

# F3 User Manual

Updated: February 23, 2024



This manual walks you through the essential setup and maintenance steps to grow with Farmshelf.

Managing your account, getting help, and accessing more topics are a click away-

Visit the Help Widget in the bottom right corner of our website www.farmshelf.com

Email us at support@farmshelf.com

Farmshelf makes it easy to grow fresh, nutritious food all year long. You'll be a pro in no time!

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### SYSTEM OVERVIEW



- Welcome to Farmshelf! We can't wait to get you growing.
- Here are the main components of Farmshelf to get familiar with (refer to diagram above).
- The power switch and socket are located on the back, right corner of Farmshelf. Ensure you have an available power outlet closeby (120VAC, 8 amps). Plug in the provided power cord, and flip the power switch to on.
- We encourage you to level and lock the wheels of Farmshelf using the leveling casters.

# **STARTER KIT**

- Remove all starter kit items from the Farmshelf they arrive packaged in the water tank. Gently pull the water tank out towards you to access and remove the items.
- Store these items in a dry, clean place. You'll learn when and how to use them throughout the crop lifecycle.
- Remove all visible packaging tape from inside the Farmshelf before use.

Microfiber cleaning cloth, trimming shears, black caps, nursery watering vessel, diluted ethanol alcohol cleaning solution (for nursery and grow shelf basins), hydrogen peroxide cleaning solution (for plumbing), graduated cylinder (for measuring), and cleaning squeegee



# **SUBSCRIPTION**

You will choose up to 3 crop varieties, 1 crop per shelf for each Farmshelf system, ranging from about 60 culinary herbs and leafy green vegetables to lettuce and salad mixes and edibles flowers.



Note: Subscriptions should be ordered per Farmshelf. Your first order should be expected within 7-10 business days and 24 hour processing. Seeds should be kept in a dry, cool space if not planted right away. After **2 weeks** if your seeds are not planted, your success rate will decrease. Any reorders will be added to the queue and follow the same window of delivery.

### FIRST-TIME SETUP

- Farmshelf should have a designated operator It is important to assign a specific caretaker.
- You'll want to reference your User Manual for your first time on each step.
- Your Farmshelf Unit ID is specific to your Farmshelf and lives on your touchscreen.
- Your options for connection are wifi via the settings tab on the touchscreen or ethernet located on the back of the Farmshelf.
- Pairing your Farmshelf to internet will give you access to a remote monitoring feature and access to remote assistance. This will give you the best experience.
- Note: Your subscription pin to pair your Farmshelf may take up to 24 hours to send via text. If a pin is attempted without internet connection, you will receive an error.

\*INTERNET is not required but optimal for Farmshelf to operate optimally and to reap the benefits of remote monitoring. Farmshelf can connect to the internet via Wi-Fi or ethernet. If Farmshelf is not connected to the internet for more than 48 hours, service is interrupted and Farmshelf Corporation cannot be responsible for plant health and unit monitoring. If an active Farmshelf is not connected to the internet for more than 7 days (and the customer does not acknowledge the issue in writing in that time period and is trying to resolve), the Farmshelf warranty is voided. Customer acknowledges that internet is required for visibility of Farmshelf on the Farmcloud web-app, which includes customer notifications on the status of Farmshelf or pending tasks for their Farmshelf. Internet also enables periodic software updates to download to Farmshelf. Customer accepts that providing the internet connection to Farmshelf is their responsibility and understands the limitations and impact on warranty if they choose to not connect Farmshelf to the internet.

### FIRST-TIME SETUP Continued

# >> Web-app Expectations

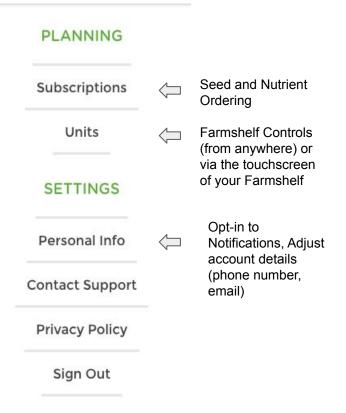
- Create an account on www.farmshelflabs.net or download the appto order seeds and get remote assistance from our team anytime!
- After creating an account, you will be locked out of the 'Subscription' tab function until a pairing pin has been sent to your mobile phone. (within 24 hours of making an account). You'll also be locked out of the 'Unit' tab until pairing is completed.
- If you have multiple Farmshelfs and received multiple pairing pins, use 1 pairing pin per Farmshelf.
- Ordering Seeds: Once you've submitted your form, your order will be processed and should arrive within 7-10 business days with 24 hour processing.
- Ordering Nutrients: Your shelf nutrients arrive in a second package. This is sent per seed order, no action is needed..
   Review the seedpods quick tips for more information and steps on starting your nursery.
- Internet is optional but optimal to gain access to all of the available features.

# Pairing your Farmshelf

If you have decided to not use internet please contact <a href="mailto:support@farmshelf.com">support@farmshelf.com</a> with your Unit ID and continue to Condensate Pan article.

- Step 1: Log into your Farmshelflabs account on <u>www.farmshelflabs.net</u>
   or download the app
- Step 2: Successfully connect your Farmshelf to the internet via the touchscreen under settings or ethernet port located on the back of the Farmshelf. (If you have whitelisted your Farmshelf, you will also need to add credentials to the touch screen)
- Step 2: Enter the pairing pin provided via SMS to the touchscreen of your Farmshelf (if Internet has been added, this will be successful)
- Step 4: Click and find the 'Unit' Tab on your web-app. Select a Farmshelf and checkmark "ON" the grow lights and "UPDATE" at the very bottom to test your Internet connection.
- Step 5: If your Farmshelf's lights come on, you have successfully PAIRED. (It is optional to pair your Farmshelf)

# **Web-App** (Format is subject to change per touchscreen update)

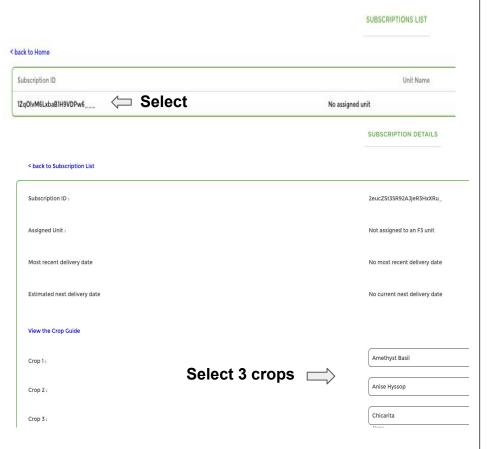


# More features

- Authorized Users: Give access to Farmshelf Controls on-the-go options, ordering seeds, nutrients and notifications. Have the user create an account at <u>Farmshelflabs.net</u> and email <u>support@farmshelf.com</u> with the Unit ID you'd like to permit access to.
- The 'Unit' tab will not be open to those who are not paired. This is an optional step.

Need support? Email Support@farmshelf.com

# 'Subscriptions'



# 'Units'



UNIT DETAILS

Unit ID is your unique identifier of each Farmshelf (also located on the touchscreen)

Rename your Farmshelf for easy seed ordering. This will also show on your touchscreen.

You are not paired (Your Farmshelf pairing pin has not been added to your web-app) Review "Pairing your Farmshelf" Pg. 5 (optional)

Unit Name

No assigned unit

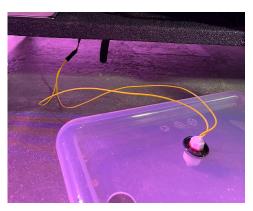
### **CONDENSATE PAN\***

\*Only on select models; this feature was optimized to be internal to the unit for most recent releases.

The A/C condensate collection pan gets placed on the floor underneath your Farmshelf.

Depending on your version of Farmshelf (Image Left) with tubing fed into it and attached to a connector/cable.

(Image Right) A lid with no bottom will slide and pop into the bottom groove of the Farmshelf. Remove lid on both left and right images to remove water from condensate pan and place back.





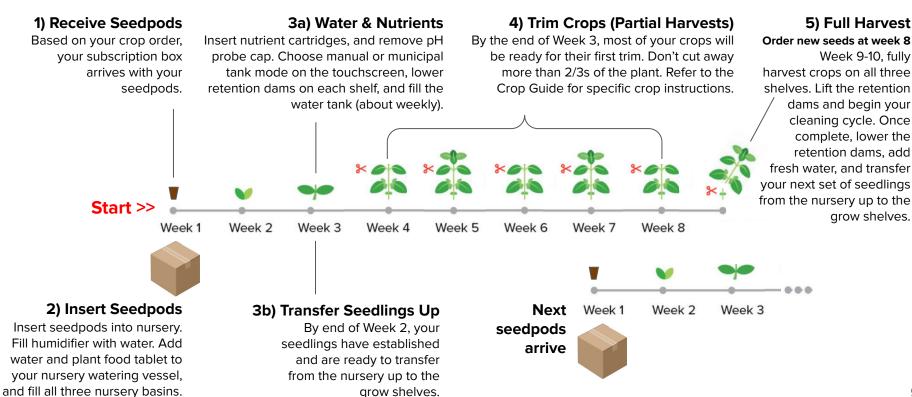
Our condensate collection pans are equipped with a smart sensor which will send feedback to your unit in the event that your collection pan is full and needs to be emptied.

This pan will need to be checked weekly or bi-weekly. Dependent on your humidity levels in your building/ state.

No further assembly is needed.

# **CROP LIFECYCLE**

This diagram shows one full subscription growing cycle - from seed pod to final, full harvest.



# **SEEDPODS**



Open your subscription box, and carefully remove seedpod packages right side up - just like an egg carton. Locate the included plant food tablet and set aside for now.

If you received more than three cartons, store any extra cartons for up to 2 weeks\* - you'll insert them into the nursery after your first set of seedlings are established and transferred up.

\*NOTE: If you are not inserting all seedpods into the nursery the day you receive them, they need to be stored in a cool, dry, and closed space like a kitchen cabinet, cupboard, pantry, or cellar. The maximum time we recommend storing your seedpods for is **two weeks**.

Seedpods that are stored for longer periods may suffer from desiccation or decreased germination rates.

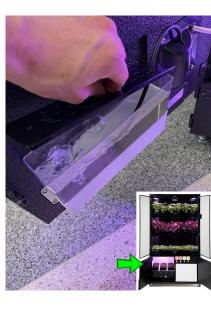
# NURSERY (1 of 2)

Humidifier will turn on as needed - this will not be on 24/7.

Remove the tubing from the lid of the **humidifier** located on the inside of the nursery door (see photo).

Remove the **humidifier** and bring to a sink for filling.

Fill the **humidifier** with clean water <sup>3</sup>/<sub>4</sub> of the way and place the full reservoir back onto the nursery door and return the tubing to the inlet hole.



Note: Seed trays in the nursery need to be filled to the top twice a week. As instructed in the Seedpod quicktip.

Reorder seeds as needed on your Farmshelflabs account - we encourage reordering on week 6 of you crop cycle.

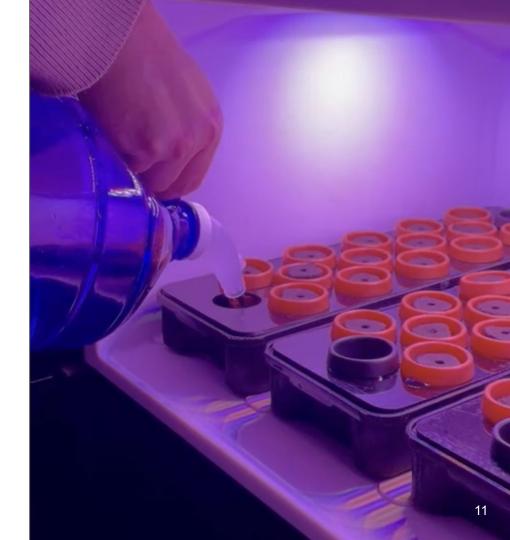
# NURSERY (2 of 2)

- Place seed pods into the empty slots of the nursery tray cover(s).
- Fill the blue nursery watering vessel with clean water 3/4 of the way.
- Locate your plant nutrient vials and empty all of the contents one at a time as instructed.
- Agitate the watering vessel for 10-20 seconds.
- Fill each tray ¾ of the way with nutrient rich water.
- Remove the black fill cap from the front fill port in the tray covers, and use the watering vessel to fill the nursery basins with water <sup>3</sup>/<sub>4</sub> of the way..
- After you have finished filling the basins, return the black fill caps to the top fill ports. Close the Nursery door and wait for the allotted time - learn more on pg. 10: TRANSFERRING SEEDLINGS UP.

**Note:** The black caps should remain sealed on the nursery tray covers and not used for crops. Should you need new caps, email support@farmshelf.com.

Day 6 - Remove the fill caps from the tray covers to see if the
water level is low. If the water level is low, top off with fresh
water. Close the doors and allow for another 2-3 days of
germination before checking on the crops again. Checking on
the water levels every few days.

**NOTE:** The humidifier will need to be refilled regularly.



### TRANSFERRING SEEDLINGS UP

**Day 10-14** - Open the nursery to see if your seedlings are ready to move up to the grow shelves. Most plants will be ready for transferring in 14 days. Each crop will have its own timeline and may require additional days to spring true leaves. Once you see the formation of <u>true leaves</u> you are ready to transfer up. Learn more about your crops in the <u>Crop Guide</u>.

Turn OFF your nursery when not in use. Both shelves and nursery can

be on at the same time.

Begin transferring one tray per grow shelf at a time, selecting the 12 healthiest plant pods with true leaves.



### **CLEANING THE NURSERY**

- This step is <u>critical</u> to maintain a sanitary growing environment for the next seedpods.
- After all of the basins have been transferred, bring the basins, tray covers, and humidity reservoir to a sink.
- Empty any remaining water from the nursery basins, tray covers, and humidifier.
- Wipe down the inside of the nursery with your diluted ethanol cleaning spray and microfiber wipe before placing the basins, tray covers, and humidifier back in place.

#### **TOUCHSCREEN CONTROLS**

Turn off the nursery under 'Lights'.

**NOTE:** The nursery should remain online for the duration of seedling growth and be turned off when there are no plants in the nursery. Both can be working simultaneously, it's encouraged to turn off the nursery when not in use.

# **NUTRIENTS & BUFFERS** - using the Auto-Doser\*



- The Farmshelf automatically adds nutrients and buffers to the water. ust swap in fresh cartridges that will come in your subscription box.
- Before inserting cartridges into Farmshelf, remove the protective cap from each of the four cartridges.
- Click into port fully, the nozzle should sit above the black teeth of the Farmshelf.
- Open the bottom right hatch (access panel) on your Farmshelf.
- Insert cartridges in left to right order: Nutrient A, Nutrient B, Buffer Up, Buffer Down (as illustrated above).
- Close the hatch.

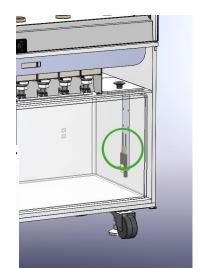
\*NOTE: if you are using vials, refer to instructions in Appendix.

### FIRST-TIME WATERING SETUP

Remove the cap from the pH probe. This process is only performed once - the very first time you prepare to add water to the main tank and shouldn't be performed earlier. When prompted by the touchscreen, remove the cap from the pH probe. The pH probe has a **red cable cover** (see photos below). Handle the probe gently, and place the probe back into the holder once the cap is removed. Store the cap somewhere safe.

#### Choose the tank mode

- On the touchscreen, select TANK menu at top.
- Choose Manual Fill or Municipal Fill from the drop-down.
- Then, select FILL menu at top, and follow on-screen prompts.





### MANUAL WATER FILLING - Water cart

This method means you will be filling your water cart from a sink or spigot and connecting it up to Farmshelf via the provided quick connect hose. You should expect to refill Farmshelf once a week.

- Fill your cart with fresh, cold water from a sink using the included hose with universal sink adaptor.
- When prompted by the touchscreen, disconnect the tank hose (see photo below/right), and connect your cart's fill hose.
- Follow along on the touchscreen to observe the water level as you fill.
- When finished, disconnect your cart's fill hose, reconnect the tank hose, and close the water door/hatch.



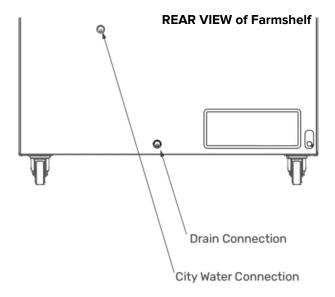


### MUNICIPAL WATER FILLING

This method means you will setup a municipal water line to Farmshelf.

Municipal fill and/or drain water connections should be installed by a certified plumber only. You will still need to use the touchscreen to initiate water filling. You should expect to refill Farmshelf once a week.

- Water should be 20-26 °C (68-78 °F).
- Both fill and drain fittings on the Farmshelf are 3/4" threaded.
- Maximum component rating is 100 psi, and the recommended inlet pressure is 50-75 psi.



# **MANUAL WATER FILLING - Water Hose**

### Fill Procedure:

- Connect one end of the hose to the sink and the other end to the fill port in the front of the unit
- Turn on the faucet to pressurize the hose
- Follow the standard manual fill procedure via the touchscreen

#### Drain Procedure:

- Connect one end of the hose to the drain port in the front of the unit and place the other end loosely in the sink
- Follow the standard manual drain procedure via the touchscreen





# **Water Hose Details**

Two things to consider when choosing this option are the distance of your sink to the Farmshelf (you have a choice of 50 ft or 75 ft hose length), and the type of thread connection on the end of your sink faucet. The sink diverter can be connected to a faucet with a standard 55/64" male thread by removing the existing female aerator (no adapter is needed). If this thread size does not work for your faucet, we recommend purchasing a universal adapter kit that will allow you to mount the sink diverter to any faucet.

# **HARVESTING**

Different crops require different harvesting techniques — **visit the**<u>Crop Guide</u> for more information. Example techniques are also illustrated on the next page.

Remember that most weeks, you will *trim* your crops, or what we like to call a partial harvest. Refer also to pg. 5: CROP LIFECYCLE. Here are some additional tips:

- Unless it's the end of the lifecycle, don't cut away more than 2/3s of the plant. The exception is lettuce - you will always do a full cut-down of lettuce when you harvest.
- If your crops are reaching the lights or tipping over, they're ready for a trim.
- Always clear away any fallen leaf debris to help preserve a sanitary growing environment.
- NOTE: Avoid chopping a crop down at its base unless you've reached the end of a lifecycle. Crops that get cut improperly will invite health and pest issues and disrupt your crop cycle. The goal is to do a trim or partial harvest to encourage regrowth and branching out (depending on the crop type). Proper trimming will result in even bigger, stronger, more productive crops in the weeks to come.



# **HARVESTING TECHNIQUES**

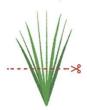
Amethyst basil Ocimum basilicum



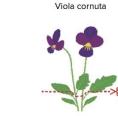
Sage Salvia officinalis



Chives Allium schoenoprasum



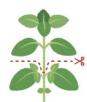
**Common mint** Mentha



Lemon basil

Ocimum basilicum

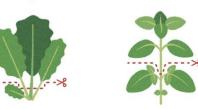
Viola



Ocimum basilicum



Green mustard Brassica juncea





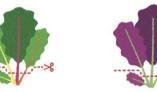
Mexican marigold Tagetes lemmoni



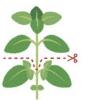
Swiss chard Beta vulgaris



Red komatsuna Brassica rapa perviridis



Genovese basil



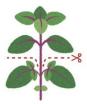
Za'atar Origanum syriacum



Green sorrel Rumex acetosa

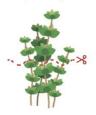


Thai basil Ocimum basilicum



Amaranth Amaranthus

Thyme Thymus vulgaris Chamaemelum nobile



Chamomile



Anise hyssop Agastache foeniculum



# **CLEANING AFTER FULL GROW CYCLE (1 of 2)**

After you fully harvest, it is <u>critical</u> to perform a deep clean of Farmshelf in order to maintain a sanitary growing environment for the next crops.

### What you'll need:

Nitrile Gloves or Cleaning Gloves (recommended) when operating Farmshelf

1 Alcohol Diluted Spray Bottle Fill/Drain Vessel (Bucket)

3-4 Cleaning Cloths 1 Soft Bristle Brush

1 Squeegee 1 Shears

1 Trash Bag / Compost Bag 1 pH Solution Kit

#### **Hydrogen Peroxide to Water Ratios:**

For 35% Hydrogen Peroxide, 25mL for every bucket (5 Gal) of water

For 12% Hydrogen Peroxide, 75 mL for every bucket

For 3% Hydrogen Peroxide, 300 mL for every bucket

**Step 1: Drain your Farmshelf**: Instructions will appear on your LCD Screen. Open the bottom compartment door on the left. You'll see two valves. The empty valve at the *top* is to **Drain**. Attach your water cart quick connection hose to this valve and wait for a click. On your touch screen activate drain mode under 'tank' and then select 'drain'. You can pause draining and filling if needed on the touch screen.

**Step 2: Turn off Water Circulation** - On your touchscreen under 'Settings' Turn OFF and update water circulation.

**Step 3: Root snipping** - Starting at the **top shelf**, lift the tray cover to find the roots of your crops. To remove crops from pods easier, use your shears to separate the connecting roots. Reattach the tray top and remove crops with the pods from the top- they should pop off easily. You'll also want to **remove all plastic pods** in this step. The tray should be empty.

**Step 4: Remove debris** - The less debris, the less likely you'll have clogs. Remove plant debris from the top of the tray. Lift to check the tray to remove floating debris.

**Step 5: Remove tray cover** - Remove covers completely from the unit and set aside to be cleaned. You'll also remove any floating matter. **Repeat steps 3-5 for each shelf.** 

**Note:** Covers are dishwasher safe. Warping is potential in high heat systems.

**Step 6: Release the dam on the top shelf** - Find the dam on the far right of the shelf and lift. Do this one shelf at a time. You'll hear the water start draining. Allow the water to drain fully. You'll also **remove** and **clean** the dam flap by pinching either side inward and lifting one side at a time- this is designed to be removed. Wipe down the dam flap and place back into the shelf by pinching and inserting one side at a time.

**Step 7: Squeegee Basin** - Use your squeegee and microfibers to push the remaining water towards the dam.

**Step 8: Soft Brush Scrub** - Using your brush and light force, scrub the left corner remembering to scrub on and around the water emitter. Follow up this step with scrubbing the back wall of the dam in the right corner. **Repeat step 6-8 on each shelf one by one.** 

# **CLEANING AFTER FULL GROW CYCLE (2 of 2)**

**Step 9: Hydrogen Peroxide Wipe** - Using pre-made hydrogen peroxide diluted spray, spray the base of the tray. Take a microfiber cloth and wipe down the basin thoroughly, wipe corners and the emitter in the left corner. Repeat on all shelves.

**Step 10: Drain remaining water** - Completely drain your unit of water.

**To Drain/Fill:** Instructions will appear on your LCD Screen. Open the bottom compartment door on the left. You'll see two valves. The empty valve at the *top* is to **Drain** and the bottom is **Fill**. Attach your water cart quick connection hose to this valve and wait for a click. On your touch screen activate drain mode under 'tank' and then select 'drain'. You can pause draining and filling if needed on the touch screen.

**Step 11: Sensor cleaning** - Find the water tank. Disconnect the 'fill valve' attached to the tank. Without removing fully, pull the tank out 2-3 inches to expose sensors. Find the sensor holder which holds 3 sensors attached to the right of the tank. Slowly wiggle and pull the sensors from the holder and gently wipe down. Reassemble the valve and tank.

**Note:** Avoid wiping the tip of the probes for a longer lifespan.

**Step 11: Tank wipe down** - Using your microfiber and hydrogen peroxide spray. Spray and wipe down the sides and floor of the tank.

**Step 12: Remove and clean filters** - Remove the tank lid. Reach for the black tubing and gently wiggle this up slightly. Grab and rinse filter in an available sink. Place filter back in its groove and pull down the black tube slightly.

**Step 13: Overnight flush unit** - Prepare your water cart with the water to hydrogen peroxide measurements. You'll be running a cycle of hydrogen peroxide diluted water through the unit. Be sure the unit is placed back together: Reinsert sensors, tank, tank lid.

Reconnect your quick connection hose and fill your unit to capacity with hydrogen peroxide diluted water by using the touch screen to activate fill. Close unit doors and allow the unit to run its full cycle overnight.

**Step 14: Morning drain** - Prepare your water cart and follow step 1 to drain the unit completely of hydrogen diluted water.

**Step 15: Refill unit** - Refill your unit with a normal water supply to capacity.

**Step 16:** Spot check - Do a quick spot check for debris, wipe down unit doors and you are ready to germinate. For more resources, and questions we are always available. Contact <a href="mailto:support@farmshelf.com">support@farmshelf.com</a> any time!

### SAFETY PRECAUTIONS

#### CAUTION

Health and safety regulations vary by jurisdiction. Prior to installation, operator must be aware of and must adhere to all local and state codes, including proper installation, plumbing and electrical hook up, as well as any health certificates that may be required when growing food in your establishment. Farmshelf assumes no responsibility for improper installation or use of this product or failure to adhere to local regulations.



#### **CAUTION: HEAVY OBJECT**

- Use lifting aids and proper lifting techniques when moving
- Make sure installation surface can support operational weight
- Do not lift or push the unit by holding the glass



#### **CAUTION: TIPPING HAZARD**

- Unit must be placed on hard, level surface
- Always unlock all four wheels before moving unit
- Do not climb on unit



#### **CAUTION: ELECTRIC SHOCK HAZARD**

- Disconnect this unit from electrical power before performing any maintenance or service



#### WARNING: ELECTRIC SHOCK HAZARD

 All service requiring access to non-insulated components must be performed by qualified service personnel. Failure to heed this warning may result in severe electric shock.

- Follow all instructions.
- Do not place or install the Farmshelf outdoors; only use in indoor spaces with an ambient temperature of 68F - 77F.
- 3. Do not place Farmshelf next to ovens, broilers, stoves, radiators, or any other apparatus that produces heat
- Do not place naked flame sources, such as lighted candles, anywhere on the Farmshelf, or within 2 feet
  of the exterior of the Farmshelf unit.
- 5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 6. Do not push the Farmshelf on a surface that has more than a 10 degree incline.
- 7. Protect the power cord from being walked on, pinched, or damaged.
- When not in use and during movement, please take care of the power cordset. It shall be free from sharp edges and the like that can cause abrasion of the power cordset. When put into use again, please make sure of the power cordset being not damaged. If any damages are found, please replace the power cordset.
- 9. Unplug the Farmshelf if/when any leaks occur, and contact support immediately.
- 10. Only use attachments/accessories specified by the manufacturer.
- 11. Inside the Farmshelf, only grow seeds and plants provided by Farmshelf.
- Never refill water directly into the grow trays; always use the fill/drain mechanism housed in the bottom front (for manual) or rear (for municipal) of the Farmshelf.
- 13. **WARNING**: Never place any persons or animals inside the Farmshelf.
- Refer all servicing to qualified service personnel. Servicing is required when the Farmshelf has been damaged in any way, or not working as intended.
- IMPORTANT: No glass or metal construction performed with adhesives is 100 percent fail safe.
   Conditions such as and not limited to excessive loads, whether accidentally or intentionally placed on the completed project, can cause a bond to fail.

### SOFTWARE UPDATE

In its sole discretion, Farmshelf may provide updates to your Farmshelf unit via the internet, including bug fixes and updates, changes in the user interface or how you access your Farmshelf, and other changes that may add, alter, or remove functionalities and features. You acknowledge that these updates

- (A) May happen automatically in the background at any time (and that they cannot be disabled by you);
- (B) Will require an internet connection and you may incur additional data charges from the provider of the internet connection.

You understand that these updates are necessary to maintain compatibility with other updates to Farmshelf products or services and may be required for security reasons. By using the Farmshelf, you hereby agree to receive such updates.

### **Export controls**

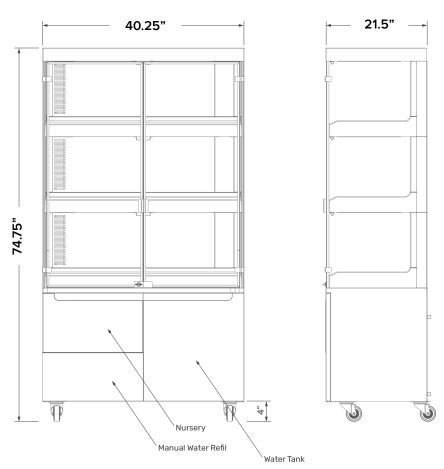
You agree not to download any content or software, nor otherwise export or re-export any hardware or the software into (or to a national or resident of) Cuba, Iraq, Libya, North Korea, Iran, Syria or any other country as to which the United States or your country has embargoed goods, or to anyone on the U.S. Treasury Department's list of specially designated nationals or the U.S. Commerce department's table of denial orders or on similar restricted lists published by your government from time to time. By using any Farmshelf hardware or the software, you are representing and warranting that you are not located in, under the control of, or a national or resident of any such country or on any such list.

### PRODUCT LABEL COPY

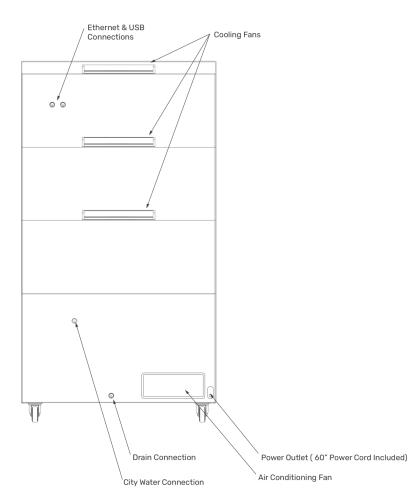


# **APPENDIX:**

# **FRONT & SIDE OF UNIT**



# **BACK OF UNIT**



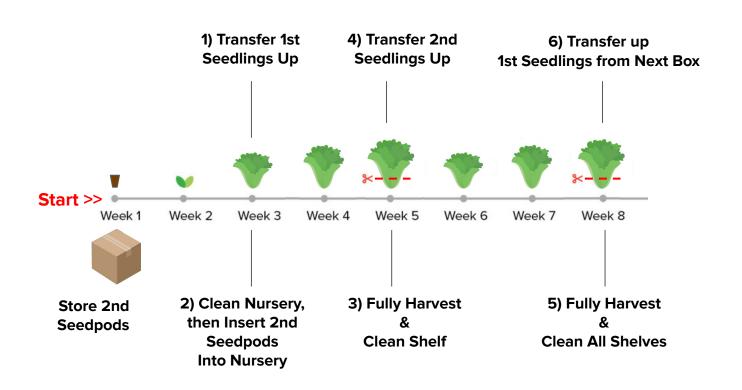
# APPENDIX: CUT SHEET / SPECIFICATIONS

Nursery	1 dedicated Nursery with capacity for 42 plant pods
Grow shelves	3 grow shelves each with one tray with capacity for 12 plant pods
Door latch	1 keyless door latch
Casters	Four adjustable height casters
Control	On-unit touchscreen <i>or</i> remote via Farmshelf App (web, ios, Android)
Autodoser	Four 1L solution slots
Cameras	3 cameras (one per grow shelf). Field of view includes interior of grow shelf only. Cameras may be disabled by the user.
Remote monitoring	Wireless connection for remote monitoring required
Plumbing	Municipal fill* and drain (recommended) <i>or</i> Manual fill and drain via quick connect
	*Maximum component rating is 100 psi, and the recommended inlet pressure is 50-75 psi.

Dimensions (including castors)	40.25" x 21.5" x 74.75" PLUS 3" buffer on all sides for ventilation
Materials of Construction	Aluminum, ABS, Glass, TPE
Dry weight	300 lbs (estimated)
Electrical Requirements	120 V AC, 8 amp minimum (type B plug)
Required Operating Conditions	Interior spaces 18-26 °C (64-78 °F) 20-50% relative humidity
Ventilation	3 inches of space around unit recommended. AC Intake is on the front of the unit and heat exchanger is on the back.
Physical Data Connections	1 RJ45 ethernet port, 1 USB A
Wireless Connection	802.11 WLAN 2.4GHz and 5 GHz
Plumbing connections*	Two inline quick connections on front of unit (one fill, one drain) Two ¾" NPT threaded fittings on rear of unit (one fill, one drain) Water should be 20-26 °C (68-78 °F)
Water Tank Capacity	13 gallons
Data security	All data is encrypted in transit Static ip connection is available

# APPENDIX: LETTUCE LIFECYCLE

Lettuces follow a modified plan consisting of 2 full harvests and *no* partial harvests. Refer back to pg. 5 for more information about the general crop lifecycle.



# **NUTRIENTS** (vial method)

You'll receive this package 14 days after delivery of your seedpods.

- 1. Ensure your Farmshelf is ready to be filled with water
  - a. If you have seedlings in the nursery, please move them up to the shelves of your Farmshelf system.
- ${\bf 2.}$  Use the provided water cart to fill the Farmshelf unit to capacity
  - a. If this is your first time filling up your Farmshelf unit, please scan the QR code on your water cart and follow the instructions on how to fill your Farmshelf (You may also refer to Quick tips- Watering).
- 3. Once your Farmshelf has been filled to capacity, remove the 'Week 1 Nutrient' pack from the 'Week 1 & 2 Nutrient' envelope.
- **4.** Open the right bottom door of your Farmshelf unit and slide off the probe cover lid (see image on right).
- **5.** Take '**Nutrient A**' from the packet and pour it into the tank.
- **6.** Wait one minute to allow the nutrient to settle into the water.
- **7.** Take 'Nutrient B' and pour into tank.
- **8.** Wait another full minute to allow the nutrient to settle into the water.
- **9.** Slide the probe cover lid back into place and close the tank door
- **10.** Repeat steps 1-9 every 7 days, using the next week's packet.

