Insect Pests of Vegetables & Fruit in Home Gardens

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February 2018

THE OHIO STATE UNIVERSITY

Common pests: i.d. & management

- Veg specialist pests (12)
- Generalist pests on veg & fruit (6)
- Fruit specialist pests (9)

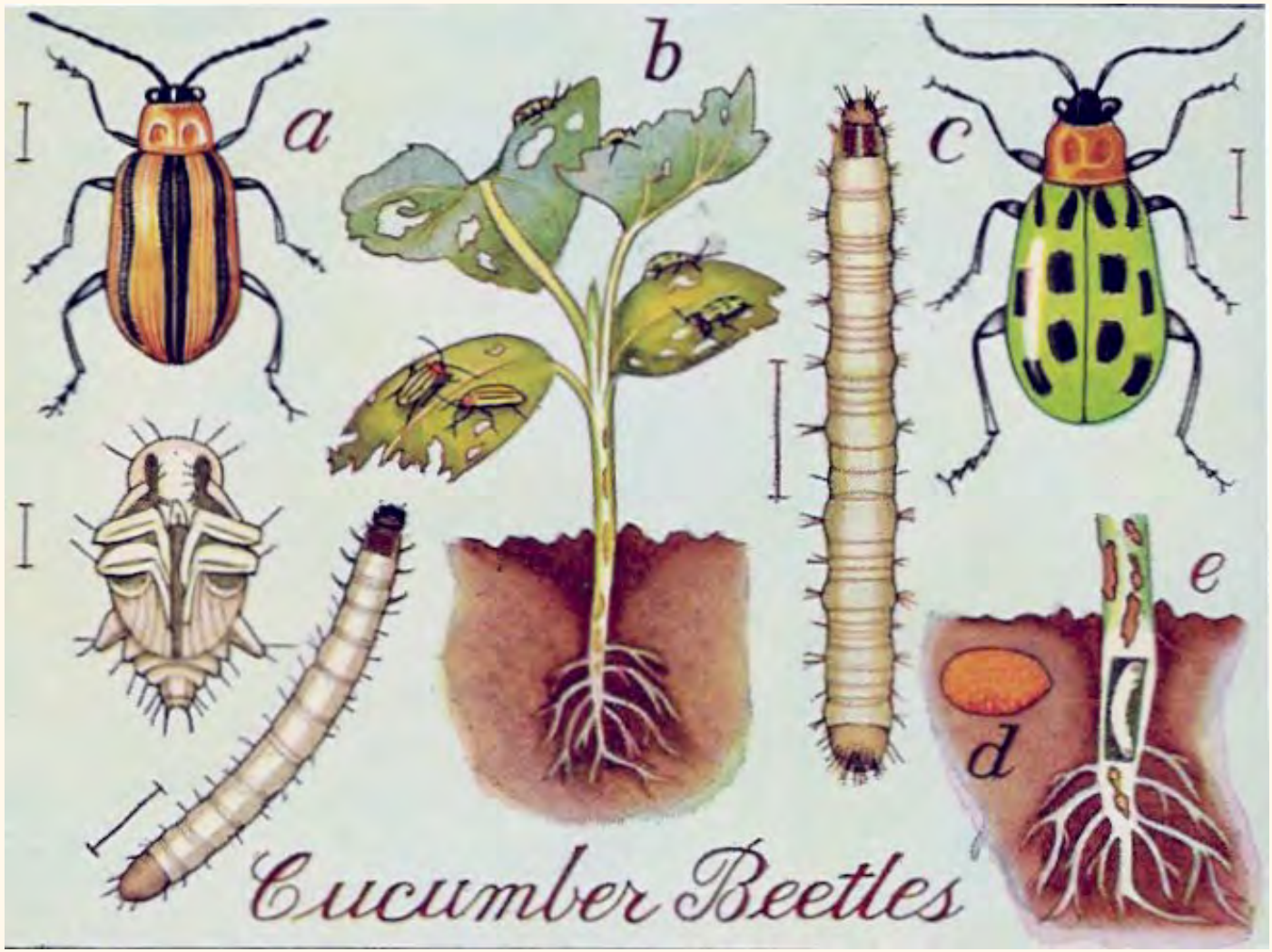
Vegetable specialist pests

- Cucurbits (4 pests)
- Cole crops (2+ pests)
- Tomato etc. (2 pests)
- Beans (2 pests)
- Spinach (1 pest)
- Asparagus (2 pests)
- Corn (2 pests)

Cucumber beetles

Striped cucumber beetle

Spotted cucumber beetle



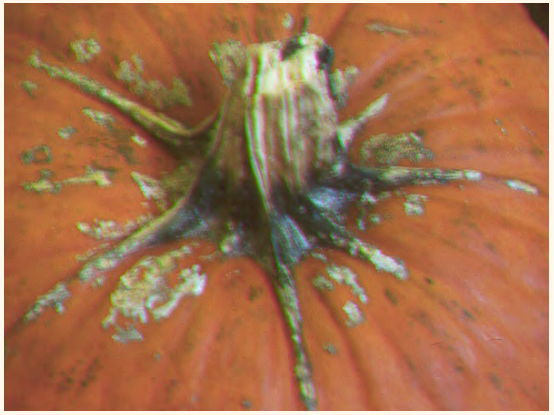
Cucumber beetles

Important damage by adults:

- Chew seedlings
- Transmit bacterial wilt
- Chew on fruit surface

Less critical damage:

- Larvae chew on roots
- Adults chew on flowers



Bacterial wilt of cucurbits

- **Vectored by cucumber beetles**
  - Transmitted in feces
  - Enters via wound in plant (such as feeding wound)

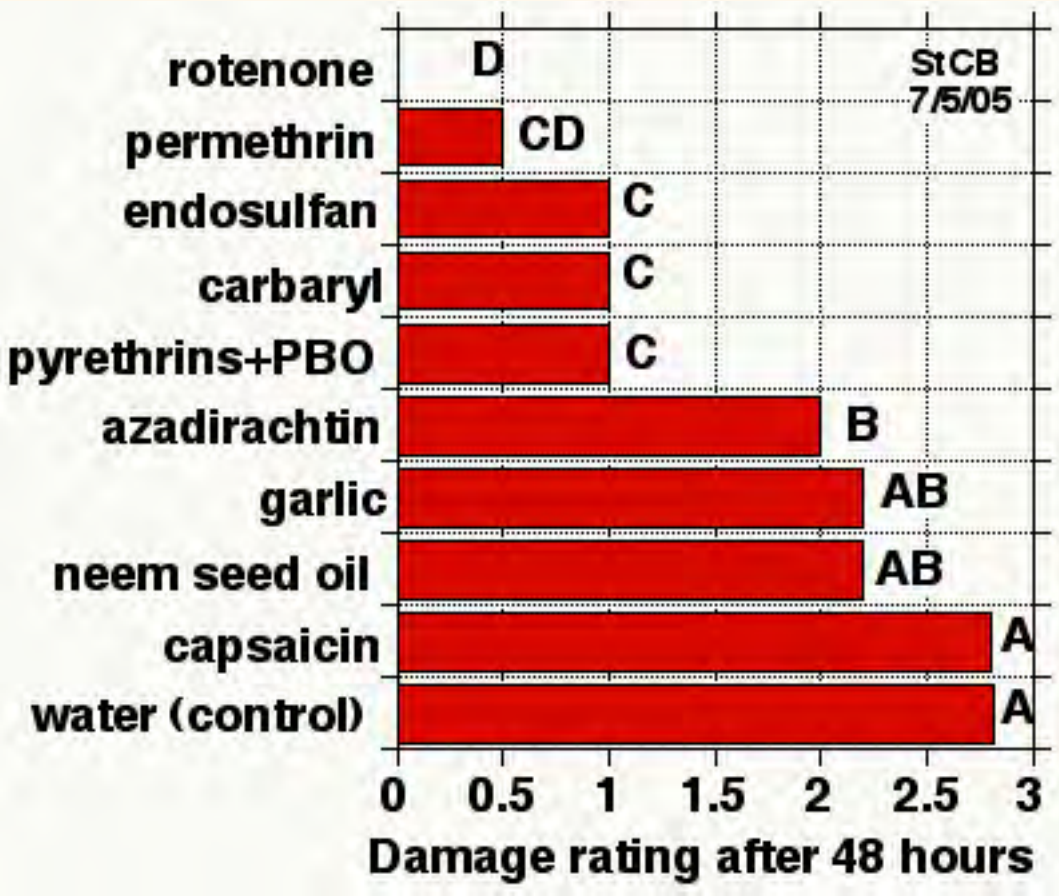
- **Hosts:**
  - Well-known killer of cukes & melons
  - Recently adapted to kill squash & pumpkins (but slower)

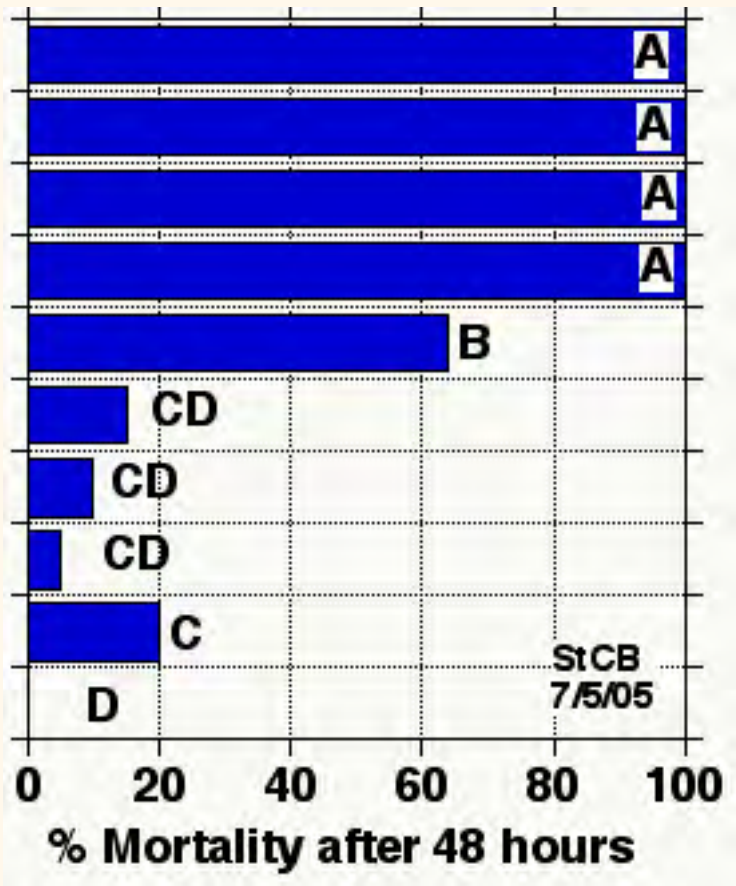
Cucumber beetle management

- For beginners
  - Mechanical control
    - Screen or row cover (seedlings)
  - Chemical control
    - Spray with carbaryl, permethrin, or pyrethrins+PBO,
- For advanced gardeners
  - Cultural control
    - Early trap crop (Turks Turban or Blue Hubbard squash)
  - Biological control
    - Conserve parasitoids (by no spray)
  - Behavioral control
    - Kairomone trap

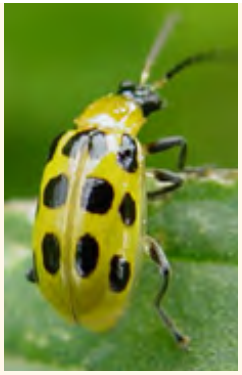
Striped cucumber beetle

tested on pumpkin leaves, 7/5/05;
4 replicates/treatment, 5 beetles/replicate

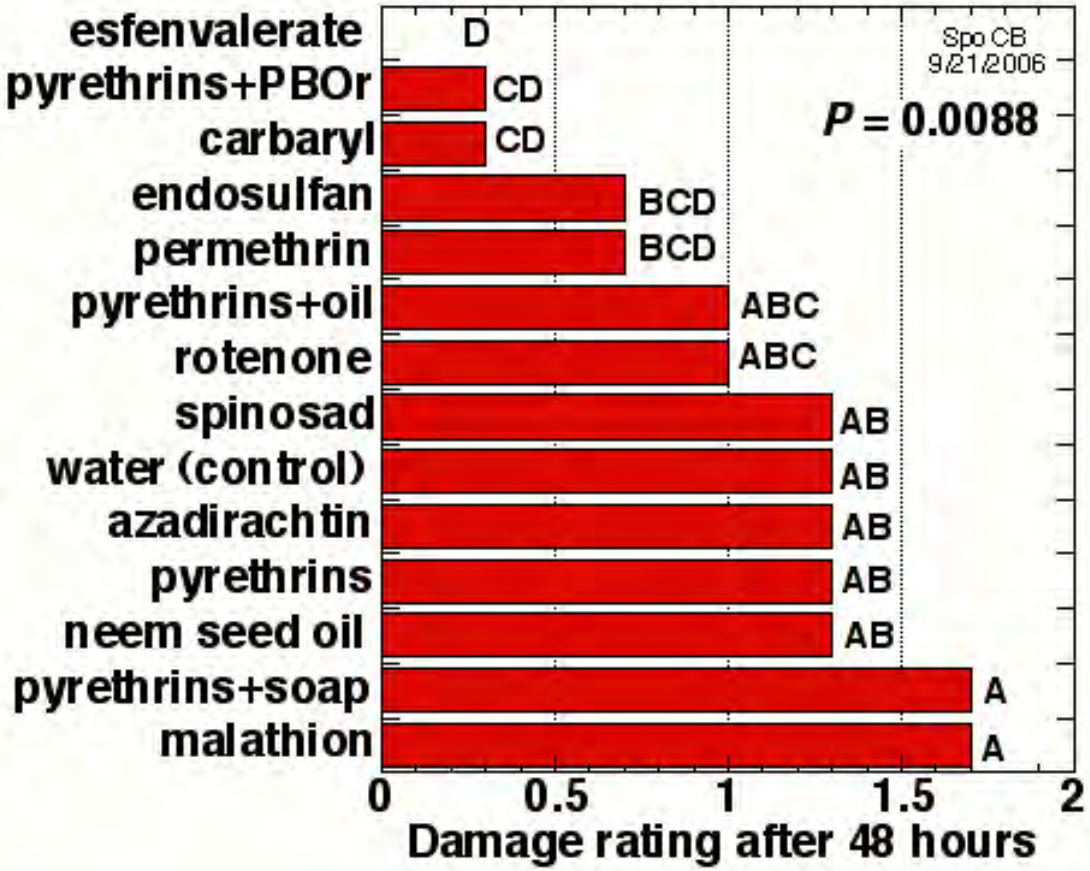


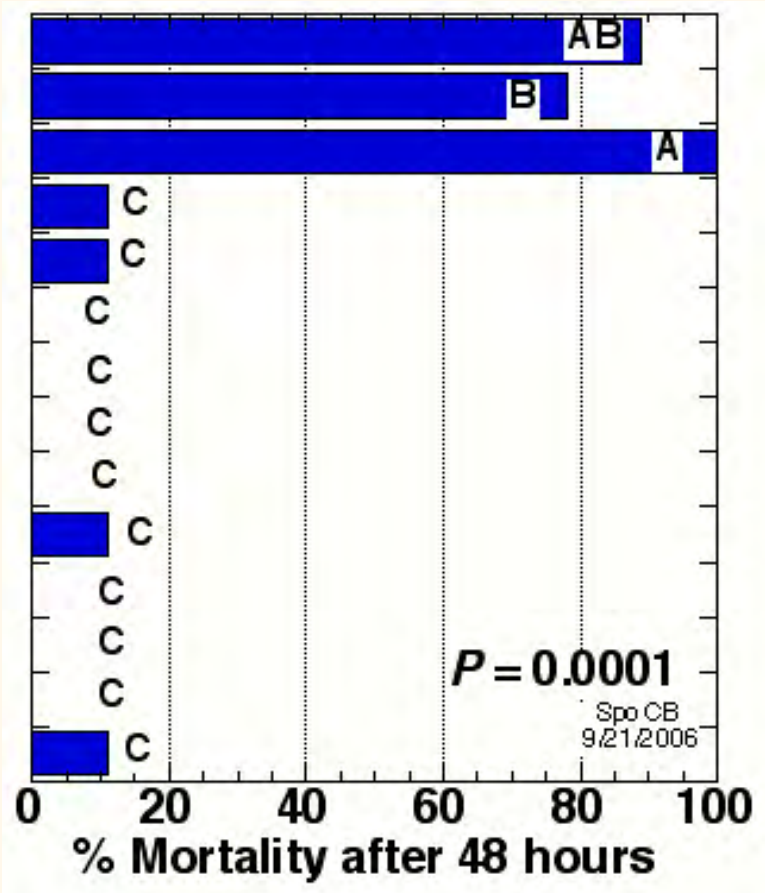


Spotted Cucumber Beetle



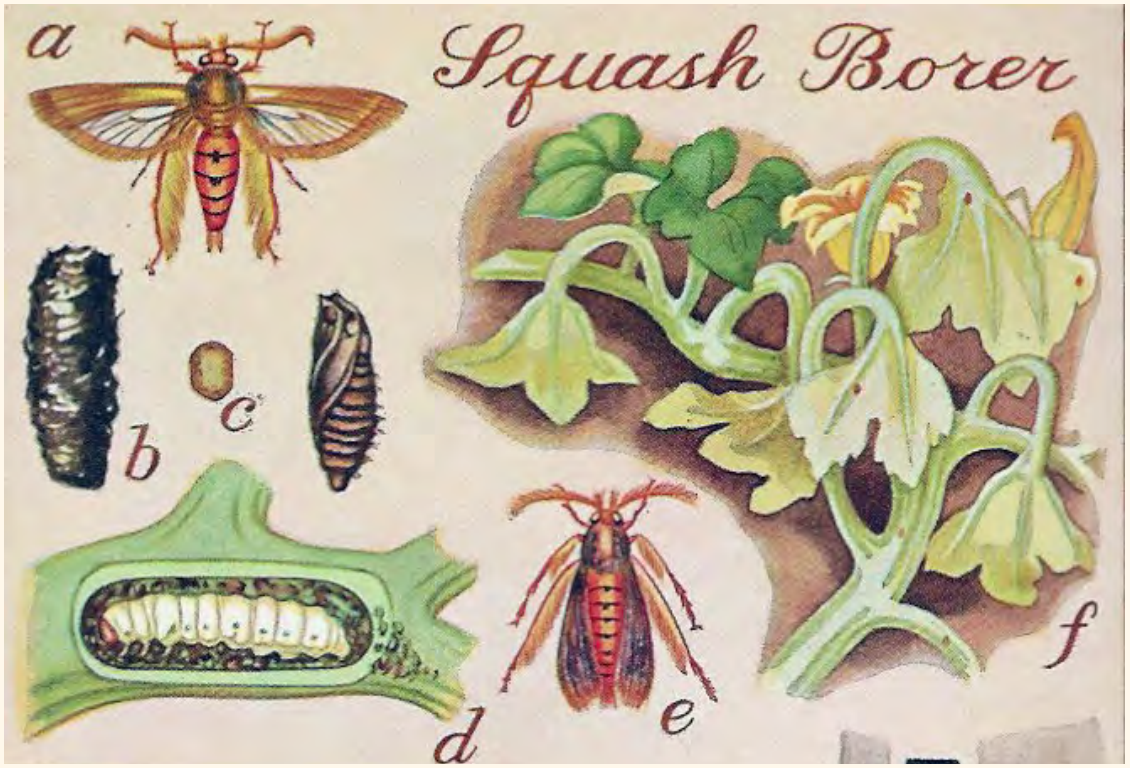
tested on pumpkin leaves, 9/21/2006
3 replicates/treatment, 3 beetles/replicate





Squash vine borer

- Infests squash, gourd, pumpkins
- Plants often die by July



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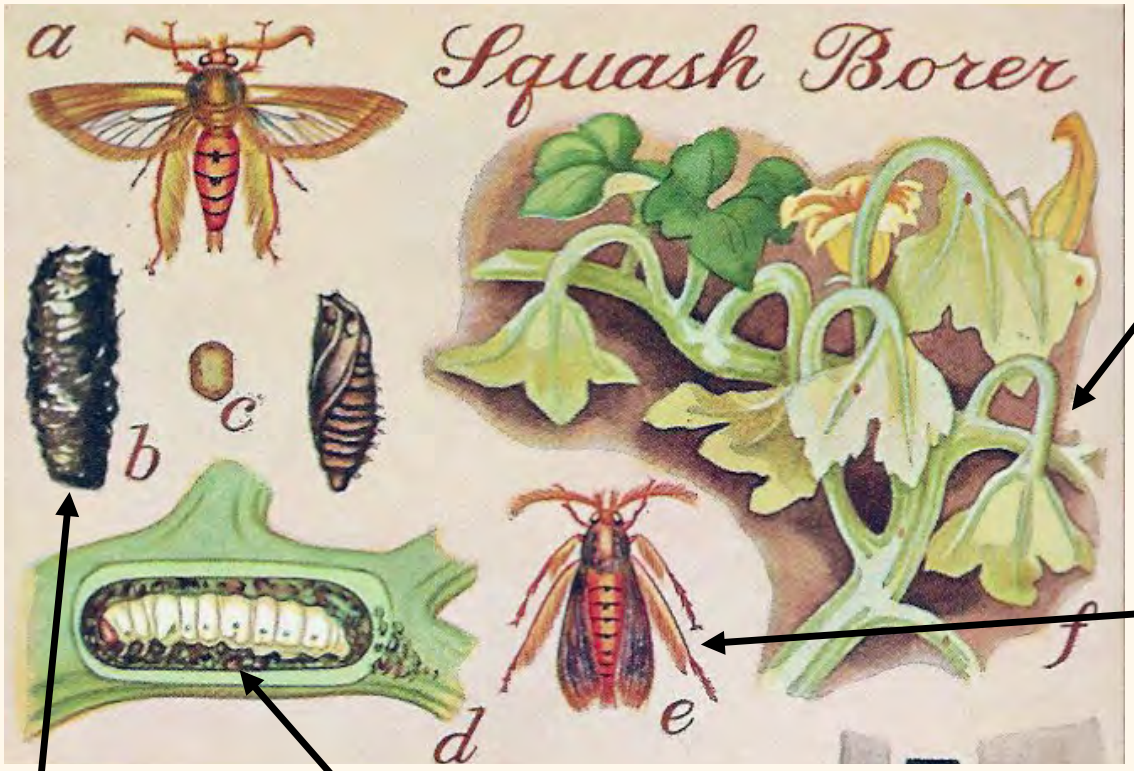


wilting leaves are symptom of infestation

adult is a day-flying moth, lays eggs in late June to mid-July

larva is a caterpillar that bores into stem

cocoon in soil overwinter

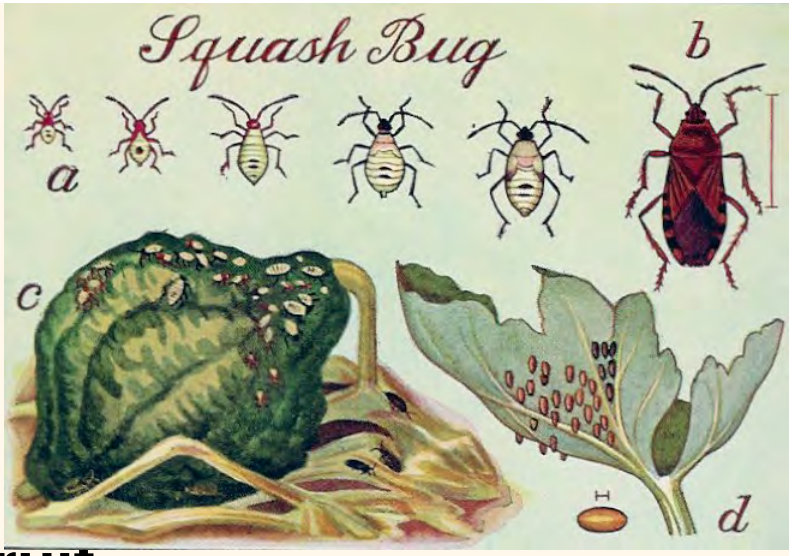
Squash Vine Borer: Management

- **Cultural**
  - Till soil to destroy pupae
  - Plant late for main crop
  - Small planting early as trap crop
- **Mechanical**
  - Row covers (until flowering)
- **Chemical**
  - Insecticide

Squash vine borer

- **Chemical control:**
  - During egg hatch period, early July
  - Direct at base of stems
  - Minimum 2 sprays 1 week apart
  - maximum 4 sprays 1 week apart, late June to late July
  - permethrin or esfenvalerate or pyrethrins+PBO

Squash bug



- **Damage:**
  - Suck sap from stems, leaves, fruit
  - Can kill plants
  - Nymphs can feed in large groups
- **Natural enemies:**
  - 1 fly species attacks adult
  - 2 wasp species attack eggs

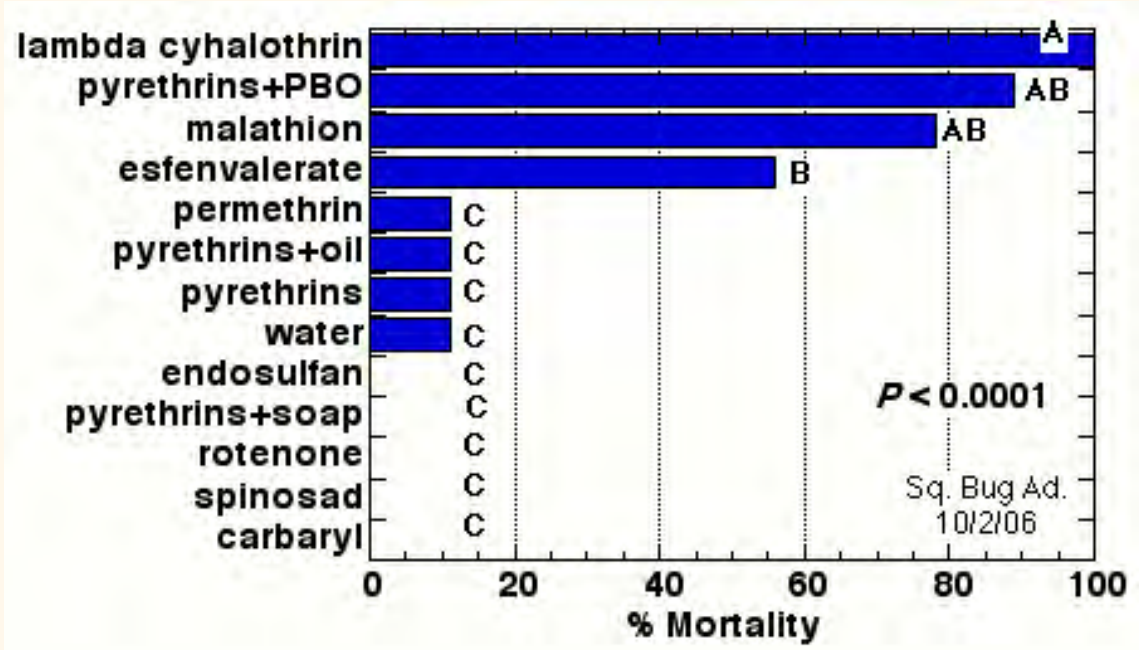
Squash Bug: Management

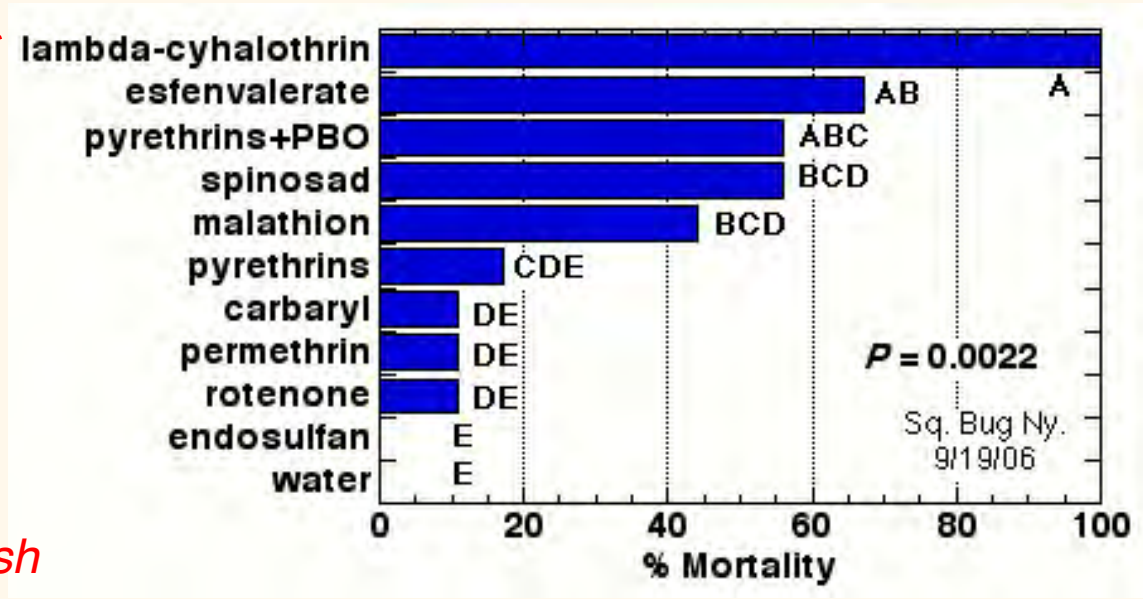
- Cultural control
  - Rotate with non-cucurbit crops
  - Promote early growth of crop
  - * Destroy crop remains
- Mechanical control
  - Row covers (until flowering)
  - Hand picking, especially eggs
  - Shelter traps: board or shingle

Squash bug

adult

nymph



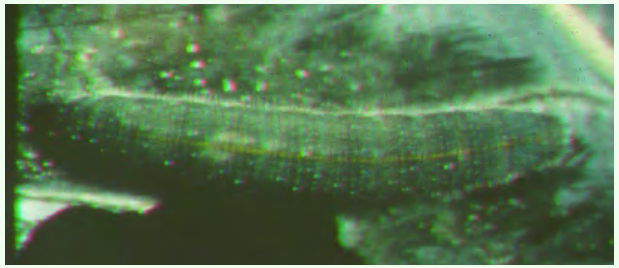


*Not registered for use on squash

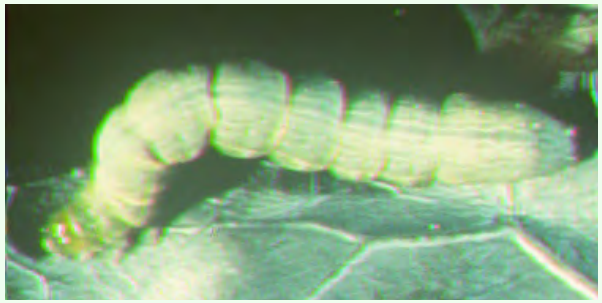
Test question

- It's late July and my cucumber plant is dying
  - What caused it?
  - What can I do about it?
- It's late July and my squash plant is dying
  - What caused it?
  - What can I do about it?

3 Caterpillars on cole crops



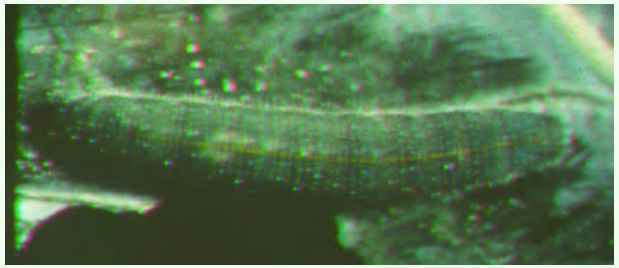
Imported cabbageworm



Cabbage looper

Diamondback moth

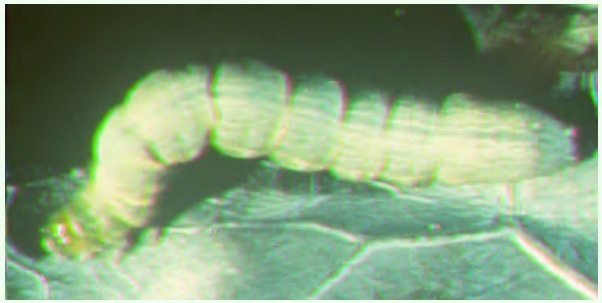
3 Caterpillars on cole crops & their parasitoids



Imported cabbageworm

Cotesia larvae spinning cocoons

Cotesia adult wasp



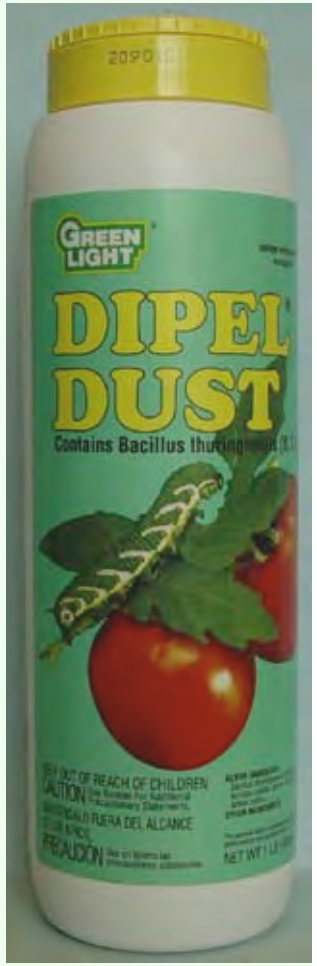
Cabbage looper

Copidosoma floridanum wasps emerging from one cocoon

Diamondback moth

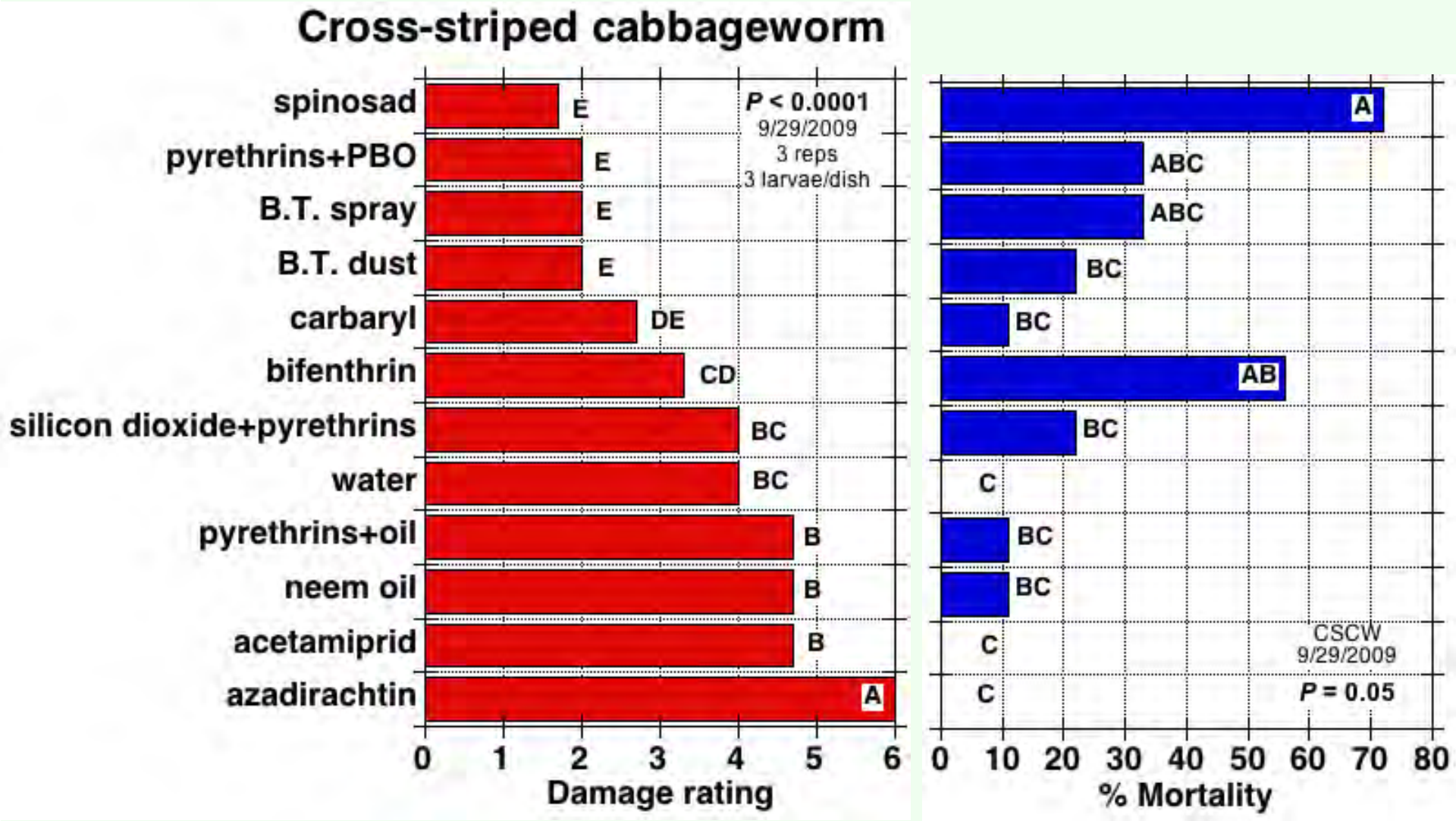
Diadegma insulare oviposits on larvae

Integration of Chemical Control & Biological Control



- **Depends on choosing a <u>selective</u> insecticide**
  - **Kills caterpillars**
  - **Does not kill parasitoids**
  - **Use B.T. microbial insecticide**
    - **'DiPel' etc.**
  - **Spinosad also easy on parasitoids**
- **Plant border of sweet alyssum to attract parasitoids**

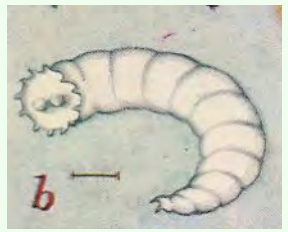
Cross-striped cabbageworm



Row covers

Cabbage maggot

- Turnip, radish, other cole crops
- <u>Symptoms</u>:
  - Seedlings wilted, stunted
  - Holes or tunnels in roots
- <u>Life cycle</u>:
  - Adult fly lays egg at stem base
  - Larvae feed for 3 weeks
  - 3-4 generations per year



- <u>Control</u>:
  - Choose planting date to avoid egg peak
  - Cardboard collars on stem

Colorado potato beetle

- **Damage:** chewed leaves
  - By adults & larvae
  - Potato, eggplant, tomato
- 2 generations/year
- **Control:**
  - Hand pick (knock in bucket)
  - Plant potato early or late but not both
  - Spray larvae with spinosad

Eggplant flea beetle

- Chew many small holes in leaves
- Damage critical to seedlings
- Management:
  - Hand-picking (aspirate) daily
  - Insecticides or repellents
- Similar species on:
  - Cabbage (2 species)
  - Potato

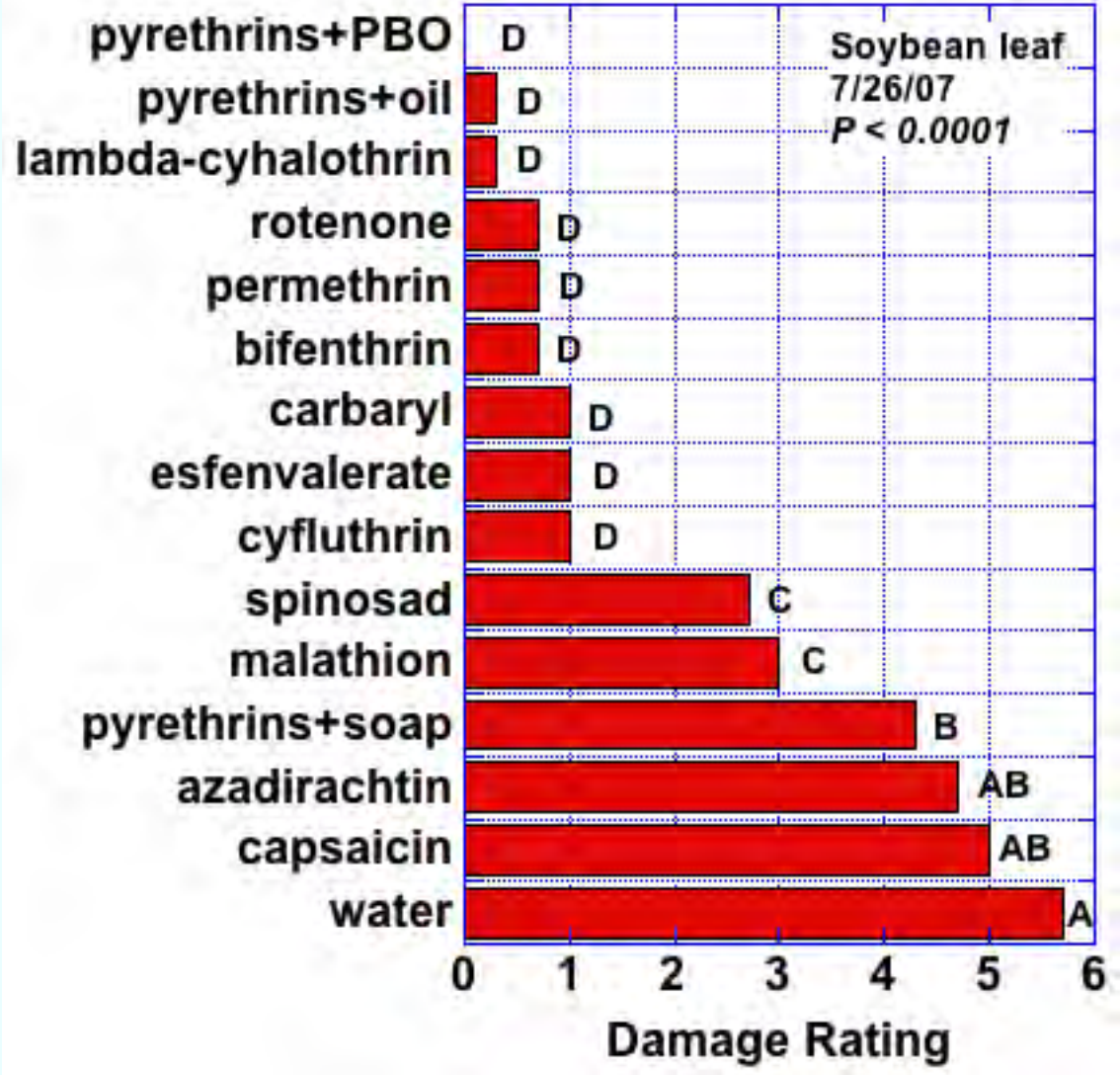
Removal by aspirator: Eggplant flea beetle

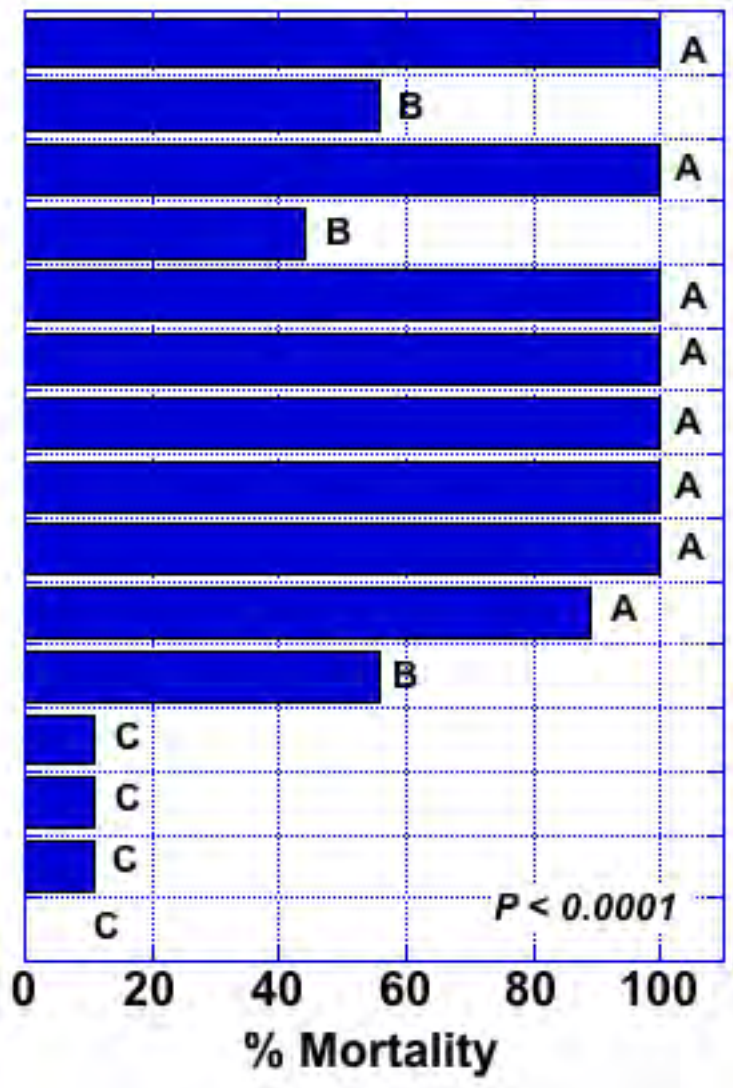
Bean beetles

- **Bean leaf beetle:**
  - **Adults chew holes** through leaves, pods
- **Mexican bean beetle:**
  - **A true lady beetle**
  - **Larvae skeletonize leaves**
- **Cultural control:**
  - **Exclusion (row covers)**
  - **Plow after harvest**
- **Chemical control:**
  - **Sevin or pyrethrins+PBO**

Bean leaf beetle

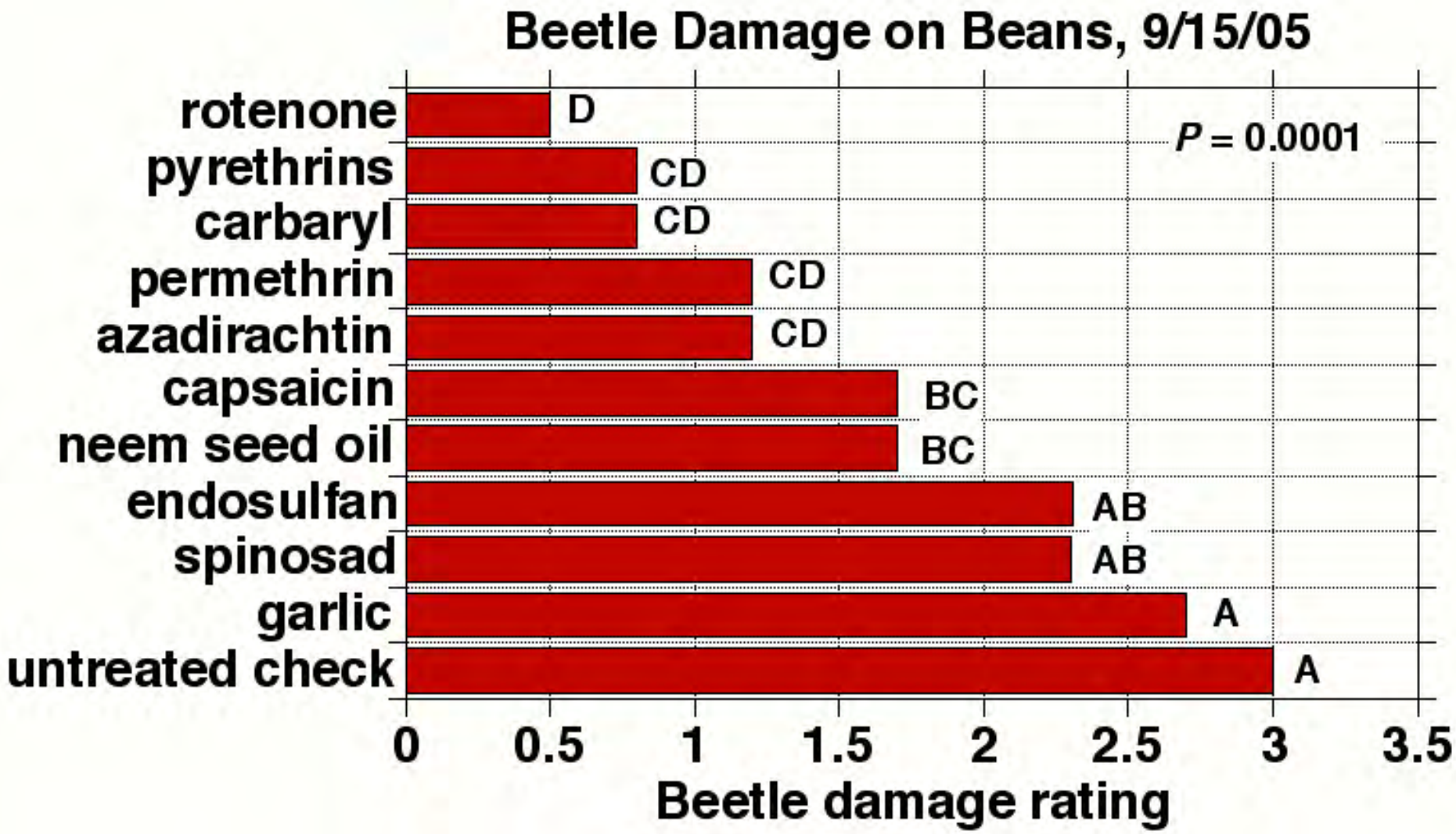
Bean Leaf Beetle





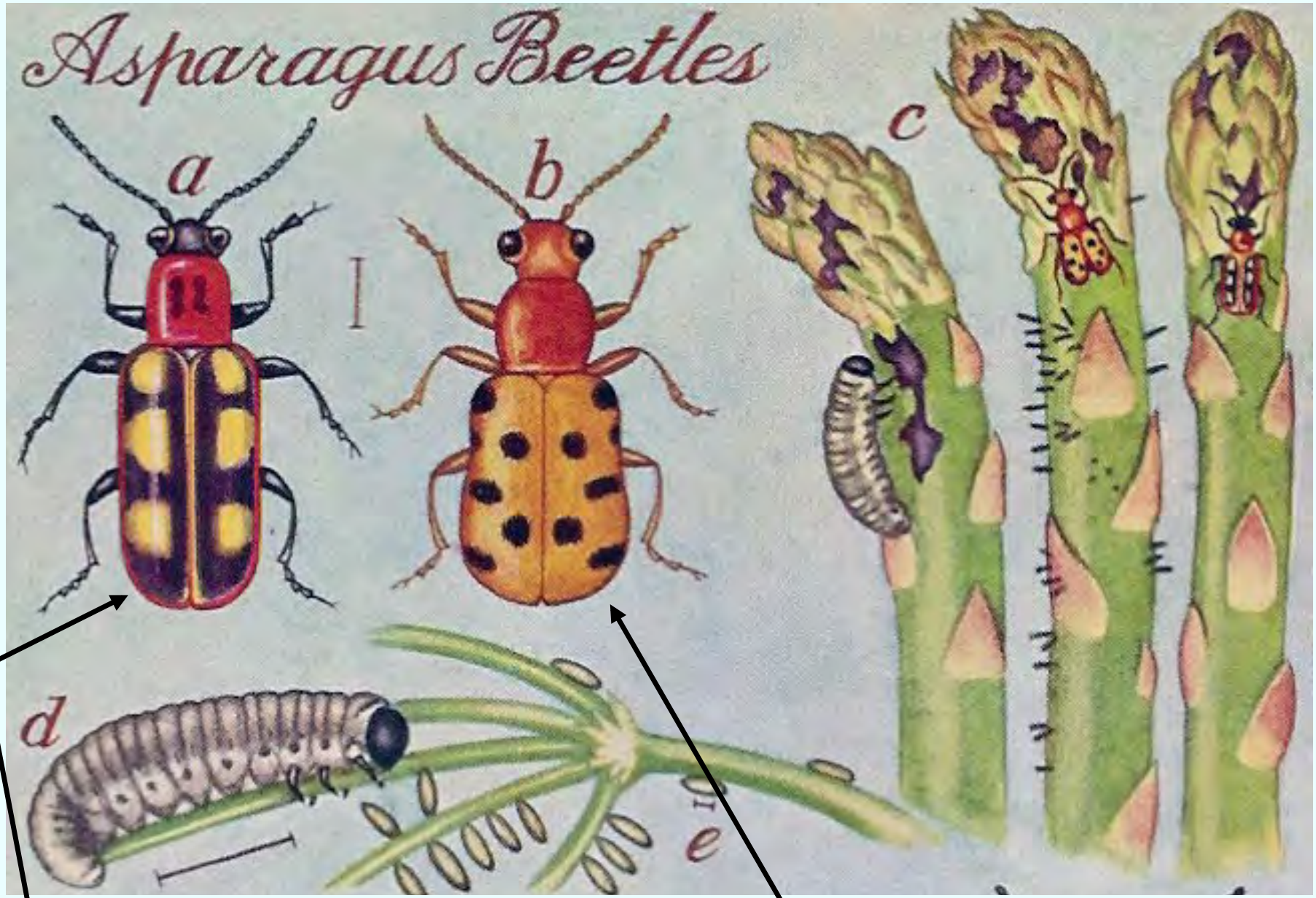
Field trial on snap beans

(bean leaf beetle + spotted cucumber beetle)



Spinach leafminer & beet leafminer

- Adult fly lays eggs
  - On leaf underside
  - in early spring
- Maggots feed inside leaf, 1-2 weeks
  - Narrow mine when young
  - Large blister-like mines when older
- Pupate in soil
- Several generations per year
- Hand pick infested leaves, early

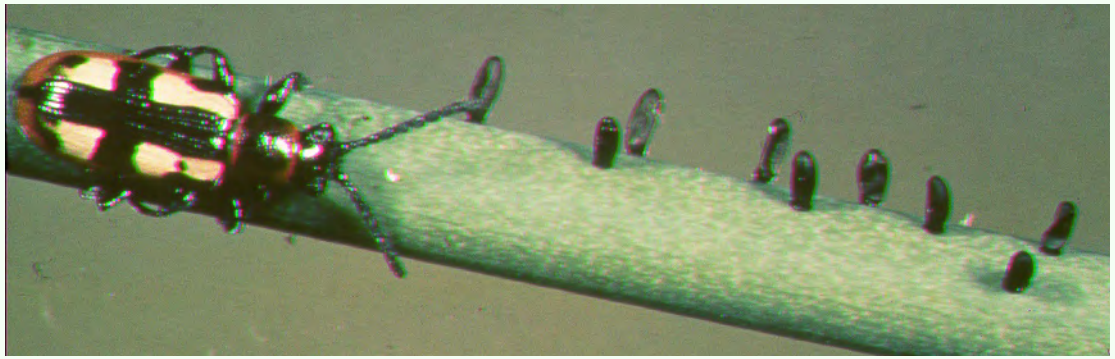


Common asparagus beetle

Spotted asparagus beetle

Asparagus beetles

- **Common asparagus beetle**
  - Adults feed on spears
  - Adults lay eggs on spears
  - Larvae feed on leaves
- **Spotted asparagus beetle**
  - Adults feed on spears
  - Larvae feed in berries



Asparagus beetles

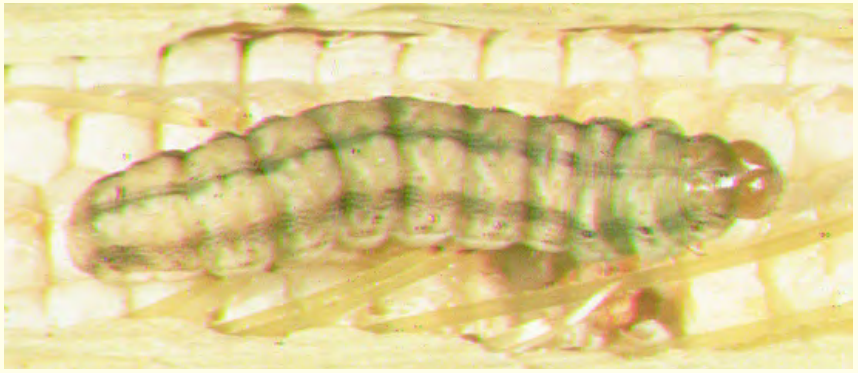
- **Management**
  - **Hand picking**
  - **Insecticides or repellents**

Corn worms

1. European corn borer

- Damage at tip or shank or side
- Two generations per year
- Damage in June & August
- Worm appearance:
  - dark brown head
  - body with rows of flat spots
  - body without microspines

Corn worms

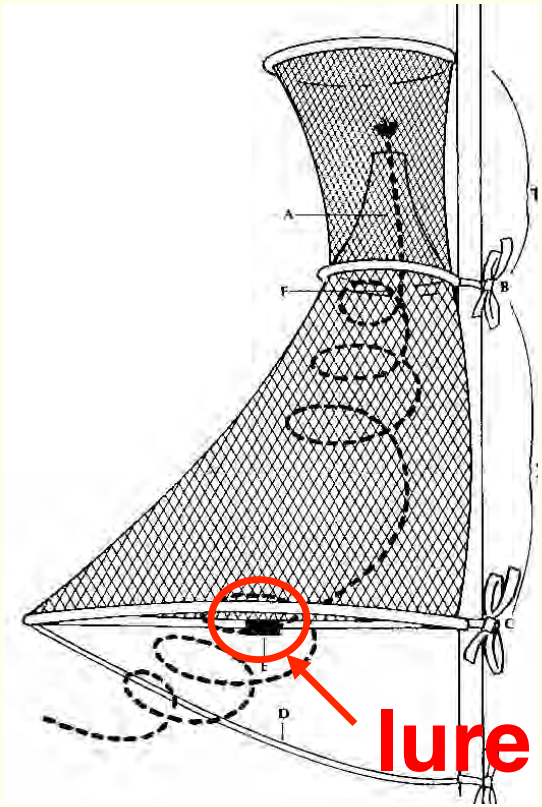


2. Corn earworm

- Damage at ear tip only
- Damage usually mid-August & later
- Worm appearance:
  - light brown head
  - body with long stripes
  - body covered with short microspines

Trap to Monitor Corn Earworm

- Pheromone lure
- Attracts male moths
- Highly effective
- Reports posted on web



Corn Worm Management

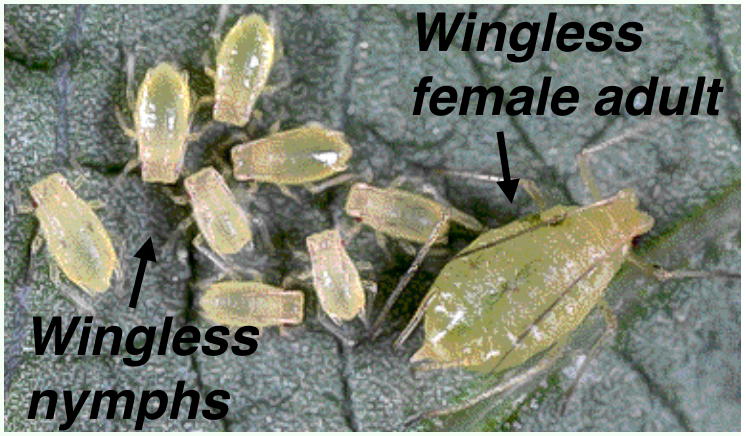
- **Planting date:**
  - Early & late plantings difficult
  - Middle plantings easiest
- **Traps for monitoring**
  - Excellent for corn earworm
  - Good for European corn borer
- **Chemical control:**
  - BT for 1st generation borer
  - Oil + BT in ear tip for earworm
  - Spinosad for both pests
- **Biocontrol:**
  - Encourage generalist predators
  - *Trichogramma* egg parasitoid

Veg & fruit generalist pests

- Aphids
- Mites
- Whiteflies
- Slugs
- Japanese beetle
- Brown marmorated stink bug

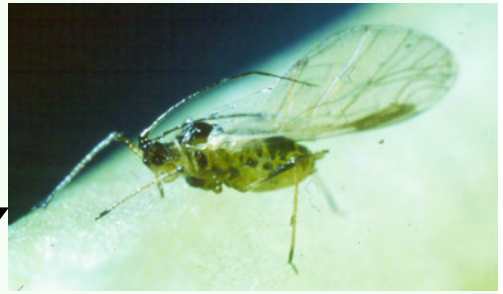
Aphids

- **Appearance:**
  - Small, soft, 2 ‘tailpipes’
  - Every species with winged & wingless forms



- **Damage:**
  - Suck sap
  - Cause leaf puckers
  - Deposit honeydew
  - Transmit viruses

Winged female adult



Aphids

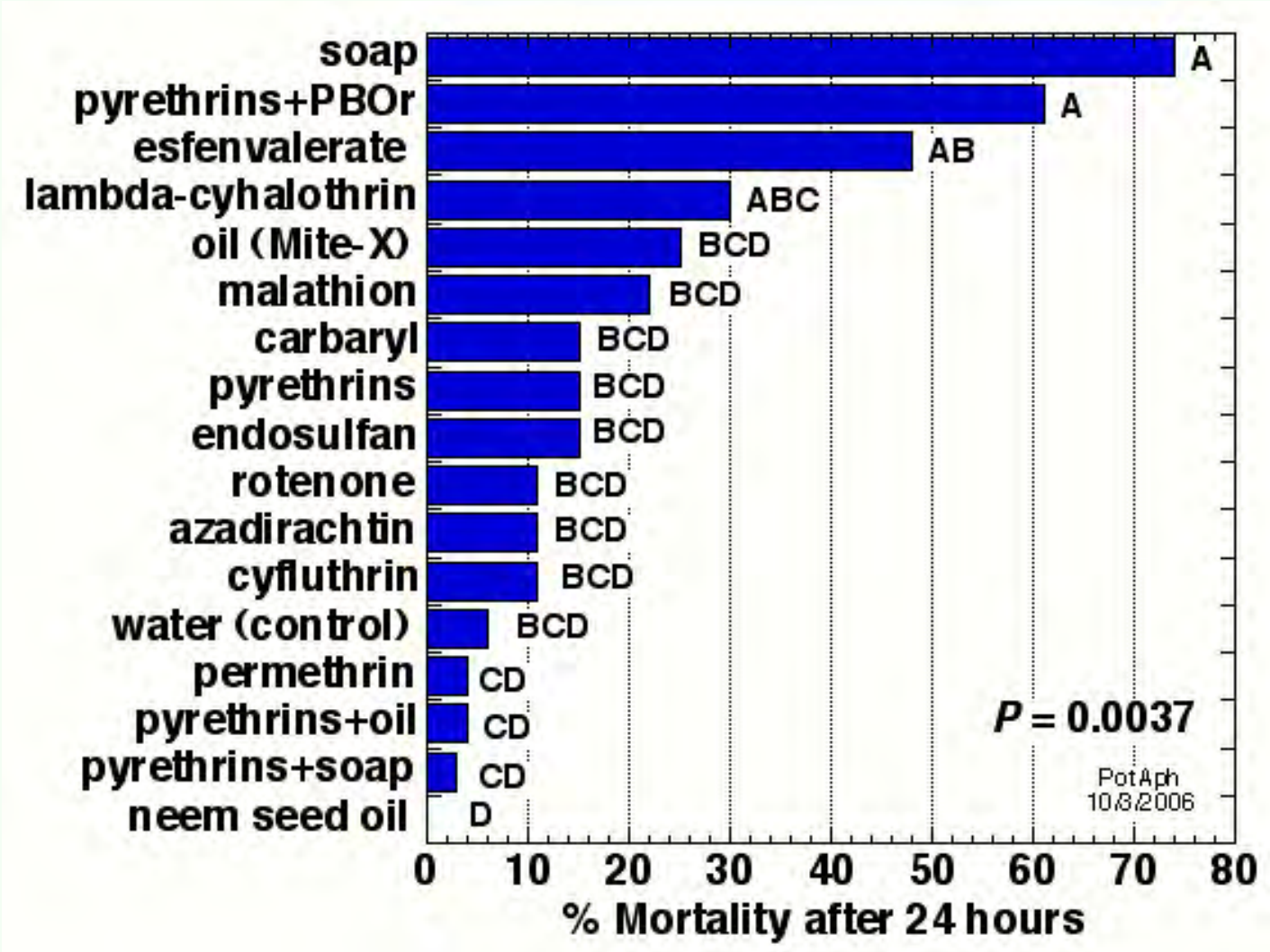
- **Common species:**
  - Potato aphid (tomato)
  - Green peach aphid (lettuce, pepper)
  - Melon aphid (cucurbits)
  - Rosy apple aphid (apple)
  - Green apple aphid (apple)

Aphid control

- **Encourage natural enemies by avoiding use of broad-spectrum insecticides**
- **Suffocate with spray of insecticidal soap**
- **Reflective mulch to prevent colonization by winged aphids**

Potato Aphid

tested on tomato leaves, 10/3/2006
3 replicates/treatment, 10 aphids/replicate



Two-spotted spider mite

- Often overlooked
- Often mistaken for disease
- Build up in hot dry weather

Two-spotted spider mite: identification

- **Tiny (1/60 inch)**
- **White with 2 black spots**
- **<u>8</u> legs**

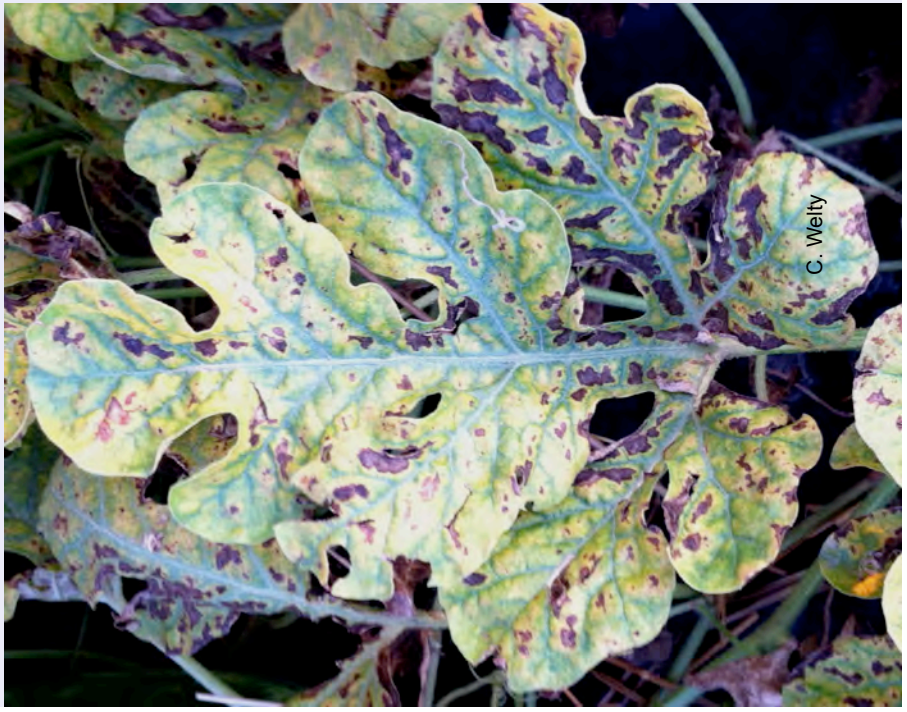
Two-spotted spider mite: hosts

- Tomato
  - Yellow blotches

- Bean
  - White stippling

Two-spotted spider mite: hosts

- Watermelon
  - Yellow blotches
  - Brown lesions

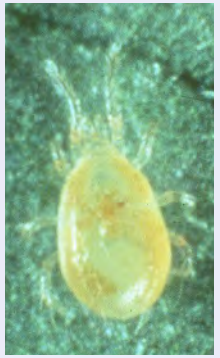


Two-spotted spider mite: diagnosis

- Fine webbing on leaf underside
- Scout by tapping leaf over paper, look for moving specks
- Early diagnosis for good control

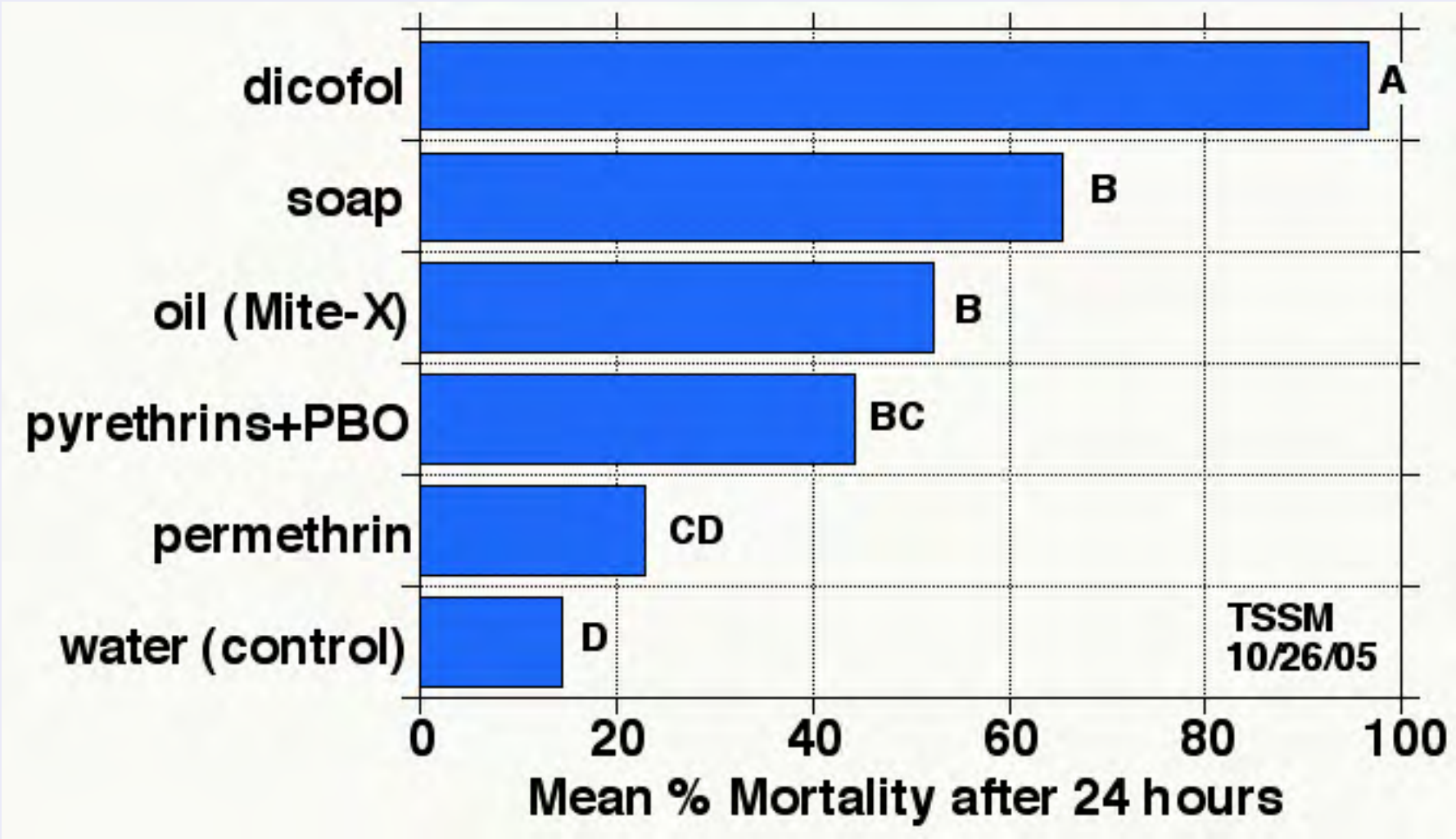
Spider mite management

- Tolerable at low density
- Conserve natural predators
- Overhead irrigation can help
- Soft control:
  - Insecticidal soap
  - Hort. Oil



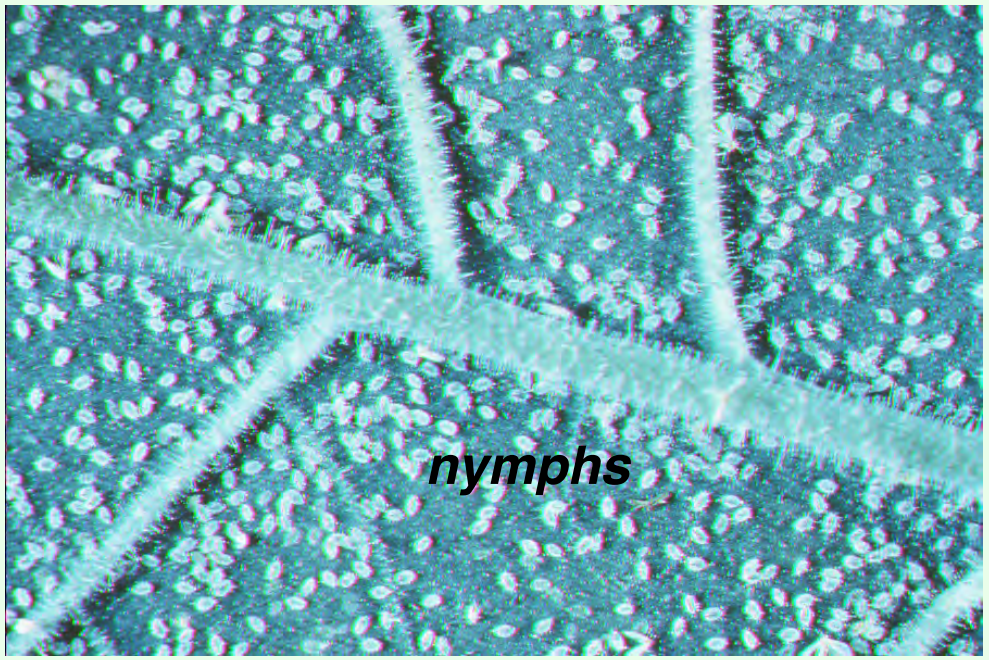
Two-spotted spider mite

tested on snap bean leaves, 10/26/05;
3 replicates/treatment, 30 mites/replicate



Whiteflies

- Suck sap
- Life stages:
  - Adult
  - Egg
  - Crawler (1st instar)
  - Sessile nymphs
  - Pupa
- Damage done by nymphs from leaf undersides
- Control by soap sprays



Whiteflies: size

- **Need magnifier to see immatures on underside of leaves**

Whiteflies: hosts

tomato

squash

beans

lettuce

Whiteflies: injury symptoms

leaf scorch

sooty mold

Whiteflies: insecticides

- **Best controlled by neonicotinoids**
  - **acetamiprid**
  - **imidacloprid**
  - **Be sure to know pre-harvest interval**

Slugs

- Not insects!
- Evidence:
  - Chew leaves, stems
  - Ragged holes & tunnels
  - Leave slime trails
- Behavior:
  - Feed mostly at night
  - Hide during daytime
  - Eggs laid in fall
  - Favored by moisture, thick mulch

Slug Control

- Cultural
  - Lower plant density
  - Delay fall mulching
  - Remove debris around field
- Mechanical
  - Board traps
- Control by border of abrasive material
  - Diatomaceous earth (not rainfast)
- Chemical
  - Baits on soil around plants

Slug control by baits

- **Metaldehyde (Bug-Geta, etc.)**
  - **Kill slugs by over stimulating mucous**
  - **Prevents damage**
  - **Toxic to dogs**
  - **Works best when temp. warm**

Slug control by baits

- **Iron phosphate (Sluggo, Slug Magic, etc.)**
  - **Light brown; less visible to pickers**
  - **Safe to humans, animals, natural enemies**
  - **Less rapid toxic effect**
  - **Stop the slugs from feeding**
  - **Eventually leads to their death**

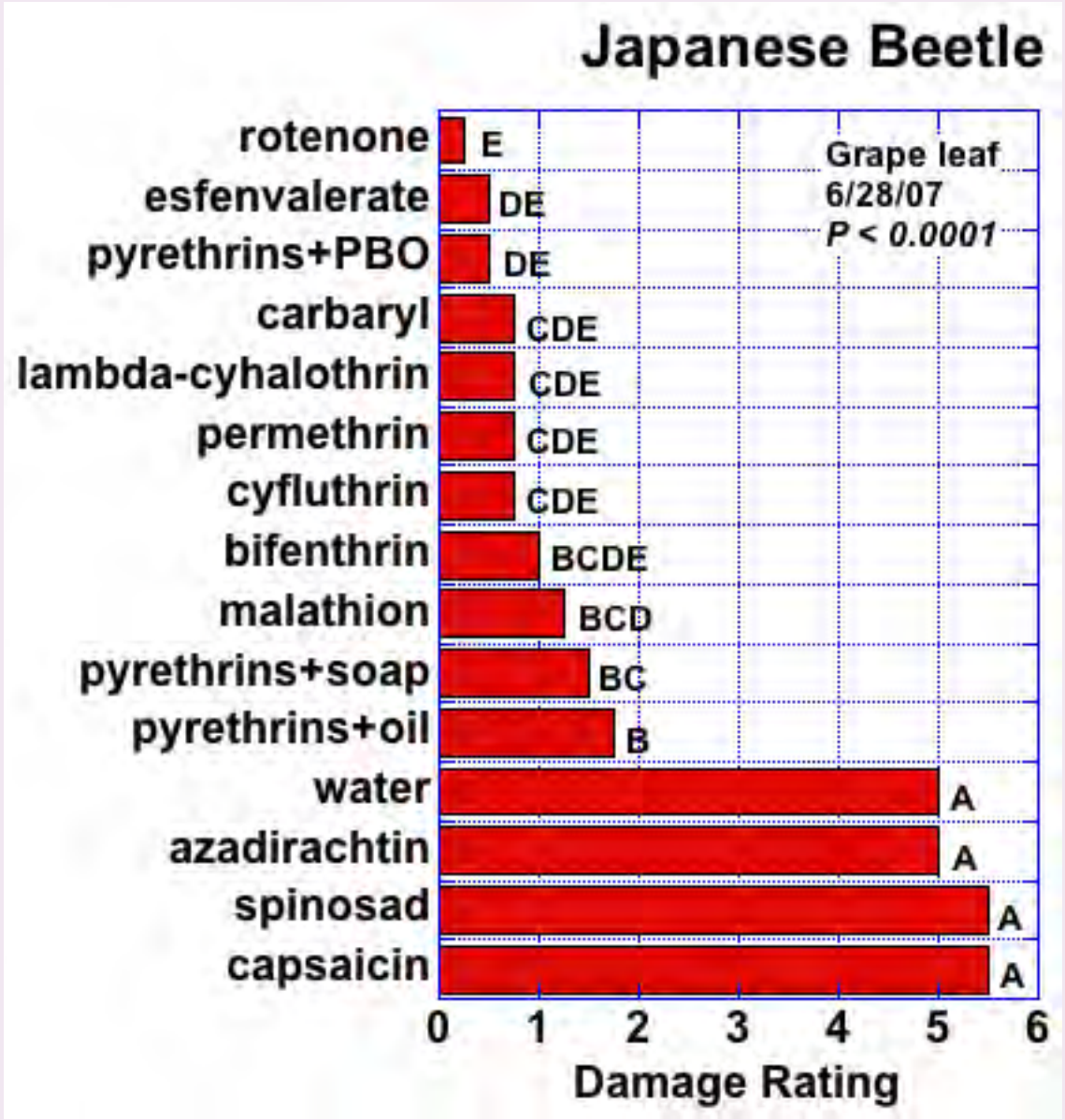
Japanese beetle

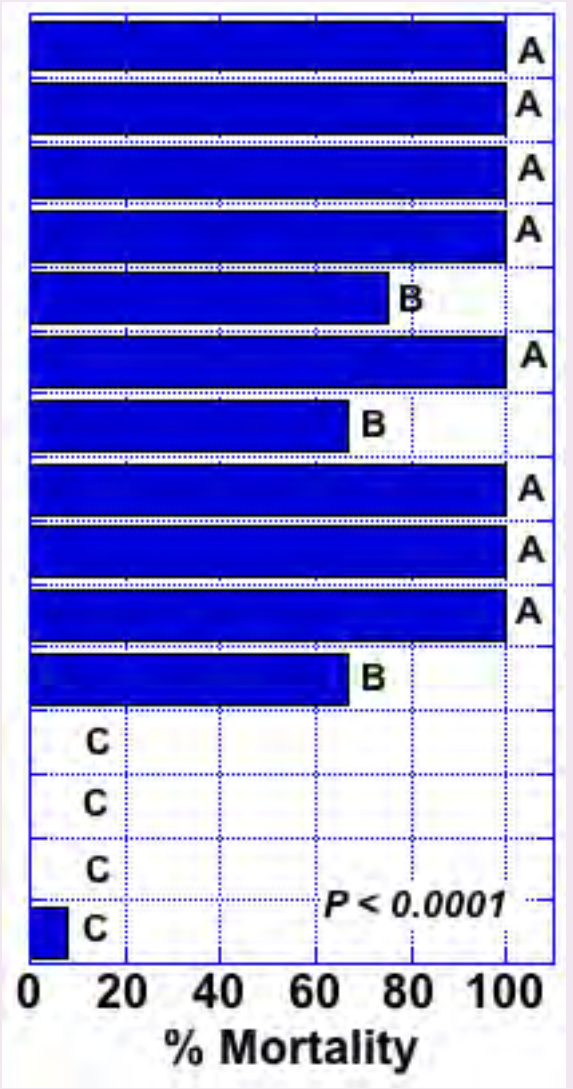
- Attacks many crops:
  - Grape
  - Raspberry
  - Blueberry
  - Plum
  - Peach
  - Sweet corn
  - Beans
- Expect start in early July

Japanese beetle

- Insecticides
  - Sevin (carbaryl)
  - pyrethrins + PBO
- Traps
  - can bring in MORE beetles
  - Do not place close to crop

Results of insecticide tests in laboratory bioassays



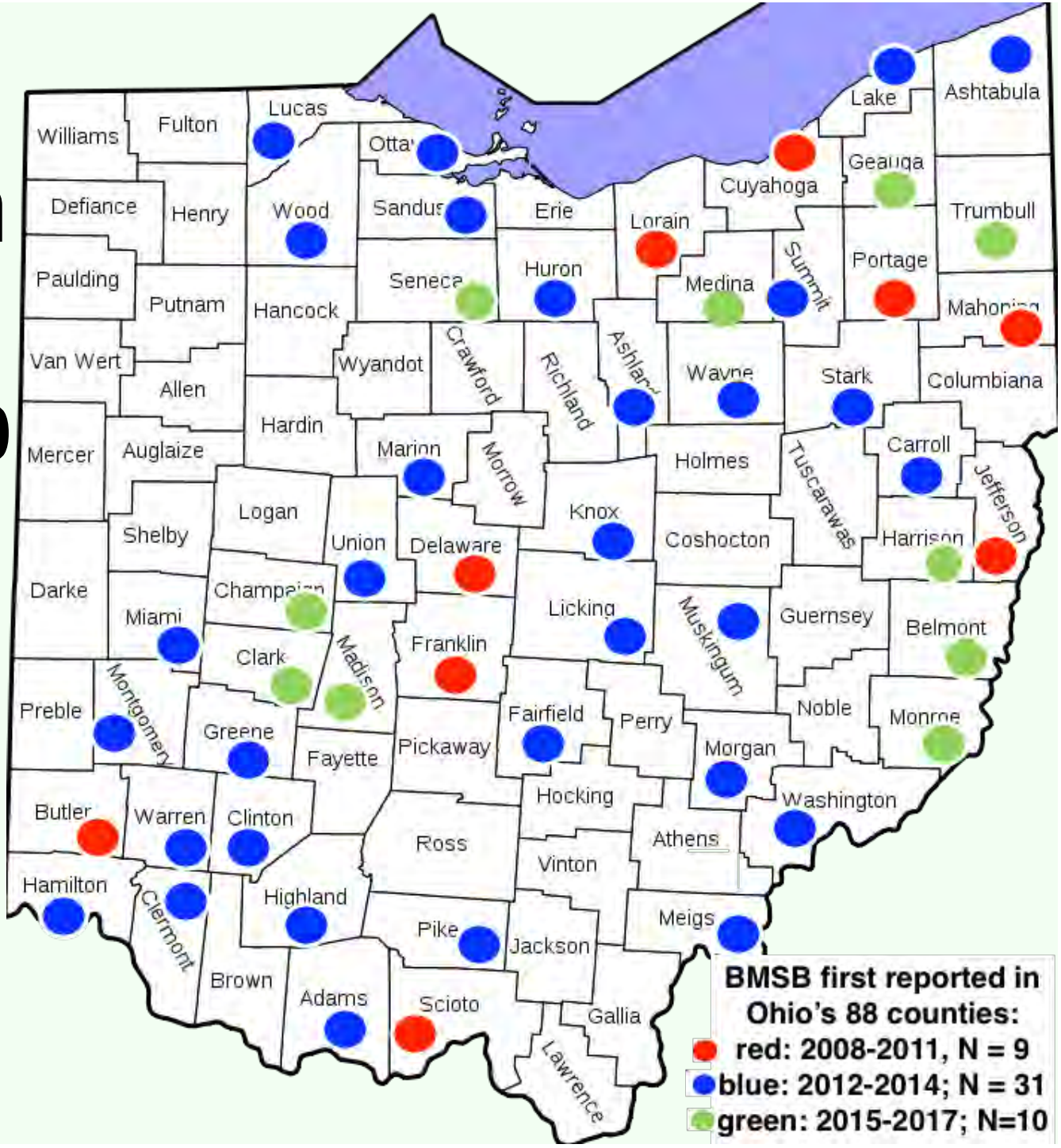


Brown marmorated stink bug

- **Invading Ohio since 2007**

BMSB detection in Ohio:

in at least 50 of 88 counties as of 2017



Brown marmorated stink bug

- **Attacks fruits & seed pods**
- **Also nuisance pest: invades homes in autumn**

Hosts of Brown Marmorated Stink Bug

- **Fruit crop hosts:**
  - Peach, apple, pear, cherry, Asian pear
  - Raspberries, blackberries, grapes
- **Vegetable crops**
  - Sweet corn
  - Peppers
  - Tomatoes
- **Agronomic crops**
  - Soybean
  - Corn

Brown marmorated stink bug: injury

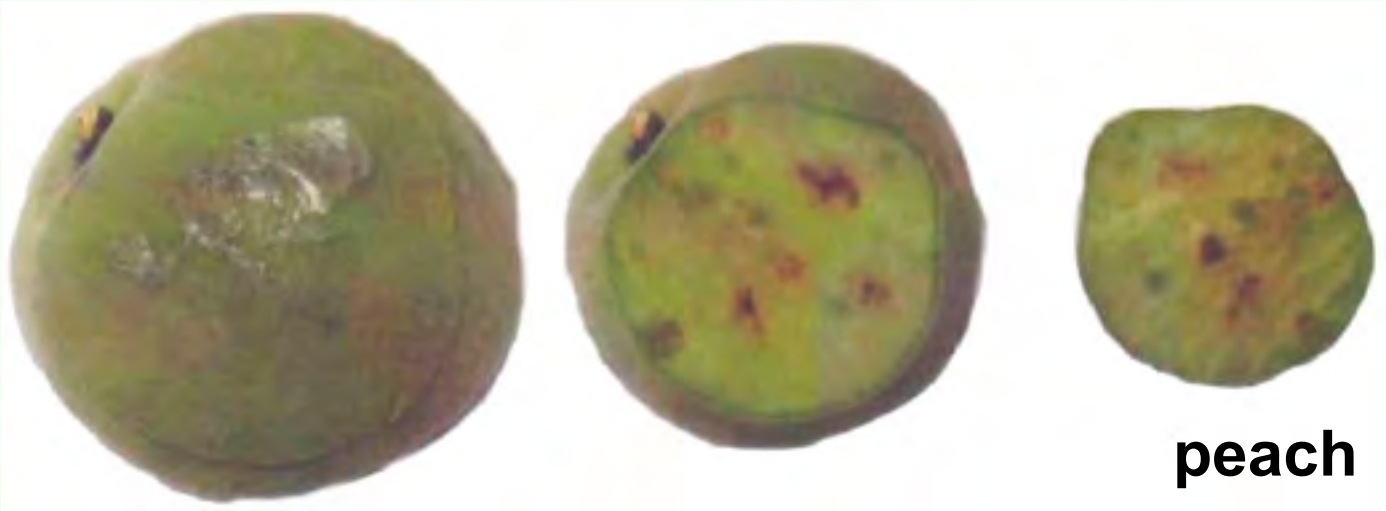
corn

pepper

tomato

beans

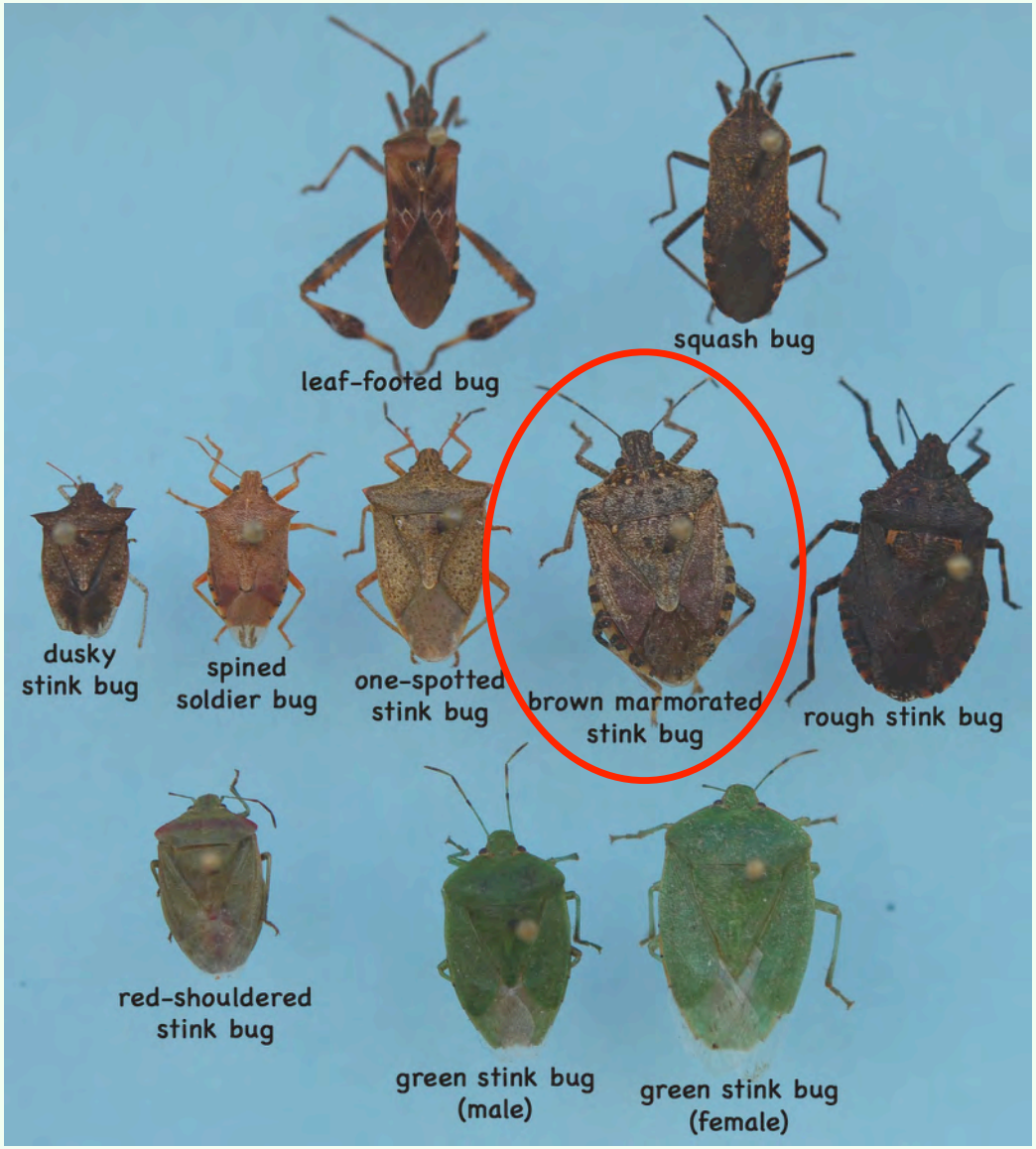
Brown marmorated stink bug: injury on tree fruit



peach

apple

Tracy Leskey, USDA, 2010



Note differences in size & shape in pinned specimens side-by-side

Mechanical control of stink bugs

- Lightweight row covers
- The preferred tactic in small plantings

Stink bug control in gardens

Category	*Ingredient*	*Common brand*
pyrethroids	bifenthrin	Ortho Max Bug-G-Gon Lawn & Garden Insect Killer
	permethrin	Bonide Eight Insect Control Veg Fruit & Flower
	cyfluthrin	Bayer Advanced Garden, Triple Action Insect Killer for Lawns & Gardens
	gamma-cyhalothrin	Spectricide Triazicide Insect Killer Once & Done!
neonicotinoid	acetamiprid	Ortho Max Flower Fruit & Vegetable Insect Killer
deterrent	kaolin	Surround At Home
for nymphs, not adults	spinosad	Bonide Captain Jack's Deadbug Brew

Fruit specialist pests

- Raspberry (1 pest)
- Apple (2 pests)
- Peach (2 pests)
- Apple + peach (2 pests)
- Cherry (1 pest)
- Strawberry (1 pest)

Spotted wing Drosophila

- **Looks like common vinegar flies on overripe, fallen, decaying fruit**

- **But the new species attacks <u>healthy</u> ripening fruit**

- **Invading mainland USA since 2008**

Fruit injury by Spotted wing Drosophila

Hosts

of Spotted wing Drosophila

Photo by Martin Hauser

- **Early:** cherries
- **Mid:** raspberries, blueberries, blackberries
- **Late:** grapes
- strawberry, peach, plum
- cherry tomato

Management of spotted wing Drosophila

- **Sanitation**
  - **Strongly recommended!**
  - **Destroy leftover fruit**
  - **Easier said than done**
  - **Do every 2 days**
  - **Culls in clear plastic bags in sun, 1 week**
  - **Or bury culls 2 ft deep**

Insecticides for SWD in garden raspberries & blackberries

Allowed, and PHI manageable:

- **Very effective**
  - **spinosad**, 3-day pre-harvest
  - **bifenthrin**, 3-day pre-harvest
  - **bifenthrin + zeta-cypermethrin**, 3-day PHI
- **Effective**
  - **malathion**, 1-day pre-harvest
- **Moderately effective**
  - **acetamiprid**, 1-day pre-harvest
- **Efficacy uncertain but likely good**
  - **pyrethrins + PBO**, 0-day pre-harvest

Representative brand names

- **spinosad:**
  - Captain Jack's Deadbug Brew (Bonide)
  - Entrust (Dow) OMRI Listed

- **bifenthrin:**
  - Ortho Bug B Gon Max Lawn & Garden Insect Killer

- **bifenthrin + zeta-cypermethrin:**
  - Ortho Bug B Gon Insect Killer for Lawns & Gardens

- **acetamiprid**
  - Ortho Flower Fruit & Veg. Insect Killer Concentrate

- **pyrethrins + PBO**
  - Garden Safe: Fruit & Vegetable Insect Killer

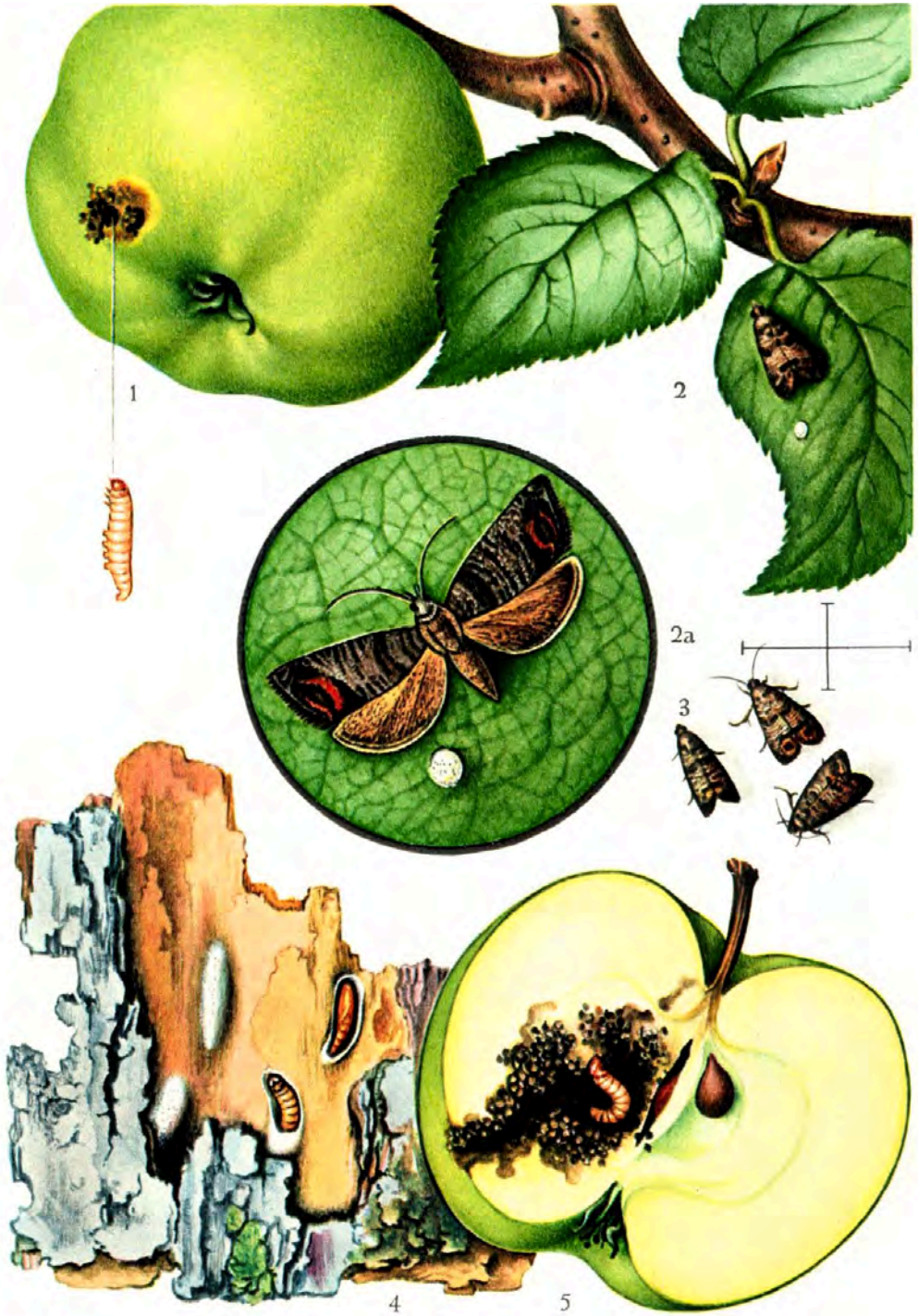
Codling moth

- **The key pest in apple fruit (& pears)**
- **Young larva enters fruit, tunnels to seeds at core**

Codling Moth Life cycle

1st generation in May/June

2nd generation in July/August

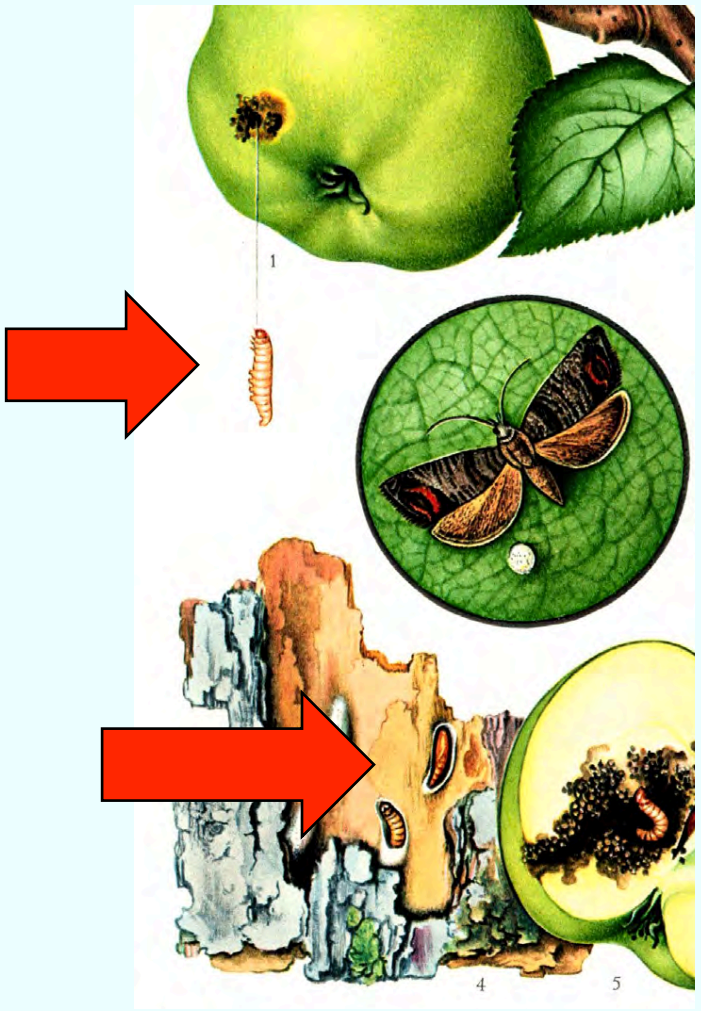


Mechanical controls of codling moth

- Trunk bands
- Fruit bagging

Trunk bands: the idea

- Larva exits fruit
- Crawls under bark scale to pupate
- Bands offer shelter
- Destroy the shelter!



Trunk bands:

4 - 6” corrugated cardboard on trunk & main branches

Trunk bands:

4 - 6” corrugated cardboard on trunk & main branches

Target	*Install*	*Remove & destroy*
1st generation	mid-May	Late June
2nd generation	mid-July	November

Fruit bagging

- **Supplies:**
  - **2-layer Japanese bags**
  - **Or brown paper bags + twist ties**

Fruit bagging

- Install on fruit ½ - ¾” diameter (~2 – 3 weeks after petal-fall)
- Remove 2 weeks before harvest
- Labor intensive!

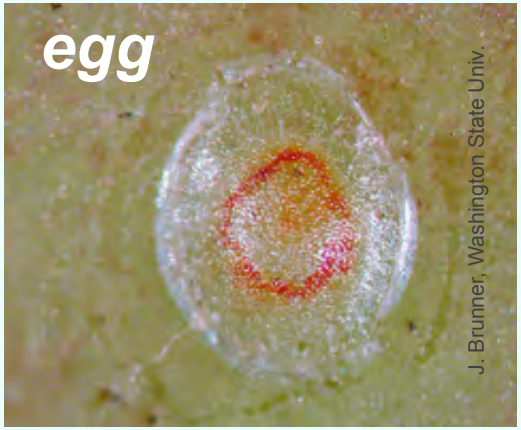
Cultural controls of codling moth

- **Sanitation:**
  - **Scrape cocoons from picking crates, fences**
- **Host reservoir elimination:**
  - **Cut down abandoned trees**

Insecticide for codling moth?

- **Calendar approach:**
  - **Spray every 2 weeks from petal-fall until harvest (= 9 sprays)**
- **IPM approach:**
  - **Use 2 sprays @ 2 generations**
  - **1st spray at 1st egg hatch**
  - **2nd spray 14 days later**

When do codling moth eggs hatch?



- **Hatch begins:**
  - **2 to 3 weeks after moths begin to fly**
  - **Memorial Day +/- 1 week**
  - **250 degree-days (base 50°F) after moths begin sustained flight**
- **Use pheromone trap for moth flight**
- **'Biofix' is date sustained flight begins**

Insecticides for codling moth

- **Organic**
  - **spinosad**
  - **B.t.**
  - **kaolin**
  - **azadirachtin + pyrethrins**

shorter lived & more selective (narrow spectrum)

- **Conventional**
  - **carbaryl**
  - **malathion**
  - **acetamiprid**
  - **esfenvalerate**
  - **gamma-cyhalothrin**
- **Natural but not OMRI**
  - **pyrethrins + PBO**

longer lived & less selective (broad spectrum)

‘Multi-purpose fruit spray’? (for insect + disease control)

- **malathion + carbaryl + captan**
  - Bonide Fruit Tree Spray Concentrate
  - Gordon’s Liquid Fruit Tree Spray
- **pyrethrins + sulfur**
  - Bonide Citrus, Fruit & Nut Orchard Spray
- **pyrethrins + PBO + extract of neem oil**
  - GreenLight Fruit Tree Spray Concentrate
  - Ferti-lome Fruit Tree Spray
- **lambda-cyhalothrin + pyraclostrobin + boscalid**
  - Bonide Fruit Tree & Plant Guard Concentrate

‘Multi-purpose fruit spray’? (for insect + disease control)

- **malathion + carbaryl + captan**
  - Bonide Fruit Tree Spray Concentrate
  - Gordon’s Liquid Fruit Tree Spray

  beware fruit thinning for 30 days after bloom
- **pyrethrins + sulfur**
  - Bonide Citrus, Fruit & Nut Orchard Spray

  only organic option
- **pyrethrins + PBO + extract of neem oil**
  - GreenLight Fruit Tree Spray Concentrate
  - Ferti-lome Fruit Tree Spray
- **lambda-cyhalothrin + pyraclostrobin + boscalid**
  - Bonide Fruit Tree & Plant Guard Concentrate

kaolin: ‘Surround At Home’

Apple maggot: damage

- **A key pest in northern USA**
- **Not a pest in southern USA**
- **Variable in latitude of Ohio**

Apple maggot: life stages

- **Adult fly lays egg on fruit**
- **Larva tunnels through fruit**
- **Pupate in soil**

Apple maggot: mechanical control

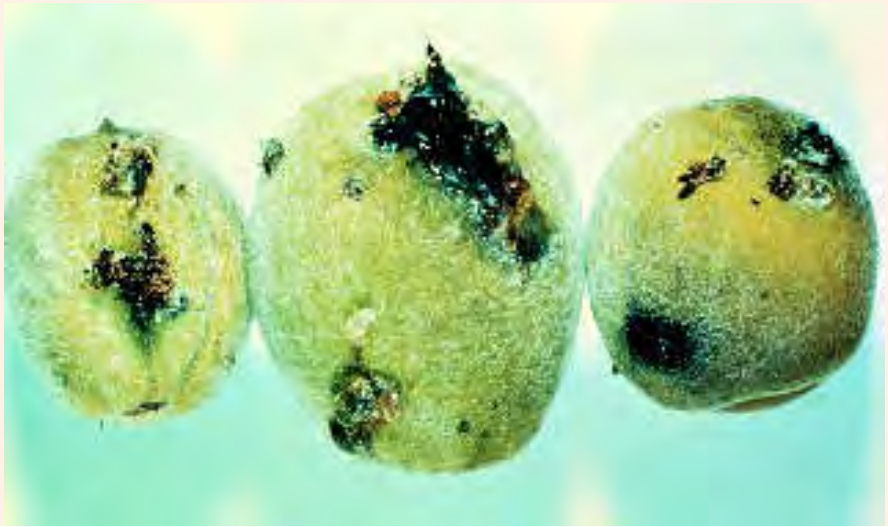
- Adult female fly attracted to round red object
- **Sticky ball trap**: 1 trap per 100 real fruit
- '**Tanglefoot**'
- Clean with **mineral spirits**
- Optional: fruit volatile lure

Apple maggot: chemical control

- Spray **every 2 weeks** in July & August
- Products:
  - acetamiprid
  - carbaryl
  - esfenvalerate
  - spinosad

Oriental Fruit Moth

- 1st & 2nd broods: tunnel in terminal shoots
- 2nd & 3rd broods: tunnel in fruit



Oriental Fruit Moth in Peaches

Control Options:

- **Prune flagged terminal shoots in spring**
- **Insecticide**
  - **permethrin, malathion, or Sevin**
  - **Most important to apply at petal-fall**
  - **Additional applications in all remaining cover sprays**

Borers in peach trees

- **Peachtree borer**
  - Attack healthy tree at soil line
  - One generation per year
- **Lesser peachtree borer**
  - Attack injured scaffold branches
  - Two generations per year

Cultural control of borers

- Train trees to form wide angles
- Promote healthy trees
- Avoid practices that injure bark
  - Over load of fruit
  - Improper pruning
  - Mowing injury
  - Fertilizing
  - Damage during harvest

Mechanical control of borers

- ‘Worming’
- Effective
- Insert knife or wire into entry hole
- Smash the larvae!
- Do in early spring or late fall
- Practical in small plantings

Chemical control of borers

- Dip bare roots before planting new trees
- Insecticide drench (start year 2)
  - Preventive via residual action
  - Curative via fumigant action
- Target on tree:
  - Soil line for peachtree borer
  - Trunk & scaffolds for lesser PTB

Chemical control of borers

- **Recent cancellation of bark drench by chlorpyrifos or endosulfan**
- **Foliar spray to control adult borer:**
  - **spinosad**
    - **Bonide's Captain Jack's Deadbug Brew**
  - **permethrin**
    - **Bonide's Eight**
  - **lambda-cyhalothrin**
    - **Bonide's Fruit Tree and Plant Guard Concentrate**

Plum curculio

- External damage from egg-laying
  - On apples
  - On plum, peach, cherry, blueberry
- Internal damage from larvae tunneling
  - In plum, peach, cherry, blueberry
  - Not in apple

Plum curculio: adult

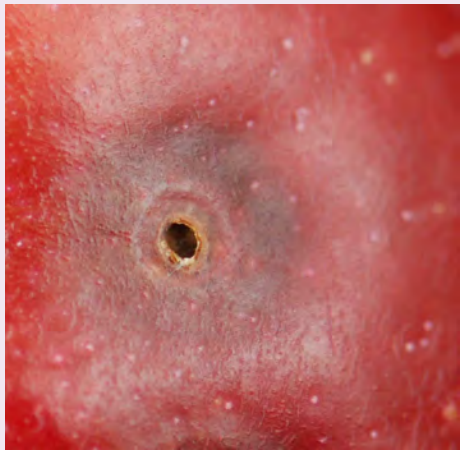
Natasha Wright, Florida Department of Agriculture and Consumer Services, Bugwood.org

- Hides during day
- Active at night
- Active when >65ºF, humid, calm
- Falls when disturbed

Plum curculio: external damage

- **Egg-laying scar: crescent**

- **Late-season feeding damage: ragged hole**

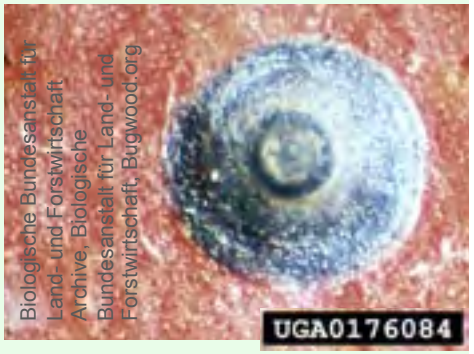


Plum curculio: control

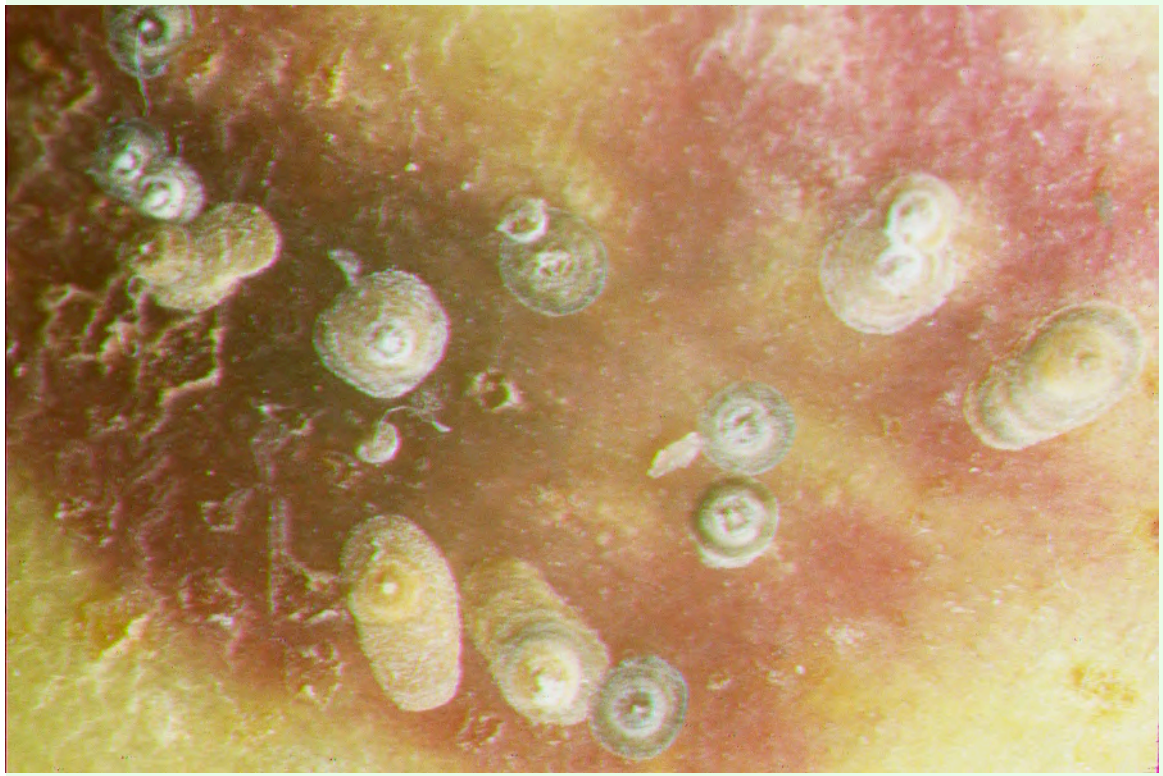
- Not many effective tactics
- Mechanical :
  - Limb jarring ('beating') on first warm humid nights near petal-fall
- Chemical :
  - permethrin at petal-fall
  - kaolin ('Surround') at petal-fall & weekly for 2 more weeks

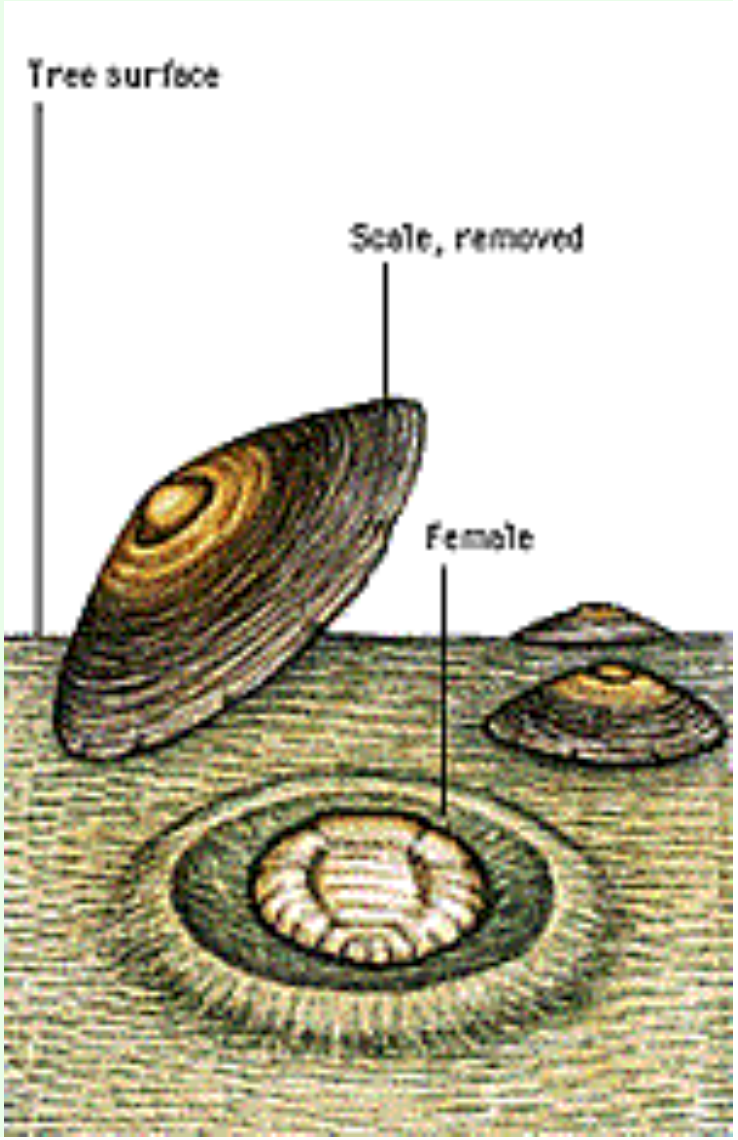
San Jose scale

- Sucking pest
- Injures fruit & bark
- Overwinters on bark
- Disperses to fruit in crawler stage



San Jose Scale





San Jose scale: control at dormant stage

In late winter or early spring:

- **Use oil to smother the over-wintering population on bark**
- **Or use lime sulfur**

San Jose scale: details about oil spray

- Best before buds swell
- When temperature above freezing within a day of application
- Horticultural spray oil
- Apply dilute (2 oz oil in 100 oz water); spray to run-off, cover all bark

San Jose scale:

post-bloom control by insecticide

- **Target crawler stage**
- **Choices:**
  - **malathion**
  - **carbaryl (Sevin)**
  - **insecticidal soap**

San Jose scale:
When are crawlers crawling?

- **Start about 4-6 weeks after bloom (early June in mid-Ohio)**
- **Emergence lasts several weeks**

San Jose scale:
How to know when crawlers are crawling?

- Use black sticky tape (electrical tape)
- Wrap sticky-side out around branch
- Look for tiny bright yellow crawlers

Cherry Fruit Fly

- Similar to apple maggot
- Female fly lays eggs on fruit for 3-4 weeks in June and July

Cherry Fruit Fly

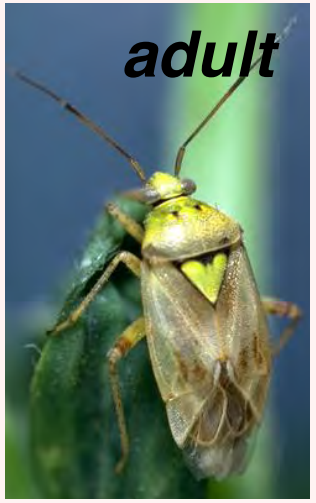
- Mechanical control by traps
  - Yellow sticky traps baited with ammonium
- Chemical control
  - Insecticide targets adult flies
  - carbaryl or spinosad or permethrin
  - Apply within 1 week of first fly emergence
  - Every 10 days from June to harvest

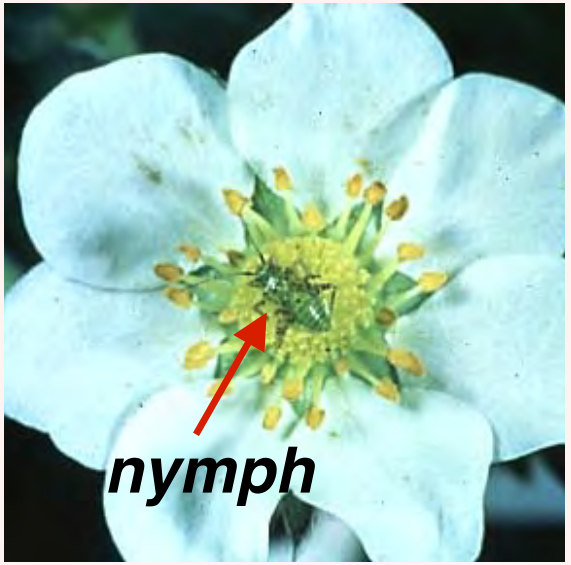
Tarnished plant bug

- **Causes fruit deformities:**
  - **Strawberry:**
    - **Apical seediness**
    - **Hollow seeds**
  - **Peaches:**
    - **‘Catfacing’**
  - **Apples**
    - **‘Dimples’**

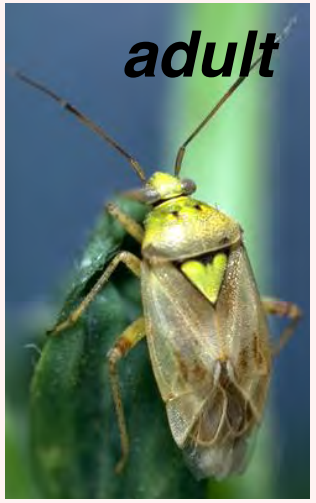
Tarnished plant bug

- **Adults feed in flower**
- **Nymphs feed on flower & fruit of strawberry**



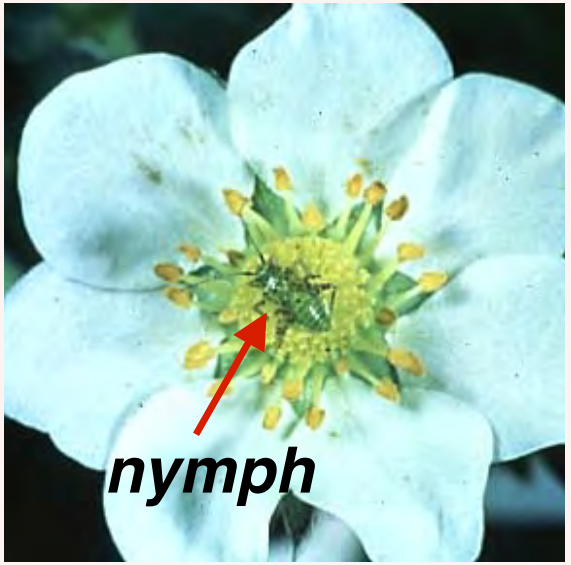


Tarnished plant bug



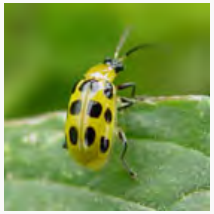
- **Cultural control by weed management**
  - **Weeds are also host plants**
  - **Especially weeds that flower early (before strawberries bloom)**

- **Chemical control before & after bloom**
  - **permethrin**
  - **pyrethrins + PBO**



Which fruit crops have fewest pests?

- ~~Blueberries~~
- ~~Blackberries~~
- ~~Red raspberries~~
- ~~Ever-bearing strawberries~~
- **Black raspberries**
- **Strawberries (June-bearing)**
- **Grapes**



Info on vegetable & fruit pest management

u.osu.edu/pestmanagement/

Questions?

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