

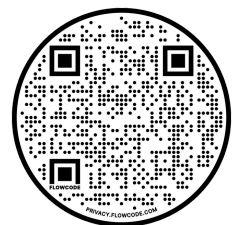
FLEX FARM™ **Grow Guide**



Grow Guide Videos

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Grow Guide Videos

[FARMATIVE.FORKFARMS.COM](https://farmative.forkfarms.com)
Version Date: May 2023 © Fork
Farms





Hello, we are Fork Farms

Fork Farms is for change-makers who are responsible for and passionate about nourishing people. We are taking a stand against food insecurity, and the health of people and the environment, by making the most efficient and transformative vertical farming technology on the planet. We are reinventing the global food system to accelerate local access to fresh food and inspire healthier living for all. Join our local food revolution.

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UNDERSTAND YOUR FLEX FARM

Your Flex Farm is a fully self-contained vertical hydroponic farming system. Hydroponics is the practice of growing without soil. Instead, you add nutrients directly to the water supply to feed the plants. As water runs down the panels to wet the roots, the plants will pull the nutrients right from the water.

Flex Farm vs.
Traditional Agriculture



**ZERO FOOD
MILES**



**98% LESS
LAND**



**98% LESS
WATER**

Flex Farm vs.
Hydroponic Competitors



**3.9X MORE ENERGY
EFFICIENT**

FARMATIVE™

ACCESS FARMATIVE TO ENHANCE YOUR GROWING EXPERIENCE

Farmative is Fork Farms' digital platform to access transformative and collaborative tools for your growing experience. This platform is 100% free to the Fork Farms community of growers. Access exclusive content such as educational and growing resources, shop the Farmative store, and register for Fork Farms hosted events.



If you have not already activated your Farmative account visit:
farmative.forkfarms.com/account/register

Enter your information including the email address you use with Fork Farms and click "Create Account".

SAFETY FIRST

Be aware that the Flex Farm uses water and electricity, so there is a risk of electric shock if instructions are not followed carefully. Also, some of the materials used are caustic and should be kept out of the reach of children. Always pay special attention to the safety notices included in this guide.

Safety Data Sheets (SDS) are available on Farmative for pH, nutrients and pH test kits.

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE is used to address practices not related to physical injury, which, if not avoided, could cause damage to the Flex Farm or surrounding property.

HERE TO SUPPORT YOU

The Fork Farms Partnership Support team is here for you for every step in your growing journey.

Please visit farmative.forkfarms.com for full warranty and return information.



support@forkfarms.com



877.886.7736



Chat

SECTION 2

Running the Flex Farm

Growing supplies included with your Flex Farm:

GROWER TOOLKIT

The Grower Toolkit includes the following items.

PH TEST KIT

TDS METER

MEASURING CUP

MEASURING SPOONS

BRISTLE BRUSH

SUPPLY BOX

A three month Supply Box comes with each Flex Farm and includes the following items. Please note, items included in the Supply Box are subject to change or may appear different than the items listed here.

ROCKWOOL FLATS

NURSERY TRAY

HUMIDITY DOME

NUTRIENT A

NUTRIENT B

PH DOWN

SEEDS

WATER LEVEL TOOL

ADDITIONAL SUPPLIES

The following items are recommended and are not included with your Flex Farm. You can purchase a number of cleaning supplies on Farmative.

FOOD SAFETY GLOVES

FACE MASK

CLEAN SPRAY BOTTLE

3% H2O2 SOLUTION
(AVAILABLE AT ANY
DRUGSTORE)

FOOD STORAGE BAGS OR
STERILIZED BINS

SCISSORS OR TOOLS
(FOR SEED PLANTING/
HARVESTING)

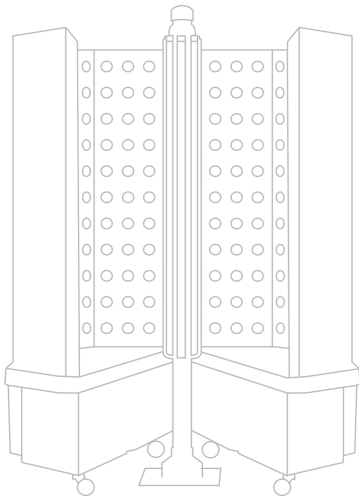
SHOPVAC (FOR DRAINING)

STAY STOCKED UP

Keep your growing and cleaning supplies stocked. Order supplies online through your Farmative account.



Assigning a Farm Manager



We have found that sites that assign an internal “Farm Manager” have much higher rates of success over time. This person is your knowledge base on Flex Farm operations and will help students, staff, customers, or family members use the farm.

Farm Managers should not be responsible for all the work. Instead, they should know how the Flex Farm operates and be able to help everyone who works on the Flex Farm to produce great harvests. We recommend getting multiple people engaged in all of the tasks, from daily maintenance to harvesting and cleaning. The more people who can get involved, the better!

FLEX FARM TASKS

These tasks should take anywhere from 5-30 minutes per week depending on what you are growing. Note: planting, harvesting, and cleaning will take additional time outside the regular weekly tasks. There is a learning curve at first, but once you use the Flex Farm for a few weeks, it will take less and less time.

FLEX FARM SETUP

PLANTING SEEDS

TRANSPLANTING

HARVESTING

WATER MAINTENANCE

CLEANING

DEEP CLEANING

RESOURCES

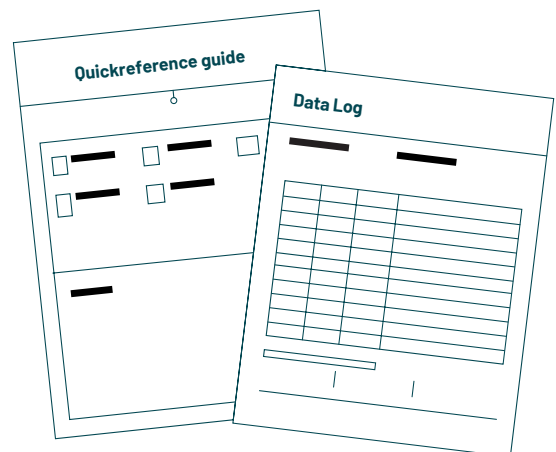
Fork Farms is here to provide any support you may need along the way. Please do not hesitate to reach out. Our team is here to help.

Key resources for the Farm Manager to have on hand are:

FLEX FARM DATA LOG

QUICK REFERENCE GUIDE

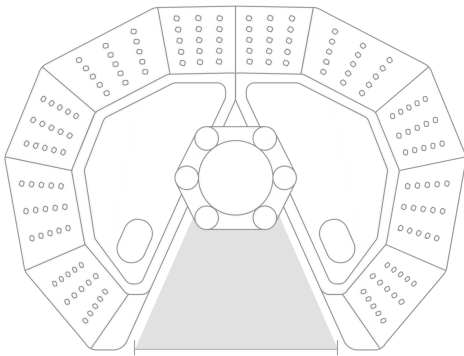
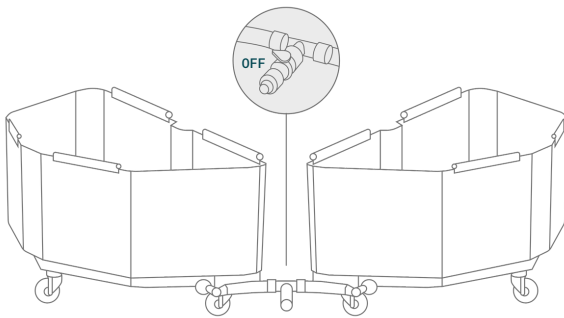
These sheets are included with your Flex Farm and can be found in the Growing Resources on Farmative.



Growing Set-Up

Skip to the "Planting Seeds" section if you do not have seedlings ready for transplanting. You can wait to fill your Flex Farm with water until your seedlings are ready for transplanting.

FILLING TANKS & CHECKING VALVES



Do not leave the tanks open more than 90 degrees for long periods of time. The image above depicts a 45-degree opening. The Flex Farm should be closed when work and cleaning are complete.

1. Turn the Drainage Valve "OFF"

- Before filling the tank and after assembling your Flex Farm (see the "Assembly Guide"), ensure the drainage valve connecting the two tanks in the back is in the closed position. (See diagram to left.)

2. Fill the tanks

- **Add water (about 25-30 gallons) to the assembled tanks with a bucket or hose.** You can fill water from either side. See the next step before filling.

3. Clip the Water Level Tool on the right side tank.

- This will allow you to measure your water levels at a glance, and while filling the tanks.
- Do not let the water fall below the "MIN" mark or rise above the "MAX" mark for optimal water levels.
- You might notice one side fills quicker than the other; this is normal. The tanks are connected in the back of the Flex Farm, and the water will level out between the tanks within a few minutes.

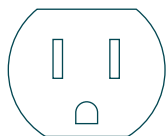
Usage Note: Do not leave the Flex Farm open more than 90 degrees (or approximately three feet from tank knob to tank knob) for an extended period of time. This will prevent damage to the back drainage tubing and potential leaking.

NOTE: IT'S IMPORTANT TO KEEP THE TANKS HALF FULL AT ALL TIMES TO REDUCE THE RISK OF OVERFLOW AND ENSURE YOUR WATER LEVELS ARE SUFFICIENT TO FULLY SUBMERGE YOUR PUMP AT ALL TIMES.

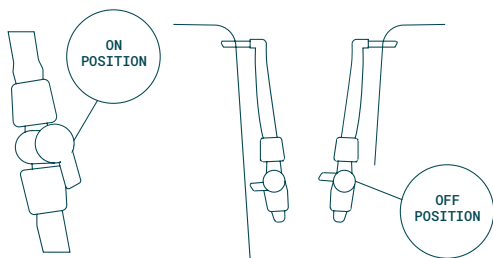
WARNING: DANGER OF ELECTRICAL SHOCK. ALWAYS USE A GROUNDED OUTLET AND KEEP ELECTRICAL CORDS DRY.



Black Panel Plugs



Compatible Outlet



Vertical
Irrigation Line
(Long tube at the
back of the farm)

Drip Lines

4. Insert black panel plugs into empty plant spaces that you will not be using for your seedlings.

- If you are not planting right away, you can fill all of the spaces with plugs.
- When you are ready to plant, reference page 12 for tips on which plant spaces should be blocked with black panel plugs.

Usage Note: Having a plug or plant in every space also allows the Flex Farm to work to its fullest potential by increasing the humidity in the root chamber. The black panel plugs also prevent additional water from splashing out of your system when you turn the pump on.

5. Plug the pump into a grounded (three-pronged) outlet.

- The pump starts running automatically when plugged in.
- **The pump should run 24/7 when water is in the tanks, even if you have not planted your seedlings yet.**

6. Turn vertical irrigation line valve to open position. (See the diagram to the left.)

7. Flush the drip lines to remove any manufacturing debris. Place the provided measuring cup or a bucket under the valve located at the end of each drip line.

- Open each valve for 5 seconds.
- Close each valve after flushing is complete.

Checking & Adjusting pH & Nutrients

When checking and adjusting your pH and nutrients, it is recommended to check and note your pH and nutrient levels at the same time. After checking your levels, add your nutrients and **then** the pH adjuster if needed.

CHECKING PH

1. Locate the pH test kit and measuring cup from the Grower Toolkit.

2. Fill your measuring cup with water out of the end of the drip line or tanks.

3. Fill the vial halfway.

4. Add 5 drops of indicator solution to the vial and gently swirl to combine.

5. Compare the color in the vial to the indicator solution bottle label.

- Your target pH is 6.0 which will appear as a yellow reading.
- A slightly yellow-green or yellow-orange is also acceptable, and no adjustment is necessary.

WARNING: THE PH KIT CONTAINS CAUSTIC MATERIALS. KEEP OUT OF REACH OF CHILDREN. HANDLE CAREFULLY TO AVOID PERSONAL INJURY. USE GLOVES AND SAFETY GOGGLES AND DO NOT SWALLOW TO AVOID PERSONAL INJURY. A SAFETY DATA SHEET IS AVAILABLE ON FARMATIVE IN THE GROWING RESOURCES SECTION.

CHECKING NUTRIENT LEVELS

Use the TDS meter from the Grower Toolkit to test the concentration of minerals in the Flex Farm water and establish a target nutrient level.

1. Press the ON/OFF button to turn on the TDS meter. The reading should be 0 PPM (parts per million).

2. Dip the lower part of the TDS meter into the water

- You can do this with a measuring cup filled with plain water from the tap or directly in the Flex Farm tanks (with no nutrients added).

Usage Note: Avoid submerging the TDS meter more than 1-2 inches into the water. The TDS meter is not waterproof and will malfunction if fully submerged.

3. Wait 5 seconds to take a reading.

4. Press the HOLD button, with the TDS meter still submerged.

5. Remove the meter.

6. The number that appears on the screen is your Base Number (TDS reading of your water).

- Record this on the chart to the right, on your Data Log, or somewhere you can keep track.

RECORD YOUR BASE
NUMBER HERE:

RECORD YOUR TARGET
NUMBER HERE:

Calculate your nutrient Target Number by adding 700 to your Base Number.

Example: Base Number: 200
 $200 + 700 = 900$
 Target Number = 900

NOTE: BASE PPM READINGS ABOVE 300 CAN RESULT IN DIFFICULT WATER CONTROL. RO FILTER WILL SIGNIFICANTLY REDUCE PPM OF WATER SUPPLY. YOU CAN PURCHASE AN RO FILTER THROUGH YOUR FARMATIVE ACCOUNT.

RECORD YOUR TARGET NUMBER IN YOUR QUICK
REFERENCE GUIDE FOR FUTURE USE.

ADDING NUTRIENTS

Usage Note: Add nutrients and pH through the left tank lid, as this is the tank with the running pump in it. The nutrients and pH adjuster will equalize faster and give you a more accurate reading moving forward.

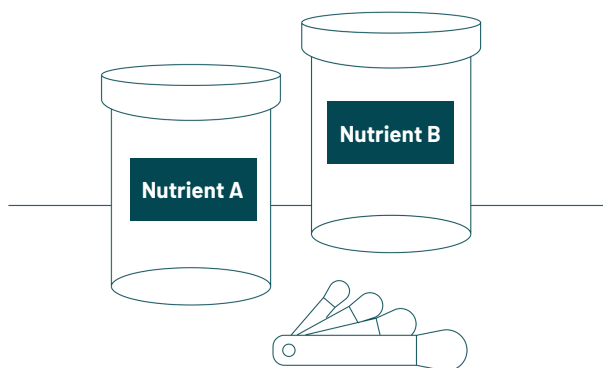
With a fresh tank of water, we recommend starting with 3 tablespoons of Nutrient A and 3 tablespoons of Nutrient B.

Always add equal parts of Nutrient A and B. A 1:1 ratio of 1 tablespoon Nutrient A and 1 tablespoon of Nutrient B equals a rise in approximately 230 ppm.

1. Fill your measuring cup with 2 cups of water and add three (3) tablespoons of Nutrient A.

2. Stir until the nutrients are dissolved.

3. Pour the nutrient mixture into the left tank (with the water pump). **Usage Note:** Nutrient A will take longer to dissolve in the water mixture than Nutrient B.



RECORD FUTURE READINGS ON YOUR DATA LOG.

4. Repeat the process for Nutrient B.

5. Recheck the nutrient levels after a couple of hours and adjust at a 1:1 ratio as needed to meet your "Target Number."

Reminder: The pump must be running when you add nutrients.

NOTE: DO NOT PUT THE NUTRIENTS DIRECTLY INTO THE FLEX FARM TANKS AS THEY WILL NOT FULLY DISSOLVE. ENSURE YOU ARE MIXING THE NUTRIENTS UNTIL DISSOLVED IN A SEPARATE CONTAINER. A SAFETY DATA SHEET IS AVAILABLE ON FARMATIVE IN THE GROWING RESOURCES SECTION.

READING YOUR TDS METER & REACHING YOUR TARGET NUMBER

If the TDS reading is within **+/-100 ppm** of the Target Number recorded:



It is within range and no additional nutrients are necessary.

If the TDS reading is **more than 100 ppm below** the Target Number recorded:



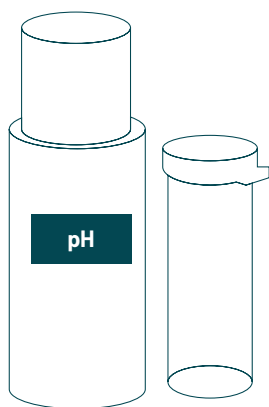
Continue to add equal parts of Nutrient A and Nutrient B in 1 tablespoon increments. 1 tablespoon each of Nutrient A and B approximately equals an increase of 230 ppm. Let your Flex Farm run for a few hours before taking a new TDS reading. Repeat until your TDS reading is within 100 ppm of your Target Number.

If the TDS reading is **more than 100 ppm above** the Target Number recorded:



Remove some of the water in the tank and refill with plain water. After running your Flex Farm for a few hours, take a new TDS reading. Repeat until your TDS reading is within 100 ppm of your Target Number.

BALANCING PH



IF THE READING IS MORE THAN SLIGHTLY GREEN (TOWARD BLUE), ADJUST AS FOLLOWS:

Add two (2) tablespoons of pH Down solution to the left Flex Farm tank. Check the pH again after 24 hours and a few times over the next couple of days, adjusting as needed until stabilized.

IF THE READING IS MORE RED, ADJUST AS FOLLOWS:

If your pH reading is more red we recommend removing water and adding fresh water to your Flex Farm. Check the pH again after a few hours, adjusting as needed.

NOTE: IF YOU ARE TRANSPLANTING, YOUR NUTRIENT AND PH LEVELS DO NOT NEED TO BE WITHIN THEIR IDEAL RANGES BEFORE YOU BEGIN. WE RECOMMEND COMPLETING YOUR INITIAL ADJUSTMENT AND TRANSPLANTING AT THE SAME TIME. CONTINUE TO MONITOR AND ADJUST OVER THE NEXT FEW DAYS.

WARNING: PH DOWN CAN CAUSE BURNS. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. HARMFUL IF SWALLOWED. KEEP OUT OF REACH OF CHILDREN. HANDLE CAREFULLY TO AVOID PERSONAL INJURY. USE GLOVES AND SAFETY GOGGLES TO AVOID PERSONAL INJURY. A SAFETY DATA SHEET IS AVAILABLE ON FARMATIVE IN THE GROWING RESOURCES SECTION.

Planting Seeds

PLANTING

1. Wash your hands with soap and water.

2. Locate Tools:

- Rockwool flats
- Nursery tray
- Seeds

Rockwool creates an optimal environment for your plants' roots as it has oxygen and moisture retention properties. It also provides the roots something to hold onto, so the plants stay secure when planted in the Flex Farm.

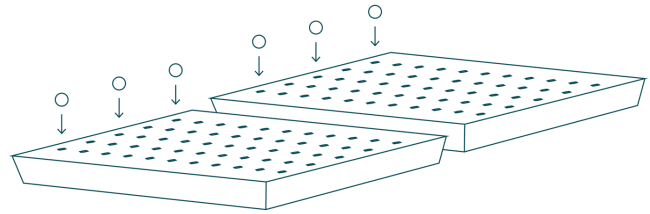
3. Remove the number of cubes you will be planting by gently bending or cutting the rockwool flat. Each flat has 200 cubes.

- For example, to plant 144 spaces, you need 150 cubes. We recommend planting a few extra seeds in case some do not germinate.

4. Place the rockwool flat with the planting hole side up into the provided nursery tray.

5. Completely saturate the rockwool using cold water and let it sit for at least 5 minutes. Do not use hot water.

6. Drain excess water from the tray, without squeezing the rockwool.



Planting example

7. Plant seeds.

- Place one seed per hole in the rockwool.

8. Spray the seeds with water right after planting.

- Spray your planted seeds 1 - 2 times daily until they sprout (germinate), which is about 2-3 days. See next section for more information.

9. Cover your nursery tray with the provided humidity dome and place it in the warmest area in your space. Seeds do not need light to sprout.

NOTE: YOU CAN USE EITHER PELLETTED SEEDS (SEEDS WITH A CLAY COATING) OR NON-PELLETED SEEDS. THE MAIN DIFFERENCE IS THAT PELLETTED SEEDS ARE EASIER TO HANDLE.

CAUTION: THE UNSOAKED/DRY ROCKWOOL MAY CAUSE ITCHINESS OR IRRITATION WHEN HANDLED WITHOUT GLOVES.

GERMINATION

Seedlings need the proper temperature, moisture, air, and light conditions to germinate.

You will need to care for your seedlings until they are ready to be transplanted to your Flex Farm.

1. Fill a clean spray bottle with plain water.

2. Spray your planted seeds 1 - 2 times daily until they sprout (germinate), which is about 2-3 days.

3. Once your seedlings sprout, you need to give them access to light.

- Either:
 - Place the nursery tray on the tank lids of the Flex Farm and use the light tower as your light source. See Light Timer info on page 11.

OR

- Place the nursery tray under grow lights, no more than 3-6 inches away from the plants, for at least 16 hours per day.

4. Remove the humidity dome.

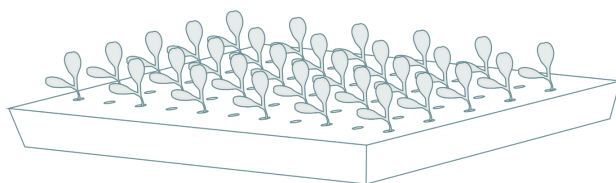
5. Your seedlings also need nutrients and water. If you have already balanced your Flex Farm's nutrient and pH levels, take one cup of water out of the Flex Farm and add it to the nursery tray below the rockwool. Do this each day. This is the easiest way to give your plants the nutrient water they need.

If you have not filled the Flex Farm with water and balanced the nutrients and pH, review pages 6-9.

We recommend having approximately 1 cm of water in the nursery tray at all times to prevent the plants from drying out. Always pour water into the tray underneath the rockwool to ensure water is absorbed from the bottom up.

6. Grow your plants. Your plants can remain in the nursery tray until you can't see much or any rockwool when looking down at the top of your plants. Remember, you can always transplant as soon as you have green leaves above the rockwool hole.

7. If you wish to transplant your seedlings to the Flex Farm, please go to the Light Timer and Transplanting sections on pages 11-13.



Seedlings ready to plant in the Flex Farm.

NOTE: IF YOUR PLANTS ARE STARTING TO LOOK LONG AND LEGGY, THEY ARE NOT RECEIVING ENOUGH LIGHT. LEGGINESS IS WHEN THE PLANT HAS GROWN A VERY LONG STEM WITHOUT MATURE LEAVES. OFTEN, THEY WILL NOT STAND UP AND LEAN TO ONE SIDE. TRY INCREASING THE NUMBER OF HOURS YOUR GROW LIGHT IS ON, OR SKIP TO THE TRANSPLANTING SECTION AND COMPLETE THE REMAINING STAGES OF SEEDLING GROWTH IN YOUR FLEX FARM.

SETTING THE LIGHT TIMER

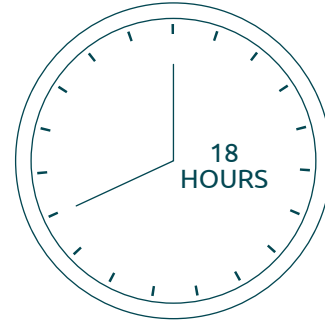
Usage Note: If you are transplanting your seedlings to the Flex Farm or using the light tower as a grow light, set the light timer first.

1. Locate the light timer provided with your Flex Farm

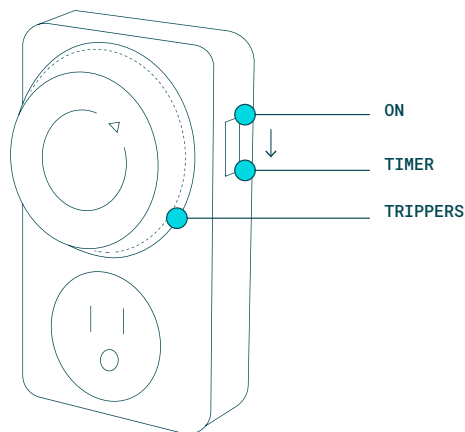
2. Move the switch to the TIMER position. The switch is located on the side of the timer.

3. Set the timer to the current time

- Rotate the dial in the direction of the arrow until the triangular mark points to the present time.



NOTE: IF THE SWITCH IS IN THE "ON" POSITION, THE LIGHT TOWER WILL STAY ON CONTINUOUSLY INSTEAD OF TURNING OFF WHEN PLUGGED IN. ON THE TIMER BLACK IS PM & WHITE IS AM.



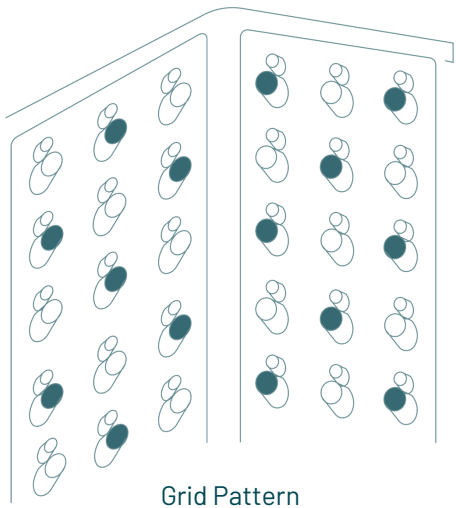
4. Program your timer to turn on for 18 hours per day (16 hour minimum).

- To program your timer, push the black trippers situated around the dial down for when you want the light to be on. Each tripper represents 15 minutes.
- **Example:** If you would like your light tower to be on from 4:00 PM to 8:00 AM, push down the trippers situated between 4:00 PM and 8:00 AM.

5. Turn on the light.

- Plug the light tower cord into the light timer
- THEN plug the light timer into a grounded (three-prong) outlet. The light timer will turn the light tower on and off when the dial rotates.

Transplanting

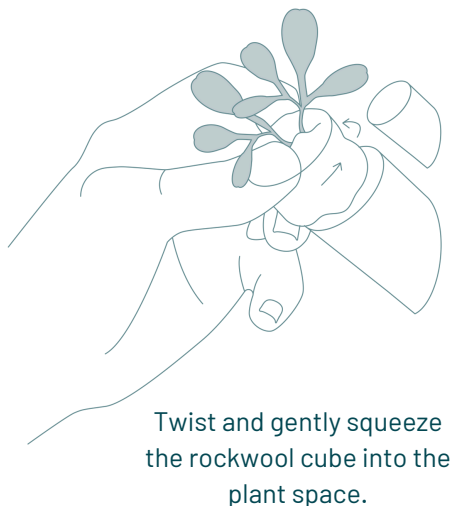


You can transplant your seedlings when they have sprouted above the rockwool hole. Generally a good time to transplant is, about 7-10 days after you planted the seeds and when seedlings are about an inch or more above the rockwool holes. This will help prevent them from being pinched off during transplant. Leave seedlings to grow in the nursery tray another day or two to mature if needed.

Before transplanting, consider what seedlings you are putting into the Flex Farm and how to place them.

- For lettuce and larger plants, we recommend planting in a grid pattern (every other plant space). An example is pictured to the left.
- For herbs and thinner plants, use every plant space. It is also recommended to plant herbs near the top of the Flex Farm.

NOTE: WE RECOMMEND PLANTING HERBS IN THE TOP PANELS OF YOUR FLEX FARM. THIS PREVENTS THE ROOTS FROM CLOGGING THE BACK TUBING OF THE FLEX FARM AND DISRUPTING WATER FLOW.



1. Wash your hands with soap and water.

2. Locate Tools:

- Seedlings
- Scissors or knife
- Water Level Tool

3. Remove black plugs in the spaces where you wish to plant.

- You can use the bottom side of the Water Level Tool, to easily pop the plugs out of the plant spaces.

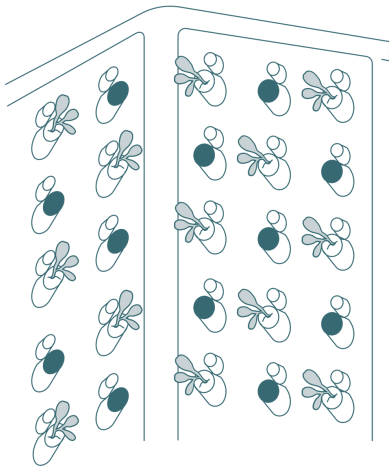
4. Carefully separate an individual rockwool cube, with a seedling, from the flat. You can do this by hand separating or using a tool such as scissors or a knife.

5. Insert the rockwool cube with your seedling into a Flex Farm plant space.

- Grip the edges of the rockwool cube and use a twisting motion as you insert the cube. When properly inserted, the top of the cube should be right below the rim of the plant space.

Usage Note: You can squeeze the rockwool a little to fit the plants into the plant spaces, but be sure not to pinch the stems or roots too hard, as you could kill the seedling.

6. Repeat steps until you have planted all your seedlings.



Grid pattern with plants and plugs.

7. Keep any leftover plants just in case any die during transplanting. Dead plants can be replaced with leftover seedlings.

8. Insert black round plugs into empty plant spaces. Doing this will significantly increase your yield and prevent water from splashing from your empty plant spaces.

NOTE: IF YOU HAVE A LOT OF LEFTOVER PLANTS, MAKE SURE TO PLANT FEWER SEEDS FOR YOUR NEXT CROP CYCLE. LEFTOVER PLANTS CAN ALSO BE PLANTED IN YOUR OUTDOOR GARDEN. IF PLANTING EXTRAS IN SOIL, GENTLY REMOVE THE ROCKWOOL FROM THE PLANT ROOTS FIRST TO PREVENT THE ROCKWOOL FROM DRYING AND PINCHING THE ROOTS.

STAY STOCKED UP

Keep your growing and cleaning supplies stocked. Order supplies online through your Farmative account.



Harvesting

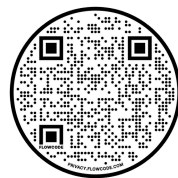
There are several ways to harvest plants from your Flex Farm.

For leafy greens, such as lettuce, we recommend harvesting the whole plant. **For most herbs**, we recommend either harvesting the whole plant or using the “cut-and-come-again” method.

When harvesting, it's important to observe proper food safety protocols, like wearing gloves or masks and using sterilized bins or bags. On Farmative, you can access a number of **Food Safety Resources** to help guide you.

Most leafy green varieties are ready to harvest when their leaves start to intersect and you no longer see the white panel in the back. The lettuce seeds provided in your Supply Box typically take 21 - 28 days to mature when in the Flex Farm.

For herbs, we recommend reviewing the **Herb Growing Guide** available on Farmative to determine when different herb varieties are ready for harvest.



SCAN TO VISIT THE
FARMATIVE™
GROW CENTER
RESOURCES

INSTRUCTIONS

1. Wash your hands with soap and water and apply food safety gloves.

2. Gather tools:

- Storage bins or food safe plastic bags
- Scissors
- Trash bin

3. Clean your tools. Make sure any bins being used for storing or transporting harvested food has been washed, rinsed, and sanitized. Follow the same process for any scissors or tools you intend to use as well.

4. Wash any surfaces you plan to use during the harvest. Prepare a bin to discard roots and rockwool.

NOTE: WE HIGHLY RECOMMEND USING FOOD SAFETY GLOVES WHEN HANDLING HARVESTED PLANTS. IF YOU TOUCH ANYTHING OTHER THAN PLANTS WITH THE GLOVES (LIKE YOUR CELL PHONE) YOU WILL NEED TO RE- GLOVE BEFORE HANDLING PLANTS AGAIN.

5. Harvest.

- Carefully pull the plant, roots, and rockwool out of the plant space.

6. Using your hands, gently separate the roots and rockwool cube from the plant.

7. Place the harvested plant on the table or directly in a bag or sterilized bin for food distribution.

8. Place the roots and rockwool in a trash can.

9. Repeat until all plants have been harvested.

10. Refrigerate.

- Once the whole Flex Farm has been harvested, immediately place your harvest in a refrigerated space. When properly stored, leafy green crops may last four or more weeks.

NOTE: PLACE A PAPER TOWEL IN YOUR BIN OR BAG. DRY PRODUCE WILL LAST LONGER.

POST-HARVEST FLEX FARM CLEANING & REPLANTING

Clean: Clean your Flex Farm using the steps in the Cleaning Section of this guide. Always check your tank for debris. Remove any debris as it will clog the water lines and disrupt water flow.

Replant: You can replant your Flex Farm as soon as it is clean. We recommend planting seeds about five days before your harvest for lettuce, and seven days before harvest for herbs. This way, your new seedlings will be ready to transplant into your Flex Farm after harvesting.

SECTION 3

Flex Farm Maintenance

Weekly Maintenance Checklist

This page can be found on Farmative as a downloadable and printable PDF in the **Growing Resources Section** of the Grow Center.

TASKS:

_____ Thoroughly wash your hands with soap and water before starting your weekly water maintenance.

_____ Always check your tank for debris. Remove any debris as it will clog the water lines and disrupt water flow.

_____ Check and clean your drip line holes at the top of the Flex Farm with the small bristle brush to ensure water is properly flowing.

_____ Check the water level in your tanks. You should maintain your tanks to be half full when growing in the Flex Farm. It is normal for the right tank water level to be higher than the left. Clip the Water Level Tool on the right tank to adequately measure water levels. (This is approx. 25-30 gallons when the water line is at "Max".)

_____ Test the nutrients and pH levels of your Flex Farm water at least once per week.

_____ Adjust the nutrients before the pH. It is not necessary to adjust nutrients if it is within +/- 100 TDS of the target.

_____ Adjust the pH as needed following the instructions in this guide. It is not necessary to adjust pH if it is within +/- 0.5 pH of the target.



SCAN TO VISIT THE
FARMATIVE™
GROW CENTER
RESOURCES

NOTE: TESTING YOUR PH AND NUTRIENT LEVELS MORE FREQUENTLY CAN IMPROVE YOUR RESULTS.

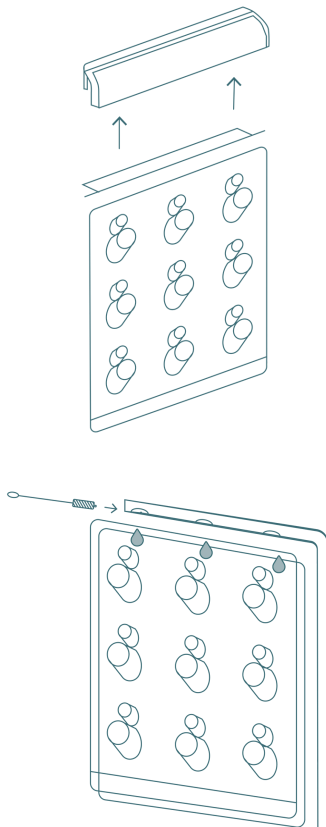
Post-Harvest Cleaning

SCAN TO VISIT THE
FARMATIVE™ SHOP



Follow the instructions in this section after every harvest to prepare your Flex Farm for the next crop. Visit the **Farmative Shop** for cleaning and maintenance supplies.

NOTE: IF YOU ARE ROTATIONAL HARVESTING, I.E. PLANTING AND/OR HARVESTING SECTIONS OF YOUR FLEX FARM AT DIFFERENT GROW CYCLE INTERVALS, YOU ONLY NEED TO CLEAN THE ROOT CHAMBERS AND PANELS THAT WERE JUST HARVESTED.



Gather Tools:

- Empty Spray Bottle
- Washcloths
- Scrub Brush
- Water
- Bristle Brush
- Dish/Paper Towels
- Hydrogen Peroxide (3%)
- Shop Vac

1. Unplug the light tower and set it to the side, out of the way of the Flex Farm.

2. Remove top caps and use the small bristle brush in your Grower Toolkit to clean any debris out of the holes in the drip lines.

- It is recommended to start at the first drip line hole from the irrigation line at the back of the Flex Farm and work your way to the front of the system with the bristle brush. The water flow will help push debris away from the holes that have been cleaned.

3. Flush the drip lines, after cleaning drip line holes, using the valves at the front of the Flex Farm.

- Place the provided measuring cup or a bucket under the valve located at the end of each drip line.
- Open one valve and flush for at least 5 seconds. Close and repeat on the other side.

4. Unplug the pump.

NOTE/CAUTION: A 3% HYDROGEN PEROXIDE SOLUTION CAN BE PURCHASED AT MOST DRUG OR GROCERY STORES. PLEASE READ SAFE USE INSTRUCTIONS. GLOVES ARE RECOMMENDED.

5. Clean the panels:

- Use a spray bottle or washcloth to apply the 3% hydrogen peroxide.
- Wipe down with a cloth. Make sure to clean inside the plant spaces as well.

6. Clean the root chambers, drip lines and tank lids:

- Use the 3% hydrogen peroxide and a cloth to wipe away and discard any debris, such as dead leaves, remaining roots, algae and/or other plant matter.

7. Check water flow:

- Once you are done cleaning, check root chamber alignment, irrigation lines, and pump to ensure there is no disruption in water flow.

8. Check your water tanks for any large debris that might have fallen in and remove it.

9. Refresh Water: At this point, if you need to refresh your water, refer to the Water Refresh Instructions. See page 17.

10. Water Levels: Be sure to recheck your pH and nutrient levels prior to planting your next crop.

Water Refresh Instructions

INSTRUCTIONS

A full water refresh is recommended depending on your base number TDS reading of plain water from your tap or sink.

For example, if your base number is 220 we recommend you refresh your Flex Farm water every 1-2 months for optimal growth. **See the chart below** for recommended water refresh intervals based on your base TDS reading.

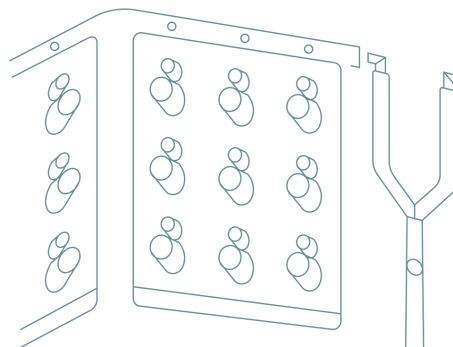
Base TDS	Month
0 - 100	5 - 6
100 - 200	3 - 4
200 +	1 - 2

When to Refresh Water: You can refresh your water during the middle of the growing cycle. The plants will not be harmed if the pump is turned off for the duration of the water refresh. However, plant health will be impacted if the pump is off for more than a few hours.

If you will not be running your Flex Farm for a period longer than 2 days it is recommended to drain the tanks as the nutrient water should always be circulating with the pump.

1. Drain the Flex Farm:

- **If you have a floor drain**, the easiest way to drain your Flex Farm is to roll it to the floor drain and open the drainage valve connecting the tanks. You can also roll your Flex Farm outside to drain. Be sure to securely close the valve after draining.
- **A second method** to drain the Flex Farm is to place a bucket below the front right drip line drain valve. With the pump running, open the valve and let the water flow out until the water level is below the pump inlet.



Y-Fitting Diagram

- **A third method** of draining is through the irrigation line.
 - First, unplug the pump and wait about 30 seconds for the water to stop flowing through the Flex Farm.
 - Then, detach the vertical irrigation line from the Y fitting at the back of the Flex Farm. Place the detached end of the vertical irrigation line into a deep bucket, floor drain, or sink.
 - Then, plug the pump back in and drain the water from the Flex Farm.
 - Once the water falls below the pump inlet, unplug the pump and reattach the vertical irrigation line to the Y fitting.

2. Drain the remaining water using the drain valve at the back of the tanks or a shop vac.

3. Close the drainage valve after the water is drained out of the tanks.

4. Remove and clean the pump, filter bag, and internal pump filter by running it under a sink to clear away material buildup.

5. Spray 3% hydrogen peroxide into the tanks and wipe any remaining water and plant material.

6. Refill the tanks with water using the Water Level Tool as a guide. Water should completely submerge the top of the pump.

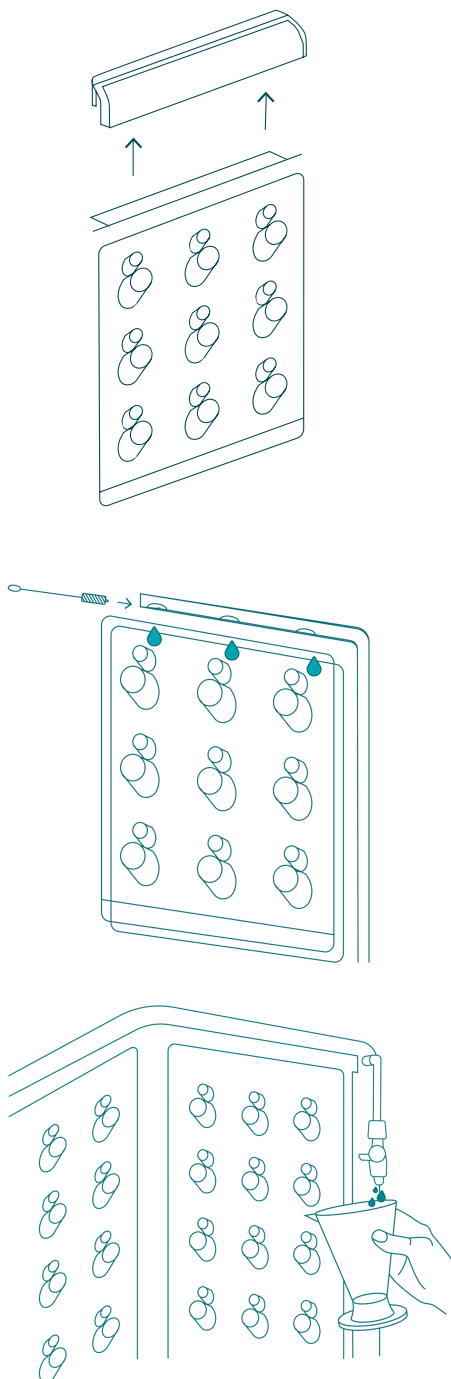
7. Balance the water: Be sure to recheck your pH and nutrient levels prior to planting your next crop.

Deep Clean and Shut Down

Follow the instructions in this section to deep clean your Flex Farm. A deep clean is recommended:

- Every 6 months **OR**
- When there is a significant build-up of plant matter in the Flex Farm.

INSTRUCTIONS



Gather Tools:

- | | | |
|-------------------------|----------------|--------------------|
| -Empty Spray Bottle | -Washcloths | -Scrub Brush |
| -Water | -Bristle Brush | -Dish/Paper Towels |
| -Hydrogen Peroxide (3%) | -Shop Vac | |

1. Prepare your space for cleaning. Place 3% hydrogen peroxide solution in a spray bottle.

- Or, you can use the spray handle from an unused and clean bottle, and twist it onto the H2O2 bottle.

2. Unplug the light tower and set it to the side, out of the way of the Flex Farm.

3. Clean the drip lines: With the pump running, remove the top caps and use the small bristle brush in your Grower Toolkit to clean any debris out of the holes in the drip lines.

- It is recommended to start at the first drip line hole from the irrigation line and work your way to the front of the system with the small bristle brush. The water flow will help push debris away from the holes that have been cleaned.

4. Purge the drip lines: After cleaning drip line holes, purge each of the drip lines using the valves at the front of the Flex Farm.

- Place the provided measuring cup or a bucket under the valve located at the end of each drip line.
- Open one valve and purge for at least 5 seconds. Close and repeat on the other side.

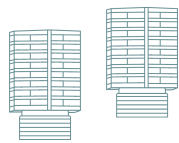
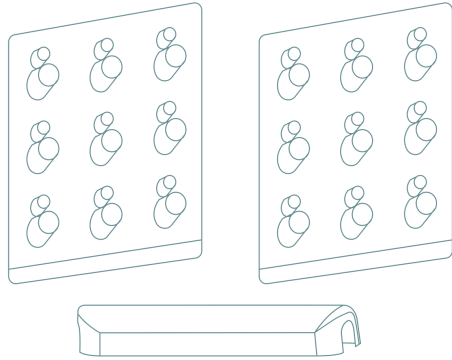
5. Drain the tanks: If you have a floor drain, the easiest way to drain your Flex Farm is to roll it to the floor drain and open the drainage valve on the back of the tanks. You can also roll your Flex Farm outside to drain. Be sure to securely close the valve after draining.

Review other tank draining methods on page 17.

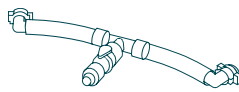
6. Drain the remaining water using the drain valve at the back of the tanks or a shop vac.

7. Close the drain valve after the water is drained out of the tanks.

PANELS & TOP CAPS



TANK SCREENS



DRAINAGE VALVE
TUBING

8. Clean other farm parts: Remove and clean the pump, filter bag, and internal pump filter by running it under a sink to clear away material buildup.

9. Unscrew and remove the tank screens from the left and right tanks. Clean by running under a sink to clear away material build up or soak in a bucket.

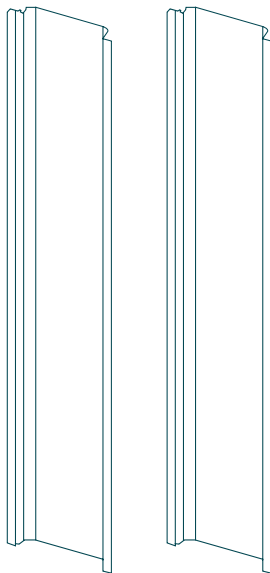
10. Remove the drainage valve tubing at the back of the tank. Clean in the sink by running water through the ends of the tubing or soak in a bucket. To reattach, follow the instructions in the Assembly Manual.

11. Wipe any remaining water and plant material from the tanks.

- **If you have a dishwasher available,** run the Flex Farm plant panels, top caps, and oval tank lids through the dishwasher at a heat not to exceed 181 degrees.
- **If you are not using a dishwasher,** use the 3% hydrogen peroxide and a cloth to wipe away and discard any debris, such as dead leaves, remaining roots, algae and/or other plant matter on the root chambers, drip lines, and tank lids of the Flex Farm.

CAUTION: THE MAX DISHWASHER TEMPERATURE IS 181 DEGREES. DO NOT EXCEED THIS TEMPERATURE. IT IS RECOMMENDED THE TEMPERATURE TO BE AT EXACTLY 181 DEGREES TO MEET FOOD SAFETY SANITATION REQUIREMENTS. ONLY THE PANELS AND TOP CAPS CAN GO THROUGH THE DISHWASHER. DO NOT PUT THE ROOT CHAMBERS INTO THE DISHWASHER.

ROOT CHAMBERS



- Alternatively, if you have a power washer (without a steam feature) available, you can use it to clean the root chambers and panels outside.
- Another option is to soak these components for 15-20 minutes in a deep sink or tub, and use a scrub brush to get rid of any debris.

12. Soak black panel plugs: If necessary, you can clean the black panel plugs by soaking them in a bucket with the 3% hydrogen peroxide for 15-20 minutes. After soaking, rinse well with clean water. Once you have cleaned and dried all Flex Farm parts, you can reassemble for your next grow cycle.

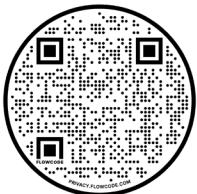
13. Before replanting: Be sure to recheck your pH and nutrient levels prior to planting your next crop.

NOTE: IF YOU ARE NOT RESTARTING YOUR FLEX FARM, THOROUGHLY DRY ALL FLEX FARM PARTS AND STORE THEM IN A CLEAN DRY PLACE, AWAY FROM DIRECT SUNLIGHT IF POSSIBLE.



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