



## GardenPHX Hydroponic System – Frequently Asked Questions (FAQs)

### GENERAL

- Q: What is the GardenPHX hydroponic system?

A: It is a soil-less, indoor gardening system designed to grow leafy greens and herbs year-round using water, nutrients, and artificial light — ideal for Arizona’s extreme climate.

- Q: Who provides this system?

A: The system is provided in partnership by the City of Phoenix and Homer Farms.

- Q: Can I grow any plant in this system?

A: It is best for leafy greens, herbs, microgreens, and small specialty crops (please check the training materials and guidance provided in the program).

### SETUP & OPERATION

- Q: What equipment is included?

A: The kit includes: growing rack, LED lights, growing tubs and rafts, reservoir, air and water pumps, pH/EC testers, pH-down acid, rock wool, seeds, and starter fertilizer.

- Q: What else do I need to provide?

A: You’ll need an air-conditioned space (<80°F), water, electrical outlet (ideally single phase, 120 V, 20 amps, 50 Hz), strainer, shears, measuring tools, distilled water, gloves, cleaning rags, and eventually more seeds, rock wool, acid, and fertilizer. During the project, you can ask for help from Homer Farms.

- Q: How much electricity and water does it use?

A: It uses minimal electricity (~\$15/month) and recirculates water (<1 gallon/day). Keep the reservoir  $\frac{2}{3}$  full and ensure pumps run continuously.



## LIGHTING

- Q: How many hours should the grow lights be on?

A: 12–18 hours per day. More light generally results in faster growth.

- Q: The lights are bright — can I block them?

A: Yes, many growers hang a shield or run the system during sleeping hours.

## SEEDING, GROWING, & HARVESTING

- Q: How do I start seeds?

A: Soak rock wool in pH-adjusted water (5.5–6.5), plant seeds below the surface, cover with a humidity dome, then expose to light once sprouted.

- Q: When do I transplant seedlings?

A: About two weeks after planting, or when leaves begin to touch. Place each rock wool cube into a hole in the raft with the roots touching water.

- Q: How long does it take to harvest?

A: Typically four to six weeks. Lettuce is harvested whole; kale and basil can be harvested multiple times. Harvest timing is flexible.

- Q: Can I harvest selectively?

A: Yes! Not all plants grow or harvest at the same time. Harvest, weigh, and report to the City of Phoenix as needed.

## WATER, NUTRIENTS & MONITORING

- Q: What are the ideal water parameters?

A: pH: 5.5 – 6.5

EC: 1.5 – 2.0 dS/m (or 1,500–2,000  $\mu$ S/cm)

- Q: How do I adjust pH and nutrients?

A: Use the provided pH-down acid and fertilizer. Mix in water first, then add slowly. Monitor often and adjust gradually.



- Q: Can I use tap water?

A: Yes, but Arizona tap water is very hard, which means you need to adjust your nutrient solution more frequently. If you have a reverse osmosis (RO) system, it can help.

## CLEANING & MAINTENANCE

- Q: How often do I need to clean the system?

A: Clean regularly to prevent algae and prolong system life. A full reset is only needed if water smells or becomes cloudy.

- Q: How do I clean the system?

A: Drain water, scrub all parts with 5% bleach or vinegar, rinse thoroughly, and refill with pH/EC balanced water.

- Q: How do I maintain the system?

A: Monitor pH and EC levels regularly (e.g., 3 – 5 times weekly), Keep the reservoir  $\frac{3}{4}$  full, clean surfaces weekly to prevent algae, and ensure air and water pumps are functioning continuously. Static water causes mosquitoes. Keep all components in good repair and replace worn parts if necessary.

- Q: What causes algae, and how do I control it?

A: Light exposure causes algae. Cover open raft holes, wipe surfaces often, and consider hydrogen peroxide treatment if needed.

## COMMON ISSUES

- Q: What is tipburn and how do I prevent it?

A: Tipburn (browning leaf edges) is common. Reduce light or fertilizer, increase airflow, and choose resistant cultivars.

- Q: My system is leaking — what should I do?

A: Ensure all connections are hand-tightened, valves are adjusted, and the reservoir is not overfilled. Contact Homer Farms if a part is broken.

- Q: My plants are growing at different rates. Is that normal?



A: Yes. Expect varied germination, growth, and harvest timing across crops.

## **SUPPORT & CONTACTS**

- Q: Who do I contact for help?

A: Technical Issues: Contact your Growing Specialist at Homer Farms.

Administrative/Reporting: City of Phoenix GardenPHX staff.

- Q: How often do I check in?

A: Expect check-ins at 6 and 12 weeks, plus monthly calls in the first three months.

- Q: Where do I report my harvests?

A: To the City of Phoenix GardenPHX program as requested.