
GREENERY
2024 GREENERY™ 7 50 HZ PRODUCT BOOKLET
FREIGHT FARMS
GREENERY S
FREIGHT
FARMS

TABLE OF CONTENTS

HERITAGE

Over a decade of container farm production and design

The Greenery™ 7 leverages Freight Farms' decade of experience building and designing container farms. Every farm component gives equal priority to the needs of both plant and operator.

FOUNDED IN

2013

INNOVATIVE FARM MODELS

10

PATENT FAMILIES

11+

CONTINENTS

5

LARGEST GLOBAL NETWORK

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

Together, this global network of over 600 farms is increasing community access to fresh and healthy food on the local scale in neighborhoods around the world.

TRAINED FARMERS

1500+

OPERATING FARMS

600+

COUNTRIES

41

U.S. STATES & 3 TERRITORIES

50

PEAK PERFORMANCE

Complete system integration for maximized production.

Above all else, the Greenery™ 7 is a smart farm. When fully integrated with Freight Farms' farmhand® software, operators can achieve success by automating most of the farming process.

OPERATING CLIMATES

-46°C—54°C

LABOR HOURS PER WEEK

25-35

WATER USAGE PER DAY

23 LITERS

FARM AUTOMATION SOFTWARE

24/7

PRODUCTION

Intentional design and automation unite to drive peak performance in yields, quality, and efficiency.

The result is a plant production powerhouse. The Greenery™ 7 recreates hectares' worth of farmland within a 12.2-meter container by using advanced vertical farming techniques to unlock every possible centimeter of growing space within the container's four walls.

CROP VARIETIES

500+

HEADS OF LETTUCE PER WEEK

990

ANNUAL HARVEST (TONNES)

2–5

TOTAL PLANT SITES

13,000

Ideal Climate Conditions in the Greenery™ 7

365 Perfect Growing Days

Operate in any conditions

The insulation in the Greenery™ 7 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, allowing farmers to grow 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.

MODULAR BUILD

The farm that's designed to transport *anywhere* in the world

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™ 7 easy to transport anywhere in the world.

CONTAINER DIMENSIONS: **12.2M X 2.4M X 2.9M**

CONTAINER WEIGHT: **8,000 KILOGRAMS**

CONTAINER DESIGN: **INSULATED HIGH CUBE CONTAINER WITH REAR INSET**

ADVANCED INSULATION

Operate in any conditions with ideal 365 growing days inside.

The robust insulation in the Greenery™ 7 protects plants from harsh weather conditions, allowing the farm to stay cool in the blazing heat of summer, warm on the coldest of winter days, and dry in the worst of storms.

THERMAL U-VALUE: **180 BTU/HR/C**

OBSERVED OPERATING TEMPERATURES: **-46°C—54°C**

High Capacity HVAC Unit

A powerful HVAC unit located on the exterior back wall of the Greenery 7 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**

Dehumidifier

The HVAC's built-in dehumidifier captures condensate and recirculates water back into the tanks, decreasing the farm's overall water consumption even further.

DEHUMIDIFIER RECAPTURE: **6.6 LITERS/HOUR**

Overhead & On-Panel Fans

Overhead fans push the cool air to the 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**

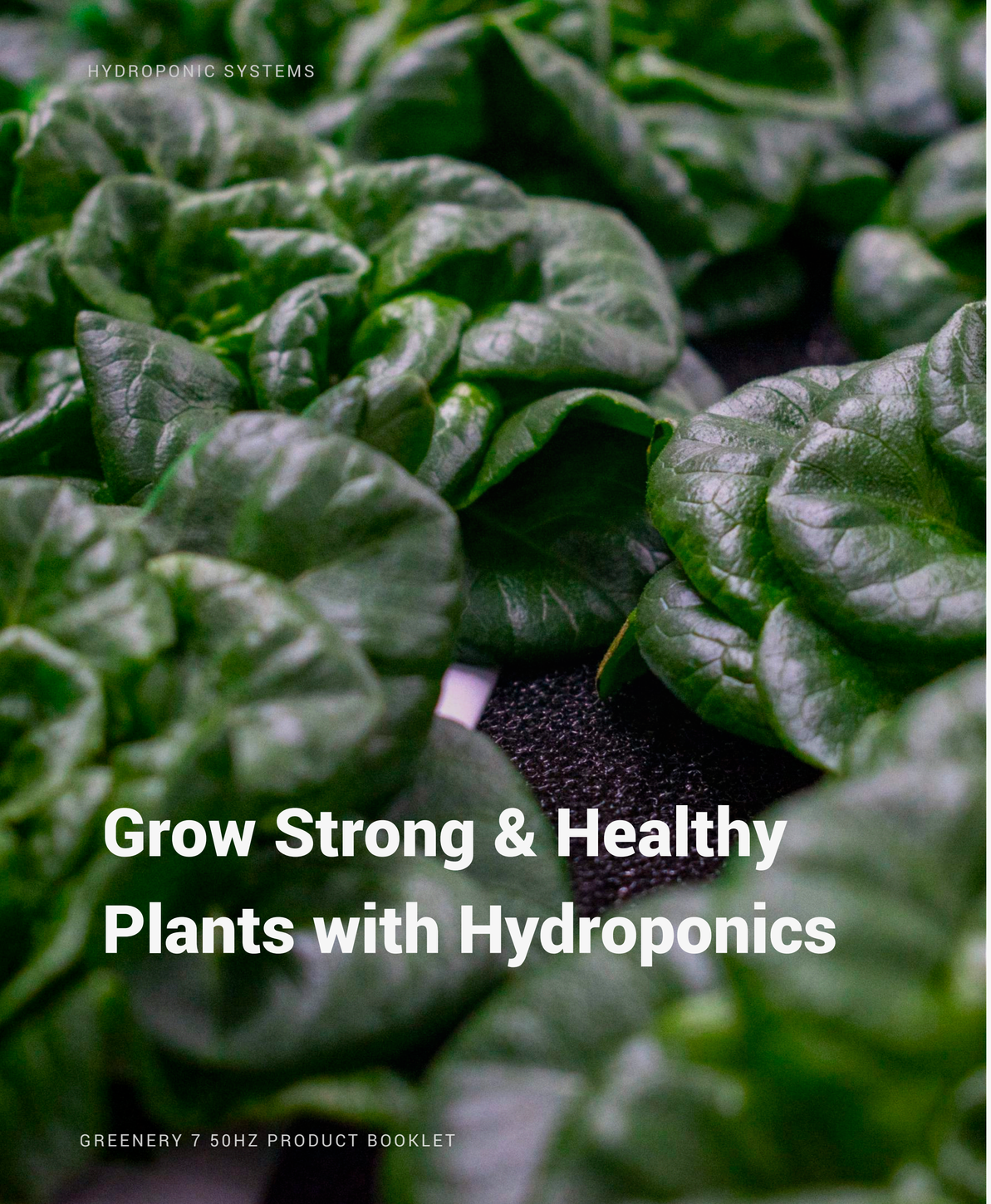
AIR EXCHANGE RATE: **<5 MIN FULL ATMOSPHERIC RECYCLE**

AIR DISTRIBUTION: **DUCTED**

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.

Hydroponic Systems in the Greenery™ 7



Grow Strong & Healthy Plants with Hydroponics

Crisp & Flavorful

The Greenery™ 7 gives plants consistent access to water and nutrients until the very moment they are harvested. Since most Greenery 7 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, if not consumed immediately, they are fresh enough to last a minimum of two weeks in refrigerator.

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.

STREAMLINED & ACCESSIBLE TANK DESIGN

The Nutrient Delivery System for the Greenery™ 7 is located in a dedicated dosing cabinet for each grow zone.

Each of the two growing zones in the farm has its own dosing cabinet, which act as hubs for nutrient delivery throughout the farm. Each dosing cabinet is outfitted with smart sensors and peristaltic pumps, which connect with the dosing tanks below enrich the water supply and support plant health.

NURSERY HYDROPONIC SYSTEM
PAGE 39

CULTIVATION HYDROPONIC SYSTEM
PAGE 43

NURSERY STATION

Seedlings in the Greenery™ 7 Nursery Station are cultivated using ebb-and-flow hydroponics.

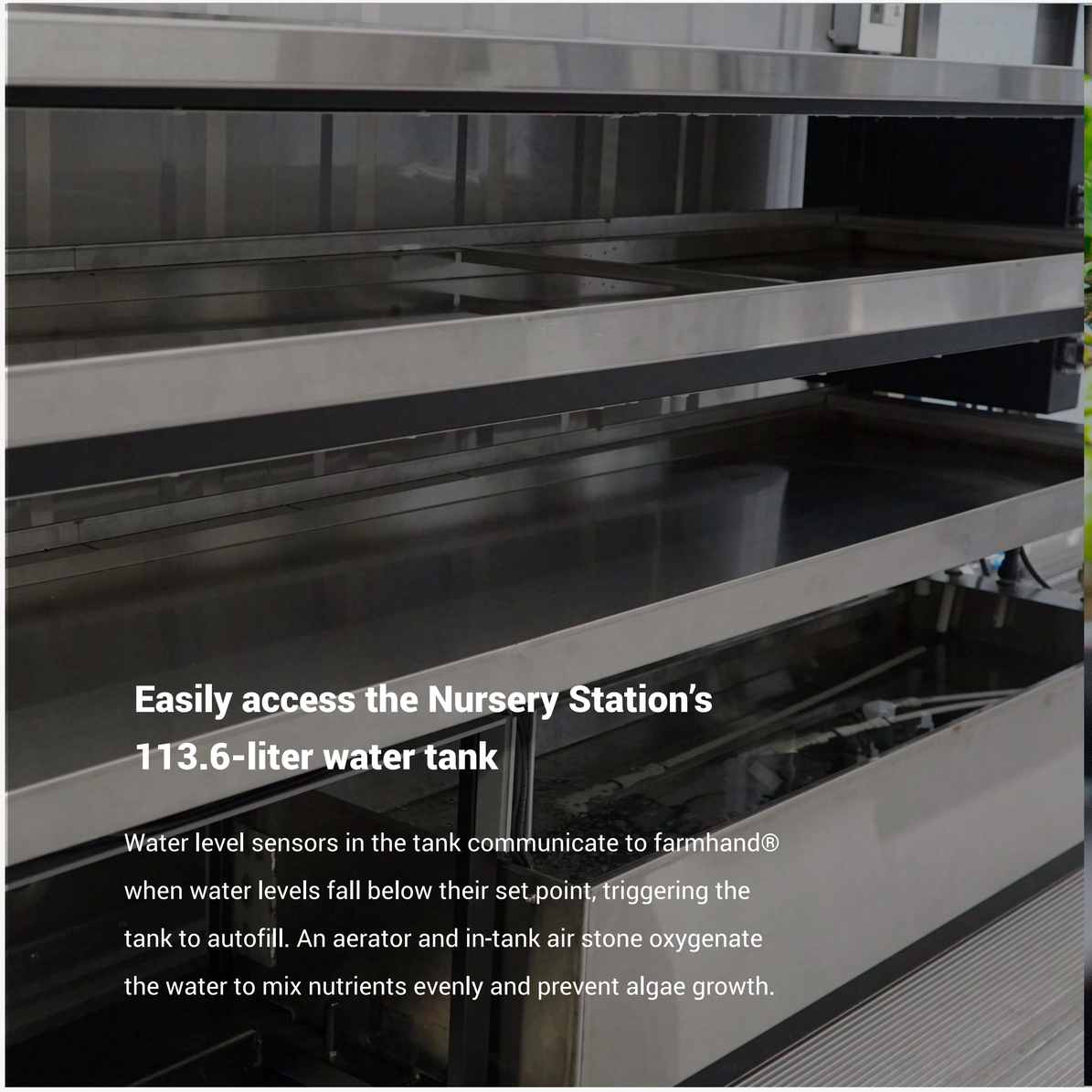
Water pumps operate on a pre-set schedule to fill the horizontal seedling troughs with nutrient-rich water, saturating the seedling roots before draining back into the tank. This process ensures young plants get all the necessary nutrients and water early in their development without over-saturating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

NURSERY TANK CAPACITY: **113.6 LITER**

NURSERY TANK LOCATION: **UNDER NURSERY TABLE**

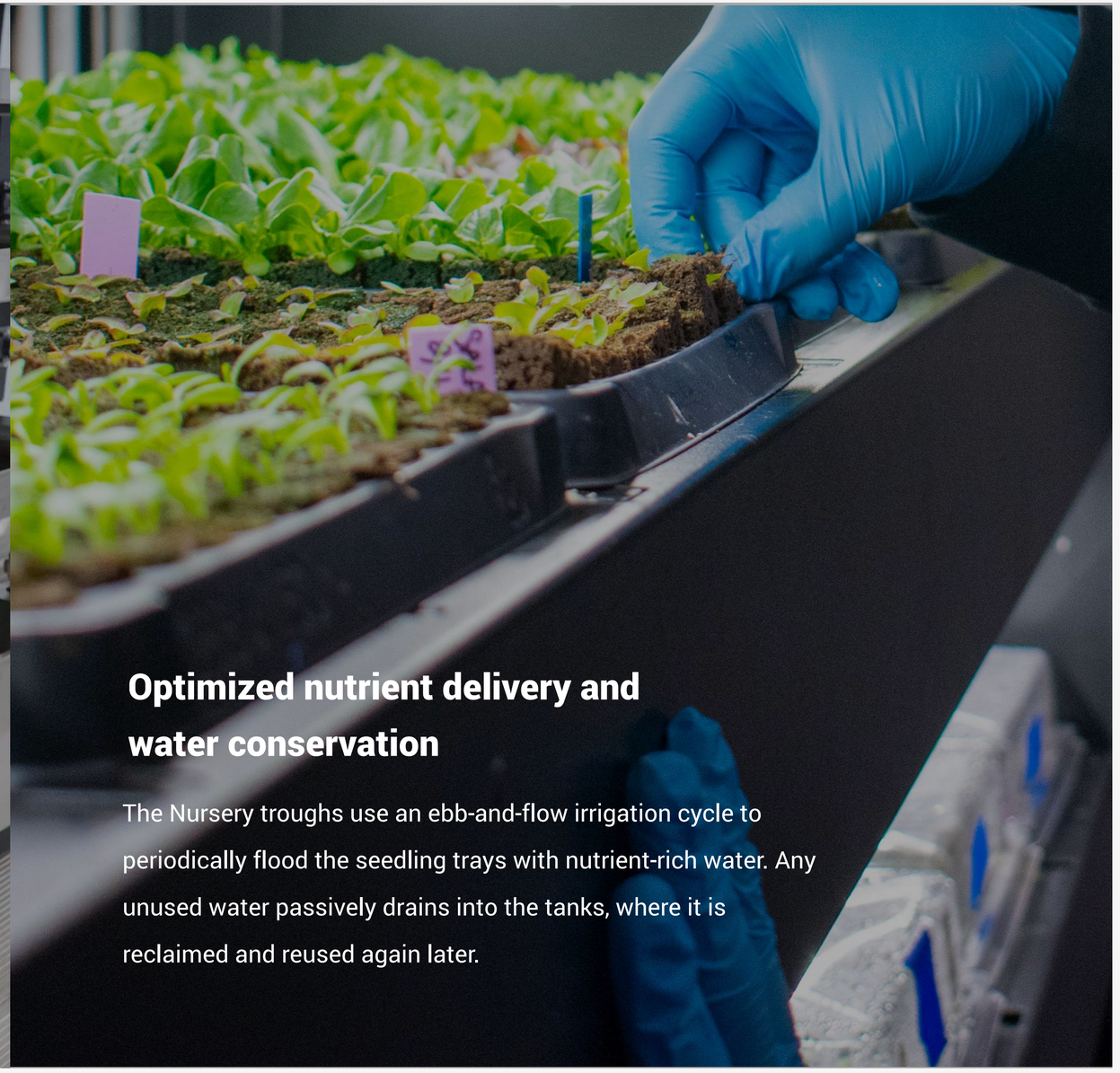
INDEPENDENTLY IRRIGATED HORIZONTAL TROUGHS: **2**

NUTRIENT DOSING CABINET LOCATION: **4 X 1-LITER TUBE TANKS LOCATED IN THE DOSING CABINET RIGHT OF NURSERY STATION**



Easily access the Nursery Station's 113.6-liter water tank

Water level sensors in the tank communicate to farmhand® when water levels fall below their set point, triggering the tank to autofill. An aerator and in-tank air stone oxygenate the water to mix nutrients evenly and prevent algae growth.

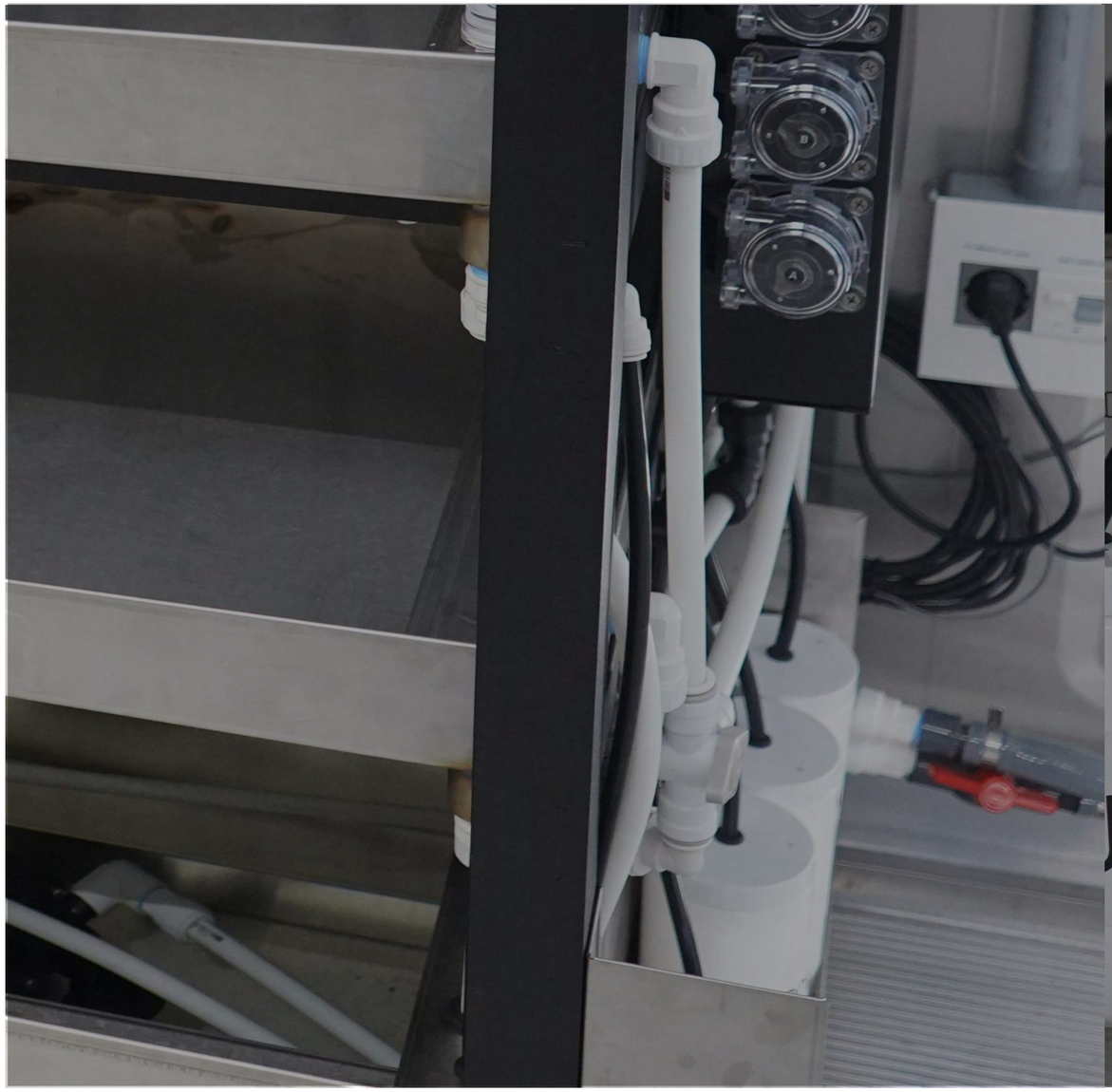


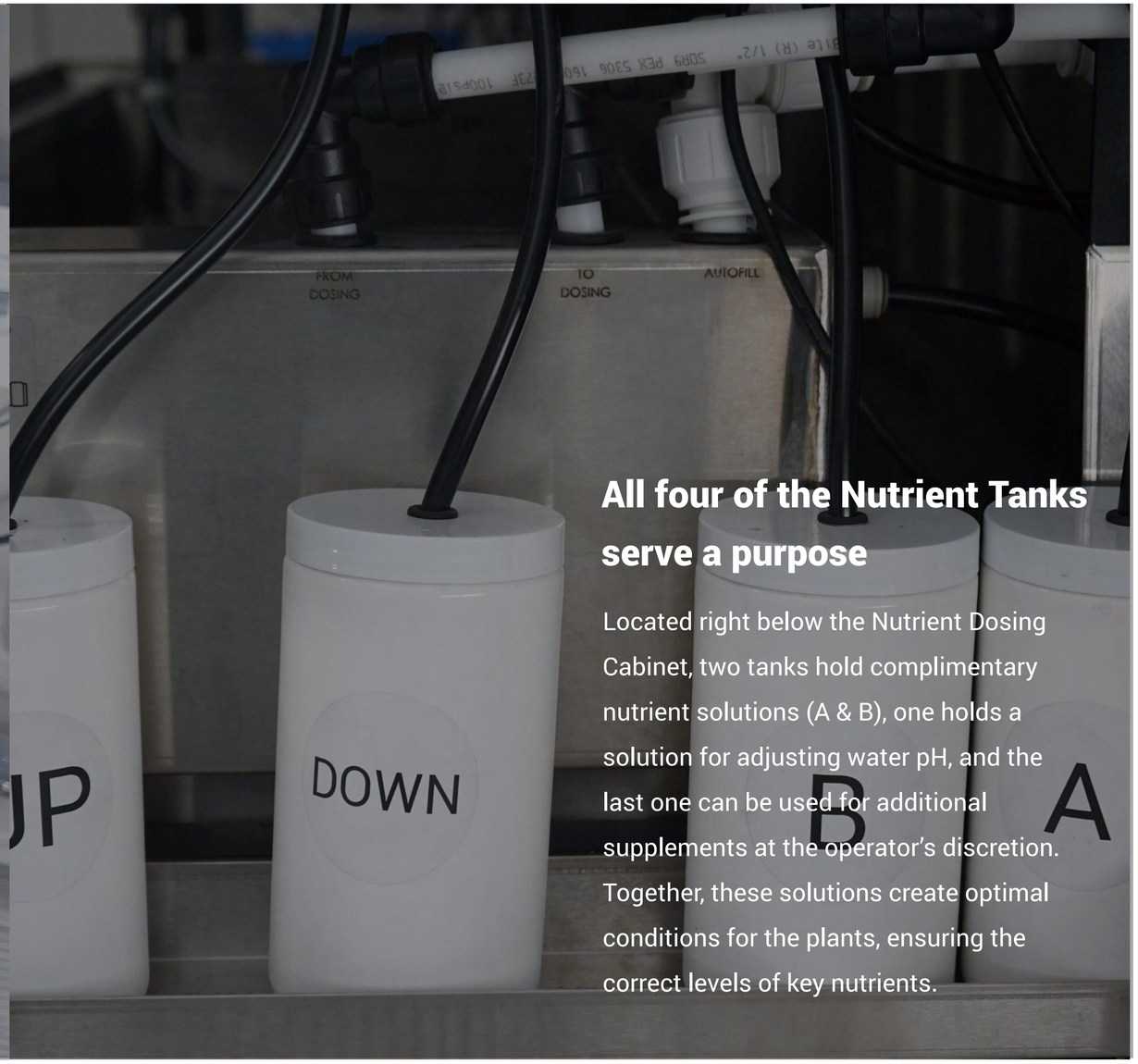
Optimized nutrient delivery and water conservation

The Nursery troughs use an ebb-and-flow irrigation cycle to periodically flood the seedling trays with nutrient-rich water. Any unused water passively drains into the tanks, where it is reclaimed and reused again later.

Smart nutrient and pH dispensing with farmhand®

Sensors in the dosing cabinet constantly relay pH, EC, nutrient, and water 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, which dispense the nutrient or pH solution needed to rebalance levels.





All four of the Nutrient Tanks serve a purpose

Located right below the Nutrient Dosing Cabinet, two tanks hold complimentary nutrient solutions (A & B), one holds a solution for adjusting water pH, and the last one can be used for additional supplements at the operator's discretion. Together, these solutions create optimal conditions for the plants, ensuring the correct levels of key nutrients.

CULTIVATION AREA

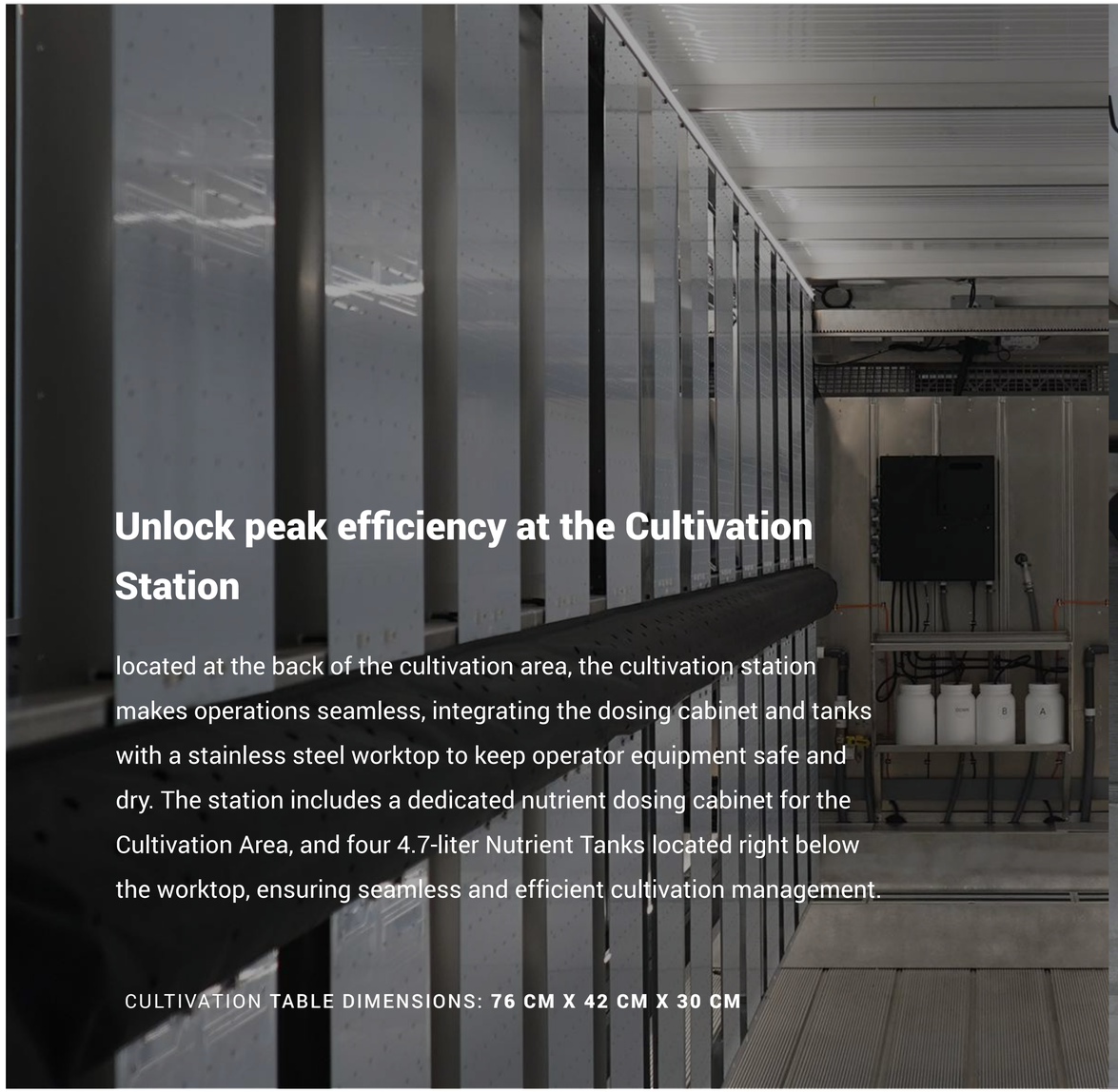
Maturing plants in the Cultivation Area receive water and nutrients via drip-irrigation hydroponics.

The Cultivation Area utilizes pumps and regular timers to provide crops with nutrient-rice water via an overhead drip irrigation system. Any unused water is collected in the reclamation gutters and channeled back to the cultivation tank to be re-used again.

CULTIVATION TANK CAPACITY: **340 LITER**

CULTIVATION TANK LOCATION: **BACK OF CULTIVATION AREA**

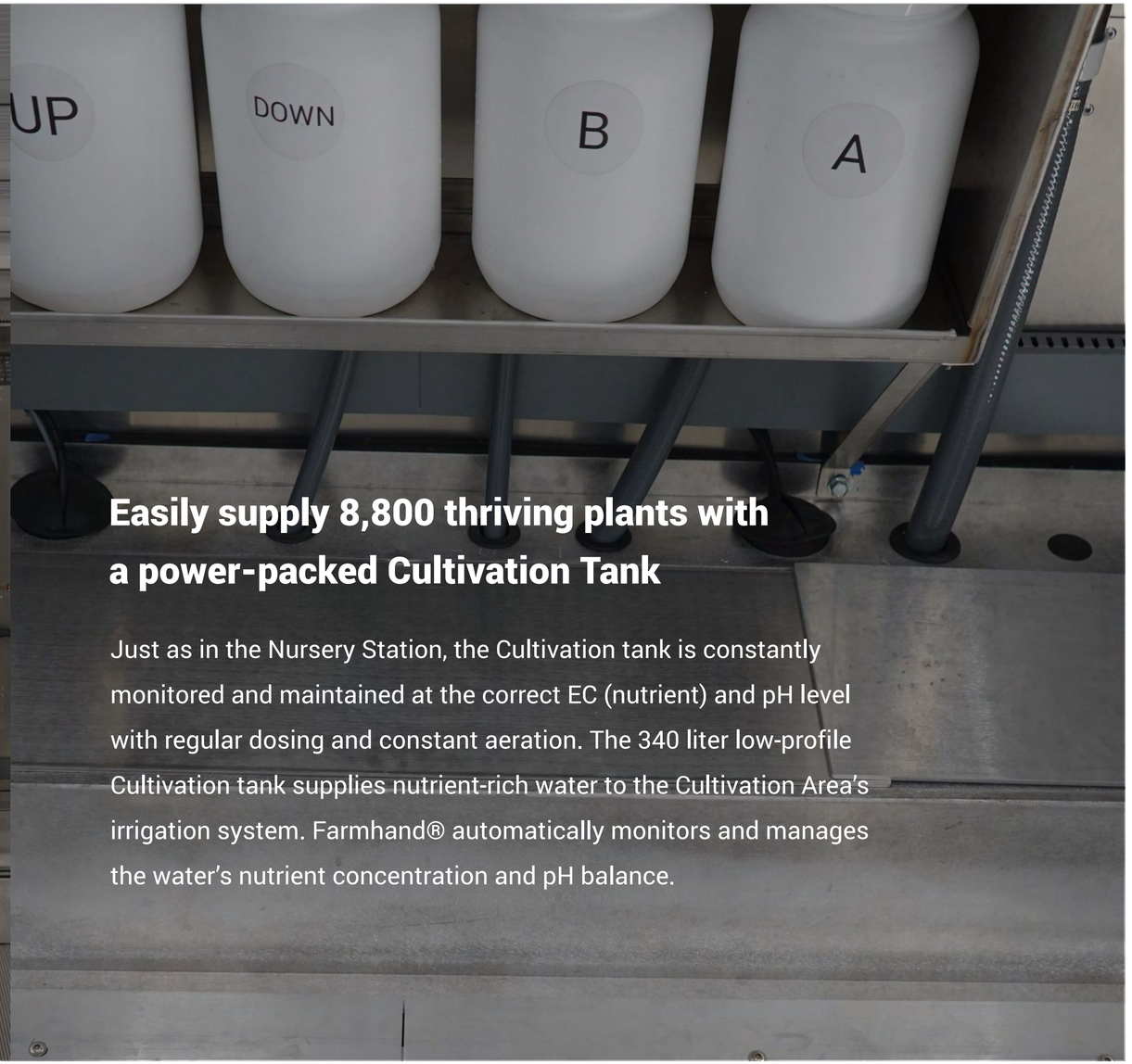
NUTRIENT DOSING CABINET LOCATION: **4X 4.7 LITER TUBE TANKS LOCATED IN THE DOSING CABINET BACK OF CULTIVATION AREA**



Unlock peak efficiency at the Cultivation Station

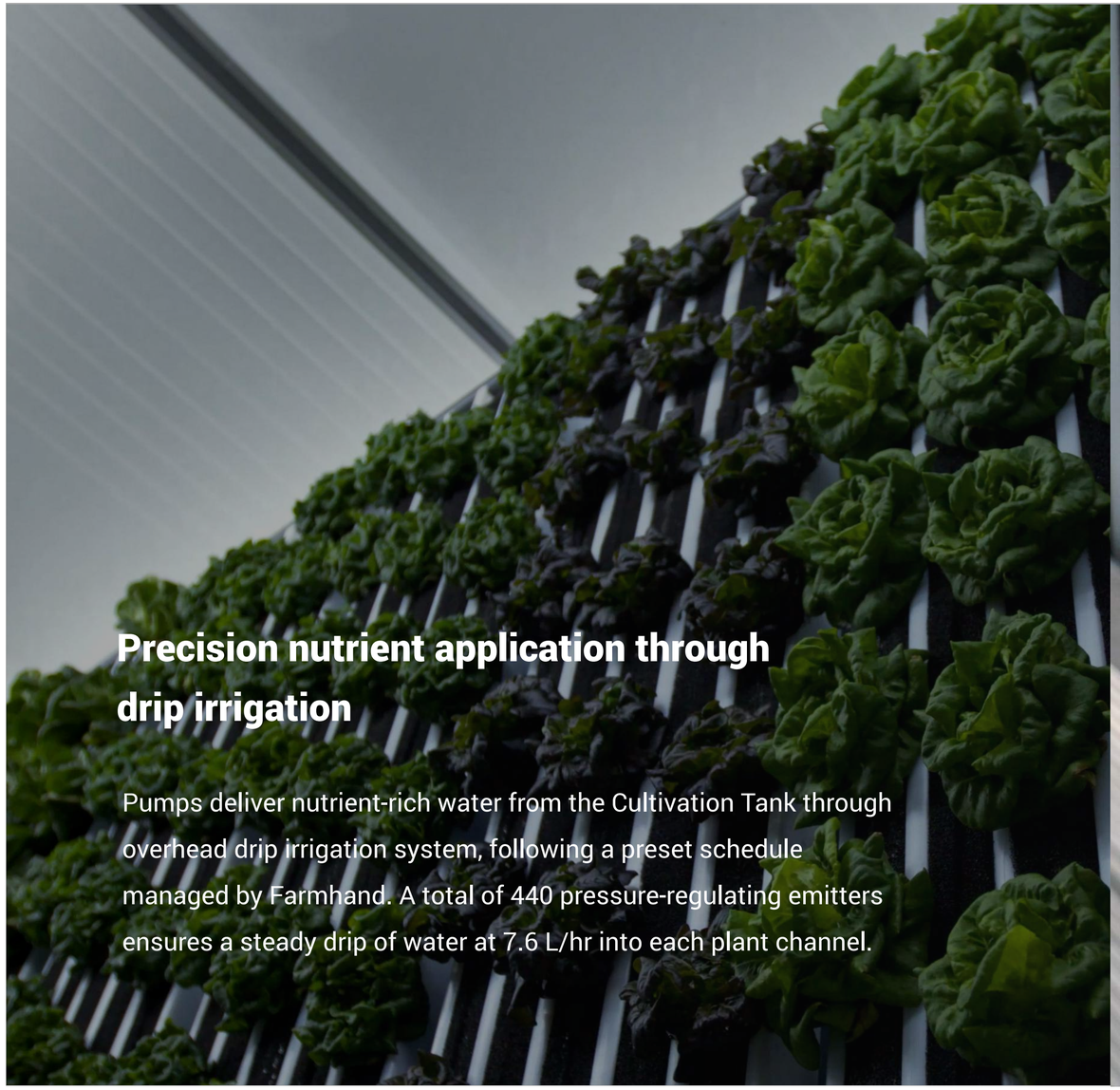
located at the back of the cultivation area, the cultivation station makes operations seamless, integrating the dosing cabinet and tanks with a stainless steel worktop to keep operator equipment safe and dry. The station includes a dedicated nutrient dosing cabinet for the Cultivation Area, and four 4.7-liter Nutrient Tanks located right below the worktop, ensuring seamless and efficient cultivation management.

CULTIVATION TABLE DIMENSIONS: **76 CM X 42 CM X 30 CM**



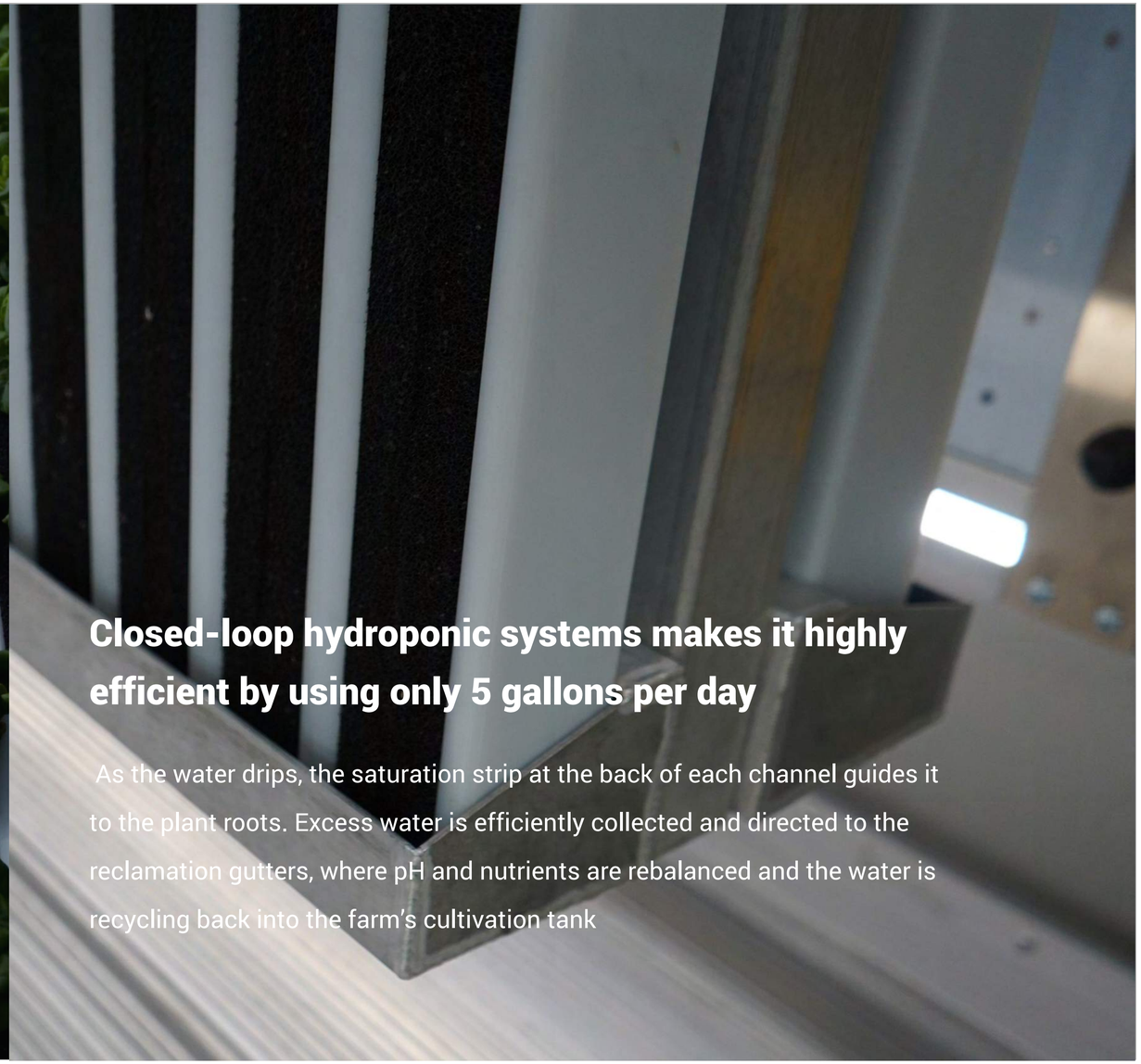
Easily supply 8,800 thriving plants with a power-packed Cultivation Tank

Just as in the Nursery Station, the Cultivation tank is constantly monitored and maintained at the correct EC (nutrient) and pH level with regular dosing and constant aeration. The 340 liter low-profile Cultivation 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.



Precision nutrient application through drip irrigation

Pumps deliver nutrient-rich water from the Cultivation Tank through overhead drip irrigation system, following a preset schedule managed by Farmhand. A total of 440 pressure-regulating emitters ensures a steady drip of water at 7.6 L/hr into each plant channel.



Closed-loop hydroponic systems makes it highly efficient by using only 5 gallons per day

As the water drips, the saturation strip at the back of each channel guides it to the plant roots. Excess water is efficiently collected and directed to the reclamation gutters, where pH and nutrients are rebalanced and the water is recycling back into the farm’s cultivation tank

Specialized Grow Zones in the Greenery™ 7

COMMERCIAL-SCALE PRODUCTION

Harvest up to 2-5 metric tonnes worth of crops annually within a small footprint.

Intentional design and automation unite to drive peak performance in yields, quality, and efficiency. With our season-less production, you can rely on 52 harvests a year in the Cultivation Area.

GROW ZONES

Specialized grow zones ensures every stage of the grow cycle

The Greenery™ 7 features two distinctive grow zones; Nursery Station and Cultivation Area. The two grow zones are used strategically to ensure the highest rate of plant success from seed to harvest.

NURSERY STATION FOR SEEDLING GROWTH

Page 13

CULTIVATION AREA FOR MATURING CROP

Page 24

GROW ZONE FOR SEEDLINGS

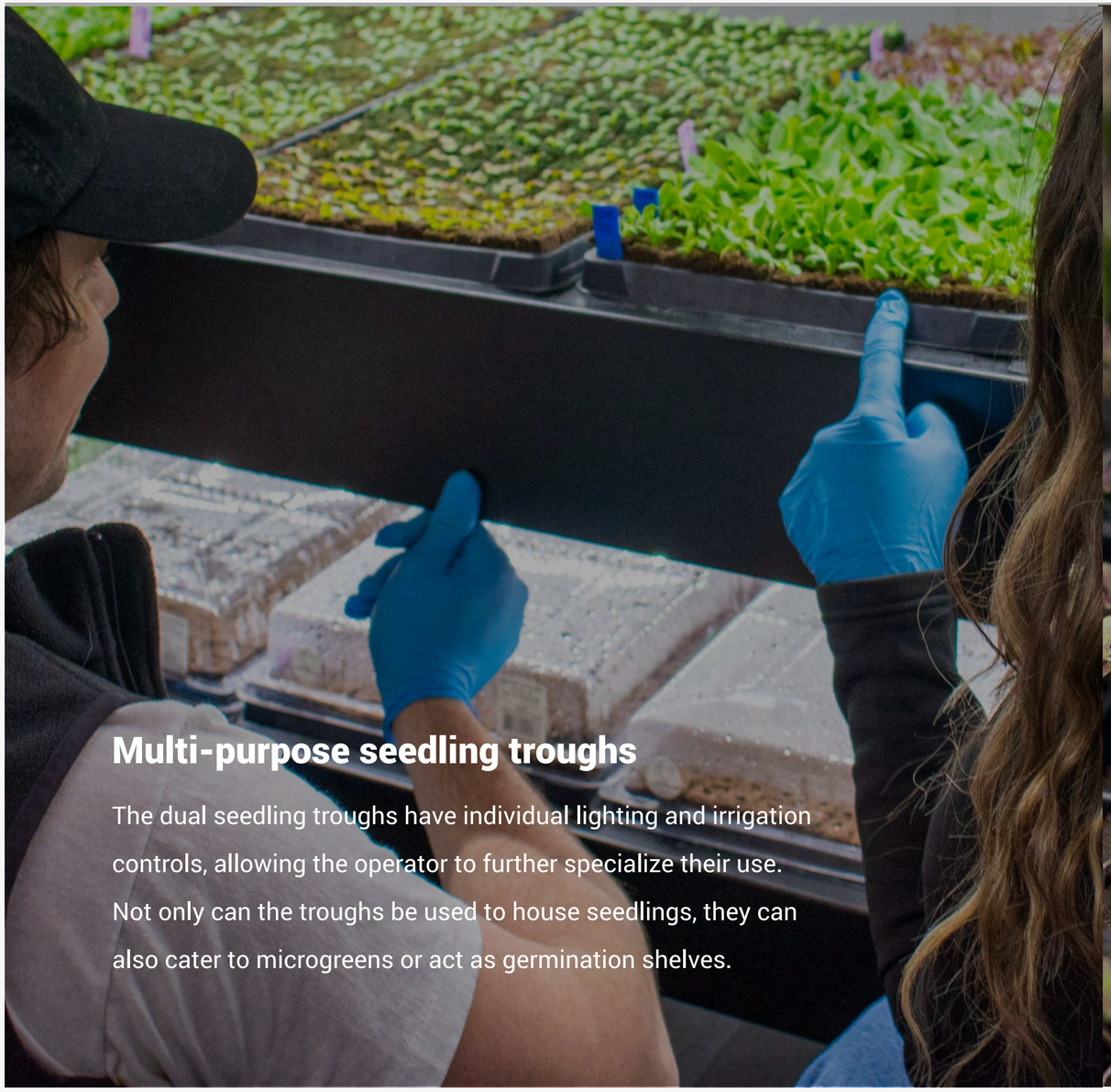
Nourish up to 4,608 seedlings at a time in the Nursery Station

The Nursery Station is the center for farm operations and home to the farm's young plants. Unlike elsewhere in the Greenery™ 7, the Nursery Station uses stacked horizontal seedling troughs and ebb-and-flow hydroponics.

TOTAL TROUGH CAPACITY: **16 SEEDLING TRAYS**

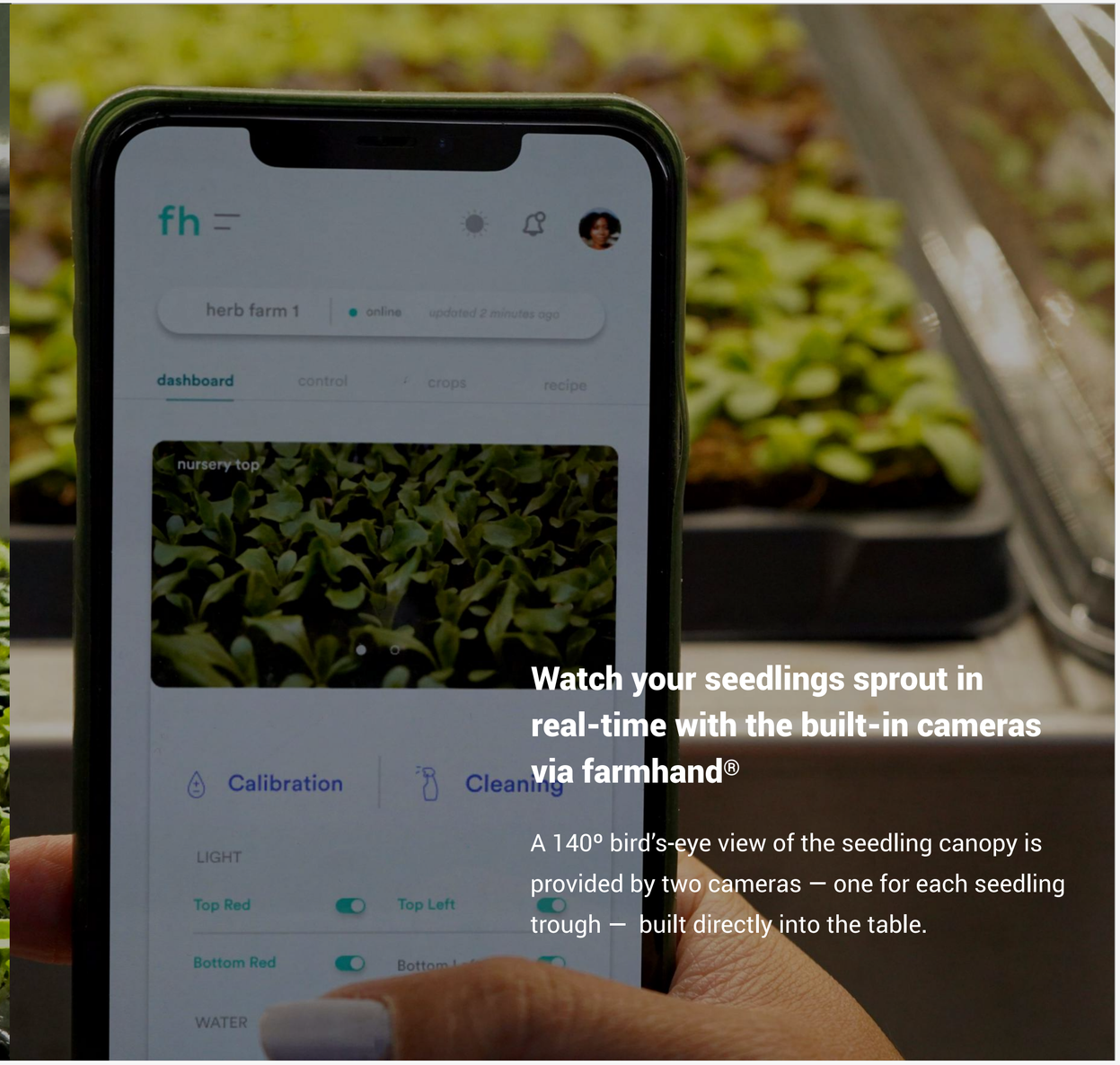
EACH SEEDLING TRAY CAPACITY: **200–288 PLANTS**

TOTAL SEEDLING CAPACITY: **4,608 SEEDLINGS**



Multi-purpose seedling troughs

The dual seedling troughs have individual lighting and irrigation controls, allowing the operator to further specialize their use. Not only can the troughs be used to house seedlings, they can also cater to microgreens or act as germination shelves.



Watch your seedlings sprout in real-time with the built-in cameras via farmhand®

A 140º bird's-eye view of the seedling canopy is provided by two cameras — one for each seedling trough — built directly into the table.

VERSATILE WORKTOP

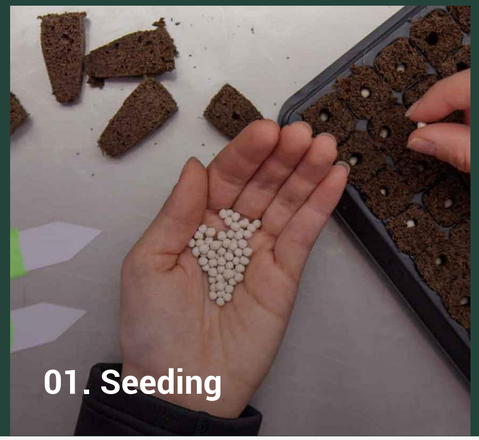
Multi-farming operations worktop

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

TABLE CONSTRUCTION: **TIG-WELDED STAINLESS STEEL**

NURSERY TABLE DIMENSIONS: **235.5 CM X 75.2 CM X 109.2 CM**

Easy Operations



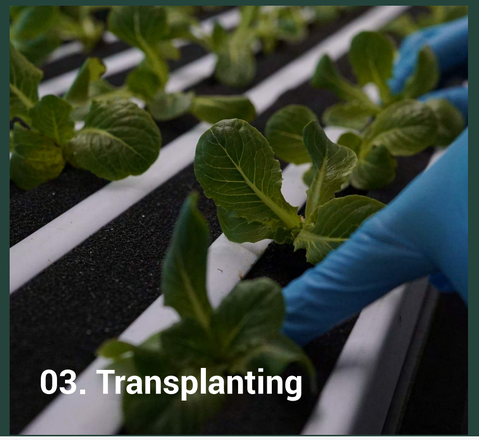
01. Seeding

With all the supplies on hand, the operator is ready to start farming. The first step is to seed 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 nutrient-rich water and — as the seedling matures — a support for the plant's developing root structures.

02. 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 the next 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.

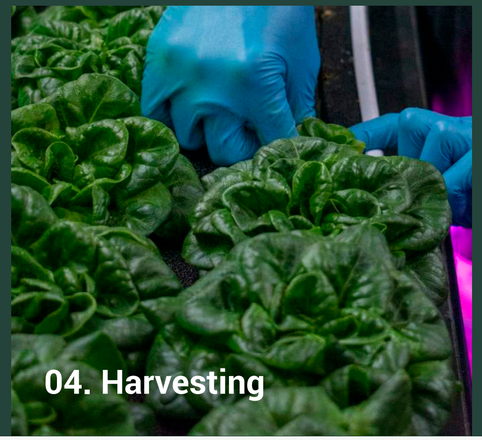


03. Transplanting

Once sturdy enough, seedlings are transplanted into the Plant Panels in the Cultivation Area, where they grow vertically for the first time. The roots (still in the peat-moss grow plugs) are wedged into the plant panels' stiff foam, which provides firm support and access to nutrient-rich water.

Operators can leverage different planting techniques to maximize the growing potential in the Greenery 7. Based on the crop and the planting method, operators can access 2,900–8,800 plant sites at one time.

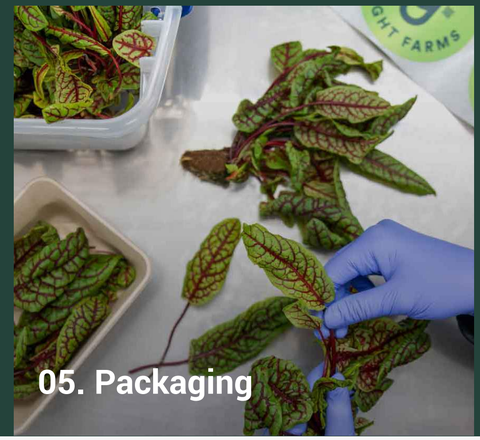
See page 31 for recommended planting techniques.



04. Harvesting

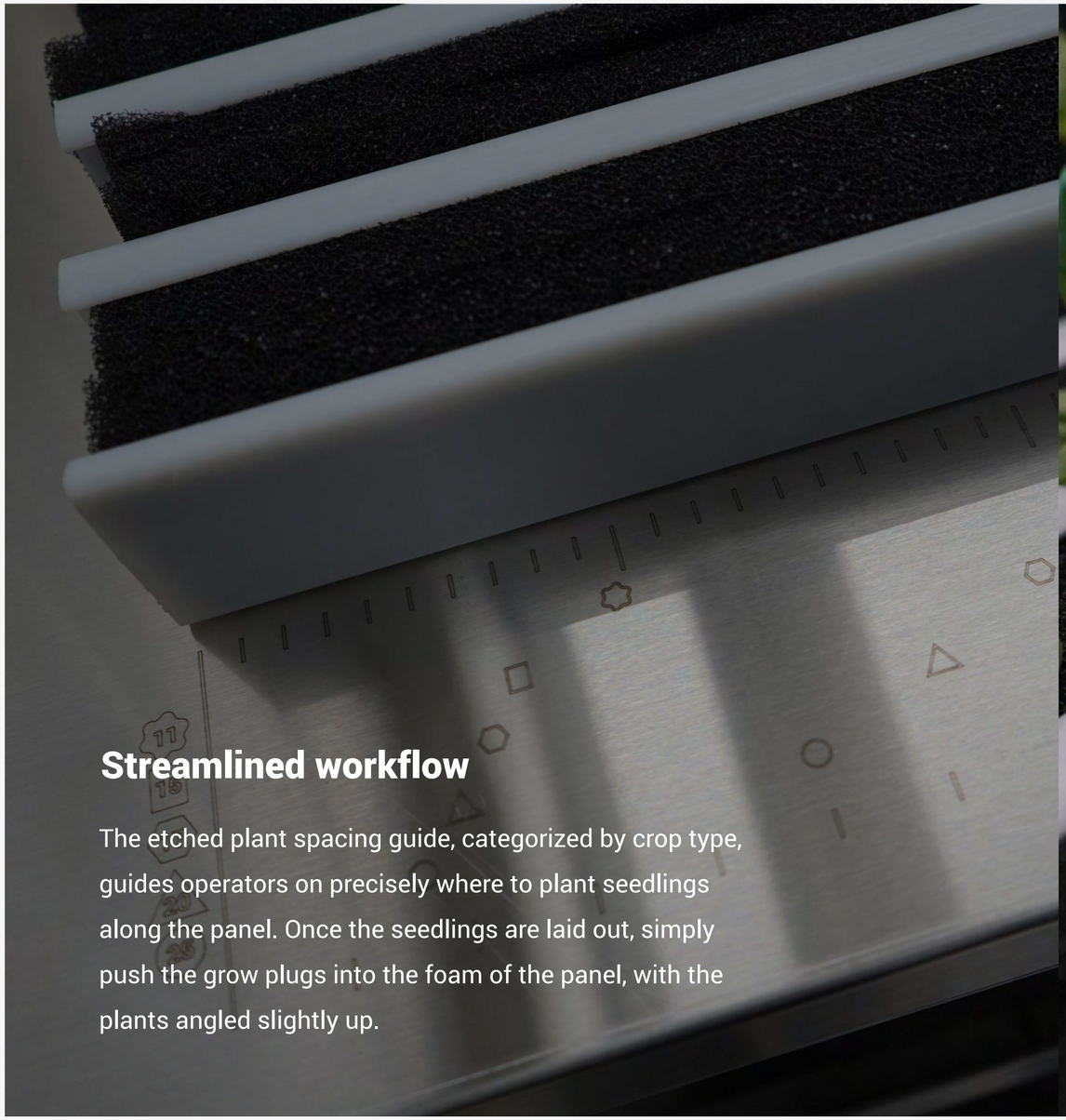
After transplanting, crops spend 2–5 weeks in the Cultivation Area where the plants face outward towards the LED arrays, exposing the leaves to the strong directional light and encouraging them to grow.

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 adjustable rows makes it easy for operators to harvest directly in the row.



05. 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.



Streamlined workflow

The etched plant spacing guide, categorized by crop type, guides operators on precisely where to plant seedlings along the panel. Once the seedlings are laid out, simply push the grow plugs into the foam of the panel, with the plants angled slightly up.

Plant Panel Planting Techniques

Operators can leverage different planting techniques to maximize the growing potential in the Greenery™ 7.

Based on the crop and the planting method, operators can access 2,900–8,800 plant sites at one time.

Row Planting

Recommended for large crop varieties such as lettuces and leafy greens.

Lettuces and Leafy Greens
CROP TYPES

1 3 5
ACTIVE CHANNELS

10–15
PLANT SITES PER CHANNEL

2,600–3,900
TOTAL FARM PLANT SITES

Linear Planting

Recommended for small trim crop varieties such as leafy greens or herbs.

Lettuces or Herbs
CROP TYPES

1 2 3 4 5
ACTIVE CHANNELS

15–20
PLANT SITES PER CHANNEL

6,600–8,800
TOTAL FARM PLANT SITES

Intercropping Planting

Recommended for pairing large crop varieties such as lettuces and leafy greens with small root vegetables.

Lettuces and Leafy Greens
CROP TYPES

1 3 5
ACTIVE CHANNELS

15–20
PLANT SITES PER CHANNEL

+

Small Root Vegetables
CROP TYPES

2 4
ACTIVE CHANNELS

15–20
PLANT SITES PER CHANNEL

6,600–8,800
TOTAL FARM PLANT SITES

GROW ZONE FOR MATURING CROPS

Grow up to 8,800 plants at once in the Cultivation Area

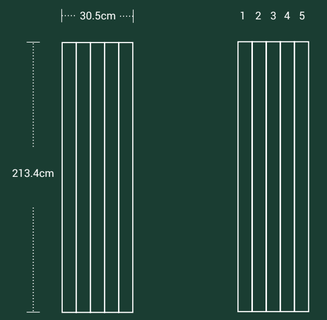
Designed for growing and nourishing large plants, the Cultivation Area features water-efficient drip irrigation hydroponics, high-capacity Plant Panels, and an innovative mobile rack system. Combined, these components create a lush 20.5 square meter production space.

TOTAL CAPACITY: **8,800 PLANTS**
TOTAL GROW ROWS: **4**
GROWING SPACE: **20.5 SQ. MT**
LINEAR GROWING SPACE: **938.8 M**

HIGH-DENSITY PLANT PANELS

Maximize all usable space to unlock new crop possibilities, farming styles, and yield potentials

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

939 Meters
Total linear planting space

BUILT FROM

High-Impact Polystyrene
Food safe panel material

Inert Reticulated Foam
Food safe growing medium

Built from food safe materials

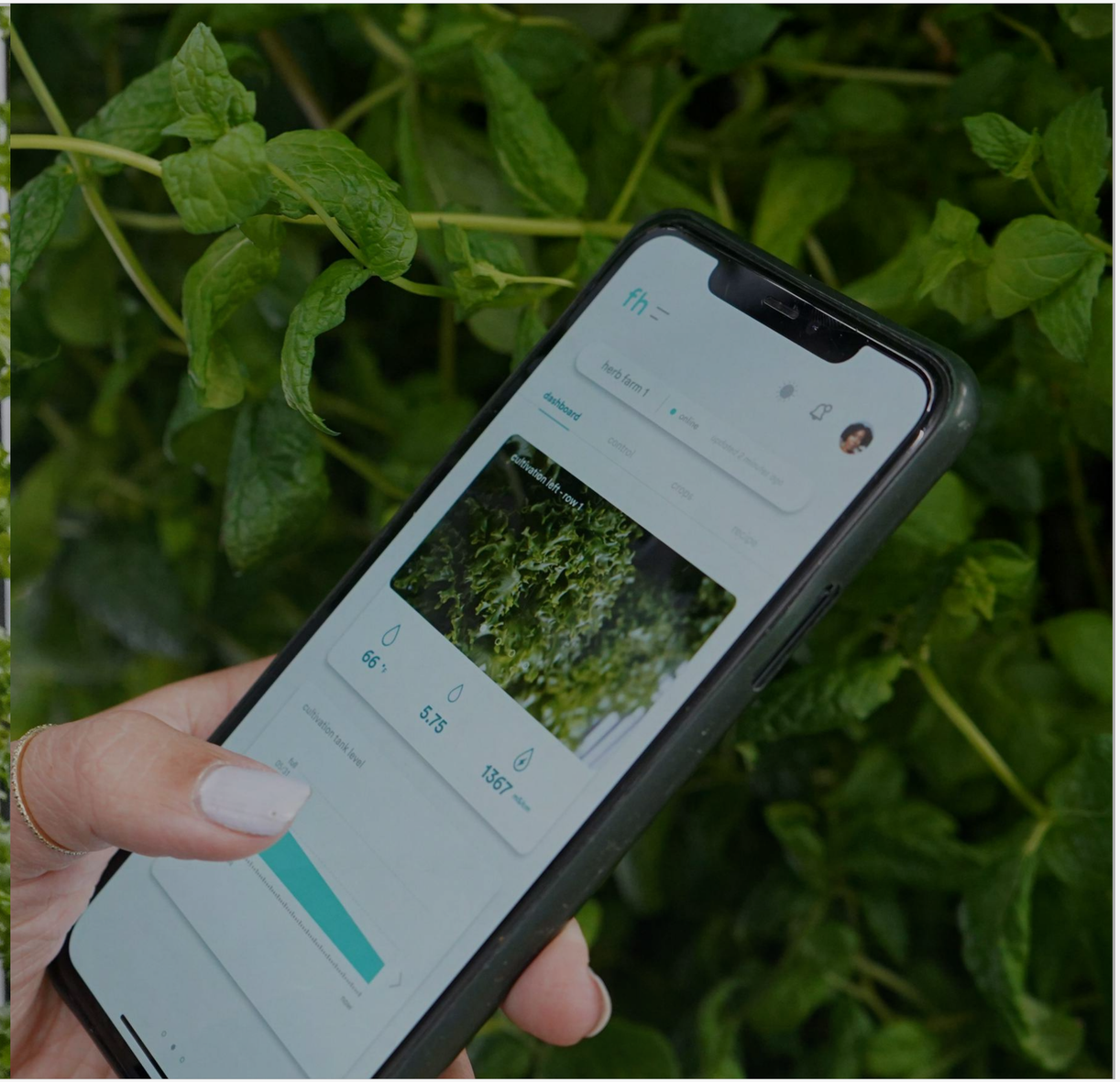
All five channels are paired with a reticulated foam growing medium and an anti-drip saturation strip, which gives plants a structure on which to grow while ensuring moisture remains at the roots.

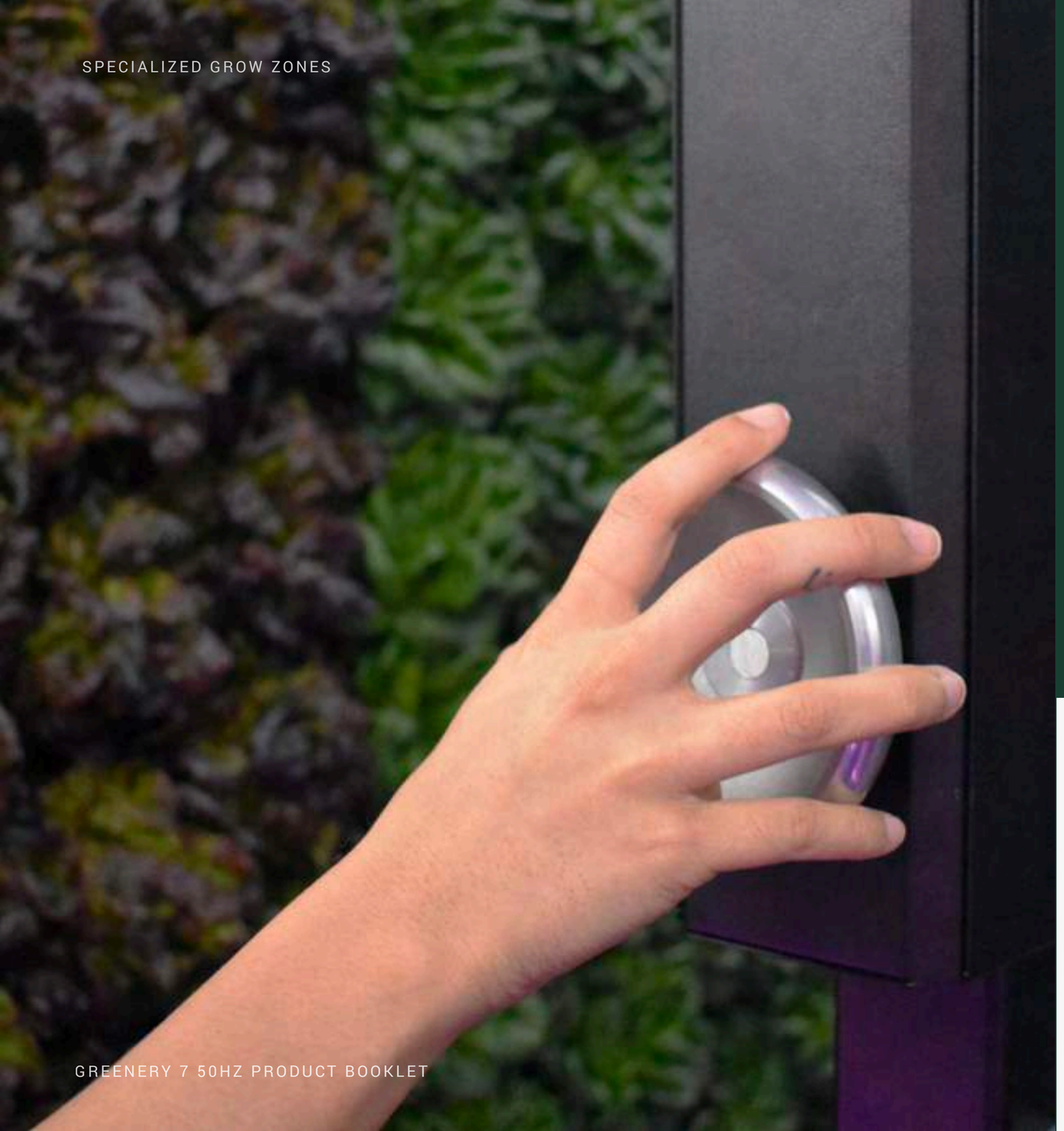
Each Plant Panel can house up to 125 plant sites depending on the crop type and planting style

See page 28 for planting techniques

Monitor crop health right from your phone

With a total of four farmhand-connected cameras in the Cultivation Area, along with a live data feed from smart sensors, operators can check up on their crop health and farm conditions remotely





MAXIMIZED GROWING SPACE

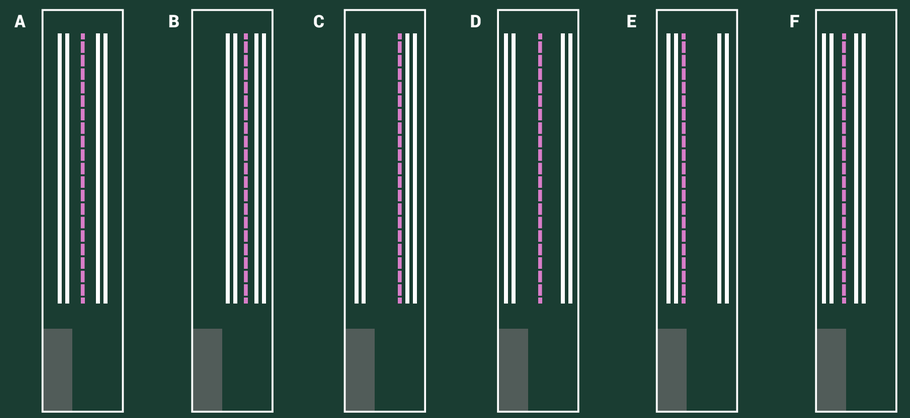
The entire hydroponic system in the Cultivation Area moves along overhead tracks, allowing you to transition the farm from a high-density growing environment to an open workspace.

NUMBER OF GROW ROWS: **4**

ADJUSTMENT SYSTEM: **RACK & PINION**

NUMBER OF FRAMES: **3**

RACK SYSTEM LOAD-BEARING CAPACITY: **590 KG MAX.**



Birds Eye view of the Cultivation Area

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 46 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 7 is able to accommodate both simultaneously.

STAYING ON TRACK

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 tracking feature designed to simplify the planning behind a consistent and diverse harvest.

Visualize crop scheduling and gain clarity into your entire operation in a glance

Generate higher yields over time using insights from seed-to-harvest tracking

Streamline team communication and avoid operations errors

Dynamic Lighting in the Greenery™ 7

Flip the Switch on Plant Growth

Versatile Growing Recipes

Pick a crop type from the crop recipes, and let farmhand® do the rest. Each recipe is paired with a power mode, set the Greenery™ 7 in Standard Mode to ensure a balance of power and efficient growing, or put it in Performance Mode to accelerate yield output.

Optimized Efficiency

Based on desired yields, flavor profiles, efficiency metrics, farmhand prepares the ultimate farm settings to ensure you meet your goals while optimizing energy consumption.

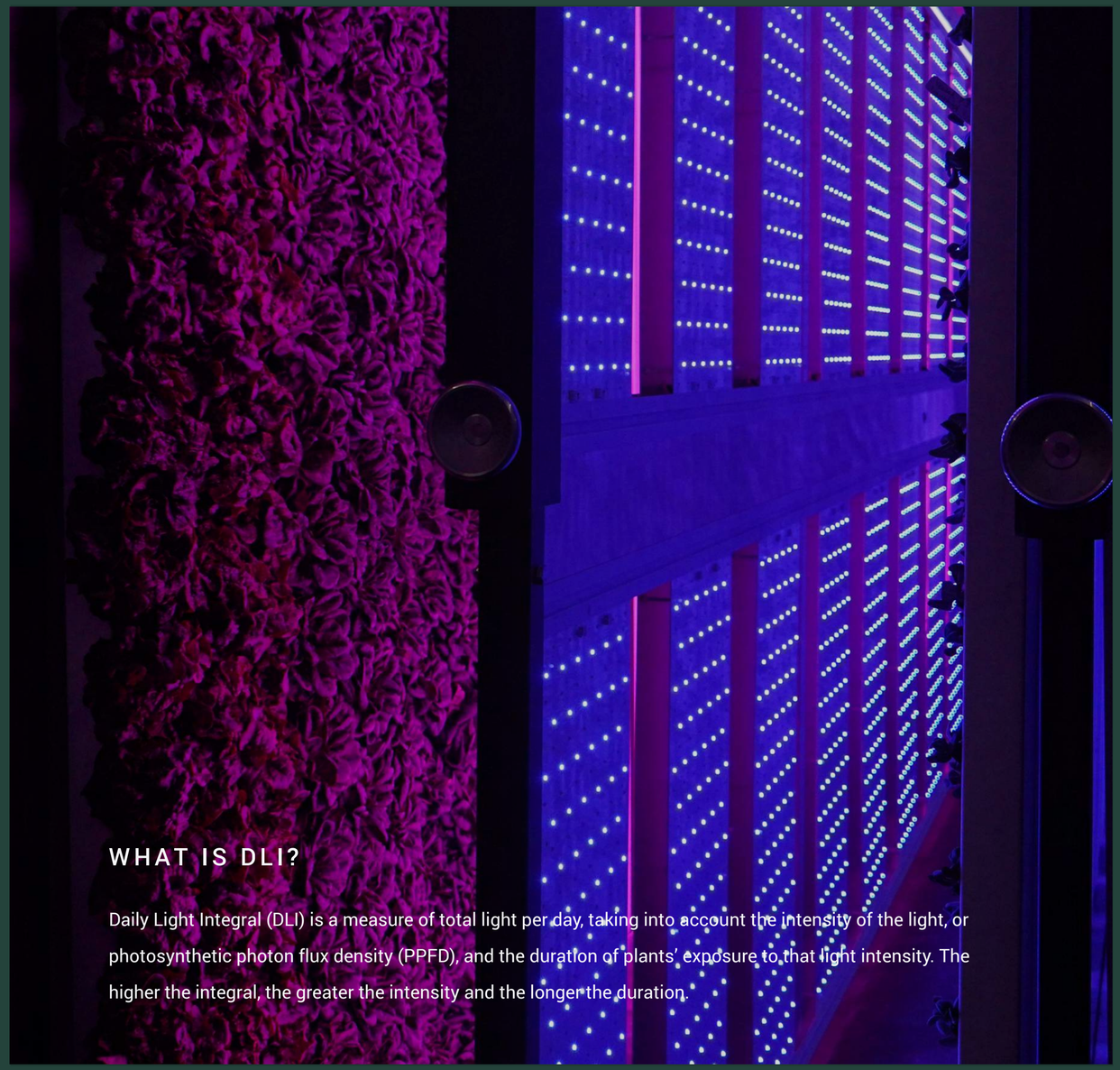
Full Dynamic Control

Operators have complete control over adjusting the color, brightness, and duration of each LED wall independently, allowing them to achieve a high level of precision in control

DYNAMIC LIGHTING CONTROL

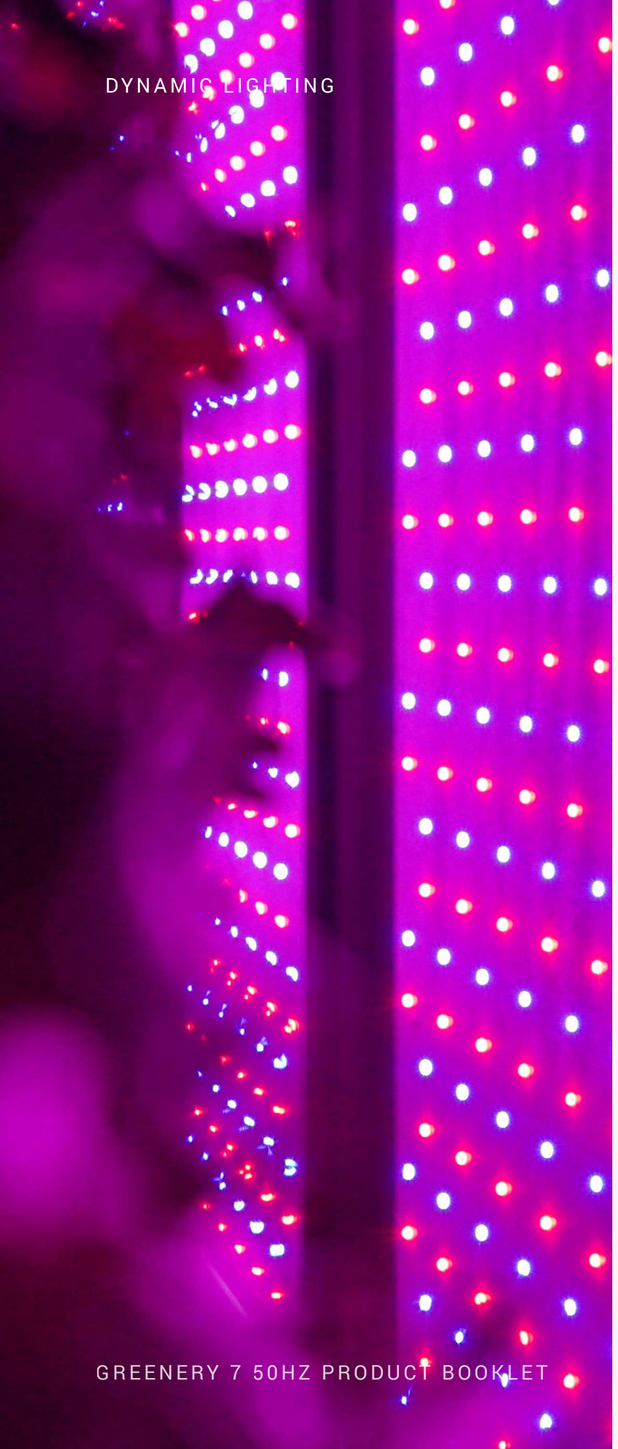
The Greenery™ 7 gives the operator full control over their LED power and efficiency, allowing each individual user to adjust farm operations to suit their priorities.

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, or photosynthetic photon flux density (PPFD), and the duration of plants' exposure to that light intensity. The higher the integral, the greater the intensity and the longer the duration.



COLOR BALANCE

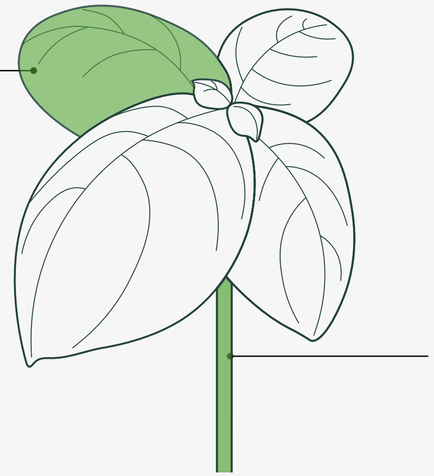
The LED boards of the Greenery™ 7 emit only select wavelengths of red and blue light, colors that the plants are able to absorb most easily for photosynthesis.

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.
Plants' blue light receptors trigger "apical dominance" — 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.

DYNAMIC POWER MODES

Greenery™ 7 offers three pre-set power modes, complemented by Farmhand's built-in recipes. Additionally, operators have the flexibility to customizerecipes according to their specific crop needs and priorities, providing unparalleled control over their cultivation process.

Eco Mode 9 - 13 DLI

Decrease energy consumption to save on electricity and prioritize efficiency. This recommendation is suitable for operators focused on education rather than prioritizing business goals.

CORE RECIPES:
- ECO LETTUCE
- ECO HERB
- ECO FLOWER
- ECO SPRING MIX

Standard Mode 12 - 19 DLI

This default setting ensures a balance of power and efficiency, making it recommended for new operators with business goals.

CORE RECIPES:
- STANDARD LETTUCE
- STANDARD HERB
- STANDARD FLOWER
- STANDARD SPRING MIX

Performance Mode 15 - 22 DLI

To maximize growth rate and yields, increase light intensity and ensure CO_2 supplementation. This mode is recommended for advanced operators.

CORE RECIPES:
- PERFORMANCE LETTUCE
- PERFORMANCE HERB
- PERFORMANCE FLOWER
- PERFORMANCE SPRING MIX

HIGH EFFICIENCY LED ARRAY

Bringing the sun indoors, day or night.

Freight Farms' proprietary high-efficiency LED boards harness specific light wavelengths and optimized schedules to accelerate plant growth and development. By leveraging these capabilities, operators are empowered to tailor their schedules while maximizing efficiency. Capitalize on cheaper nighttime electricity rates, illuminating the farm when the world sleeps and enabling daytime work without LED interference.

NURSERY STATION LED

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CULTIVATION AREA LED

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NURSERY STATION 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. With a higher proportion of blue light compared to the Cultivation Area, the Nursery Area's lights encourage strong root and stem growth in young plants.

TOTAL NUMBER OF LED BOARDS: **4**

LED BOARD DIMENSIONS: **106.7 CM X 37.5 CM X 0.16 CM**

INTENSITY AT CANOPY: **12 DLI (298 PPFD)**

SPECTRUM: **HYPER RED – 650NM , DEEP BLUE – 450NM, WHITE – FULL SPECTRUM**

GROW ZONE

Cultivation Area 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.

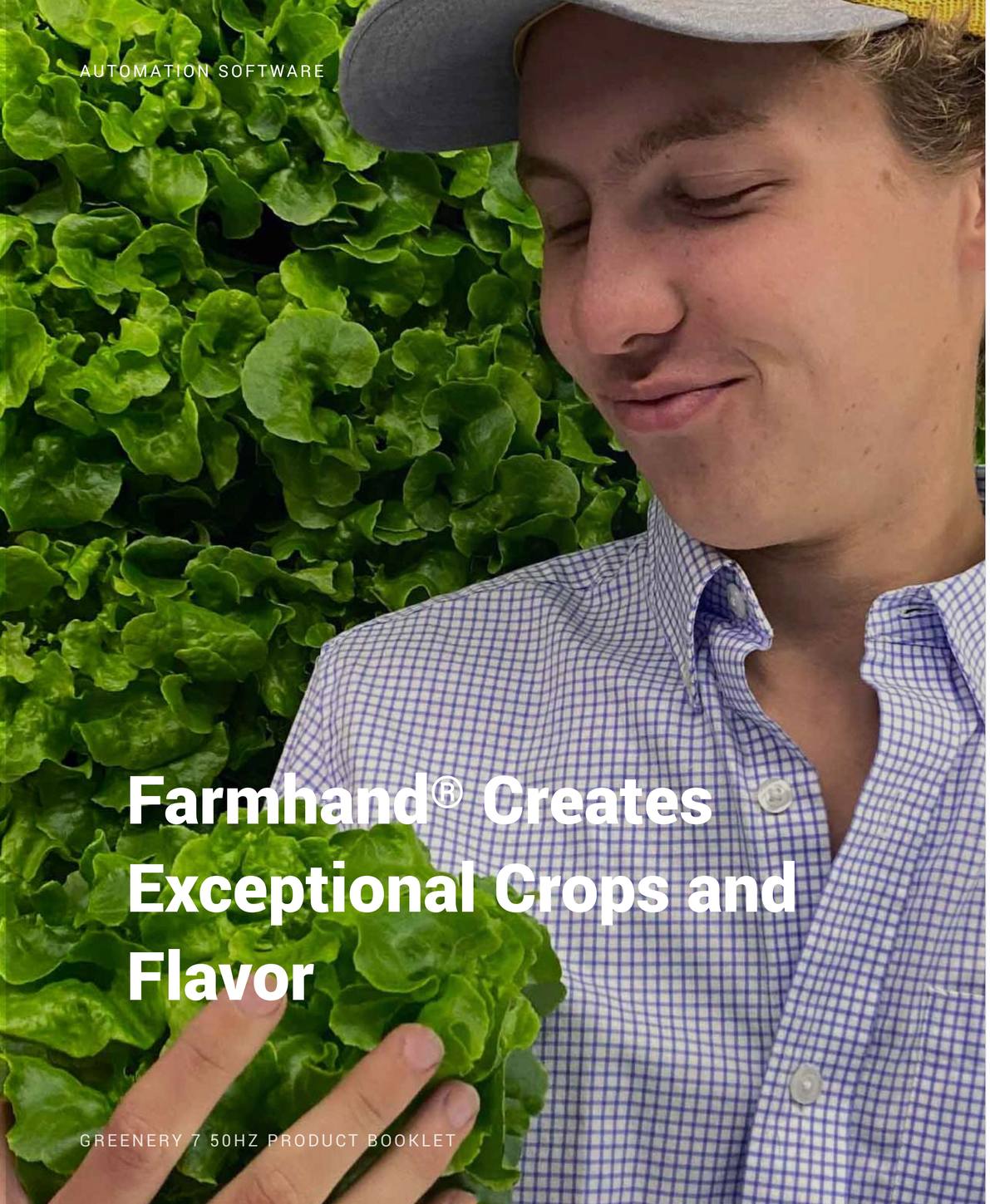
TOTAL NUMBER OF LED BOARDS: **120**

LED BOARD DIMENSIONS: **97.8 CM X 35 CM X 0.16 CM**

INTENSITY AT CANOPY: **9–18 DLI (208–342 PPFD)**

SPECTRUM: **HYPER RED – 650NM, DEEP BLUE – 450NM**

Farmhand® Automation Software



Farmhand® Creates Exceptional Crops and Flavor

Grow Specialty Crops

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

Boost Flavor

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

Recreate Historic Moments

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

Get Consistent Production

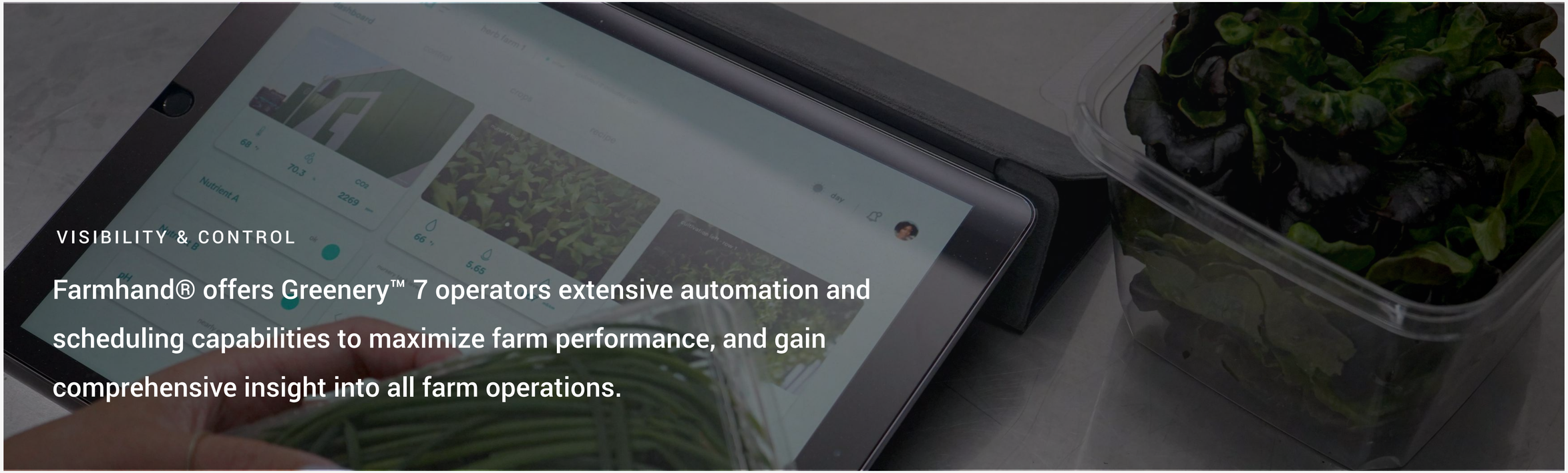
Use farmhand® to untether crops from their typical growing season and guarantee consistent quality and quantity all year long.

SMARTER SENSORS

The sensors in the Greenery 7 allow for the highest level of communication between software and hardware.

Take full control of your farm, drive consistent plant production, and find clarity in your farm data with an easy-to-use interface that uses in-farm IoT sensors to keep you connected to your farms — anytime, anywhere.

NUMBER OF ZONES FOR HYDRO ZONE:	**3 HYDRO ZONES (NURSERY - PH, EC, WATER TEMP)** **3 HYDRO ZONES (CULTIVATION - PH, EC, WATER TEMP)**
NUMBER OF ZONES FOR CLIMATE ZONE:	**1 CLIMATE ZONE (TEMP, RH%, CO_2)**
NUMBER OF TANK DEPTH SENSORS:	**1 SENSOR (NURSERY TANK)** **1 SENSOR (CULTIVATION TANK)**
NUMBER OF TROUGH OPTICAL SENSORS:	**2 SENSORS (NURSERY STATION)**
NUMBER OF DOSING CABINET OPTICAL SENSORS:	**4 SENSORS (NURSERY STATION)** **4 SENSORS (CULTIVATION AREA)**



VISIBILITY & CONTROL

Farmhand® offers Greenery™ 7 operators extensive automation and scheduling capabilities to maximize farm performance, and gain comprehensive insight into all farm operations.

Complete Automation & Scheduling

Each of the light, air, and water systems within the Greenery 7 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 7 from anywhere. Integrated sensors and cameras feed farm information directly to the app, giving the operator full visibility into farm operations and complete remote control over farm functions.

Alerts and Notifications

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

GAIN FULL CLARITY INTO YOUR OPERATIONS

Farmhand® is the key to growing successfully in your Greenery™ 7.

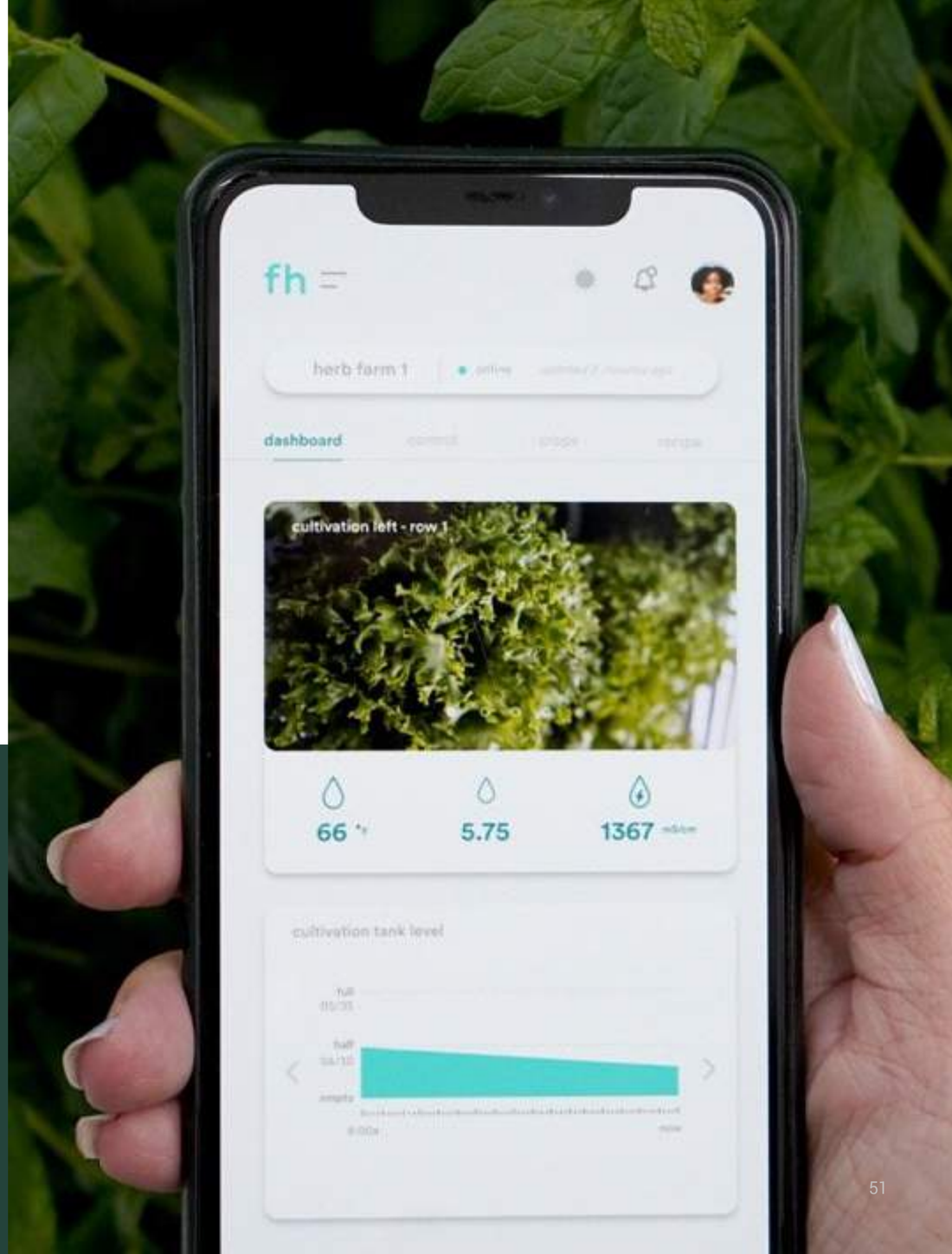
Farmhand® simplifies plant cultivation, providing insights through billions of data points collected from farm sensors and automatically updated user logs. By analyzing in-farm conditions, yields, and energy efficiency, users gain valuable understanding and maximize productivity.

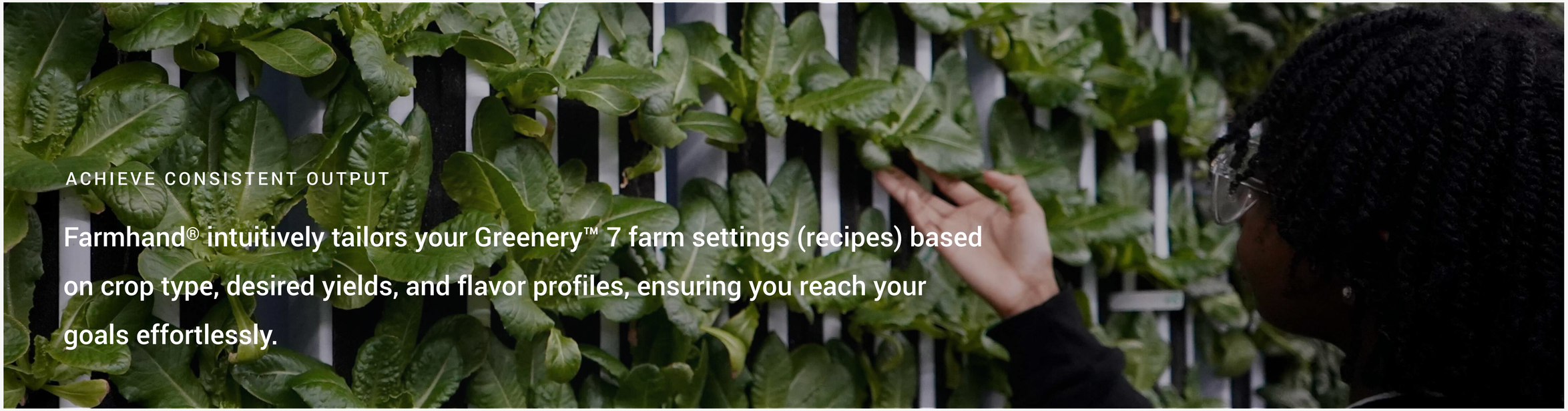
NUMBER OF CONTROLLED OUTPUTS: **38**

NUMBER OF CORE RECIPES: **12**

NUMBER OF FARMHAND CONNECTED CAMERAS: **X2 NURSERY STATION, X4 CULTIVATION AREA**

OPERATING PLATFORMS: **WEB, IOS, AND ANDROID**





ACHIEVE CONSISTENT OUTPUT

Farmhand® intuitively tailors your Greenery™ 7 farm settings (recipes) based on crop type, desired yields, and flavor profiles, ensuring you reach your goals effortlessly.

Growing Recipes

Recipes are the complete automation package. Operators can simply select the crop type they are growing and farmhand® takes care of the rest. Farmers are now able to build and save custom recipes to hone in on particular crop characteristics, and can share them with the global network via Farmhand Community.

Yield Tracking

The first step in optimizing your yields is to compile data! This is the only data that needs to be entered manually as you harvest. You can then compare your harvests over time and in conjunction with other farm data to see if certain settings generate higher yields.

Integrated Community & Support

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

GREENERY™ 7 50Hz SPECIFICATIONS

Site Requirements

SITE

Place the Greenery™ 7 on a flat, unobstructed plot measuring 15m x 3m. The site surface must support the farm's 8,000 Kilograms gross weight. Asphalt, trap rock, railroad ties, sonotubes, or a concrete pad are all adequate. The Greenery 7 should be pitched so that the front of the farm is approximately 5 centimeters higher than the rear of the farm.

ELECTRICITY

The Greenery 7 comes standard 415V three-phase, two connections, one 32A and one 30A 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 7 uses an average of 23 liters of water a day. The site should have water access within 15 meters; alternatively, operators can schedule regular water deliveries.

WIFI

A WiFi signal is necessary for farmhand® connectivity. Farmhand will use about 5 GB of data 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.

SOFTWARE

Farmhand software is required to properly operate 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, grants access to farmhand Community, farmhand academy, and Knowledge Base.

Container & Climate

Container Overview

Dimensions	12.2m x 2.4m x 2.9m
Weight	8,000 Kilograms
Exterior SQMT	30 Square Meters
Container Thermal U-Value	180 BTU/hr/C
Container Construction	Insulated high cube container with inset rear to allow for intermodal shipping
Container Exterior Material	Painted steel and stainless steel cladding
Container Door Construction	60/40 container door with header

Climate Control Unit

Climate Range Conditions	From -46°C to 54°C
Capacity	10.6kW at 35ºC
Cooling	10ºC at 21ºC 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	20.3cm
Integrated Dehumidifier	6.6L/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	106.7cm x 37.5cm x 0.16cm
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	120
Number of LED Arrays	4
LED Boards Dimensions	97.8 cm x 35 cm x 0.16 cm
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°, FWHM 50%

Dynamic Lighting Control

PPFD is measured at 40cm from canopy

Full dynamic range dimming allows for independent control of spectra and DLI

Eco Mode	9 - 13 DLI
Standard Mode	12 - 19 DLI
Performance Mode	15 - 22 DLI

Delivery Disclaimer: At Freight Farms, we take pride in delivering high-quality container farms to our valued customers. However, we would like to inform our customers that occasionally, during the delivery process, minor imperfections may occur on the exterior of the containers. These imperfections, such as scuffs or small dents, are typically the result of handling during transportation and are purely cosmetic in nature. They do not affect the functionality or performance of the container farm itself. Rest assured, we thoroughly inspect and test each container farm before it leaves our facility to ensure it meets our stringent quality standards. If you receive your farm with a dent that has penetrated the exterior shell, please document and contact your Customer Support Specialist.

Hydroponics

Irrigation	
Daily Water Usage	23 Liters
Recirculation Pump Filtration	6 nylon monofilament meshes
Aeration System	3020 L/hr fluid oxygenator
Mesh Rating	75 micron
Number of Peristaltic Dosing Pumps	8
Peristaltic Dosing Pumps Flow Rate	113 ml/min @ 24V

Nursery Station	
Hydroponics System	Dual 1,893 L/hr Fill Pumps Dual 45 L Ebb & Flow Troughs
Nursery Tank Location	Under Nursery Worktable
Nursery Tank Capacity	113.6 L Continuous Mix 946 L/hr Recirculation flow circuit with in-tank aerator
Nutrient Delivery	Four dedicated 50/ml/m pump injection
Nutrient Tank and Dosing Cabinet Location	Four 1-liter tube tanks located in the dosing cabinet right of Nursery Station

Cultivation Area	
Hydroponics System	Dual 4,164 L/hr 1/2HP Pump with Spindown Filter Dual Zone Closed Loop Overhead Drip at 7.6 L/hr
Cultivation Tank Location	Back of Cultivation Area
Cultivation Tank Capacity	340 L, Continuous Mix 1892 L/hr Recirculation Flow Circuit with In-tank Aerator
Nutrient Delivery	Four dedicated 50/ml/m pump injection
Nutrient Tank and Dosing Cabinet Location	Four 5-quart tube tanks located in the dosing cabinet in the back wall of Cultivation Area

Nursery Station

Nursery Station	
Seedling Capacity	Up to 4,608
Seedling Tray Capacity	16 trays
Number of Seedling Troughs	Two full-width seedling troughs

Worktables

Nursery Station Worktable	
Table Dimensions	235.5 cm x 75.2 cm x 109.2 cm
Table Construction	TIG-welded stainless steel

Cultivation Station Worktable	
Table Dimensions	76 cm x 42 cm x 30 cm
Table Construction	TIG-welded stainless steel

Plant Panels & Adjustable Rows in Cultivation Area

Plant Panel	
Plant Panel Design	5-channel
Plant Panel Dimensions	30.5cm x 213.4cm
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	93,898 cm/ 938.8 m

Adjustable Rows	
Number of Grow Rows	4
Adjustment System	Rack-and-pinion
System Load-Bearing Capacity	590 kg 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 1 Climate Zone
Number of Sensors	6 Hydro Zone Sensors • 3 sensors in Nursery Station (pH, EC, and water temperature) • 3 sensors in Cultivation Area (pH, EC nutrient, and water temperature 3 Climate Zone Sensors • 3 sensors (Air Temperature, RH%, CO_2) 2 Water Depth Sensors • 1 water depth sensor in Nursery tank • 1 water depth sensor in Cultivation tank 8 Dosing Cabinet Optical Sensors • 4 dosing cabinet optical sensor in Nursery tank • 4 dosing cabinet optical sensor in Cultivation tank 2 Nursery Trough Optical Sensors

Farmhand Connected Cameras

Number of Cameras	2 Cameras in Nursery Station 4 Cameras in Cultivation Area
Camera Resolution	960P 1.3 megapixel (1296 x730P) 140° viewing angle
Camera Data Storage	Cloud storage

Bluetooth® Speakers

Number of Speakers	2 Dayton Audio Speakers, 16.5cm Indoor/Outdoor Pair w/ 2.5cm Metalized Tweeter and 16.5cm Polypropelyne Subwoofer
Speaker Connection	Bluetooth® connected
Speaker Construction	Weather-resistant ABS plastic enclosure and aluminum grills Polypropylene 5-$^1/_4$-in woofer Metaled Mylar 1-in dome tweeter

Learn more about how to bring a Greenery™ 7 to your location

Get Individualized Assistance

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