

Cucurbits

Family *Cucurbitaceae*

- Includes pumpkins, squash, gourds, cucumbers, and melons





Pumpkins and Squash

- Key points

- What are the differences between summer squash, winter squash, and pumpkin?
- The implementations of separate male and female flowers.
- Key production problems and their control.
- What are zucchini and blue Hubbard squash?
- Important factors in processing pumpkins.

Pumpkins and Squash



- How do you differentiate summer squash, winter squash, and pumpkins?
- Are they in separate species?

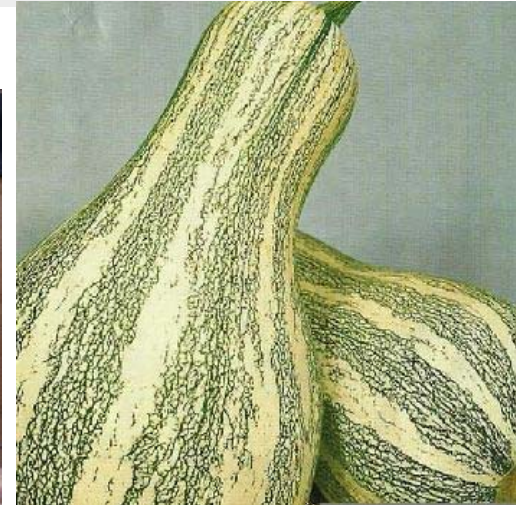


Pumpkins and Squash

- No pumpkins and squash occur in four species
 - *Cucurbita pepo*
 - Native to North America north of Mexico City
 - Most diverse of species includes squash, pumpkins, and _____
 - *Cucurbita* _____
 - Probably the earliest species to be cultivated
 - Includes winter squash and processing pumpkins

Pumpkins and Squash

- *Cucurbita* _____
 - Native of South America
 - Includes giant pumpkins
 - *Cucurbita mixta*
 - Grown in southern US
 - Contains Green Striped
-
- Good flavor



Pumpkins and Squash



- Then how do summer squash, winter squash, and pumpkins differ?
- Do they differ in maturity?...stay tuned

Flower Characteristics

- Edible
- Monoecious
 - Separate male flowers with _____ and female flowers with ovaries on the same plant
- Requires _____ pollination
 - Results in cross pollination
 - Can not collect and replant seed



Key production Problems

- Cucumber beetle
- Viruses



Key Production Problems

_____ beetles and bacterial wilt

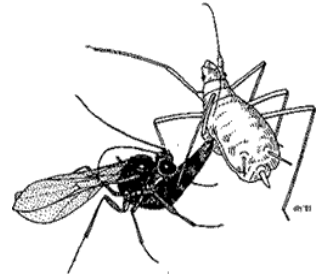
- Beetles feed on plants and blossoms
 - Can have very high numbers
- Transmit *bacterial wilt*
 - More harmful to young plants

Why are beetles such a problem?

- Are attracted by chemicals that plants release
- Are also called _____
root worms



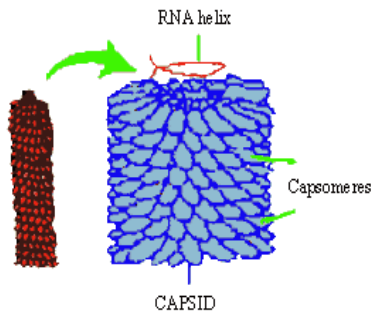
Key Production Problems



- How do you control cucumber beetle?
- Integrated pest management (IPM)
 - Critical to control when plants are young
 - Sevin or _____ insecticides
 - Row tunnels
 - _____ of the beetle
 - Must be removed to allow bee pollination
 - Natural predators include soldier beetles, tachinid flies, _____ wasps



Key Production Problems



- Viruses
 - Are transmitted by _____
 - Can limit the production of yellow summer _____
- Can you become ill from a plant virus?

Key Production Problems



- Managing cucurbit viruses
 - Controlling the aphid vector
 - _____ oils – clean the aphid stylet of viruses
 - Reflective mulches
 - Grow _____ squash – green fruit color masks the discoloration

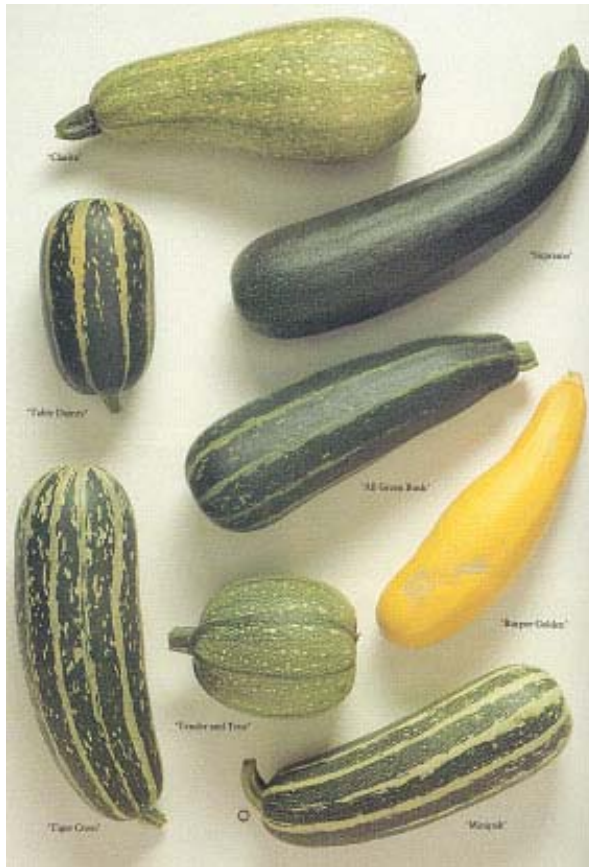
Grow “resistant” squash

- (i) Precocious yellow gene – makes squash unable to develop green color
- (ii) Cross between two *Cucurbita* species confers resistance to some

- (iii) GMO cultivars containing gene responsible for virus coat protein



Summer Squash



- Members of *C. pepo*
- Growth characteristics
 - Fruit are harvested immature before the rind (_____) hardens and seeds are mature
 - Often the smaller the harvested fruit, the better tenderness and _____

Summer Squash

- Zucchini
 - Most popular summer squash
 - Originated around 1900 and introduced into US by Italian immigrants in 1920's
 - Name from "zucca" Italian for squash or

- Zucchini and chocolate



Winter squash

- Harvesting
 - Fruit when are uniform in color and rind is _____
 - Harvest after the _____ die back
 - Often this is after the first light frost but before a heavy frost
- Preparation
 - Dry dense flesh that is ideally suited to culinary uses



Winter Squash

■ Blue Hubbard

- Named for Mrs. Elizabeth Hubbard from Marblehead, MA ~1842
- *"We were first informed of its good qualities by Mrs. Elizabeth Hubbard, a very worthy lady, through who we obtained seed...my father termed it the 'Hubbard Squash'"*
James Gregory, The Magazine of Horticulture, Dec. 1857
- Good for processing; used in _____ food
- Stores well



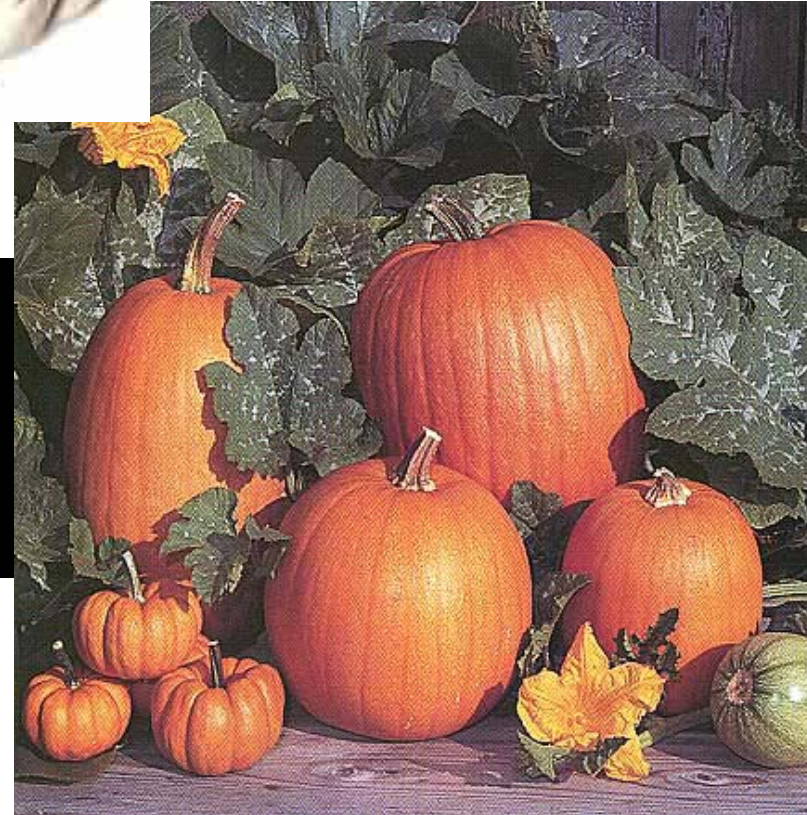


Pumpkins

- What is a pumpkin?
 - Pumpkins are defined as the edible fruit of any *Cucurbita* species that is harvested mature and is not used as a _____ vegetable
- The name comes from *poumpon*, the French word for _____

Pumpkin uses

- Carving for Halloween
 - Comes from an Irish tradition
- Roasting the _____
 - Very old traditional use
 - High in _____
 - Are hull-less, "naked" seed
- Pie filling
 - Libby pumpkins grown in area around Morton, IL



Processing Pumpkins

- Processing pumpkins are actually in *C. moshata* more closely related to some winter squash
- Have thick flesh, little stringy _____, and small seed cavity

