N.C. Cooperative Extension Pamlico County Center

Aphids in home gardens

Aphids on young cabbage collar plants

Aphis nerii on milkweed.

Description: Aphids are insects that have many plant hosts. Most aphids are less than 1/8 inch long and commonly light green or yellow, but they also may be white, black, red, brown, or grey. They may be winged or wingless. The most common ones in home gardens are the green peach aphid (*Myzus persicae*), the oleander or milkweed aphid (*Aphis nerii*), and the melon or cotton aphid (*Aphis gossypii*).

Damage: There are many different species of aphids affecting many different species of plants. Vegetable garden host examples include peppers, tomatoes, leafy greens, cabbage, kale, and basil plants. Aphids can usually be found on the undersides of leaves or on the plant stems. The majority of the time, they cause no problems for the plant and can largely be ignored by the gardener. But they do have sucking mouthparts that pierce the plant, sometimes causing deformities in leaves. If signs of damage are seen, it's usually in the form of curled, yellow or deformed leaves, or poor plant growth. Aphids can transmit plant viruses that may be of concern, and their feces, called honeydew, can be a growth medium for black sooty mold.

Biology: Aphids have a complex life cycle producing offspring both sexually and asexually. They can cycle through many generations per season and they mature quickly, so populations can increase rapidly. In fact in hot weather, it may only take a week or two for a new generation to be produced. In the fall, males and females mate to produce eggs. These eggs can overwinter on plants, hatching the following spring. These newly hatched eggs may be females, who again can reproduce without male fertilization.

Gardeners may see, feel or smell honeydew on aphid infested plants. Honeydew is the shiny, sticky, sweet smelling feces of the aphids which results from them eating the plant's sap. Honeydew accumulates on plant parts and can attract other insects. In fact, some ants may tend to aphids and protect them from predators. In return, aphids provide the ants with honeydew as a food source.

Symbiotic relationship between ants and aphids on a bean pod.

Control methods: It may not be necessary for the plant's health to treat an aphid infestation. If treatment or control is deemed necessary, consider an integrated management scheme using the recommendations listed below. Be aware that aphids can be difficult to control due to their fast reproductive rates and the fact that they are often found in the unfurled leaves of plants and are therefore protected from many treatments.

1. **Cultural control** - Resist overfertilization with nitrogen as this promotes leafy growth which is the preferred food source of aphids. Use reflective mulch or an aluminum item like a pie pan around the base of plants, as these interfere with the insect's ability to find the host plant. Anti-aphid mesh netting can also be used. Companion planting with flowers may also help to attract natural enemies (example: yellow flowers which lady beetles prefer).
2. **Mechanical control** - Dislodge aphids with a forceful water spray, physically rub them off leaves, or prune and destroy affected plant material.

Lady beetle on milkweed infested with aphids

3. Biological control- Lady beetles (Coccinellidae family), green lacewing larvae (Chrysoperia rufilabris), parasitic wasps (Aphidius species), flower flies (Family: *Syrphidae*) all may decrease aphid populations. Attracting these to the garden or purchasing these to release into the garden are options.
4. Chemical control- If all other controls fail and treatment is warranted, insecticides may be considered. Topical insecticides such as insecticidal soap or horticultural oil, pyrethrins, or insect growth regulator azadirachtin should be sprayed directly on the aphids. Systemic insecticides, such as imidacloprid or dinotefuran, should be applied to the plant roots.

Sources/references

Photo credit: Lori Gaskins, Pamlico County Extension Master Gardener

https://content.ces.ncsu.edu/oleander-aphid

https://content.ces.ncsu.edu/green-peach-aphid

https://content.ces.ncsu.edu/melon-aphid

https://hgic.clemson.edu/factsheet/integrated-pest-management-i-p-m-for-aphids/

https://extension.umn.edu/yard-and-garden-insects/aphids#life-cycle-315810

https://ipm.ucanr.edu/agriculture/floriculture-and-ornamental-nurseries/reflective-mulches/#gsc.tab=0

https://extension.umd.edu/resource/flower-fly/

https://pmc.ncbi.nlm.nih.gov/articles/PMC5746795/

https://nwdistrict.ifas.ufl.edu/hort/2023/04/20/symbiotic-serenity-ant-aphid-farming-dynamics/

Potential locale for video of the subject: Gaskins garden at 401 N A Street, Bridgeton.