Common Vegetable Pests and Management Tips

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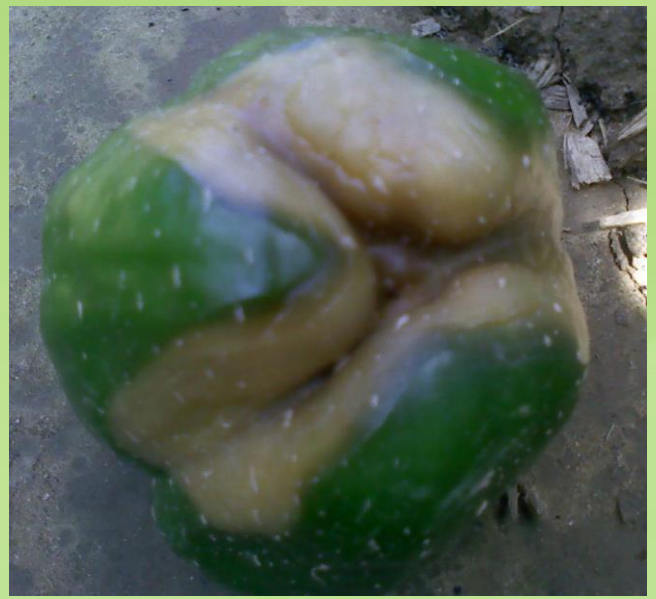
Variety Selection

- Genetic disease and insect resistance
  - Disease resistance
  - Vigorous plant type
- Matures in main season
  - Early and late planting invites problems

Soil Preparation

- Soil pH – 6.5 to 6.8
  - Pay attention to calcium level
  - Below optimum level of Calcium use Calcitic lime
  - Use dolomitic lime only when Calcium is optimum and Magnesium is low
    - Gypsum will raise calcium without raising pH
    - Epsom salts will raise magnesium without raising pH



Blossom end rot:

Low Calcium

Drought

Cultivation

Soil Management

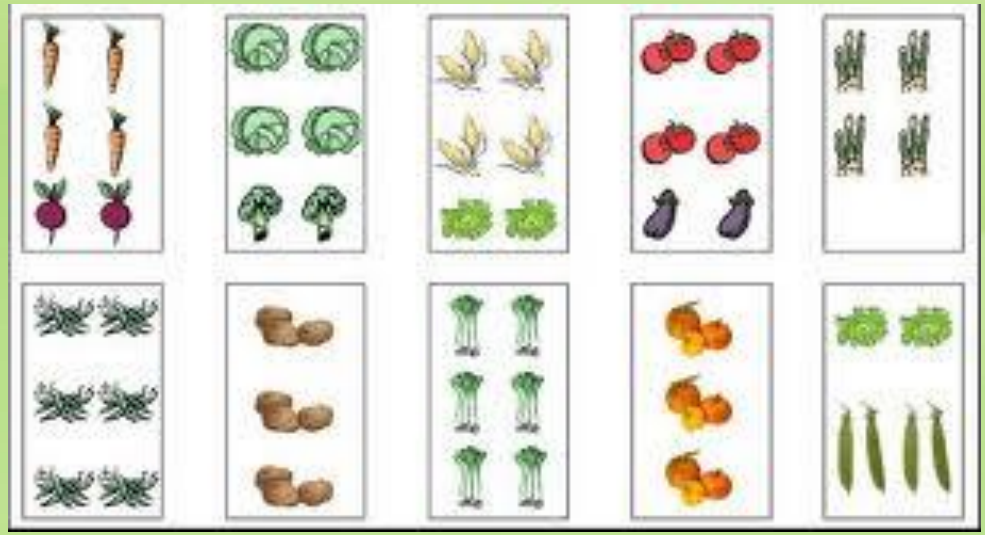
- Organic Matter
  - Improves drainage when wet
  - Improves moisture retention when dry
  - Increases soil's ability to store nutrients
  - Reduces erosion and compaction
  - Reduces water runoff
- Stay out of the garden when the soil is wet.

Appropriate Soil Fertility

- Soil Test every 3-5 Years
- Moderate amount of **N**itrogen
  - High levels increase disease and insect pests
  - Delays maturity
- Moderate to High Level of **P**hosphorus
- High Level of Potassium **K**
  - Red color, even ripening, plant health
- Consider all contributions of nutrients
  - Compost, manure, organic mulch, grass clippings

Rotate Location

- Do not plant in the same area
  - 3 year rotation is best
  - Consider all plants in a family to be the same plant
  - Write it down . . .



Watering

- Wet soil, not foliage
  - Soaker hose, trickle irrigation,
- Start **before** you see wilting
- Water down to 6” to 7”
- Bloom to early fruit set is most critical time
- Reduce watering when harvest starts

Exception – under high temps or powdery mildew, OK to wet foliage

Tomato/Potato Diseases

- Bacterial diseases
- Blights
  - Septoria (t)
  - Timber rot (t)
  - Early blight
  - Late blight

Bacterial Speck and Spot

Septoria Leaf Spot

Timber Rot

- White mold
- Sclerotinia
  - In soil
  - Many crops
  - Requires
    - Present in soil
    - Top 1” of soil moist

Early Blight

Late Blight on Potato Tuber

- Spores enter through soil cracks
- Spreads potato to potato in storage

- Do not plant your own seed if you had any LB

Disease Management Products

- Copper fungicide
  - Good on bacteria prevention, helps with blights
  - Prevents, does not cure
  - Do Not over apply, best to apply small doses on a weekly basis

Colorado Potato Beetle

Two generations per season

Aphids Mites Flea Beetle

Multiple over-lapping generations

Brown Marmorated Stink Bug

- 1 or 2 generations per season

Insect Control

- Biological insecticide
  - Spinosad – controls potato beetle, flea beetle, and fruit worms
- Insecticidal soap – controls aphids and mites
- Neem oil – controls aphids, beetles, and mites
- Pyganic – natural pyrthroid for stink bug control

  - Watch for predator insects to control the pests

Pepper Pests

- Diseases
  - Bacterial speck, bacterial spot
  - Bacterial soft rot
- Insects
  - European corn borer
  - Aphids

Bacterial speck and bacterial spot

- Copper fungicide will slow the spread

Bacterial soft rot

European Corn Borer

- Spinosad or Bt is effective

Beans

- Diseases
  - Gray Mold, White mold
- Insects
  - Leafhoppers
  - Slugs
- Mammals
  - Rabbits, deer, ground hogs

Grey Mold

White Mold

Crop rotation, space out plants

Potato Leafhopper

- Pyganic
- Neem Oil
- Spinosad

Vine Crops

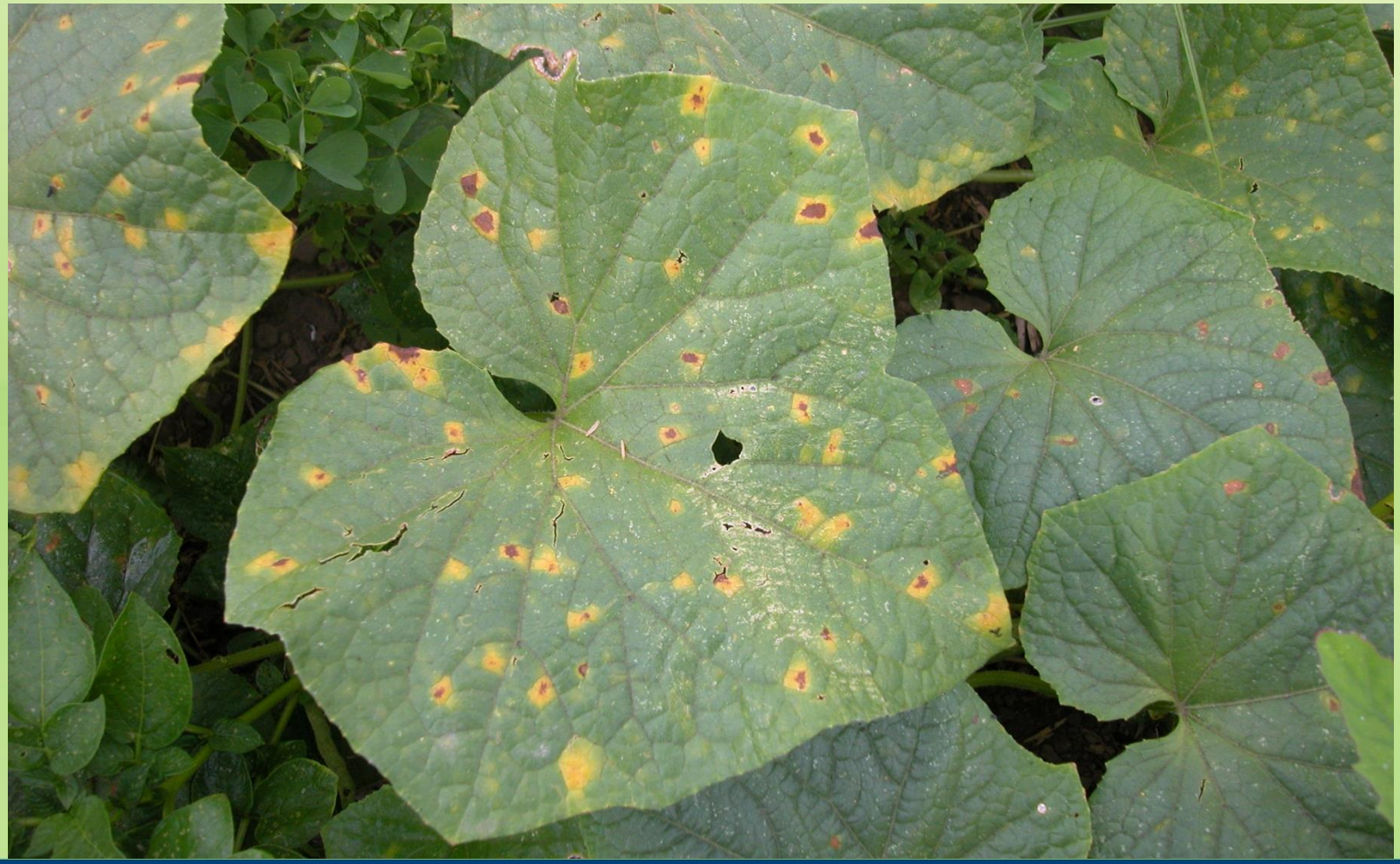
- Cucumber, melons, pumpkins, squash
- Diseases
  - Powdery mildew
  - Downy mildew
- Insects
  - Cucumber beetle
  - Squash bug

Powdery Mildew

- Give plants room
- Reduced by rain
- Sulfur
- Remove old plants

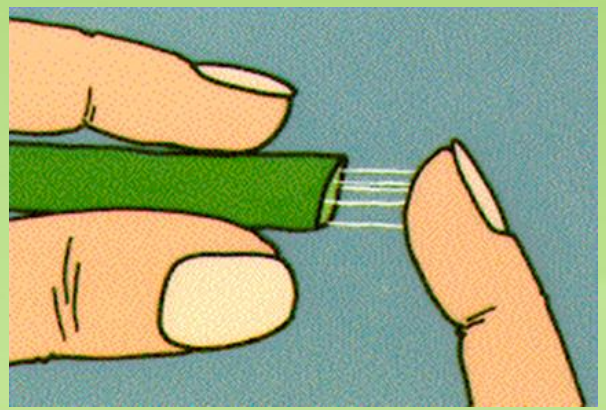
Downy Mildew

- Copper may help



Cucumber Beetle / Bacterial Wilt

- Row Cover – get them covered early
- PyGanic*



Look-a-likes

Stink Bug

Squash Bug

Squash Bug

- PyGanic or Neem oil insecticides

Cole Crops

- Cabbage, Broccoli, Cauliflower, Brussels Sprouts, Collards
- Insect pests
  - Flea beetle
  - Imported cabbage worm

Flea beetle

- Damage can be significant on young plants
  - PyGanic and Spinosad control the flea beetle

Cabbage Worm - Control by Spinosad

- 3-5 over-lapping generations per season

Onions

- Thrips – look in crevises

- Spinosad very effective

Conclusion

- An ounce of prevention is worth a pound of cure
- Plan ahead
- Give your plants space
- Control the weeds early!
- Minimize stress