



Growing a Modern VICTORY GARDEN

Everyone is looking for ways they can help during the current COVID-19 outbreak. Planting a garden can be one way for your family to get healthy, fresh vegetables, save money, potentially help others through food donations, get exercise, and relieve stress. Consider these historic facts on Victory Gardens:

- **World War I:** In 1917 home gardeners mobilized and the first Victory Gardens were planted. In 1918, more than 5.2 million gardens were cultivated.
- **World War II:** In 1944, an estimated 20 million Victory Gardens produced 8 million tons of food. This was **40%** of all the fruits and vegetables consumed in the U.S.

The current COVID-19 situation has sparked renewed interest in food gardening. Many people are considering vegetable gardens as a way to increase personal food security. This spring will see first time gardens, expansion of current gardens, and the re-start of long dormant food gardens.

For those current and past gardeners I don't expect this information will tell you more than you already know, although you may pick up some new tips. For beginning gardeners, this is the packet for you — a quick reference guide to answer immediate questions! It will guide you in learning a life-long skill. Think of your new endeavor as a Victory Garden for the 21st Century!



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NO ROOM FOR A GARDEN? TRY CONTAINERS!

If you don't have a yard or space for a traditional garden, container gardens can be very productive. All you need is a porch, balcony, stoop, sidewalk or outside area that gets at least 8 hours of sun per day. South or west facing locations will offer the most sun. Container gardens are low maintenance since weeding is minimal. You can also move them throughout the day to get the maximum amount of sun.

CONTAINERS

Anything can be used as a container. Just make sure there are holes in the bottom so water drains freely. If water sits in the bottom it will cause root rots that will kill the plants. Five-gallon buckets work great- just drill 5 to 6 holes in the bottom. Optimum size for any container is 10 inches in diameter or greater and at least 8 inches deep. The container should be light in color. Dark colors will absorb the sun and may 'cook' the roots.

SOIL

Fill your containers with bagged potting or garden soil. If you have access to topsoil, that will work too, although it may make the container very heavy. You can also lay bags of garden soil flat and cut slits for the seeds or plants. Make sure to punch some holes in the bottom first.

WHAT TO PLANT

Just about any vegetable (within reason) can be planted in a container. Obviously larger plants will need to be planted in larger containers. Smaller containers are great for planting greens

and herbs. Larger containers can accommodate tomatoes and summer squash. And speaking of tomatoes, the best option for container production of tomatoes is to buy patio tomatoes. These stocky plants are bred to stay small and are highly productive. Patio tomatoes are very popular- most garden centers sell them as transplants. Refer to the chart at the end of this article to determine how many plants can be grown in a five-gallon bucket, when to plant, and growing tips.

WATER

Since they are above the ground, containers are subject to drying out from wind and sun. You may need to water them every day. When watering try not to get the leaves wet- water at the soil level for best results. Apply water until you see the water begin to drain from the bottom of the container, and then stop. That way you can be sure the plants are getting adequate irrigation.

RECYCLE! IDEAS FOR CONTAINERS

- Plastic dish tubs
- Kiddie pools
- Buckets and pails
- Baskets
- Pallets
- Burlap bags
- Cracked wheelbarrows
- Rusted kitchen pots

WHAT FITS IN A FIVE-GALLON BUCKET?

VEGETABLE	QUANTITY IN A 5 GALLON BUCKET	DIRECT SEED OR TRANSPLANT	PLANTING TIME	TIPS
Tomato	1	transplant	Late May	Surround the tomato plant with a ring of lettuce for an instant salad
Pepper	3	transplant	Late May	Frying peppers and hot peppers are the most productive
Beans (green, yellow)	6	Direct seed	Mid-May	Harvest the beans frequently to maintain maximum production
Beets	many	Direct seed	Mid-April to early May	Space seeds 4 inches apart
Carrots	many	Direct seed	Mid-April to early May	Scatter the seeds and cover with ¼" of soil. Thin to 2" apart
Cucumber	3	Direct seed	Late may	A trellis can be used to train the plants to grow upwards
Eggplant	3	transplant	Late May to early June	Eggplants are very cold sensitive. If the weather is cool wait until early June
Peas	12	Direct seed	Mid-April to early May	Can be trained to a trellis for easier harvest
Spinach/Lettuce	many	Direct seed	Mid-April to early May	Scatter lettuce seeds on top of the soil then pat them down- do not bury. they
Swiss Chard	6	Direct seed	Early to mid-May	Can be harvested early for 'baby' greens
Kale	6	Direct seed	Mid-April to early May	Can be harvested early for 'baby' greens
Zucchini/Yellow summer squash	1	Direct seed or transplant	Mid-May for seeds; Late May to early June for transplants	Squash are very cold sensitive. If the weather is cool wait until early June before setting out transplants
Herbs	several	Direct seed or transplant	Mid to late May	Plant a container with 3 or 4 of your favorite herbs. Basil is very cold sensitive, don't plant until after June 1

WHERE DO I GET ORGANIC MATTER?

If you haven't already started a compost pile in your backyard, now is the time to start. You can compost kitchen scraps, lawn trimmings, leaves, and other organic matter. It's not hard — and it keeps these things out of the landfill.

Information on starting a compost pile can be found on our website. Go to <http://ccejefferson.org/gardening/compost-resources>

WHAT VARIETIES SHOULD I GROW?

Every year, Cornell publishes a list of selected varieties that are recommended for New York State home gardeners. This list of varieties is printed at the end of this guide.

QUICK TIPS FOR A TRADITIONAL VEGETABLE GARDEN (I.E. GARDENING IN THE EARTH)

- **Start Small!** A garden size of 10' by 10' or 20' by 20' (for a family of four) is a good area to start with. Having too much garden can be overwhelming. A 20' by 20' garden will produce enough vegetables for fresh eating with some extra for processing.
- Locate the garden in a **well-drained, flat area** that gets at least **8 hours of sun per day**. Southern and western exposures offer the most sunlight. You will also need access to water via a hose or spigot. Vegetable gardens are most productive when they receive adequate irrigation.
- **Allow the soil to dry out** before you begin prepping the garden. Working wet soil leads to compaction and destroys the soil structure (not to mention that it makes a mess!). To test if the soil is dry enough to work, squeeze a handful of soil. If water runs out, the soil is too wet. If the soil holds together in a clump, it is too wet. If the handful of soil breaks apart easily or crumbles, it is dry enough. If the soil is too wet, just wait a couple of days. Light breezes and sun will help in the drying process.
- Ideally you should **remove any sod** from the garden area. This can be done using a flat shovel and cutting the sod off the top of the soil. You can also spray the area with a glyphosate herbicide (according to directions on the label) to kill all the vegetation. You can also cover the area with a tarp to kill the grass, although this usually requires several months. The sod can be worked into the soil, but this may lead to a temporary nitrogen deficiency as the material decays.
- Add **4 inches of organic matter** on top of the soil. Organic matter is well-composted cow or horse manure, compost, peat moss, or any combination thereof. You can also add a slow release, granular fertilizer at this time according to label directions. Products like *Osmocote* are readily available at garden centers and big box stores.
- **Turn the soil.** Double dig with a shovel or till to incorporate the organic matter and any fertilizer.
- Let the area settle for a few days and then you can begin planting!



COOL AND WARM SEASON VEGETABLES:

WHEN CAN YOU PLANT?

The vegetable crops we grow in the North Country are placed in two categories: cool season crops and warm season crops. In general, with cool season crops, the seeds are planted directly in the ground in the spring. Cool season vegetable seeds germinate at low temperatures and the plants are not damaged by light frosts. These plants prefer cooler weather conditions and often die back or go to seed with the advent of warm summer temperatures. A cool season crop can be harvested and the area can then be re-planted with a warm season crop- this way you get the most out of your garden space!

Also, consider replanting some cool season crops in August after temperatures start to cool down. Spinach, for example, can be harvested right up until the snow flies. With a layer of mulch, it can sometimes be overwintered for an early start next spring!



Cool season vegetables can be planted much earlier than warm-season crops — some before the last frost!

Warm season crops that are planted directly in the garden via seeds need warm soil temperatures in order to germinate. If the soil is not warm enough, the seeds will simply rot. Other warm season crops are started inside and then transplanted into the garden after all danger of frost has passed. If the weather does call for a frost and your transplants are in the garden, just cover them with an old sheet or plastic containers- this is usually enough to prevent frost damage on tomatoes and peppers. Vine crops, (cucumbers, squash, melons) on the other hand, are very cold sensitive. Even if temperatures are not below freezing, a cool wind can kill the plants. If the weather forecast is for cool temperatures, wait until June to set out the plants.

Regardless of whether you buy transplants at a garden center or start your own, remember to harden them off before planting them in the garden. If you move them directly from the store or home and into the garden they will suffer. Gradually introduce the plants to the outside environment over the course of about 5 days. Set the plants outside for a day, and then bring them in at night. The next day, leave them out until after dark and then bring them in. The next night leave them out all night in an enclosed porch or garage. Do this until the plants are outside overnight and then plant them in the garden. This allows the plants to get used to bright sun, breezes and cool temperatures; it reduces transplant shock which can set back, or even kill the plants.

Keep in mind that you can buy most food plant transplants with SNAP benefits. It makes gardening more affordable for those trying to garden to save money.



Cool Season Vegetables-

Many are planted via direct seeding in early spring

Vegetable	Planting Time	Comments
Asparagus	Mid to late April	Perennial crop, crowns are planted; wait 3 years before first harvest.
Beets	Mid to late April	Plants come up in clusters, thinning is necessary.
Broccoli	Seeds can be planted as soon as the soil can be worked- early to mid-April	Transplants are also available, they can be set out in late April, or mid to late July for a fall crop.
Cabbage	Late April	Transplants are also available, they can be set out in early May.
Carrots	Late April to early May	Seeds are slow to germinate, interplant with radish to mark the rows.
Cauliflower	In late May use transplants. Direct seed in summer for a fall crop	Transplants grow best, direct seeding gives poor results
Lettuce/Endive	Late April to early May	Lettuce seed needs light to germinate, do not cover the seeds. Can be planted in August for a fall crop.
Onions	Mid to late April	Use onion sets or plants. Onion seeds need to be started indoors in March.
Peas	Seeds can be planted as soon as the soil can be worked- early to mid-April	Bush and climbing varieties. Plant in August for a fall crop.
Potatoes	“Seed” potatoes are planted in late April	Seed tubers are cut to contain at least 2-3 “eyes”.
Radish	Late April to early May	Can be used to “mark” the rows of slower germinating seeds.
Rhubarb	Mid to late April	Perennial crop. Crowns are planted; harvest can begin after the first year.
Spinach	Mid to late April	Can be planted in August for a fall crop.
Turnip	Plant seeds mid June to late July	Crops that mature in the cool temps of fall are best.

Warm Season Vegetables-

Planted via seeds or transplants

Vegetable	Seed or Transplant	Planting Time	Comments
Beans (dry and snap)	Seed only	Late May to early June	Bush or Pole varieties. Pole varieties tend to save space since the plants are grown vertically on a trellis.
Cucumber	Seeds or transplants	Seeds: mid- May Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.
Eggplant	Transplants	Early June	Very frost sensitive, set out after all danger of frost has passed.
Melons	Seeds or transplants	Seeds: mid- May Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.
Peppers- Green and Hot	Transplants	Late May	Set out after all danger of frost has passed.
Pumpkin	Seeds or transplants	Seeds: mid- May. Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.
Sweet Corn	Seed only	May to early June	Plant a large area, at least 20'x 20', for an adequate crop.
Tomatoes	Transplants	Late May	Bury stems up to first set of leaves, plant outside after all danger of frost has passed.
Watermelon	Seeds or transplants	Seeds: mid- May. Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.
Winter Squash	Seeds or transplants	Seeds: mid- May. Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.
Zucchini/Yellow Summer Squash	Seeds or transplants	Seeds: mid- May. Transplants: early June	Plants are damaged by wind and cold temps. Wait until early June if necessary to place transplants in the garden.

VEGETABLES AS TRANSPLANTS

Vegetable	Approximate indoor seed starting date	Transplant into garden*	Comments
Cucumber	Mid-April	June 1 st or later if the weather is cold	Sometimes do better when direct seeded; they do not like being transplanted. They also are very cold sensitive.
Eggplant	Mid-April	June 1 st or later if the weather is cold	Tropical plant, loves heat.
Melon	Mid-April	June 1 st or later if weather is cold	Very cold sensitive; loves heat
Pepper	Mid-March	Memorial Day, or 1 week earlier if weather is expected to be above freezing (be prepared to cover in case of frost!)	Seeds are slow to germinate and the plants grow very slowly.
Summer Squash	Mid-April	June 1 st or later if weather is cold	Can be direct seeded; cold sensitive.
Tomato	Early April	Memorial Day, or 1 week earlier if weather is expected to be above freezing (be prepared to cover in case of frost!)	Bury the plant stem up to the first set of leaves.
Winter Squash	Mid-April	June 1 st or later if weather is cold	Cold sensitive

*Dates are approximate- become familiar with weather patterns in your area!

- Choose short season, or northern seed varieties.
- Be sure all planting containers have good drainage.
- Water from the bottom up.
- Once the seeds germinate remove any covers and get the plants under a fluorescent shop light or grow light.
- Any heat mats can be removed at this point.
- Lights should be 4 to 6 inches from the tops of the plants.
- Lights should be on for 12 to 16 hours per day.
- Rotate the plants under the lights.
- Transplant seedlings at least once before they are planted in the garden. They can be transplanted into larger containers when the first set of true leaves are fully developed.
- Fertilize after the first transplant at ½ the recommended rate.
- Use a fan to strengthen plant stems.
- Properly harden off plants before planting them in the garden.
- Plant the transplants outside on a cloudy day.

EVERYBODY LOVES TOMATOES!

Tomatoes are the most popular vegetable garden crop. They are a staple in the kitchen and the garden harvest can be used right away or processed for storage. Tomatoes are also easy to grow and relatively low in maintenance.

WHAT TYPES TO GROW?

Tomatoes come in two different types determinate and indeterminate. This will be noted on the seed packet, tag, or in the seed catalogue description. See the chart below for a comparison. Most gardeners grow both types.

<i>Determinate</i>	<i>Indeterminate</i>
Smaller sized plants at maturity	Plants are large and vining
Staking, caging and trellising not necessary	Staking, caging and trellising are required for best results
Produce a large amount of fruit during a compact period of time, then production slows or stops	Produce a steady amount of fruit until frost
If you plan on processing your tomatoes, these tomatoes will be ready all at once	These tomatoes are good for fresh eating throughout the season and can also be processed

Heirloom tomatoes are very popular and offer the best flavor. Most heirloom tomatoes are indeterminate types. Despite their great taste, heirlooms can be problematic- they are highly susceptible to disease and low-yielding. Don't depend on them for processing. Most gardeners grow a couple of their favorite varieties for fresh eating.

Whenever possible try to grow tomatoes with good disease resistance. This will save you time and frustration. Look for a series of capital letters in parenthesis after the variety name- this indicates what kind of disease(s) the variety is resistant to. The more letters the greater the disease resistance:

- Big Beef (AS, F2, GLS, N, TMV, V) = resistance to Alternaria canker, Fusarium wilt, Gray leaf spot, Nematodes, Tobacco mosaic virus, Verticillium wilt
- Sun Gold (F, TMV) = resistance to Fusarium wilt, Tobacco mosaic virus

Tomatoes varieties have different sizes and shapes: beefsteak, slicing, paste, plum, cherry, pear, and grape. Red is the default color, but depending on the variety tomatoes can be pink, yellow, green, orange, black, or striped.

PLANTING

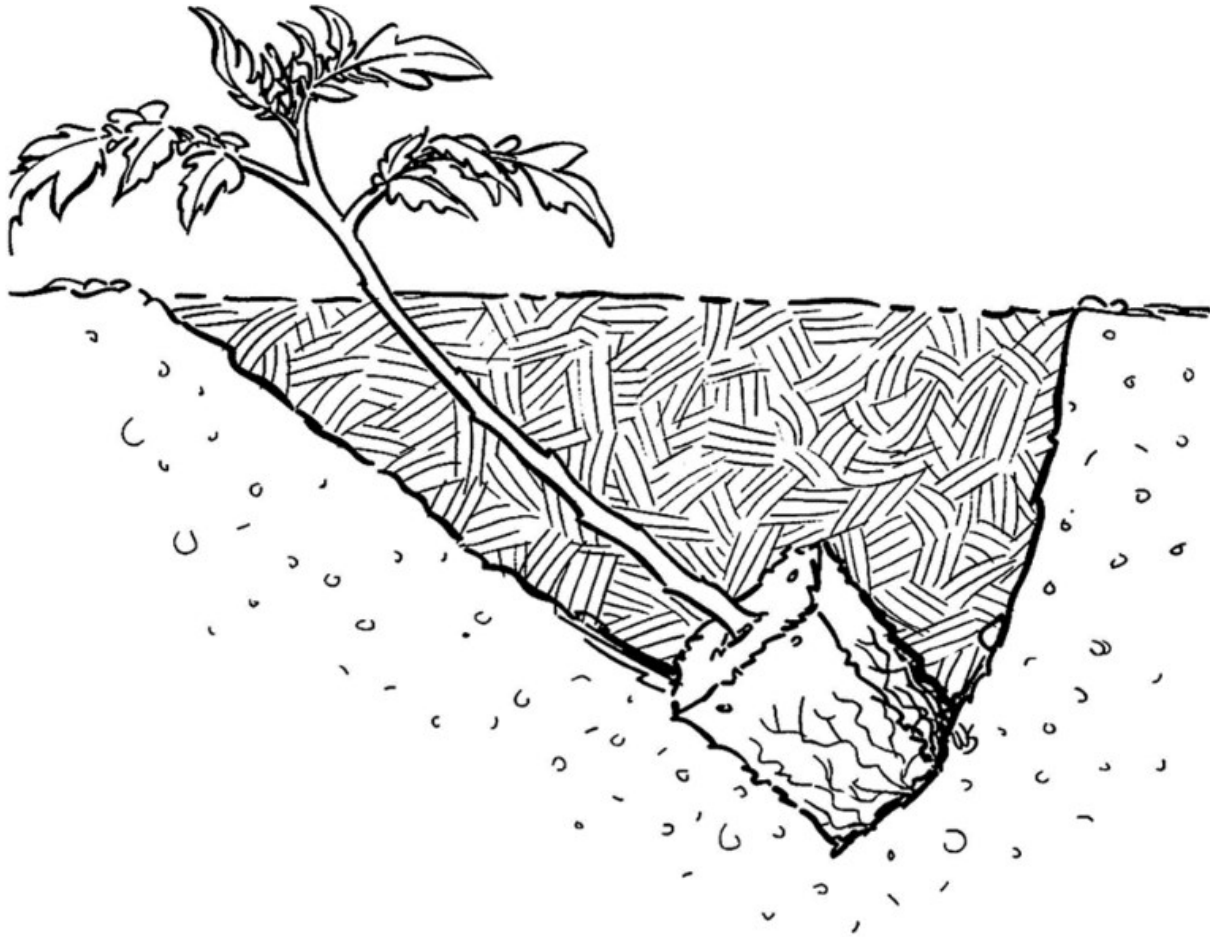
Like any other transplant, tomatoes need to be 'hardened off' before they can be planted in the garden. This process prevents transplant shock by slowly introducing the plants to the outdoor environment. Upon bringing the plants home from the garden center, place them outside in a shady, wind free location. Bring them inside before sundown. Gradually give them more sun and leave them outside longer each day until you are leaving them outside well past dark. After about 4 to 5 days the plants are ready to go in the garden. If a day is rainy and cold just keep the plants inside and continue the process once the weather improves.

Tomatoes should be planted in the garden at the end of May. By then the chance of frost has passed. Memorial Day weekend is the target date for most gardeners. Set the plants out on a cloudy day or in the late afternoon or early evening.

Planting a tomato is a bit different from planting other transplants. Remove the plant from the container and pull apart the roots on the bottom so they are somewhat spread out. You are actually tearing the roots and this won't hurt a thing! It actually encourages root growth. If your plants are in peat pots, just tear off the bottom and spread the roots. The remaining portion of the pot is planted right in the ground.

Space determinate tomatoes 12 to 24 inches apart, indeterminate varieties should be spaced 24 to 36 inches apart. Any stakes, cages, or trellising should be set in place before or at planting.

***When you plant tomatoes- bury the entire stem, all the way up to the first set of leaves. Dig a deep enough hole or lay the plant on its side and dig a small trench.



(Will Suckhow, Sustainable Food Center)

FERTILIZATION

After planting, water the transplants with a water soluble fertilizer like Miracle-Gro or fish emulsion. This gives them a good start and also helps prevent transplant shock.

If you have added a granular, slow-release fertilizer to the soil or if you have used a bagged soil that contains fertilizer, you do not need to do any further fertilization. If not, water the plants with a water soluble fertilizer, usually every two weeks as per the label directions.

THINKING ABOUT GROWING SOME BACKYARD FRUIT?

General recommendations for growing fruit in Jefferson County:

- Choose varieties that are hardy to Zone 4 (locations east of Rt. 81) or Zone 5 (locations west of Rt. 81 and the City of Watertown).
- Well-drained sandy loam soil is best, but most plants are adaptable to other soil types.
- The soil pH level should be 6 to 7, (except for blueberries, see below!)
- Fruit trees should not be pruned until the third year after planting. Any broken branches should be removed immediately.

Grapes:

- Deep sandy loam
- South facing slope is best
- New Cold Climate grape varieties do best in Jefferson County
- Limited crop in 3 years
- High maintenance crop- spraying, fertilization, pruning = time and money
- Trellising system needed
- Many insect and disease issues
- Issues with late spring frosts

Brambles:

- Well-drained sites- no wet areas!
- Crop in 2 years
- Summer vs fall bearers
- Summer- considerable trellis
- Fall- basic trellis, lose a lot of crop to frost
- Medium maintenance crop
- Several disease and insect issues



Blueberries:

- Well-drained, **acidic soil** (pH below 5), no high calcium soils
- Can be grown in raised beds to maintain soil pH
- Good crop in 3 years
- Shallow rooted- do not compete well with weeds
- Medium maintenance- some pruning
- Minor disease issues

Prunus (stone fruit) - including plums and cherries:

- Sweet cherries have hardiness issues; best if grown in Zone 5. Sour cherries do well in Zones 4 and 5.
- Disease is rampant and harbored in wild *Prunus* species.
- Black knot, bacterial canker
- Relatively low maintenance if pest issues can be avoided

Apples/Pears:

- High maintenance crop- pruning and spraying are required
- Many disease and insect issues- organic production will be difficult

Apricot/Nectarine/Peach:

Difficult- few hardy varieties

Strawberries:

- Relatively high maintenance
- Short term - crop first year
- June vs day neutral (everbearing)
- June bearers produce a crop in June
- Everbearers produce a small crop in spring and a larger crop in late summer
- Fertilization required
- Mulching will hold down weed competition
- Must replant every 2 years
- Some disease and insect issues

Specialty/Niche Crops:

- Serviceberry- small tree with edible berries (AKA Saskatoon's)
- Elderberry- large shrub with clusters of berries
- Aronia- medium shrub with berries
- Currants/Gooseberry- Small shrub
- Honeyberry (haskap)- Easy to grow and can replace blueberries in locations without acidic soils
- Hazelnuts
- Other nuts- walnut, hickory
- Paw-paw- only hardy to Zone 5
- Mulberry- fast growing tree with berries that look similar to blackberries

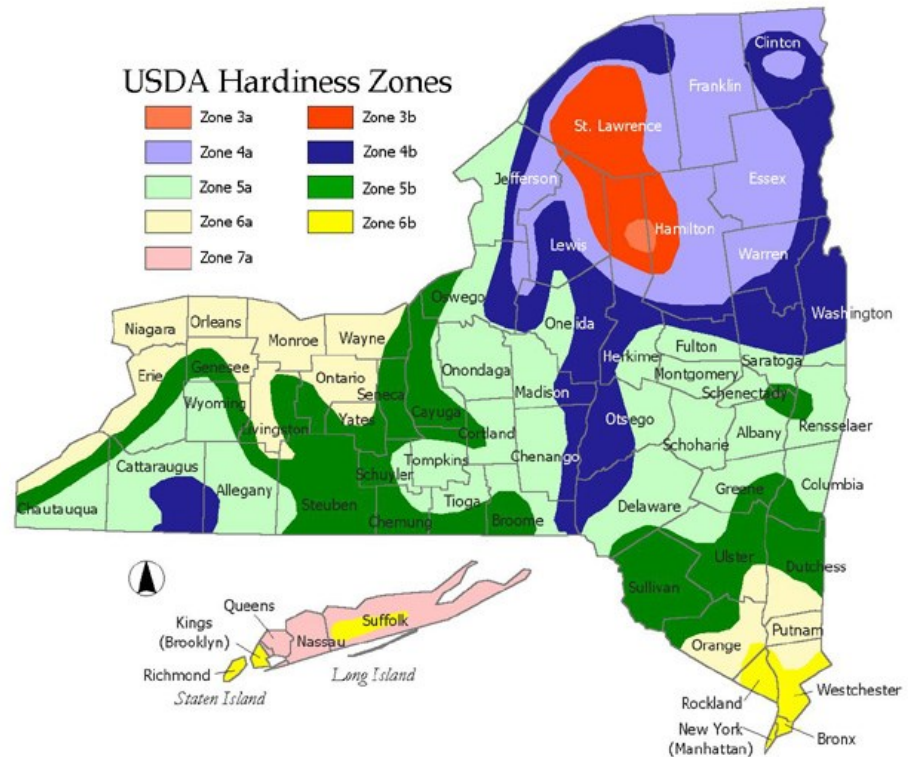
Right: Honeyberry (Haskap)



FRUIT AND NUTS YOU CAN GROW IN NNY

Know your zone!

- 3a: -40 to -35F
- 3b: -35 to -30F
- 4a: -30 to -25F
- 4b: -25 to -20F
- 5a: -20 to -15F



COMMON FRUIT AND BERRIES GROWN HERE:

Apple, Pear, Grape (only cold-climate varieties such as 'King of the North' or 'Frontenac'), Sour Cherries (hardier varieties such as 'North Star'), Peach*, Plum*, Apricot*, Strawberry, Blueberry (acid soil required), Blackberry*, Raspberry ('Nova')

SPECIALTY FRUIT GROWN HERE:

Pawpaw*, Hardy Kiwi, Lingonberry, Elderberry, Mulberry, Currant, Gooseberry, Honeyberry, Aronia, Cranberry

NUTS:

Chestnut, Hazelnut, Hickory (shagbark), English Walnut*

*Not hardy throughout the North Country. Restricted to Zone 5 (along the lake and southern locations). Choose hardiest varieties for best success.

WATER, WEEDS AND WOES

Once your food plants are in the ground, they will need some attention. Problems can crop up, but as long as you pay attention to watering and weeding, you should have productive plants.

WATER

Vegetable gardens and newly planted fruits need an inch of water per week. The best way to determine if Mother Nature is providing enough water is to use a rain gauge. They are available at hardware stores for under \$10. Place the gauge in the garden or yard and check it every day. If it does not register one inch of rainfall by the end of a week, then water your plants.

The most effective way to water is with drip irrigation. If you have this type of set-up, that's perfect, but these systems can be expensive and problematic to set up. A sprinkler, hose or bucket will do if you follow these recommendations:

- **Water early** in the day. This is especially important if you are using overhead water (sprinkler, sprayer) because the leaves get wet and this encourages fungal disease. If you water before 10 am, the plants have all day to dry out before cool, damp evening air moves in.
- **Water deeply.** The water needs to penetrate into the soil to encourage the roots to grow down. Light sprinklings cause the roots to stay near the soil surface where they are more subject to drying and damage.
- **Do not let the soil dry out.** Extreme fluctuations in soil moisture will stress the plants. Keep the soil evenly moist, but not wet. It is possible to over-water and this leads to a whole set of other problems.

WEEDS

The most common reason plants die and/or gardens are abandoned is too much weed pressure. If weeds are allowed to gain a foothold, it can be impossible to catch up. Follow the recommendations below for successful weed management:

- **Weed every day.** Frequent weeding ensures weeds will never get out of control.
- **Early season weeding is most effective.** If you keep up on weeds early in the season, you will have fewer weed issues later on.
- **Use mulch.** This can go a long way in reducing the amount of weeds. Mulch can be placed alongside plants and in walking paths. Options for mulch include: cardboard, newspaper, black plastic, leaves, grass clippings, straw (not hay!), and shredded bark or wood products. To prevent problems, the mulch layer should never be more than 3 inches thick and it should never be piled up against plant stems.
- **Avoid 'volcano mulching'** If you are using bark mulch around trees never pile it against the trunk and it should not be more than 3 inches deep.

WOES

As the season progresses you may see some pest issues develop. Although, in my experience, first-time gardens tend to be relatively pest-free. If you do see things that just don't 'look right,' contact your local cooperative extension. In Jefferson County the phone number is 315-788-8450. You can also email photos of the issue to sjg42@cornell.edu or contact us via Facebook. The key to both disease and insect control is the correct identification of the pest.



Above: Common Japanese Beetle

GARDENING RESOURCES:

Cornell University Food Gardening Resources to include vegetable growing guides and the Cornell Guide to Growing Fruit at Home:

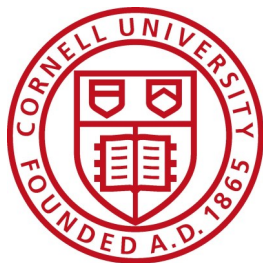
<http://gardening.cals.cornell.edu/garden-guidance/foodgarden/>

CCE Jefferson Gardening Website: Stay up to date on current gardening tips and upcoming events: <http://ccejefferson.org/gardening>

CCE Jefferson Facebook: <https://www.facebook.com/ccejefferson/>

Sue Gwise, CCE Jefferson Consumer Horticulture Educator: sjg42@cornell.edu or 315-788-8450

Cornell Cooperative Extension of Jefferson County
205 N. Hamilton Street
Watertown, NY 13601



Cornell Cooperative Extension is recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and offers equal program and employment opportunities.

NEED HELP? WE'RE HERE FOR YOU.

Cooperative Extension has been there for Jefferson County through many crises. We provided classes on food preservation and gardening during the Great Depression and World War II. We were there helping residents and farmers during the snow storm of 1976 and ice storm of 1998. Today is no different. Though the team at Cornell Cooperative Extension has been largely working from home for the past month, we have been diligent in our efforts to provide the latest information on COVID-19 to our customers – whether they be families, businesses, farmers, or other government agencies. As always, we have worked hard to ensure information is presented clearly, is based upon sound science, and is relevant and timely. While today we are more likely to use PDF documents, Zoom teleconferences, and Youtube videos rather than printed pamphlets and in-home demonstrations, we remain steadfast in this mission.

To help sort through the mountain of COVID resources available, we have put together the following summary:

General COVID-19 resources: <http://ccejefferson.org/energy-environment/covid-19>

COVID-19 resources specific to agriculture: <http://ccejefferson.org/agriculture/covid-19-agriculture-resources>

Food and nutrition related videos: <http://ccejefferson.org/nutrition/nutrition-video-resources>

Financial and budgeting related tips and resources: <http://ccejefferson.org/money>

4-H Virtual Academy: <http://ccejefferson.org/4-h-youth/4-h-virtual-academy>

Video resources for military families: <http://ccejefferson.org/military-families>

Videos are continually being updated on our Facebook page (<https://www.facebook.com/ccejefferson>), on our YouTube channel, https://www.youtube.com/channel/UCSt2HmdzWnSyAqmWRF7TOVA?view_as=subscriber); and on our Vimeo channel (<https://vimeo.com/ccejefferson>).

Most importantly, we will continue to provide immediate and direct support to you through telephone calls, email, video-teleconferencing, and other means. Email addresses for our staff can be found on the Extension [staff directory](#). If you need assistance or have questions, please contact us. If we cannot help you, we will do our best to find someone who can.

**Selected List
of
Vegetable Varieties for Gardeners
in
New York State
2020**

(Revised 12/19)

Vegetable varieties listed in this report should be well adapted for New York State community, school and home gardens. It is recognized that varieties not listed here may be satisfactory or even perform better under certain conditions. We encourage gardens to rate the varieties at:

vegvariety.cce.cornell.edu

Visit our Vegetable Varieties for Gardeners in New York State website for detailed descriptions and some seed sources of more than 7,000 vegetable varieties including those listed in this report. Compare varieties, read ratings and reviews by fellow gardeners, and offer your own observations of which varieties perform best in your garden.

Note: Future reports will be largely based on variety ratings from this site.

vegvariety.cce.cornell.edu

**Cornell Garden-Based Learning
Horticulture
School of Integrative Plant Sciences
Cornell University
Ithaca, NY 14853-0327
www.gardening.cornell.edu**

Key to Notation

*	At least 4 NY gardeners' ratings averaging >3.5 stars at: vegvariety.cce.cornell.edu	#	New varieties to this year's list
A	Alternaria stem resistant	DM	Downy mildew resistant or tolerant
BCMV	Tolerance to Bean Common Mosaic Virus BV1 & NY15	PM	Powdery mildew resistant or tolerant
BLS	Bacterial leaf spot resistant strains 1, 2, and 3 are noted	R	Rust resistant
CTV	Tolerance to citrus tristeza virus	SE	Sugar enhanced
F	Fusarium resistant	SH2	Supersweet
LBR	Late Blight Resistant	SMR	Scab, mosaic resistant
M	Zucchini yellows mosaic and watermelon virus resistant	SR	Scab resistant, potatoes
MR	Mosaic virus resistant	SW	Stewart's wilt
N	Root knot nematode resistant or tolerant	T	Tolerance to tobacco mosaic virus
NCLB	Northern Corn Leaf Blight	Th	Thrips resistant
P	Phytophthora resistant or tolerant	V	Verticillium resistant or tolerant
		YR	Yellows resistant

ASPARAGUS

Jersey Giant (F, R), Jersey King, Jersey Knight (F, R), Viking KB3, Purple Passion *#

BASIL

Everleaf (DM, F) , Genovese*, Siam Queen, Thai Sweet, Lettuce Leaf*#, Italian Large Leaf*#, Everleaf *#, Sweet Basil *#, Cinnamon Basil*#, Purple Ruffles *#

BEANS

Green, Bush Bronco (BCMV), Charon, Derby, Espada (BCMV), Jade (R, BCMV, CTV) *, Provider *, Roma II (Italian flat pod), Tendergreen Improved, Masai *#, Jumbo *#, Burpee's Stringless Green Pod *#, Bush Blue Lake 274 *# (BCMV), Contender *# (BCMV)

Wax, Bush Golden Butterwax, Golden Rod, Dragon Tongue *, Rocard
Green, Pole Fortex *, Kentucky Blue, Northeaster *, Rattlesnake *, Scarlet Runner *, Emerite *#, Asparagus Yardlong*#, Kwintus *#, Pole Romano *#, Rattlesnake*#, Garden of Eden *#, Nickel *#, Purple Podded Pole *#

Lima, Bush LARGE SEEDED: Burpee Improved Bush, Fordhook 242
 SMALL SEEDED: Henderson

Lima, Pole King of the Garden, Trionfo Violetto*#, King of the Garden *#

Soy, Edible Butterbean, Envy

Dry Beans Cabernet, California Red Kidney, Chinook 2000, Etna, Fleetwood, Jacob's Cattle, Midnight, Black Valentine *#, White Half Runner * #, True Red Cranberry *#

Misc. French Horticultural, Romano

Selected List of Vegetable Varieties for Gardeners in NYS – A. Helmholtz – page 3 of 7

BEETS Bull's Blood *, Chioggia *, Crosby Green Top, Detroit Dark Red *, Early Wonder *, Formanova, Golden *, Long Season*, Lutz Green, Merlin (DM) *, Red Ace*, Red Cloud, Ruby Queen, Touchstone Gold*, Warrior, Cylindra **

BROCCOLI Baccus, Belstar F1, Green Goliath *, Liberty, Packman*, Premium Crop * (DM), Arcadia * (DM), Small Miracle **, Piracicaba **, Early Dividend **, Castle Dome #, Lietenant #, BC1764#, Green Magic#, Gypsy#, Diplomat#, Bay Meadows #, Ironman #, Burney #, Emerald Pride #, BC1691#, Imperial#, Tradition#, Emerald Crown #, Fiesta#

BRUSSELS SPROUTS Long Island Improved, Oliver, Rubine Red, Jade Crossed * #, Diablo **

CABBAGE

Early Farao (Tr), Jersey Wakefield, Heads Up, Pacifica, Tastie, Gonzales **

Midseason Chieftain Savoy, Lennox, Market Prize (YR), Ruby Perfection, Savoy Ace, Savoy King

Late Huron

Winter Deacon

Chinese Blues (heading type), Jade Pagoda, Optiko (YR)

CARROTS Amarillo Yellow *, Bolero *, Cosmic Purple *, Healthmaster, Kinko, Purple Haze *, Royal Chantenay, Rumba, White Satin*, Yaya, Yellowstone, Red Cored Chantenay **, Royal Chantenay **, Napoli **, Nelson **, Nantes Half Long **, Dragon **, Danvers 126 **

CAULIFLOWER

Alert, Amazing, Candid Charm, Cheddar, Early White, Self Blanche (fall), Snow Crown*, Graffiti *

CELERIAC Brilliant, Large Smooth Prague aka Giant Prague

CELERY Tango

CILANTRO Cruisier *, Calypso *, Delfino *

COLLARDS Blue Max, Champion *, Georgia Green *, Georgia Southern *, Green Glaze **, Champion #, Georgia Collard #, Tiger F1#

CORN (all yellow kernels except when indicated white [WH] or bicolor [BC]):

Sweet

Early Fleet (BC, SE), Geronimo (BC, SE), Jester II, Seneca Spring (BC, SE), Sundance, Sugar Buns, Temptation (BC, SE), Trinity (BC, SE)

Midseason Incredible (SE, SW), Jubilee, Precious Gem (BC, SE), Argent (SE, WH, R, SW), Silverado (WH), Silver King (WH, SE, NCLB, R, SW), Tuxedo, Bodacious ** (SW), Incredible ** (SW, R), Ambrosia **

Late Season Bodacious, Delectable (BC, SE), Sensor (BC, SE), Sugar Ace, Sugar Dots ** (SE), Silver Queen ** (SW, NCLB)

Super-sweet Northern Extra Sweet

Popcorn Mini Bluepopper

CUCUMBER

This report is available online: www.gardening.cornell.edu click on **how-to** vegetables
For seed sources of listed varieties see: vegvariety.cce.cornell.edu/

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- Slicing** Burpless Hybrid II (MR), Corinto (MR, PM) *, Diva *, Greensleeves, Marketmore 76 (SMR, PM) *, Marketmore 86 (SMR, PM) *, Martini (PM), Socrates (PM), Spacemaster (SMR), Sweet Slice (SMR), Silver Slicer*#, Green Finger*#, Sweet Success *# (SR, MR), Poona Kheera *#, Armenian *#, Lemon *#, Suyo Long *#, Little Leaf *# (DM, SR, MR), Straight Eight *# (MR)
- Pickling** Alibi (DM, PM), Muncher (MR), National, Regal (SMR), Salt and Pepper (PM), Orient Express *# (PM, DM, MR, SR), Sumpter *# (MR, SR), Cool Breeze *# (MR, SR, PM), Homemade Pickles *#

EDIBLE HERBS/FLOWERS

Remembrance Calendula*#
Garlic Chives *#

EGGPLANT

- Early** Calliope, Dusky, Ichiban, Little Fingers, Swallow, Daimond *#, Kamo *#, Casper *#, Millionaire *#, Swallow *#, Neon *#, Nadia *#
- Midseason** Black Beauty, Classic, Neon, Pingtung Long, Listada de Gandia *#

ENDIVE Florida Deepheart, Full Heart Bavarian, Green Curled, Rhodus

FENNEL Grosfruchtiger *, Orion

GARLIC Music *, Bogatyr*#

KALE Dwarf Blue Curled *, Dwarf Green Curled, Lacinato *, Redbor, Vates* #
Red Russian *, Starbor, Winterbor, Rainbow Lacinato*#, Dwarf Siberian #,
Siberian Frill #, Gulag Stars #, White Russian #, Redbor F1 #, Scarlet #, Baltic
Red #, Roulette #, Black Magic #, Nero Di Toscano #, Dinoasaur #, Cavolo
Lacinato #, Darkibor F1 #, Winterbor F1 #, Vaes Kale #, Pentland Brig #,
Meadowlark #, Blue Dwarf Curl #, Beira F1 #, Portuguese Tron #, Sukuma Wiki
#

KOHLRABI Early Purple Vienna*, Early White Vienna*, Eder, Grand Duke, Kolibri,
Kossak (Kossack) Lanro*#

LEEK American Flag, Blue Solaise*, Broad London, Electra, King Richard,
Lancelot *, Pancho, Tadorna

LETTUCE

Crisphead (Iceberg)

Great Lakes (Fall), Ithaca, Summertime, Tom Thumb

Butterhead (Bibb/Boston types)

Andriana (MV, DM)*, Buttercrunch *, Esmerelda, Four Seasons, Sangria

Looseleaf Black Seeded Simpson *, Blade (DM) *, Green Ice, Ibis, Lollo Rossa, New Red
Fire, Oak Leaf*, Prizehead, Red Sails *, Ruby, Salad Bowl, Slobolt, Flashy
Troutback*#

Cos (Romaine)

Cosmo Savoy, Green Towers, Little Gem*, Parris Island,
Valmaine (a.k.a Paris White or Valmaine Savoy) (MR)

French (Batavia)

Sierra, Magenta *, Cherokee (DM)*

MELON

Orange flesh Ambrosia, Gold Star (F), Athena (F 0, 1, and 2, PM 1&2), Burpee Hybrid, Fastbreak, Halona, Hannah's choice, Harper Hybrid (F), Iroquois (F), Pulsar, Superstar (F), Sugar Queen *#

Green flesh Early Dew, Passport

Specialty Charantais, Edonis, Galia

Heirloom Eel River, Jenny Lind, Rocky Ford, Schoon's Hard shell

MUSTARD Green Wave, Red Giant, Southern Giant Curled *#, Red Giant * #

OKRA Cajun Delight, Cow Horn *#, Clemson Spineless *#

ONIONS

Transplants (Not for long term storage)

Alisa Craig Exhibition*, Bennie's Red, Candy, Red Sweet Spanish, Scout *, Walla Walla, White Sweet Spanish, Yellow Sweet Spanish *#, Texas Supersweet 1015Y *#

Seed (Early maturing)

Arsenal, Early Yellow Globe, NY Early *, Precedent

Seed or Transplant (Long term storage)

Cabernet, Copra (F) *, Duration, Fortress, Mars, Redwing

Sets Stuttgarter *, Egyptian Walking*#

Green or Bunching

Evergreen Hardy White, He-Shi-Ko, Long White Bunching, Southport White

PARSNIPS All American, Harris' Model, Hollow Crown

PEAS

Early Knight, Little Marvel *, Maestro, Novella II, Olympia, Progress No. 9, Sparkle

Late Bolero, Green Arrow (DM, F) * , Frosty, Lincoln, Mr. Big, Wando

Snow pea Dwarf Grey Sugar * , Little Sweetie, Mammoth Melting Sugar, Oregon Sugar, Oregon Giant*#

Snap pea Cascadia (PM), Early Snap, Sugar Ann *, Sugar Snap *, Sugar Sprint *, Amish Snap *#

Cowpea Red Ripper *#

Shelling Little Marvel*#, Green Arrow*# (DM)

PEPPERS

Early Ace *, Apple, Aura, Carmen *, Cornito Rosso *, Golden Bell, Gypsy, Lipstick, New Ace, Redstart

Main Season Boynton Bell (BLS 1,2,3), Golden Bell (Yellow), King Arthur (BLS 2), Lady Bell *, Sweet Banana, Sweet Chocolate *, Yellow Belle II, Habanada Sweet Pepper*#, Melrose *#, Marconi Red *#, Aconcagua *#, Giant Marconi *#

Hot Biscayne, Cayenne Long, Hungarian Yellow Wax, Mucho Nacho, Numex Joe E Parker *, Serrano, Super Chili, Thai Dragon *#, Biker Billy *#, Kung Pao *#,

Jalapeno M *#, Fish *#, Ixtapa *#, Numex Joe E Parker *#, Cubanelle *#, Ancho *#

Thin Walled Frying Types

Cubanelle, Italian Sweet, Jimmy Nardello *

POTATOES

Early Superior (SR), Red Pontiac *# (SR), Irish Cobbler *#
Mid Season Chieftain, Kennebec, (Reba, Salem (SR), Yukon Gold *, All Red *# (SR)
Late Season Elba, Katahdin, Russian Banana *#, German Butterball *#
Specialty All Blue *, All Red *, Adirondack Blue, Adirondack Red*, Carola, Dark Red Norland *, French Fingerling, German Butterball, Purple Viking *#, Caribe *#, Purple Peruvian *# (SR)

PUMPKINS

Bigger Autumn Gold, Gladiator (PM), Gold Rush, Howden, Rocket, Tom Fox
Medium Howdy Doody, Jackpot, Magic Lantern (PM), Racer, Rouge vif D'Etampes (French heirloom), Spooktacular
Smaller Baby Bear, Baby Pam, Lil' Ironsides, Lumina, Small Sugar, Snackjack
Mini Baby Boo, Jack-be-Little, Munchkin
Giant Atlantic Giant, Big Max, Prizewinner

RADICCHIO Chioggia Red Preco No. 1

RADISH Champion, Cherry Belle, Easter Egg *, French Breakfast, Hailstone *, Icicle, Scarlet Knight, Sparkler, Pink Beauty *#, French Breakfast *#, Early Scarlet Globe *#

RHUBARB Canada Red, MacDonald, Crimson Red, Victoria

RUTABAGA American Purple Top, Thomson Laurentian

SPINACH

Spring America, Bloomsdale Dark Green, Bloomsdale Long-Standing *, Giant Noble *, Indian Summer (MR), Melody, Space, Tyee
Summer Malabar, New Zealand
Fall Melody, Tyee*, Winter Bloomsdale

SQUASH, SUMMER

Yellow Early Prolific Straightneck, Fortune, Seneca, Sunburst, Sundance, Yellow Crookneck, Zephyr*, Rampicante-Tromboncino *#, Early Crookneck *#
Zucchini Dunja (PM, M) *, Eight Ball*, Elite F1, Gold Rush, Golden Burpee, Midnight Zucchini, Multipik, Revenue (M), Raven *#, Ronde de Nice *#, Black Beauty *#, Elite *#, Partenon *#, Cocozelle *#, Costata Romanesco *#, Magda *#
Bush Scallop Butter Scallop, Peter Pan, Sunburst*, White Patty Pan *#

SQUASH, WINTER

Butternut Bugle (PM), Early Butternut, Burpee Butterbush *, Harris Butternut (semi-bush), Metro PMR (PM), Ponca Baby, Waltham Butternut *, Zenith

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Acorn Autumn Delight (PM), Carnival *, Sweet Dumpling, Table Ace*, Table King Bush, Table Queen (a.k.a Ebony Acorn) *, Tuffy

Buttercup/Kabocha

Ambercup, Autumn Cup, Burgess Buttercup, Sweet Mama, Sweet Meat, Gold Nugget *#

Hubbard Blue Ballet, Hubbard, Red Kuri*

Misc. Carnival*, Cornell Bush Delicata (PM), Gold Nugget, Harlequin, Sweet Dumpling, Tetsukabuto, Vegetable Spaghetti, Tetsukabuto *#, Marina Di Chioggia *#, Thelma Sanders *#, Pink Banana *#, Table Ace *#

SUNFLOWER Evening colors* #

SWEET POTATO Beauregard (F), Georgia Jet

SWISS CHARD Bright Lights*, Fordhook Giant *, Large White Ribbed, Lucullus, Orange Fantasia, Peppermint * , Rainbow, Rhubarb, Ruby Red, Rainbow Swiss Chard*#, Five Color Silverbeet *#, Lucullus *#, Perpetual Spinach *#

TATSOI Tah Tsoi or Tah Tsai *

TOMATO * all of these tomato varieties

Cherry Black Cherry, Jasper (LBR, EBR, F), Riesentraube, Sungold, Super Sweet 100, SunSugar (F, T), Sweet 100, Coyote, Summer Sweetheart*#, Sweet Baby Girl *#, Chocolate Cherry *#, Lemon Drop (LBR)#, Matt's Wild Cherry (LBR)#,

Currant Red Currant

Grape Juliet

Early Stupice, Enchantment *#

Main Season Aunt Ruby's German Green, Black Krim, Big Beef (V, N, T), Brandywine, Celebrity (V, F, N), Cherokee Purple, Eva Purple Ball, Jet Star (V, F), Mortgage Lifter, Pineapple, Rose, Supersonic (V, F), Thessaloniki *#, , German Queen *#, Carmello *#(F, V, T) , Goliath *#, Striped Roman *#, Park's Whopper *#, Opalka *#, Defiant (LBR) #, Iron Lady (LBR)#, Mountain Magic (LBR)#, Mountain Merit (LBR)#, Mr. Stripey (LBR)#, Brandywise #

Paste/Plum Amish Paste, Roma (V, F), Opalka, Federle *#, Viva Italia *#, Plum Perfect #

Pear Yellow Pear

Heirlooms Aunt Ruby's German Green, Black Krim, Brandywine, Cherokee Purple, Kellogg's Breakfast, Opalka, Pineapple, Rose, Stupice, Caspian Pink *#, Striped German *#, Big Rainbow *#, Rose *#, Arkansas Traveler *#, Delicious *#, Amana Orange *#, Jaune Flamme *#, Italian Heirloom *#,

TURNIPS Gilfeather, Hakurei, Purple Top White Globe, Tokyo Cross

WATERMELON

Crimson Sweet, Moon & Stars, Sorbet Swirl, Sunshine, Yellow Baby, Yellow Doll, Charleston Gray *#, Dixie Queen *#

Seedless^x Tri-X-Sunrise, Solitaire, Farmers Wonderful

^x Seedless watermelon requires a seeded pollinator so cannot be planted alone.