

Maintenance: Weeds, Water, and Work



**FRESH
FORK
MARKET**
LOCAL PROVISIONS FOR
MODERN DOMESTIC LIVING

Outline: Possible Topics

The Plants Are Up, Now What?

Regular Tasks

Watering and Fertilizing

Techniques for Reducing Problems – good soils, rotation, and companion planting

Identifying Problems

Indicators from the Plants

Photos of common bugs and diseases

Suggested Solutions

Question and Answer

What problems have you had in your garden?



Tips for Regular Garden Tasks



Watering:

- Evenings or early mornings
- Avoid watering the leaves.
- Water thoroughly. Soil should be moist 3 inches deep (promotes good root development)
- Drip hoses or irrigation is another option

Weeding:

- Try to get the roots
- Very important when plants are young (don't want to shadow over plants)
- Stop: when plants are established, consider the weeds as food for the insects. However, don't let the weeds go to seed (after flowers)



Fertilizing

For the most complete information, attend Course 1: Soils.

This is a discussion of fertilizing once the garden has started.

Liquid Fertilizers: consider fish kelp/emulsion or an organic, non-salt based option

- Miracle Gro – salt based, sulfur, potassium chloride, urea, and ammonium phosphate

Compost: compost in the spring and/or top dress during growing season



Compost Tea:

- Extract of compost made by soaking water with compost (like a tea bag)
- Benefits: natural, full of nutrients AND micro-organisms
- Apply directly to the soil or the plant

Caution: compost tea “expires” when the microbes run out of food and air and the population dies off.

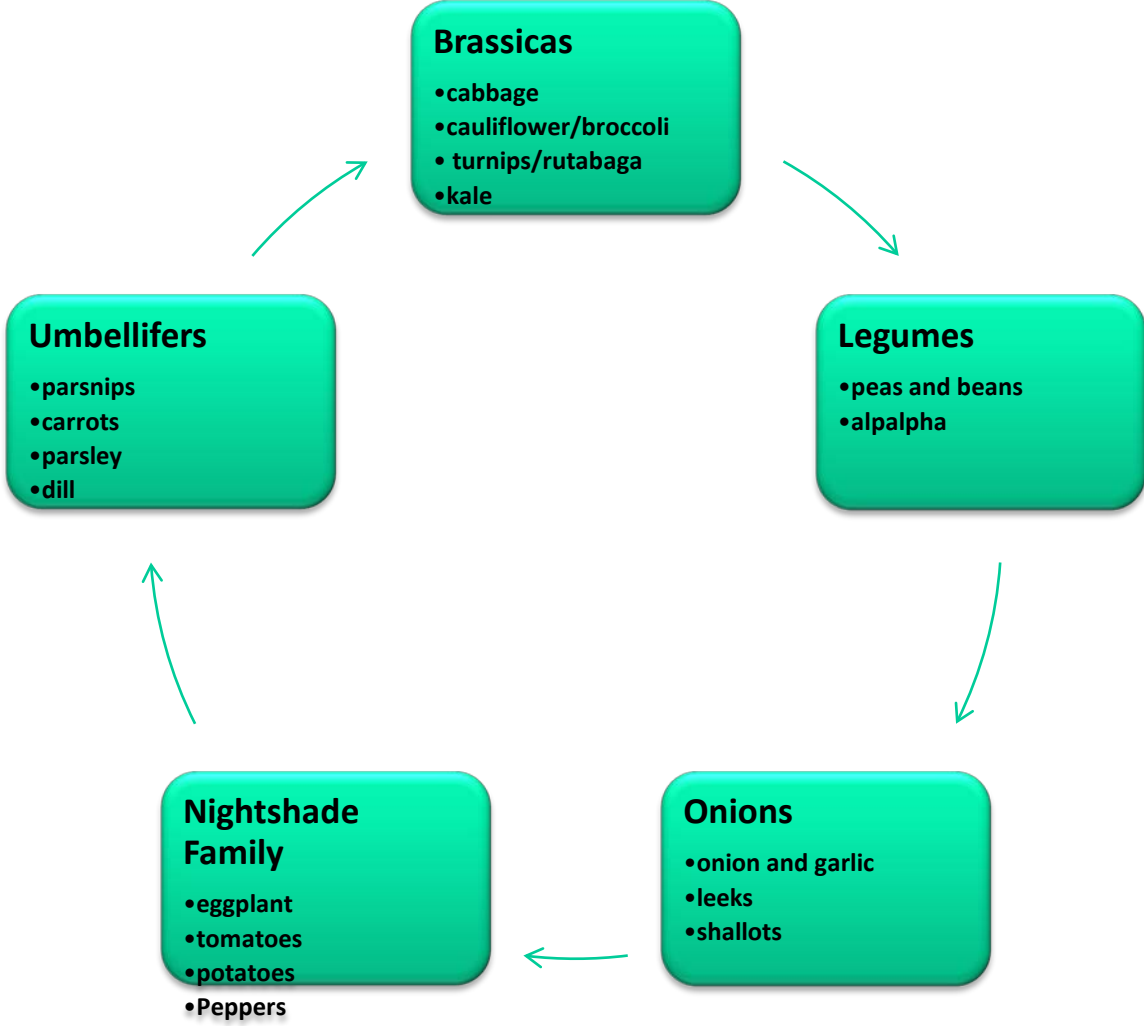
Do not apply 1 month before harvest.

Visit **Maggie’s Farm booth** for more info.

Prevent: Focus on Soils, Rotate and Companion

Healthy Soils prevent diseases. See Course 1: Soils to learn more about soil health.

Below is a chart indicating a good crop rotation pattern to prevent depleting soils.



Companion Planting: control bugs/disease



Companion Planting Chart		
compiled by Fresh Fork Market		
Plant	Companion	Not-Compatible (Enemy)
Asparagus	Basil, parsley, tomato, marigolds	
Beans	Beet, cabbage, carrots, celery, eggplant, pea, radish, marigolds, nasturtium	Garlic, onion, shallot
Beets	cabbage, lettuce, onion	pole beans
Cabbage Family	beets, celery, chard, cucumber, onion, potato	Tomatoes
Carrots	Beans, lettuce, radishes, rosemary, sage	Dill
Celery	bean, cabbage family, tomato	
Cucumber	bean, cabbage family, radish, tomato, marigold, nasturtium	Sage
Eggplant	bean, pepper	
Lettuce	beet, cabbage family, carrots, celery, radish	
Melons	pumpkin, radish, squash, marigold	
Onions	beet, cabbage family, carrots, tomato	
Peas	bean, carrot, cucumber, radish, turnip	
Potatoes	beans, cabbage, eggplant	
Radishes	bean, carrot, cucumber, and lots more	
Spinach	cabbage family	
Tomato	carrot, celery, cucumber, onion, parsley	corn, potatoes, kohlrabi, eggplant

Part II: Identifying and Treating Garden Conditions

Nutrient Deficiencies

What the plant can tell you about the soil.

Fungi and Insects

Photos of common problems

Suggested solutions

Sterilizing Soils to get rid of fungi, bacteria, and problem weeds

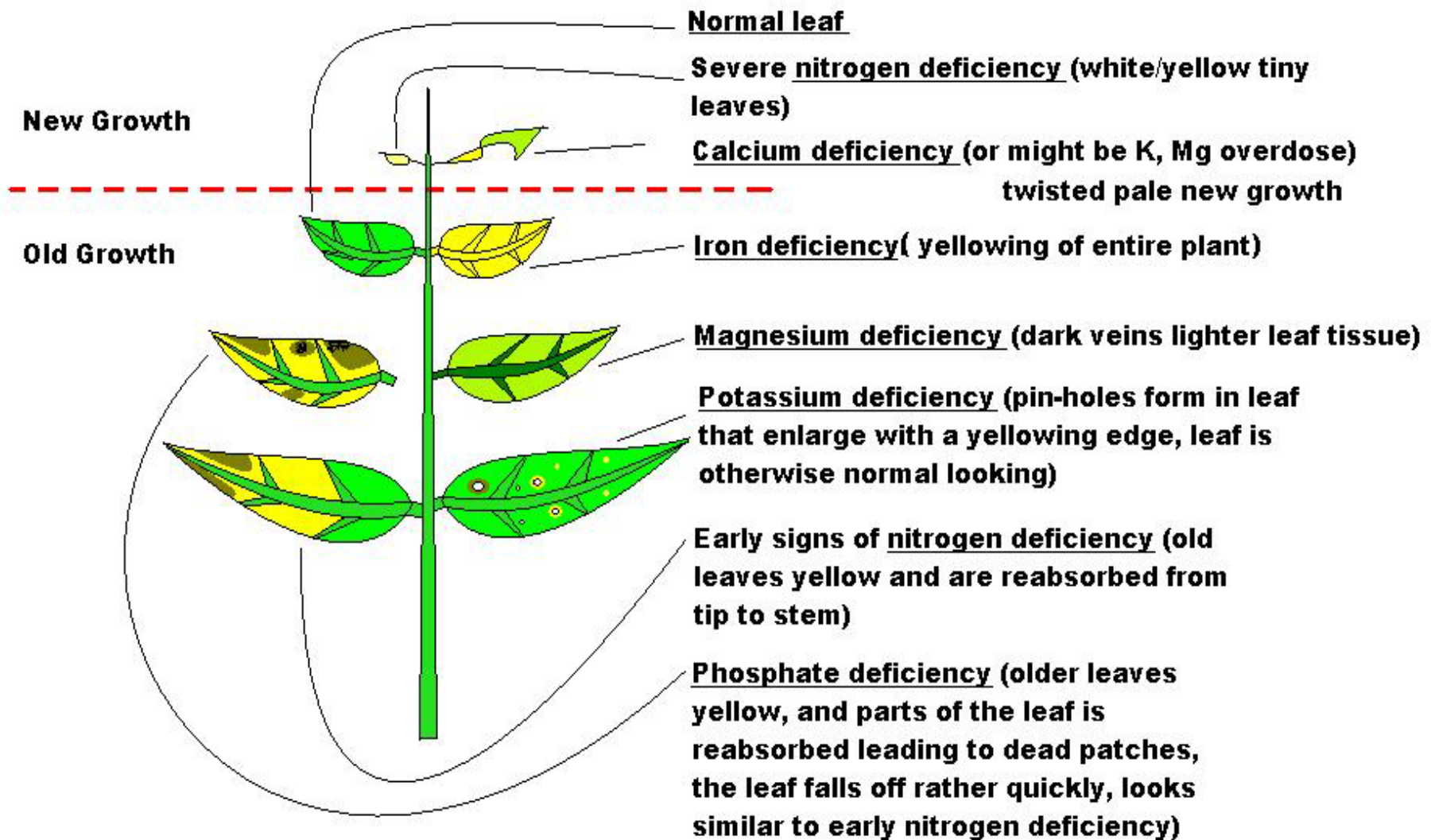
Question and Answer

What problems have you had in your garden?



How to Read a Plant for Nutrient Problems

At this point, very little can be done to correct. Focus on soil for next year.



Mildews

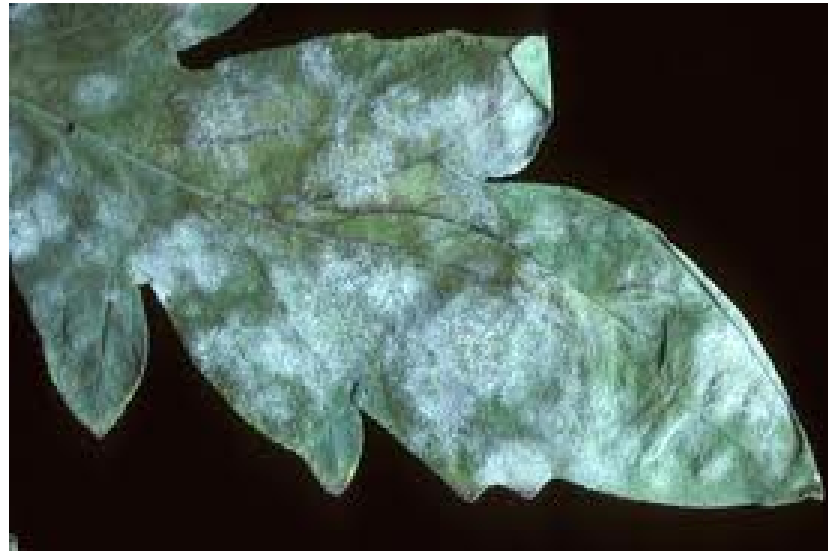
Powdery Mildew (right)

Develops in dry, shady areas.
Warm temperatures (60 to 80)

Prevent: more sun, more air
circulation, less dense planting

Treat: remove and destroy (do not
compost) infected leaves.

Rinse plant with water or water
and baking soda solution



Downy Mildew (left)

Develops when nights get cool, dew on plants.

Once it develops, very difficult to control.

Organic: copper (must catch early, spray on dry mornings)
peroxides (OxiDate), biofungicides (Serenade),
bicarbonates (Kaligreen)

Conventional: chlorothalonil (Bravo), mancozeb (Manzate)



Blight

Blight

Develops annually based on overwintered spores. Early blight favors warm, wet conditions. Late blight favors cool nights, moist/dew mornings.

May overwinter in your soil.

Targets: cucumbers, tomatoes, eggplant, potatoes

Prevent: not much, rotate plants, particularly ones that were infected the previous year

Treat: copper based fungicides (organic)

Conventional: chlorothalonil (Bravo) or mancozeb



Blossom End Rot

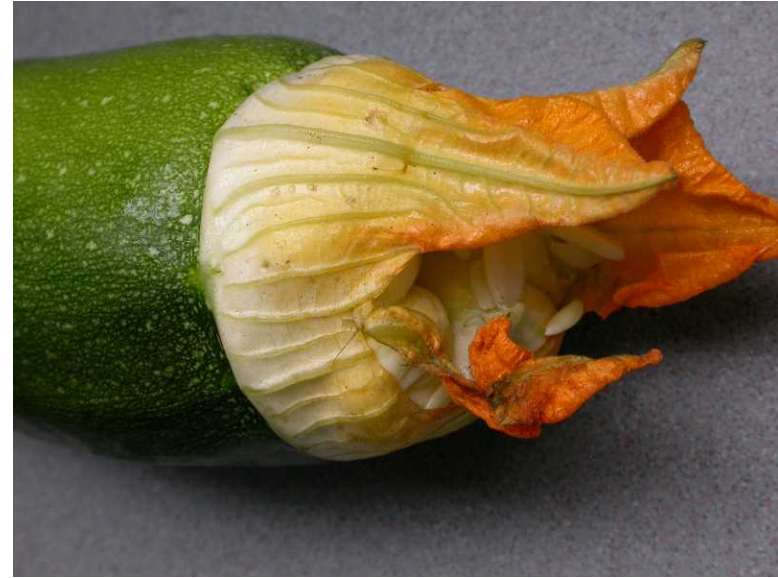
Soft or sunken area at end of fruit where the blossom originally was.

Usually most noticeable when fruit is half size or more.

Why: calcium deficiency
and/or too much nitrogen
and/or salts (lowers calcium uptake)

Solution: no immediate solution

Correct the soil by adding calcium for next year.



Southern/Crown Blight

Southern/Crown Blight (right)

Soil-borne fungus

Causes rot of the vine/stalk of plant near ground level.

Prevention: increase drainage and organics in soil, excavate infected areas and discard

Treatment:

Organic: discard plant. “solarize” soil to kill fungi

Conventional: thiphorate methyl



Bacteria Wilt (left)

Causes general wilt and eventual death of plant.

Treatments:

Organic: none

Conventional: pyrethrin or carbaryl (Sevin)

Cucumber Beetle

Cucumber Beetle

Feeds on the leaves of the plants.
Transmits bacteria wilt.

Attacks cucumbers, tomatoes, squash, eggplants, melons, peas, potatoes, and many more.

Sprays: pyrethrum, rotenone

Other control methods:

Companion Plants: radishes, beans, nasturiums, African marigold

Cultivate (harvest and light till) in fall to expose eggs, prevent overwinter

Predators: braconid wasps, ladybugs, soldier beetles



Aphids



Aphids – small flies that eat plant leaves

Organic: strong blast of water to blast them off

Lady bugs, parasitic wasps, damsel bugs.

Insecticidal soap and garlic spray.

Conventional:

Imidacloprid like Merit or AmTide

Cabbage Looper



Cabbage Looper – attacks and eats leaves of cabbage family, including cauliflower, broccoli, and brussel sprouts

Organic: hand pick off

Row Covers

Insecticidal soap and Bt (bacillus thuringiensis).

Conventional:

Pyrethrins, cyfluthrin, carbaryl (Sevin), permethrin

Cabbage Looper



Squash Bug – attacks and eats leaves of cucumbers, squash, pumpkins, and watermelon.

Organic: early detection and treatment is crucial. Look for signs of infestation on young plants and when plant goes to flower. Those are the most likely times of infestation.

Row cover – to prevent infestation

Hand pick off

Insecticidal soap spray regularly after first detection in area

Conventional:
Permethrin and sabadilla



Solarizing Soil



Solarizing – completely cover soil with clear plastic, moisten soil first

When: hottest part of summer to prepare for fall planting or to plant cover crop

How long: 4 to 6 weeks or more

Why: to kill bacteria and insects present in the soils.

Caution: Can also kill good bacteria and micro-organisms in the soil. Before planting dress the soil with good compost.

Question and Answer



Today's Presentations and
Additional Resources at

www.freshforkmarket.com