

Growing Food in Tahoe



Growing Food in Tahoe...

Is not for the faint of heart.

It can freeze any night of the year.

It can snow in any month.



Tahoe's frost-free growing season is around 93 days.

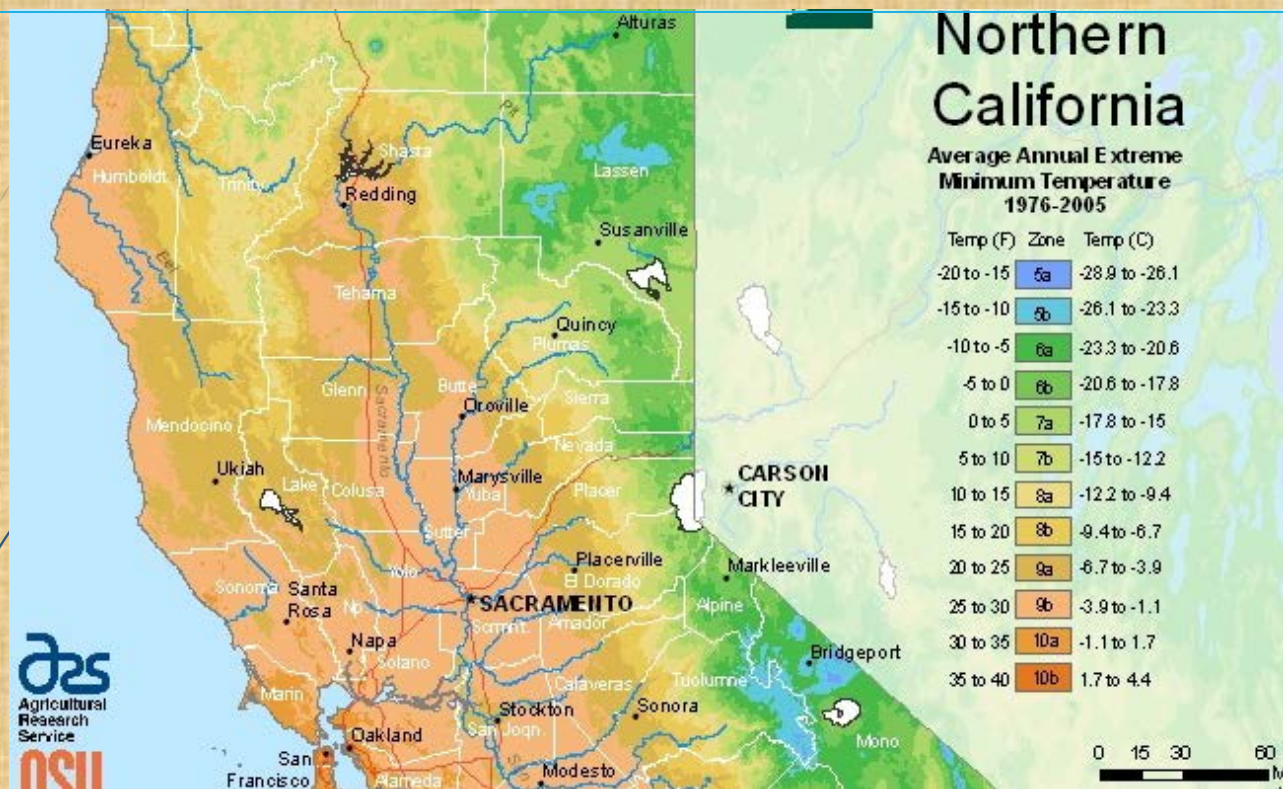
Average "frost free" growing season is June 18 to September 19!



Class Overview

- ➔ Hardiness Zones
- ➔ Soils
- ➔ Site Selection
- ➔ Water
- ➔ Edible plants that grow well in Tahoe
- ➔ Planting schedule
- ➔ Seeds & Propagation

California Hardiness Zones



South Lake Tahoe is 6b : -5 to 0 (F)
Truckee is Zone 6a : -10 to -5 (F)
El Dorado Hills Zone 9b : 25 to 30 (F)

Lake effect
Isolated valley
Altitude difference

USDA Hardiness Zone Map

Hardiness Zones

The 2012 USDA Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a location. The map is based on the average annual minimum winter temperature, divided into 10-degree Fahrenheit zones.

Look up your Hardiness Zone on the interactive map at

<http://planthardiness.ars.usda.gov/PHZMWeb/Default.aspx>

The map is produced by the U.S. Department of Agriculture (USDA) Agricultural Research Service (ARS) and is available on their website.

Soil Types



- ▶ **SANDY SOIL** - Sandy soil will crumble and fall apart when released. Water will tend to go straight down in this type of soil.
- ▶ **LOAMY SOIL** - Loam soil will hold together but then easily break apart. Water will move slowly and will spread evenly. This type is the ideal for gardening
- ▶ **CLAY SOIL** - Soil containing clay will hold together without breaking and water will be absorbed very slowly.

Soil Amending

Soil

- Food gardening requires amending soil.
- Tahoe soil is mostly sandy (decomposed granite or DG).
- And must be amended to grow food.

Soil Amendments

Soil

- **Topsoil:** In many areas in Tahoe, new topsoil is required. Natives grow in it, but little else.
- **Compost and Steer Manure:** super for amending Tahoe soil.
- **Topsoil, compost and steer manure** can be purchased by the truckload or by the bag.

Plant Amenders – Nitrogen fixers

- ▶ ***Nitrogen Fixation*** is a process in which atmospheric nitrogen (in the air), is converted into more usable nitrogen compounds in the soil.
- ▶ These compounds build up in nodules in the rhizosphere (root zone).
- ▶ Once the plant dies, these nodules release the nitrogen compounds into the soil, making them readily available for other plants to use.
- ▶ ***Nitrogen Fixing Plants:*** White Clover, Alfalfa, Legumes (peas, beans, etc), Lupines, Bayberry bush.

Site Selection

Considerations on where and how to grow your plants to ensure success:

- ➔ Microclimates
- ➔ Topography
- ➔ Other Considerations.
- ➔ Season extenders.

Microclimate Factors

- ➔ Sun and Seasons
- ➔ Aspects
- ➔ Wind
- ➔ Structures

Sun and Seasons

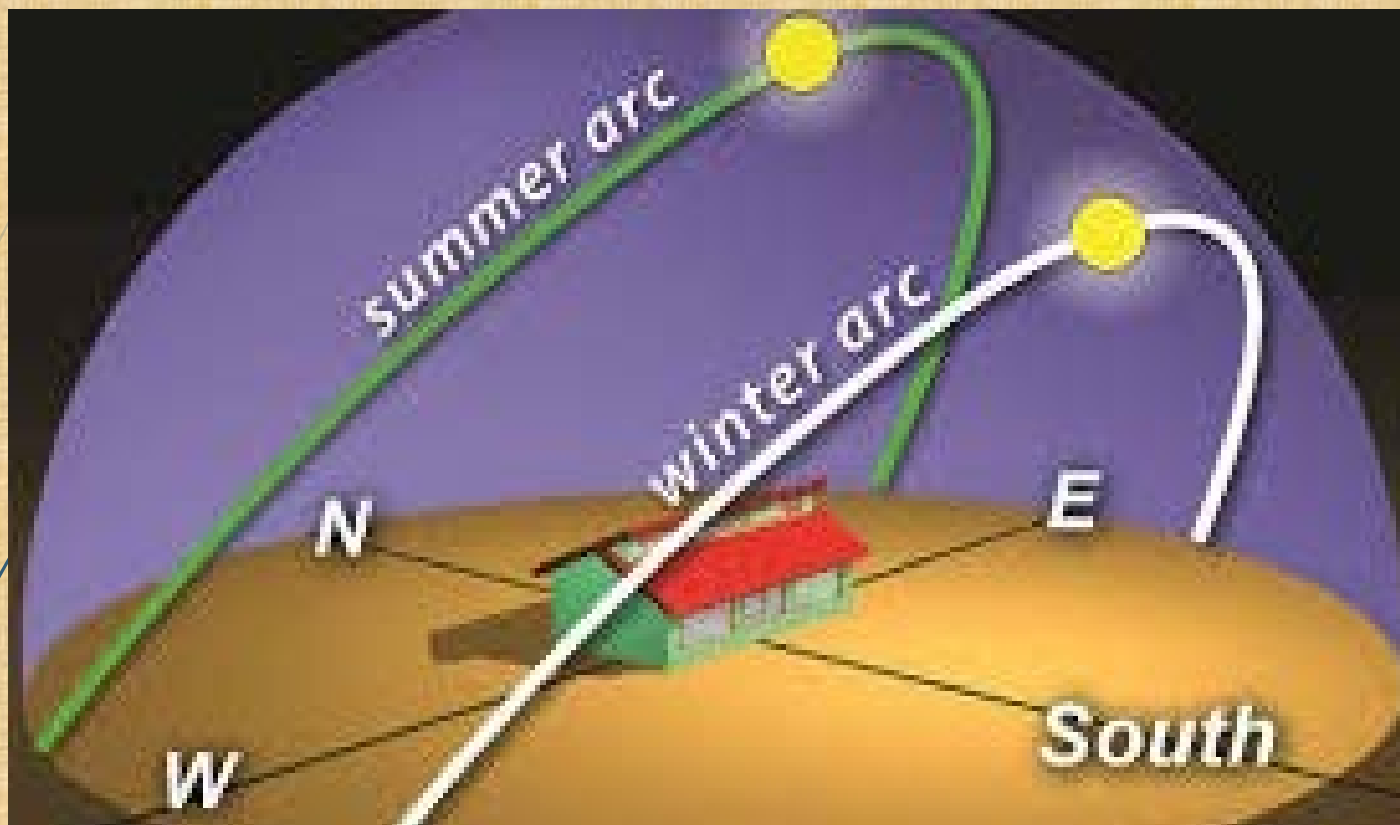
Microclimate Factors

- ▶ The seasonal change in the height of the sun in the sky creates seasonal microclimates.
- ▶ What areas of your yard get more sun during the day?
- ▶ Where are the shady areas?

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Sun – Track It in Your Yard

Microclimate Factors



**Observe the sun in your yard.
Include in your garden plot.**

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Aspects

Microclimate Factors

- ➔ *South facing slopes* warm more quickly and may extend growing season.
- ➔ *North facing slopes* are slow to warm and can delay growing period.

Wind

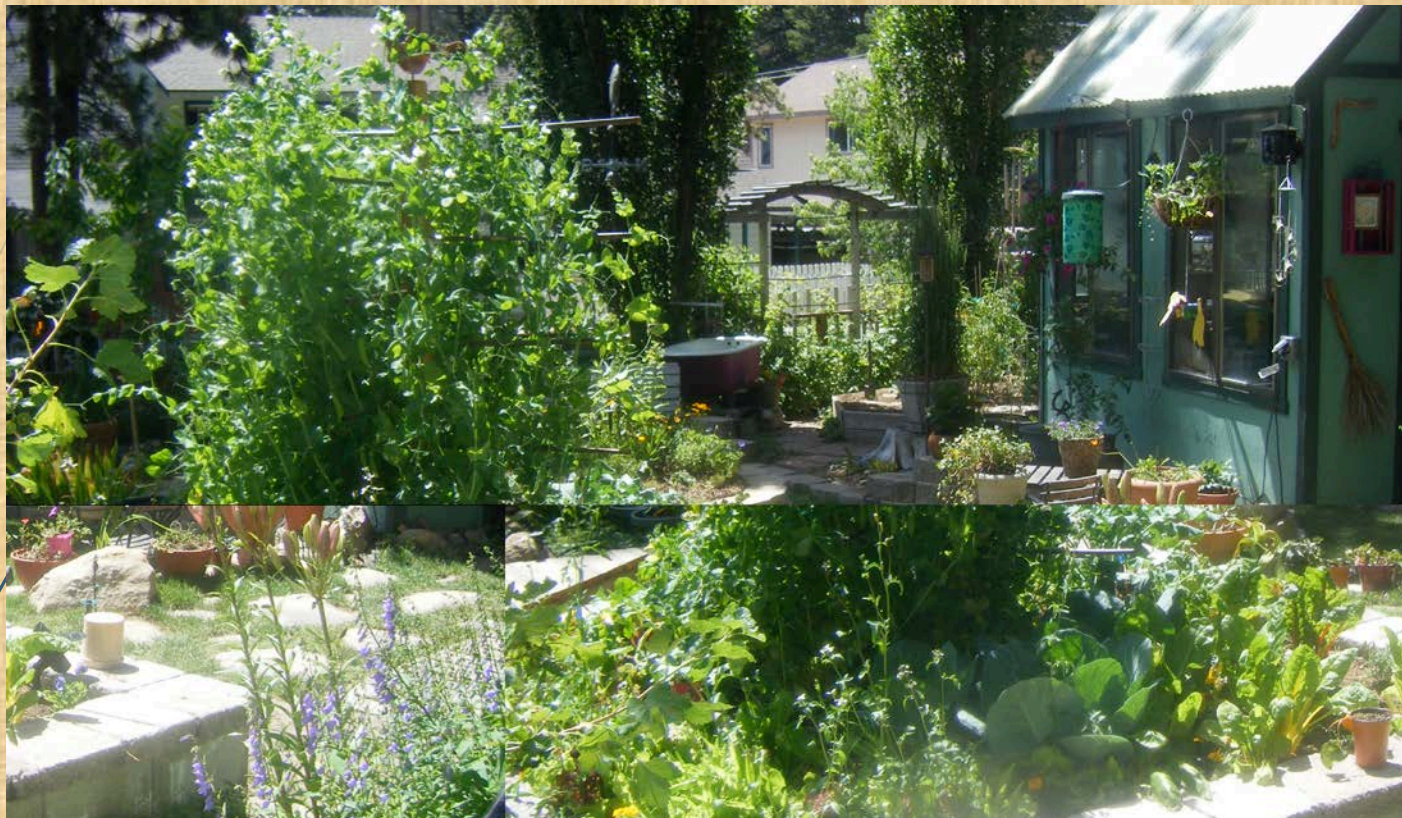
Microclimate Factors

- ➔ Winds can drastically change the microclimates around your home.
- ➔ Are certain areas of your yard protected by buildings, plants or structures.
- ➔ Is there an area that you would like to be protected from the Wind?

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Structures:

Microclimate Factors



Fences, walls, decks, stone walls and large boulders can absorb and reflect heat influencing microclimates.

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Topography

Site Selection

- ➔ Are there elevation changes on your property?
- ➔ Is your property on a rise or hill?
- ➔ Hill tops receive sun first, however they may be more exposed to wind.
- ➔ Because cold air is heavier than warm air, it collects in lower areas, that may warm more slowly.

Other Considerations

Site Selection

We live in a forest. We love our trees, the closeness of the wilderness, the purity of the lake. How do we best garden and preserve what is wild? What is our responsibility to our environment?

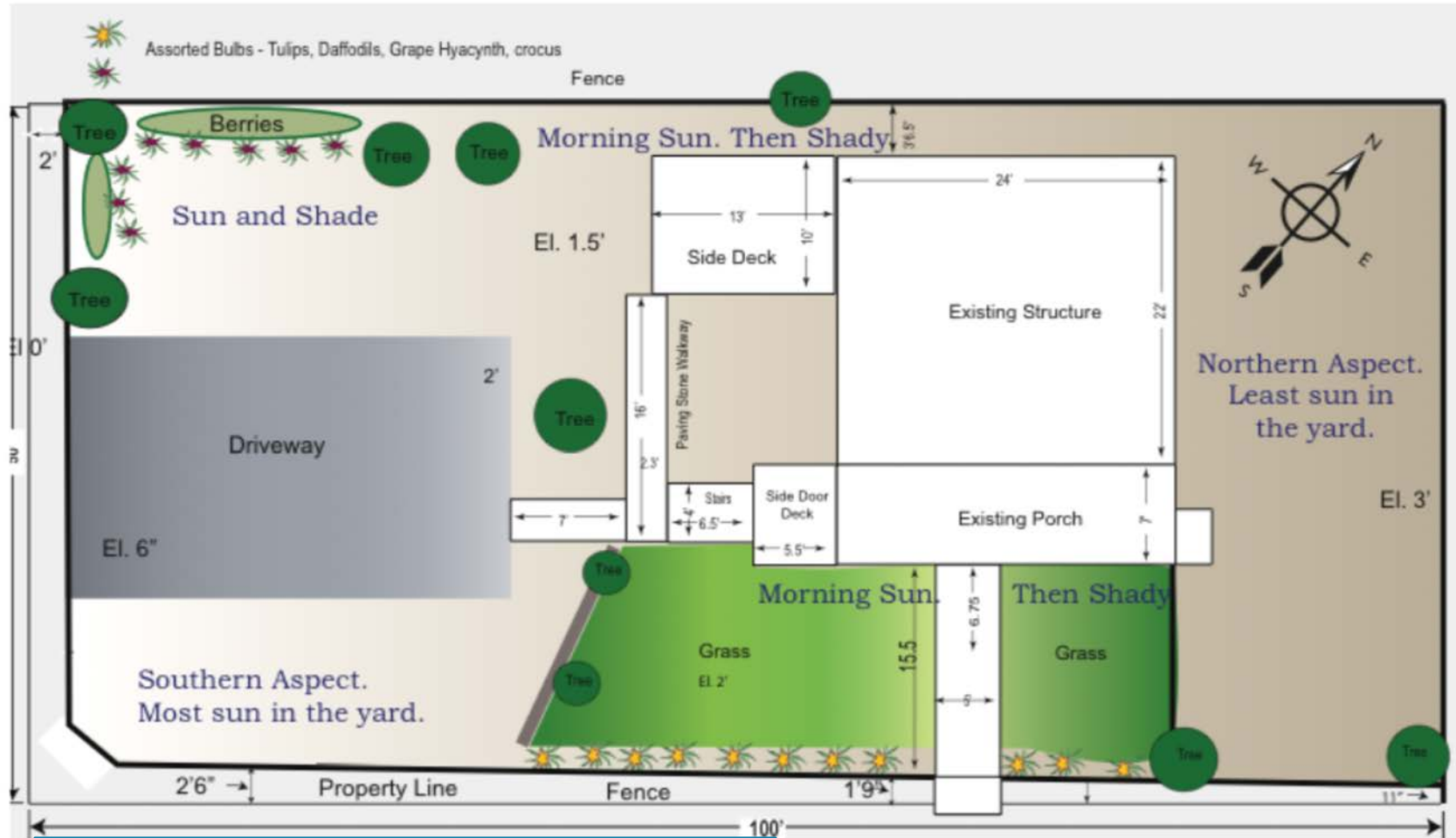
➔ **What critters do you want to attract to your garden.**

- Butterflies
- Birds
- Beneficial Insects

➔ **Do you need to protect your edibles from**

- Bears
- Rabbits
- Voles
- Neighborhood pets
- Raccoons
- Insect pests
- Gophers

Site Selection



Plot your property noting each of the factors listed previously.

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Season Extenders

As a rule, some type of season extending structure is required to be successful growing edibles.

Site Selection

- ➔ Raised Beds
- ➔ Terraces
- ➔ Cold Frames
- ➔ Hoop Houses
- ➔ Growing Domes
- ➔ Greenhouses
- ➔ Containers
- ➔ Fences & Walls

Raised Beds and Terraces

Site Selection



Raised beds provide an efficient means of amending just the soil you are going to plant in. They heat up sooner than the surroundings as well.

Cold Frames

Site Selection



Cold Frames can extend a growing season by warming the ground earlier in the spring and protecting small plants from freezes and weather reversals.

Hoop Houses

Site Selection



Hoop houses are generally constructed with PVC pipe and plastic sheeting. They can extend a growing season.

Growing Domes

Site Selection



Growing Domes are often commercial products. They are much like green houses. Sierra House School has 2 excellent examples



Greenhouses

Site Selection



Greenhouses provide good protection for crops that require heat and moisture. They are excellent season extenders.

Greenhouses

Site Selection



2017-18 Greenhouse production – picked last cucumber in December and last tomatoes the end of January. Increases electricity bill about 20%.

Containers

Site Selection



Planter boxes, pots, buckets – plant containers can be used to start plants, allow moving plants to and from protected areas or provide lovely raised planting spaces.

Fences and Walls

Site Selection

- ❖ Plants can be espaliered or staked to a wall.
- ❖ The wall can provide shelter and or privacy.



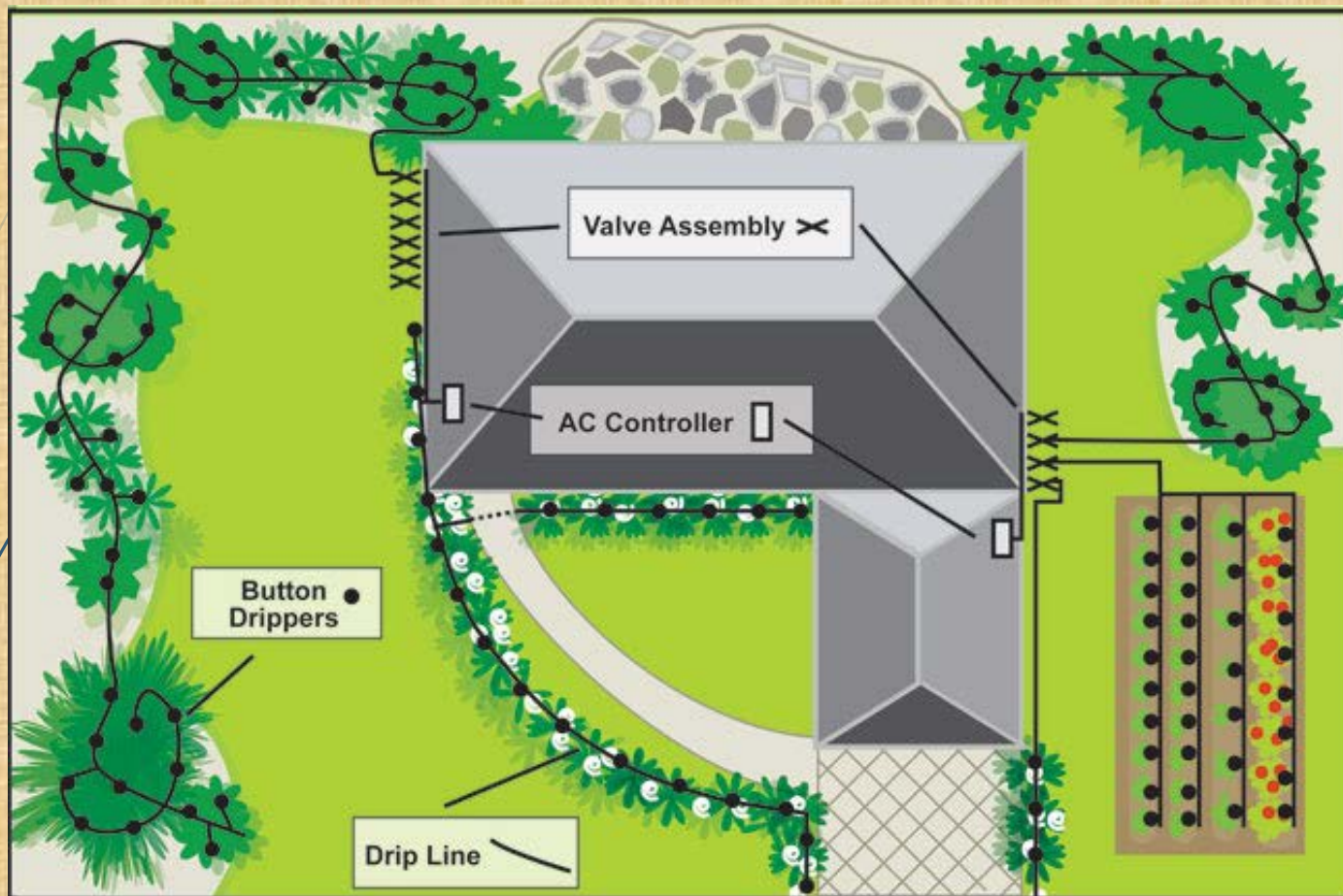
Watering

- ▶ Vegetable plants need a steady supply of water.
- ▶ Develop a plan for watering your garden.
- ▶ Automated drip irrigation is best.
- ▶ Hand watering is not ideal.

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Drip Irrigation

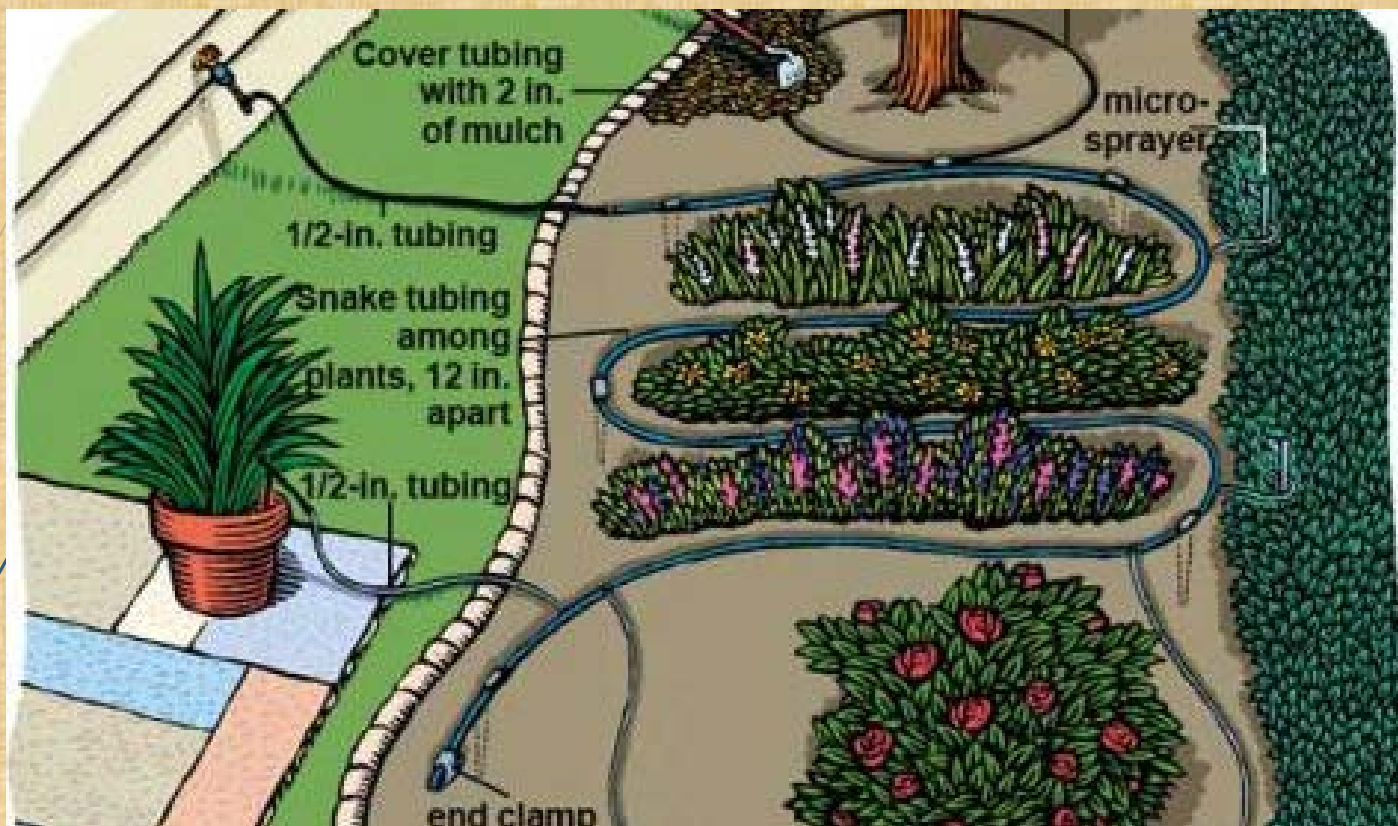
Watering



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Drip Irrigation

Watering



You can get information on many web sites and/or at hardware and garden stores.

Plants That Grow Well In Tahoe



Becca's Vegetables G-T

What Grows in Tahoe

- ☺ Garlic: Spreads and reseeds.
- Kohlrabi: Sew outside
- Lettuce: Best in Containers
- Onions: will grow year after year if left in the ground.
- ☺ ☺ Peas: Can sewn as early as soil can be worked, usually in March
- Potatoes: Grow well, but take up too much room.
- Radishes: Radishes do not always form.
- ☺ ☺ Rhubarb: Perennial and tasty.
- ☺ Sorrel: Yes, and reseeds.
- Spinach: Sew successively.
- Summer Squash – can sew outside or indoors. Maturity depends on the weather
- ☺ Tomatoes: Start inside. Best in Green House. Prefer cherry tomatoes and Early Girl.
- Turnips: Can sew as early as soil can be worked.

▫ Most successful & favorite.

Herbs

What Grows in Tahoe

Perennials

- ❖ Catnip – spreads & reseeds
- ❖ Chamomile - reseeds
- ❖ Chives - spreads
- ❖ Fennel

Lavender

- ❖ Lemon Balm- hardy
- ❖ Mint - spreads
- ❖ Sage
- ❖ Tarragon
- ❖ Thyme - hardy

Annuals

Basil – cold sensitive

- ❖ Borage – will reseed year after year

Chervil

Cilantro - goes to seed quickly.

Lemongrass

Marjoram

- ❖ Parsley – seems hardy

- ❖ Salvia

Stevia

- ❖ Ones Becca has successfully grown.

Fruits that Grow in Tahoe

What Grows in Tahoe

Trees

- Apples - Adapted
- Cherries - Adapted
- Pears - Adapted
- Plums

Shrubs & Plants

- Blueberry - Adapted
- Raspberry - Native or adapted a long a go.
- Blackberry.

Fruits & Nuts

What Grows in Tahoe

- ▣ Chestnut
- ▣ Mulberry
- ▣ Serviceberry - native
- ▣ Seaberry
- ▣ Strawberry
- ▣ Thimbleberry - native

Fruits Becca Grows in Tahoe

Apple: 3-in-1. Produced about 30 apples in 2017. Has been damaged by a bear climbing it.

Cherries: Produced about 2 quarts last year. Gets aphids. Must be covered with bird netting.

Pear: 3-in-1. Some years produces very well. Only issue is periodic hail damage to blossoms.

Plum: Lovely tree, but has not produced more than 2 or 3 plums per season.

Fruits Becca Grows in Tahoe

Raspberries: Grow and spread. Have not figured out how to beat the birds to the berries.

Blueberries: Delish. Must be covered with bird netting.

Elderberry: Beautiful blossoms. Birds get any fruit.

Strawberries: Spread a lot, but not much fruit lately.

Sierra Currant: Lovely blossoms. Birds get the fruit.

Edible Flowers

- Allium Family
- Angelica
- Anise Hyssop
- Bachelor Buttons
- Bee Balm
- Borage family
- Calendula/ Marigolds
- Carnation/ Dianthus
- Chamomile
- Chicory
- Chrysanthemum
- Cilantro
- Clover
- Dandelion
- Dill
- Fennel
- Fuchsia
- Gladiolus
- Hollyhock
- Jasmine
- Johnny Jump-ups
- Lavender
- Lilac
- Mint
- Nasturtium
- Oregano
- Pansy
- Radish
- Rose
- Rosemary
- Sage
- Squash and Pumpkin
- Sunflowers
- Violets

Seeds and Propagation

Chose -

- ➔ Shorter days to maturity / harvest.
- ➔ Frost tolerance.
- ➔ Seeds derived from high altitudes, if possible.
- ➔ Determinate / Indeterminate tomato.



Direct Sowing

Seeds and Propagation



- Some seeds can be sewn directly in the soil.
- Peas, Kohlrabi and turnips can be sewn as early as the soil can be worked. Even before the last snow.
- For most other seeds, the soil needs have warmed to 60° F.

Starting Seeds Inside

Seeds and Propagation

Your greatest success with seed starting will be enhanced by using the following:

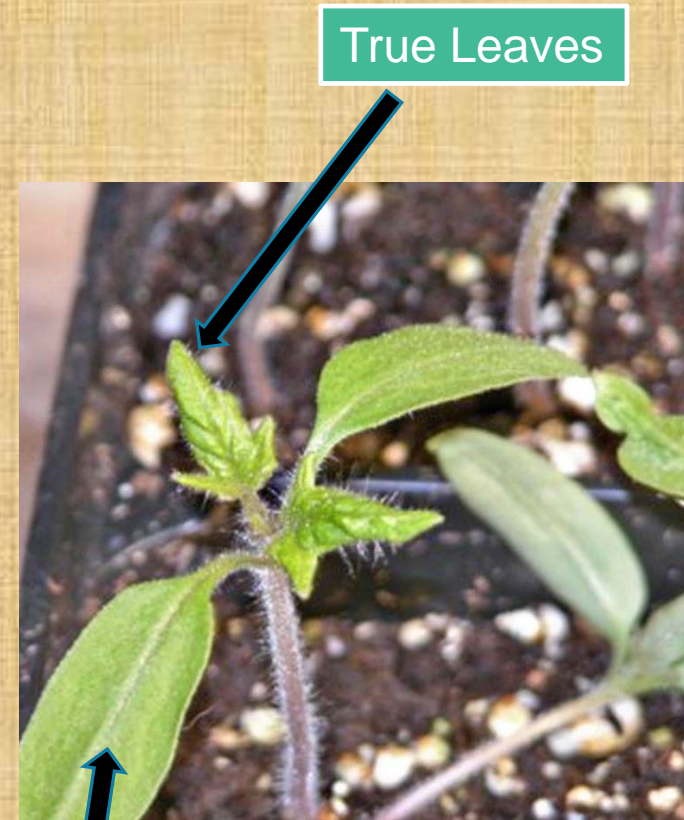
- ▶ Heat Mat.
- ▶ Grow Light.
- ▶ Container with Lid.
- ▶ Starting 4-6 weeks before transplanting outside.



Transplanting

Seeds and Propagation

- ▶ Plants must have at least True Leaves.
- ▶ Plant does not require fertilizer until True Leaves appear.
- ▶ May need to be transplanted to a larger pot before being planted outside.
- ▶ Add fertilizer with each transplanting



Cotyledons, leaf-like structures, part of the seed, serve as food until true leaves are formed

Hardening Off

Seeds and Propagation



- “Toughing up your plants” so that they can be planted outside and survive.
- Gradually increase the time the plant is exposed to sun and wind and outside temperatures.
- A fan can be used inside before **hardening off**

When to Plant Outside

Seeds and Propagation

Plant	Notes	March	April	May	June	July	August	September	October	November
Asparagus	Perennial			Start	End					
Beans					Start	End		Start	End	
Beets	sew successively		Start	End		Start	End			
Borage	reseeds				Start	End				
Broccoli	tolerates frost		sew indoors	Start	End			Start	End	
Brussels Sprouts	tolerates snow		sew indoors	Start	End					
Cabbage	tolerates snow		sew indoors	Start	End					
Carrots	sew successively	Start	End			Start	End			
Cauliflower	goes to seed quickly		sew indoors	Start	End					
Chives	Reseeds	Start	End	Start	End					
Kohlrabi			Start	End		Start	End			
Onions	Reseeds		Best from starts							
Peas			as early as soil can be worked							
Radishes	sew successively	Start	End			Earliest	Start	End		
Spinach	sew successively	Start	End			Earliest	Start	End		
Summer Squash					Start	End				
Swiss chard	sew successively		Start	End						
Tumips	sew successively		as early as soil can be worked			Start	End			
Have Also Grown, but requires more work:										
Tomatoes	maturity varies			sew indoors			Grow in green house or use a hoop house			
Peppers	maturity varies			sew indoors			Grow in green house or use a hoop house			
		sew indoors	=	Start Plants indoors						
			=	When to plant seeds outside						
			=	Range when vegetables will be mature enough to pick - can vary greatly						

Franklin "Frankie" in Tahoe. Our weather is one of the most variable in the US. We can have frost anytime during the year. We hope for a frost free season from June 1 to

Unofficial planting chart for Tahoe.



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Good Luck on Your Food Gardening Endeavors

Questions ?

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