



**TOWER**  
**GARDEN**

BY JUICE PLUS+®

## GROWING GUIDE: EGGPLANT

A cousin of tomatoes and potatoes, eggplant is a very versatile vegetable. Whether you have a hankering for Indian curry, French ratatouille, Italian eggplant Parmesan, or Middle Eastern baba ghanoush, eggplant is always welcome at the dinner table. Vegetarians sometimes use it as a meat substitute due to its wonderful texture.

Eggplant is healthy, too! It is high in fiber, has a low glycemic index, contains folic acid and potassium, and is chock-full of antioxidants.

Eggplant's rich, purple hues make it a beautiful addition to any garden space. A wonderful crop for beginning gardeners, eggplant will produce a consistent harvest of plump, delicious fruit grown conveniently on your back porch to enjoy throughout the growing season.

Growing eggplant in a Tower Garden® is even easier than growing it in the ground. No kneeling, no bending, no tilling, no dirt! Of course, there are some tips and tricks you should know about for growing healthy, productive eggplant in a Tower Garden®. Read on to learn how to choose your eggplant varieties, sow seeds, transplant seedlings, pinch, fight pests, and know when to harvest.

Get ready...get set...grow!



### THE ANATOMY OF AN EGGPLANT

- **Main Stem:** The trunk of the plant
- **Node:** The part of the main stem where the side stems grow
- **Internode:** The section of the main stem between two nodes
- **Flowers:** Pretty violet or white petals from which the fruit will form once the flower has been pollinated
- **Dominant Growing Tip:** The tender young shoot of the plant
- **Leaves:** Pretty self-explanatory, right?



### THE ANATOMY OF A TOWER GARDEN®

- **Rockwool Cubes:** The growing medium used to sow seeds
- **Net Pot:** The container used to plant seedlings
- **Growing Pot:** One of several interconnecting sections of the Tower Garden®
- **Plant Port:** The openings in the Tower Garden® where the plants go
- **Plant Cage:** The ringed structure for providing extra support to certain plant varieties

### In a nutshell:

- The seed goes into the rock fiber starter plug...
- The rock fiber starter plug with the seedling goes into the net pot...
- The net pot goes into the plant site...
- There are four plant sites in a growing pot...
- And five growing pots make a Tower Garden®!



## BEFORE YOU PLANT: Choosing Your Varieties

There are two basic varieties of eggplant: Western and Japanese.

**Western eggplant**, also known as oval, is the most common eggplant you'll find on grocers' shelves. It's your classic American eggplant, with large, glossy, deep-purple, pear-shaped fruits that you can stuff and bake, or even slice for frying and grilling. This variety of eggplant sometimes has a thick skin that you may prefer to peel before preparing, though you may not need to if you use your eggplant right after picking it.

**Japanese eggplants**, also known as Asian eggplants, are long, slender and typically thin-skinned. They come in an array of colors, usually purple to light violet, sometimes combined with green or white stripes. Due to the thin skin of this vegetable, you don't need to peel it, making it more desirable for stir-frying and pickling. They are also the perfect size for small or single-serving dishes.

**Tower Garden® Tip:** For best production in the Tower Garden®, we recommend Japanese eggplant varieties, due to their lighter weights, faster growth, larger harvest and overall better taste.

## BEFORE YOU PLANT: Deciding When to Plant

Growing eggplant can be a lot like growing tomatoes — they hate the cold and are very sensitive to even the lightest frost. Keep in mind that this crop will thrive in the warm days of summer and will reward you with some of the biggest fruit then as well. Don't try to rush the season, unless you have a really short window of opportunity to grow this beautiful crop.

For most areas, the best time to plant eggplant is after the fear of frost has passed (which can be as late as mid-May or early June, depending on where you're located) and when daytime temperatures reach 70°–90° throughout the crop's season, with nights not dipping far below 65°. Eggplant seeds need to be kept at daytime temperatures of at least 70° in order to sprout.

The good news is, if you're using the Submersible Heater and a frost blanket, you can start your eggplants three weeks before the suggested planting date.

**Tower Garden® Tip:** Find frost dates: <http://www.almanac.com/gardening/planting-dates>

How long 'til you can start making eggplant Parmesan? In general, you can transplant eggplant 3–4 weeks after germination (sprouting). Both Western and Japanese eggplant should be ready to harvest in another 4–7 weeks.

## PLANTING: Seed Sowing and Germination

Your Tower Garden® Kit comes with everything you need to get started growing eggplant.

**Step 1:** Locate the slab of Rockwool cubes and place in the seed starter tray.

**Step 2:** Thoroughly wet the Rockwool cubes by completely submerging the slab for 30 minutes in Tower Tonic nutrient solution. (Please reference the Tower Garden® Instruction Manual for more information.) This will stabilize the pH of your cubes. After 30 minutes, thoroughly flush cubes with fresh water.

**Important:** Because the Rockwool repels water, you can't get away with just spraying it. You really need to soak it!

**Step 3:** Drain all excess water from the seed starter tray.

**Step 4:** Sow 4 seeds per cube.

**Step 5:** Lightly cover the seeds in the cube with coarse vermiculite, which will help retain the right amount of moisture, and gently sprinkle a little water over each hole to wet the vermiculite.

**Step 6:** After seeding, put a little water into the bottom of the container. If possible, use filtered water without chlorine. Do not close the lid.

**Step 7:** Place seed starter tray outside in semi-shade (a bench or table will do nicely) until the seeds have germinated. Always keep about 1/8"–1/4" of fresh water in the bottom of the tray.

**Step 8:** Once the seeds have germinated (about 7–14 days), IMMEDIATELY place outside in full sun for 7–14 days to increase their hardiness.

**Step 9:** Make sure your sprouted seeds have 1/4" of fresh water in the bottom of the tray each morning so your seedlings won't dry out during the day. Add Tower Garden® fertilizer solution every other morning in place of fresh water.

**Step 10:** Approximately 3–4 weeks after germination, or when the plants have at least four true leaves, your seedlings should be ready to transplant into the Tower Garden®!

## PLANTING: Setting Up a Cage

If you're planting eggplant, you'll want to use a cage for extra structural support.

The best time to set up the cage is immediately after you've transplanted your eggplant seedlings into your Tower Garden®. That way, as the eggplants mature, the cage gives them the support they need to grow naturally. Follow the directions that came with the cage for assembly.

**Tower Garden® Tip:** For branches that are heavily laden with fruit, use a pliable material (used pantyhose works great!) to gently tie them to the rungs of the cage.

## PRUNING: How to Pinch and Prune

You know how cutting your hair makes it stronger and healthier? It's the same with eggplant. Pinching and pruning can give you a stronger plant that produces more eggplants than one that's left alone.

Pinching is just like it sounds: you use your thumb and forefinger to break off the soft tips of young plant stems. When a plant is pinched, a cool thing happens: it produces two stems instead of one. So essentially, you get an extra branch. (And more branches means more fruit.)

Pruning is like pinching, but instead of your fingers, you use cutting tools. There are two main reasons for pruning:

1. It gives you a nice, bushy plant that produces a lot of fruit, as opposed to a tall, leggy plant that's non-productive.
2. It helps make sure one side of your Tower Garden® doesn't get too weighted down with an out-of-control plant.

## PRUNING: Dos

- Always use clean cutting tools. If you've recently used a tool to cut away diseased plant material, you don't want to transfer the disease to your Tower Garden®! Simply wipe down the pruner blades with an alcohol swab as you go from pruning one plant to another.
- If your plant becomes too unruly, pinch back the plant as needed to maintain a more compact nature, as you would with a tomato plant. Always pinch or prune within an internode of the plant. (Refer to the Anatomy of a Tomato Plant diagram.)
- When you pinch or prune, always leave a stub of the stem or branch remaining from the cut point (i.e., don't cut one branch cleanly off another). This allows the small stub to scar. Sometimes the stub may wither and drop naturally away from the plant. This is OK and actually preferable.
- To keep your eggplant's energy directed into the strongest fruit-bearing stems, it's good practice to remove suckers, or side shoots, from the base of the plant. Remove them by cutting just below the lowest leaf on the sucker, being careful not to injure the main plant stem. Remember to leave a stub.
- Remove the leaves of the lowermost mature branches when they begin turning yellow or brittle. This helps to prevent fungus and disease.

## PRUNING: Don't

- Never make a cut close to the stem you want to remain. This helps keep pathogens from entering the main stem of the plant and prevents weakening of the main stem from a wound.

## MAINTAINING PLANT HEALTH: How to Keep Your Plants Happy

Tower Gardens are wonderfully free of some of the bothers of traditional gardening: there's no weeding, tilling, kneeling, or getting dirty! Just a few basic maintenance steps will keep your plants healthy and happy.

### Maintain Tower Tonic Levels

Because your Tower Garden® doesn't use any dirt, your plants are totally dependent on Tower Tonic to get their nutritional needs met. (Kind of like a baby and a bottle.)

- Maintain the recommended Tower Tonic levels at all times to allow your plants maximum uptake of the nutrients they need to grow.
- With a "young" Tower Garden®, check the Tower Tonic levels twice a week to learn how quickly your plants are utilizing the tonic solution. Later, as your plants grow larger and the roots have reached the reservoir, you'll probably need to refill the tonic solution every 2–3 days.

## Avoid Plant Stress

It's well documented that healthy plants are less desirable to insects! A plant that is stressed in some way — whether from lack of water or nutrients, or from heat, wind or cold stress — becomes an easy target for pests and disease.

Dehydration, starvation, heat, wind, and cold can all cause a plant to wilt. Therefore, the number-one rule for keeping plants healthy is to prevent wilting!

- Always maintain a cool temperature within the reservoir. Tower Tonic should never feel warmer than the temperature of your skin.
- On a very windy or extremely hot day, turn the irrigation timer to run constantly for the most stressful hours of the day. Just remember to turn the timer back to its normal cycling times!

**Tower Garden® Tip:** If your Tower Garden® has to be partly shaded due to your surroundings, it is better to have afternoon shade, when the day is the hottest!

## Keep It Clean

When it comes to your Tower Garden®, clean is good. You don't have to pass the white-glove test, but keeping your Tower Garden® debris-free discourages plant pathogens.

- Keep your Tower Garden® in as clean an area as possible.
- Remove most mature, yellowing or brittle leaves from the base of the plant.
- Keep loose plant debris and insect debris clear from the top of the reservoir tank, and place the compost of discarded plant clippings well away from your actively growing Tower Garden®.

## MAINTAINING PLANT HEALTH: Managing Pests

Like its cousin tomato, eggplant is vulnerable to pests. These vary by region and time of year. Fortunately, growing plants off the ground in a Tower Garden® is one of the best ways to avoid pests!



### Aphids

Aphids are small, soft-bodied insect that are most commonly green and black in color, but may also be gray, brown, pink, red, yellow, or lavender. They tend to feed on tender, young growth, causing it to appear puckered or deformed. Though they are visible to the naked eye, they also leave behind an excretion known as honeydew, which is another method of identification.

**What to do if you have them:** There are numerous methods of aphid control, including botanical sprays such as insecticidal soap, pyrethrum, rotenone and horticultural oils. Beneficial insects such as ladybugs will also help to eradicate the pest.



### Flea Beetles

Adult flea beetles are small and vary in color from black to bronze to metallic gray. When these insects feed on the eggplant's leaves, small, irregular holes are created that make the leaves appear to have been shot. Excessive feeding can cause the leaves to wilt.

**What to do if you have them:** You can control flea beetles by using botanical sprays such as insecticidal soap, pyrethrum, rotenone and horticultural oils. You can also drape a traditional row cover cloth over the Tower to help protect the plants from damage. (Row cover cloths are made of a gauzy fabric that allows sunlight in, but keeps pests out.)



### Cucumber Beetles

Despite their name, cucumber beetles are also eggplant pests. Spotted, striped and banded cucumber beetles can be present during all stages of the plant's development and during the entire growing season. The beetles feed on all parts of the plant, including the fruit and flowers. These pests also act as vectors for transmission of bacterial wilt.

**What to do if you have them:** You can control cucumber beetles by using botanical sprays such as pyrethrum, rotenone and insecticidal soap.

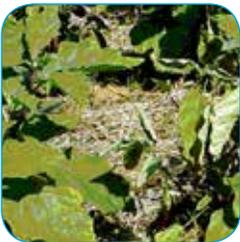
#### For more info:

For additional information on how to handle crop pests, consult your local office of the Cooperative Extension System, a nationwide, governmental educational network that provides free useful information on agricultural practices.

<http://www.csrees.usda.gov/Extension/>

## MAINTAINING PLANT HEALTH: Managing Disease

Not all plant problems are caused by pests; some are caused by disease. Here are the ones most likely to affect eggplants.



### Bacterial Wilt

A serious disease of eggplant, bacterial wilt is transmitted by one of the major crop pests, the striped cucumber beetle. Seedlings and young plants are most susceptible. Symptoms of this disease appear first in individual leaves followed by wilting of all the leaves on a stem, culminating in the death of the whole plant. Infected plants should be removed immediately.

**What to do if you have it:** Minimize the risk of introducing this disease to your eggplants by managing the cucumber beetle population. Purchase seed and plant varieties that have genetic resistance to bacterial wilt. Keep the area around the Tower Garden clean of plant debris.



### Bacterial Leaf Spot

Best identified by black spots or lesions on the leaves, bacterial leaf spots are encouraged by wet, humid conditions and disseminated through splashing water such as rainfall. Leaf spots can also be spread through horticultural practices, such as transfer of the disease during harvest or handling. The bacterium is reported to be seed borne.

**What to do if you have it:** The best control for this disease is prevention: buy only disease-resistant seed or plant material. Maintain good air circulation through consistent harvesting. And remove diseased plant material to help keep it from spreading.



### Early Blight

Early blight is caused by a fungus that primarily attacks the leaves and stem of the plant. If left uncontrolled, the infection can devastate the plant. Best identified by the appearance of dark brown leathery lesions that have faint, concentric rings resembling a target, the disease may first show symptoms on the lower, older leaves on the plant. It grows most during periods of frequent rains with daytime temperatures near 75°–80°. This disease may be spread by windblown water, splashing rain, insects, and cultivation equipment.

**What to do if you have it:** Grow eggplants from disease-free seed or purchase plant material that is healthy. Because early blight likes warm, humid conditions, make sure your plants get plenty of air circulation. Also remember that stressed plants are more likely to be affected by disease, so take care to maintain plant health through proper care. If you've grown eggplants or tomatoes in the past, make sure that the area is clear of the previous crops' plant debris, and practice good sanitation measures between crops. Destroy any plants exhibiting early blight symptoms immediately by disposing of or burning them. Treat plants against early blight infections with preventive hydrogen dioxide or copper sprays.

## HARVESTING

Is it time for grilled eggplant yet? Keep these things in mind when harvesting:

- You should expect to harvest your delicious eggplant about 4–7 weeks after transplanting it into the Tower Garden®.
- Make sure to use a knife or shears to remove the eggplant from the plant without injuring the rest of the plant. Make a cut above the cap of the eggplant leaving a portion on the stem still attached.
- Plan to begin harvesting the fruits when they are 6"–8" inches long.
- Cook immediately for the best flavor since eggplant does not store well.
- If eggplants are left on the vine and grow too large, they will become pithy and may taste bitter. It's best to remove these fruits from the vine and allow others to develop.