

Insects in the Garden: Attracting Beneficials, Managing Pests

Successfully managing insects in the garden involves many practices. This handout compiles resources on: (1) increasing habitat for beneficials, (2) cultural practices to prevent pest damage, and (3) key practices for reducing damage by specific pests. Visit the Pest Management section of FCG's website at: <http://tinyurl.com/FCGPestManagement> to learn more!

Supporting beneficial insects ('natural enemies' of pests)

Enhance habitat for beneficial predators and parasitoids with:

- **'Pollinator gardens':** Native, perennial flowering plants and self-seeding annuals that provide resources for beneficial insects (food, over-wintering sites).
 - See: <https://growingsmallfarms.ces.ncsu.edu/> > Pollinator Conservation
- **Over-wintering cover crops:** Rye/Crimson Clover, Rye/Hairy Vetch
 - See: <http://tinyurl.com/FCGHealthySoil> > Cover Crops



Spined soldier bug on purple coneflower. M. Gregory, Forsyth County CES.

Cultural Practices for Preventing Insect Damage:

- **Crop diversity:** Gardens with more crop families may be less susceptible to some pests.
 - For a list of crops by plant families, see: <http://tinyurl.com/FCGGardenPlantings> > A Piedmont Garden Calendar. Include crops *outside* the tomato, squash, and Brassica families!
- **Crop rotation:** Move crop families to different beds each year to prevent buildup of eggs, pupae, or larvae in the soil (where some pests over-winter on host plant debris).
- **Field sanitation:** Eliminate crop residue & weeds that could shelter pests over the winter.
 - Eliminate weeds in the same family as pest-susceptible crops. For example, shepherd's purse and yellow rocket will harbor pests of Brassica crops such as collards. Nightshade will harbor pests of tomato, pepper, eggplant, and potato.
- **Use row cover early in the season to protect crops.**
 - Row cover can exclude aphids, cabbage worms, Colorado potato beetles, flea beetles, cucumber beetles, squash bugs, squash vine borer, bean beetles, and leaf miners.
 - See: Floating Row Cover (<http://tinyurl.com/MDExtension-FRC-Handout>) for types of row cover & how use it with different types of veggies.



Row cover over greens. M. Gregory, Forsyth County CES.

Managing Specific Insect Pests

- **Aphids (especially cabbage aphids on Brassicas)**

- Prevention: Natural enemy habitat, Row cover
- Damage control: Insecticidal soap spray

- **Cabbage Worms** (cabbage looper, diamondback moth, imported cabbageworm)

- Prevention: Natural enemy habitat, Remove crop residue & weeds, Row cover
- Damage control: Hand-picking, Organic pesticide Bt



Imported cabbageworm larvae.
W. Cranshaw, CSU, Bugwood.org.

- **Colorado Potato Beetle**

- Prevention: Natural enemy habitat, Crop rotation, Remove crop residue & weeds, Straw mulch
- Damage control: Hand-pick egg masses (scout early May – July), Organic pesticide spinosad

- **Flea Beetle**

- Prevention: Natural enemy habitat, Crop diversity, Row cover

- **Squash Bug**

- Prevention: Natural enemy habitat, Crop rotation, Remove crop residue, Row cover, Resistant varieties (butternut squash)
- Damage control: Hand-pick bronze egg masses (scout early June – July)



Squash bug eggs. W. Cranshaw, CSU, Bugwood.org.

- **Squash Vine Borer**

- Prevention: Remove crop residue, Row cover, Resistant varieties (butternut squash)
- Damage control: Organic pesticide Bt (inject stems or spray foliage 1x/week)

- **Japanese Beetle**

- Prevention: Row cover
- Damage control: Hand-pick into soapy water



Japanese beetle & damage on beans.
M. Gregory, Forsyth County CES.

Further Resources

Visit the “Pest Management” section of the Forsyth Community Gardening website at:

<http://tinyurl.com/FCGPestManagement>

for resources on:

Supporting beneficial insects • General insect pest management • Specific vegetable crop pests