



UC Master
Gardeners
Napa County

Welcome!



Cool Season Vegetables

August 10 & 11, 2019

UC Master Gardeners of Napa County



University of California

Agriculture and Natural Resources

UCCE Master Gardener Program



UC Master
Gardeners
Napa County

Today's Team

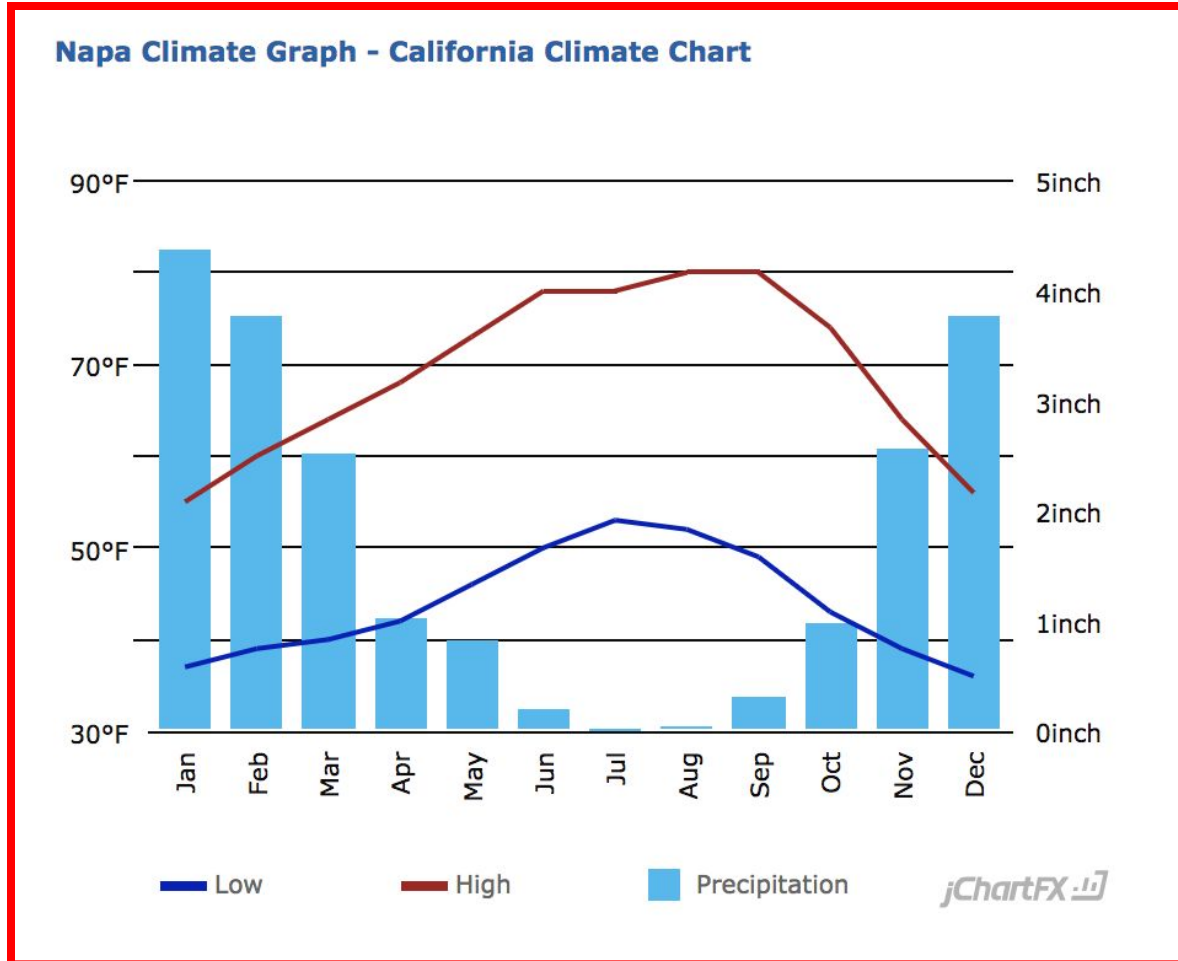
- Pat Hitchcock
- Celia Weller
- Kathleen McClure
- Heather Dooley
- Carolina Rojas
- Eva Garcia



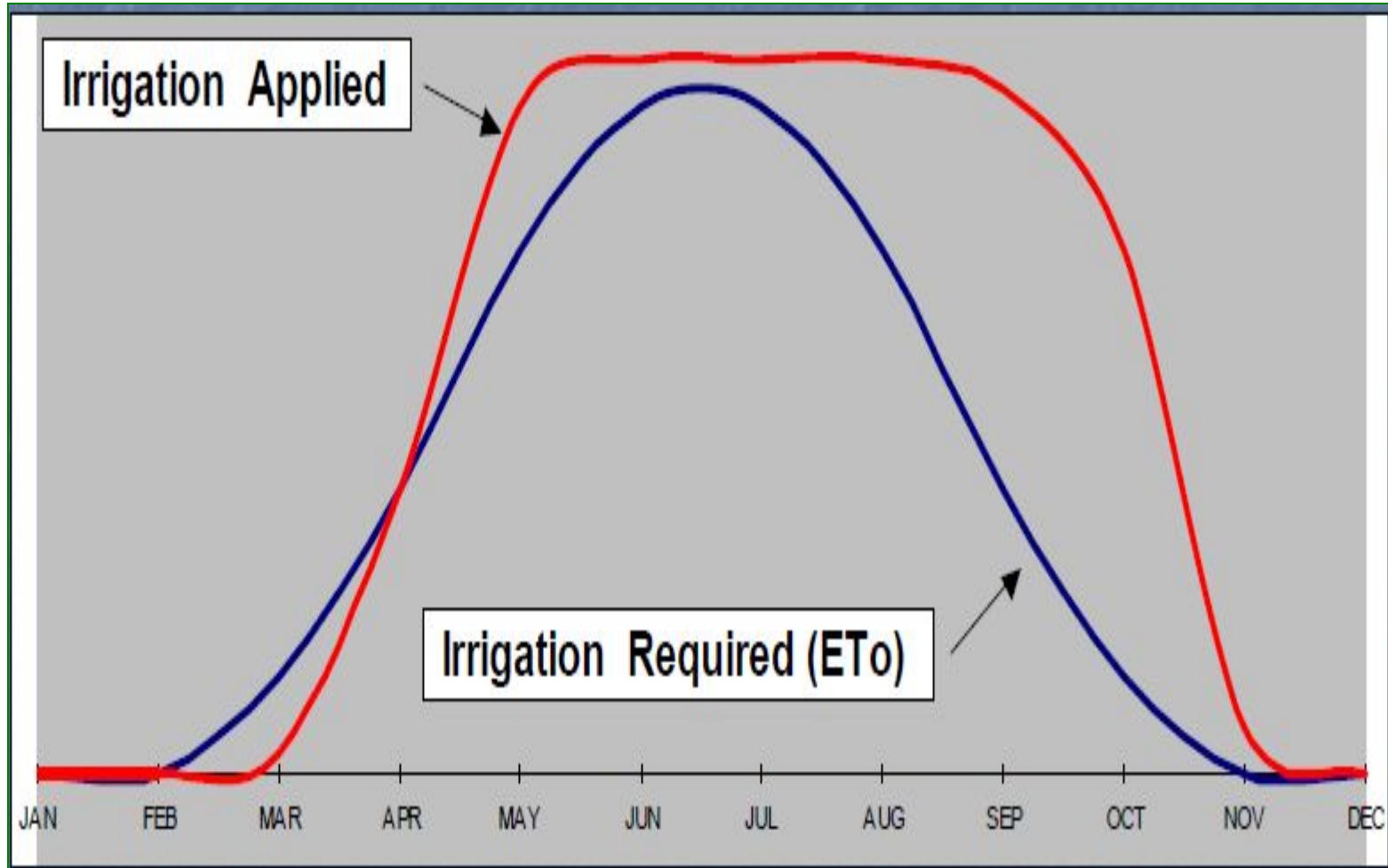
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Napa County Average Temperature and Precipitation by Month



RELATIVE WATER NEEDS BY TIME OF YEAR



Cool vs Warm Season Veggies

- Warm season vegetables grow best at 65 to 95 degrees Fahrenheit and are damaged or killed by frost.
- Cool season vegetables grow best in daytime temperatures of 55 to 75 degrees Fahrenheit and tolerate some amount of short-term freezing.



Seed Packet Activity



Monthly Averages for

Napa, CA

[English | Metric]

Monthly Averages

Table Display

Graph Display

Temperature (°F)

- Avg High
- Record High
- Avg Low
- Record Low

Precipitation

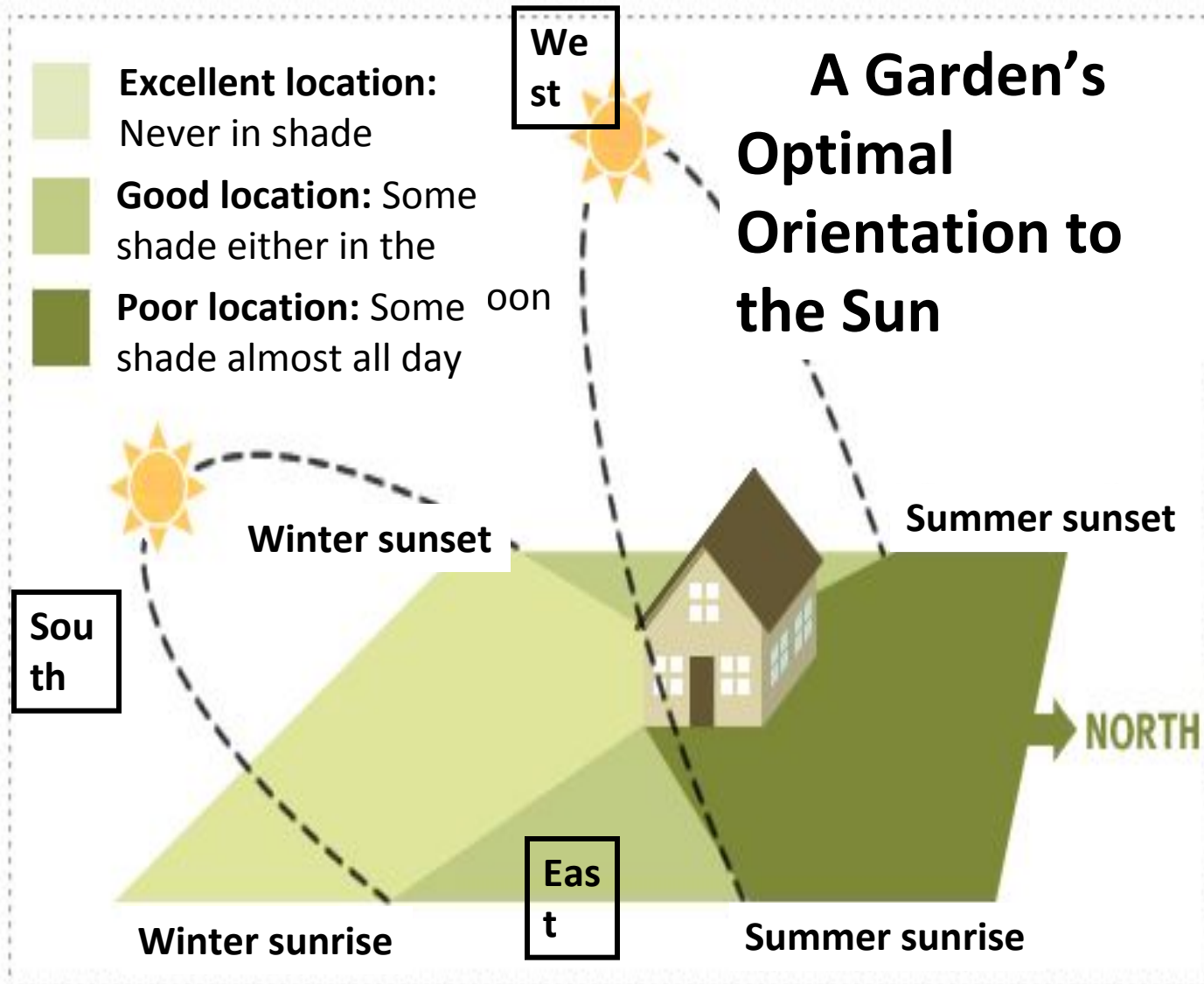
- Avg Precip.

Legend: ● Record High ● Average High ● Average Low ● Record Low ■ Precip

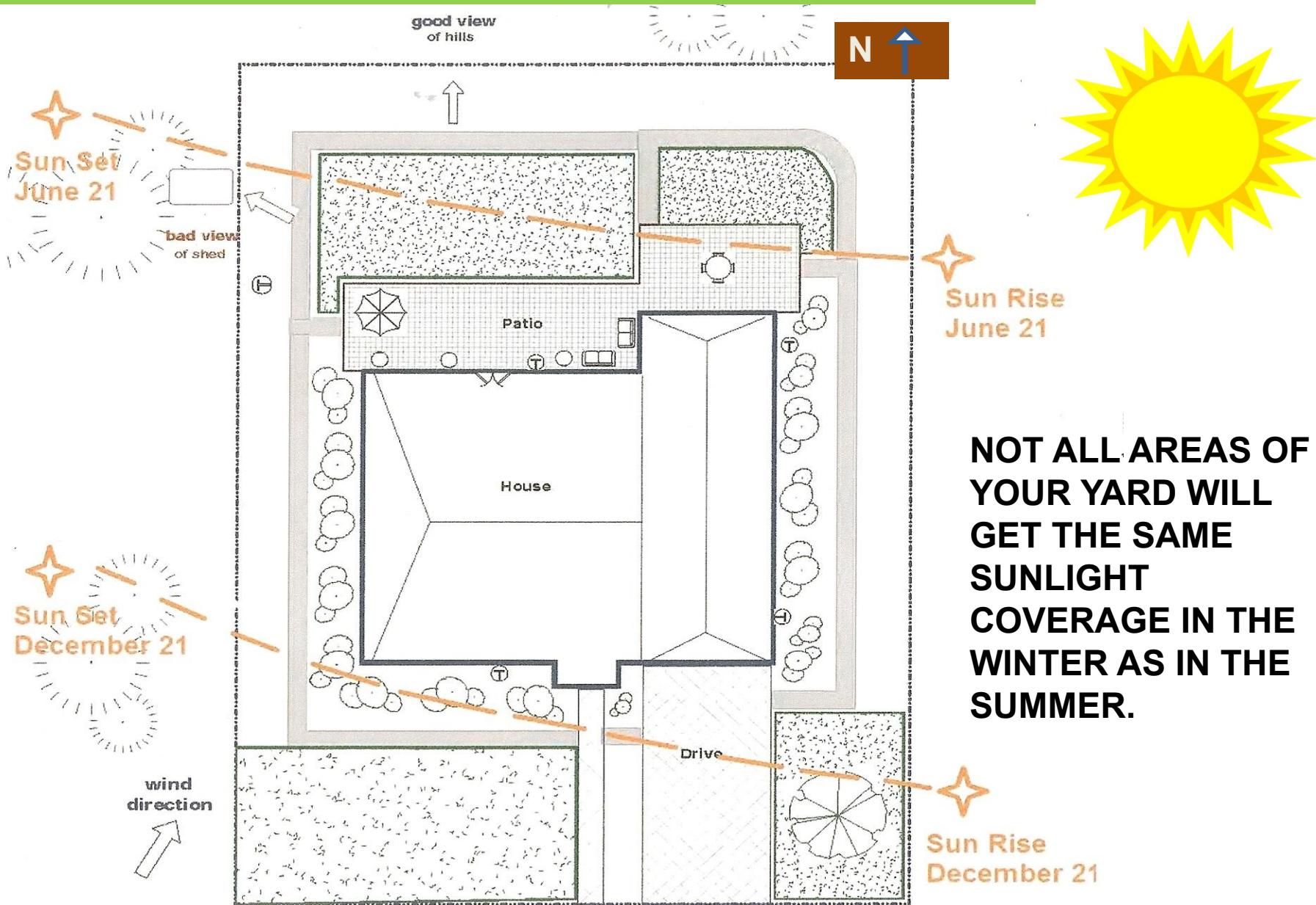




Sunlight - Summer vs. Winter



FIND WHERE THE SUN FALLS IN YOUR YARD



NOT ALL AREAS OF YOUR YARD WILL GET THE SAME SUNLIGHT COVERAGE IN THE WINTER AS IN THE SUMMER.

CELIA'S HOUSE



MICROCLIMATES WITHIN A GARDEN

GOOD SUN COVERAGE

NOT GOOD



Be Prepared

- Level Ground
- Water Supply
- Adequate Light
- Good Soil



Plants grow well in soil that ...



Has a healthy physical structure



Contains essential nutrients

Some Essential Garden Terms



Compost



Mulch



Amendments



Fertilizer

Compost

Is decomposed organic matter

- **Make it at home.**



- **Buy it from recycling plants.**



- **Buy it in bags from stores.**



Mulch

Is layered on top of the soil to cover and protect it.

- Mulch preserves moisture, reduces weeds, prevents erosion, also can slowly add some micronutrients.
- Mulch is usually organic.
- One of the best mulches is compost.



Amendments

Are mixed into the soil to improve the texture or physical condition of the soil (tilth).

Examples:

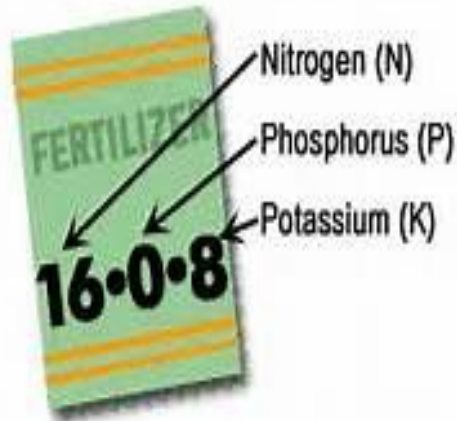
- Barnyard manure
- Green Manure and Cover Crops
(E.g. Fava Beans, Mustard, Vetches)
- Packaged mixes



One of the best amendments is compost

- Compost develops into humus to improve soil structure
- Improves drainage and aeration
- Conserves soil moisture
- “Finished” compost can be mixed into the soil right before planting

Fertilizer



- 5-X-X **Nitrogen (N)** promotes green leafy growth
- X-5-X **Phosphorus (P)** assists in flower, seed, and fruit production
- X-X-5 **Potassium (K)** helps develop root and tubers

Organic vs. Synthetic Fertilizers

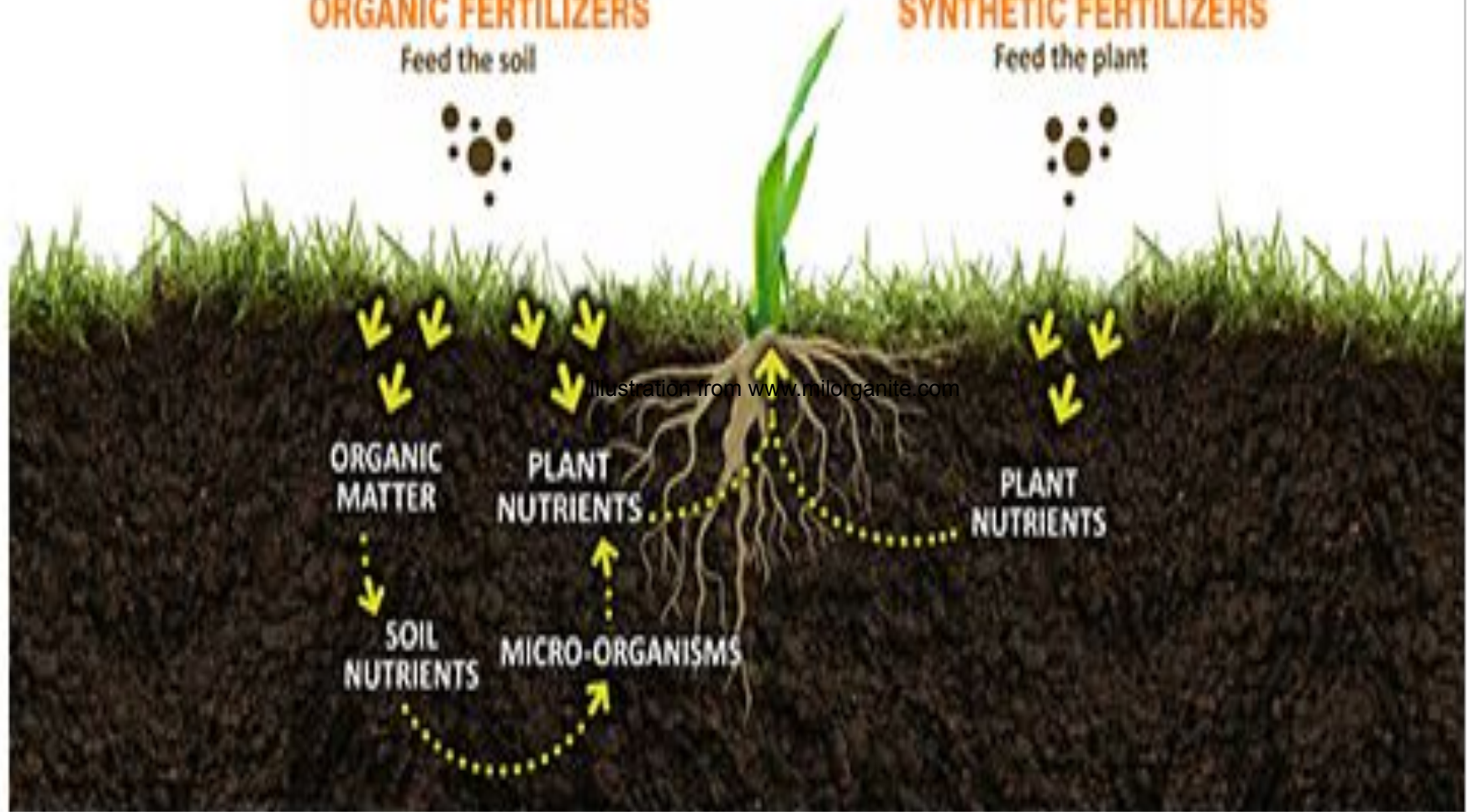
ORGANIC FERTILIZERS

Feed the soil



SYNTHETIC FERTILIZERS

Feed the plant



Organic Fertilizer Examples

- Commercial organic fertilizers
- Animal manures
- Seaweed (kelp)
- Fish meal or emulsion
- Soybean meal
- Alfalfa pellets
- Bone and blood meal

Planting & Harvesting Schedules



Who?



When?



What?



How?

Where?



FALL VEGETABLE PLANTING GUIDE FOR NAPA COUNTY

(From Robert F. Norris, Botany Dept. U.C.D, Prepared 10/98)

VEGETABLE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	NOTES/COMMENTS
Broccoli		Plant seeds	Plant seedlings		Harvest	Harvest	Harvest	Harvest	Harvest	Harvest				
Brussel Sprouts	Plant seeds	Plant seedlings			Harvest	Harvest	Harvest	Harvest	Harvest	Harvest				
Cabbage		Plant seeds	Plant seedlings			Harvest	Harvest	Harvest	Harvest					"Early" types could be planted up to 10 days later
Carrots		Plant seeds				Harvest	Harvest	Harvest	Harvest					
Cauliflower		Plant seeds	Plant seedlings		Harvest	Harvest								
Fava Beans					Plant seeds					Harvest	Harvest			
Kohlrabi		Plant seeds	Plant seedlings		Harvest	Harvest	Harvest	Harvest		Plant seeds indoors/in greenhouse	Plant seedlings		Harvest	Best to do spring planting near beginning of period shown
Lettuce			Plant seeds		Harvest	Harvest	Harvest							Planting and harvesting season depends greatly on type
Onions	Plant seeds	Plant seeds				Plant seedlings				green onions		bulbs		
Peas (early and late varieties)					Plant seeds				Harvest	Harvest				
Potatoes		Plant seeds			Harvest									Harvest and store
Radish			Plant seeds	Harvest	Harvest	Harvest								
Red Cabbage		Plant seeds	Plant seedlings			Harvest	Harvest	Harvest	Harvest					
Rutabaga	Plant seeds	Plant seedlings	Plant seedlings	Plant seedlings	Plant seedlings	Plant seedlings	Plant seedlings	Plant seedlings	Plant seedlings					
Spinach				Plant seeds				Harvest	Harvest	Harvest				
Turnip		Plant seeds			Harvest	Harvest	Harvest	Harvest	Harvest	Harvest				

Code:

Plant seeds

Plant seedlings

Harvest

Range of season

Plant seeds indoors/in greenhouse

WINTER/SPRING VEGETABLE PLANTING GUIDE FOR NAPA COUNTY

VEGETABLE	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	NOTES/COMMENTS
Broccoli														Harvest time depends on planting date and weather
Beets														
Cabbage														Harvest time depends on variety and weather
Cantaloupe														
Carrots														
Cauliflower (early) (late)														
Chard														
Corn														
Cucumber														
Eggplant														
Lettuce														Harvest time depends on variety and weather
Onions, Shallots														Harvest and store
Peas														
Peppers														
Potatoes														Harvest and store
Pumpkin														
Radish														
Snap Beans														Plant Lima beans 1 week after earliest snap beans, and until late May
Tomatoes														
Watermelon														
Zucchini														

Code:

Plant seeds
 Plant seedlings
 Harvest
 Range of season
 Plant seeds indoors/in greenhouse



Planting Guide for Annual Vegetables

Napa County

Month	Plant seed outdoors	Start seed indoors	Plant seedlings outdoors
January	Garlic (sets), kale, onions, radishes, spinach	Asian greens (bok choys, mustards), brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), lettuce, leeks, onions, (late in month: eggplant & peppers)	
February	chard, lettuce, onions, parsnips, peas, potatoes, radishes, rutabagas, spinach, turnips	Asian greens, brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), chard, eggplant, leeks, lettuce, onions, parsley, peas, peppers, tomatoes	Asian greens (bok choys, mustards), brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), celery, leeks, lettuce, onions
March	Asian greens (bok choys, mustards), beets, carrots, chard, kale, cilantro, fava beans, lettuce, parsnip, peas, potatoes, radishes, rutabagas, spinach, sunchoke (tubers), turnips	Brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), chard, eggplant, leeks, lettuce, onions, parsley, peppers, tomatoes, tomatillos	Asian greens (bok choys, mustards), brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), chard, leeks, lettuce, onions
April	Beans, beets, carrots, chard, endive, lettuce, parsnip, potatoes, radishes, spinach, sunflower, turnip, (late in month: squash, cucumbers, pumpkins)	Basil, chard, cucumbers, leeks, lettuce, melons, onions, parsley	Brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), chard, leeks, lettuce, onions, (late in month: eggplant, peppers, tomatoes)
May	Beans, beets, carrots, chard, cilantro, corn, cucumbers, dill, endive, leeks, lettuce, melons, okra, onions, parsnip, potatoes, pumpkins, radishes, squash, sunflower	Basil, chard, lettuce (heat tolerant), parsley	Basil, chard, cucumbers, eggplant, leeks, lettuce, melons, onions, parsley, peppers, pumpkins, squash, tomatoes, tomatillos
June	Beans, beets, chard, cilantro, corn, cucumbers, dill, endive, leeks, lettuce, melons, okra, parsnip, pumpkins, radishes, squash, sunflower	Basil, chard, lettuce (heat tolerant), parsley	Basil, chard, cucumbers, eggplant, lettuce, melons, parsley, peppers, pumpkins, squash, tomatoes, tomatillos
July	Beans, beets, chard, cilantro, corn, cucumbers, dill, endive, leeks, lettuce, melons, parsnip, peas, pumpkins, radishes, squash	Chard, leeks, lettuce, (late in month: brassicas including Brussels sprouts, celery)	Basil, chard, lettuce
August	Beets, carrots, chard, cilantro, lettuce, parsnips, peas, radishes, rutabagas, spinach, turnips	Brassicas (cabbage, kohlrabi, kale, broccoli, cauliflower, Brussels sprouts), fennel, radicchio	Brassicas (broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi), chard, leeks, lettuce
September	Asian greens, beets, carrots, chard, cilantro, dill, endive, lettuce, parsnips, peas, radishes, rutabagas, spinach, turnips	Bok choy, brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), endive, escarole, lettuce, onions	Brassicas (broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi), endive, fennel, celery, leeks, lettuce, radicchio
October	Asian greens, carrot, chard, cover crops, fava beans, garlic, mache, onions, parsnip, radishes, rutabaga, spinach, turnips		Brassicas (broccoli, cabbage, cauliflower, collards, kale, kohlrabi), endive, escarole, lettuce, onions
November	Chard, carrots, cover crops, fava beans, garlic & shallots (from cloves, not seeds), onions, radishes, spinach		
December	Fava beans, garlic & shallot cloves, radishes, parsley, spinach		

Finding Space while Summer Plants are still producing



- Plant under or between summer crops
- Plant in containers
- Sacrifice a portion of summer crops
- Use vertical supports for trailing vines
- Start seedlings indoors for later transplant to garden (not appropriate for all vegetables)





Going
vertical

Interplanting



Photo by Candace
Simpson

✧ Renee's Garden ✧

ORGANIC  SEEDS

Early Heading Broccoli
Batavia



Early & vigorous new variety for vitamin-rich,
big tasty heads & extended side shoot harvests.

✧ Renee's Garden ✧

Long Harvest Broccoli
All Season Blend



A blend of early, mid and late-maturing
varieties for extended harvesting.

Comparing Seed Packets



The Chas. C. Hart Seed Co.
304 Main St., Wethersfield, CT 06109

0 23497 11189 9

LETTUCE

HART'S SPECIAL MIX

Pick when young 3-4 weeks

This mix of lettuce favorites is usually harvested young and mixed for salads. Can also be separated after sprouting and transplanted to grow to maturity (approximately 40 - 50 days).

SOWING...Plant seed outdoors as soon as ground can be worked. Plant in rows 4 to 6 inches apart spacing seeds thinly in the row. Can also be broadcast thinly in a section of the garden. Cover with 1/4 inch of fine soil well pressed down. Keep soil moist until the seeds start to grow.

GERMINATION...Germinates in 7 to 14 days depending on soil and temperature conditions.

HARVESTING...Using scissors, snip the young leaves off about 1/2 inch above the soil line. For a continuous supply of lettuce throughout the summer, plant Hart's special mix each week.

REMARKS...Plant enough each planting to last about a week at harvest time. If you like salad, start with about 5 feet of row and adjust each planting as needed. This mild mix contains 20% Lettuce, Black Seeded Simpson, 20% Lettuce, Green Salad Bowl, 20% Lettuce, Oakleaf, 20% Lettuce, Red Salad Bowl, and 20% Lettuce, Romaine.



All our seed is untreated
& produced by traditional methods.
For more information www.hartseed.com

KALE

You can't beat Kale if you are looking for tasty greens with high Vitamin and mineral content. The leaves are sweet, tender and crunchy especially when harvested after exposure to cool frosty weather. Enjoy greens boiled, steamed, stir fried or as a fresh addition to salads and sandwiches.

Planting Depth	Seed Spacing	Spacing Between Rows	Days to Germination	Spacing After Thinning	Days to Maturity
1/4" to 1/2"	2"	2'	5 to 14	12" to 18"	55 to 70

When and where to plant: Select a sunny a location and sow seed in the spring as soon as the ground can be worked. Plant again in late July and August for fall and winter harvest. For best results, loosen soil with spade or fork, fertilize and smooth with rake. Firm soil over seed and keep moist.

















Care: Keep soil moist, weed free and feed every 4 to 6 weeks.

Harvesting: Pick youngest leaves for fresh use in salads and sandwiches or Harvest the tender fully grown leaves starting from the bottom of the plant.

Health Note: A very rich source of calcium, Iron and vitamins A and C.

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Crop Rotation

	AREA 1	AREA 2	AREA 3	AREA 4
YEAR 1	 LEAVES	 FRUIT	 ROOTS	 LEGUMES
YEAR 2	 LEGUMES	 LEAVES	 FRUIT	 ROOTS
YEAR 3	 ROOTS	 LEGUMES	 LEAVES	 FRUIT
YEAR 4	 FRUIT	 ROOTS	 LEGUMES	 LEAVES

Learning Centers: 10 minutes each

- Transplant cool season vegetables to take home.
- Learn how to plant seeds in the ground, small and large.
- Taste and see the actual vegetables.

Benefits of Cool Season

- More moisture...from sky
- Vegetables grow slower, “store” in ground
- Fewer weeds & pests...until spring
- Some veggies taste better after frost

Integrated Pest Management

- Prevention
- Diagnose First!
 - Cultivation or pest/disease?
- Non-chemical control
- Limit use of pesticides (least toxic first)

Integrated Pest Management



Salad greens: Lettuce



Looseleaf



Heading



Mix (mesclun, others)

Snails and slugs



Greens: Kale



Red Russian



Nero di Toscano

Aphids



Parasitized aphids



Chard



Bright Lights



French White

Spinach



Leafminer



UC Statewide IPM Project
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UC Statewide IPM Project
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Greens: Asian



Bok choy



Tatsoi



Komatsuna

Cabbage family: Cauliflower



Romanesco, Graffiti, Early Snowball

Cabbage family: Broccoli



Cabbage family: Kohlrabi



Imported cabbageworm



Cabbage looper



Root crops: Carrots



Root crops: Radishes, turnips, rutabagas



Radishes



Turnips



Rutabagas

Peas



Shelling



Snow or pea pod



Sugar snap

Peas: Powdery Mildew



Fava beans



Crimson fava



Fava flower and aphids



Fava root nodules



UC MG WEBSITE NAVIGATION

Go to UCMG website
<http://napamg.ucanr.edu/>

For more research based gardening information from University of California
Go to Gardening Resources

For slides and references for this workshop and other past events
Go here

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Tomato Info
CLICK HERE!
Locally Grown 25+ Varieties

UC Master Gardeners of Napa County

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The Master Gardener program is a volunteer organization associated with the University of California Cooperative Extension. *Our mission is to extend research based knowledge on home horticulture, pest management, and sustainable landscape practices to the residents of California and to be guided by our core values and strategic initiatives.*

Become a Master Gardener!
Click for info about the 2020 class!

Fall Faire

Master Garden Calendar

Event Name

Guided Tree Walk - Napa

Guided Tree Walk - Yountville Cancelled

Cool Season Vegetables-now is the time to plan & start - Napa

Growing Cool Season Vegetables Yountville

Each link opens a new page with more links. Just click on the items you'd like to investigate

TAKE TIME TO EXPLORE ALL THE LINKS ON OUR WEBSITE

WE HAVE LOTS TO OFFER!



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Questions?



Help Us Better Serve You!

Our follow-up survey provides us the tools we need to grow and improve the quality of our program.



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