



pPod™ Frequently Asked Questions

What if I don't have a green thumb? Will I finally be able to keep plants alive in a pPod?

That's the idea. pPods are designed to provide the best protected environment for your location, so all that is left is making sure that your plants are appropriate for your location and that they get the right amount of food and water.

Here are some hints for maximizing the probability that you will be able to do some high-quality growing in your pPod:

- In hotter climates, you will have better success with plants that are not sensitive to extreme heat. All plants have a temperature range where they are happiest and grow the fastest. More temperature sensitive plants, like cilantro or dill, will get stressed in prolonged heat above 90 degrees, even in the shade. Check with a local garden center for recommendations on plants for your area.
- In cooler climates, make sure your pPod gets enough hours of direct sun all year if you don't have supplementary grow lights installed. The more hours of each day that your plants are exposed to sunlight or properly selected grow lights, the faster your plants will grow and the less likely they will succumb to disease, mold, etc. In the winter, sunlight is important for helping to keep the inside of the pPod as warm as possible.
- Container gardening is different than growing plants in the ground, especially with plants that normally like to put down deep roots. For example, you need to have carrots growing in a deep container inside the pPod. Unless you intend to do hydroponic or semi-hydroponic gardening, give your roots as much room as possible.
- Making sure you have the right kind of planting mix is a little trickier. Some commercial potting mixes contain plenty of nutrients and start out draining well, but usually need to be replaced or supplemented after one season.

Note: When pPods become available, a detailed set of instructions for the pPod and successful gardening hints will be sent with each pPod.

To help future gardeners get a good start, we plan to offer full growing kits once the pPod line is in full production. Each kit will include a pPod, plant containers designed specifically for pPods, custom soil, seeds, and complete instructions. Because of the broad range of plants that can be grown in pPods, the kits will be customized for specific plants and locations.



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What kind of plants can I grow in a pPod?

With a little creativity and the right climate, almost anything can be grown in a pPod, but obviously some plants are better suited than others.

- For Standard pPods, smaller plants such as oregano, thyme, radishes, lettuce, or onions are best. Cannabis can be grown in a Standard pPod, but only Indica hybrids will work and they will need careful pruning and grow light control.
- Alta pPods provide room for larger plants like tomatoes, dill, beans, and sunflowers. Alta pPods are better suited for growing Cannabis plants.
- Expanded pPods allow plants to spread out, so the extra room can provide a better environment for bush beans, cabbage, cucumbers, and squash.

How many plants can I fit into a pPod?

That depends on the plants and the type of containers, as well as what stage the plants are in. Dozens of seedlings can be started in a pPod (even more in an Agri pPod) and then moved out as they get big, just as we have done each year with our tomatoes, peppers, and nasturtiums. Otherwise, a Standard pPod can be reasonably filled with six 7 inch square pots and an Agri pPod can be filled with 2 standard trays or more if stacked shelves are used.

With an Expanded pPod, the only limit to the quantity of plants is the size of your terrace, rooftop, parking lot, etc. There is no limit to the length of an Expanded pPod. The width is limited to 2 pPods back-to-back so that you can access entire trays from either side.

Why do pPods use less water?

Plants breathe, or transpire, through pores, or stoma, in the surface of their leaves. They also "sweat" through the stoma as water flows to the leaf surface and evaporates in a process called evapotranspiration (one of the 5 ways in which plants keep themselves cool). Air flowing across the leaves causes the water to evaporate faster, so the more wind, the more evapotranspiration and the more water needed to keep the plants healthy.

If plants are protected from excessive direct sun and only get enough air flowing across the leaves to allow them to breathe, they will use a minimal amount of water and be very healthy. Many plants that grow very quickly, such as tomatoes, can require up to 3 times more water in exposed windy locations than in a pPod, as we have seen during 6 years of testing pPods.



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How else does wind affect plants?

Plants need some air movement in order to breathe, just like humans, which is why pPods are designed with a small air gap at the bottom of the front panels when fully closed. Too much wind can dry out foliage very quickly and damage leaves and stems as they rub against each other or against railings, supports, etc. In severe winds, such as during storms, stems can be broken and entire plants can be lost. The more exposed the plants, like on balconies and rooftops, the more likely wind will be a problem. As an example, chives growing in pots will often flop over when exposed to dry, windy conditions, but always grow upright in a pPod.

How warm will the optional heater keep a pPod during winter?

According to the temperature measurements taken over the past 6 winters in the prototype pPods in New York, the 100 watt self-regulating heater kept temperatures above freezing on nights when the temperature dropped to zero F. Between about 20 F and 40 F, the pPod stays about 20 degrees warmer than ambient at night and at higher temperatures, the difference diminishes until it reaches the set temperature of 78 deg F.

Note that a well known strategy, and one that should definitely be considered wherever possible, is to use building heat. During early concept development of the pPod, we kept a cold frame and then an early pPod prototype quite warm in 2 different locations by locating them against a wall of each building and leaving their backs off.

Are pPods useful in warm climates?

Sure. There is more to providing plants with a great environment than just keeping them from freezing. All plants have an ideal growing temperature and even if you live in a warm climate, temperatures can drop below 50 degrees during winter and might have freezing nights each year. And besides the right temperature, there are more reason to provide a good enclosure for plants, like wind, heavy rain, and pests.

Are pPods useful on farms?

Yes. Commercial growers have shown serious interest in having a good portable enclosure for starting plants earlier in the year or when extra protection for seedlings is needed.



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Why use a plastic frame instead of an aluminum frame like most plant enclosures?

Aluminum conducts heat 500 times more than any typical industrial plastics. This is a problem when trying to keep plants warm on a cold night. Even though the frame is a small fraction of the total surface area of a pPod, as much heat would be lost through just the aluminum frame as through all the plastic panels combined. This could easily mean the difference between plants freezing or staying above 40 degrees F when ambient temperatures are in the 20's. From an environmental standpoint, aluminum requires 2-3 times more energy for the fabrication of the frame pieces than high-density plastic, using raw or recycled material. The higher energy requirement also affects cost and the number of fabricators that are able to produce the parts for us. In fact, most extruded aluminum products sold throughout the world come from southern China while dozens of custom plastics fabricators are located in the United States. Our plan is to use only parts and products originating in the U.S. whenever possible.

How much water does the pPod tray hold?

In total, the Standard pPod's heated irrigation holds nearly 2 gallons of water, which is more than "self-watering" systems of similar size. Depending on the type and size of the plants, this much water is adequate for multiple waterings before the water level drops too low for the pump and it shuts off.