



TOWER
GARDEN

BY JUICE PLUS+®

GROWING GUIDE: PARSLEY

No pantry would be complete without a container of dried parsley. It's an indispensable addition to potato, rice or pasta dishes as well as soups and stews. But do you avoid buying it fresh because you can't use a whole bunch before it goes limp in your crisper?

The best thing about growing your own parsley is that you can snip just a few sprigs if that's what you need for garnish, and then when you find yourself craving tabbouleh — that tasty Middle Eastern salad of bulgur wheat, tomatoes, parsley, olive oil and lemon juice — you can harvest a cup or more of the frilly green leaves.

Some gardeners also like to plant parsley near tomatoes because it attracts parasitic wasps that prey on hornworms, a common tomato pest.

Growing parsley 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 parsley plants in a Tower Garden®. Read on to learn how to choose your parsley varieties, sow seeds, transplant seedlings, pinch, fight pests, and know when to harvest.

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



THE ANATOMY OF A PARSLEY PLANT

- **Stem:** The main stalk that connects the leaves to the roots
- **Leaves:** The green, edible part of the plant

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

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

Your Tower Garden® can grow most types of parsley. The leafy varieties of parsley — such as curly and flat leaf — work best, because the Tower isn't intended to grow root crops like the Hamburg or thick-rooted varieties of parsley.

Curly Parsley

Curly parsley is probably the type you're most familiar with. It's the one that's commonly used as garnish in restaurant fare. But just because it's decorative doesn't mean it's not edible! Curly parsley adds a wonderful texture and color to a variety of foods.

Curly types are quite versatile, typically growing 8"–14" in dense clumps, and are great for growing in the Tower Garden®.

- **Forest Green:** Long, stiff stems keep the leaves of Forest Green high off the ground and make for easy bunching. This is a productive plant that creates an aromatic garnish, and it dries and freezes well.
- **Extra Curled Dwarf:** As the name implies, Extra Curled Dwarf is a dense, compact plant with very curly leaves. In addition to being quite productive, this plant matures quickly (40–60 days), so it's a good choice if you want parsley soon — and a lot of it. It also makes a nice ornamental plant.

Flat-Leaf Parsley

If you love parsley more for its taste than its texture and color, you'll want to grow Italian flat-leaf parsley. Growing quite tall (2'–3'), it has flat leaves with a much stronger and sweeter flavor than the curly varieties, making it perfect for cooking.

- **Giant of Italy:** A large, bushy plant with sturdy stems and large, dark-green, flat leaves, Giant of Italy has an intense flavor and is popular in Italian cooking. It tolerates both heat and frost and dries well, making it perfect for the beginning gardener.
- **Titan:** A specialty flat-leaf variety that is especially sweet and flavorful, Titan is great in all kinds of cooking. The leaves are small and dark green and make an attractive garnish. The plants are compact, upright, generally uniform and productive.
- **Italian flat leaf:** This variety of parsley looks like cilantro but has larger leaves and a strong, slightly peppery taste. It dries well, and is perfect for tabbouleh and sauces.

BEFORE YOU PLANT: Deciding When to Plant

Parsley is a pretty versatile plant. All it asks for is temperatures between 70° and 80° for germination, plus regular water and sunshine. Aside from that, it's pretty flexible. Parsley grows well in a wide range of temperatures, from 50°–85°. It's considered partially hardy and can survive a light frost. It can even be grown in full sun or light shade.

Despite its general adaptability, if you are growing parsley in a hotter climate where temperatures remain consistently above 85°, you'll probably want to give it partial shade to keep the plant cooler.

How long 'til your parsley is ready to harvest? In general, you can transplant parsley 1–2 weeks after germination (sprouting). Both the curly and flat Italian varieties 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 parsley.

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: Ten to 14 days after germination, and once the fear of frost has passed, your seedlings should be ready to transplant into the Tower Garden! Look for at least 2–3 true leaves before transplanting.

Tower Garden® Tip: Parsley is very slow to germinate, and seeds must absorb water in order sprout. This is why pre-soaking of the seeds is recommended to help speed up the already lengthy process.

PLANTING: Transplanting into the Tower Garden®

Generally, you can transplant your seedlings into your Tower Garden® about 1–3 weeks after they germinate. The exact time frame depends on the date of the last frost in your area. You'll know your plants are ready when they have a good root system growing from the rock fiber starter plugs.

If you're using a Submersible Heater and a frost blanket, you can start transplanting three weeks before the suggested planting date. Just make sure you heat the water in the Tower Tonic reservoir to a minimum of 70° until daytime temperatures rise to that level.

Step 1: Gently separate the plugs in the Rockwool slab. Do your best to break as few roots as possible.

Step 2: Your assembled Tower Garden® should already have a net pot in each planting port. Place each cube with its newly planted seedling into one of these net pots. Guide any hanging roots from the net pot into the growing pot.

Step 3: Be SURE the bottom of the plug is securely against the bottom of the net pot. This aligns the plant for optimal irrigation inside the Tower Garden® and keeps it from getting too dry.

Tower Garden® Tip: You can inter-plant parsley, which means tucking this low-growing, shade-tolerant herb in between taller crops.

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 most crops, parsley 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! Following are the most common pests affecting parsley.



Aphids

Aphids are small, soft-bodied insects 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.



Whitefly

Sap-sucking insects that are visible to the naked eye, whiteflies have slender white bodies and wings and tend to congregate on the undersides of leaves to feed. They are one of the most serious pests in the agricultural industry, affecting both field and greenhouse growers.

What to do if you have them: Reach for your botanical sprays such as pyrethrum, rotenone and horticultural oil sprays.



Striped Parsleyworm Caterpillars

Striped parsleyworm caterpillars become black swallowtail butterflies, and, as you can guess by their name, love parsley. In fact, it's their favorite food! If you consider losing a few leaves a worthwhile trade to have this beautiful butterfly in your garden, just leave them be. They are very likely to appear in late summer and fall.

What to do if you have them: If you choose to eradicate this pest, the best thing to do is to physically remove them from the plant.

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 parsley.



Septoria Leaf Spot

Appearing on both the tops and undersides of the leaves as yellow specks, this leaf spot is caused by a fungus that can attack the plant at any stage of plant development. You can identify it by the small gray or tan spots with a dark brown margin. Symptoms of the disease may first appear on the lower, older leaves of the plant and usually appear when the weather is wet and warm, with temperatures in the mid-70s. This disease can be spread by windblown water, splashing rain, insects, and cultivation equipment.

What to do if you have it: Be sure to buy disease-free seed or healthy seedlings. Proper care and air circulation will help maintain your plants' health because diseases are more likely to strike stressed plants. If you've grown parsley 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. If you discover infected plants, remove them from the Tower immediately.



Bacterial Blight

Bacterial blight infections occur during warm weather. Infections occur on parts of the plant that have been previously injured through insect feeding or weather-induced damage, such as hail, wind or hard rainfalls. The symptoms appear as water-soaked lesions on the underside of the leaves, which dry and become brown and brittle. A yellow border usually develops around the dead tissue.

What to do if you have it: Be sure to grow from disease-free seed or purchase healthy seedlings. Proper care and air circulation will help maintain your plants' health because diseases are more likely to strike stressed plants. Make sure the area is clear of the previous crops' plant debris, and practice good sanitation measures between crops. You can be proactive and treat plants against infection with preventive hydrogen dioxide or copper sprays.



Powdery Mildew

This is one of the most widespread and recognizable fungal diseases. Powdery mildew forms a white to grayish powdery growth, usually on the upper surfaces of leaves. Fungal spores are spread by wind and can survive the winter on nearby plants and plant debris. The warm days and cool nights of late summer create an ideal climate for spore growth and dispersal.

What to do if you have it: To control mildew, prune plants to improve air circulation and dispose of infected plants. To control minor infestations, pick off affected plant parts and dispose of them immediately. In the case of a larger outbreak, apply bicarbonate and copper sprays to prevent spread of the infection.

HARVESTING

It's tabbouleh time! Time to harvest your parsley and enjoy it in any number of summer dishes. Keep these things in mind when harvesting:

- Harvest approximately one-third of the plant at once, working from the outside in. This will keep the parsley healthy and productive.
- Harvest by snipping off the stalks close to the base, beginning with the outside stalks. If just the tops are cut off and the leaf stalks remain, the plant will be less productive.
- You can trim parsley throughout the growing season for continual harvest; in fact, if you don't, the plant will become thin, leggy and much less productive.
- Trim unhealthy leaf stalks at the base of the plant and discard them.
- Harvest just before using for the best flavor.

ABOUT BOLTING

Bolting is defined as "rapid expansion of a plant into flowering mode."

Inevitably, Nature will take her course — all plants want to flower to reproduce and create seed. That's their life's quest! Toward the end of the summer, bolting will begin to occur, sending your plant into fast flowering mode. The plant will appear to quickly expand upward, producing lacy, round flowers. Once parsley has bolted, leaf growth generally slows down, and leaves may become bitter-tasting. Generally, this isn't desirable, and your plant has spent its life cycle. Replace bolting plants by transplanting new seedlings, and the cycle begins again!