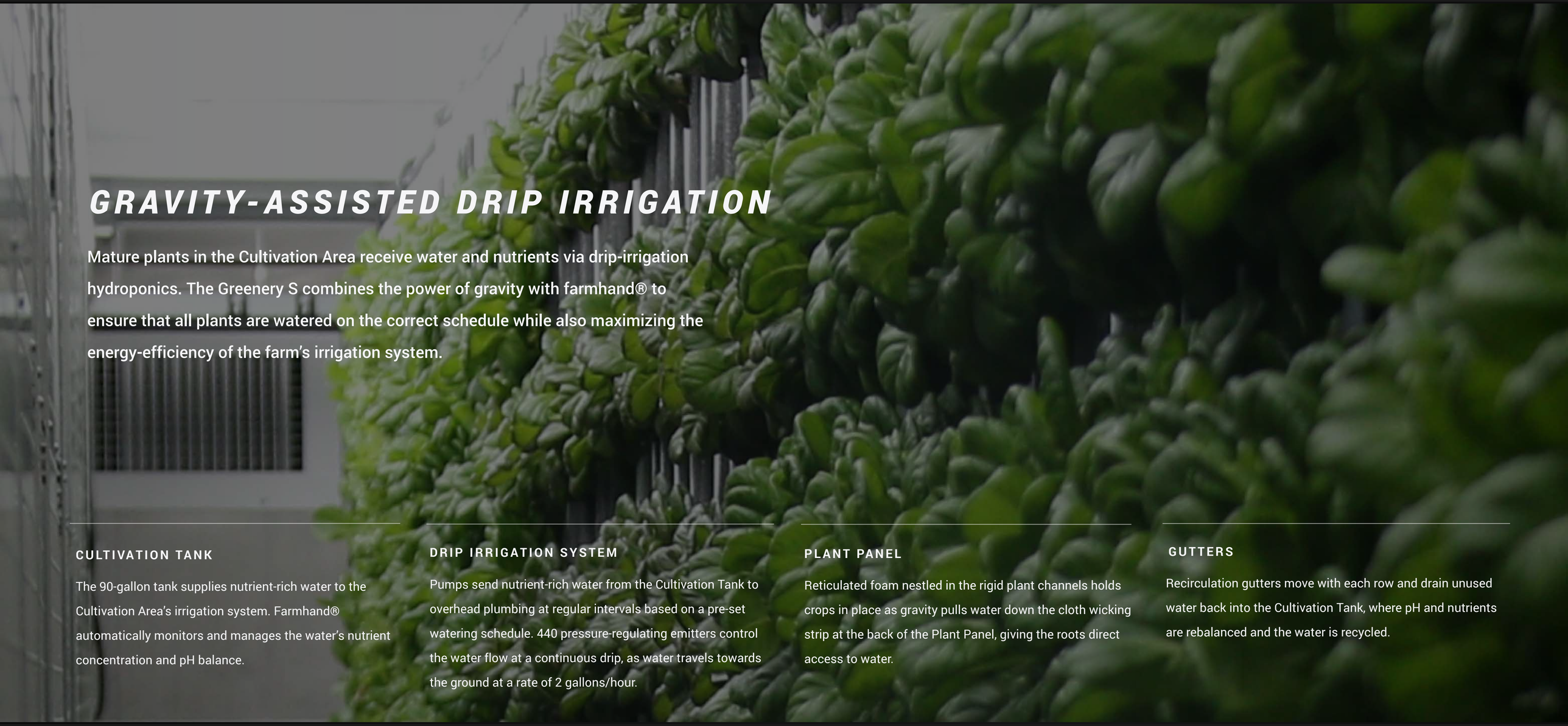
NURSERY TANK

The Nursery Station 31-gallon water tank is vertically integrated into the left side of the table for easy access. Water level sensors in the tank communicate to farmhand® when water levels fall below their set point, triggering the tank to auto-fill. An aerator and in-tank air stone oxygenate the water to mix nutrients evenly and prevent algae growth.

For simple maintenance, an attachable hose drains water from the Nursery Tank into the main Cultivation Tank, where it flows out through a drainage spigot. Conversely, operators can route the hose directly outside through the farm door for straightforward cleaning and maintenance.

SEEDLING TROUGHS

Seedling trays are placed in two dual-irrigated seedling troughs, which are flooded with nutrient-enriched water from the Nursery Tank during the ebb-and-flow irrigation cycle. The troughs can be controlled individually, and can multitask as germination, seedling, and micro-greens shelves.



GRAVITY-ASSISTED DRIP IRRIGATION

Mature plants in the Cultivation Area receive water and nutrients via drip-irrigation hydroponics. The Greenery S combines the power of gravity with farmhand® to ensure that all plants are watered on the correct schedule while also maximizing the energy-efficiency of the farm's irrigation system.

CULTIVATION TANK

The 90-gallon tank supplies nutrient-rich water to the Cultivation Area's irrigation system. Farmhand® automatically monitors and manages the water's nutrient concentration and pH balance.

DRIP IRRIGATION SYSTEM

Pumps send nutrient-rich water from the Cultivation Tank to overhead plumbing at regular intervals based on a pre-set watering schedule. 440 pressure-regulating emitters control the water flow at a continuous drip, as water travels towards the ground at a rate of 2 gallons/hour.

PLANT PANEL

Reticulated foam nestled in the rigid plant channels holds crops in place as gravity pulls water down the cloth wicking strip at the back of the Plant Panel, giving the roots direct access to water.

GUTTERS

Recirculation gutters move with each row and drain unused water back into the Cultivation Tank, where pH and nutrients are rebalanced and the water is recycled.

NUTRIENT-RICH

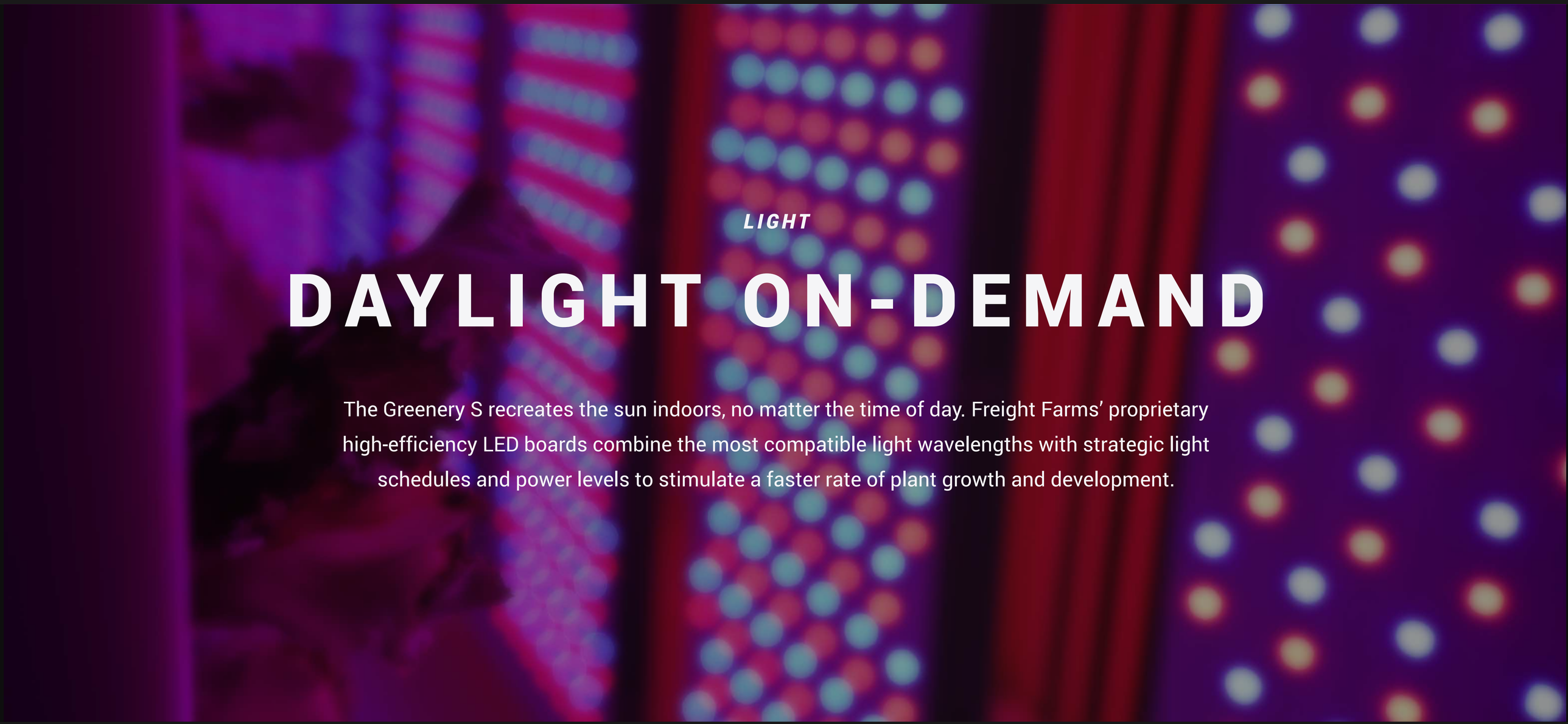
Careful sensing and dosing ensures all plants receive a full spectrum of balanced nutrients, including key macro- and micro-nutrients such as nitrogen, phosphorus, potassium, calcium, sulfur, magnesium, and more.

CRISP & FLAVORFUL

The Greenery S gives plants consistent access to water and nutrients until the very moment they are harvested. Since most Greenery S crops are consumed just hours after harvest, there is no time for nutrient degradation or wilting, resulting in superior quality greens.

LONG-LASTING

Greens harvested from the farm barely spend any time in transit, meaning that–even if not consumed immediately–they are fresh enough to last a minimum of two weeks in refrigerator.



LIGHT

DAYLIGHT ON-DEMAND

The Greenery S recreates the sun indoors, no matter the time of day. Freight Farms' proprietary high-efficiency LED boards combine the most compatible light wavelengths with strategic light schedules and power levels to stimulate a faster rate of plant growth and development.

DYNAMIC LIGHTING CONTROL

The Greenery S gives the operator full control over their LED power and efficiency, allowing each individual user to adjust their farm operations to suit their priorities. In its default lighting mode, the custom-designed LEDs balance energy efficiency with power by optimizing the intensity of the array (measured in DLI).

WHAT IS DLI?

Daily Light Integral (DLI) is a measure of total light per day, taking into account the intensity of the light (PPFD) and the duration of plants' exposure to that light intensity. The higher the integral, the greater the intensity and the longer the duration.

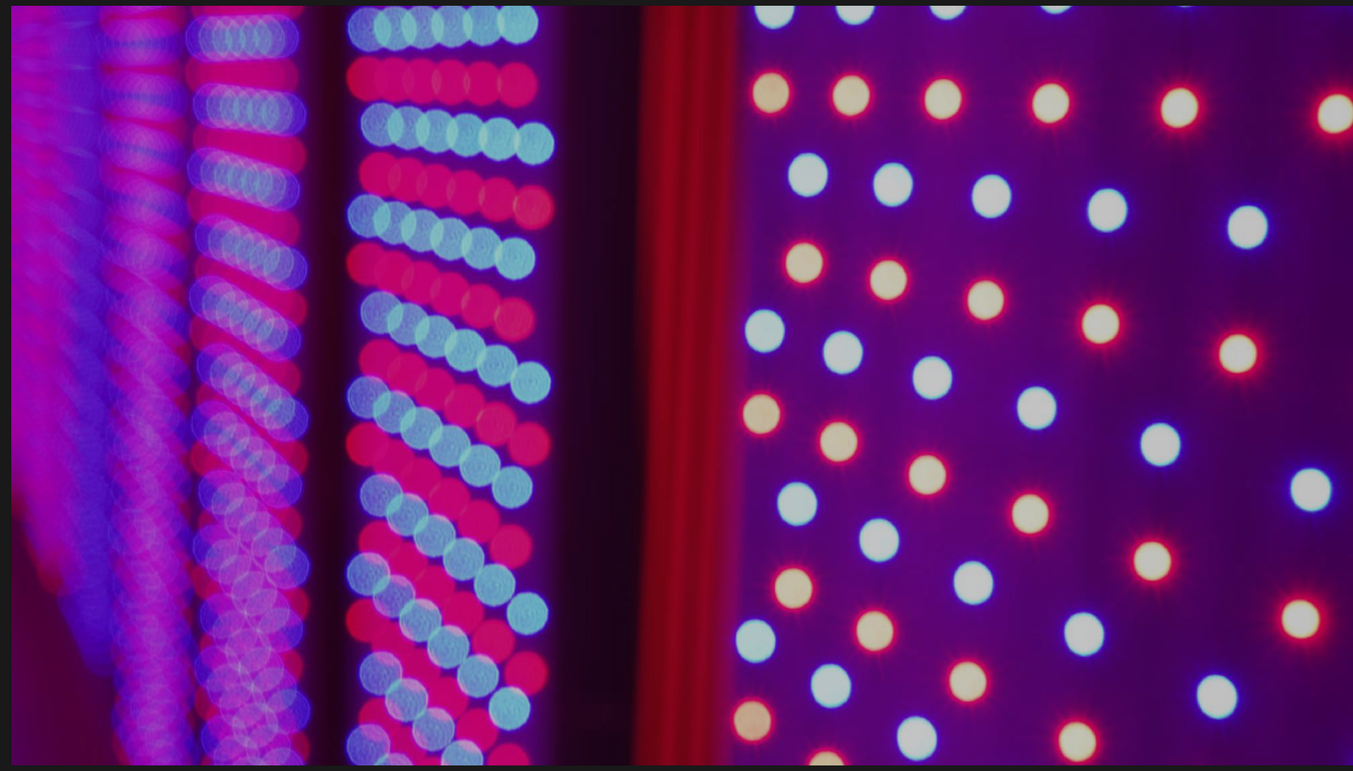
POWER MODES

Using farmhand®, operators can dim or brighten their lights according to their priorities. The Greenery S comes with three pre-set power modes:

Standard Mode This default setting ensures a perfect balance of power and efficiency.	**12 DLI** Average PPFD at 16″: 222 Peak PPFD at 16″: 298 Light Hours: 15
Eco Mode Decrease energy consumption to save on electricity and prioritize efficiency.	**9 DLI** Average PPFD at 16″: 208 Peak PPFD at 16″: 298 Light Hours: 12
Performance Mode Maximize growth rate and yields with more intense lighting.	**18 DLI** Average PPFD at 16″: 263 Peak PPFD at 16″: 342 Light Hours: 19

COLOR BALANCE

The Greenery S LED boards emit only select wavelengths of red and blue light, colors that the plants are able to absorb most easily for photosynthesis. LED diodes of each color are balanced in ratios that complement different phases of plant development. While the default is a blended red-and-blue light, operators also have the option to isolate lighting colors to encourage the expression of specific plant characteristics.

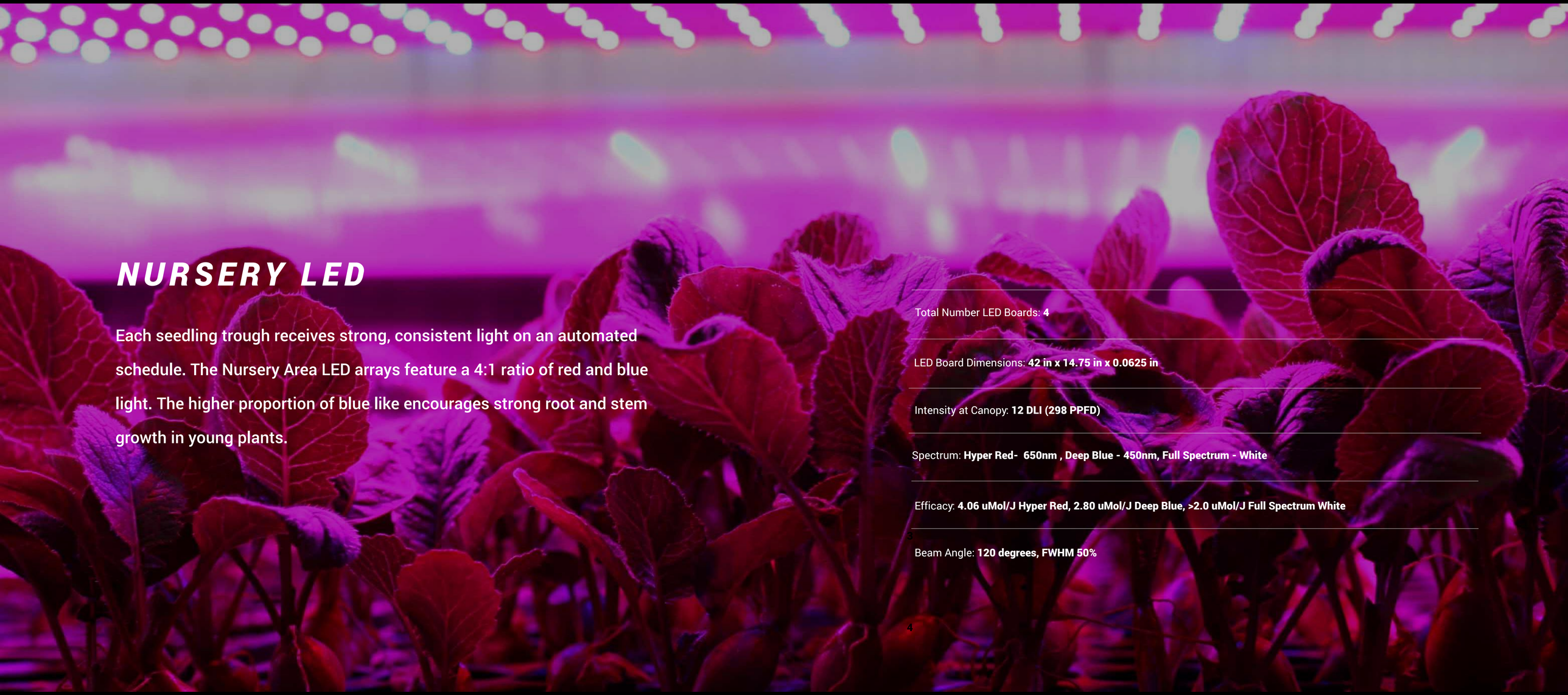


BENEFITS OF EACH LIGHT SPECTRUM

Red light (650 nm) is essential for stem and leaf growth. When plants sense more red light, they release a hormone that keeps chlorophyll from breaking down, yielding large, healthy plants.

Blue light (450 nm) helps develop thick stems and dark green foliage. The plant's blue light receptor triggers 'apical dominance' in plants—a plant characteristic where the main stem is larger than side stems—yielding shorter and bushier plants with complex stem structures. This is particularly important for seedlings to develop strong stems.

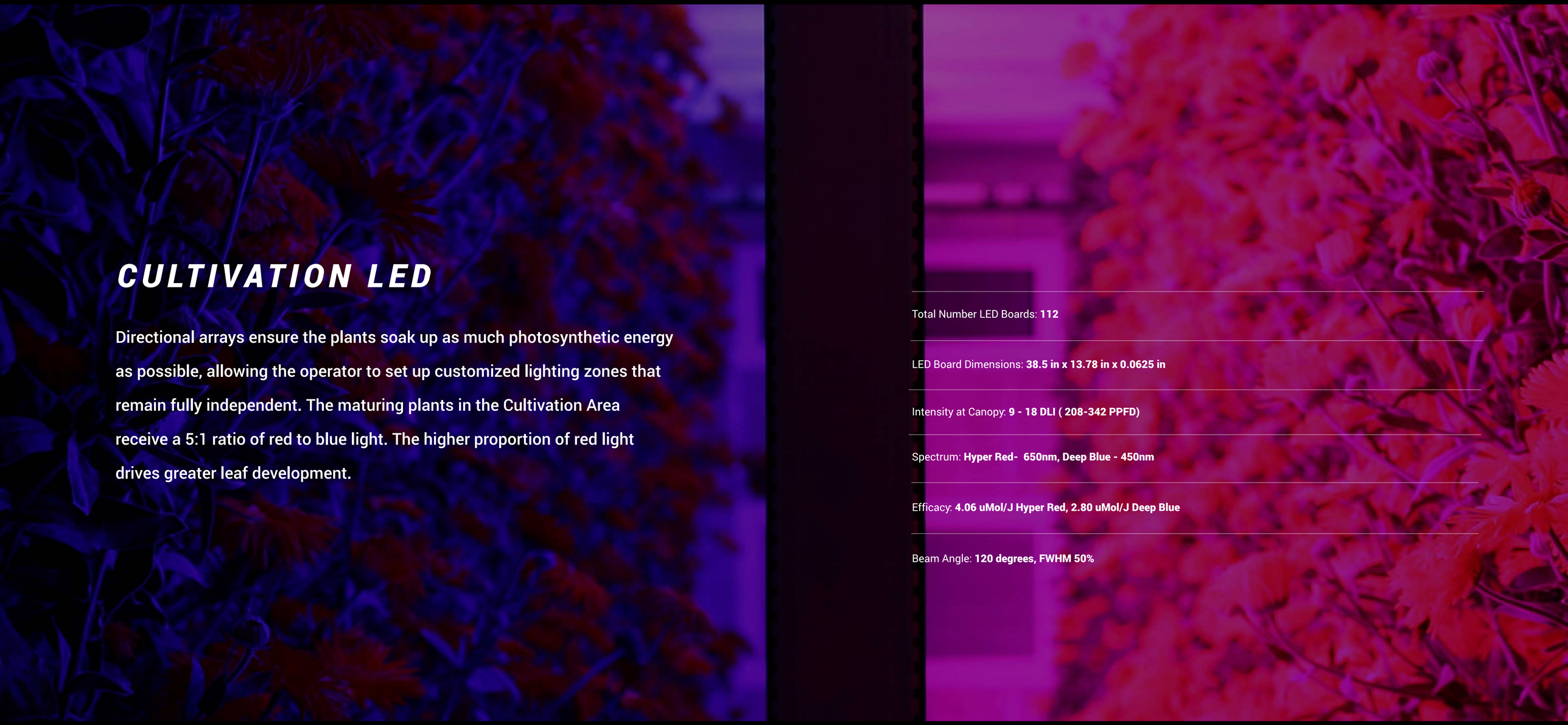
White LEDs ensure exposure to the full light spectrum. While red and blue light wavelengths are the most beneficial to plants, there are incremental benefits from green light wavelengths (550nm) as well. White LEDs in the overhead, track, and seedling trough lighting arrays give every operator the option to integrate the full spectrum of light into their growing operation.



NURSERY LED

Each seedling trough receives strong, consistent light on an automated schedule. The Nursery Area LED arrays feature a 4:1 ratio of red and blue light. The higher proportion of blue like encourages strong root and stem growth in young plants.

- Total Number LED Boards: **4**
- LED Board Dimensions: **42 in x 14.75 in x 0.0625 in**
- Intensity at Canopy: **12 DLI (298 PPFD)**
- Spectrum: **Hyper Red- 650nm , Deep Blue - 450nm, Full Spectrum - White**
- Efficacy: **4.06 uMol/J Hyper Red, 2.80 uMol/J Deep Blue, >2.0 uMol/J Full Spectrum White**
- Beam Angle: **120 degrees, FWHM 50%**



CULTIVATION LED

Directional arrays ensure the plants soak up as much photosynthetic energy as possible, allowing the operator to set up customized lighting zones that remain fully independent. The maturing plants in the Cultivation Area receive a 5:1 ratio of red to blue light. The higher proportion of red light drives greater leaf development.

Total Number LED Boards: **112**

LED Board Dimensions: **38.5 in x 13.78 in x 0.0625 in**

Intensity at Canopy: **9 - 18 DLI (208-342 PPFD)**

Spectrum: **Hyper Red- 650nm, Deep Blue - 450nm**

Efficacy: **4.06 uMol/J Hyper Red, 2.80 uMol/J Deep Blue**

Beam Angle: **120 degrees, FWHM 50%**

FAST GROWTH RATE

LEDs in Performance Mode make it possible to harvest plants just weeks after seeding by creating 18-20 hour days of intense, optimized light in the Greenery S.

MAXIMUM YIELDS

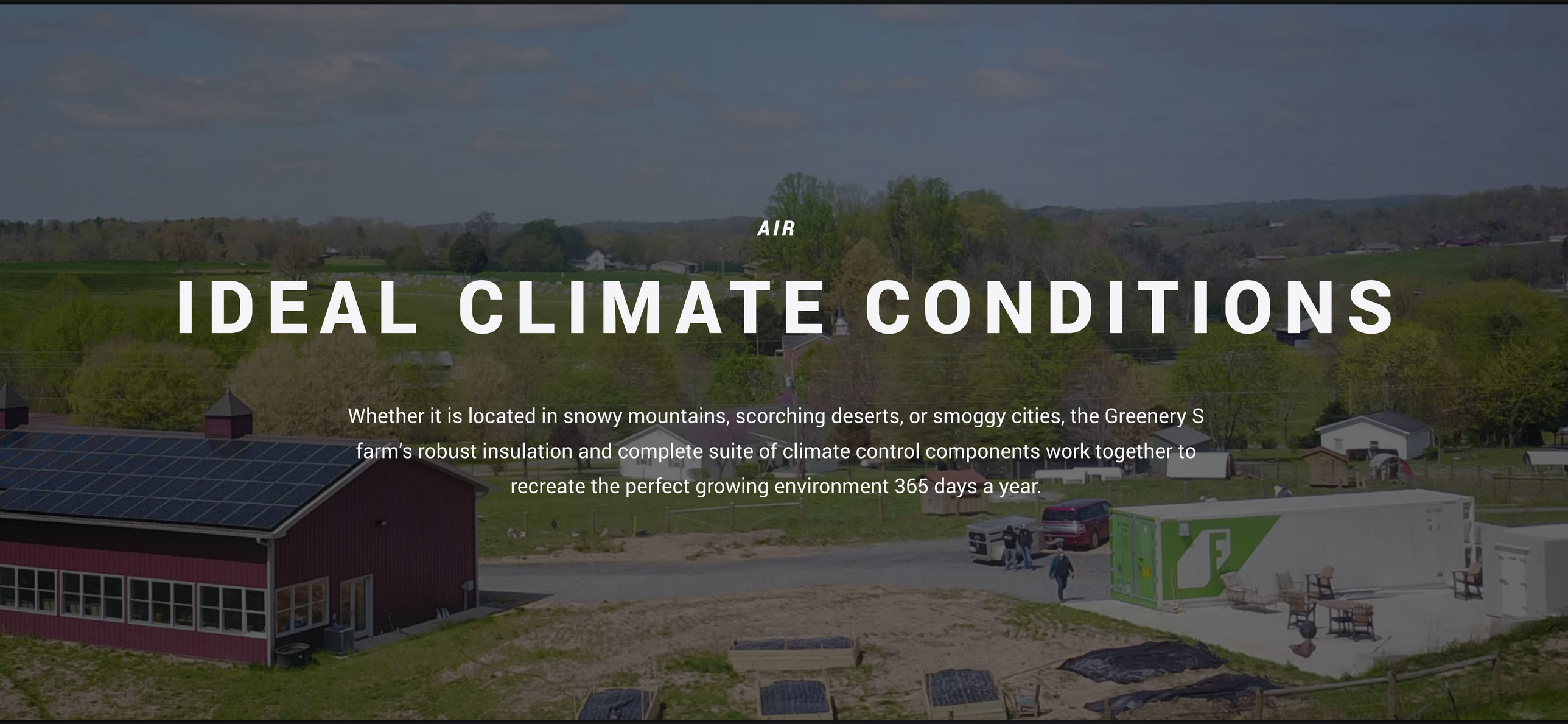
The strong red and blue indoor growing lights specifically target leaf and stem development to create larger and heavier plants, driving higher weekly harvest yields.

OPTIMIZED EFFICIENCY

Economy Mode helps keep the Greenery S as energy efficient as possible while still growing healthy, strong, and flavorful plants.

COMPLETE CONTROL

Dynamic Lighting Control gives the operator power over every aspect of their growing operation. Custom power and color light combinations can be used to drive intense production, coax out interesting plant characteristics, and much more.



AIR

IDEAL CLIMATE CONDITIONS

Whether it is located in snowy mountains, scorching deserts, or smoggy cities, the Greenery S farm's robust insulation and complete suite of climate control components work together to recreate the perfect growing environment 365 days a year.

ADVANCED INSULATION

The Greenery S is built inside of a custom-designed container, developed specifically for the purpose of growing food in all environments. The shell provides plants with the proper insulation to protect them from inhospitable outdoor climates.

Thermal U-Value: **180 BTU/hr/C**

Observed Operating Temperatures: **-30°F - 120°F**

Average Indoor Temperature: **70°F**

ADAPTIVE CLIMATE SYSTEM

The Greenery S creates and maintains an ideal growing environment with a precise airflow management system that regulates temperate, humidity, CO2, and air circulation.

HIGH CAPACITY HVAC UNIT

A powerful HVAC unit located on the exterior back wall of the Greenery S connects with sub-floor air ducts to channel cool air to the very front of the farm.

Cooling Capacity: **36,000 BTUs**

Full Air Recycle: **2 minutes**

Fan Speed: **1300 CFM**

OVERHEAD & ON-PANEL FANS

Overhead fans push the cool air back of the farm, creating air circulation to stabilize the temperature at a pre-set point. In-row ducted fans create equal airflow throughout the entire Cultivation Area to prevent air stagnation.

Air Intake/Ventilation: **240 CFM**

Air Exchange Rate: **<5 min full atmospheric recycle**

Air Distribution: **Ducted**

Overhead Fan Ventilation: **880 CFM**

Ducted Fan Ventilation: **473 CFM**

Ducted Fan Diameter: **8 inches**

INTEGRATED CO_2 REGULATOR

CO_2 is carefully administered to plants for absorption during active periods of photosynthesis. The ventilation system ensures CO_2 is diffused consistently and safely within the container.

DEHUMIDIFIER

The Greenery S HVAC unit has a built-in dehumidifier to capture condensate and recirculates it back into the water tanks, decreasing the farm's overall water consumption even further.

Dehumidifier Recapture: **1.75 gallons/hour**

OPERATE IN ANY CONDITIONS

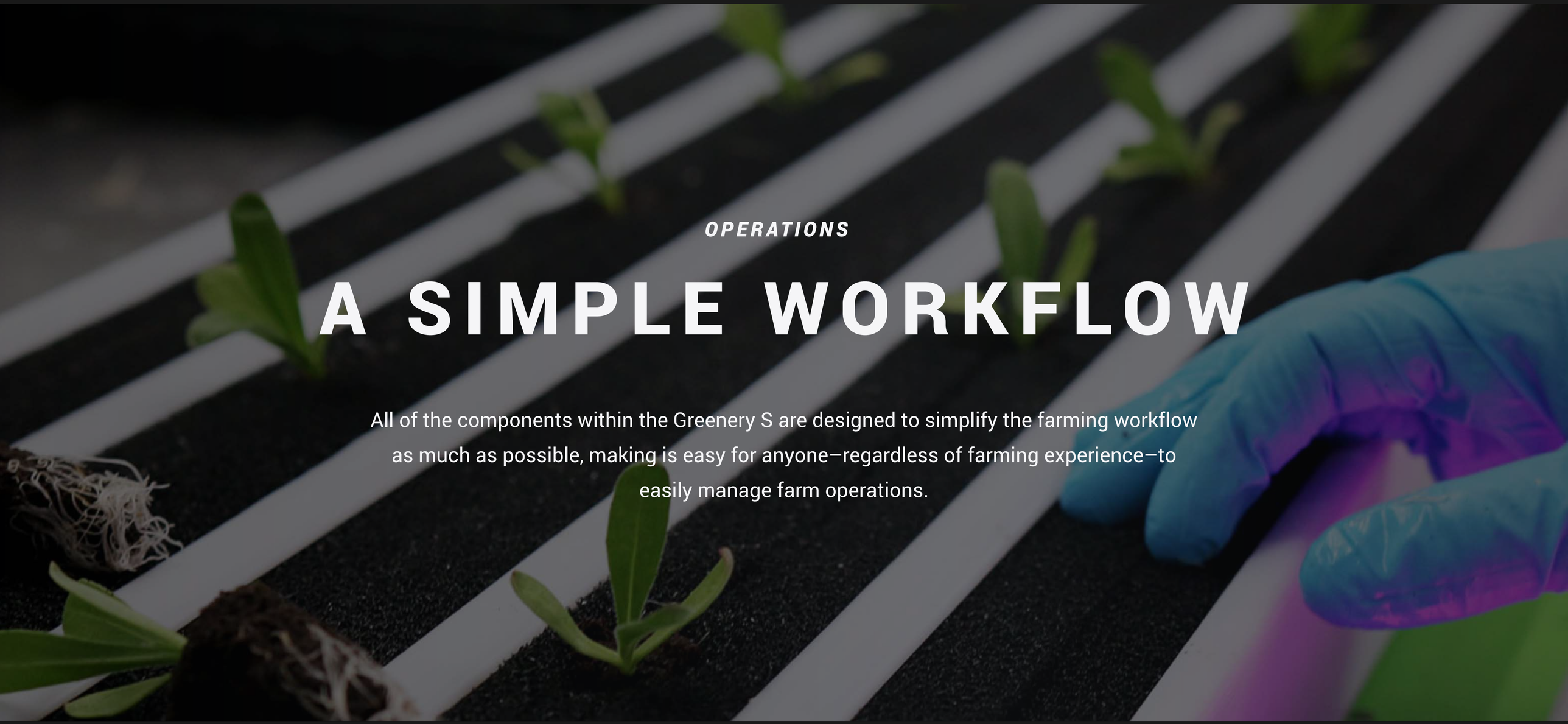
The Greenery S insulation keeps extreme weather out while protecting the carefully-calibrated interior climate, making it possible to grow food in any conditions.

GROW SEASONAL CROPS ALL YEAR

With complete control of all climate components, it is possible to recreate perfect summer days in the middle of winter, growing delicate greens in typically inhospitable places.

PRODUCE TOP QUALITY PLANTS

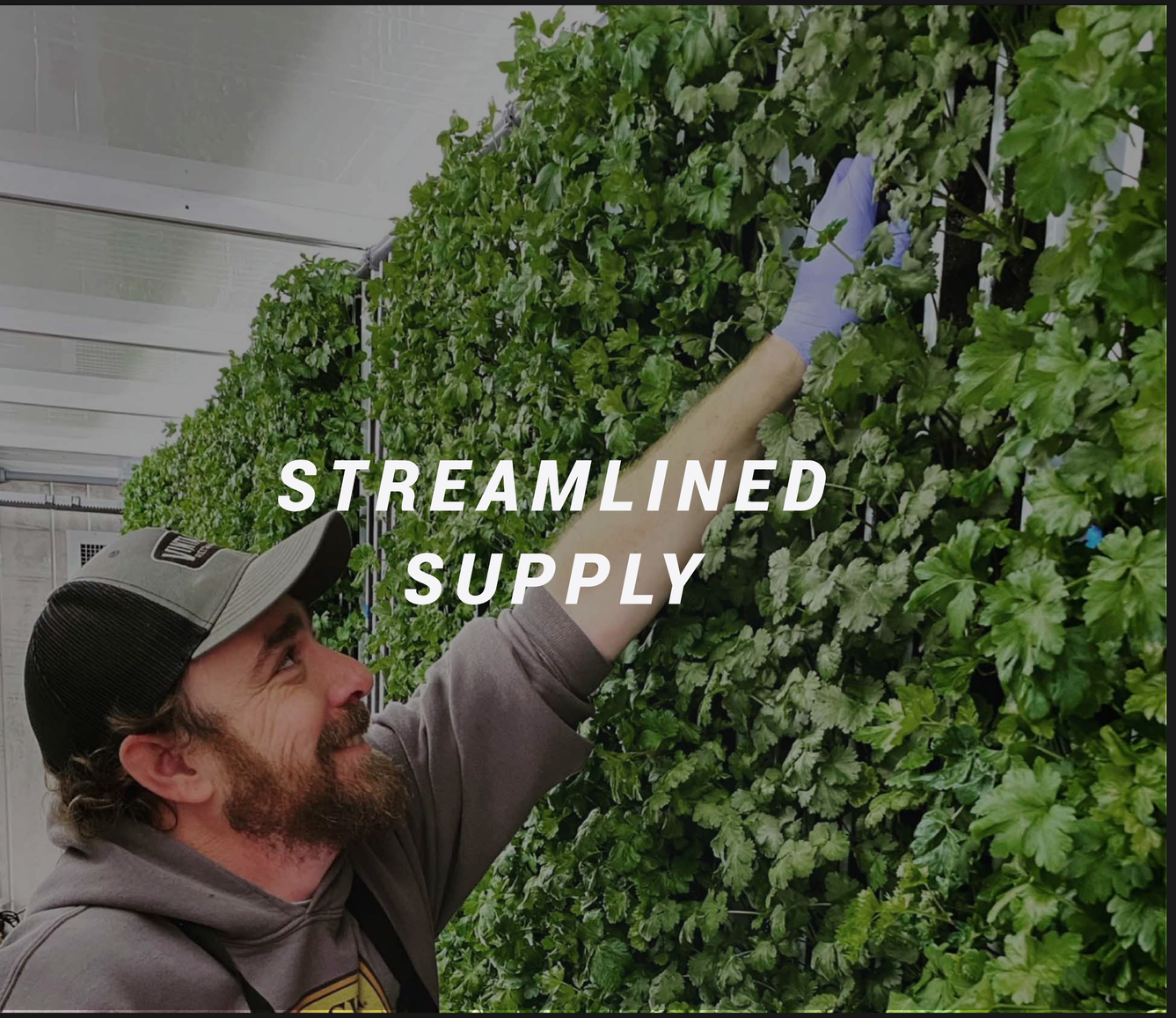
With no exposure to sudden temperature changes and protection from pests and plant disease, operators can produce high-quality crops with great flavor and no aesthetic flaws.



OPERATIONS

A SIMPLE WORKFLOW

All of the components within the Greenery S are designed to simplify the farming workflow as much as possible, making is easy for anyone–regardless of farming experience–to easily manage farm operations.

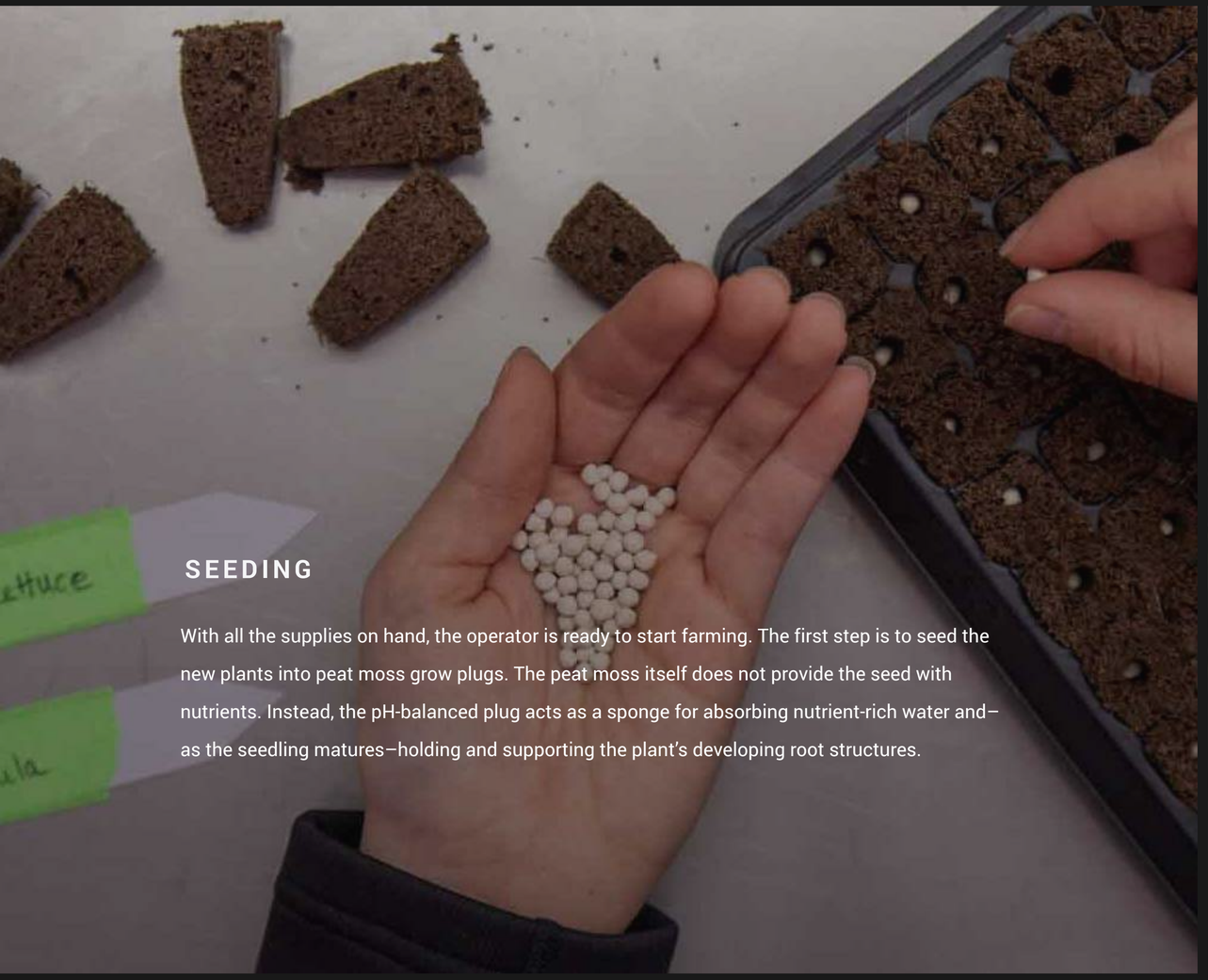


Freight Farms has compiled a Welcome Kit that is available for all new Greenery S operators. The Welcome Kit includes the necessary items every farmer needs to be successful:

- A 3-month supply of nutrients, cleaning solutions, and growing media (peat moss grow plugs)
- An Operations Kit including helpful items, such as a spray bottle, plant labels, apron, and more.
- A Greenery S Parts Kit with wicking strips, seedling trays, humidity domes, and water filter.

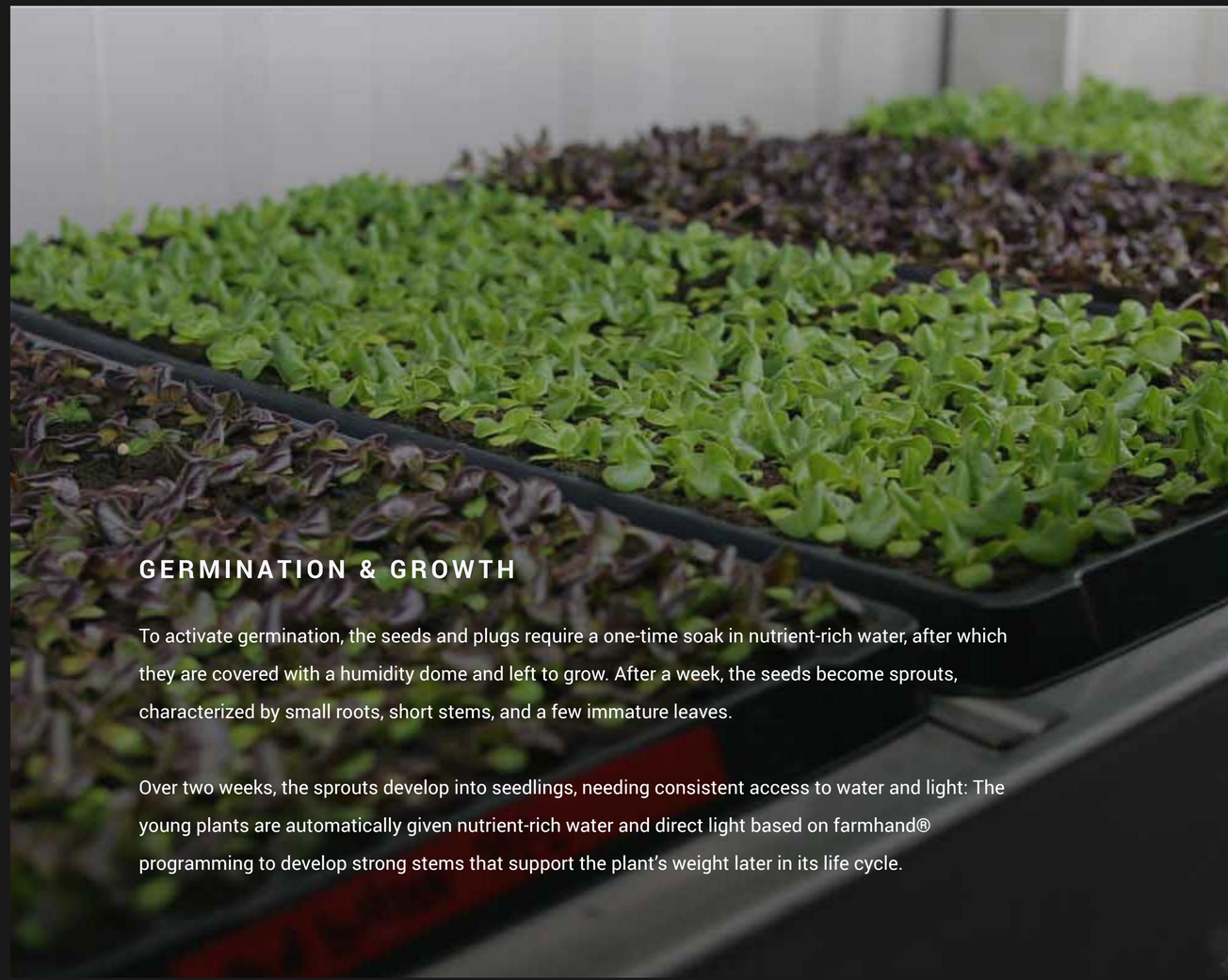
After the first three months, operators can easily re-supply with recurring subscriptions for their most used items, sourced through farmhand® Shop.

EASY OPERATIONS



SEEDING

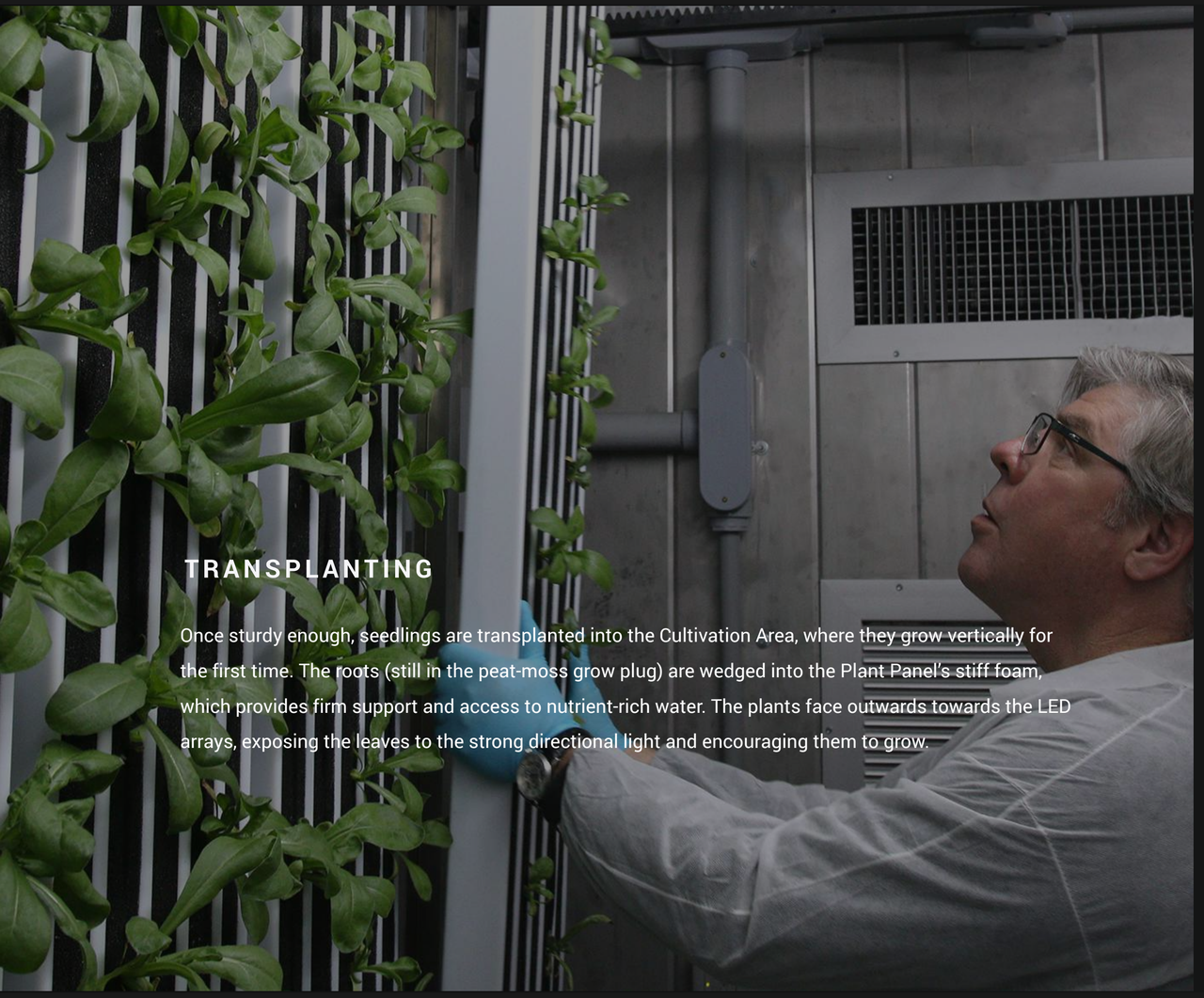
With all the supplies on hand, the operator is ready to start farming. The first step is to seed the new plants into peat moss grow plugs. The peat moss itself does not provide the seed with nutrients. Instead, the pH-balanced plug acts as a sponge for absorbing nutrient-rich water and—as the seedling matures—holding and supporting the plant's developing root structures.



GERMINATION & GROWTH

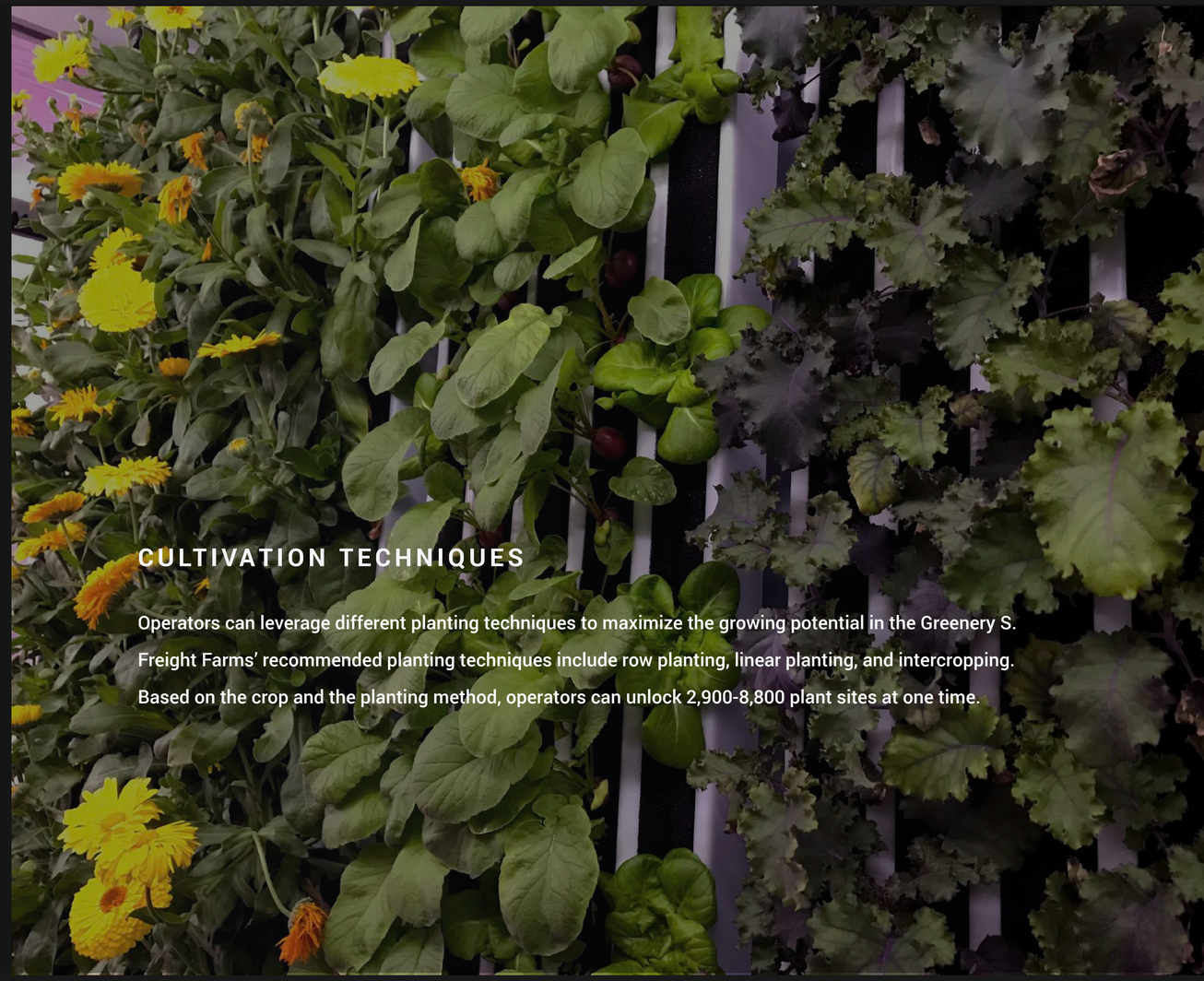
To activate germination, the seeds and plugs require a one-time soak in nutrient-rich water, after which they are covered with a humidity dome and left to grow. After a week, the seeds become sprouts, characterized by small roots, short stems, and a few immature leaves.

Over two weeks, the sprouts develop into seedlings, needing consistent access to water and light: The young plants are automatically given nutrient-rich water and direct light based on farmhand® programming to develop strong stems that support the plant's weight later in its life cycle.



TRANSPLANTING

Once sturdy enough, seedlings are transplanted into the Cultivation Area, where they grow vertically for the first time. The roots (still in the peat-moss grow plug) are wedged into the Plant Panel's stiff foam, which provides firm support and access to nutrient-rich water. The plants face outwards towards the LED arrays, exposing the leaves to the strong directional light and encouraging them to grow.



CULTIVATION TECHNIQUES

Operators can leverage different planting techniques to maximize the growing potential in the Greenery S. Freight Farms' recommended planting techniques include row planting, linear planting, and intercropping. Based on the crop and the planting method, operators can unlock 2,900-8,800 plant sites at one time.

CULTIVATION TECHNIQUES–EXPLAINED

ROW PLANTING

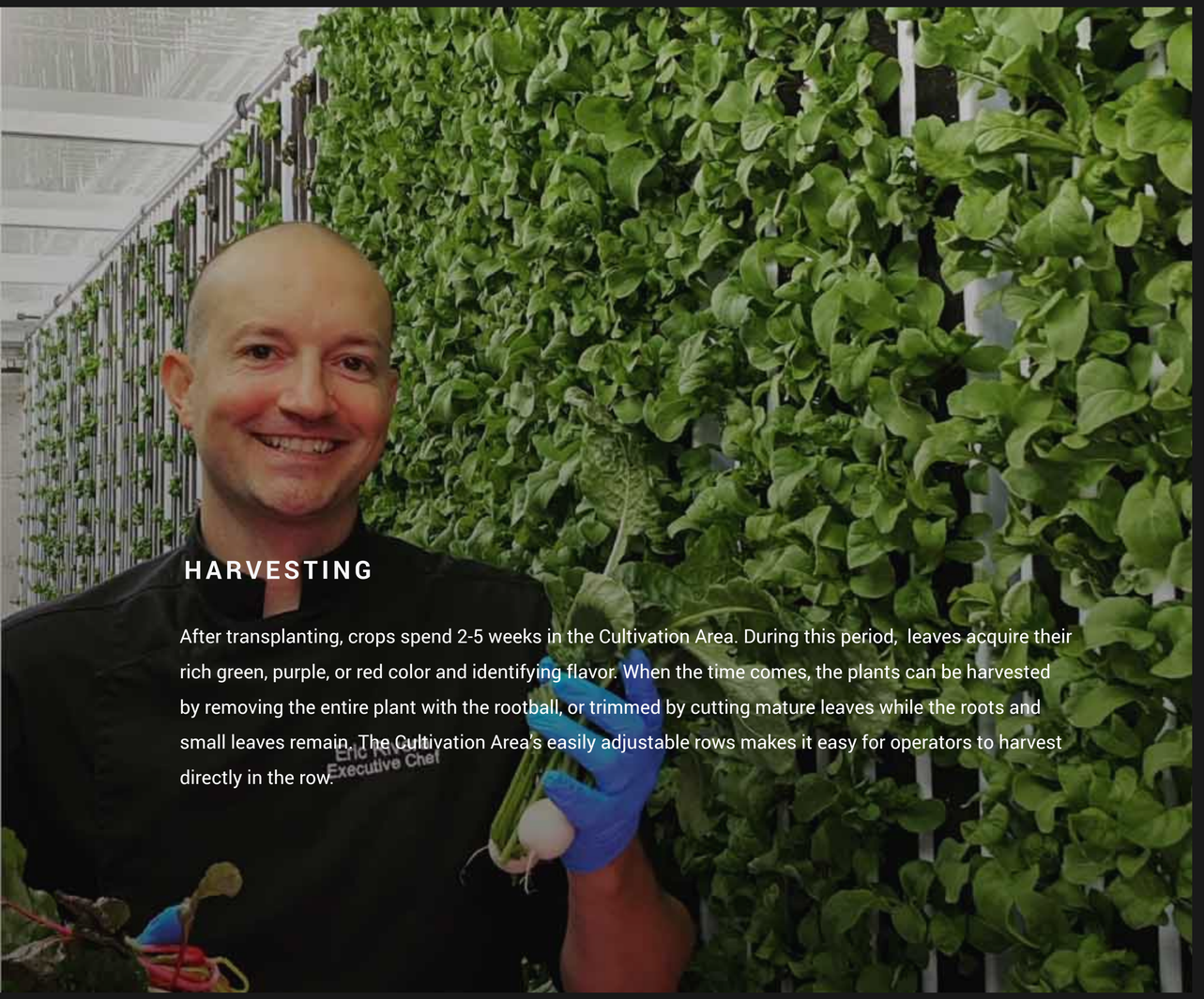
Active channels	1 3 5
Plant sites per channel	**10 - 15**
Total farm plant sites	**2,600 - 3,900**
Recommended crops*	**Large crops:** Lettuces, kale, mizuna, Swiss chard

LINEAR PLANTING

Active channels	1 2 3 4 5
Plant sites per channel	**15 - 20**
Total farm plant sites	**6,600 - 8,800**
Recommended crops*	**Small trim crops:** Arugula, watercress, mustard greens Herbs: Basil, parsley, cilantro, thyme

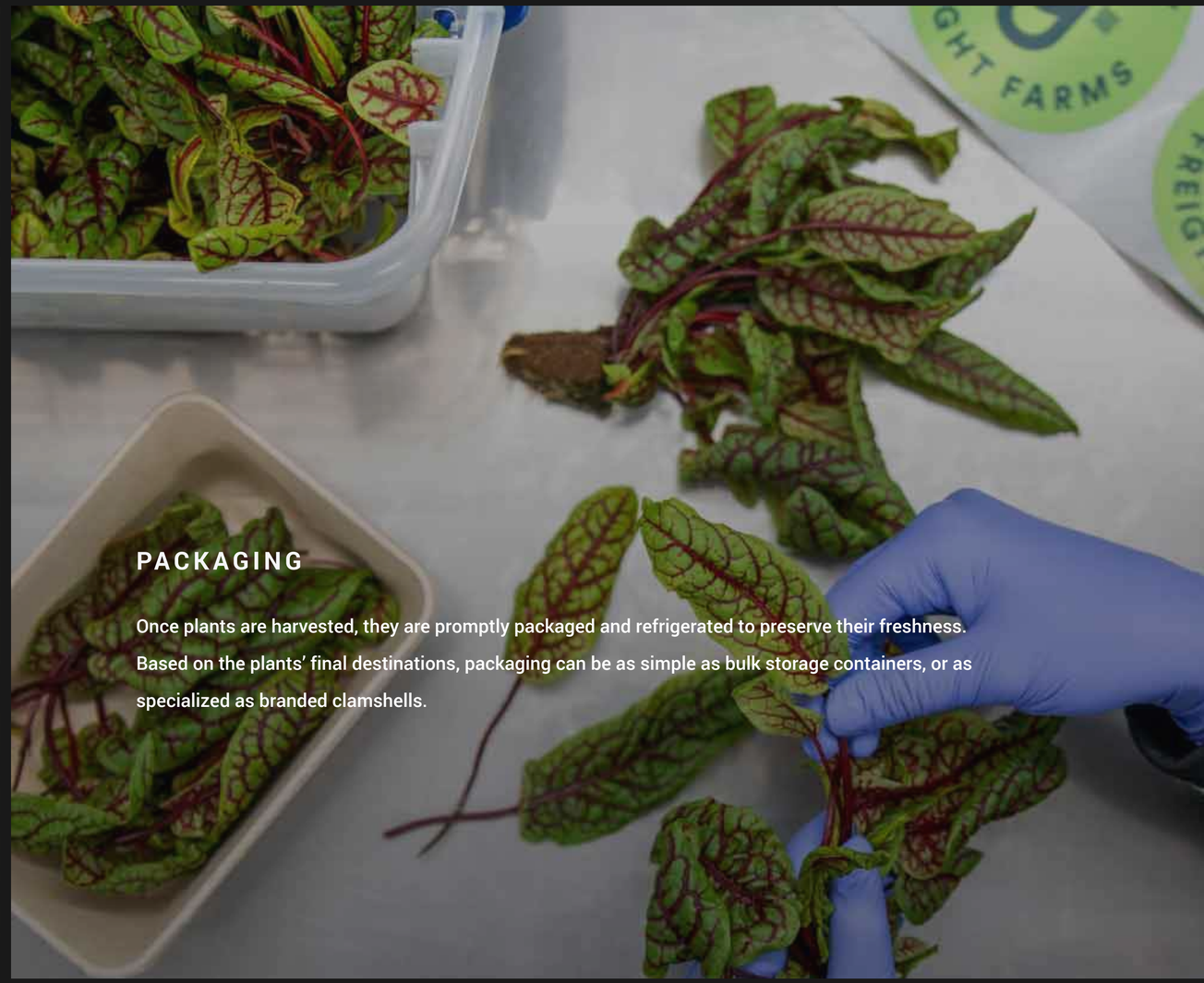
INTERCROPPING

Active channels	1 2 3 4 5
Plant sites per channel	**Large crops: 15 - 20** **Small crops: 17 - 20**
Total farm plant sites	**6,600 - 8,800**
Recommended crops*	**Large crops:** Lettuces, kale, mizuna, Swiss chard + **Root vegetables:** Radishes, turnips, carrots, beets



HARVESTING

After transplanting, crops spend 2-5 weeks in the Cultivation Area. During this period, leaves acquire their rich green, purple, or red color and identifying flavor. When the time comes, the plants can be harvested by removing the entire plant with the rootball, or trimmed by cutting mature leaves while the roots and small leaves remain. The Cultivation Area's easily adjustable rows makes it easy for operators to harvest directly in the row.

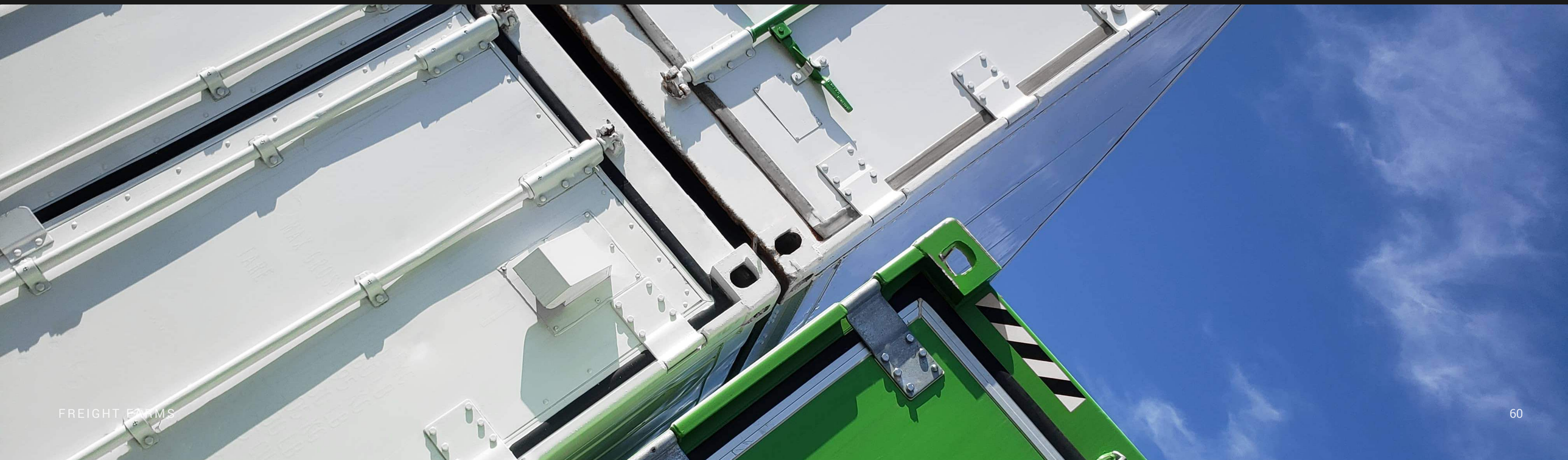


PACKAGING

Once plants are harvested, they are promptly packaged and refrigerated to preserve their freshness. Based on the plants' final destinations, packaging can be as simple as bulk storage containers, or as specialized as branded clamshells.

Operators are encouraged to track all their yields in farmhand® for better clarity into their farm's performance. For even greater automation, farmhand® offers operators a crop scheduling feature designed to simplify the planning behind a consistent and diverse harvest.

GREENERY S SPECIFICATIONS



Site Requirements

SITE

Place the Greenery S on a flat, unobstructed plot measuring 50’x10’. The site surface must support the farm’s 8-ton gross weight. Asphalt, trap rock, railroad ties, sonotubes, or a concrete pad are all adequate. The Greenery S should be pitched so that the front of the farm is approximately 2 inches higher than the rear of the farm.

ELECTRICITY

The Greenery S comes standard with a 150-amp 240V split-phase electrical connection. The farm should be connected to electricity by a licensed electrician.

If your site requires 208V 3-phase power connection for 100A service, Freight Farms will provide instructions. Freight Farms will not provide parts, they must be supplied by your local electrician.

WATER

The Greenery S uses an average of 5 gallons of water a day. The site should have water access within 50 feet; alternatively, operators can schedule regular water deliveries.

WIFI

A WiFi signal is necessary for farmhand® connectivity. Farmhand® will use about 5 GB per month per farm.

Operational Requirements

SUPPLIES

Operators can source their supplies from any vendor or conveniently replenish them via farmhand® Shop. Everyday consumables include peat moss plugs, nutrient solutions, and cleaning supplies.

TRAINING

Freight Farms offers a variety of training options to teach theoretical as well as hands-on practical skills. Learn more about the Certified Farmer Training Programs offered.

FARMHAND®

farmhand® software is required for the proper operation and control the farm. In addition to the operational benefits, farmhand® is essential for Farmer Support, as it connects operators directly to the Client Services team.

GREENERY S SPECIFICATIONS

Container & Climate

Container

Dimensions	40′ x 8′ x 9.5′
Thermal U-Value	180 BTU/hr/C

Climate Control Unit

Capacity	36,000 BTUs
Cooling	50F at 70F return
HVAC fan	1300 CFM
Air Intake/ Ventilation	240 CFM
Air Exchange Rate	2 min full atmosphere recycle
Air Distribution	Ducted
Overhead Fan Ventilation	880 CFM
Ducted Fan Ventilation	473 CFM
Ducted Fan Diameter	8in
Integrated Dehumidifier	1.75 gallons/hour

CO_2

Regulator	Integrated Regulator for Canisters

LED

Overview

Red LED Photosynthetic Wavelength	660 nm
Blue LED Photosynthetic Wavelength	440 nm

Nursery Station

Number of LED Boards	4
LED Boards Dimensions	42 in x 14.75 in x 0.0625 in
LED Array Intensity	12 DLI/ 298 PPFD
LED Array Spectrum	White
LED Array Spectrum Isolation	R / B / W
LED Array Efficacy	4.06 uMol/J Hyper Red 2.80 uMol/J Deep Blue >2.0 uMol/J Full Spectrum White
LED Array Beam Angle	120 degrees, FWHM 50%

Cultivation Area

Number of LED Boards	112
Number of LED Arrays	4
LED Boards Dimensions	38.5 in x 13.78 in x 0.0625 in
Canopy Intensity	9-18 DLI / 208-342 PPFD
LED Array Spectrum Isolation	R / B
LED Array Efficacy	4.06 uMol/J Hyper Red 2.80 uMol/J Deep Blue
LED Array Beam Angle	120 degrees, FWHM 50%

Hydroponics

Irrigation

Circulation Pump Filtration	6 Nylon Monofilament Meshes
Aeration System	798 Gal. /hr. fluid oxygenator
Mesh Rating	75 Micron
Number of Peristaltic Dosing Pumps	8
Peristaltic Dosing Pumps Flow Rate	160 ml/min @ 24V (TBD)
Nutrient Tanks	Four 5-quart tube tanks located in the Dosing Cabinet that service both the seedling and cultivation water tanks.

Nursery Station

Hydroponics System	Dual 270 GPH Drain Pumps Dual 12 gallon Ebb & Flow Troughs
Seedling Tank Capacity	31 Gallons Continuous Mix 250GPH Recirculation Flow Circuit with in-tank aerator
Nutrient Delivery	4 Dedicated 50/ml/m pump injection

Cultivation Area

Hydroponics System	Dual 1200 GPH 1/6HP Utility Pump with Nylon Monofilament Mesh Filter Dual Zone Closed Loop Overhead Drip at 2gpm
Cultivation Tank Capacity	90 Gallons, Continuous Mix 500GPH Recirculation Flow Circuit with In-Tank Aerator.
Nutrient Delivery	4 Dedicated 50/ml/m pump injection

Worktable & Nursery Station

Nursery Station	
Seedling Capacity	Up to 4,608
Seedling Tray Capacity	16 trays
Number of Seedling Troughs	Two full-width seedling troughs
Worktable	
Table Dimensions	90 in x 27 in x 43 in
Seedling Tray Capacity	TIG-welded stainless steel

Plant Panels & Adjustable Rows

Plant Panel	
Plant Panel Design	5-channel
Plant Panel Construction	High Impact Polystyrene
Plant Panel Growing Medium	Inert Reticulated Foam
Total Number of Panels	88
Total Number of Channels	440
Combined Linear Growing Space	36,960 in/ 3,080 ft / 3.6 Acres
Adjustable Rows	
Number of Grow Rows	4
Adjustment System	Rack and Pinion
Rack System Load-bearing Capacity	1,300 lbs max.
Number of Frames	3
Frame Construction	Aluminum
Track Construction	Anodized aluminum
Carriage Construction	Anodized aluminum, rubber coated wheels

Tech

farmhand Hub	
Number of Controlled Outputs	40
Number of Spare Outlets	1
Number of Controlled Inputs	10
Number of Spare Inputs	2 x 24V 4 x 4-20mA
Number of Zones	2 Hydro Zones (pH, EC, and temperature sensors) 1 Climate Zone (temp, RH%, CO2)
Number of Sensors	2 Water level sensors (Nursery station tank, Cultivation area tank)
farmhand Connected Cameras	
Number of Cameras	2 Nursery Station 4 Cultivation Area
Camera Data Storage	Cloud Storage
Camera Resolution	960P 1.3 Megapixel (1296x730P) 140 degree viewing angle
Bluetooth® Speakers	
Number of Speakers	4 Dayton Audio Speakers - Dayton Audio ND91-4 3-1/2" Aluminum Cone Full-Range Neo Driver 4 Ohm
Speaker Connection	Bluetooth® connected
Speaker Construction	Weather resistant ABS plastic enclosure and aluminum grills Polypropylene 5-1/4" woofer Metaled Mylar 1" dome tweeter

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freightfarms.com

44 Plympton St.
Boston, Massachusetts 02118