

# ANDERSON'S

## VEGETABLE INFORMATION GUIDE



# Vegetable Information Guide

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# PREFACE AND DEFINITIONS

While reading this info book, you may come across a few words that might be new. Some ideas may be new, and some may seem beyond your current skill as a gardener. That's just fine, because that is what we are here for.

It may also be helpful to not read this book like a textbook or any sort of book at all. Treat it more like a dictionary or other reference book, looking up specific things as you need them.

## YIELD

The amount of crop or fruit one can expect from a harvest.

## ROW PLANTING

The practice of planting crops in straight rows where a furrow carries water down each row. Worldwide, it is the most widely-used method because it uses less effort to weed, water, and fertilize. Depending on the crop, it can provide the smallest yield per square foot. This method can be augmented with trellises to improve the harvest density of traditionally mounded crops like cucumbers.

## BROADCAST PLANTING

A planting method where seeds are broadcast over a wide, select area. Most efficient for small crops in a weed-suppressed area. Weed control and consistent watering are the main challenges, but this method will provide the highest harvest density of any planting style.

## MOUND PLANTING

Specific for particular vegetables or fruits that vine out like pumpkins, squash, and melons where a large area is dedicated for one plant, this planting method is usually the least yield-efficient. Many vine crops require being grown like this, however, as the way the plant spreads as it matures is too uncontrollable to be confined to rows. Some common mounding crops can be grown in trellised row planting.

## BOLTING

When a vegetable begins to suddenly produce seeds, especially when that is not the primary target of a harvest.

## SOLARIZING

The practice of laying black or opaque white plastic over an area of ground to heat the soil. This can be done for a short time to artificially boost the soil temperature, allowing early transplant of vegetables and fruits that would otherwise succumb to cold. It can also be done over one or more growing seasons, left on through the heat of the summer to "bake" the soil of an area to kill a known soil-borne disease or insect infestation and sterilize the soil. This is a much safer method than fumigation, the other most common procedure.

## THINNING

The process of "weeding out" or pulling a few select seedlings to create more ideal spacing for future mature plants.

# ANDERSON'S GARDEN PLANTING GUIDE

VEGETABLE	SEEDS PER				SOWING DEPTH	GERMINATION	SPACE BETWEEN		DAYS TO HARVEST
	OZ	LB	100'	ACRE			ROWS	PLANTS	
<b>GROUP A - HARDY</b>	<b>Plant as soon as soil dries out in spring (mid-March)</b>								
Broccoli - Cabbage - Cauliflower	9000	144000	1/4-1/2 oz	1-1 1/2 lbs	1/4"	10 days	18-36"	12-24"	50-75
Brussels Sprouts - Kohlrabi - Turnip	8000	128000	1/2 oz	1-1 1/2 lbs	1/4"	10 days	24-36"	12-18"	50-55
Lettuce - Arugula - Cress	25000	400000	1/4 oz	3 lbs	1/4"	7-10 days	12-24"	6-12"	45-60
Onion - Leek	8000	128000	1 oz	4 lbs	1/4"	10-20 days	36"	4-6"	60-90
Peas	100	1600	1-2 lbs	80-120 lbs	3/4-1"	10-20 days	36"	1-2"	60-70
Radish - Spinach	2500	400000	1/2 oz	10-15 lbs	1/4"	5-9 days	12-36"	2-4"	35-40
<b>GROUP B - SEMI-HARDY</b>	<b>Plant 2-3 weeks after group A (Easter)</b>								
Beets - Swiss Chard	1300	22000	1-2 oz	6-10 lbs	1/2"	8-10 days	18-36"	3-6"	45-60
Carrots	23000	368000	1-2 oz	2-4 lbs	1/8"	14-21 days	18-36"	1-3"	60-70
Parsnips	6300	100000	1 oz	3 lbs	1/4"	15-25 days	18-36"	3-4"	105-120
Potato	-	-	10 lbs	10000 lbs	4-6"	14-21 days	24-36"	12-18"	70-100
<b>GROUP C - TENDER</b>	<b>Plant on average date of last frost (Mother's Day - Memorial Day)</b>								
Beans, Bush	100	1600	1-2 lbs	70-90 lbs	1"	6-10 days	18-36"	1-2"	55-65
Beans, Pole	100	1600	1/2 lbs	10-20 lbs	1"	6-10 days	18-36"	3-6"	60-70
Celery	60000	960000	1/4 oz	1 lb	1/8"	21 days	18-36"	6-12"	54-56
Corn, Sugar-Enhanced	100	1600	1/4 lb	8-10 lbs	1"	7-14 days	36-48"	12-18"	65-85
Corn, Supersweet	200	3600	1/8 lb	4-5 lbs	1"	7-14 days	36-48"	12-18"	80-85
<b>GROUP D - VERY TENDER</b>	<b>Plant when soil is warm (after Memorial Day)</b>								
Cucumber	1000	16000	1 oz	3 lbs	1/4-1/2"	7-10 days	36-72"	12-24"	55-65
Cantaloupe	1200	19200	1 oz	2-3 lbs	1/4-1/2"	10-14 days	60-84"	36-48"	65-85
Eggplant	6250	100000	1/8 oz	1/2-1 lb	1/4"	10-14 days	18-24"	18-24"	65-85
Peppers (from seed)	4500	72000	1/8 oz	2-3 lbs	1/4"	15-21 days	18-36"	12-24"	65-80
Pumpkin	200	3200	1 oz	3 lbs	1/4"	7-10 days	72-96"	36-60"	85-110
Squash, Summer	250	4000	2 oz	3-6 lbs	1/4"	7-10 days	36-48"	36-48"	45-55
Squash, Winter	200	3200	1 oz	4 lbs	1/4"	7-10 days	72-96"	48-72"	85-120
Tomato (from seed)	1100	176000	1-32 oz	1 lb	1/8"	10-14 days	36-84"	24-48"	65-85
Watermelon	250	4000	1 oz	1-2 lbs	1/4"	10-14 days	72-96"	24-36"	75-90
<b>GROUP E - FALL CROPS</b>	<b>Plant mid-July through August (Pioneer Day - First Day of School)</b>								
Beets - Chard	1500	2400	1-2 oz	6-10 lbs	1/2"	8-10 days	18-36"	2-4"	45-55
Broccoli - Cabbage - Cauliflower	9000	144000	1/2 oz	1 lb	1/4"	10 days	24-36"	12-24"	55-70
Lettuce - Arugula - Cress	25000	400000	1/4 oz	3 lbs	1/4"	7-10 days	12-24"	6-12"	45-55
Peas	100	1600	1-2 lbs	80-120 lbs	1"	10-20 days	36"	1-2"	60-70
Radish - Spinach	2500	40000	1 oz	10-15 lbs	1/2"	8 days	12-36"	2-4"	35-40

# ANDERSON'S HERBS

HERBS	SEEDS PER				PLANTING DEPTH	GERMINATION	SPACE BETWEEN		DAYS TO HARVEST
	OZ	LB	100'	ACRE			ROWS	PLANTS	
<b>HERBS -</b>	<b>Plant when Group D vegetables are planted (after Memorial Day)</b>								
Basil	12000	192000	1/2 oz	1 lb	1/4"	7-14 days	12-24"	12-18"	40-55
Cilantro	20000	320000	1 oz	3-5 lbs	1/4"	14-21 days	18-36"	3-6"	50-60
Lavender	25000	400000	1 oz	5-6 lbs	1/4"	21-28 days	24-48"	2-3'	60-80
Mint (peppermint, spearmint)	200000	3200000	1/16 oz	1 lb	top of soil	15-21 days	18-24"	12-18"	30-45
Rosemary	25000	400000	1 oz	6 lbs	1/4"	21-28 days	36-48"	12-24"	90-100
Thyme, - Oregano	20000	320000	1/2 oz	1 lb	1/8"	7-14 days	18-24"	6-12"	45-60



# ARTICHOKE

This attractive Mediterranean native is a big, coarse, fern-looking plant with a somewhat fountain-like form that grows about 4 feet tall and 6 feet wide. The leaves are silvery green and it forms big flower buds at the top of tall stocks. The flower buds are the parts of the artichoke you cook and eat. Artichokes have tender delicious hearts and leaf bases inside their big round buds. If you do not cut the buds off, they open into spectacular, six-inch purple-blue flowers that can be cut for arrangements. Artichokes are not easy to grow in our area, especially when we have such cold winters and hot summers.

## SOIL PREPARATION

Artichokes prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



Artichoke Bloom

## PLANTING

Start dormant roots in late winter or early spring at least a month before the average date of last frost. Set the roots vertically with the buds or shoots just above soil level. If you are starting from seed, start seeds indoors 8 to 12 weeks before the average date of last spring frost. For seed starting information, see our appendix on "Starting Seeds Indoors". Set transplants outdoors about a month before the last frost (around mid-April). Plants need cool temperatures to set flower buds, but be sure to protect the plants

from damaging, freezing weather. Space plants 18 inches apart in the row, with rows 2-3 feet apart. Planting into plastic or fabric mulches will accelerate early growth and encourage higher yields. Water frequently after transplanting to ensure good root and shoot growth. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your transplants the best possible opportunity to thrive.

## VARIETIES

Green Globe is the most common variety available. It is easy to grow and consistently produces well. Imperial Star and Northern Star are reported to have greater winter hardiness and greater productivity, but are considerably more expensive.

## WATERING

Artichoke requires frequent watering during the year, usually about 1-2 inches per week in 2-3 applications. Use drip or soaker irrigation if possible, and mulch heavily around the plants with an organic mulch to help retain soil moisture and to prevent weed emergence. Artichokes have a shallow root system, so be careful when cultivating close to the plant. During warm, dry weather, they are prone to dry out quickly. Don't forget the importance of using mulch around artichoke roots to prevent the soil from rapid drying and moisture loss, and you will see a dramatic increase in your yields.



## FERTILIZER

Artichokes are heavy feeders. Aside from a balanced fertilizer when planting like "That's All it takes", they do best if given a high nitrogen fertilizer once a month through the growing season. If you prefer, you can use a water soluble fertilizer like Foxfarm Grow Big or Baicor All-Purpose on a weekly basis.

We also recommend treating your artichoke seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Artichokes generally do not have many problems in our area. A few pests to watch out for are aphids, earwigs, snails and slugs. Hi-Yield Garden Pet & Livestock Dust applied to the soil around the plants will help keep crawling insects from nibbling on your leaves. Aphids can be easily controlled with Ferti-lome Triple Action or Spinosad (Organic) Soap. If you have problems with gophers, voles or other similar rodents, you may want to consider planting your artichokes in a raised bed lined with chicken wire or try other repellents such as Ferti-lome Mole-Go or Sonic Spikes to reduce the damage done by these pests.

<b><u>ARTICHOKE</u></b>	
<b>PLANTING TIME</b>	Group C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18", (3-4' second year)
<b>ROW SPACING</b>	2-3', (4-6' second year)
<b>SEED DEPTH</b>	1/2"
<b>TIME TO HARVEST</b>	60-70 days first harvest, 90-120 days second
<b>WATER NEEDS</b>	1/2 - 1", 2x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Transplant*
<b>SPECIAL ISSUES</b>	Aphids, Earwigs, Slugs, Gophers, Voles. *First year plants can be harvested, dug up, and stored for next season

## HARVEST

Harvest begins in late July or early August and continues until frost. Once the flower buds form, do not stress the plant if possible. Harvest buds when they reach full size, but before the bracts (bud leaves) begin to open. Cut off the bud with 2-3 inches of stem. Continue to water and feed the plants until frost, as they will need to be as healthy as possible to winter over in the ground or to store for planting next season.

## FALL CARE/WINTERING OVER

After harvest is complete and after a few light frosts, the leaves should be yellowing and dying back. Cut the leaves back and mulch the roots heavily, at least 3-4 inches. Throw another 4-6 inches of soil over the plants, then cover them again with 8-10 inches of straw, leaves or other composted material. Heavy mulching will allow the roots to overwinter in the garden, but it is not always a fool-proof method. Expect some winter losses in Cache Valley. Another method involves storing the bulbs in a protected, cool location, such as a basement or root cellar. Dig up the roots, allow a few days to cure in a warm dry area, and then store them in a plastic container packed in moist sand, peat moss, or vermiculite to keep the roots from drying out during winter. Before planting again in the spring, divide and trim the roots



# ASPARAGUS

Asparagus is a perennial vegetable that is best suited for cooler areas. It is grown for the spears, or the stem of the plant. A well-tended planting yields 8-10 lbs. per 100 square feet or 24 lbs. per 100 feet row. Asparagus plants can last up to 15-25 years if well cared for. It does not do well if summers are extremely hot and long and winters are mild. Asparagus is grown from either seed or from 2-year old roots. It takes 3 seasons from the time the seed is planted until you can harvest, and 1 season from the time the roots are planted to harvest. The best production occurs in its 6 and 7th year and continues to perform very well until the 12-15th year. After the 15th year there is approximately a 5% decline in yield every year after.

## PLANTING

Asparagus prefers deep, fertile, well-drained soil with full sunlight. They struggle in heavy clay soils, so it is essential to amend your soil for the best possible drainage, or to construct raised beds to alleviate the problem entirely. Make sure asparagus are planted in an area where the roots will not be disturbed. Be aware: asparagus roots can have up to a 40-50% loss when transplanted, even if done correctly and during the best planting season (March-April).

We have found the best results planting asparagus in March and April, and the warmer it gets the less success we have had transplanting. To plant 2-year-old roots, dig trenches 6-12 inches wide and 6-12 inches deep, with rows spaced 4-6 feet apart. Amend the soil in the trenches with organic matter like Soil Building Conditioner and a well-balanced fertilizer such as "That's All it Takes" or Happy Frog Tomato & Vegetable Food (organic). Many of our customers use Hi-Yield Bone Meal for a slow release phosphorus. Gently lay the roots horizontally in the bottom of the amended trench with the crowns about 12 inches apart. Cover with ONLY 3-4 inches of soil. Each time the asparagus stalks break through the surface, cover them with another 2 inches of soil and continue this process until the trench is filled. During this process, water with Kangaroots root stimulator every week to help stimulate healthy and vigorous root systems and to increase transplant success. It will make your plants bigger, stronger, and more productive if used 2-3 times per year for the first 2 years. After filling in the trench, help keep the soil moist throughout the first growing season by mulching with Coconut Coir or another soil amendment.

When planting from seed, sow seeds directly into the soil in April or early May. Place 2 seeds every 12 inches in your rows, ½ inch deep. A light mulch of the Coconut Coir will help keep the soil moist as the seeds germinate. Water every 3-4 days with Baicor Seed Starter until the seedlings emerge.

## VARIETIES

Here at Anderson's we sell 3 varieties:

Jersey Giant as 2-year old roots

Mary Washington as seeds. These varieties produce large, dark green spears with good disease resistance and productivity.

Purple Passion, also available in 2-year roots, is another of our favorites - the lavender spears it produces are large, tender and absolutely delicious.



Purple Passion

## WATER

Asparagus prefers infrequent, deep watering every 7-10 days. Make sure the top 1-2 inches of soil is dry in between waterings to prevent waterlogged soil, which can lead to root rot. Thick mulch may be applied around the roots to retain moisture and keep weeds out.

## FERTILIZER

Optimum pH is 6.5-7.0, which is slightly more acidic than what we have here in Cache Valley. 2-4 lbs. of sulfur granules per 100 sq. ft. will lower the soil pH by 1 point. Before planting asparagus, till in the sulfur and 2-3 lbs. of That's All it Takes complete fertilizer per 20 feet of row. For established beds, scatter 1-2 lbs. per 20 feet row. In the fall, spread 2-3 inches of organic matter over the soil and work it into



the soil carefully not to damage the established plants. It is essential that you fertilize and irrigate after harvest concludes in the late Spring to provide nutrient and water for the plants to recover.

## COMMON PROBLEMS

Weeds and grasses are the most common problems in Asparagus. Keep the weeds pulled or hoed from the bed and use mulches to keep weeds from re-growing. You cannot spray asparagus with an herbicide during the first year. After the first year of true growth you can use a selective herbicide to control the grass, like Hi-Yield Grass Killer. It won't affect the asparagus, but will kill all the grass that has invaded the plants. Aphids, asparagus beetles (which chew and twist spears), and rust beset asparagus plants. Discourage beetles by removing all debris from the growing bed in fall, and knock or handpick the beetles off the asparagus plants and apply High Yield Indoor/Outdoor insecticide, containing permethrin. Repeat applications as long as the beetles or larvae are feeding. Also treat in late summer and early fall to prevent the beetles from overwintering on the stems and re-infesting the next year's crop. Jersey Knight and Purple Passion are resistant to rust. For rust, a general purpose fungicide like Fertilome Fungicide 5 is effective and safe to use during harvest season as needed.

<b>ASPARAGUS</b>	
<b>PLANTING TIME</b>	Group B & C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/2"
<b>TIME TO HARVEST</b>	3 years (1 year on transplants)
<b>WATER NEEDS</b>	2-3", 1x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct/Transplant*
<b>SPECIAL ISSUES</b>	Weeds Aphids, Asparagus beetles Root Rot from soggy soil, rust *Seeds yield a harvest after 3 years, root transplants after 1

## HARVESTING

Do not harvest the asparagus crop until after the first season if you have bought 2-year old roots, 3 years if growing from seed. Allow the unharvested spears to fern and to bush out. After these dry and turn brown, remove them. A good general rule for harvesting asparagus is the 2-4-6 rule. Harvest for 2 weeks the second year, 4 weeks the third year, and 6 weeks the fourth and following seasons. There are a few different methods for harvesting asparagus. Cut the asparagus on a 45 degree angle 1-2 inches below the soil. Or, snap the stems off right above the soil surface. To store asparagus, wash the spears and either store in water or in a zip-lock bag in your fridge for a few days. Another method is to blanch the spears and store in the freezer.



NOTES: \_\_\_\_\_

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# BEAN

Gardeners can pick from a wide variety of beans to grow: snap, dry, shelling, fava, and soy. Except for the soybean (Asia) and Fava beans (Mediterranean), all other beans originate from the Americas. Most are frost-sensitive, heat lovers that are easy to grow from seed and produce for a short amount of time, then die at the first signs of frost. Despite their short lifespan, beans will stand out as one of the most productive vegetables in your garden.

## SOIL PREPARATION

Beans prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Beans germinate best when the soil and air temperature has consistently reached 60 degrees, which in Cache Valley usually occurs around mid-May. We recommend planting about a week before our last average frost date (May 20) as the seed won't germinate well until after the possibility of frost is past. Plant the beans about 1/2 to 1 inch deep and about 2 inches apart. Don't worry if you get the seeds closer, as beans are very forgiving when it comes to spacing. Since beans produce very quickly, and generally for a short amount of time (bush beans last for 2-3 weeks and pole beans produce for 4-8 weeks), they can be planted every few weeks until about the middle of July for a continuous crop all summer long. Beans can be planted after your cold crops are finished, even as late as mid-July for an excellent fall crop before first frost in late September.

## VARIETIES

Some new varieties of beans have become available the last few years that really stand out above the rest. We still recommend Blue Lake Bush as a consistent producer of high yields of processing-quality beans. They are our customers' favorite for bottling. For flavor & high quality, try Jade or Valentino. Long, slender beans, delicious taste, and excellent quality, frozen or bottled, will make you ask for these beans by name year after year. For rich flavor, Mark enjoys Romano more than any other. Blue Lake Stringless is our best pole bean and produces longer, almost perfectly stringless pods and tastes great however you use them.

Mark says:  
*"Don't forget to inoculate your beans with a nitrogen fixing bacteria (Azos). Not only will the beans thrive and produce more beans for longer, but it will build up your soil with extra nitrogen."*

## WATER

Beans need consistent watering for high quality and quantity production. Water stress during flowering and pod formation will result in flower drop, poor fruit set, and poor quality. Use a soaker hose for uniform water distribution and water lightly every 3 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 90 degrees. Moisture is essential, but too much water can result in root rot diseases and slow plant growth. Consistency is key.

## FERTILIZER

An all-purpose fertilizer at planting time ("That's All it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) will satisfy most beans need for nutrients. A light application of the same slow release fertilizer at the time pods begin to form will enhance production and extend your yield. Watch for signs of iron chlorosis in clay or heavy soils; new growth will pale first, and darker green

veins will stand out against the lighter color leaf tissue. A chelated iron spray (Iron Combo Chelate or Iron Chelate EDDHA) and/or drench will quickly correct the problem.

Don't forget to inoculate your beans with a nitrogen fixing bacteria (Azos). Not only will the beans thrive, and produce more beans for longer, but it will build up your soil with extra nitrogen. We also recommend treating your bean seed with beneficial microbes and mycorrhizae (Kangaroos or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## SUPPORT

Bush beans only grow about 2 feet tall and do not need support for optimal production. Pole beans, however, must have something to grow on as they can stretch to 8 feet tall or even more. Wood poles, bamboo stakes, metal fence posts, chain link fence, and many other options work well to support the growing vines. Personally, we have made teepee trellises with 8 ft tall bamboo poles and a little string wrapped in a spiral up the poles that have produced as many beans per plant as our sophisticated, more permanent, 20 ft long steel post and wire fence. The beans climb like crazy on their own, and don't need any extra encouragement to grow for the sky. They will climb on whatever apparatus you provide.

<b>BEAN</b>	
<b>PLANTING TIME</b>	Group C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18" Bush, 2-4' Pole
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/2"-1"
<b>TIME TO HARVEST</b>	60-80 days green, 90-110 days dry
<b>WATER NEEDS</b>	1/2-1", 2x weekly
<b>TRANSPLANT/ DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Spider Mites Aphids Iron Chlorosis



## COMMON PROBLEMS

Aphids, spider mites, Mexican Bean beetles, leaf hoppers and cutworms all love beans and will devour and damage them without remorse. Organic and synthetic insecticides are available and safe to use to control all these pests (Ferti-lome Triple Action and Hi-Yield Indoor/Outdoor Insecticide give you the best of both worlds). And don't forget to protect them from browsing deer as well!

## HARVESTING

Harvest your bush and pole beans before the pods are fully mature, usually when the beans are 5-7 inches long, slender, with firm, crisp flesh and very small, immature seeds inside. Pods are ready for picking generally 7-14 days after they begin flowering. Pick regularly to maintain a steady crop and use the beans immediately for the best quality and flavor. Refrigerate if you don't use the beans right away. Dry beans take 70-80 days to get to the shelling stage, and another 2-3 weeks to reach the dry bean stage. When the pods begin to dry out, pull up the plants and let the pods remain on the bush for another 5-7 days in the garden until they dry out completely. Once dry, remove the pods, shell out the seeds, and allow some additional drying time in a warm dry location. For long term storage, keep the beans in a sealed container in a cool dry place until needed.

# BEET

While beets may never have really gone out of fashion, they certainly are back stronger than ever. The leaves are harvested as nutritious baby greens, and the roots are smaller and sweeter than older varieties. Colors range from golden yellow to striped, and pale pink to blood red. Their dark green leaves and bright red stems and veins look beautiful in the garden, flower beds or even in pots. Native to Europe, beets grow best in cool weather and will mature in about 75 days.

## PLANTING

Beets prefer fertile, well-drained, deep, sandy soils that are rich in organic matter. Heavy, clay-based soils must be amended well with compost and organic matter to encourage and allow good root development. Before planting, incorporate 1-2 inches of Soil Building Compost or other composted organic matter, 1 lb. of Soil Activator, and 2-3 cups of "That's All It Takes" or Happy Frog Tomato & Vegetable (Oranganic) per 100 square feet and work this into the top 6 inches of soil.

Beets are best grown from seed and can be sown directly outside anytime after the soils reach 40 degrees. Optimal seed germination is at 55-75 degrees, so the best time to plant in Cache Valley is in April and May, and again in August and September for a fall crop. Plant seeds about 1/2 inch deep and cover with Coconut Coir (just a thin layer, 1/4-1/2 inch deep) to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 2-4 inches apart in the rows, and 12-18 inches between rows.

## VARIETIES

All the beet varieties we carry are excellent to grow in Cache Valley and in the Intermountain West, but we do have our favorites. Detroit Dark Red is our most popular variety for bottling or canning. Ruby Queen has excellent tops for baby greens and cans well also. Scarlet Supreme is our sweetest beet, and shares some of the best qualities for fresh eating and canning with Detroit and Ruby Queen. Cylindra makes great uniform sliced beets because of its cylindrical shape, and Burpee's Golden has a unique color and refined flavor. For a different twist, try Chioggia - it has red and white rings on the interior and a slight turnip flavor.

## WATER

Beets need regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause root cracking, slow leaf development, and poor yields. Maintaining consistent moisture will prevent premature flowering and assist in proper root development.



Burpee's Golden

## FERTILIZER

About 6 weeks after germination, apply a balanced vegetable food (Ferti-lome Tomato & Vegetable Food or Happy Frog) to the side of the plants and water thoroughly. 1-2 cups per 10 feet of row works well. For more leafy greens, use a higher nitrogen fertilizer like 21-0-0. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing beets.

## NOTES

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## COMMON PROBLEMS

Beets don't compete well with weeds. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Flea beetles and leaf miners commonly attack beets and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad Soap (Organic) or Hi-Yield Indoor/Outdoor Insecticide work quickly and safely to stop a wide variety of insects. The Spinosad Soap works best on leaf miners and is safe to use up to the day of harvest.

## HARVESTING

Beet greens can be harvested as soon as the leaves are large enough to trim. Young leaves can be eaten raw or cooked. Heavy frost can damage leaves, so pick before hard frosts can damage in late October or November. Roots can be used as soon as the roots begin reach full size. Generally roots are mature in 60-80 days from seeding. If you let them grow longer, they tend to get more stringy and tough. Use a digging fork to loosen the soil and pull up the roots and trim the tops. Roots store best if cleaned and stored at 32-35 degrees with a high humidity. We have packed them in moist sand or peat to maintain the humidity in a cellar or cool basement for 2-4 months. Roots can also be left in the ground and mulched much like carrots for winter use.

<b><u>BEET</u></b>	
<b>PLANTING TIME</b>	Group B, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	4-6"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4 - 1/2"
<b>TIME TO HARVEST</b>	15-30 days greens 45-60 days root
<b>WATER NEEDS</b>	1/2 - 1", 2x weekly, less near harvest
<b>TRANSPLANT/ DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Leaf Miners Flea Beetles Late-season inconsistent watering causes splits



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# BROCCOLI

Our cool Cache Valley spring and fall seasons are perfectly adapted to growing broccoli – it's the heat of summer that makes broccoli go bitter and flower prematurely. Among Cole crops (cabbage and its other close relatives), broccoli is arguably the best all around choice for the home gardener: it bears over a long season and is not difficult to grow. Plants reach 2-3 feet tall and send up a central stalk that bears a cluster of dark or light green flower buds. When that central cluster is removed, side branches will lengthen and produce smaller clusters, increasing the harvest. Broccoli is an excellent 2-season (spring and fall planting) crop to enjoy in your garden.

## SOIL PREPARATION

Broccoli prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Like other Cole crops, broccoli tends to bolt when temperatures are high so plant in cool weather (March & April). Young plants can resist a light frost but not a hard freeze, but don't wait until May. Heat can stunt the early development of your crop. When planting starts, place seeds or transplants 1.5-2 feet apart in the row, with 3 feet between rows. . Planting into plastic or fabric mulches will accelerate early growth and encourage higher yields as well as suppress weed development. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your transplants the best possible opportunity to thrive. When planting seed, plant 2 seeds every 12-18" and about 1/4 - 3/4 inch deep, and thin the sprouts when plants have 3-4 true leaves.



First Harvest

## VARIETIES

There are many great varieties offered that grow well in Utah such as Imperial (50 days), Premium Crop (65 days), Destiny (really large heads, 65 days), and Waltham. Artwork, a new variety of Broccolini, resists heat and produces asparagus-like stems with small heads that are very popular in gourmet restaurants. Artwork will produce a continuous harvest of literally dozens of delicious heads in one season. When the heads are about 2 inches in diameter cut the stem 4-6 inches from the head and 3-5 more heads will quickly develop. Very heat tolerant, and can produce from May to October in cooler climates

## WATER

Water broccoli deep and infrequently while trying to maintain even soil moisture. Broccoli needs consistent watering for high quality and quantity production. Water stress during growth and bud production will result in premature flowering, bitter taste, and poor quality. Use a soaker hose for uniform water distribution and water deep every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees. Moisture is essential, but too much water can result in root rot diseases and slow plant growth. Be consistent!

## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Apply an additional ¼ cup of nitrogen-based fertilizer when the broccoli head is the size of a quarter. Fertilize again after main head is harvested to encourage side shoot growth. Place the fertilizer 6 inches to the side of the plant and work it lightly into the soil before watering.

We also recommend treating your broccoli seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.



<b>BROCCOLI</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	18-24"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	50-75 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting

## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrients to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to broccoli root systems when weeds are removed. Practice good crop rotation to discourage pest problems. Broccoli is subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests early. All of the caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer to spray Spinosad (since it is bacterial, it has no effect on people or pets) early or late in the day for best caterpillar control. Aphids can be controlled with an insecticide like Ferti-lome Spinosad Soap or Ferti-lome Triple Action.

## HARVESTING

Broccoli should be harvested when the heads are compact but before the flower buds open. Mature heads are 6-12 inches in diameter and should be cut with stems 8-10 inches long. With additional water and fertilizer, broccoli will produce many 4-6 inch long side-shoots. Broccoli can be stored for 1-2 weeks at 35 degrees Fahrenheit and 95% relative humidity in the refrigerator. Blanch and flash freeze for long-term freezer storage.

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# BRUSSELS SPROUTS

Brussels sprouts are a close cabbage relative of unusual appearance: the mature plant has an edible crown of fairly large leaves (which can be prepared like cabbage) and a 2-3 foot stem completely covered with golf ball size, cabbage like sprouts. These European natives are fairly easy to grow where summers are not too hot, long, or dry.

## SOIL PREPARATION

Brussels Sprouts prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Like other Cole crops, Brussels sprouts tends to bolt when temperatures are high so plant in cool weather (March & April). Set out plants in late March or April - Don't wait until May, as the heat can stunt the early development of your crop (young plants resist a light frost but not a hard freeze). When planting starts, place plants 1.5-2 feet apart in the row, with 3 feet between rows. Planting into plastic or fabric mulches will accelerate early growth and encourage higher yields as well as suppress weed development. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your transplants the best possible opportunity to thrive. When planting seed, plant 2 seeds every 12-18" and about 1/4 - 3/4 inch deep, and thin the sprouts when plants have 3-4 true leaves.

Remember, Brussels sprouts can withstand cold temperatures and light frosts; they produce best in weather that does not exceed 70 degrees Fahrenheit. Brussels require a fair amount of time to mature, so we have had the best results planting them in early August, and harvesting in cooler October temperatures.

## VARIETIES

Anderson's sells the Long Island Improved variety (90 days). They are a uniform plant that can reach 20 inches tall. This variety produces cabbage-like balls that are up to 1.5 inches round from the base of the plant up stem. It is best for late fall and winter harvests as a few light frosts will improve the flavor. A great variety for freezing.

## WATER

Water Brussels sprouts deeply and frequently while trying to maintain even soil moisture. Brussels sprouts needs consistent watering for high quality and quantity production. Water stress during growth and bud production will result in premature flowering, bitter taste, and poor quality. Use a soaker hose for uniform water distribution and water lightly every 4-6 days to maintain soil moisture during these essential growth stages. More water might be necessary as daytime temperatures rise above 80 degrees. A light compost mulch can help as well if daytime temperatures start to climb higher.





## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Apply an additional ¼ cup of nitrogen-based fertilizer when the sprouts begin to grow taller than 8 inches. Fertilize again after lower leaves are removed. Place the fertilizer 6 inches to the side of the plant and work it lightly into the soil before watering.

We also recommend treating your Brussels sprouts seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrient to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways

to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to sprout root systems when weeds are removed. Practice crop rotations to discourage pest problems. Brussels sprouts are subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests. All caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer to spray Spinosad (since it is bacterial, it has no effect on people or pets) early or late in the day for best caterpillar control. Aphids can be controlled with an insecticide like Ferti-lome Spinosad Soap or Ferti-lome Triple Action.

<b><u>BRUSSELS</u></b> <b><u>SPROUTS</u></b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	24-36"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	50-55 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting

## HARVESTING

Begin picking sprouts when big leaves start to yellow. Harvest the sprout from the bottom of the stem to the top, snapping off firm green sprouts that are slightly smaller than a golf ball. Remove any side leaves growing below the harvested sprouts. More sprouts will continue to grow at the top of the stem as the plant matures. Approximate yield will be 3 to 5 pounds per 10 foot row. Mark has an amazing recipe for Bacon Braised Brussels Sprouts with balsamic vinegar and pomegranate that is to die for. So delicious.

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# CABBAGE

Cabbage is a cool-season vegetable best suited to both spring and fall. Cabbage is grown for its leaves, which come in green, red and blue- or purple-tinted green. Each plant forms a tight round or pointed head whose size can be barely larger than a softball or big enough to fill a wheelbarrow. Leaves can be smooth or, with savoy types, crinkly. There is also ornamental flowering cabbage, which can have showy leaf marbling and white, cream, rose, or purple edges. Always remember that deer love cabbage as much as you do.

## SOIL PREPARATION

Cabbage prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Like other Cole crops, cabbage tends to bolt when temperatures are high so plant in cool weather (March & April). Young plants can resist a light frost but not a hard freeze, but don't wait until May. Heat can stunt the early development of your crop. When planting starts, place plants 1.5-2 feet apart in the row, with 3 feet between rows. Planting into plastic or fabric mulches will accelerate early growth and encourage higher yields as well as suppress weed development. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your plants the best possible opportunity to thrive. When planting seed, plant 2 seeds every 12-18" and about  $\frac{1}{4}$  -  $\frac{3}{4}$  inch deep, and thin the sprouts when plants have 3-4 true leaves.

Remember, Cabbage can withstand cold temperatures and light frosts; they produce best in weather that does not exceed 70 degrees Fahrenheit. Cabbage require a fair amount of time to mature, so we have had best results planting them in Early August, and harvesting in cooler October temperatures.

## VARIETIES

There are many great varieties offered that grow well in Utah such as the quick-harvest Golden Acre (65 days), late-season Danish Ballhead and Late Flat Dutch (100 - 110 days), and mid-season Stonehead, Copenhagen Market, Savoy Perfection, Red Rock, and Pak Choi (an Asian variety), all 70-80 days. Danish Ballhead and Late Flat Dutch regularly produce 10-15lb heads or greater. Our newest variety, Blue Point, combines amazing quality and heat tolerance with very large heads.

## WATER

Water cabbage deeply and infrequently while trying to maintain even soil moisture. Cabbage needs consistent watering for high quality and quantity production. Use a soaker hose for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees. Make sure to avoid moisture fluctuations during head growth because it will cause maturing heads to split open.



A few varieties of cabbage, left to right: Red Rock, Pak Choi, Savoy, Stonehead

## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Apply an additional ¼ cup of nitrogen-based fertilizer when the cabbage head is the size of a silver dollar. Make sure to water it in! Place the fertilizer 6 inches to the side of the plant and work it lightly into the soil before watering

## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrients to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to cabbage root systems when weeds are removed. Practice crop rotation to discourage pest problems. Cabbage is subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests.

<b>CABBAGE</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	24-36"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	50-110 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting Late heavy water splits heads

All of the caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer to spray Spinosad (since it is bacterial, it has no effect on people or pets) early or late in the day for best caterpillar control. Aphids can be controlled with an insecticide like Spinosad Soap or Ferti-lome Triple Action.

## HARVESTING

Use pruners, loppers or a large, sharp knife to cut off heads when they're firm and well formed, but before they split and crack. Light frost will not harm cabbage, but harvest and store before a heavy freeze occurs. Cabbage can be stored for 2-6 months in a cool, dry, dark place. Alternatively, the whole cabbage plant can be dug up (roots and all) and placed upside down in the ground once temperatures average 40 for daytime highs. Leave the large, tough outer leaves on. These can be kept in the ground, under the snow, for up to 4 months and dug up when needed.



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# CANTALOUPE

Enticed by their delicious sweet flavor, many novice gardeners want to grow cantaloupes their first year in the garden. They quickly learn that they are one of the most demanding and difficult fruits to grow successfully. Timing, conditions, and weather all have to come together for just the right circumstances to succeed. Luckily, we have a few tricks up our sleeves to encourage these tasty treats to make our garden the envy of the neighborhood. True cantaloupes, muskmelons, and mixed late melons all fall into this family of fruits - and they are all delicious fresh from the garden.

## SOIL PREPARATION

Cantaloupes prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

We have had success both from transplants or from seed when planting cantaloupes - but in both cases, it is best if you start by solarizing your soil with black or clear plastic mulch or weed barrier 2-3 weeks before you want to plant. If starting seeds indoors, choose a warm location for germination (at least 75 degrees) and use a light seed-starting soil. We start our seedlings 3 weeks before setting them outside, so for Cache Valley, the last week of April is perfect. Just after Mother's Day, cut holes into your plastic or weed barrier mulch at 4-6 foot intervals and then plant your seedlings the same depth as they are in their containers, and water them thoroughly with Kangaroots root stimulator. The Kangaroots will help prevent transplant shock and aid in establishing an extensive and strong root system quickly. If starting from seed directly in the garden, use the same spacing and planting time as for transplanting. Make a shallow depression in each cut (in the plastic mulch), place 4-6 seeds in each hole, and cover them with 1/4-1/2 inch of peat moss, light potting soil, or Coconut Coir, and tamp the soil down gently with your hand. Water with the Seed Starter from Baicor, and cover the area with a hot cap, Wall-o-Water or Aquadome to help retain the heat and moisture. The seedlings should emerge in 7-14 days with adequate heat.

## VARIETIES

When it comes to melons, everyone has an opinion on which is their very favorite; at Anderson's we are no different. Hands down, our favorite melons for flavor and quality are Atlantis & Infinite Gold. These varieties produce very large fruits with deep sutures and heavy netting, and mature around the first to middle of August. The texture is firm, the flavor is divine, and they hold their quality for many days before going soft.

Burpee's Ambrosia and Burpee Hybrid have been two of our favorites for many, many years - their flavor rivals that of Atlantis, but they ripen very quickly, and become soft and mushy if not picked when ripe.

For early maturing (short seasons) we recommend Inspire, as it matures in about 70-75 days compared to 85 days for standard melons. Unique varieties we enjoy include Da Vinci, an Italian style melon with outstanding flavor and quality; Crenshaw, which looks like a cross between a cantaloupe and honey dew; and the good old standby Honeydew melon.



Burpee's Hybrid Cantaloupe

## WATER

Cantaloupes require frequent watering during the year, usually about 1-2 inches per week in 2-3 applications. Use drip or soaker irrigation if possible, and mulch heavily around the plants with an organic mulch to help retain soil moisture and to prevent weed emergence. Cantaloupes have a shallow root system, so be careful when cultivating close to the plant, and during warm, dry weather, they are prone to dry out quickly. We can't stress enough the importance of using plastic mulch or weed barrier around the melons to prevent weeds, to heat up the soil, and to prevent damage from rapid drying and moisture loss. You will see a dramatic increase in your yields because of it. Consistently moist, but not soggy - that's your goal.

## FERTILIZER

About 4-6 weeks after germination or transplant, usually about the time the vines start to run, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) around the base of the plants and water thoroughly. Use about 1/4 cup per hill. For some quick growth, especially around the time they start to flower and set fruit, use Ferti-lome Blooming and Rooting water soluble fertilizer or an organic alternative like Seedlinger's Fertilixer weekly to kick them into fruit production mode. Since melons are so difficult to cultivate, we always recommend an application of beneficial microbes and mycorrhizae (Kangaroots or Myke supplements) to help with their development. Your plants will be healthier, more vigorous, and produce fruits faster and for a much longer harvest.

<b>CANTALOUPE</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	5-7'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	70-100 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or Transplant

## COMMON PROBLEMS

Not too many insects bother melon vines, but watch for cucumber beetles, aphids, and spider mites specifically. Mites can damage leaves quickly without notice, sapping vital strength from the plants, and severely limiting your fruit production. Ferti-lome Spinosad Soap or Triple Action Insecticide will be your best options for controlling these pesky invaders. Powdery mildew is almost as destructive to the vines and their productivity. In late July (or earlier if the weather is hot and humid with cool nights) start spraying the vines with Fertilome Fungicide 5 to prevent mildew from ruining your crop in August and September. All it takes is a week or two of mildew to stop the vines from flowering and stop the fruit production. Use crop rotation and mycorrhizae to help prevent the vines from picking up Verticillium and Fusarium diseases that will quickly kill the vines just as they start to produce.

## HARVEST

For cantaloupe and muskmelons, when the exterior of the fruit is well netted and tan, lift the fruit and twist; if the fruit separates easily from the vine, it is ready to eat. Regularly check the blossom end also, if it is slightly softer than the even firmness of the rest of the melon, it just might be ready to separate from the vine. Over-ripe melons just don't taste good, so we like to get them right as they become ready. Mixed and later melons don't detach like cantaloupes do, so

watch the underside of the melon to change color and the blossom ends to start to soften. They are more difficult to gauge their maturity. Harvest until frost kills the vine.

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# CARROT



They seem like one of the most demanding vegetables to grow at first, but growing crisp, sweet carrots is easy once your soil is prepped and more conducive to their root development. One of the best things about carrots is that they taste amazing fresh from the garden, but if you choose to keep them and use them throughout the winter, the roots just get sweeter and sweeter as the months go by. They are also easy to store for winter and spring use right in your garden where they grew all summer. To grow really long carrots (10-12 inches) you need loose sandy soil and about 75-90 days growing season, but for those of us with less than perfect soil conditions, there are some excellent varieties that are well suited for heavier soils too.

## SOIL PREPARATION

Carrots prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

There are many tried and tested methods for successfully seeding and growing carrots, but this one is our favorite. Rake a shallow seed bed either in rows or in larger squares, depending on your garden size. Sprinkle the seeds as evenly as you can over the seed bed, approximately 1/2 to 1" apart (closer is ok), and then cover the seeds with 1/4 inch of peat moss, Coconut Coir, vermiculite, or a light potting soil, and tamp the soil down lightly with your foot or a tool, compacting the soil slightly. The seed must stay warm and moist to germinate properly, and it is not unusual for it to take 14-21 days for germination. A soaker hose works well to keep the seed moist, but for years we have had success moistening the seed with a watering can, and then placing a board (2x4 or bigger) over the planted area. It will help warm the soil and maintain moisture for many days, increasing chances of germination. Moisture and heat are essential for good germination. When the seedlings are about 2" tall, thin the carrots to 1 plant every 2 inches, otherwise your roots will remain small and underdeveloped.

Mark suggests:  
*"Try covering your carrot seeds with nothing but Coconut Coir. It holds moisture better than anything else and acts as a buffer to keep the seeds from washing away. Our germination time has gone from 21 days to 12 when using Coconut Coir."*

## VARIETIES

There are so many delicious varieties of carrots to choose from, it is difficult to select the perfect variety every time - but here are a few of our very favorites. Nantes-type carrots tend to be more cylindrical in shape, not tapered, about 7 inches long, with little or no core, and have excellent sweet flavor and crispness. Our favorites are Sweet Ingot (New), Tendersweet, and Nantes Coreless. Other favorite varieties that we carry include: Rainbow Mix (orange, yellow, red, purple and white carrots all in one mixture) which is absolutely fun to grow, with great colors and flavor; Thumbellina, a short, golf ball sized carrot that is sweet and delicious, but doesn't need deep, loose soil; and Royal Chantenay, a carrot with a thick, shorter root (5 inches), strong top, and excellent flavor - this carrot handles heavier soils much better than the Nantes types.



## WATER

Carrots need regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause root cracking, forking of roots, and poor yields. Maintaining consistent moisture will prevent most of these issues and assist in proper root development.

## FERTILIZER

About 6 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing carrots.

We also recommend treating your carrot seed or plants with beneficial microbes and mycorrhizae (Kangaroos or Myke). These added helpers bring nutrients and water directly to the plants that host

them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

<b>CARROT</b>	
<b>PLANTING TIME</b>	Group B
<b>PLANTING METHOD</b>	Rows or Broadcast
<b>PLANT SPACING</b>	2"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	60-70 Days
<b>WATER NEEDS</b>	1/2", 2-3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Carrot root weevil, rodents Late heavy water splits carrots Sun exposure causes green roots

## COMMON PROBLEMS

Few insects bother carrots, but the Carrot Rust fly and Carrot weevils will consistently do damage to the roots throughout the growing season and into the fall. To prevent these critters from starting in the first place, use a row cover to prevent the adult flies from laying eggs on the carrot tops or in the soil. Basic insecticides like Hi-Yield Permethrin or Ferti-lome Triple Action are also very safe and effective at controlling these pests. Some gardeners will use Hi-Yield Garden, Pet & Livestock dust in the rows with the seeds when planting and then again every 6 weeks to prevent the insects from damaging their precious crop.

## HARVESTING

At about 40-50 days, the carrots will have grown to about finger size, and are ready to start using. Most varieties will reach maturity in 75-90 days from germination and could be anywhere from 5-12 inches long and 1-2 inches in diameter depending on the variety. Harvest your carrots with a digging fork, as most sweet carrots have tender tops, and they won't pull out of the ground easily, breaking off right at the surface. Once harvested, you can store the carrots in sand in a container in your cold storage area, or just leave them in the ground with 4-8 inches of mulch over the top of them to use "fresh" from the ground all winter. We gather up leaves in plastic bags and cover the carrots with the bags until we are ready to dig - it keeps the deer away from the roots, and insulates them perfectly from the cold of winter.

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# CAULIFLOWER

Cauliflower is the most demanding of the Cole crop family. It's best suited to cool, humid growing conditions and needs to keep growing without any hitches, such as a water shortage, or it will produce premature undersized heads. Make sure to blanch the cauliflower leaves or chose a self-blanching variety if you want a snowy white head. This crop also takes up a lot of space for how much it yields, so think about space considerations before planting. Also, most commercial growers start this crop in August to have beautiful, white flowers ready for harvest in late October through November. 75% of all cauliflower is sold during the holiday season.

## SOIL PREPARATION

Cauliflower prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## VARIETIES

Anderson's recommends two great cauliflower varieties: Early Snowball, which is a popular variety for market and freezing; Twister, which is a unique, high yielding variety. If you don't like the extra work of blanching the flowerettes (see blanching info below), you definitely want to grow Twister, as it requires less work to keep the flower white. It twists its leaves around the head in a shape that resembles a tornato - its almost completely self blanching.

## PLANTING

Like other Cole crops, cauliflower tends to bolt when temperatures are high so plant in cool weather (March & April). Young plants can resist a light frost but not a hard freeze, but don't wait until May. Heat can stunt the early development of your crop. When planting starts, place plants 3 feet apart in the row, with 4 feet between rows. Planting into plastic or fabric mulches will accelerate early growth and encourage higher yields as well as suppress weed development. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your transplants the best possible opportunity to thrive. When planting seed, plant 2 seeds every 36" and about 1/4 - 3/4 inch deep, and thin the sprouts when plants have 3-4 true leaves.

## WATER

Water cauliflower deeply and infrequently while trying to maintain even soil moisture. Cauliflower needs consistent watering for high quality and quantity production. Water stress during growth and bud production will result in premature flowering, bitter taste, and poor quality. Use a soaker hose for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees. Moisture is essential, but too much water can result in root rot diseases and slow plant growth.



Blanching Cauliflower



## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Apply an additional ¼ cup of nitrogen-based fertilizer when the cauliflower head is the size of a silver dollar. Fertilize again after main head is harvested to encourage side shoot growth. Place the fertilizer 6 inches to the side of the plant and work it lightly into the soil before watering. Make sure to water it in!

We also recommend treating your cauliflower seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

<b>CAULIFLOWER</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	24-36"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	50-110 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting Late heavy water splits heads Sunlight on growing buds ruins flavor and color

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrient to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to cauliflower root systems when weeds are removed. Practice crop rotations to discourage pest problems. Cauliflower is subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests. All of the caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer to spray Spinosad (since it is bacterial, it has no effect on people or pets) early or late in the day for best caterpillar control. Aphids can be controlled with an insecticide like Ferti-lome Spinosad Soap or Ferti-lome organic Triple Action.

### HARVESTING:

As the head enlarges, it will discolor and develop a bitter flavor if exposed to sun. Blanch the head by tying the leaves together with strong twine or rubber bands when the heads are the size of silver dollars. Harvest the heads when they are fully developed (6-12 inches in diameter), compact, and blanched white. A large knife or a lopper pruner both work well for cutting the flowers from the plants. Cauliflower can be stored for 3 weeks in a cool, dark, dry place, or blanched and frozen for long term storage.

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# CELERY

Native to Europe and Asia, this vegetable is grown for its thick, fresh tasting, crunchy, crisp stalks. Celery is a delicious and healthy snack that provides many vitamins as well as a vegetable that can be incorporated into many dishes such as stir-frys and salads. Celery goes to seed when exposed to low nighttime temperature, but it does grow best in mild, long, cool season weather.

## SOIL PREPARATION

Celery prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Plant transplants outdoors in late April- early May, spacing the rows 2 feet apart and the plants 6 inches apart for tight growth that will help support the plants. To grow from seed, plant seeds in trays 10 weeks before the date of last spring frost and set out the seedlings in early May. Celery seed requires 10-20 days at a temperature of 65 degrees Fahrenheit to germinate. Extra frost protection, like row covers and/or hot caps would be advisable for late April through early May transplanting.

## VARIETIES:

Anderson's recommends and carries the Tall Utah 52-70 Improved variety. Vigorous sturdy plants produce smooth, thick, long stalks that are often 9-11" to the first joint. The stems should be blanched during the growing season by pushing dirt up around the stems of the plant to the depth of 4-6 inches. White or very light green celery is much sweeter and usually more tender than darker green stalks that are exposed to full sunlight. Shade cloth or row covers will help control temperature fluctuations also. 120 days to harvest.

## WATER

Celery needs regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications.



## FERTILIZER

About 6 weeks after germination or 4 weeks after transplant, apply a balanced vegetable food ("That's All it Takes" or Natural Guard Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing leafy greens like celery.

We also recommend treating your celery seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Celery doesn't compete well with weeds and therefore weed control is vital to their success. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Practice crop rotations regularly to discourage pest problems. Celery is subject to aphids, powdery mildew, and black heart. Row covers and regular fungicide treatments (we recommend Natural Guard Copper Soap) will help protect plants from all of these pests. Aphids can be controlled with a general purpose insecticide like Ferti-lome Spinosad Soap or a Neem oil/pyrethrum combination like Ferti-lome Triple Action spray.

<b>CELERY</b>	
<b>PLANTING TIME</b>	Group C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	54-56 Days from transplant
<b>WATER NEEDS</b>	1", 2-3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Transplant
<b>SPECIAL ISSUES</b>	Weeds Flea Beetles, Aphids Cold temperatures Sunlight on stalks ruins flavor and color

## HARVESTING

Celery takes almost all season to develop, and usually is best to harvest as the temperatures cool down in September. For earlier harvest, start thinning the stalks one at a time once the plants have reached a foot or more in length. When harvesting the whole stalk, use a very sharp knife to cut the stem just below the surface of the soil, where the root system stops and the leaves start. Harvest in cool weather and store in refrigerator for up to two weeks.



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# CHARD

Swiss chard is not only one of the most popular vegetables along the Mediterranean, but it is also one of the most nutritious. Commonly grown for its leaves and stalks, Chard is one of the easiest vegetables to grow and can be harvested all summer long with a taste comparable to spinach. Unlike Spinach, chard rarely goes to seed the first season, so it is much easier to grow and its harvest window is an amazing 4-5 months. Sometimes we are lucky to get 3-4 weeks out of spinach before it bolts to seed. An added bonus when growing chard is it's beautiful appearance; Bright Lights looks amazing in the flowerbeds as a tall, colorful accent!

## SOIL PREPARATION

Swiss Chard prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Swiss Chard is almost always grown from seed and can be sown directly outside anytime after the soils reach 40 degrees. We do occasionally offer transplants from our greenhouse in early April through May. Optimal seed germination is at 55-75 degrees, so the best time to plant in Cache Valley is in April and May, and again in August and September for a fall crop. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, potting soil or Coconut Coir to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 2-3 inches apart in the rows, and 12-18 inches between rows.

## VARIETIES:

Anderson's carries several excellent chard varieties. Fordhook has attractive, crumpled, and dark green leaves attached to broad, delicate, pale white 8-10 inch stalks that are wonderfully tender and juicy. Overall the plants reach 22 inches. Perpetual chard has fine textured spinach-like leaves with much smaller stems than other chards. It is suitable for high-density plantings and withstands high temperatures. Unlike other chards, the stalk color is green rather than white or red. Bright Lights, our most popular variety, develops multi-colored stems (red, white, yellow, pink) with a tender texture and tasty flavor. Rhubarb is an attractive and delicious variety with crimson colored stalks that somewhat resemble rhubarb in color and shape, and dark green leaves that are slightly crumpled. It is easy to grow and rich in vitamin content. 60 days to harvest.



## WATER

Chard needs regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications.

## FERTILIZER

About 4-6 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. For more leafy greens, use a higher nitrogen fertilizer like 21-0-0. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing chard.

We also recommend treating your Swiss Chard seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Chard does not compete well with weeds and therefore weed control is vital to its success. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Flea beetles and leaf miners commonly attack Swiss Chard and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome

<b>CHARD</b>	
<b>PLANTING TIME</b>	Group B, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	3-6"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	45-65 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Leaf Miners, Flea Beetles Late season heat causes bolting

Spinosad Soap is an excellent organic choice, and Ferti-lome Triple Action works quickly and safely to stop a wide variety of insects. Deer absolutely love Swiss Chard, so if entire sections of your chard disappear at night, you may have some nocturnal visitors to discourage. Netting, wire, fencing, and Deer Stopper sprays have helped us protect and preserve our chard crop.

## HARVESTING:

About 8 weeks after sowing, cut off outer stalks near the base, allowing the center stalks to continue growing. Cut the leaves off about 2 inches above the ground. Yields about 8-12 lbs per 10-foot row. Swiss chard can be stored 1-2 weeks when refrigerated. If you decide to harvest the entire plant, leave the root system, fertilize with a water-soluble fertilizer (Grow Big or Baicor All Purpose) and in a few weeks it will be back, good as new. There really isn't another crop that is so versatile and productive as Swiss chard.



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# CUCUMBER

One of the most popular garden vegetables, cucumbers are divided into two categories: 'slicers' and "picklers". They can be used interchangeably, young slicers as pickles, and more mature picklers as slicers, and all do well in Utah once the danger of frost has passed. Cool and refreshing during the hot days of summer, use them in salads, fresh cut with balsamic vinegar or ranch dressing, or just pick and eat right in the garden. Cucumbers are easy to germinate and not difficult to grow, but still have a few quirks. If you know some of our secrets, you will be a successful "Cuke" grower in no time flat.

## SOIL PREPARATION

Cucumbers prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

We have had success both from transplant or from seed when planting cucumbers - but in both cases, it is best if you start by solarizing your soil with black or clear plastic mulch or weed barrier, 2-3 weeks before you want to plant. If starting seeds indoors, choose a warm location for germination (at least 75 degrees) and use a light seed-starting soil. We start our seedlings 3 weeks before setting them outside, so for Cache Valley, the last week of April is perfect. Just after Mother's Day, cut holes into your plastic or weed barrier mulch at 4-6 foot intervals and then plant your seedlings the same depth as they are in their containers, and water them thoroughly with Kangaroots root stimulator. The Kangaroots helps prevent transplant shock and aids in establishing a strong root system quickly.

If starting from seed directly in the garden, use the same spacing and planting time as for transplanting. Make a shallow, round depression in each cut (in the plastic mulch), place 4-6 seeds in each hole, and cover them with 1/4-1/2 inch of peat moss, light potting soil, or Coconut Coir, and tamp the soil down gently with your hand. We also have had great success planting cucumbers in rows, with spacing about 3-4 inches between the seeds. It gives you a thick, productive patch of vines that is more condensed and easier to trellis if desired. Water with the Kangaroots, and cover the area with a hot cap, Wall-o-Water or Aquadome to help retain the heat and moisture. The seedlings should emerge in 7-14 days with adequate heat.



## VARIETIES

Everyone has an opinion on which cucumbers are the best, but they all have unique qualities that make them outstanding in their own right. At Anderson's our favorite cucumber for flavor and quality is Tasty Green. The long (9-12 inches), slender, dark green fruits are mild tasting, sweet, and virtually seedless. For a standard 7-8 inch green slicing cucumber, Burpless Supreme/Gateway has a compact vine, and resists weather fluctuations better than any cucumber on the market, and Straight 8 and Marketmore are heirloom standards of great quality that produce well. Armenian can grow up to 15 inches long and has thin, light green skin. Lemon cukes are round, yellow, and full of seeds, but they are fun to grow and tasty. Pickling cukes can grow blocky and rough, but Pioneer and Homemade Pickles are two that stay

small longer and keep their crisp texture when bottled.

## WATER

Cucumbers require frequent watering, usually about 1-2 inches per week in 2-3 applications. Water stress causes bitterness, misshapen fruit, and tough skin. Use drip or soaker irrigation if possible, and mulch heavily around the plants with an organic mulch to retain soil moisture and to prevent weeds. Since they have a shallow root system, be careful when cultivating close to the plant, and during warm, dry weather, they are prone to dry out quickly. We can't stress enough the importance of using plastic mulch or weed barrier around the cucumbers to prevent weeds, heat up the soil, and prevent damage from moisture loss. Your goal is soil that is consistently moist, but not soggy.

## FERTILIZER

About 4-6 weeks after germination or transplant, usually about the time the vines start to run, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) around the base of the plants and water thoroughly. Use about 1/4 cup per hill. For some quick growth, especially around the time they start to flower and set fruit, use Ferti-lome Blooming and Rooting water soluble fertilizer or an organic alternative like Seedlinger's Universal Plant Food weekly to kick them into fruit production mode. Since cucumbers can be difficult to grow under dry, stressful conditions, we always recommend an application of beneficial microbes and mycorrhizae (Kangaroots or Myke supplements) to help with their development. Your plants will be healthier, more vigorous, and produce fruits faster and for a much longer harvest.

<b>CUCUMBER</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds/ Trellised rows
<b>MOUND SPACING</b>	1-2'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	70-100 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/ DIRECT SOW</b>	Direct or Transplant
<b>SPECIAL ISSUES</b>	Powdery Mildew Cucumber Beetles, aphids, spider mites Verticillium and Fusarium virus

## SUPPORT

Vines can be trained up trellises, poles, fences, or other hardware to keep cucumbers off ground. Trellising cucumbers will reduce the amount of space the plants occupy (especially helpful for smaller or raised bed gardens) and allows the fruits to grow long and slender. You'll also notice less curling and more consistent ripening.

## COMMON PROBLEMS

Not many insects bother cucumbers, but watch for cucumber beetles, aphids, and spider mites. Mites can damage leaves quickly without notice, sapping strength from the plants and severely limiting fruit production. Ferti-lome Spinosad Soap insecticide or Triple Action Insecticide (Organic) are great options for controlling these invaders. Powdery mildew is almost as destructive to cucumber vines. In late July (or earlier if the weather is hot and humid with cool nights), start spraying vines with Fertilome Copper soap or Fungicide 5 to prevent mildew from ruining your crop. All it takes is a week or two of mildew to stop the vines from flowering and producing fruit. Use crop rotation and mycorrhizae to help prevent the vines from picking up Verticillium and Fusarium diseases that will quickly kill them just as they start to produce.

## HARVEST

Pick cucumbers as soon as they reach 2-3 inches long for pickling varieties, and 5-6 inches for slicers. Don't leave them on the vines too long, as they will start to produce seed, and lose flavor quickly. Try to harvest every other day if possible. Frequent picking will encourage more blossoms and fruit set, and prevent old fruits from sapping vital strength from the vines. Harvest until frost kills the vines or until nighttime temperatures prohibit fruit set.



# EGGPLANT

Eggplant is an uncommon delicacy in Utah gardens, despite its relative ease of growing. Mild flavor and savory texture make it an excellent addition to stir-frys, pastas, and other dishes. Purple, violet, green, or white fruits can decorate compact (2-3 feet tall), handsome, bushy plants. Plants almost look like miniature trees, with drooping violet flowers, and large, red-tinged leaves with their colorful and unusual shaped fruits. Since they are in the same family as tomatoes and peppers, cool days and nights don't agree with eggplant, so plant when days are long and hot. Eggplant grow very well in containers or raised beds.

## SOIL PREPARATION

Eggplant prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

Eggplant Flower



## PLANTING

Eggplant needs 60-95 days with nighttime temperatures over 65 degrees, so northern Utah growers need to start them indoors around the middle of March. Seeds should be planted ¼ inch deep in a light, seed-starting mix, in whatever container is most convenient for you. Transplant when stalks are strong and have 6-9 leaves (generally they are ready to go outside by mid-May), but before blossoms or fruit begin to grow. Be sure to space the seedlings correctly when transplanting, with 24-36" recommended between plants and 36" between rows. Once planted, water the seedlings with Kangaroots root stimulator for quick root development. Use the Kangaroots every 4-5 days for the first 3 waterings for less transplant shock and to speed up early development. To help protect the plants from late frost, and to increase temperatures around the plant, use hot caps or Wall-o-Water plant protectors over newly planted seedlings until weather permits, or the plants out-grow them.

## VARIETIES

Because of our short growing season, fast-maturing varieties work best in Cache Valley. Black Beauty is the traditional Italian style eggplant that most gardeners are familiar with growing. Long Purple is an oriental style eggplant. The fruits are long and slender, and it is not uncommon for them to reach a foot in length. Both varieties are prolific and vigorous under warm growing conditions.



Eggplant nearing harvest



## WATER

Water eggplant deeply and frequently while trying to maintain even soil moisture. Eggplant needs consistent watering to develop high quality fruits. Use a soaker hose or drip system for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees. Eggplant grow well in plastic mulch (clear or black) or weed barrier as it helps generate and hold more heat and retain more consistent moisture.

## FERTILIZER

Apply ¼ cup per plant of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting to encourage and maintain vigorous plant growth and flower production. Place the fertilizer evenly just to the side of the plants in the row and work it lightly into the soil before watering. Make sure to water it in! We also recommend treating your eggplant with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

<b>EGGPLANT</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	18-30"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	65-85 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Aphids, spider mites Cold temperatures stunts growth

## SUPPORT

Eggplant can be caged or trellised much like tomato plants. As the fruits develop, they will become heavy and weigh down the plants, sometimes to the point of breaking branches and damaging developing fruits. Prune the plants minimally to remove some small fruits and allow others to grow larger, or let them flower freely if you prefer more, smaller fruits at harvest time.

## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer Dewitt Pro 5 weed barrier as it allows water and nutrients to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to the root systems when weeds are removed. Also, practice crop rotations to discourage pest problems. Aphids, Potato Beetles, and flea beetles can all pose problems, but quick treatment with Ferti-lome Triple Action or Spinosad Soap (organic) Insecticide can bring them under control if treated early.

## HARVESTING

Harvest in mid to late summer, when fruits are firm skinned and glossy. Once they lose their sheen, the fruits become bitter tasting. Use a knife or pruner to cut the fruits from the plants to avoid damaging the stem and disrupting the growth of remaining fruits.

## NOTES

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# GARDEN CRESS

Peppergrass, or Garden Cress, is a popular green added to soups, salads, or sandwiches. It is easy to grow and has a very quick growing season. Leaves are usually ready within 2 weeks after emergence, and planting several weeks in succession can allow for a constant harvest.

## PLANTING

Broadcast planting or tight row planting works best. Garden cress can thrive in any soil type, as long as it is well-fertilized. Containers and window boxes can be used as well with liquid fertilizers such as Monterey NutraGreen or FoxFarm Grow Big. Germination usually takes 2-7 days, however, in cold temperatures, it can take up to two weeks. Ideal germination temperature is 55-75 degrees Fahrenheit. For additional planting information (including when we recommend planting in Logan), reference our seed list.

## WATER

Because it is a leaf crop, Cress grows best when the soil is kept constantly moist. When used in container gardens, more frequent watering is often needed.

## FERTILIZER

Cress needs little fertilizer because the growing time is so short. However, we would recommend a quick water soluble or liquid fertilizer with nitrogen such as Monterey NutraGreen plant food or Seedlinger's Universal Plant Food for an excellent organic alternative.



## COMMON PROBLEMS

Aphids can get into young leaves, but can be easily controlled with Fertilome Spinosad Soap Insecticide or Fertilome Triple Action. Flea beetles can also damage garden cress. Use row covers to help protect plants from early damage. Put in place at planting and remove when temperatures get too hot. Control weeds by using Treflan or Corn Gluten or by using weed barrier.

## HARVESTING

Clipping away old leaves from plants and leaving young leaves will allow the plants to continue growing and producing. Harvest leaves when at least 2" long.

## VARIETIES

Varieties include Wrinkled Crinkle Crumpled (broad, spoon shaped leaves, resistant to bolting), Upland (winter cress, dark green leaves), Curly Cress (bright green, ruffled leaves), Broadleaf (peppery flavored leaves), Cressida, Presto, American, Persian, Cresicone Commune (bright green, spicy), Belle Isle (sow in August for fall and winter harvest), Pepper (spicy, peppery flavor), Persian (dark green leaves, mild flavor).

<b><u>GARDEN CRESS</u></b>	
<b>PLANTING TIME</b>	Group A & E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	2-4"
<b>ROW SPACING</b>	1-2'
<b>SEED DEPTH</b>	1/2"
<b>TIME TO HARVEST</b>	45-60 days
<b>WATER NEEDS</b>	1" 3-4x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct



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# GARLIC

One of the most commonly used plants for cooking, garlic is a must have for any garden. Originating in central Asia, these delicious bulbs have spiced up foods since the dawn of cooking. Garlic is easy to grow in a garden or even in a good sized pot. They share the same family as onions, leeks, and shallots.

## VARIETIES

Garlic is categorized into two groups: hardneck and softneck

Softneck garlic traditionally stores longer, but has more variations in flavor or heat. With layers of parchment-paper thin skin and two layers of smaller cloves, this kind is ideal for the home cook. The tops are easy to braid, making it for easy storage. Among the varieties we carry are Gilroy (grocery store, long storage), French Tarne, Rosso di Sulmona, Inchelium (baking, a little spicy), and Italian Purple.

Hardneck garlic tends to have a more consistent flavor but have a shorter shelf life. They form long firm stalks, called scapes, with 8-15 large cloves on the inside. In the fall, we carry 10-13 types of hardnecks such as Spanish Roja (strong, spicy, easy to peel) and Siberian (fiery, smooth flavor perfect for cream sauces). Mark's favorites are the German Red, Musik, Chesnok Red, and Susan Delafield.

## PLANTING

Garlic grows well in any type of soil, as long as it has good drainage, rich nutrients, and plenty of sun. Prep the soil with a basic 16-16-16 fertilizer and organic matter (compost), typically 3 lbs/100 square feet. Work the compost and fertilizer down at least 6 inches into the soil so the garlic has nutrients through winter.

Garlic can be planted anytime from September through October, or at least 4-6 weeks before the ground freezes. Don't panic if tips come above the soil. They may get a little bit of winter burn, but they can tolerate temperatures below zero.

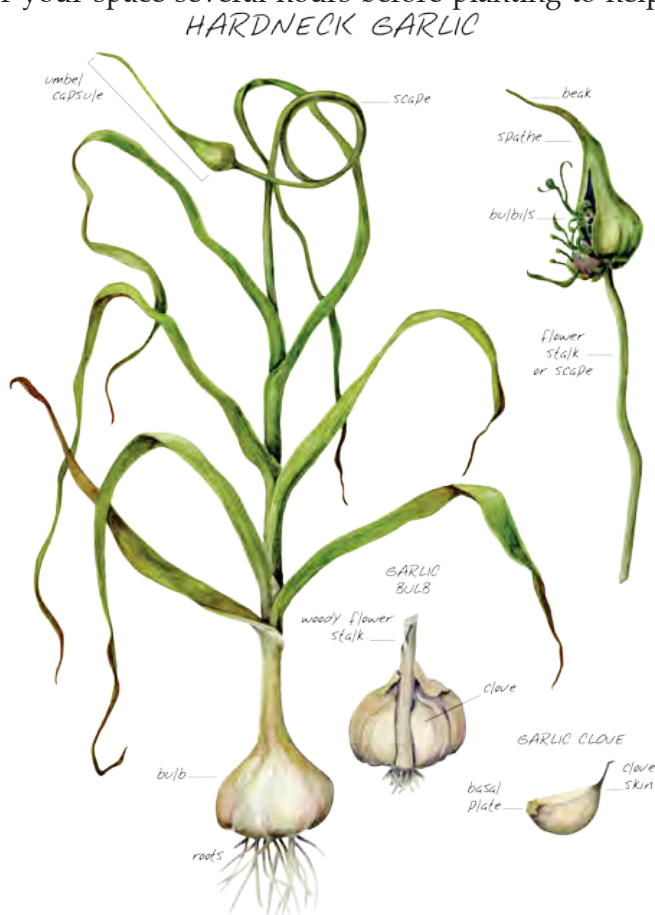
Our bulbs arrive around the first week of September. Don't break them apart until planting; any earlier will cause the cloves to dry and lose viability. Water your space several hours before planting to help the cloves go into the soil easier. Dig holes about 1-3 inches deep and add ½ tsp of Hi-Yield Bone Meal. This is a slow, release phosphorus fertilizer to help with bulb growth and development. Break up the heads into individual cloves and plant them 3-4 inches apart. If doing multiple rows, keep the separate rows 6-10 inches apart to allow for adequate growth space. After planting, water with Fox Farm Kangaroots for quick establishment and root enhancement.

In containers, follow the same rules for depth and spacing. Your quantity is only limited by the size of the pot.

## FERTILIZER/WATER

Use a general purpose fertilizer in the fall, such as Fox Farm's Happy Frog (organic), or Fertilome's Gardener's Special. Don't add anything else to the soil until April or May. At this point, side dress the rows or just around the plant with another fertilizer, preferably something high in nitrogen, like Anderson's "That's All it Takes." After the first of June, fertilizing with anything high in nitrogen could adversely affect bulb size.

When it comes to watering, garlic is quite picky. In the early spring, when the sprouts are first starting to grow, keep them moist. Allowing them to dry out will decrease yield in the summer. Moisten the soil every 5-7 days at least 12 inches down. When the tops start to die down and turn brown, stop watering. Too much water at this point



will actually damage the bulb and could cause storage issues.

## COMMON PROBLEMS

Garlic is very prone to neck rot, a gray mold that appears after harvest. The bulb usually has sunken black spots caused by a type of fungus that thrives in moist, hot environments. Unfortunately, it isn't controllable once it has taken hold of the bulb, but can be managed by proper harvest and storage. Purple blotch is another disease that can attack garlic. There are pale yellow or even purple spots that are on the leaves that spread rapidly. Use Ferti-lome's F-stop or Fungicide 5 when initial signs appear.

One of the best things about garlic is that it naturally repels insects. However, thrips, small sucking insects that love the garlic and onion family, can damage the leaves and bulbs. The tips will turn silver or gray. Use Ferti-lome's Spinosad Soap Insecticide to get rid of them once you notice their damage.

Keep weeds under control as garlic won't compete with them.

## HARVEST

Don't harvest too early as it can cause storage problems or leave them in the ground too long. With hard necks, the scapes that come up can actually be eaten like a scallion with a strong garlic flavor, so you can enjoy them earlier.

Starting mid July through early August, the tops will start to turn yellow and fall over. However, the tops won't completely dry out at this point. Once the tops are completely over, carefully dig up the bulbs. Use a spade or a small gardening fork to dig underneath the soil and lift out the bulbs. Don't pull from the top because that can damage the bulbs.

It is possible to take garlic from the garden straight to your kitchen, but for maximum storage length, cure the bulbs for 2-3 weeks in a dry place. Take a few and tie the tops together, then hang them up in a well-ventilated place for at least a week. After they are cured, store them in a cool, dark, dry place with a good air flow. Don't store them in the fridge or somewhere with moisture in the air, or high humidity.

<b>GARLIC</b>	
<b>PLANTING TIME</b>	Group E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	4-8"
<b>ROW SPACING</b>	2-3'
<b>CLOVE DEPTH</b>	1-2"
<b>TIME TO HARVEST</b>	End of July - First of August
<b>WATER NEEDS</b>	1-2", 1 x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct (cloves)
<b>SPECIAL ISSUES</b>	Mites Neck Rot Lack of Water

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# KALE

Kale has been around for a very long time, but has gained huge popularity in recent years as a super-food. This cabbage relative is extremely easy to grow, versatile, and very nutritious. It's leaves can be eaten fresh, steamed, stir-fried, sautéed, or added to soups and green smoothies.

## SOIL PREPARATION

Kale prefers a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Kale is almost always grown from seed and can be sown directly outside anytime after the soils reach 40 degrees. Plants perform best at temperatures below 75 degrees, and young plants can survive unharmed in as cold as 25 degree weather, so plant it as early as you can. The best time to plant in Cache Valley is in March and April, and again in August and September for a fall crop; a late-season frost actually improves the flavor. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, Coconut Coir or potting soil to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 1-2 inches apart in the rows, and 12-18 inches between rows.



Red Russian

## VARIETIES

Dwarf Blue Curled, Organic Garden Blend, Red Russian, and Black Magic or "Dinosaur" are all very hardy, heavy producers. Each has its own unique look and texture. Champion and other collards varieties are frequently listed as kale, and they produce a smooth, rounded leaf, but do not form heads.



Black Magic/Dinosaur

## WATER

Kale needs regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Watering stresses can lead to tough leaves and bitter flavor.

## NOTES

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## FERTILIZER

About 4-5 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Natural Guard Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. For more leafy greens, use a higher nitrogen fertilizer like 21-0-0. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing vegetables.

We also recommend treating your kale seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Since kale is in the same family as cabbage and broccoli, they share many of the same problems. Keep the weeds to a minimum with the use of pre-emergents and organic mulches. Treflan and Corn Gluten weed preventative herbicides are very effective ways to stop weeds before they start, saving you hours

and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to tender, young root systems when weeds are removed. Practice crop rotations to discourage pest problems.

Kale is subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests. Caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer Spinosad (since it is bacterial, it has no effect on people or pets), which is most effective when sprayed early or late in the day. Aphids can be controlled with an insecticide like Hi-Yield Indoor/Outdoor Insecticide or Ferti-lome Triple Action.

### HARVESTING:

About 8 weeks after sowing, cut off outer stalks near the base, allowing the center stalks to continue growing. Cut the leaves off about 1 inch above the ground. Yields about 8-12 lbs per 10-foot row. If you decide to harvest the entire plant, leave the root system, fertilize with a water-soluble fertilizer (Grow Big or Baicor All Purpose) and in a few weeks it will come back, but not as effectively as Swiss Chard. Kale is more heat tolerant than say, broccoli or cabbage, but with heat and water fluctuations, it can also bolt and go to seed. Kale can be stored 1-2 weeks when refrigerated.

<b><u>KALE</u></b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	45-65 Days
<b>WATER NEEDS</b>	1/2-1", 2x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting Water stress

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# KOHLRABI



Kohlrabi probably originated in coastal Western Europe and is grown for its leaves, but more so for its large, bulb-like stem that develops just above the surface of the soil. We like to compare kohlrabi bulbs to turnips, but they grow above the soil, not below it. In the same family as cabbage and broccoli, kohlrabi prefers cool temperatures and moist soils. Plants are fast growing, reach about 2 feet tall, are ready in 50-60 days. They taste like turnips with a texture similar to water chestnuts, and can be sliced and eaten raw, steamed or sautéed.

## SOIL PREPARATION

Kohlrabi prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Kohlrabi can be planted from seed or transplant. Like other Cole crops, kohlrabi tends to bolt when temperatures are high so plant in cool weather (March & April). Young plants can resist a light frost but not a hard freeze, but don't wait until May. Heat can stunt the early development of your crop. When planting starts, place plants 4-6 inches apart in the row, with 2 feet between rows. For best results, water immediately after transplanting with Kangaroots rooting solution and again for the first 2-3 waterings. This will prevent transplant shock and give your transplants the best possible opportunity to thrive. When planting seed, lightly sprinkle seeds every inch or so and cover them with about ¼ - ½ inch of loose light soil, and tamp them down gently. As seedlings emerge, thin sprouts to 3-4 inches apart when plants have 3-4 true leaves.

## VARIETIES

Anderson's has a few great varieties of kohlrabi to choose from.  
Purple Vienna: Plants are 8-10 inches tall with purplish-green stem and leaf. Bulbs are 2 inches in diameter and flattened globe in shape with reddish-purple skin and white flesh. Should be used when about 2 inches in diameter, otherwise its texture becomes woody.  
White Vienna: A standard variety. Leaves 8-10 inches long with slender petioles. Bulbs are very light green, round, and 2-3 inches in diameter at prime quality for table use, but can become considerably larger.



## NOTES

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## WATER

Water kohlrabi deeply and frequently while trying to maintain even soil moisture, especially since they have a fairly shallow root system. Kohlrabi needs consistent watering for high quality and quantity production. Water stress during growth and bud production will result in loss of flavor, woody texture, and poor quality. Use a soaker hose for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees.

## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. A second application of fertilizer may not be necessary, as kohlrabi develops very quickly. If needed, fertilize again 4 weeks after the last application. Place the fertilizer evenly just to the side of the plants in the row and work it lightly into the soil before watering. Make sure to water it in!

We also recommend treating your kohlrabi seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

<b>KOHLRABI</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	45-65 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting

## COMMON PROBLEMS

Keep weeds to a minimum with diligence and persistence. Treflan and Corn Gluten weed preventative herbicides are very effective ways to stop weeds before they start, saving you hours and hours of weeding, and they are completely safe to use on kohlrabi. Be sure to control weeds when they are small to ensure damage is not done to tender, small root systems when weeds are removed. Practice crop rotations to discourage pest problems. Kohlrabi is subject to aphids, cabbage loopers, imported cabbage worms, and cabbage root maggots. Row covers will help protect plants from all of these pests. All of the caterpillars may also be controlled using *Bacillus thuringiensis* (B.T.), spinosad, or pyrethrin. We prefer Spinosad (since it is bacterial, it has no effect on people or pets), which is most effective when sprayed early or late in the day. Aphids love kohlrabi, so watch for them closely. They can be controlled with an insecticide like Ferti-lome Spinosad Soap (organic) Insecticide or Ferti-lome Triple Action.

## HARVESTING:

Kohlrabi can be harvested when stems reach 2-3 inches in diameter. In larger stems the flavor can become hot and the texture tough and woody. Kohlrabi can be stored 2-3 weeks at 35 degrees. Like beets and turnips, if stored in sand or peat moss, you can extend storage time by a month or two.

## NOTES

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# MUSTARD GREENS



Mustard is a leaf crop that comes in a variety of leaf types, colors, and textures. It can be used like spinach, cooked or incorporated into salads to add flavor and variety. Mustard greens do best in cool weather and should be planted so it can mature when temperatures are consistently below 80 degrees. There are three different types of mustard greens that are most commonly used: curly leafed, flat leafed, and tendergreen mustard. Mustard is easy to grow, and matures in a short 45-60 days.

## SOIL PREPARATION

Mustard prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Mustard is almost always grown from seed because of its quick germination, and can be sown directly outside anytime after the soil temperatures reach 40 degrees. Optimal seed germination is at 50-70 degrees, so the best time to plant in Cache Valley is in March through early May, and again in August and September for a fall crop. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, Coconut Coir or potting soil to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 1-2 inches apart in the rows, and 12-18 inches between rows.

## VARIETIES

We carry Mizuna Mustard (curly leafed), Florida Broadleaf (flat), and Deep Purple (tendergreen). All these varieties have excellent flavor and some heat tolerance. Most mustard varieties grow quickly and early as microgreens, and taste amazing too!



## WATER

Mustard needs regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Water fluctuations will yield tough and bitter leaves.



## FERTILIZER

About 4 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. For more leafy greens, use a higher nitrogen fertilizer like 21-0-0. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing vegetables.

We also recommend treating your mustard seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Mustard doesn't compete well with weeds and therefore weed control is vital to their success. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Flea beetles, cabbage loopers and leaf miners commonly attack mustard and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Hi-Yield Indoor/Outdoor Insecticide works quickly and safely to stop a wide variety of insects.

## HARVESTING

Mustard should be harvested when leaves reach full size and before the seed stalk forms. Strip the outer old leaves off first to continue to let new inner leaves to grow. Rinse and pat leaves dry and store in the fridge for up to 1-2 weeks.

<b>MUSTARD</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	45-65 Days
<b>WATER NEEDS</b>	1", 2x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting

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# LEEK

The most essential quality necessary for growing leeks is patience. Leeks are slow growing, taking 4-7 months to develop into full size, mild, onion flavored bulbs, but worth the wait. They typically grow 2-3 feet tall, with an edible, mild-flavored stem that resembles a long, fat green onion. Once fully developed, leeks look similar to large scallions with blue-green foliage and white stalks. Leeks are delicious raw, in salads or in soups.

## SOIL PREPARATION

Leeks prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Leeks can be planted from seed or transplant. If possible, start seeds indoors to save time and to harvest earlier. Start indoors 6-8 weeks before planting season (early to mid-February). Seeds should be planted ¼ inch deep in a light, seed-starting mix, in whatever container is most convenient for you. When they are 6-8 inches tall, move the transplants outdoors (late march or early April). When planting, dig a 3-4 inch deep trench and space the seedlings every 3-4 inches, then cover them up with 2 inches of soil. Water them into place with Kangaroots root stimulator. Continue to use Kangaroots every 4-5 days for the first 3 waterings to prevent transplant shock and to speed up development. Bank up soil around the plants as they grow taller throughout the season to promote stronger stalks and to blanch the stems white. It is not unusual to mound the dirt up 6-8 inches around the stems during their growing season.

## VARIETIES

Anderson's offers one variety of leek from seed, American Flag, and one variety from plant, Lancelot. Both are excellent quality and develop in 130-150 days. Seedlings arrive at our greenhouse in late March and are typically available until the first week of May.

## WATER

Water leeks deeply and frequently while trying to maintain even soil moisture, especially since they have a fairly shallow root system. Leeks need consistent watering for high quality production. Use a soaker hose for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees.

Mark says:  
*"For mild onion flavor and ease of growing, you can't beat leeks. Toss them in a stew or swap them in for green onions in a salad for good flavor without the burn of raw onions. Delish!"*

## FERTILIZER

Apply ½ cup per 10 feet of row of "That's All it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Place the fertilizer evenly just to the side of the plants in the row and work it lightly into the soil before watering. Make sure to water it in! We also recommend treating your leek seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Keep the weeds to a minimum with diligence and persistence. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding, and they are completely safe to use on leeks. Be sure to control weeds when they are small to ensure damage is not done to tender, small root systems when weeds are removed. Practice crop rotations to discourage pest problems. Leeks have fewer problems than onions, but are still susceptible to thrips, onion maggots, and wireworms. Hi-Yield Garden, Pet, & Livestock dust or Ferti-lome Triple Action Insecticide work well for all the common insect problems.

## HARVESTING

Leeks can be harvested when the stalks are 1-2 inches in diameter. A spading fork or trowel works best to loosen them from the soil. In milder climates, leeks can be wintered over if buried in the soil, but winter temperatures can damage them here in Cache Valley. Harvest and store leeks in a cool (35-40 degrees) and humid location.

<b><u>LEEK</u></b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	4-6"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	60-70 Days
<b>WATER NEEDS</b>	1", 2x weekly
<b>TRANSPLANT/ DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Thrips, Onion maggots, wireworms Root Rot



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# LETTUCE

A quick glance at a seed catalog or packaged seed rack will reveal a wide assortment of healthy lettuces and salad greens that have hit the home garden market recently. Lettuce is a popular choice for home gardens for its ease to grow, its nutritional value, and its delicious flavor and texture. Lettuce can be grown all season long and harvested consistently, but it does prefer cool, moist weather, and many varieties will bolt to seed under stressful heat conditions. There are four types of lettuce, which include: crisphead, butterhead, loose leaf, and romaine. Grow lettuce in cool temperatures in full sun for optimal flavor and quality.

## SOIL PREPARATION

Lettuce prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Lettuce can be planted from seed or transplant. It is easiest to grow from seed because of its quick germination in cold soils. Seeds should be planted ¼ inch deep in rows 12-18 inches apart. The seeds will germinate in 7-10 days but germination drops when temperatures exceed 75 degrees, so plant in very early spring or late summer/early fall for best results. For best germination, cover lightly with Coconut Coir (about 1/4 inch) and water with Baicor Seed Starter for the first 2-3 waterings. Once the seed germinates and plants reach about 1-2 inches tall, thin the individual lettuces to about 8-12 inches apart to reach maximum growth and head development. If you want smaller, leafier lettuces, thin plants to about 1-2 inches and harvest when they are small and tender. Plants are usually ready to harvest in 50-75 days. Don't forget, fall is one of the best seasons for leafy greens! Plant again in August and September to maximize the potential of your garden space.

## VARIETIES

With so many great varieties to choose from, here are a few of our favorite varieties of lettuce: Mark's Heat Tolerant Mix, a mixture of 2 red leaf varieties, romaine, butterhead, Red Romaine, and Simpson lettuces. Colorful, tasty, and nutritious, it's one of our all-time favorite mixes; Esmerelda and Buttercrunch resist heat and form heads quickly; Plato II and Outback are tall, heat tolerant romaines with sweet, crunchy leaves; Lollo Rossa, Red Romaine and Royal Red, round out our selection of heat resistant, sweet red-leafed lettuces.

## WATER

Water Lettuce frequently and consistently applying 1-2 inches per week. Water fluctuations will yield tough and bitter leaves. A light mulch after the plants reach 2-3 inches helps the soil retain moisture better. Mulches and regular watering with a soaker hose maintains consistent soil moisture better than any other method.

## FERTILIZER

Side dress the rows with nitrogen (20-0-0) applying 1/4 cup per 10-foot row 4 weeks after planting to encourage growth. For quick results, use a liquid fertilizer like Monetrey All-Purpose or Seedlingers Universal Plant Food (organic). Your plants will grow like weeds and be ready to harvest in 45-60 days.

Mark suggests:  
*"Plant lettuce thinner than you think! Each little seed will become a large cluster or head of lettuce. Plant lightly in the beginning and you won't waste seed by thinning later."*

## COMMON PROBLEMS

Lettuce is frequently infested by slugs, spider mites, aphids, leafminers, caterpillars, mildew, leaf blight and verticillium wilt. Apply insecticides such as Ferti-lome Spinosad Soap (organic) or Ferti-lome Triple Action (Organic) for insect outbreaks, and a safe fungicide like Fungicide 5 (organic) as needed to control disease issues. Practice crop rotation to avoid verticillium wilt and blight.

## HARVESTING

Lettuce can be harvested at any stage of growth. Strip the outer old leaves off first to let new inner leaves grow. When cutting and harvesting entire heads, remove and compost the shallow root system to allow other heads more room to develop. Crisphead and Romaine lettuces are best when heads are firm. Harvest leaf lettuces before seed stalks form. As summer temperatures rise, almost all lettuces, even the most heat tolerant, will become bitter and go to seed. Fall crops last longer before seeding and can be harvested for an extended season. Rinse and pat leaves dry and store in the fridge for up to a week or more.

<b>LETTUCE</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows or Broadcast
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	30-60 Days
<b>WATER NEEDS</b>	1/2", 2-3x weekly
<b>TRANSPLANT/ DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Slugs, Spider mites, Aphids, Leaf miners Mildew, Verticillium Heat causes bolting Irregular water causes bitterness



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# OKRA



Primarily considered a “Southern Crop”, this Asian native is one of the most versatile vegetables in the garden and can be eaten pickled, sautéed, steamed, fried, or in soups, gumbos, or stir-frys. A relatively fast grower, Okra is ready for harvest after 50-60 days of 70 degrees or warmer. While not a staple crop in Utah, it has recently grown in popularity. “I think it tastes like a cross between green beans and zucchini - it’s really quite tasty!” - Mark

## SOIL PREPARATION

Okra prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend “That’s all it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Okra grows best from seed and can be sown directly outside anytime after the risk of frost has passed and when soil temperatures are around 70 degrees, so the best time to plant in Cache Valley is in mid to late May. Soaking the seeds 24 hours in advance can help increase germination success. Plant seeds about 1/4-1/2 inch deep and 12-18” apart and cover with a light mulch, Coconut Coir, or potting soil to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. Keep 2-4 feet between rows, as the spines on the plant and seed pods can be irritating to the skin if they come in prolonged contact. We also carry a limited quantity of transplants in May - plant after last frost and water thoroughly with Kangaroots for the first 2-3 waterings. Okra also grows well in containers if your garden space is limited.

## VARIETIES

Because Okra is a warm-climate vegetable Anderson’s offers the short-season Clemson Spineless. It is a heavy producer that does well in our valley.

## WATER

Okra needs regular watering and consistent soil moisture, but soil should dry completely between waterings to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications.





**FERTILIZER**

Fertilize with a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants after the first pods have set. 1-2 cups per 10 feet of row works well.

We also recommend treating your seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.



Okra Bloom

**COMMON PROBLEMS**

<b><u>OKRA</u></b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	60-75 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Spider mites, Aphids, Nematodes

Aphids, spider mites, and nematodes are all frequent pests on Okra, and occasionally Corn Earworm. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Hi-Yield Indoor/Outdoor Insecticide works quickly and safely to stop a wide variety of insects.

**HARVESTING**

Pods are ready to harvest 3-4 days after flowering, and have their best flavor and texture when they are 2-4 inches long. Harvest every 2 days to promote continued growth; Okra will stop producing if pods are not harvested. Crop usually has reached its peak in early September and is completely done after 1st frost.



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# ONION

Onion bulbs have been in cultivation since early historical records dating back to ancient Egypt. Onions can be used for a wide variety of dishes and they bring a large kick of flavor to everything. Onion greens can be used as scallions, the bulbs can be harvested when they are small and mild, or harvested when they are large and spicy. They can be grown in the garden, a raised bed, a container, or even for decoration in the flowerbeds. When growing onions, selection of the correct varieties for growing in local regions is essential. If you grow the wrong kind of onion in your area, you may not have much success. Onions are categorized into three main groups: Short Day, Long Day, and Intermediate onions. At Anderson's, we only carry Long Day and Intermediate onions, which grow the best in our climate.

## SOIL PREPARATION

Onions prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Onions can be planted from seed, sets, or transplants. Plant transplants or sets in mid-March through April for early production (plants arrive in early March and supplies last until early May). Seeds may be started indoors (early February) to produce transplants, but will take 6-8 weeks before reaching transplant ready size. Dig a trench 2-3 inches deep and plant onion transplants 3-4 inches apart in rows 8-16 inches apart covering the seedlings up to where the bulblet ends and the leaves begin. Water the transplants with Kangaroots root stimulator to minimize transplant shock and encourage quick root development. Use the Kangaroots every time you water for the first 3-4 waterings for best results. Be sure to space the plants properly, as too close of planting will limit bulb size. If you want to use some of the plants for green onions, pull up every other plant as they grow and use the immature onion as green onions, leaving the remaining bulbs spaced at 6-8 inches apart. To sow seeds directly into the garden, lightly rake the area to be planted, sprinkle seeds approximately 1/2-1 inch apart, and cover them with 1/4 inch of peat moss, Coconut Coir, or a light potting soil. As the seedlings mature, use the same rules for thinning and spacing

Mark suggests:  
*"Save yourself time and plant our starts in the spring! We have healthy, active starts that tend to perform better than those grown from seed the previous fall."*

## VARIETIES

Long Day onions grow north of the Mason-Dixon line, as the summer days are longer than in the south. The best varieties for growing in Cache Valley include: Big Daddy, Big Mac Hybrid, Walla Walla and Red Burgermaster. Intermediate Day onions will grow in both long and short day conditions: we highly recommend Candy, Dulce Grande, and Sierra Blanca. The longest storage variety we carry (only available in plants) is Patterson, it keeps 8-12 months when stored properly. Really, we've had customers bring us bulbs in June from the previous year that still hadn't sprouted.

## WATER

Water onions deeply and frequently while trying to maintain even soil moisture, especially since they have a fairly shallow root system. Onions need consistent watering for high quality and quantity production. Use a soaker hose for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees.

## FERTILIZER

Apply ½ cup per 10 feet of row of “That’s All it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food 4 weeks after transplanting or thinning to encourage vigorous plant growth. Place the fertilizer evenly just to the side of the plants in the row and work it lightly into the soil before watering. Make sure to water it in! We also recommend treating your onion seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. Your bulbs will grow bigger and more delicious than ever before!

## COMMON PROBLEMS

Keep weeds to a minimum with diligence and persistence. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding, and they are completely safe to use on onions. Be sure to control weeds when they are small to ensure damage is not done to tender, small root systems when weeds are removed. Practice crop rotations to discourage pest problems. Onions do not have many pest problems, but are still susceptible to thrips, onion maggots, and wireworms. Hi-Yield Garden, Pet, & Livestock dust or Ferti-lome Spinosad Soap Insecticide work well for all the common insect problems. The most common diseases seen in Utah are mildew, pink root, and stem rot. General purpose fungicides like Fungicide 5 or Ferti-lome F-stop will control most common diseases to affect onions.

<b>ONION</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	6-12"
<b>ROW SPACING</b>	4-8'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	August
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Thrips, Onion maggots, wireworms Root Rot

## HARVESTING

Onions all vary in harvest times. Green onions can be cut as early as 50 days. Bulb onions generally take 100-120 days to mature. Leave bulbs in the ground until the green tops fall over, generally mid August, and if they don't start dying out on their own, you can gently push the tops over to break them, which will stop their growth and prepare them for fall & winter storage. Leave them in the ground for 1-2 weeks after this to start the drying process. When bulbs are ready to harvest, dig up the onions and leave them in the garden, roots up, for a day or two to dry up the root system. Then put them in a warm, dry location for 2-3 weeks. After drying, the skins will be papery and thin with a dry root system. Trim the tops and gather up the onions in mesh bags and store them in a cool area (38-45 degrees) to ensure the longest storage time.



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# PARSNIP

Parsnips are native to Northern Europe and Siberia, and are likely one of the most cold hardy of vegetables. Grown for its delicately sweet, creamy white to yellow roots, it can be used in stews or roasted. Mark likes to sautee them first, then roast, for extra caramelized sweetness. Roots can reach 12-15 inches long, and the tops can grow up to 2-3 feet tall. It is highly unusual & rare, but some people are allergic to the leaves, and can develop a sunburn-like rash when handling the tops. We recommend you wear gloves, and not find out the hard way. Remember, parsnips get sweeter as they are exposed to cold in the fall, so do not harvest the roots until after the first frost. Leave them in the ground as winter progresses, and they will only continue getting better.

## SOIL PREPARATION

Parsnips prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

There are many tried and tested methods for successfully seeding and growing parsnips, but this one is our favorite. Rake a shallow seed bed either in rows or in larger squares, depending on your garden size. Sprinkle the seeds as evenly as you can over the seed bed, approximately 1/2 to 1" apart (closer is ok), and then cover the seeds with 1/4 inch of peat moss, Coconut Coir, vermiculite, or a light potting soil, and tamp the soil down lightly with your foot or a tool, compacting the soil slightly. The seed must stay warm and moist to germinate properly, and it is not unusual for it to take 14-21 days for germination. A soaker hose works well to keep the seed moist, but we have had success moistening the seed with a watering can, and then placing a board (2x4 or bigger) over the planted area. It will help warm the soil and maintain the moisture for many days increasing chances of germination. When the seedlings are about 2" tall, thin the parsnips to 1 plant every 2 inches, otherwise your roots will remain small and underdeveloped.

Mark says:  
*"Parsnip popularity may be down, but it's not out! Let them stay in the ground until January, then dig them up in late winter. They are so delicious par-boiled or sautéed and then roasted with butter. Yum!"*

## VARIETIES

Not many varieties of parsnips are available in the home garden market, but we have carried Hollow Crown and Harris Model before, both of which are heirlooms. They have consistently been difficult to germinate, but grow like weeds after that. Both have good flavor and texture that isn't stringy.

## WATER

Parsnips need regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause root cracking, forking of roots, and poor yields. Maintaining consistent moisture will prevent most of these issues and assist in proper root development.

## FERTILIZER

About 6 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing parsnips.

We also recommend treating your parsnip seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

Few insects bother parsnips, but flea beetles, leafhoppers, cabbage root maggots, and occasionally armyworms will do damage to the roots throughout the growing season and into the fall. To prevent these critters from starting in the first place, use a row cover to prevent the adult flies from laying eggs on the parsnip tops or in the soil. Basic insecticides like Hi-Yield Indoor/Outdoor or Ferti-lome Spinosad Soap (organic) Insecticide are also very safe and effective at controlling these pests. Some gardeners

will use Hi-Yield Garden, Pet, & Livestock dust in the rows with the seeds when planting and then again every 6 weeks to prevent the insects from damaging their precious crop.

<b>PARSNIP</b>	
<b>PLANTING TIME</b>	Group B
<b>PLANTING METHOD</b>	Rows or Broadcast
<b>PLANT SPACING</b>	3-4"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	105-120 Days
<b>WATER NEEDS</b>	1/2", 2-3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Flea beetle Carrot root weevil, rodents, deer Late heavy water cracks roots Sun exposure causes green roots

## HARVESTING

In cold winter climates, harvest parsnips in the fall or leave them in the ground for winter, they can be used November-February. Once harvested, you can store the parsnips in sand in a container in your cold storage area. We prefer to just leave them in the ground with 4-8 inches of mulch over the top of them to use fresh from the ground all winter. We gather up leaves in plastic bags and cover the parsnips with the bag until we are ready to dig - it keeps the deer away from the roots, and insulates them perfectly from the cold of winter.



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# PEA

Easy to grow, one of the oldest and most well-known vegetables, a delight to eat, peas are a staple in practically every garden. Their cool-season success means they can be one of the first things planted in the spring and one of the last to be harvested in the fall, allowing for their nutrient-rich pods to be had practically year-round. Peas, unfortunately (or fortunately, depending on how you look at it), attract kids and dogs - they're so tasty!

## SOIL PREPARATION

Peas prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Peas grow best from seed and can be sown directly outside anytime after the ground has become workable after snowmelt. In Northern Utah, this is typically the second week of March to the first week of April. Soaking the seeds 24 hours in advance can help with germination success. Plant seeds about 1/2-1 inch deep and 1-3" apart, depending on whether the variety is "dwarf" or "standard". All peas grow best when trellised or supported, though dwarf varieties can be self-supportive when planted close together. Soak the soil thoroughly after planting, and then a week later, and then hold off additional water until the sprouts begin to emerge to prevent root rot and mildew. Keep 2-4 feet between rows for ease of harvest.

## VARIETIES

At Anderson's we carry a large variety of English Shelling peas, Sugar Snap peas, and Snow peas. Sugar snap peas and snow peas both have edible pods and can be eaten flat or after the peas have started to develop and fill out. Snap peas actually taste better when you pick them fully developed - Cascadia Snap is our very favorite variety for its crunch and sweet flavor. Snow peas are best when picked young, and can start to lose quality as the peas develop - Oregon Sugar pod has long, sweet, delicious pods that are tasty fresh or stir-fried and cooked. As for shelling peas, Victory Freezer, Green Arrow, and Maestro all have long pods, lots of peas, and amazing quality for fresh eating or freezing. Little Marvel packs a lot of flavor into medium to small pods, and produces lots of early pods on short vines.

## WATER

Peas need consistent watering for high quality and quantity production. Water stress during flowering and pod formation will result in flower drop, poor fruit set, and poor quality. Use a soaker hose for uniform water distribution and water lightly every 3 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 90 degrees. Moisture is essential, but too much water can result in root rot diseases and slow plant growth. Be consistent!

## FERTILIZER

Fertilize with a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants 6 weeks after sprouts emerge. 1-2 cups per 10 feet of row works well.

Don't forget to inoculate your peas with a nitrogen fixing bacteria (Azos). Not only will the peas thrive and produce more peas for longer, but it will build up your soil with extra nitrogen. We also recommend treating your pea seeds or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

## COMMON PROBLEMS

For the most part, peas are relatively problem free. Heat and powdery mildew are the biggest enemies to a fruitful pea harvest. Watch for warm days and cold nights and a white, cottony or flour looking growth developing on the leaves or flower nodes of the pea plants. Use Fungicide 5 to prevent mildew before it happens or clear it up after a light infestation. Pea weevils, armyworms, and aphids also cause issues as the peas reach maturity. These insects are easily controlled with either Natural Guard Spinosad Soap (organic) or Hi-Yield Indoor/Outdoor Insecticide or Insecticidal Soap.

Mark says:  
*“Plant peas in August for an amazing, early October crop! Sometimes fall planted peas are even better than their spring counterparts.”*

## HARVESTING

Pick peas when the pods are full, rounded, and firm. Snap peas are best harvested slightly before the pods reach full maturity, but should still be round and firm. Pick pods as soon as they are ready and peas will continue producing for 3-4 weeks.

Plant peas in August for an amazing, early October crop! Sometimes fall planted peas are even better than their spring counterparts.

PEA	
PLANTING TIME	Group A, E
PLANTING METHOD	Rows
PLANT SPACING	2-4"
ROW SPACING	2-3'
SEED DEPTH	1/2-1"
TIME TO HARVEST	60-80 Days
WATER NEEDS	1/2", 3x weekly
TRANSPLANT/DIRECT SOW	Transplant
SPECIAL ISSUES	Pea Weevils, Armyworms, Aphids Heat Dry Soil



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# PEPPER

Peppers are a classic summer crop, a mainstay in salsa gardens, and an excellent source of flavor and excitement in any growing situation. They come in both sweet and hot types, and while the sweet leave a sugary tang in your mouth, the hottest varieties can cause some serious heart, mouth, tongue and lip burns.

## SOIL PREPARATION

Peppers prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



## PLANTING

Peppers can be planted from either seed or transplant, but in Northern Utah transplanting is strongly recommended because of our short growing season. Plant starts indoors in January or February 8-10 weeks before the last average frost date. Transplants should have 6-10 true leaves before moving them into direct sunlight, and only planted outside after the risk of frost has passed in late May. Space individual plants 8-16 inches apart and keep 2-3 feet between rows.

## VARIETIES

Peppers come in sweet, hot, and ornamental varieties. Bell and snack type peppers fall into the sweet category, while Jalapeños, chilies, habaneros and the like fall into the hot category. Ornamental peppers are rarely for eating, but add beautiful color to flower beds and other ornamental plantings. Mark's favorite pepper of all time is Gypsy - so sweet!

## WATER

Peppers need consistent, frequent waterings throughout the growing season for maximum production. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications.

## FERTILIZER

Fertilize before planting with a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) and again down the side of the row of plants as the first flowers to begin to appear. 1-2 cups per 10 feet of row works well. Make sure to supplement with Calcium Nitrate to prevent Blossom End Rot before planting, and again with the second fertilizing if your soil is known to be Calcium deficient.

We also recommend treating your transplants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.





## COMMON PROBLEMS

Weeds can rob peppers of nutrients and moisture. Control them with barriers, mulches, or frequent hand-weeding. Lack of Calcium causes Blossom-End Rot, so be sure to amend your soil with a calcium-rich fertilizer to prevent it. Aphids and flea beetles can transfer diseases and interrupt nutrient flow. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Hi-Yield Indoor/Outdoor Insecticide works quickly and safely to stop a wide variety of insects.

## HARVESTING

Peppers are able to be harvested once they reach a desirable size, but will have the best flavor if allowed to mature to their variety-specific color.

PEPPER	
PLANTING TIME	Group D
PLANTING METHOD	Rows
PLANT SPACING	12-24"
ROW SPACING	2-3'
SEED DEPTH	1/4"
TIME TO HARVEST	65-80 Days from transplant
WATER NEEDS	1/2", 3x weekly
TRANSPLANT/DIRECT SOW	Transplant
SPECIAL ISSUES	Weeds Spider mites, Aphids Blossom-End Rot Cold



Pepper X



Carolina Reaper



Ghost Chili



Orange Habenero



Cayenne



Jalapeño



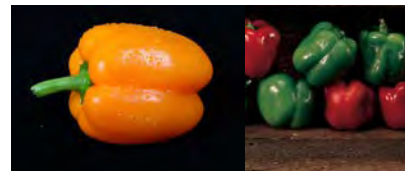
Poblano



"Fooled You" Jalapeño



Sweet Banana



Bell



Gypsy



Snack

2,693,000

1,640,000

1,041,427

500,000

150,000-325,000

100,000

50,000

30,000-50,000

10,000

2,500-8,000

5,000

1,000-2,000

1,000

~750

500

100

0-100

0

Scoville Heat Units

# POPCORN



A more fun and playful take on the staple sweet corn, Popcorn is a great edible novelty that can be easily grown in any Utah garden with a little water, fertilizer, and love. It's growing season is slightly longer than the latest of sweet corn varieties, but when harvested, dried, and prepared for popping, it's really a lot of fun to grow and eat your own delicious, colorful popcorn.

## SOIL PREPARATION

Corn prefers a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter (poultry or other manures work great), Humic, and 4-6 pounds of a high-nitrogen fertilizer (we recommend Ammonium Sulfate 21-0-0 or Milorganite for an organic alternative) per 1000 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Corn needs sun all day and will not tolerate shade very well. Once you have chosen your planting spot, mark out rows that are 3-4' apart, and length doesn't matter. For best pollination, it is recommended that you plant at least three rows. Locally, popcorn is planted anytime between Mother's Day and mid-June. There are two different methods for planting corn seed: a seeder or by hand. Depending on the type of seeder used, a seeder (Earthway Precision Seeder) will dig a shallow trench, drop individual seeds every 3-4 inches and then cover it up gently. The other method is to plant by hand, dropping 2 seeds every 12" about 1" deep. Once the seeds germinate, you can thin the plants as needed or let them all grow. We recommend no more than 3-4 plants every 12-18 inches. Without ample sunlight, corn will not produce full size ears, so make sure to space the corn correctly to enjoy a full harvest.



## VARIETIES

We carry Robust White (white kernels), South American Yellow (yellow kernels), Blue Shaman (blue kernels), and Strawberry (red kernels). All the popcorn we carry will pop a fluffy, white kernel except the South American Yellow, which pops yellow (this is the most common type of popcorn, and also the least tasty of all our varieties). Fiesta Ornamental corn is a 4-5 inch long, multicolor decorative corn that will also pop.

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## WATER

Make sure the seedlings do not dry out during the first few weeks of growth. Once plants are established, switch to a deep water method, either furrow watering a soaker or drip system. To encourage deep root development, let the plants stress slightly for water. This will help prevent your corn from laying over during high winds. We recommend deep watering once every 5-10 days depending on your soil type, with a total of 1-2" of water applied per week.

## FERTILIZER

Corn is a heavy feeder and needs nitrogen three times during the growing season. Sprinkle with a teaspoon of ammonium sulfate (20-0-0) around each hill when the plants are knee high (12"), hip high (36"), and when it starts to tassel. Make sure the fertilizer doesn't make direct contact with the plants, and water thoroughly after application. If your corn doesn't have enough nitrogen during development, your stalks will be short, the ears will be small (or undeveloped) and the kernels won't fill out to the tips of the cobs. Fertilize, fertilize, fertilize!

We also recommend treating your seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant.

<b>POPCORN</b>	
<b>PLANTING TIME</b>	Group C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18"
<b>ROW SPACING</b>	2-4'
<b>SEED DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	90-110 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Corn Earworms, Leafhoppers Black Corn Smut, Rust, Fusarium Dry Soil Low Nitrogen

## COMMON PROBLEMS

Corn regularly doesn't experience too many problems during the growing season. The most common pest is the corn earworm. These fat green or brown worms hang out at the tip of the ear and do their damage to the top inch or two of the cob. Dusting the silks every 7-10 days with a permethrin based insecticide (we like Hi-Yield Garden, Pet and Livestock) or spraying with Ferti-lome Spinosad will help prevent this problem. It will also help prevent earwigs and grasshoppers from doing damage to your silks but will not interfere with pollination. Another problem you may run into is called corn smut. It is a fungus that infects the stalk and ears. We recommend removing any affected plants and discarding them. If you have had problems with smut in the past, plant your next crop in a different location and try a more resistant variety.

## HARVESTING

Harvesting is dramatically different with popcorn than sweet corn. Harvest popcorn after the ears have dried on the stalk, usually around the end of September through the middle part of October. Husk the ears and store them in mesh sacks or just hang them up in a warm, dry room with good ventilation for at least 2 months. Test popping



readiness around Thanksgiving to Christmas, or until ideal popping is achieved. The longer the kernels are allowed to dry, the larger they will pop, until they have reached full maturity. At that point, shell off the kernels and store them in an airtight container.

# POTATO

Potatoes are a high yielding, easy to grow crop for the home gardener. It is also a fun crop for children to grow. They are easy to plant, and it is like a little treasure hunt when it comes time for harvesting. Potatoes can be grown in deep containers or in rows in your vegetable garden.

## VARIETIES

There are many different varieties of potatoes that grow well in our area. They can be divided into waxy varieties, starchy varieties, and ones that are in between. Pontiac and Norland are two popular red skinned potatoes in the waxy category and are great for roasting and frying up in butter. Yum! Russet and Kennebec are more starchy potato varieties that are excellent for mashing or baking. Yukon Gold is an in-between variety that is becoming very popular in our area. It can be used for almost any purpose. If you are looking for some fun and colorful varieties try Huckleberry Gold, Purple Viking, French Fingerling, or Russian Banana.



## PLANTING

Most gardeners in Cache Valley will begin to plant their potatoes around Easter Day. If you are worried about frost damage you should plant closer to Mother's Day. Choose a very sunny location with loose, fluffy soil. If you have heavy clay soil, amend your plot with soil building compost straw and/or Zeolite before planting. If you skip this step your potatoes will be small and undeveloped. The next step is to buy only seed potatoes. Do not use potatoes that you buy in the grocery store. These are typically treated with an anti-sprouting agent. Cut your seed potatoes into chunks that have 2-3 eyes each (small tubers can be left whole). For best results let the cut pieces of potato dry at least overnight, up to a full day or more. This will help avoid some diseases. Once the seed potatoes are dried, place each chunk 4" deep and space 1-1 1/2' apart. To increase your yield, add a tablespoon of Bone Meal or Happy Frog Tomato & Vegetable Food to each hole, mix in lightly, then place the potato on top. Water with Kangaroots and Fungicide 5 before covering with soil. This will slowly feed your plant for the entire season. Once the tops emerge, begin mounding the surrounding soil up over the plant always leaving the top couple of inches above the soil. You want to mound the soil a total of 4-6" above the original soil level. This should be done in a couple of installments. Plants should be kept evenly moist throughout the entire growing season. Do not over water as this will lead to root rot and a poor harvest. Stop watering once the tops begin to go yellow or brown.



Mark suggests:  
*"Put a dusting of Bone Meal in the hole with each cut of seed potato for consistent fertilizer through the whole season. Make sure to use Kangaroots, too! It doubled my harvest from the year before!"*

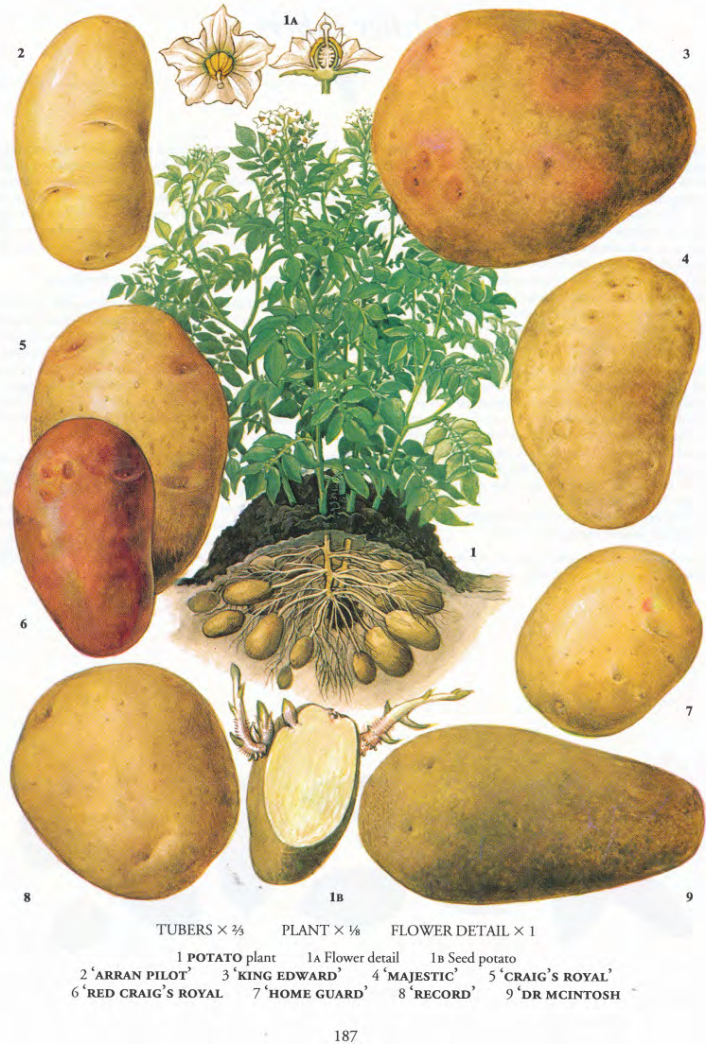
## HARVESTING AND STORAGE

Once the plants bloom, you should be able to gently brush back the soil and begin harvesting baby potatoes. If you plan on storing your potatoes, you can wait until the tops die back and simply dig up the entire plant. Do this carefully to avoid cutting or damaging the tubers. Let the tubers dry for a few hours in the field to make dirt removal easier. Sort your potatoes, discarding (or using!) any bruised or cut tubers. Store in burlap sacks in a cool (40° F), dark and dry location.

## PESTS/DISEASES

Colorado Potato Beetle is the main pest for our area. These beetles can do a lot of damage. Check plants every couple of days for small green, black and white striped beetles. If found, treat plants with an insecticide labeled for potatoes, like Hi-Yield Indoor/Outdoor. Smash any eggs or discard leaves where the eggs are laid. There are multiple diseases that affect potatoes; early blight, late blight, scab and tomato mosaic virus. These diseases live in the soil and can be transferred to tomato plants. To avoid this, never plant potatoes in a location that has had tomatoes planted in it or vice versa. Scab can be avoided by adding sulfur to the cut tubers at planting time. Occasional watering throughout the summer with Fungicide 5 will help cut down the occurrence of scab, early and late blight and verticillium.

<b>POTATO</b>	
<b>PLANTING TIME</b>	Group B
<b>PLANTING METHOD</b>	Mounded Rows
<b>PLANT SPACING</b>	12-24"
<b>ROW SPACING</b>	2-4'
<b>POTATO DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	90-110 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/ DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Potato Beetle, Armyworm Late/Early Blight, Scab, Tomato Mosaic Virus



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# PUMPKIN

Just like watermelons, children pick pumpkins (probably #2 choice) over all other vegetables as their favorite to grow. Who can blame them? Pumpkins are just fun. You can carve them, eat them, eat their seeds, use them for decorations, launch them from catapults, and if they are big enough, you can even make a canoe out of them. Sizes range from 8 oz Jack Be Little to over 1000 lbs of some Atlantic Giant, and they come in all kinds of colors: orange, white, striped, warted, etc. Their only drawback is that they take up a lot of space. For standard varieties, the vines can grow as large as 20 feet in diameter – fortunately there are some bush pumpkins that are still productive for their smaller size plants (still 12-15 feet diameters). If you have the room, pumpkins are worth the space.

## SOIL PREPARATION

Pumpkins prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



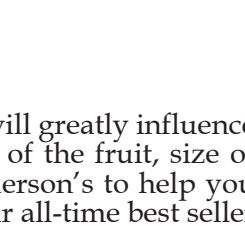
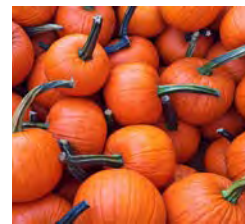
## PLANTING

You can grow successful pumpkins from start or seed, it just depends on the preference of the grower. The seeds can also be sowed indoors for starts 2-3 weeks before the last frost date. If planting directly outside, it is possible to do it after the last frost of the season (which for Cache Valley is around Mother's Day). For earlier starts, use plastic walls, row covers, or hot caps to protect against frost danger. Seeds should be planted with 4-6 seeds per cluster, about 1/2 inch deep and 4-6 feet apart. Squashes are commonly grown in "hills," which is not really a hill, but more like a depression that will keep the seeds and water contained in the same location, and for an easier harvest. After the seedlings have two leaves, you can thin them to 2-3 plants per hill, or leave them all to grow. The vines will spread out 6 to 10 to 16 feet depending on varieties, so be sure to leave at least 6 to 8 feet between each hill or row. Some pumpkins come in a bush variety that won't take up as much space, usually 50-60% of a normal vine.

## VARIETIES

With so many choices of pumpkins available, a few factors will greatly influence your decisions on which pumpkins to grow: color, shape, size of the fruit, size of vine, and productivity. Here are a few of our favorites at Anderson's to help you make the best choice possible. Burpee Semi Bush pumpkin is our all-time best seller for home gardens. It produces an abundance of 10-20 pound, perfectly shaped fruits on much smaller vines (12-15 ft diameter). For general productivity, and for the best carving pumpkins around, try Harvest Jack or Howden: 15-25 pound fruits, thick sturdy stems for nice handles, good color and smooth skin.

Warty Toad, Wee Be Little, and the baby pumpkins (Jack Be Little [orange], Gooligan [white], and Hooligan [orange, white, & green stripes]) are all just fun to grow and make excellent decorations. Some of our newest, more interesting colors and shapes: Warty Goblin, Porcelain Doll, Blue Doll, and Large Marge.



Atlantic Giant has produced over 1000 pound pumpkins grown right here in Cache Valley (Just over 2200 lbs is the state record in 2000). Cinderella is shaped flat on the top and the bottom, like her namesake carriage, and has distinctively sweet flesh for making pies.



## WATER

Pumpkins need regular water and consistent soil moisture to produce well. Use of a soaker hose, drip system and light mulches or weed barrier can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause problems with flower set, and poor yields. Maintaining consistent moisture will prevent early flower drop, proper pollenization, and assist in greater root development.



## FERTILIZER

About 6 weeks after germination or transplant, apply a balanced vegetable food ("That's All it Takes" or Natural Guard Organic Tomato & Vegetable Food) around the base of each plant and water thoroughly. 1/2 to 1 cup per 10 square feet of area works well. For quick bursts of growth and flower production, we recommend using a water soluble fertilizer like Ferti-lome Blooming and Rooting or Grow Big from Fox Farm once per week for extra productivity. Just mix in water and apply to the leaves as well as the root zone.



<b><u>PUMPKIN</u></b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	6-10'

<b><u>PUMPKIN</u></b>	
<b>SEED DEPTH</b>	1/2-1"

<b><u>PUMPKIN</u></b>	
<b>TIME TO HARVEST</b>	70-110 Days
<b>WATER NEEDS</b>	1", 3x weekly

Many of the giant pumpkin growers use a nitrogen fixing bacteria (Azos) to really enhance the growth and size of their pumpkins. We also recommend treating your pumpkin seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. Giant pumpkins consume a lot of water and nutrient when adding that much weight and size daily, and the benefits of beneficial bacteria, microbes and fungi go a long way in making that happen. They will do the same for your other vegetables as well. Don't go home without them.

## COMMON PROBLEMS

Anyone who has ever grown pumpkins knows of the problems that can accompany this garden vegetable. Aphids, spider mites, blossom end rot, can all damage a pumpkin crop. Powdery mildew, a white-patchy disease that stunts the plants growth and eventually will kill the whole vine, can easily be taken care of by Natural Guard Copper Soap

(organic) or Ferti-lome F-stop. If squash bugs are present, a once healthy plant will suddenly drop like it's not getting enough water. The eggs, which are seen on the bottom of the leaves, are a coppery color. These can be physically smashed or removed. The bugs themselves are black, shiny, oval-shaped beetles; they sting the vine and stop the nutrients from getting to the rest of the plant. Spray with Hi-Yield Indoor/Outdoor Insecticide or dust with Hi-Yield Garden Pet and Livestock Dust. Organically repel bugs with Natural Guard Cedar Oil Granules. And don't forget, deer love to eat pumpkins more than we like carving them.

## HARVESTING

Fruits are usually ready late summer. The vines will die back, and the fruit skin will be hard and colorful. We like to harvest just after a light frost (28 and above) or just before a hard frost (27 degrees or less). Once they are ready, cut the stem with a knife or hand pruner, leaving a 2-3 inch stem on the fruit. When storing or if you're planning to use them as decorations, prep the fruits by placing them in a warm, dry location for 2-3 weeks before moving them to a cool (40-55 degrees) and dry location for longer term storage and use.

# RADISH



Radishes are among the easiest of vegetables to grow and mature in a very short amount of time, usually just over a month to maturity (35-45 days, longer for some of the giant radish varieties). A sure fire success with children because of their fast germination and quick production, kids love to harvest the bright colored, crunchy bouquets of small roots. Radishes have some of the longest history of any vegetables as documented cultivation started in Mediterranean cultures over 4000 years ago! While we don't have any at Anderson's that have been around for that long, we carry multiple varieties that we have sold since our earliest days in the seed business - 1942!

## SOIL PREPARATION

Radishes prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Radishes are almost always grown from seed and can be sown directly outside anytime after the soils reach 40 degrees. Optimal seed germination is at 40-60 degrees, so the best time to plant in Cache Valley is in March and April, and again in August and September for a fall crop. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, potting soil, or Coconut Coir (just a thin layer 1/4-1/2 inch deep) to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 1-2 inches apart in the rows, and 12-18 inches between rows. If the plants are too close together, the roots will not mature properly. Radishes prefer cool, moist weather, too much heat and they will become hot & peppery in flavor, hollow and grainy in texture, and will almost instantly go to seed.

## VARIETIES

Radishes are best known for the color of their roots, and in many cases, that is where their names are derived also. Sparkler and French Breakfast have a white bottom, and red top to its root, but are differentiated by their shapes: Sparkler is round and French Breakfast is long and cylindrical. Cherry Belle and Crimson Giant are the most common of all red varieties. Icicle and White Globe are completely white. For fun, try growing Watermelon Radish - it's white on the outside and red in the interior. Most of the varieties we carry at Anderson's are heirlooms that we've sold continuously for 80 years.

## WATER

Radishes need regular water and consistent soil moisture to produce well. If Mother Nature doesn't provide cool, moist weather in March and April, use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest.



We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause root cracking, slow leaf development, and poor yields. Maintaining consistent moisture will prevent a loss of quality and taste (they go hot and pithy if stressed) and assist in proper root development.

Mark suggests:  
*"Water your radishes a few days before harvest to sweeten them up and tone down their bite."*



## FERTILIZER

Since radishes mature so quickly, make sure to apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the row of seeds when planting. 1-2 cups per 10 feet of row works well. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) and beneficial microbes and mycorrhizae that increase water and nutrient uptake and encourage higher and better quality yields.

## COMMON PROBLEMS

Radishes grow about as fast as the weeds do, but they also don't like to compete with weeds either and therefore weed control is vital to their success. Hand weed when necessary, but definitely use pre-emergent weed controls (Treflan or Corn Gluten) before or after germination to prevent new weed emergence. Treflan can be used at the time of planting without affecting radish germination. It saves so much work, don't hesitate to use it. Flea beetles and aphids commonly attack radish leaves and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Ferti-lome Hi-Yield Indoor/Outdoor Insecticide

works quickly and safely to stop a wide variety of insects. The most destructive insect to attack turnips is the Cabbage root maggot. These grubs love to eat radish roots and do a lot of damage in the process. Prevent them by treating the soil at planting with Garden, Pet, and Livestock Dust or Hi-Yield Insect Control Granules. Another successful method is to plant the radishes as a fall crop, in late July or August, and the life cycle of the Cabbage maggots is over, and you will have grub-free radishes. A row cover will also stop the insects from attacking the plants or laying eggs, and is a very effective way to stop them entirely.

<h1>RADISH</h1>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	2-4"
<b>ROW SPACING</b>	1-2'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	28-40 Days
<b>WATER NEEDS</b>	1/2", 3-4x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Flea Beetles, Aphids, Cabbage Root Maggot Heat Inconsistent Water

## HARVESTING

Radish roots are best when harvested and eaten as soon as they reach full size: generally around 35-45 days from germination. If left in the ground too long, or if the weather begins to heat up, they will become hot and pithy. They are delicious eaten by themselves or in salads - we prefer them with ranch or Italian dressing.



# RHUBARB

This deliciously tart plant is most often used with other fruits in pies and sauces. Because it has large interesting leaves and bright red stalks, it can be grown in a perennial bed to add to your yearly show or in a permanent spot in your vegetable garden. Wherever you decide to plant make sure you give it enough room to grow. Most varieties will grow to be around 3' tall and up to 6' wide! If after many growing seasons your plant is outgrowing its location, you can dig up the thick tubers and split the plant.

## GROWING

All rhubarb varieties need full sun (at least 8 hours/day) but will tolerate some shade in the afternoon. In our area you will want to prep your planting bed by working 3-4 inches of soil building compost into the soil using a tiller or by hand. This will help lighten up our clay soils and add nutrients beneficial to getting your plants well established. Space your plants out at least 3' but closer to 6' would be better in the long run. Add a mild, balanced fertilizer at the time of planting, like a 16-16-16 or Ferti-lome Gardener's Special Fertilizer. Since rhubarb has large leaves it needs regular deep waterings. Use a drip system or a slow trickle from your hose to water your plants, and try not to sprinkle the leaves as this will encourage fungal growth on the leaves and stalks. In the fall, remove the dead foliage before snowfall.

## FERTILIZER

Apply 1 cup of "That's All it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food to each plant when the growth begins. Manure is an excellent fertilizer for rhubarb, but should not cover the plant, and should not be applied when the plant is young as it could cause burning and root rot.

## VARIETIES

The Crimson Red is a red rhubarb that produces delicious, fleshy, sweet, thick stalks that do not lose their color when cooked. Valentine is best suited for northern growing areas. Other varieties include Victoria (green stalk, red blush), Glaskin's Perpetual (green stalk), Crimson Cherry (red stalk, never stringy), and Canada Red (red stalk, produces fewer, but high quality stalks).

## PESTS/DISEASES

On struggling plants you may encounter aphids, leaf hoppers and flea beetles. These can be taken care of easily by treating with Ferti-lome Triple Action or another insecticide registered for use on rhubarb. Always read the label to ensure that you are applying your insecticide correctly. Crown rot can be a problem in heavy clay soils, or with over watering. Adding compost to your soil on a regular basis and watering properly will help avoid this problem.



## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrients to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to prevent damage to the developing rhubarb. Few insects bother rhubarb, but beware of the Rhubarb curculio. To eliminate these bugs, handpick the adults and remove other broad leaf weeds from the area. Avoid the Potato Stem Borer and Mites with Ferti-lome Triple Action Insecticide that is safe and effective for all types of edible plants. To avoid fungal leaf spot, avoid wetting the foliage when watering and eliminate weeds surrounding the plant to allow more circulation. You can also, if necessary, cut out diseased parts of the plant to prevent the disease from spreading.

## HARVEST

No matter how tempting, do not harvest any stalks from your new plants for at least two growing seasons. This will allow your plants root system to become established and add to the overall harvest in the following years. Depending on the age of your stand, you can harvest these tart stalks for 4 to 5 weeks during the early spring. To harvest, grasp the stalk at the base and pull sideways and outwards. Resist cutting the stalks as this will encourage decay. Never remove all the leaf stalks from your plants and stop harvesting when slender stalks start to appear. If any bloom stalks appear remove them immediately. Bloom stalks are slender spikes of small insignificant flowers and look very different from the leaves. By removing the blooms you will encourage more leafy growth. Do not eat the leaves!

<b><u>RHUBARB</u></b>	
<b>PLANTING TIME</b>	Group b & C
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	4-5'
<b>ROW SPACING</b>	5-6'
<b>PLANT DEPTH</b>	To soil level
<b>TIME TO HARVEST</b>	1 year after transplant
<b>WATER NEEDS</b>	1" weekly
<b><u>RHUBARB</u></b>	
<b>TRANSPLANT/DIRECT SOW</b>	Tansplant



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# SPINACH

A long-time favorite for home gardens, Spinach has seen a huge resurgence in popularity for its high nutritional value and flavor, used widely now in green smoothies and leafy green salad mixes. It's only true drawback is its inability to resist heat, and go to seed almost as soon as the temperatures reach 80 or greater in May and early June. Spinach tastes great cooked or eaten raw, by itself or incorporated into mixed salads to add flavor and variety. Spinach does best in cool weather and should be planted so it can mature when temperatures are consistently below 80 degrees. It is easy to grow, and matures in a short 45-60 days.

## SOIL PREPARATION

Spinach prefers a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Spinach is almost always grown from seed because of its quick germination, and can be sown directly outside any time after the soils reach 40 degrees. Optimal seed germination is at 50-60 degrees, so the best time to plant in Cache Valley is in March through early May, and again in August and September for a fall crop. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, Coconut Coir, or potting soil to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 1-2 inches apart in the rows, and 12-18 inches between rows. Use the baby spinach as it matures, and continue thinning (and eating) until the plants are 4-5 inches apart.

## VARIETIES

Bloomsdale spinach is a productive heirloom that has proven itself time and again over the years as a steady producer of tasty, crinkled leaves. Melody has to be one of the finest flavored spinach varieties we've grown - savoy leaves with a mild flavor and little bitter, iron aftertaste. It's also very heat tolerant and slow to bolt. Correnta is our favorite variety for baby spinach, and it's smooth, hardly crinkled leaves, at full size are easier to wash than it's crinkled counterparts. Correnta also handles the heat as well as Melody.

## WATER

Spinach needs regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Water fluctuations will yield tough and bitter leaves.



## FERTILIZER

About 4 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. For more leafy greens, use a higher nitrogen fertilizer like 21-0-0. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) that prevent common problems in developing vegetables.

We also recommend treating your spinach seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. Don't go home without them.

## COMMON PROBLEMS

Spinach doesn't compete well with weeds and therefore weed control is vital to their success. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Flea beetles, aphids and leafminers commonly attack spinach and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Ferti-lome Triple Action Insecticide works quickly and safely to stop a wide variety of insects.

<b>SPINACH</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	2-4"
<b>ROW SPACING</b>	1-2'
<b>SEED DEPTH</b>	1/2"
<b>TIME TO HARVEST</b>	45-60 Days
<b>WATER NEEDS</b>	1/2", 3-4x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Aphids, Leafminer Heat Inconsistent Water

## HARVESTING

Spinach should be harvested when leaves reach full size and before the seed stalk forms. Strip the outer old leaves off first to continue to let new inner leaves to grow. Once fully mature and/or when warm weather threatens, either pull up the entire plant or just cut it off at the roots to harvest all the leaves. Rinse and pat leaves dry and store in fridge for up to 1-2 weeks. Spinach freezes well for longer term storage.

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# SUMMER SQUASH

Squash is a rewarding crop to grow for both novices and experienced gardeners both; few vegetables produce so much harvest with so little effort. The most difficult job required for Summer squash is to keep them picked! Squash originate from the Americas and adapt well to most soil types. All squash plants have both male and female flowers, requiring both to set fruits that develop to maturity. Plant after last frost, and start harvesting in as few as 40-45 days – and they produce like crazy. Harvest summer squashes all summer and consume them when they are small and tender for the best taste and quality.

## SOIL PREPARATION

Squash prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend “That’s all it Takes” complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

You can successfully grow squashes from start or seed, it just depends on the preference of the grower. The seeds can also be sown indoors for starts 2-3 weeks before the last frost date. If planting directly outside, it is possible to do it after the last frost of the season (which for Cache Valley is around Mother’s Day). For earlier starts, use plastic water walls, row covers, or hot caps to protect against frost danger. Seeds should be planted with 4-6 seeds per cluster, about ½ inch deep and 4-6 feet apart. Squashes are commonly grown in “hills,” which is not really a hill, but more like a depression that will keep the seeds and water contained in the same location, and for an easier harvest. After the seedlings have two leaves, you can thin them to 2-3 plants per hill, or leave them all to grow. The vines will spread out to about 4-5 feet in diameter, so be sure to leave at least 6 to 8 feet between each hill or row. Some squash come in a bush variety that won’t take up as much space, usually 20-30% smaller than a normal bush.

## VARIETIES

Summer squash come in a variety of sizes, shapes and colors. Spacemiser (Black Coral) produces narrow, long, green zucchini in a very compact bush. The fruits stay smaller, longer, but will eventually grow into mammoth boats if you let them. Fancycrook squash has a smooth, yellow skin with little or no warts – unusual for a crookneck – and outstanding flavor. Just for fun, Summer Surprise mix medley has green, yellow, gray, striped, and a Lebanese-type zucchini all mixed together. Scallop squash look like little white or yellow flying saucers.

## WATER

Squash need regular water and consistent soil moisture to produce well. Use of a soaker hose, drip system and light mulches or weed barrier can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause problems with flower set, and poor yields. Maintaining consistent moisture will prevent early flower drop, proper pollenization, and assist in greater root development. Summer squash use a lot of water, so make sure to keep them moist.



## FERTILIZER

About 6 weeks after germination or transplant, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) around the base of each plant and water thoroughly. 1/2 to 1 cup per 10 square feet of area works well. For quick bursts of growth and flower production, we recommend using a water soluble fertilizer like Ferti-lome Blooming and Rooting or Grow Big from Fox Farm once per week for extra productivity. Just mix in water and apply to the leaves as well as the root zone.

We also recommend treating your squash seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. Don't go home without them.

## COMMON PROBLEMS

Anyone who has ever grown squash knows of the problems that can accompany this garden vegetable. Aphids, spider mites, blossom end rot, can all damage a squash crop. Powdery mildew, a white-patchy disease that stunts the plants growth and eventually will kill the whole vine, can easily

<b>SQUASH</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	3-6'
<b>SEED DEPTH</b>	1/2-1"
<b>TIME TO HARVEST</b>	65-80 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or Transplant
<b>SPECIAL ISSUES</b>	Powdery Mildew Squash Bugs, Spider Mites, Deer Blossom-End Rot Cold

be taken care of by Natural Guard Copper Soap (organic) or Ferti-lome F-stop. If squash bugs are present, a once healthy plant will suddenly drop like it's not getting enough water. The eggs, which are seen on the bottom of the leaves, are a coppery color. These can be physically smashed or removed. The bugs themselves are black, shiny, oval-shaped beetles; they sting the vine and stop water and nutrients from getting to the rest of the plant. Spray with Hi-Yield Indoor/Outdoor Insecticide or dust with Hi-Yield Garden Pet and Livestock Dust. Organically repel bugs with Natural Guard Cedar Oil Granules. For a simple solution, mix Fertilome Fungicide 5 with Kangaroots and any pyrethroid insecticide labeled for vegetables and water your plants with it every week - leaves and roots. It will control every possible pest that can damage your plants.

## HARVESTING

Fruits are usually ready by late June and will produce until frost in the fall. Use a sharp knife or a hand pruner to cut the squash from the plants, making the cuts close to the fruit - this will encourage the plant to produce more. Consume shortly after picking, but the fruits will hold well when refrigerated for a week or two.

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# SWEET CORN

Home grown corn really does taste better than store-bought or even roadside stand ears. If you pick corn in its prime and cook it shortly after harvest, that's when the best flavor and quality is present, something you'll never get from anywhere else. Extra sweetness and holding qualities have been naturally bred into newer varieties of corn, that make corn developed even 30 years ago almost obsolete. There are big differences in corn types – Standard, Sugar-Enhanced, Super Sweet, and Synergistic – it's difficult to keep them all straight. However, with few pests, it's easy to grow, doesn't need a great amount of care, and with a large selection of varieties to choose from, sweet corn can be a rewarding crop for the home gardener.

## SOIL PREPARATION

Corn prefers a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter (poultry or other manures work great), Humic, and 4-6 pounds of a high-nitrogen fertilizer (we recommend Ammonium Sulfate 21-0-0 or Milorganite for an organic alternative) per 1000 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



## PLANTING

Corn needs sun all day and will not tolerate shade very well. Once you have chosen your planting spot, mark out rows that are 3-4' apart, and length doesn't matter. For best pollination, it is recommended that you plant at least three rows. Locally, corn is planted anytime between Mother's Day and Independence Day. We have planted early varieties as late as Pioneer Day (July 24th) and still harvested a heavy crop the last week of September. There are two different methods for planting corn seed: a seeder or by hand. Depending on the type of seeder used, a seeder (Earthway Precision Seeder) will dig a shallow trench, drop individual seeds every 3-4 inches and then cover it up gently. The other method is to plant by hand, dropping 2 seeds every 12" about 1" deep. Once the seeds germinate, you can thin the plants as needed or let them all grow. We recommend no more than 3-4 plants every 12-18 inches. Without ample sunlight, corn will not produce full size ears, so make sure to space the corn correctly to enjoy a full harvest.

## VARIETIES

Sweet corn comes in 4 different categories: Standard Hybrid, Sugar Enhanced, Super Sweet, and Synergistic. If you are accustomed to modern sweet corn, the quality and flavor of old fashioned, heirloom varieties will seem very poor in comparison. Don't expect heirloom tomato flavor quality from heirloom corn – it's just not the same. Standard Hybrid corn (NK 199, Golden Jubilee) is sweet and very productive. It's only major drawback is it converts to starch very quickly, so it must be used shortly after harvest. Sugar Enhanced or SE corn varieties (Incredible, Ambrosia, Bodacious, Sugar Buns) have improved sweetness, quality, and will hold for up to 7-10 days when refrigerated without much loss of quality. They freeze and can equally well. Super Sweet or SH2 corn varieties (Optimum, Eden, Breza) take it one step further. Sweetness, tenderness, quality and holding ability are all greatly improved over the SE corn: we've never grown a sweeter, tastier corn that will hold its quality for up to 2 weeks when refrigerated. Synergistic corn varieties (Profit, Sweetness, Ka-Ching) get the best of both of those worlds, combining 25% SH2 kernels with 75% SE kernels on the same cob. It really is an amazing development.



## WATER

Make sure the seedlings do not dry out during the first few weeks of growth. Once plants are established, switch to a deep water method, either furrow watering, a soaker, or drip system. To encourage deep root development, let the plants stress slightly for water. This will help prevent your corn from laying over during high wind events. We recommend deep watering once every 5-10 days depending on your soil type, with a total of 1-2" of water applied per week.



## FERTILIZER

Corn is a heavy feeder and needs nitrogen three times during the growing season. Sprinkle with a teaspoon of ammonium sulfate (20-0-0) around each hill when the plants are knee high (12"), hip high (36"), and when it starts to tassel. Make sure the fertilizer doesn't make direct contact with the plants,

and water thoroughly after application. If your corn doesn't have enough nitrogen during development, your stalks will be short, the ears will be small (or undeveloped) and the kernels won't fill out to the tips of the cobs. Fertilize, fertilize, fertilize!

## SWEET CORN

<b>PLANTING TIME</b>	Group C, D
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-24"
<b>ROW SPACING</b>	3-4'
<b>SEED DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	65-85 Days
<b>WATER NEEDS</b>	1", 2x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Corn Earworms, Leafhoppers Black Corn Smut, Rust, Fusarium Dry Soil Low Nitrogen

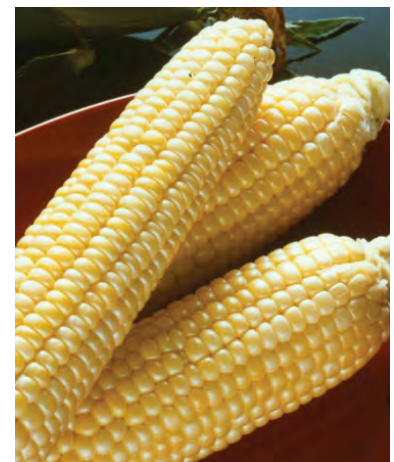
## COMMON PESTS/PROBLEMS

Corn regularly doesn't experience many problems during the growing season. The most common pest is the corn earworm. These fat green or brown worms hang out at the tip of the ear and do their damage to the top inch or two of the cob. Dusting the silks every 7-10 days with a permethrin based insecticide (we like Hi-Yield Garden, Pet and Livestock) or spraying with Ferti-lome Spinosad will help prevent this problem. It will also help prevent earwigs and grasshoppers from doing damage to your silks but will not interfere with pollination. Another problem you may run into is called corn smut. It is a fungus that infects the stalk and ears. We recommend removing any affected plants and discarding them. If you have had problems with smut in the past, plant your next crop in a different location or use resistant varieties.

## HARVESTING

Depending on the variety, you can expect anywhere from 1 to 3 ears per stalk of corn. Earlier ripening varieties will have smaller ears while the later varieties will have longer ears. Start checking your crop about 3 weeks after the silks emerge. Do this by gently pulling back the husks and piercing a kernel with your nail. If the fluid is watery and clear the ear is not ripe. If the fluid is milky your ears

are ready to harvest. If it has the same consistency as toothpaste, your ears are over ripe. For best taste, some enthusiasts recommend having the water boiling before corn is picked. If you have too many ears to eat before they are over ripe, most varieties freeze or can very well. The latest we have ever harvested excellent quality corn is mid-October from a July 25 planting.



# SWEET POTATO

Sweet potatoes are sugary, delicious vegetables that will do well in Utah, if the growing season is long and hot enough. They thrive in heat. Instead of being a type of potato, they are actually a member of the morning glory family. Simply, the tubers form from the thickened root up the vine. Sweet potatoes are easy to grow, great for storage, and high in vitamin content. Enjoy them mashed, baked, as french fries, or even pies; a staple for the Thanksgiving table.

## SOIL PREPARATION

Sweet Potatoes prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



## PLANTING

Sweet potatoes do NOT like the cold. Frost and even close to freezing temperatures are their greatest enemy. Plant the starts or slips after the danger of frost has passed (for Cache Valley that's about Mother's Day). Select an area with sunlight, fertile soil, and good drainage. Hill up the soil to 6-8 inches high and 12 inches wide when you're planting 2-3

weeks before you plan to plant the slips. For increased soil temperature use black or clear plastic or weed barrier after hilling the soil to solarize the planting area; it will increase your soil temperatures (and your success) by up to 15°. When planting the slips, use ¼ cup of Hi-Yield Bone meal, a phosphorus based fertilizer, for every 4-6 ft of row and work it into the soil, to encourage large tubers. Dig down about 4-6 inches and plant the roots completely in the soil, being very gentle. Plant them 2 ft apart in rows 4-6 ft apart. The vines will sprawl, so give them plenty of room. The slips can even be planted in a pot at least 18 inches deep and wide. Water thoroughly after planting with Kangaroots root stimulator to prevent transplant shock and to encourage quick root development. Water the transplants when needed with the Kangaroots and Fungicide 5 for the first 2-3 waterings to ensure their early establishment and development. It really does make that much difference.

Mark says:

*"Sweet potatoes REALLY don't like cold! Give them every chance to succeed by solarizing your soil with plastic, covering the young vines with Hot Caps, and watching the forecast for frost!"*

## VARIETIES

Sweet potatoes are categorized into two types: firm flesh and soft flesh. The soft flesh tend to have a sweeter taste w/orange flesh. They are sometimes incorrectly called yams. Firm flesh tend to keep a bit longer and have more of a tint of purple to their skin. Because of our short growing season, in Cache Valley, not terribly conducive to growing sweet potatoes, we only carry a few varieties: the soft flesh Beauregard (dark, orange flesh, sweet taste) and Georgia jet (orange flesh, red-purple). Gardeners have had success growing other varieties, but we have had the best success with these two specifically.

## WATER

Sweet Potatoes require frequent watering during the early part of the season, usually about 1-2 inches per week in 2-3 applications. Use drip or soaker irrigation if possible, and mulch heavily around the plants with an organic mulch to help retain soil moisture and to prevent weed emergence. We can't stress enough the importance of using plastic mulch or weed barrier around the plants to prevent weeds, to heat up the soil, and to prevent damage from rapid drying and moisture loss. You will see a dramatic increase in your yields because of it. Once the plants begin maturing and the tubers start developing more size, decrease the water to avoid root rot in the tubers. Sweet potatoes are fairly drought tolerant, but consistent moisture will help increase your yield.

## FERTILIZER

About 4-6 weeks after transplanting, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food ) around the base of the plants and water thoroughly. Use about 1/4 cup per vine. For some quick growth, especially around the time they start to flower and set fruit, use Ferti-lome Blooming and Rooting water soluble fertilizer or an organic alternative like Seedlinger's Universal Plant Food weekly to kick them into fruit production mode. Since Sweet

<b>SWEET POTATOES</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	3-6'
<b>SLIP DEPTH</b>	4-6"
<b>TIME TO HARVEST</b>	75-90 Days from transplant
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Transplant
<b>SPECIAL ISSUES</b>	Flea Beetles Root Rot Deer Cold Late-Season Overwatering

Potatoes are more temperamental and cold susceptible, we always recommend an application of beneficial microbes and mycorrhizae (Kangaroots or Myke supplements) to help with their development. Your plants will be healthier, more vigorous, and produce fruits faster and for a much longer harvest.

## COMMON PROBLEMS

Sweet potatoes tend to be relatively pest free, making them easy to maintain. Flea beetles will lay their eggs in the spring and the maggots will then feed on the developing roots. Aphids and leafhoppers will attack the plants. Use Ferti-lome's Triple Action Insecticide to kill the adults and/or Fertilome Spinosad to eliminate the adults and larvae. Root rot can also be potentially harmful to the sweet potatoes. Too much water can cause the tubers to rot. Don't plant sweet potatoes in the same place, two years in a row to eliminate the possibility of carrying over diseases from year to year. Also, don't forget that the deer love mature sweet potato vines and tubers-take the necessary steps to protect your plants with netting or repellent.

## HARVEST

When the tubers below the surface are ready to be harvested, the foliage will turn yellow and slightly fall over. Sweet potatoes do not like the cold, so if it freezes the tops, harvest the potatoes

immediately. Carefully dig the tubers, making sure not to bruise or scrape them with the spade. Let the potatoes cure for 1-2 weeks in 70-80 degrees for maximum storage life. When putting them in storage, keep them in a cool (50 degrees), dark, dry place. Each plant will yield about 2-3 lbs. or more of roots, so enjoy!



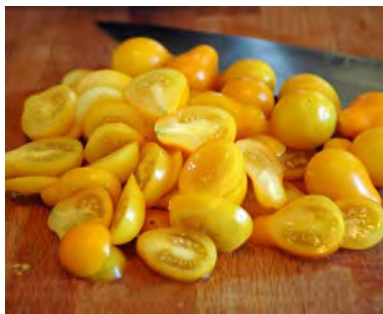
# TOMATO

Fresh, vine ripened flavor is the reason most gardeners grow their own tomato crop - No commercially grown tomato tastes like one grown in the back yard and freshly picked from the vine, rinsed, and eaten on the spot. Tomatoes come in a very wide range of size, color, flavor and texture. The smallest fruits are pop-in-your-mouth small up to some of the largest being 2 pound monster. They come in all colors: red, pink, orange, yellow, green, purple, black and mixtures of all. At Anderson's, we carry all kinds and types of varieties from seed as well as the plants: heirloom, hybrid, grafted and standard. In the same family as eggplant and peppers, their favored weather is warm and warmer - cool days and nights don't agree with tomatoes, so plant accordingly. They like it when the days are long and hot. If you are limited on space, don't forget that tomatoes grow very well in containers or raised bed areas and just a handful of plants can keep a family of 4 well stocked for the summer and beyond.



## SOIL PREPARATION

Tomatoes prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



Important: If you have had difficulties with Verticillium or Fusarium Wilt in your tomato plants, you can help prevent infection from soil-borne diseases by digging a much larger hole 12 x 12 or 16 x 16 inches and filling it with a potting soil high in peat moss or Coconut Coir. By the time the root system contacts the native soil and potential pathogens of the disease, the plant will already be well established and more capable of fighting off the disease until well after harvest. The beneficial microbes in Ferti-lome Fungicide 5 will also fight off viruses like Verticillium.

## PLANTING

Tomatoes abhor frost and need nighttime temperatures over 65 degrees to blossom and set fruit, so northern Utah growers need to start them indoors around the middle of March to early April. Seeds should be planted ¼ inch deep in a light, seed-starting mix, in whatever container is most convenient for you. Transplant when stalks are strong and are 6 inches tall or greater (generally they are ready to go outside by mid-May). Be sure to space the seedlings correctly when transplanting, with 24-36" recommended between plants as well as 36-48" between rows. Tomatoes prefer deep planting. Dig your holes deep enough to bury about 1/2 to 2/3 of the stem. Remove the leaflets that would be covered with soil and roots will form along the buried part of the stem, strengthening the plant and encouraging more root development. Once planted, water the seedlings with Kangaroots root stimulator for quick root development. Use the Kangaroots and Fungicide 5 every 4-5 days for the first 3 waterings for less

transplant shock and to speed up early development. To help protect the plants from late frost, and to increase temperatures around the plant, use hot caps or Wall-o-Water plant protectors over newly planted seedlings until weather permits, or the plants out-grow them. Row covers work well for frost protection and heat generation as well as keeping bugs and other pests (deer) from bothering your new transplants.



## VARIETIES

If you ask 10 gardeners what their favorite tomato is, you will get 10 different answers. There are so many different varieties, and so many different flavors and textures to choose from, it is hard to suggest the BEST variety to anyone. It really depends on what you want from your tomato. Worried about a short season? Our earliest varieties include Early Girl, Early Doll, Jet Set or Jet Setter, Burpee Early Pick, and most of the cherry tomatoes. Canning? It's still hard

to beat Better Boy, Big Beef, and DX-52 (Hamson) for productivity, quality, and size. Making fresh salsa? Roma types are meaty and flavorful to make pico or salsa - try Viva Italia, Optimax (huge, firm fruits), or Andiamo (long and slender San Marzano style). Cherry or grape tomatoes burst with bite-size flavor. We highly recommend Sun Sugar, Sweet Baby Girl, Sweet Million, and Sugar Plum. It's fun to do a cherry tomato medley with black, red, orange and yellow colored fruits. For delicious acid free flavor grow Pink Girl, Brandy Wine, Cherokee Purple or Brandy Master. It's fun to try different varieties and types to find the ones you like best. Never hesitate to experiment - you can always grow something different next year if you don't like it.



<b><u>TOMATO</u></b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	12-18"
<b>ROW SPACING</b>	2-3'
<b>SEED DEPTH</b>	1/4"
<b>TIME TO HARVEST</b>	60-90 Days from seed 65-80 Days from transplant
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or transplant
<b>SPECIAL ISSUES</b>	Weeds Tomato Hornworms, Leafhoppers, Spider mites, Aphids Blossom-End Rot Cold

## WATER

Water tomatoes deeply and frequently while trying to maintain even soil moisture. Tomatoes need consistent watering to develop high quality fruits. Use a soaker hose or drip system for uniform water distribution and water lightly every 5-7 days to maintain soil moisture during these essential growth stages. A light compost mulch can help as well if daytime temperatures start to climb over 80 degrees. Tomatoes grow well in plastic mulch (clear or black) or weed barrier as it helps generate and hold more heat (which they love) and retain more consistent moisture (which they love).

## FERTILIZER

Apply 1/4 cup per plant of "That's All it Takes" complete fertilizer or Natural Guard Organic Tomato & Vegetable Food 4 weeks after transplanting to encourage and maintain vigorous plant growth and flower production. Place the fertilizer evenly just to the side of the plants in the row and work it lightly into the soil before watering. Make sure to water it in! For quick bursts of growth and flower production, we recommend using a water soluble fertilizer like Ferti-lome Blooming and Rooting or Seedlinger's Universal Plant Food (Organic) once per week for extra productivity. Just mix in water and apply to the leaves as well as the root zone. Avoid high nitrogen fertilizers that will just promote large plants and little fruit production

We also recommend treating your Tomatoes with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. This is especially helpful if you have been fighting diseases and virus that bother tomatoes. Mycorrhizae will actually fight off the diseases that attack the plants from the soil. Don't go home without them.

## SUPPORT

Tomato management and harvest will be more satisfying if plants are trained to stay off of the ground. Fruit that lays on the ground will rot, discolor or become damaged from insects. Also, as the fruits develop, they will become heavy and weigh down the plants, sometimes to the point of breaking branches and damaging developing fruits. It is almost essential to cage or trellis the plants to help with ripening, support, and productivity. There are many different ways to support tomato plants, wire cages being the most common. Look for sturdy cages made from heavier gauge steel and that are shaped like an upside down ice cream cone, wider at the bottom and narrower at the top. Don't use cages smaller than 36" and the bigger the better (Mark uses 44" and 54" to hold his plants, and even then, they sometimes aren't big enough). If you use stakes, make sure they are sturdy, 6 feet tall, and sink it a minimum of 12" into the ground to hold the plant without tipping over. Secure the plants to the stake with soft, stretchy ties - twist ties will cut into the stem over time, damaging the plants.



## COMMON PROBLEMS

Keep the weeds to a minimum with the use of plastic and organic mulches. We prefer the Dewitt Pro 5 weed barrier as it allows water and nutrient to pass through, but stops even the most difficult weeds as they germinate. Treflan and Corn Gluten weed preventative herbicides are



also very effective ways to stop weeds before they start, saving you hours and hours of weeding. Be sure to control weeds when they are small to ensure damage is not done to tomato root systems when weeds are removed. Also, it is essential to practice crop rotations to discourage pest and disease problems. Make sure to dispose of tomato plants at the end of the season, either in the compost pile or the green waste container, as plants incorporated into the soil can spread diseases to next year's crop. Aphids, Potato Beetles, Tomato Horn Worm and flea beetles can all pose problems, but quick treatment with Ferti-lome Triple Action or Hi-Yield Indoor/Outdoor Insecticide can bring them under control if treated early. Blossom-end Rot, Fusarium Wilt, Verticillium Wilt, and Early and Late Blights also plague tomato growers in northern Utah. Calcium supplements, beneficial microbes and mycorrhizae, and general purpose fungicides like Natural Guard Copper Soap or Ferti-lome Fungicide 5 will all help guard against these common problems.



## HARVESTING

Harvest in mid to late summer, when fruits appear ripe and have developed their mature color. Use a knife or pruner to cut the fruits from the plants to avoid damaging the stem and disrupt the growth of remaining fruits. Tomatoes taste best when picked fully ripe, but at the end of the season, you'll want to harvest as much fruit as possible before it is damaged by frost. Ripening tomatoes change color from dark green, to light green, then to their mature color. If you harvest the fruits anytime after they have reached the light green stage, they will ripen off of the vine, usually quicker in a sunny windowsill. Some gardeners even pull up the mature plant, fruit and all, and hang it upside down in the garage



Mark has developed a "Tomato Magic Formula" that will walk you through all the steps to grow the most successful tomatoes. Scan this QR code to watch all the "magic."





# TURNIP

Little used and often forgotten, Turnips don't get the attention that tomatoes or corn receive as major staples in the home garden, but for centuries, whole societies lived through the winter on turnips and potatoes. It may not be the most glamorous vegetable, but it doesn't mind doing the dirty work: easy to grow, useful (you can eat the tops as well as the roots), stores well through the fall and winter, nutritious and versatile. A relative to the cabbage family, turnips taste delicious raw, roasted, mashed or in stews and soups.

## SOIL PREPARATION

Turnips prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.



## PLANTING

Turnips are almost always grown from seed and can be sown directly outside anytime after the soil reaches 40 degrees. Optimal seed germination is at 40-60 degrees, so the best time to plant in Cache Valley is in March and April, and again in August and September for a fall crop. Plant seeds about 1/4-1/2 inch deep and cover with a light mulch, Coconut Coir, or potting soil (just a thin layer 1/4-1/2 inch deep) to prevent soil crusting and to help retain moisture. Try to maintain uniform soil moisture for 7-10 days or until the seeds begin to emerge. As the seedlings begin to grow, thin the plants out to 3-4 inches apart in the rows, and 12-18 inches between rows. If the plants are too close together, the roots will not mature properly, but the greens will still be productive and tasty. Just like the rest of the cabbage family, turnips prefer cool, moist weather.

## VARIETIES

Turnips are best known for the color of their roots, and in many cases, that is where their name is derived also. "Purple Top" has a white bottom, and purple top to its root, with nice, medium height, green, edible tops. There are many varieties to choose from, but Purple Top is a reliable heirloom we've sold at Anderson's for 80 years.

## WATER

Turnips need regular water and consistent soil moisture to produce well. Use of a soaker hose and light mulches can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause root cracking, slow leaf development, and poor yields. Maintaining consistent moisture will prevent a loss of quality and taste (they go hot and pithy if stressed) and assist in proper root development.

## FERTILIZER

About 6 weeks after germination, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) down the side of the row of plants and water thoroughly. 1-2 cups per 10 feet of row works well. We recommend the Tomato & Vegetable Food because it contains many micro-nutrients (like Boron & Iron) and beneficial microbes and mycorrhizae that increase water and nutrient uptake and encourage higher and better quality yields.



## COMMON PROBLEMS

Turnips don't compete well with weeds and therefore weed control is vital to their success. Hand weed when necessary, and use pre-emergent weed controls (Treflan or Corn Gluten) after germination to prevent new weed emergence. Flea beetles and aphids commonly attack turnip leaves and leave distinctive damage behind that can alert the observant gardener to their presence. Several safe and effective chemical and organic controls are available to stop these pests before they start - Ferti-lome Spinosad spray is an excellent organic choice, and Ferti-lome Triple Action Insecticide works quickly and safely to stop a wide variety of insects. The most destructive insect to attack turnips is the Cabbage root maggot. These grubs love to eat turnip roots and do a lot of damage in the process. Prevent them by treating the soil at planting with a general purpose insecticide like Hi-Yield Garden, Pet, and Livestock Dust or Hi-Yield Insect Control Granules. Another successful method is to plant the turnips as a fall crop, in late July or August, and the life cycle of the Cabbage maggots is over, and you will have grub-free turnip roots - almost guaranteed.

## HARVESTING

Turnips can be harvested as soon as the leaves are large enough to trim. Young leaves can be eaten raw or cooked. Heavy frost can damage leaves, so pick before hard frosts damage in late October or November. Roots can be used as soon as the roots begin to show mature size. Generally roots are mature in 60-75 days from seeding. If you let them grow longer, they tend to get more woody and tough. Use a digging fork to loosen the soil and pull up the roots and trim the tops. Roots store best if cleaned and stored at 35-40 degrees with a medium-high humidity. We have packed them in moist sand or peat to maintain the humidity in a cellar or cool basement for 2-4 months. Roots can also be left in the ground and mulched much like carrots for winter use (we haven't done this before, but other local gardeners have had success storing them like carrots in the ground through winter).

<b>TURNIP</b>	
<b>PLANTING TIME</b>	Group A, E
<b>PLANTING METHOD</b>	Rows
<b>PLANT SPACING</b>	4-6"
<b>ROW SPACING</b>	1-2'
<b>SEED DEPTH</b>	1/8"
<b>TIME TO HARVEST</b>	50-55 Days
<b>WATER NEEDS</b>	1/2", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct
<b>SPECIAL ISSUES</b>	Weeds Cabbage Loopers, Leaf Miners, Flea Beetles, Aphids Heat causes bolting

Roots can be used as soon as the roots begin to show mature size. Generally roots are mature in 60-75 days from seeding. If you let them grow longer, they tend to get more woody and tough. Use a digging fork to loosen the soil and pull up the roots and trim the tops. Roots store best if cleaned and stored at 35-40 degrees with a medium-high humidity. We have packed them in moist sand or peat to maintain the humidity in a cellar or cool basement for 2-4 months. Roots can also be left in the ground and mulched much like carrots for winter use (we haven't done this before, but other local gardeners have had success storing them like carrots in the ground through winter).



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# WATERMELON

Everyone wants to grow watermelons in their garden, and when children come into the store with their parents, it's the first word out of their mouth when asked what they would like to grow. However they are one of the most demanding and difficult fruits to grow successfully. Timing, conditions, and weather all have to come together for just the right circumstances - but there are a few tricks we have up our sleeves to encourage these tasty treats to make our garden the envy of the neighborhood. Most watermelons have red flesh, but some have yellow or orange; they also come in many sizes from small, ice box size to gigantic 25-30 pounders - and who doesn't want a seedless watermelon?



## SOIL PREPARATION

Watermelons prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

We have had success both from transplant or from seed when planting watermelons - but in both cases, it is best if you start by solarizing your soil with black or clear plastic mulch or weed barrier, 2-3 weeks before you want to plant. If starting seeds indoors, choose a warm location for germination (at least 75 degrees) and use a light seed-starting soil. We start our seedlings 3 weeks before setting them outside, so for Cache Valley, the last week of April is perfect. Just after Mother's Day, cut holes into your plastic or weed barrier mulch at 4-6 foot intervals and then plant your seedlings the same depth as they are in their containers, and water them thoroughly with Kangaroots root stimulator. The Kangaroots will help prevent transplant shock and aid in establishing an extensive and strong root system quickly. If starting from seed directly in the garden, use the same spacing and planting time as for transplanting. Make a shallow depression in each cut (in the plastic mulch), place 4-6 seeds in each hole, and cover them with 1/4-1/2 inch of peat moss, light potting soil, or Coconut Coir, and tamp the soil down gently with your hand. Water with the Kangaroots, and cover the area with a hot cap, Wall-o-Water or Aquadome to help retain the heat and moisture. The seedlings should emerge in 7-14 days with adequate heat.



## VARIETIES

When it comes to melons, everyone has an opinion on which is their very favorite, and watermelons are no exception. At Anderson's Seed, hands down, our favorite melon for flavor and quality is Yellow Doll. It's early maturing, has bright yellow flesh, which is difficult for some people to fathom (watermelon is red, right?), but the taste is truly amazing. They also sell like crazy at the Farmer's Market when you share samples.... For traditional, red-fleshed melons, try either Sangria (large, dark green rind, exceptional flavor and texture) or Royalty (probably the darkest red and sweetest melon we've grown) - they both mature in about 85 days. Early maturing Tiger Doll is one of the quickest and tastiest melons we've grown and probably a safe bet to start your melon growing experience with this one. It's the easiest to get to mature in Cache Valley. Triple Crown is an excellent quality, sweet fleshed, seedless watermelon. Don't try growing it until you have mastered the Tiger Doll or Yellow Doll first - the seeds are expensive, and later maturing melons are more tricky to grow. Don't forget they need a pollinator as well!

## WATER

Watermelons require frequent watering during the year, usually about 1-2 inches per week in 2-3 applications. Use drip or soaker irrigation if possible, and mulch heavily around the plants with an organic mulch to help retain soil moisture and to prevent weed emergence. Watermelon have a shallow root system, so be careful when cultivating close to the plant, and during warm, dry weather, they are prone to dry out quickly. We can't stress enough the importance of using plastic mulch or weed barrier around the melons to prevent weeds, to heat up the soil, and to prevent damage from rapid drying and moisture loss. Consistently moist, but not soggy - that's your goal.

## FERTILIZER

About 4-6 weeks after germination or transplant, usually about the time the vines start to run, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) around the base of the plants and water thoroughly. Use about 1/4 cup per hill. For some quick growth, especially around the time they start to flower and set fruit, use Ferti-lome Blooming and Rooting water soluble fertilizer or an organic alternative like Seedlinger's Universal Plant Food weekly to kick them into fruit production mode. Since melons are so difficult to cultivate, we always recommend an application of beneficial microbes and mycorrhizae (Kangaroots or Myke supplements) to help with their development.

Your plants will be healthier, more vigorous, and produce fruits faster and for a much longer harvest.

<b>WATERMELON</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	3-6'
<b>SEED DEPTH</b>	1/4-1/2"
<b>TIME TO HARVEST</b>	75-90 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or Transplant
<b>SPECIAL ISSUES</b>	Powdery Mildew Squash Bugs, Spider Mites, Deer Blossom-End Rot Cold

## COMMON PROBLEMS

Not too many insects bother melon vines, but watch for cucumber beetles, aphids, and spider mites specifically. Mites can damage leaves quickly without notice, sapping vital strength from the plants, and severely limiting your fruit production. Ferti-lome Spinosad Soap (organic) insecticide or Triple Action Insecticide will be your best options for controlling these pesky invaders. Powdery mildew is almost as destructive to the vines and their productivity. In late July (or earlier if the weather is hot and humid with cool nights) start spraying the vines with Fertilome Fungicide 5 to prevent mildew from ruining your crop in August and September. All it takes is a week or two of mildew to stop the vines from flowering, and more importantly, stop the fruit production. Use crop rotation, water root systems and leaves with Fungicide 5, and use mycorrhizae to help prevent the vines from picking up Verticillium and Fusarium diseases that will quickly kill the vines just as they start to produce.



## HARVEST

Knowing when to harvest watermelons is the most frustrating part of growing them. You watch them mature, and they look perfect, and you pick it, expecting this wonderful flavor, and it's either too ripe and mushy, or firm, green and tasteless. Here is the secret to picking a ripe watermelon - and it has nothing to do with thumping the exterior for a nice hollow sound.... Two things need to happen for the melon to be ripe. First, watch for the color of the underside of the melon to turn from white to a creamy yellow color. When immature, the color under the melon will be a stark white, when it changes color, that is one indicator. Second, where the melon is attached to the vine, there is a small, corkscrew shaped tendril that grows off the vine itself. When that tendril (it looks like a pigs tail) dries up and is brittle, that is another indicator. For the melon to be ripe, you need to see both indicators - one just isn't enough. When ripe, use a knife or hand pruner to cut the melon from the vine, leaving about 1" of stem on the fruit. Then, enjoy the best melon you've ever had from your own garden.

# WINTER SQUASH

Squash is a rewarding crop to grow for both novices and experienced gardeners both; few vegetables produce so much harvest with so little effort. Squash originate from the Americas and adapt well to most soil types. All squash plants have both male and female flowers, requiring both to set fruits that develop to maturity. Winter squash take much longer to mature than summer squash, usually grow much bigger in size, and are adapted for storage through fall and winter. Most people store them for later use in baking, pies, or steamed.



## SOIL PREPARATION

Squash prefer a sandy soil, rich in organic matter, well drained, and not too heavy. They also need full sun exposure. Before planting, incorporate 1-2 inches of well composted organic matter, Humic, and 1 lb. of all-purpose fertilizer (we recommend "That's all it Takes" complete fertilizer or Happy Frog Organic Tomato & Vegetable Food) per 100 square feet and work them in to a depth of 4-6 inches. Heavy, clay-based soils must be amended with compost and organic matter to encourage and allow for good root development. For best results, add 2-4 inches of a variety of different types of organic matter and 50 lbs. of Zeolite soil conditioner per 100 square feet each fall for multiple years to increase drainage and nutrient availability. By doing this yearly, over time you can create a better growing environment for your garden plants to thrive in and produce. Please consult our Soil Preparation Guide in the attached appendix.

## PLANTING

Squashes can be successful from start or seed, it just depends on the preference of the grower. The seeds can also be sown indoors for starts 2-3 weeks before the last frost date. If planting directly outside, it possible to do it after the last frost of the season (which for Cache Valley is around Mother's Day). For earlier starts, use plastic water walls, row covers, or hot caps to protect against frost danger. Seeds should be planted with 4-6 seeds per cluster, about ½ inch deep and 4-6 feet apart. Squashes are commonly grown in "hills," which is not really a hill, but more like a depression that will keep the seeds and water contained in the same location, and for an easier harvest. After the seedlings have two leaves, you can thin them to 2-3 plants per hill, or leave them all to grow. The vines will spread out 6 to 10 to 16 feet depending on varieties, so be sure to leave at least 6 to 8 feet between each hill or row. Some squash come in a bush variety that won't take up as much space, usually 50-60% of a normal vine.

## VARIETIES

There are so many delicious varieties of squash it is hard to recommend a favorite, but let us name a few. Delicata: This squash gets to be about 5-10 inches long with a white and green rind. The flesh inside is sweet and smooth, comparable to a yam. Butternut: People like the nutty, deliciously sweet flavor for pies and baking. Spaghetti: This squash is a different because the flesh is stringy and can be separated, unlike the solid flesh of the other winter squashes. Sweet Meat: Very similar to buttercup squashes, but much larger and probably one of our best keepers. Delicious nutty flavor, hard exterior rind for great storage life, small seed cavity and thick flesh that bakes, steams or sautes well. Other types include hubbard, acorn, buttercup, kabocha and banana.

## WATER

Squash need regular water and consistent soil moisture to produce well. Use of a soaker hose, drip system and light mulches or weed barrier can assist in maintaining correct soil moisture and guaranteeing a healthy harvest. We recommend about 1-2 inches of water applied per week in 2-3 applications. Moisture fluctuations can cause problems with flower set, and poor yields. Maintaining consistent moisture will prevent early flower drop, proper pollenization, and assist in greater root development.

## FERTILIZER

About 6 weeks after germination or transplant, apply a balanced vegetable food ("That's All it Takes" or Happy Frog Organic Tomato & Vegetable Food) around the base of each plant and water thoroughly. 1/2 to 1 cup per 10 square feet of area works well. For quick bursts of growth and flower production, we recommend using a water soluble fertilizer like Ferti-lome Blooming and Rooting or Grow Big from Fox Farm once per week for extra productivity. Just mix in water and apply to the leaves as well as the root zone.

We also recommend treating your squash seed or plants with beneficial microbes and mycorrhizae (Kangaroots or Myke). These added helpers bring nutrients and water directly to the plants that host them, making them stronger, more resistant to insects and diseases, and more drought tolerant. Don't go home without them.

## COMMON PROBLEMS:

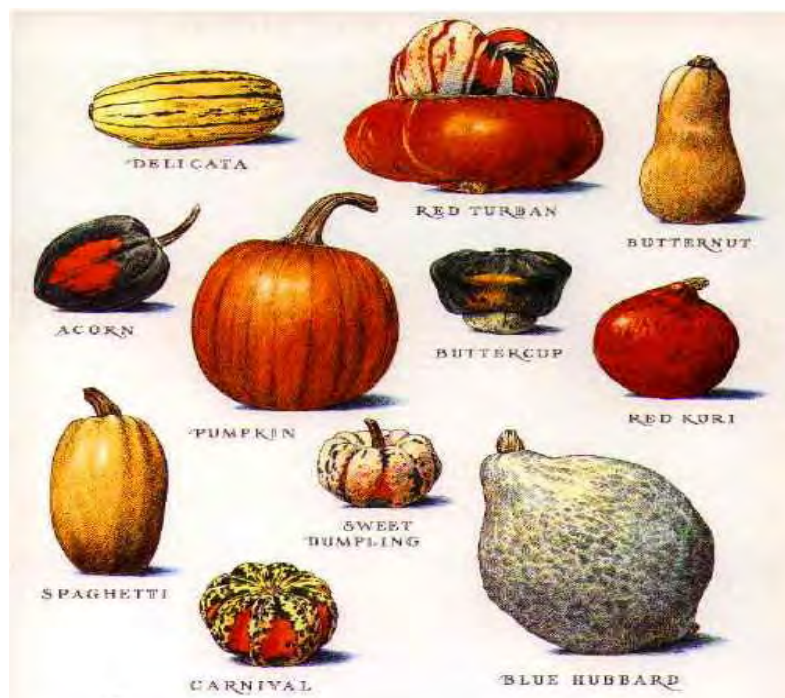
Anyone who has ever grown squash knows of the problems that can accompany this garden vegetable. Aphids, spider mites, blossom end rot, can all damage a squash crop. Powdery mildew, a white-patchy disease that stunts the plants growth and eventually will kill the whole vine, can easily be taken care of by Fertilome Fungicide 5 (organic) or Ferti-lome F-stop.

<b>SQUASH</b>	
<b>PLANTING TIME</b>	Group D
<b>PLANTING METHOD</b>	Mounds
<b>MOUND SPACING</b>	3-6'
<b>SEED DEPTH</b>	1/2-1"
<b>TIME TO HARVEST</b>	90-120 Days
<b>WATER NEEDS</b>	1", 3x weekly
<b>TRANSPLANT/DIRECT SOW</b>	Direct or Transplant
<b>SPECIAL ISSUES</b>	Powdery Mildew Squash Bugs, Spider Mites, Deer Blossom-End Rot Cold

If squash bugs are present, a once healthy plant will suddenly drop like it's not getting enough water. The eggs, which are seen on the bottom of the leaves, are a coppery color. These can be physically smashed or removed. The bugs themselves are black, shiny, oval-shaped beetles; they sting the vine and stop the nutrients from getting to the rest of the plant. Spray with Hi-Yield Indoor/Outdoor Insecticide or dust with Hi-Yield Garden Pet and Livestock Dust. Organically repel bugs with Natural Guard Cedar Oil Granules.

## HARVESTING:

Fruits are usually ready late summer. The vines will die back, and the fruit skin will be hard. We like to harvest just after a light frost (28 and above) or just before a hard frost (27 degrees or less). Test the firmness of the skin, by scratching a line with your fingernail. If you can scratch the surface and a little moisture bubbles up, wait a bit longer to harvest. Once they are ready, cut the stem with a knife or hand pruner, leaving a 2-3 inch stem on the fruit. When storing, prep the fruits in a warm, dry location for 2-3 weeks before moving them to a cool (40-55 degrees) and dry location.



# APPENDIX 1

## HOW TO AMEND YOUR GARDEN SOIL

Every year I teach a six-week gardening class during the winter that covers everything you need to know to be successful in your garden. In the 2-hour classes, we cover fertilizer, watering, soils, pruning, planting, lawn care, roses, pesticides and a whole lot more. The very first topic we discuss is soil, because without a good base of soil your garden will not perform well. We perform soil tests for pH, fertility, structure and makeup to find out how to best amend the soil to make it even better. The reason we start with soils is because everything - and I mean EVERYTHING - else depends on how good your soil is. And despite what you may think about your soil, it needs to be amended every single year because of loss of fertility, loss of volume, and the constant decomposition of organic matter. Your soil needs to be built back up each year or eventually there won't be any nutrient or soil left. It's a basic part of gardening that pays dividends every time you do it.

Gardeners consistently ask what they should use to amend their soil. The easy answer is "organic matter", but the complicated answer to what that organic matter consists of is "it depends". Organic matter is smaller in size than sand, silt, and clay particles (the basic components of your soil) and gets in between those particles and keeps them from binding together. That organic matter holds more water and nutrient than the soil itself and releases it quicker to your plants. It is the home for beneficial microbes and micro-organisms that give your soil life. It's what makes your soil perform the best it can.

There are so many different options to what you can use to add organic matter to your soil, and they all have different strengths and weaknesses, positives and negatives, that it makes things complicated. Let's break these down into 2 groups: Nitrogen and Carbon. A good, common sense, general rule (and all rules are meant to be broken!) is that high Carbon amendments are brown and dry and Nitrogen rich amendments are wet and green. For example, high Carbon amendments include: straw, peat moss, coconut coir, leaves that have changed color in the fall, dry grass clippings, sawdust, wood shavings, composted bark. High Nitrogen amendments include: green grass clippings, green leaves, green plant cuttings (watermelon rinds, stems of broccoli, corn stalks before they dry, etc), cover crops and various manures. Other amendments include: composts, zeolite, BioChar, humates, and various fertilizers and micronutrients. There are more options available than I can list.

When adding soil amendments, it is imperative that you remember that too much of a good thing can turn into a very bad thing. The best word I can use to remind you what to do when adding organic



matter is - Variety. Use a variety of different materials to get the best results. Four inches of steer compost (Nitrogen) will add lots of organic matter to your soil, but the high nitrogen, salt and urea content will damage your crops this year and maybe next year as well. In contrast, four inches of finely ground bark (Carbon) will also add lots of organic matter to your soil, but the high carbon content will deplete your soil of nitrogen and nothing will grow there until you supplement the soil with enough nitrogen to finish decomposing the carbon. Variety! Use a ratio of 4:1, carbon to nitrogen and you will have success every time. A variety of different materials will counterbalance out the other's weaknesses or drawbacks. When you use a variety of materials, no one organic matter will be dominant and cause problems.

Timing is critical for amending your soil. Fall is by far the best time to add 2-4" of organic matter. You can also do it in the spring, but make sure to decrease the amount you add to 1-2 inches at the most. If you add these amendments in the fall, then they will quickly decompose over winter. If you add too many materials in the spring, it still takes months for them to decompose, and it could take all season. No one likes to walk through manure all season long. Your amendments will breakdown, decompose, and enrich your soil much more effectively if you do it in the fall.

If I don't add organic matter to my garden every year, I can recognize the difference immediately in the spring. My soil is lighter and easier to work. The soil doesn't clump or clod easily and has a much finer texture that is easier to work. The soil holds more moisture and releases nutrient to the plants faster. The soil is alive with beneficial microbes and organisms. My plants thrive in soil that is alive. I start with 1 inch of composted manure (I prefer poultry over steer to keep diseases out of my garden soil), then add 1 inch of straw, 1 inch of leaves and grass clippings, and 1/2 to 1 inch of wood shavings, sawdust, or other composted wood based material. This combination works wonders to my garden that is built with a sandy clay soil, and is based on the 4:1 ratio. Then, I add some extra amendments to really get things going in the soil - Humate, zeolite, BioChar and some additional nitrogen (Milorganite or Pro-peat since they have extra organic matter in them). The Humate is full of microbes and micro-organisms that decompose organic matter, as well as a lot of minerals and micro-nutrients that make your vegetables taste better. If I think my micro-nutrients are a little depleted, I'll add Azomite to this cocktail for more micros. The zeolite is amazing at breaking up clay, and it will indefinitely (since it never breaks down) add additional water holding capacity to your soil. The BioChar creates an environment that allows beneficial microbes and organisms to thrive and multiply in your soil and adds essential nutrients. Additional nitrogen feeds the microbes and micro-organisms so they have energy to do their work.

Incorporate all of these ingredients into your soil. Don't let it sit on top for winter, it must be worked into the soil to get the benefits out of the amendments and to speed up the decomposition process. If you leave them on top, in the spring, they will be sitting there still next spring, having not broken down one bit through winter. If you till them in, incorporate them, they will be completely broken down and will have become part of the soil.

Cover crops or a green manure are other methods that are highly effective to amend your soil. There is another section in this book that will give you more direction on the benefits of cover crops and how to do them correctly. Cover crops are easy to grow and they can improve the texture of your soil immensely.

I cannot emphasize enough the importance of amending your soil each and every year. Every time the wind blows, every time the water gets forgotten and runs too long, every time you walk into the garden, every time you harvest a vegetable - your soil gets moved somewhere else. Over time, this will gradually deplete your garden until the soil is a shadow of it's former self. Every year you add organic matter to your garden you replace that lost soil, you build up that reserve of extra nutrient, you increase the soil's ability to hold moisture, you improve soil texture and tilth, and you create a better environment for good biology and beneficial organisms. Your soil will be alive with life to sustain your plants and push them to their potential. Build that soil!

## MARK'S RECOMMENDED SOIL AMENDMENTS:



# APPENDIX 2

## STARTING SEEDLINGS INDOORS

One of the most rewarding things that I do with my children is to start our own seedlings indoors for spring planting outside. They love to help and it is a lot of fun to watch together as the plants progress throughout the growing process - sow seeds, germinate, emerge as seedlings, transplant, plant outside, grow to maturity, harvest. If you plan ahead, it gives you the advantage of trying varieties that you might not find anywhere else. Our family has some specific favorites that no local greenhouses grow, so we just grow our own plants instead. Growing your own seedlings indoors satisfies that need to garden while the weather is less cooperative and provides a fun, rewarding way to interact with your children too. Let me share with you how you can do it too.

I start the whole process with a mini greenhouse called a NanoDome. It includes a 10" by 20" nursery tray (heavy duty for years of reusing), a 7" greenhouse dome with vents that perfectly fit the tray, and an 18" full spectrum light bulb fixture with reflector for my own mini sun. To get some seeds to germinate quicker, I also use a single tray heat mat to warm up the soil. It really helps when sprouting difficult or heat sensitive seeds like tomatoes and peppers. You can choose either a high quality seed starting soil mix like Ferti-lome Seedling and Cutting mix, peat pellets, or expanded coco coir for a growing medium (soil). And of course, you get to pick the vegetable seeds that you get to grow. I'm a fan of starting specialty peppers, tomatoes, melons and squashes. Of course, we get samples of unique varieties to try each year from some of our seed producers, so we get to sample new vegetables before they are available to the public. Just be aware that each vegetable has it's own germination and growing needs, so some may not be practical to grow together in the same tray. For example, peppers take 2-3 weeks to germinate and like warm, drier soils when growing and tomatoes will be sprouting in 5-7 days and could mature to transplant size before some of the slowest peppers even sprout.

If you decide to use the seed starting soil, fill your tray with about 1/2" to 1" of the seed starting mix. If you want to try multiple varieties of tomatoes for example, then it might help to segregate your tray into 2-4 different zones to help keep the plants organized. Make sure to tag everything, because those seedlings all look alike! Sprinkle your seeds on the surface, and then cover them with a very thin layer of soil.

I mix 2 tblsp (1 oz) of Seed Starter from Baicor (made locally in Logan) and 1 tsp. of EZ Wet soil penetrant in 1 gallon of water and then mist the seeds thoroughly, applying enough water to soak the seeds as well as saturate the soil about 1/2" deep. The soil penetrant will allow the seed and soil to absorb the water much quicker than normal, and will help saturate the soil - otherwise it takes forever for the soil to absorb the water that the seed will need to germinate. Once the soil is moist, cover the seed and soil with the greenhouse dome (making sure the vents are closed), plug in your heating mat, and turn on the amazing miniature sun (full spectrum light bulb - they are available in fluorescent and LED). I use a timer to have my light turn on for 16 hours and off for 8. The seedlings like the simulated natural light better than on 24/7.

If you decide to use the peat/coco pellets to start your seeds, then hydrate the pellets first with the same mixture of water, fertilizer, and soil penetrant that I described above. When the pellets are fully hydrated, then carefully place 1-2 seeds in each pellet and gently cover the seeds with the excess soil on the surface of the pellet. Place the pellets in the tray, and cover them with the dome, etc.

Starting your own seedlings indoors is so easy and fun. We have everything you need to DIY!

Scan this code to learn how easy & simple it is to start your own seedlings.



I put my mini greenhouse in the pantry, where the sun never hits it, but where I can control it's environment better. The artificial light will give your seedlings all the light they need, so there is no need to keep them near a window (it can also get very cold near the window in winter and drastically slow the germination and growth of your herbs - pantry is better!). The dome will help collect and retain the initial moisture so you may not need to water again until the seeds start to sprout. If necessary, mist the soil or pellets again with the water/fertilizer mix until germination occurs. Wait until most or all of the seeds have germinated, then open the vents on the dome, and water every 2-3 days with the Seed Starter Mixture. At about a week old, I use a root enhancer called Kangaroots on the seedlings that encourages root development and allows them to pick up and utilize moisture and nutrients better. Give the seedlings a minimum of 12-14 hours of light each day, regularly fertilize and water, and in no time you will have seedlings ready to transplant into a larger container.

The process is so easy and quick (with squashes, they will germinate in just a few days) that you can start multiple crops throughout the winter and spring months. The only drawback is that as the plants start to get bigger, they need more light, and obviously, more space. You may run out of countertop or shelf space and indoor lighting. This is where you have to plan and budget your space and light sources efficiently or else you will have weak plants for transplanting when the time comes.

Here is a quick timeline for starting your seeds. Start broccoli, cabbage, cauliflower and other early crops in late January/early February. Peppers do best when started in late February/early March. Tomatoes, eggplant, and okra I like to start mid to late March. Squashes, melons and pumpkins plan on starting about 2 weeks before you want to plant them outside.

Give it a try. Growing seedlings indoors has never been easier. You can enjoy the success of growing indoors as well as sharing the experience with your family - not to mention the best part of all: tasting the best flavors, and eating & reaping the health benefits. Enjoy!



# APPENDIX 3

## HOW TO USE COVER CROPS TO BUILD YOUR SOIL

For some people dirt is a dirty word, but there is a lot more to “soil” than just a bad name. A healthy handful of soil has billions of microorganisms in it, members of a truly humbling food web right below our noses that cycles nutrients and essentially makes life on Earth possible. Every year various factors like decomposition, erosion, and basic use depletes your garden of it’s soil. There are a lot of different ways to add organic matter to your soil, but one of the most simple and effective options is growing a Cover Crop. “Cover crops play a critical role in maintaining soil fertility. I never leave bare soil in my community garden,” explains Andy Clark of the U.S. Department of Agriculture’s Sustainable Agriculture Network, who earned his doctorate in cover crop science. “The cover crop gets planted as soon as the main crop is harvested -- sometimes sooner.” This might be a great option for you to build up your soil each year.

Cover crops and green manures have different functions, depending on whom you talk to. Cover crops are living mulches designed to cover soil, sometimes an entire inactive bed or just parts of a bed, such as the spaces between rows of other crops. Here, the cover crop smothers weeds, adds nitrogen, extracts nutrients from deeper soil and reduces erosion and compaction. Green manures, conversely, are grown, cut down (before flower) and incorporated (once brown) into your garden. Hence, the term green manure. This adds organic matter to your soil, improves soil quality or tilth, and stabilizes it as well. The new organic matter also

*Cover crops play a critical role in maintaining soil fertility.*

boosts earthworm and beneficial microbe activity, which improves soil fertility. As these decomposers feed, they play an essential role in the breakdown of organic and inorganic matter, making nitrogen, phosphorus, potassium, sulfur, calcium, iron, and other nutrients available to your ornamental plants and edibles. When you cover-crop you feed your soil organisms, which in turn, feed your plants. Both cover crops and green manures also increase air and water penetration in your soil. Additionally, they produce humus and soil aggregates that increase your soil’s relative moisture-holding capacity. Finally, cover crops prevent unused soil nutrients from being leached out of your soil after you’ve harvested your edibles and emptied your beds. Cover crops and green manures are often used interchangeably. Alfalfa, vetches and clover are generally the most popular pure cover crops because they are low-growing and also fix nitrogen. At the end of the day, though, all of these crops get mowed, tilled in or composted.

### COVER CROP SECTIONS

There are a great number of cover crops, which have different applications and benefits. Knowing every one is less important than understanding a few basics, namely that there are annual and perennial species and cool- and warm-season varieties. It’s also critical to differentiate between nitrogen-fixing legume covers and non-legume varieties, which include grasses and some broadleaf species. Other than alfalfa, perennial cover crops are used more frequently in commercial settings, such as vineyards and orchards. Generally, annual cover crops are the best choice for home gardeners, as they can be grown to maturity from seed in a single season (six to eight weeks), giving you time to cut them down for mulch or use them as green manure in your soil before planting warm-season veggies such as tomatoes, zucchini and cucumbers in the late spring or early summer, and cool-season greens such as broccoli and spinach in the fall. Warm-season cover crops are able to grow in the heat of late spring and summer, while cool-season or winter cover crops are suitable for cool temperatures in the fall before and after hard freezes. Some varieties, such as summer buckwheat, even have beautiful flowers which attract beneficial insects like bees. Legumes fix their own nitrogen and release it to your edibles. Grasses and broadleaf cover crops do not add nutrients; they recycle nutrients that might otherwise be lost through leaching. Grasses also generally add more organic matter, an essential component of any healthy soil.

Be sure to identify your main reason for planting a cover crop. Do you want to add nitrogen? Plant a legume. Is your soil compacted, or too sandy or too hard to work? A grass adds organic matter and improves your soil faster than a legume. Sometimes a grass-legume mixture is the best option.

## PLANTING TIME

The easiest way to sow a single variety of cover crop or a blend is to just broadcast it across your bed by hand with some fluid sweeps of the arm or with a broadcast spreader. It's important to evenly disperse the seed. Before you sow the seed, rake your bed and remove any rocks and debris, so the seed has a nice place to take hold. Once the seed is down, gently rake it under, about twice the diameter of the seed. To help hold moisture, spread some potting soil, coco coir or compost over the top to help the soil retain moisture during germination. Keep the soil slightly wet initially to help encourage quick germination of the seeds. Also, check if your legume seeds are pre-inoculated. If not, inoculate them with rhizobacteria. Rhizobia, as they're called, help legumes convert atmospheric nitrogen into organic soil nitrogen.

Other tips: Rotate your cover crops just as you rotate vegetables to improve their performance and pest resistance. Make sure to till your crop under before it goes to seed and at least 4-5 weeks before planting for decomposition to take place. If planting a legume, make sure to till under before it even flowers to benefit most from it's nitrogen fixing capabilities.

## RECOMMENDED COVER CROPS AVAILBLE AT ANDERSON'S SEED & GARDEN:

Warm season legumes:

Alfalfa (*Medicago sativa*), legume, perennial

Warm season grasses/broadleaf:

Buckwheat (*Fagopyrum esculentum*), broadleaf

Cool season legumes:

Red and White clovers (*Trifolium spp*), legume, perennial

Hairy Vetch (*Vicia villosa*), legume Best Choice, hardy annual

Fava beans (*Vicia faba*), legume

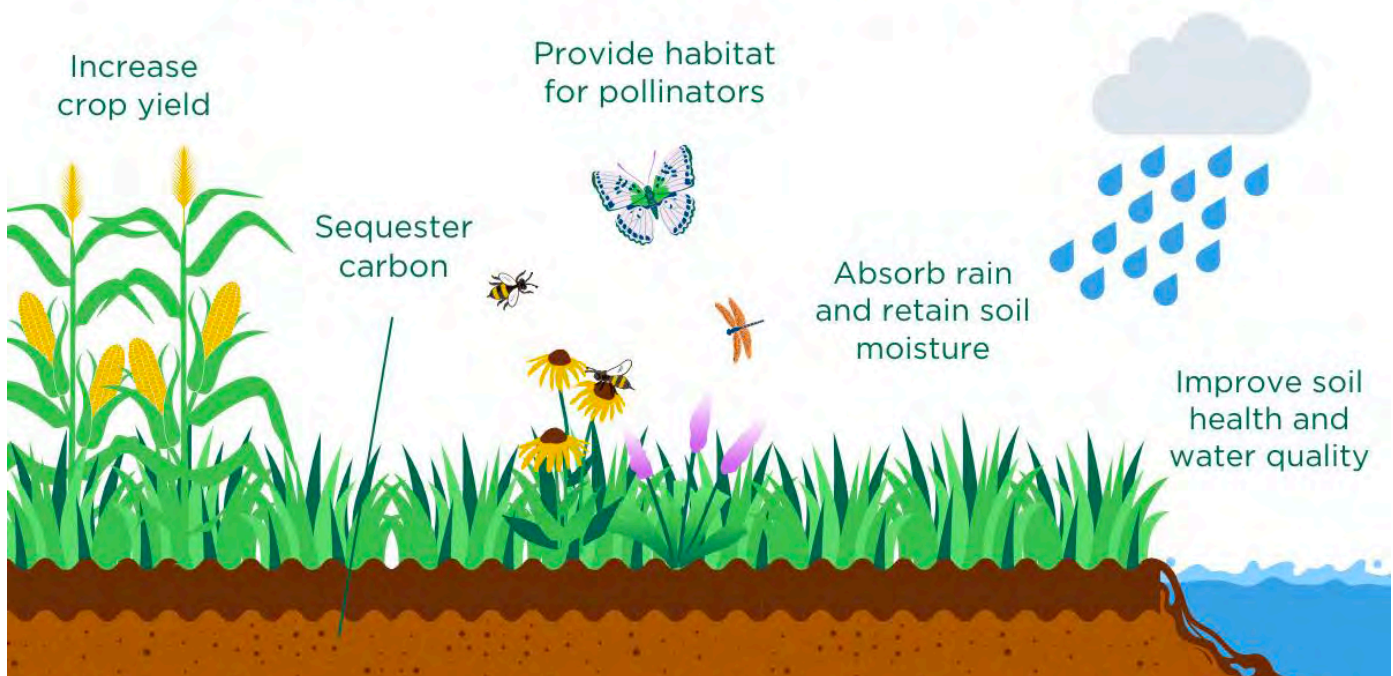
Cool Season Grasses

Ryegrass (*Lolium multiflorum*), organic matter

Winter Wheat (*Triticum aestivum*) - organic matter

Brome grass (*Bromis mollis*), organic matter

## Benefits of Cover Crops



# APPENDIX 4

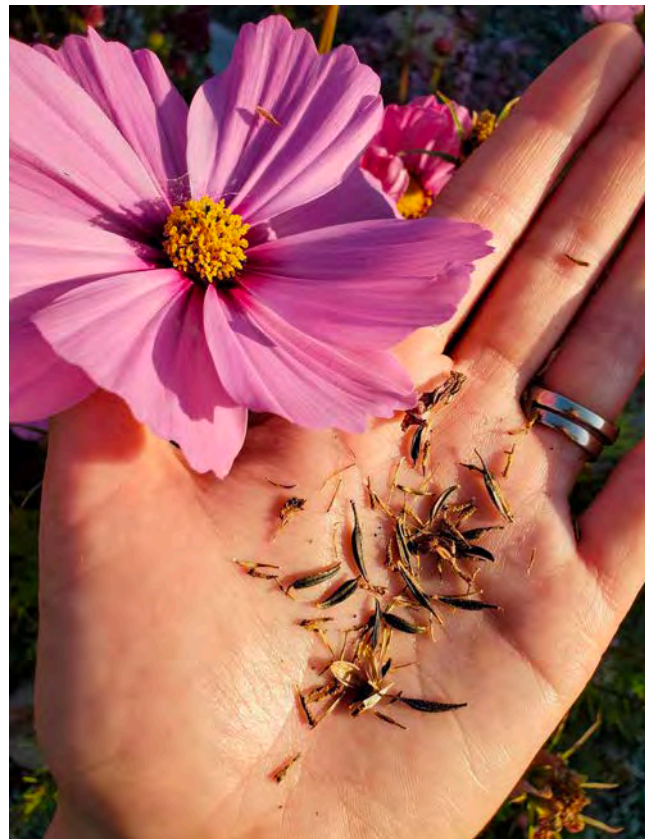
## HARVESTING AND STORING SEEDS

Most years, gardeners have concerns and questions for me about seed production, availability, and viability, but more so in the last 3 years thanks to the unusual circumstances of the recent Pandemic. Will seed be available next year? How should I store my seeds and how long will stored seeds last? Can I harvest my own seed and how should I do that? What's the difference between open-pollinated, hybrid, and heirloom seeds? These are valid and reasonable questions, but the answers aren't nearly as simple or practical as the average gardener would like to hear. In most cases - and don't think I'm saying this just because I own a seed business - it's way easier to just buy extra seeds and store them properly than it is to harvest your own. I'll let you decide for yourself.

Seed production has been very consistent for the last few decades, even during the pandemic and surge of demand caused by the increase in gardening & food storage. However, every year there are a few different varieties of seeds that have limited or no production at all because of various factors: weather, season length, insects, disease, etc. A few years ago it was Blue Lake bush beans, this year it's Ambrosia sweet corn. It's normal. I anticipate that seed production will be amazing for the next year and into the future. Plan on the weather having an impact on seed production, but not as much as you might think, since many seed companies have fields and growers all over the world to keep their production going nearly year round. There might be individual varieties that become hard to find one year, but you most likely won't see it across an entire vegetable. "Sorry folks, no beans this year at all, all varieties were a crop failure!" It's possible, but highly unlikely.

Storing seeds can be as simple as a shoe box in the basement or as complicated as computerized indexing, vacuum packing and a deep freezer. Most seeds, if stored properly, can maintain good germination for anywhere from 2-5 years. Optimum conditions for seed storage is low humidity and low temperatures. Too hot, and too moist can usually cause significant decreases in germination and the non-viability of your seed. I recommend a cool, dry place in your basement, preferably in the packages you purchased them in, or in a plastic re-sealable bag if you live in a low-humidity locale (we do). Freezing the seeds can increase their shelf life up to 10 years, but make sure they are air tight and no extra moisture can get into your container - that extra moisture will do more damage than the freezing temperatures will do good.

Harvesting your own seeds from your own garden gets much more complicated. Some seeds are easy to harvest and prepare for storage to use during the next growing season like tomatoes, peppers, lettuce and legumes (beans & peas). Others are tricky, need extra effort to prevent cross pollination and can be problematic like sweet corn and the Brassicas family (broccoli, cabbage, cauliflower, Brussels Sprouts). Seeds that come from biennial vegetables (like carrots, beets, and the brassica family) might not be worth the time and effort expended to prevent cross pollination and harvesting limitations. Biennial vegetables need 2 growing seasons to produce seed and they easily cross with other plants - including wild varieties - as bees do most of the pollination. It's complicated, but doable. The one advantage we have living in Utah is the dry climate, so it does make it much easier to prepare and dry the seeds after harvesting without investing in equipment.



For the best results when harvesting your own seeds, make sure to isolate your plants that you plan to use for seed production. Isolating keeps varieties true to type. Three standard practices provide the best results: time, containment, and distance. By staggering the planting time of a specific variety it prevents flowers from blooming at the same time, therefore eliminating the potential for cross pollination. Physical barriers like plastic, paper bags, or row covers can eliminate pollination by wind or insects, but then plants need to be hand pollinated for fruit or seeds to develop. Every variety has its own specific needs when it comes to how far the pollen can move, but there are a few general rules that work quite well. Self-pollinators only need a few rows of spacing. Insect pollinated plants such as beans and broccoli need to be 200 yards apart. Wind-pollinated plants should be approximately a mile apart. As you can see, it gets a little complicated in a small, backyard garden.

Different varieties also have different harvesting methods: Dry Harvesting and Wet Harvesting. Plants like beans, peas, onions, carrot, corn, flowers and herbs produce mature, dry seeds. Harvest by cutting the seed heads just before they are fully dry to prevent loss of seed (very lightweight seeds can just blow away!). Finish their drying process on a screen in a cool, well-ventilated location or put the dry seed heads in paper bags to eliminate loss. Fleshy fruits with gel casing around the seeds like squash, tomatoes, and cucumbers need a completely different process to remove the gel coating. Scoop the seeds out of the ripe fruits, then put them in a jar with enough water to cover them completely and let them ferment for 2-4 days, stirring them daily. The fermentation helps to break down the gel coating. Viable seeds will sink, and the pulp and bad seeds float, making them easy to separate. Pour off the top layer and water, then spread the seeds on a fine screen to dry before storage.

When it comes to the seeds themselves, they are fairly easy to classify. Hybrid seeds have been strategically created with controlled, standard crossing of pollen from 2 different parents, in the hopes of creating a new variety with the best qualities of each parent creating a new synergy of possibilities (more productive, disease resistant, better quality, etc.). Producing this type of seed is difficult and time consuming, but ultimately very rewarding with newly created genetics. Open-pollinated seed is created by self-pollination - for example, a female flower of a Banana squash is pollinated by a male flower of a Banana squash, resulting in similar genetics. Heirloom seeds can be either hybrid or open-pollinated, but have been in use for 75 years or longer. Open-pollinated seeds traditionally are easier to keep true to the parents and harvest for future use while hybrids are difficult to retain their qualities after the first growing season because of cross-pollination and genetic degradation.

Dollar for dollar, when it comes down to it, seeds are one of the greatest investments that you could ever make whether you buy, store, or harvest your own. Think about it, one corn seed can produce hundreds of seeds. One tomato seed can produce literally thousands of seeds. There's no return on investment in the banking world like it. Not to mention, how worthwhile it is to eat some of that investment. And, at Anderson's Seed & Garden, we have the seeds that you need. Our seeds succeed!



# APPENDIX 5

## GROWING MICROGREENS

Last year we started growing our own microgreens at Anderson's Seed and Garden: peppergrass, arugula, turnips, purple kohlrabi, spinach and our 5-way lettuce mix. I think the peppergrass, arugula and kohlrabi are my favorites. What are microgreens you ask? They are more than sprouts, but greens that are allowed to mature only to the first true leaf stage before harvesting and eating them. All I can say is - Wow! - they pack a punch of fresh flavor and are some of the most delicious and nutritious plants that you can consume. They are super easy to grow indoors, and can provide you and your family a fun wintertime growing activity that yields amazing greens to consume through the long, cold, winter months. It's really easy to do, but it does take a daily commitment and some time investment to be successful.

All you need to start microgreens yourself is your preferred seed, 3 half-height seed starting trays (one with holes), some seed starting soil (or coco coir), full spectrum lighting, water, and a little nutrient. For our growing location, we have a couple shelves in the warehouse that were just perfectly spaced for plants and lighting - the sun never reaches the plants at all. It's climate controlled at about 68 degrees, and we have fans running all the time to keep the air circulating to prevent diseases.

For our first experiment, we started with arugula seed. It germinates fast, has few problems with disease, and is usually ready to harvest in about 14 days. We filled our 10x20 inch tray with hydrated coco coir, sprinkled about 1/2 ounce of seed on top, and moistened them with a fine mist of water. Most of the seeds germinate better with a little pressure on them, so we took the seed filled tray, placed it inside another tray with no holes in it, and put the third tray on top with about a 10 pound weight on top of that and placed it on one of the shelves. Within 24 hours we had seeds germinating. Slightly misting the seeds every 24 hours, in roughly 3 days, they had all germinated and were ready to start stretching.

On day 4 we took the weight off and inverted the tray so there was a gap between the seedlings and the upside down tray. Roots had grown through coco coir and out the holes of the tray. The microgreens need a few days without light to make them grow extra tall and aid in harvesting the leaves when they are mature. At this point we started misting tops and roots once a day. In about 3 days the seedlings had grown tall enough to push the inverted tray away from the bottom and start to allow light into the plants.

At this stage of growth (about 1 week into the process) the tall, light deprived plants get moved to the artificial lights (full spectrum LEDs). We began watering daily from the bottom tray, and our seedlings colored up very nicely and started to grow more. When they started to show their first true leaf - it was almost exactly 13 days into the growing process - then we knew it was time to harvest. A few quick snips, and we had amazing, delicious microgreens to add to a salad, use on a sandwich, or to garnish other foods. Believe me, the flavor is potent and unbelievable. When harvested at this stage of growth, microgreens have 4-5 times the nutritional value of the fully mature plant.

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Plants grown in this type of soilless media can be cut by hand just above the soil line using scissors, a sharp knife or an electric trimmer. Microgreens are highly perishable, so make sure to wash them and refrigerate as soon after harvest as possible. Then the fun begins! Use them in salads, on sandwiches, as a garnish, or even on a pizza. Be creative and enjoy!

If you have a little extra space in the pantry or a spare room, you can keep your garden growing all through the winter months indoors. It is fun, rewarding, and easy to grow your own crop of delicious microgreens. There are literally dozens of options to try and sample - I think our next experiment will be with sunflower, kale and purple mustard. I can hardly wait to try all of them.

## POSSIBLE MICROGREEN CROPS:

- Amaranth
- Arugula
- Asian green
- Basil
- Beet
- Broccoli
- Buckwheat
- Cabbage
- Carrot
- Celery
- Chives
- Cilantro
- Collards
- Cress
- Dill
- Fennel
- Kale
- Kohlrabi
- Lemongrass
- Mizuna
- Mustard
- Nasturtium
- Onion
- Parsley
- Popcorn
- Pea
- Radish
- Spinach
- Sunflower
- Swiss Chard





# ANDERSON'S SEED & GARDEN

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