



Gardening for the Slightly- Experienced

Tips, Tricks, and How to Deal
with Garden Problems



FIRST,
The **Bad** Stuff



WEEDS

- Can be edible!
 - Lamb's quarters
 - Purslane
 - Dandelion greens
 - Violets
- Can be eradicated with mulch
 - Straw, newspaper, leaves, and decomposed wood chips all add organic matter to your soil
- Can be a sign of soil deficiencies
 - Do a pH test to find out whether your soil is too acidic or basic

DISEASES

- Powdery mildew
- Downy mildew
- Late blight
- Bacterial wilt



Powdery Mildew



- Weakens plant; photosynthesis is impaired
- Overwinters; spreads by wind, water, & insects
- Treatment: Diluted sprays
 - Baking soda, water + 1 squirt soap (1 tsp:1 qt)
 - Milk & water (1:5)
- Prevention:
 - Remove any infected plant parts from the garden
 - Leave room around plantings; improve air circulation
 - Don't water leaves; water the ground!

Downy Mildew



- Similar to P.M.
- The “down” is on the plant’s underside
- Prevention:
 - Same measures as P.M., including crop rotation (3 year cycle)
- Treatment:
 - Baking soda spray

Late Blight



- A fungus that strikes hardest during wet conditions
- Will rot and kill tomato plants
- Prevention:
 - Do not over-water; plant in well-draining soils
 - Use compost-tea to build plant strength
 - Keep foliage dry (water & spray the soil, not the leaves)
- Treatment:
 - Unfortunately there isn't any effective treatment
 - Remove plant matter from the garden; don't compost it

Bacterial Wilt



- Mostly effects cucumbers; spread by the cucumber beetle
- Plants wilt even when well-watered, and eventually stop producing fruit
- Prevention:
 - Beetles feed on weak plants, so keep yours well-watered
 - Bacteria enters through 'wounds,' so avoid damaging plants
 - Watch for beetle eggs on undersides of leaves; squish them!
- Treatment:
 - Sadly, there's no cure. Remove all infected material and throw it away.

PESTS

- Flea beetles
- Japanese beetles
- Mexican bean beetles
- Colorado potato beetles
- Woodchucks, rabbits
- Aphids
- Slugs



Aphids



Flea beetle damage



Japanese beetle



Mexican bean beetle



Colorado potato beetle

Flea Beetles



- Make lace of leaves
- Prevention/Treatment:
 - Keep plants well nourished & watered
 - Grow “trap crops” such as radishes or mustard
 - Dust with diatomaceous earth
 - Use floating row covers
 - Try garlic spray



Japanese Beetles

- Eat almost everything
- Multiply very quickly
- Prevention:
 - Plant chives & garlic throughout the garden to deter them
- Treatment:
 - Hand-pick beetles in the early morning (when they're slow-moving). Squish them or drop them into soapy water.
 - Spray with cayenne pepper & water (with a bit of soap for stickiness)
 - Spray them directly with diluted apple cider vinegar (1:1)



Mexican Bean Beetles

- Make lace of bean leaves
- Impair photosynthesis
- Have 16 spots
 - (Don't confuse them with ladybugs!)
- Prevention:
 - Plant beans early
 - Use floating row covers
 - Plant beans in different sections of the garden, not all together
- Treatment:
 - Handpick in the morning—pick larvae in addition to adults
 - Dispose of dead plant material by removing it from the garden; beetles can overwinter
- Predators:
 - Spined soldier bug
 - Parasitic Wasps
 - Toads



Colorado Potato Beetles



- Attack potato, tomato, and pepper plants
- Prevention:
 - Floating row covers
 - Deep straw mulch
- Treatment:
 - Handpick into soapy water
 - Neem spray (buy at a garden center or make your own by diluting Neem oil)

Woodchucks & other mammals



- Woodchucks especially love peas, beans, and broccoli, but will eat *anything*
- Treatment:
 - Look for holes in the garden fence and repair them
 - Call us, or your Garden Coordinator
- Determent:
 - Pinwheels, ornaments, and otherwise sparkly things
 - Ammonia-soaked rags (these will be stinky for humans, too, so remain conscious of your neighboring gardeners!)

Aphids

- Gray or yellow, tiny
- Suck plant juices
- Can cause spread of disease by weakening plants
- Prevention:
 - Floating row covers
- Treatment:
 - Blast them off with water
 - Garlic and/or cayenne sprays
 - Encourage beneficial insect population (lacewings & ladybugs feast on aphids)



Slugs

- Eat most garden plants
- Easy to spot
- Treatment:
 - Handpick
 - Scatter coffee grounds (also good for your plants)
 - Scatter sawdust
 - Copper
 - Diatomaceous earth
 - The beer trick:
 - Dig a shallow hole near a slug-infested area and bury $\frac{1}{2}$ can of beer in a dish—slugs will be attracted and will drown in the beer (the cheaper the better!)



The slide features a green background with a pattern of faint, overlapping hexagons. A white rectangular box is positioned on the right side, containing the text. The text is arranged in three lines: 'NOW,' in black, 'The GOOD' in yellow, and 'Stuff!' in yellow. A solid green horizontal bar is located at the bottom of the white box.

NOW,
The GOOD
Stuff!

OBSERVATION

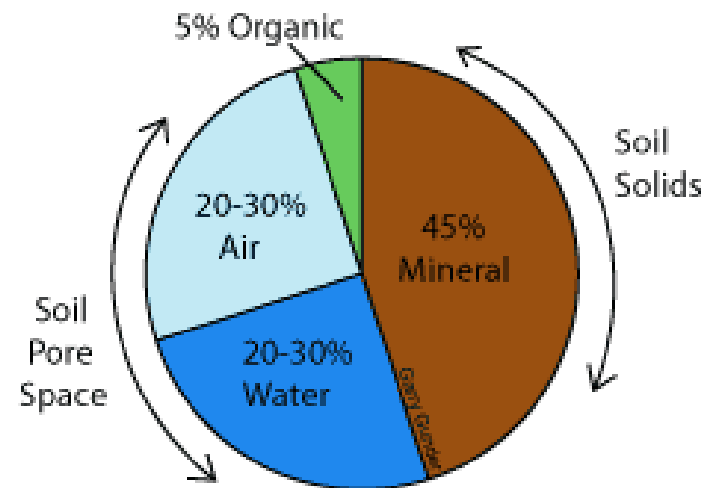
- Inspect plants regularly
 - look for:
 - chewed leaves
 - sucked leaves (pale, limp, or twisted)
 - eggs on underside of leaves
 - spots, blotches, growths on leaves, stems, or fruits
 - Keep a notebook of your observations, actions, and results

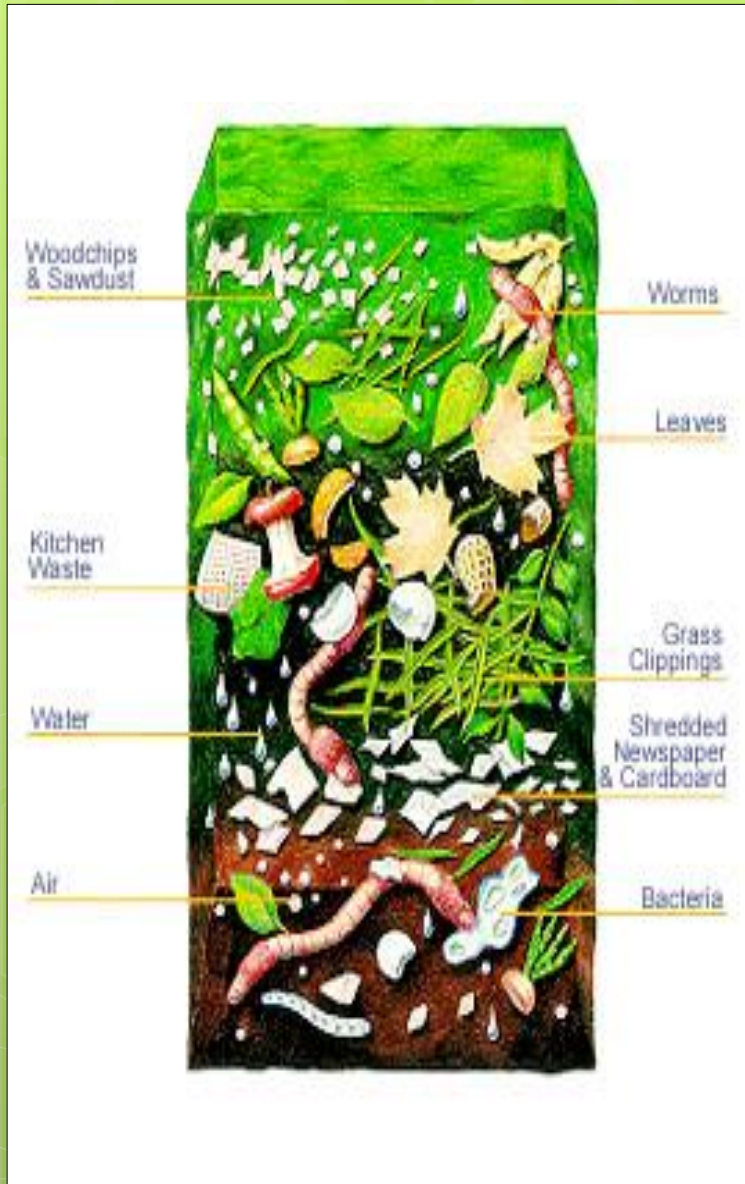


SOIL BUILDING

- Compost
- Mulch
- Soil texture and tilth
- Organic NPK fertilizer

Soil Composition by Volume





COMPOST

1 part:

BROWN (Carbon): dry leaves, straw, dead flowers and shredded newspaper

2 parts:

GREEN (Nitrogen): grass clippings, plant-based food waste, or barnyard animal manure

+ a shovelful or two of garden soil



NUTRIENTS

- Nitrogen
 - Legumes add N to the soil
 - Coffee grounds
 - Composted manure
- Phosphorus
 - Food waste contains a lot of P, so use compost liberally
 - Bone meal
- Potassium
 - Doesn't travel through soil, so be sure to administer K at root level (ex. bury banana peels next to your plants)
 - Seaweed fertilizers

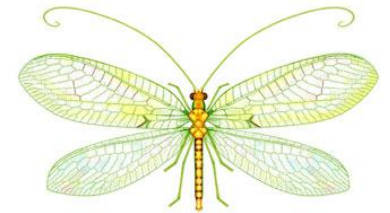
Concentration of Hydrogen ions compared to distilled water		Examples of solutions at this pH	
10,000,000	pH = 0	Battery acid, Strong Hydrofluoric Acid	
1,000,000	pH = 1	Hydrochloric acid secreted by stomach lining	
100,000	pH = 2	Lemon Juice, Gastric Acid Vinegar	
10,000	pH = 3	Grapefruit, Orange Juice, Soda	
1,000	pH = 4	Tomato Juice Acid rain	
100	pH = 5	Soft drinking water Black Coffee	
10	pH = 6	Urine Saliva	
1	pH = 7	"Pure" water	
1/10	pH = 8	Sea water	
1/100	pH = 9	Baking soda	
1/1,000	pH = 10	Great Salt Lake Milk of Magnesia	
1/10,000	pH = 11	Ammonia solution	
1/100,000	pH = 12	Soap water	
1/1,000,000	pH = 13	Bleaches Oven cleaner	
1/10,000,000	pH = 14	Liquid drain cleaner	

pH

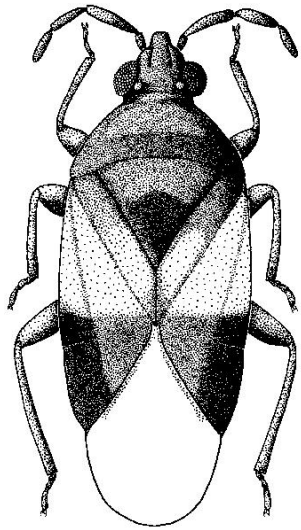
- 6.5 - 7.0 (neutral) is perfect for growing most vegetables
- If your pH is below 6.5 (acid), work some lime* into your soil to neutralize
- Alkaline soil (above 7.0) calls for the application of sulphur* or aluminum sulfate*
- *Always research proper methods for using soil amendments

BENEFICIAL INSECTS

- **Ladybugs:** adults and larvae feed on aphids and other soft-bodied insects
- **Lacewings:** Pale green or brown adults feed mainly on flower nectar
 - Larvae feed on aphids, thrips, scales, moth eggs, small caterpillars and mites.
- **Hover Flies:** look like small bees with striped abdomens
 - Larvae feed on aphids in tight places where other good bugs can't go
 - Especially helpful in early spring, before other beneficial insects are active.



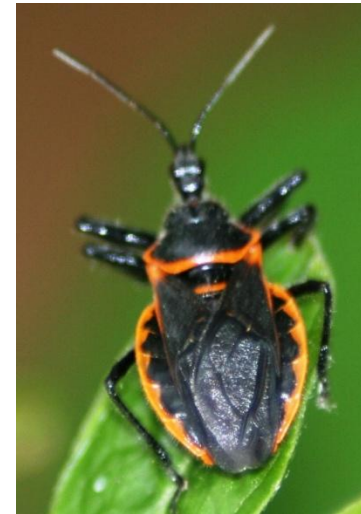
Minute Pirate Bugs



Ambush Bugs



Assassin Bugs



COMPANION PLANTING & ROTATION

- Keep a map of your plantings and document the results
- Follow a 3-year rotation plan
- Check out :
 - *Carrots Love Tomatoes*, by Louise Riotte
 - Wikipedia's "List of Companion Plants"

Resources

○ Books:

- *Garden Anywhere*, by Alys Fowler
- *Grow Your Own Vegetables*, by Carol Klein
- *The Four-Season Garden*, by Eliot Coleman

○ Websites:

- www.cdccg.org
- www.organicgardening.com
- www.motherearthnews.com
- www.urbanfarmonline.com

○ Garden Centers & Shops:

- Hewitts
- Honest Weight Food Co-op



CDCG RESOURCES

- A. CDCG Green Thumbs!
- B. Use the CDCG Library, Fact Sheets, & attend our Demo Classes
- C. Other questions?
Call us!
phone: 274-8685
email:
educator@cdcg.org

