Green Peach Aphid: *Myzus persicae*
Potato Aphid: *Macrosiphum euphorbiae*

Biology & Lifecycle: Winged females of both species invade fields and give rise to non-winged colonies. Both winged and non-winged forms are all females and give birth to living young. They feed on the undersides of leaves in the upper canopy, although the potato aphid may also feed on stems and petioles. The adult to adult period is very short, being 10-14 days. Winged green peach aphids land, deposit a few young, and then alight again, repeating this sequence over and over. When populations of both aphids reach high numbers or when host plants senesce, winged forms are produced and disperse to new host plants.

Environmental Factors: Aphids may be present year round, but are usually more abundant during warmer months in the spring and fall crop seasons. The insects oversummer on volunteer plants and on weeds such as American black nightshade, *Solanum americanum* (especially potato aphid), lambsquarter (*Chenopodium* spp.) and pigweed (*Amaranthus* spp.).

Adult: Adults are pear-shaped and have two rear horns (cornicles) that point upward and backward from the top of the body. Green peach aphids are light to dark green or yellowish, while potato aphids are green or pink. Potato aphids are larger ($1/10$ inch) and more elongated than green peach aphids ($1/16$ inch). Winged females of both species are slightly smaller and have a darker middle body section **(Figure1)**.

Nymphs: Adults give birth to living nymphs which are small versions of the adults in coloring and presence of cornicles **(Figure 2)**.

Host range: The green peach aphid has a very broad host range, feeding on hundreds of plants in over 40 plant families. Almost all vegetable crops can be attacked including tomato and especially pepper. The potato aphid predominates on tomato and potato.

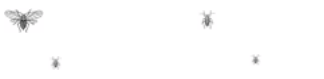
Damage to Tomato: Adults and nymphs have piercing-sucking mouthparts, and feeding on the undersides of upper leaves produces yellowing of the upper surfaces **(Figure 5)**. Leaves and stems may be distorted, especially by potato aphid feeding and plants may wilt. Aphids produce a sugary substance called honeydew, which serves as a medium for sooty mold growth. Most damage is inflicted by transmitting plant viruses such as *Potato virus Y* and *Tobacco etch virus*.

Figure 1. Winged female aphid. Photograph by: Jeff Brushwein.

Figure 2. Aphid with immatures. Photograph by: Jeff Brushwein.

Figure 3. Aphid on underneath side of leaf. Photograph by: Dave Schuster.

Actual Size:



Adult $1/16$ -$1/10$ inch

Nymphs <$1/16$ -$1/10$ inch

Monitoring:

Traps: Yellow sticky or pan traps can be used to monitor movement of adults into fields.

Scouting: The undersides of the terminal three leaflets of one leaf per six plants are examined for the presence of aphids. Potato aphids are counted on at least 30 leaves per field, selecting the leaf below the highest open flower.

Action Thresholds: 3-4 aphids per terminal three leaflets
50% of leaves are infested

Prepared by: Dr. David Schuster

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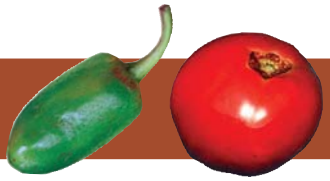


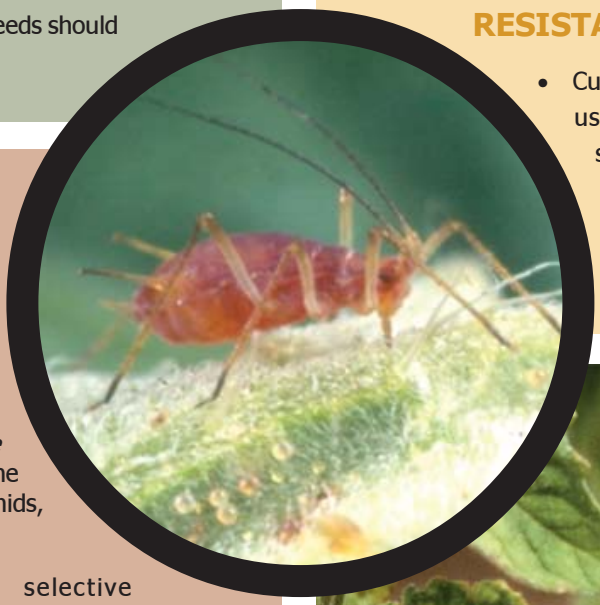
CULTURAL CONTROLS:

Field Manipulations: Aluminized plastic mulch, which reflects ultraviolet light, may be used to repel aphids and reduce virus transmission during the first weeks of plant development.

New crops should not be planted near infested crops and infested crops and weeds should be destroyed.

NATURAL ENEMIES:

- Both species of aphids are attacked by a large range of natural enemies including lady beetles, flower fly larvae, lacewing larvae, predatory midges and parasitic wasps, especially *Diaeretiella rapae* and *Aphidius nigripes* for the green peach and potato aphids, respectively.
- Timed applications of selective insecticides and avoidance of broad spectrum insecticides can enhance biological control.



CHEMICAL CONTROLS:

- Insecticides should be applied when the action thresholds are reached. Application of insecticides rarely is effective in managing the viruses transmitted by aphids. The systemic nicotinoids (several products, 4A), soaps, detergents and oils can be used.

RESISTANCE MANAGEMENT:

- Cultural practices, particularly the use of UV reflective mulches, should be integrated with judicious use of insecticides. Insecticides of different chemical classes should be alternated.

Figure 4. Potato aphid. Photograph by: Jeff Brushwein.

Figure 5. Plant damage. Photograph by: Dave Schuster.

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