



# Success with Squash & Other Vines

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## Common Cucurbit Characteristics



Warm Season Plants! (May, love heat)

Do not like roots disturbed

## Common Cucurbit Characteristics



Large, trailing vines, usually

## Male & Female Flowers



There are mostly male flowers when flowering begins....

...So there won't be much fruit until female flowers show up!



Pollinators needed

Ratio of male to female changes with circumstances

Need both!

## Types of Cucurbits

- Summer Squashes & Zucchini
- Winter Squashes & Pumpkins
- Cucumbers
- Watermelon
- Cantaloupe & Other Melons

## Summer Squashes & Zucchini



“Immature”

Compact vines

Can be highly productive

Crookneck, green Zucchini, Round, grey, green, gold, scallops, etc.

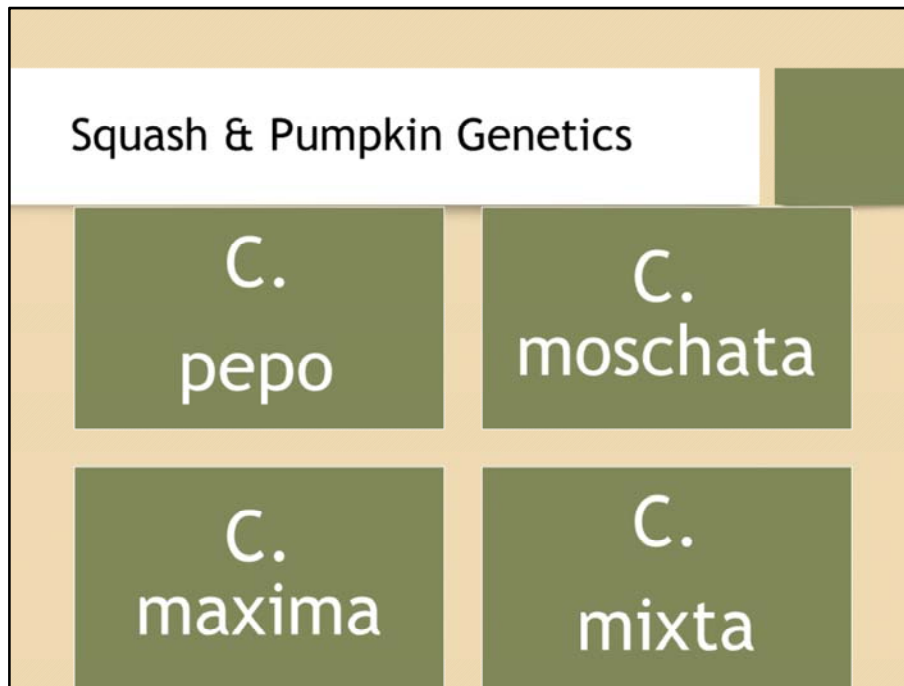
Very susceptible to most insects and diseases

## Winter Squashes & Pumpkins



Eaten when mature, have hard rinds and developed seeds  
Usually 3-6 squash per plant  
Need to be “cured” for longer storage  
Lots of varieties!





- C. pepo* are almost all summer squashes AND many pumpkins, esp. pie & Halloween
- C. maxima* are many winter squashes: acorn, delicate, buttercup, etc. Some pumpkins
- C. moschata* are butternuts, some miscellaneous types
- C. mixta* are cushaws, some miscellaneous types



## Cucumbers



Pickling types

Slicing types

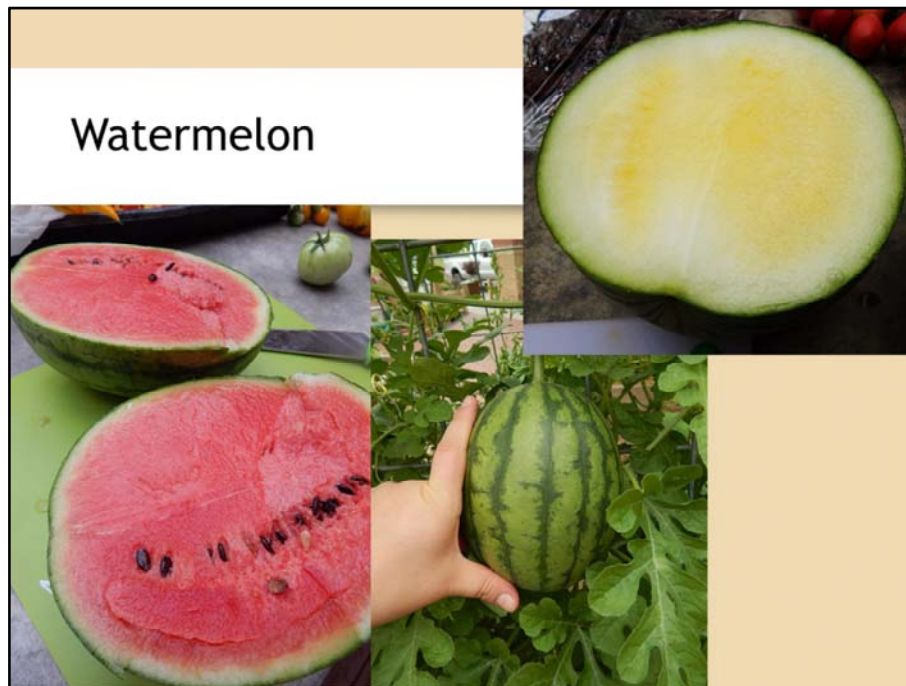
Dutch/English – spineless, thin skins, long

Beit Alpha – shorter, thin-skinned

Asian – spiny, slender, long

Specialty – round types, Armenian, Italian cucumber-melons

“Burpless” – don’t cause gas, usually also less bitter



Range of sizes, colors  
Seeded & seedless types

## Seedless Watermelon



**4n Seed Parent**

diploid egg

(2n)

**2n Pollen Parent**

haploid sperm

~ (n)

(2n) + ~ (n)

FERTILIZATION

= **Sterile 3n Plant**

Must be pollinated by  
2n plant to set fruit.

<http://waynesword.palomar.edu/hybrids1.htm>



Range of sizes, colors, rind & netting characteristics

## Other Melons



Honeydew, Asian types, Frog-Skin types, more!

## Basic Growing Guidelines

## Planting Time



May, later  
Consider multiple plantings



## Seeds vs Plants



Transplanting can be hard, so err on the side of seeds!

## Trellising

- Cattle Panel Trellis
- Tomato Cages
- Trellis adds 48 sq. ft.!



## Plant Selection Criteria

- Right plant/right place
- Vining habit
- Produce size/weight



Maybe Not!

## Growing Tips

- Support maturing fruits
- Train growing vines through panels





## Watering



Need water, but can tolerate drought

Once melons begin to ripen, water as little as possible (or not at all) to concentrate sugars and make them sweeter

Cucumbers can become more bitter when exposed to heat/drought stress or fluctuation of watering



## Fertilizing



Most vines are heavy feeders  
Rotate, don't go crazy, but plan to use something



## Mulching



Black Plastic Mulch  
Straw Mulch

## Harvesting



Summer Squash, cucumbers – whatever size you prefer

Harvesting



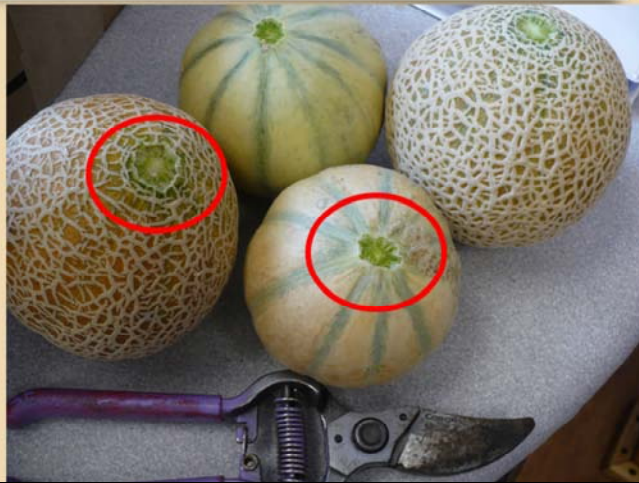
Winter Squash

## Harvesting



Watermelon – tendril, yellow bottom, sugar bumps

## Harvesting

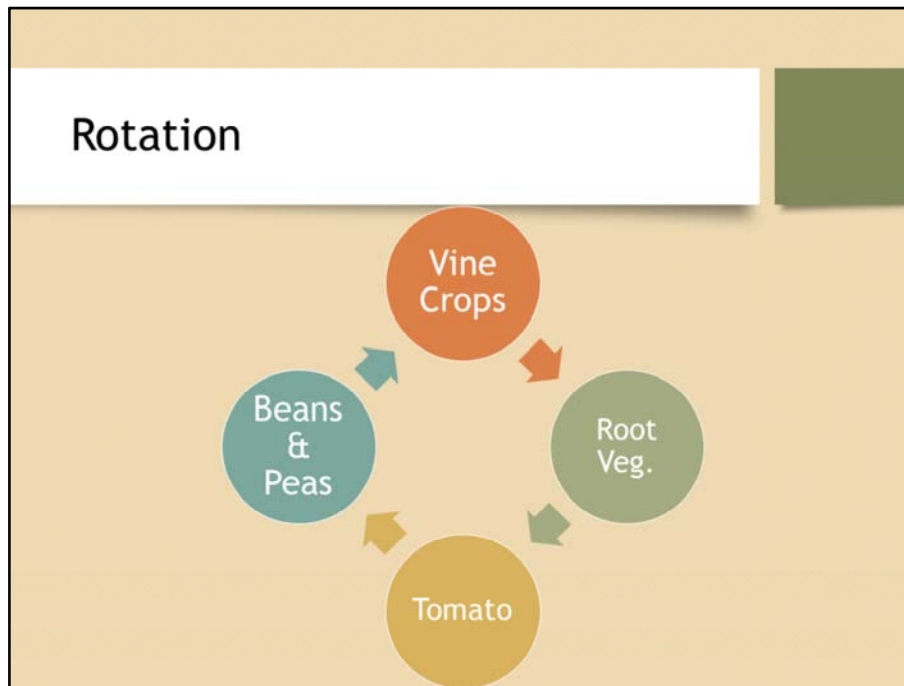


## Dealing with Pests & Problems

## Cultural Practices

- Rotation
- Sanitation
- Row Covers
- Resistant Varieties
- Trap Cropping





Rotate away from vines  
Best not to have a close rotation with tomatoes, etc.

## Sanitation



Remove infested plants

Remove or deep till all plant material at the end of the season

Do not compost infested/diseased plants

## Row Covers



Can be used to prevent insect issues, especially early in the season.  
Will be most effective if you can rotate

## Parthenocarpic Varieties

- Pollination not required!



## Trap Cropping



Plant hubbard squash, other highly susceptible plants to “nuke” the bugs early, then plant others a little later.

## Resistant Varieties

- Squash Vine Borer - *C. moschata* & *C. mixta*
  - Tromboncino, Butternut, Cushaw, others
- Powdery Mildew Resistance
  - Many options, read descriptions
- Squash Bug Resistance
  - Butternut, Royal Acorn, Sweet Cheese, Cushaw

## Insects & Diseases



## Squash Vine Borer



## Squash Vine Borer

- Larvae bore into the stems near the crown
- Causes the plant to wilt, especially in heat
- Decreases plant vigor
- Hard to control
  - Apply insecticide after egg hatch but before larvae bore into stems - only a few hours!

## Squash Bug



## Squash Bug

- Cause wilted leaves, low vigor
- Scout for eggs under the leaves
- Easiest to kill when they are young
- Use permethrin, rotenone

## Cucumber Beetle



## Cucumber Beetle

- Young seedlings are especially susceptible
- Eat holes in leaves, or whole leaves!
- Can damage fruit
- Striped and Spotted types
- Permethrin, rotenone

## Spider Mites

- Suck the juices out of plant leaves
- Stippled appearance
- Horticultural oils and insecticidal soaps
- Hard stream of water





## Aphids

- More common in the early summer
- Damage plants by sucking juices
- Most common garden insecticides will kill aphids



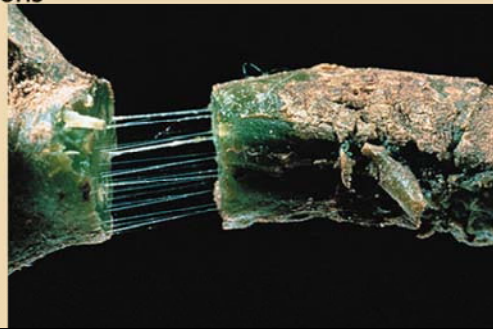
## Powdery Mildew

- White fungus on leaves
- Leaves yellow and die
- Resistant varieties
- Fungicides: chlorothalonil or sulfurs



## Bacterial Wilt

- Sudden wilting & collapse
- Affects cucumbers, melons
- Sap ooze test
- Spread by cucumber beetles



## Viruses

- Distorted leaves
- Mottled leaves
- Distorted or discolored fruit
- Stunting or strange growth
- REMOVE infected plants
- PREVENTION is the cure



## Soil-Borne Wilt Diseases

- Fusarium or Verticillium
- Fungal diseases
- Live for years in the soil
- Population increases when susceptible varieties are planted.
- ROTATE!
- Choose resistant varieties
- Cover crops?



Questions?