



# INTEGRATED MANAGEMENT OF APHIDS IN TOMATO



## Introduction

- Tomato Aphids (*Aphis gossypii*) are small soft-bodied insects with long, slender mouth parts that they use to pierce stems, leaves, and other tender plant parts and suck out fluids.
- Although they may be found singly, aphids often feed in dense groups on tomato leaves or stems.
- Generally adult aphids are wingless, but most species also occur in winged forms, especially when populations are high.
- The ability to produce winged individuals provides the pest with a way to disperse to other plants when the abundance of the food source deteriorates.



*Aphids feeding and breeding on succulent tomato leaves and branches*

Source: [entchair@uky.edu](mailto:entchair@uky.edu)

### **Damage on tomato crop**

- Aphids remove sap from the plant with their piercing-sucking mouthparts.
- Severe infestations can cause leaves turn yellow, curl and may stunt plants.



*Yellowing of tomato leaves due to infestation by aphids (Source: Greenlife)*



*Curling of tomato leaves due to infestation by aphids  
(Source: Bunnings workshop community)*

- Aphids can also produce large quantities of a sticky exudate known as honeydew, which often turns black with the growth of a sooty mold fungus.

- Aphids are also vectors of certain plant viruses.



*Curled tomato leaf due to infestation by aphids  
(Source: Hawaii Master Gardener Program)*



*Leaf mottling and curling caused by infection with Tomato Mosaic Virus transmitted by aphids.(Source: Compendium of Tomato Diseases and Pests, 2nd Edition)*

## Life cycle

- Dome-shaped eggs which are visible as white when first laid and reddish brown bands before hatching are manifest under severe infestation.
- Aphids have many generations in a year, feeding and reproducing on succulent tomato tissues (young leaves, buds and flowers).
- Young aphids are called nymphs. They molt, shedding their skin about four times before becoming adults. There is no pupal stage.
- Some species produce sexual forms that mate and produce eggs in cool seasons, providing a more hardy stage to survive harsh weather and the absence of foliage.

## Management Strategies

### Cultural control

- Regularly scout the field for aphids to initiate control before actual damage is incurred.
- Use yellow sticky traps to monitor and control aphid populations
- Remove weeds from the farm and infested plants and destroy by burning
- Spray with soapy solution (15 tablespoons liquid soap in 20lt of water) to infested crop.

### Biological control

Spray the crop with Azadirachtin (Achook, Fortune, Neemraj Super, Nimbecidine, Ozoneem ) or Aphitech (Aphidius transcaspinus, a parasitic wasp), Biocatch (Verticillium lecanii), Bio-Power (Beauveria bassiana), Botanigard (Beauveria bassiana) as per manufacturer's recommended rates.

## Chemical control

- Pesticides should target nymphs which are the most destructive stages of aphid life cycle.
- Use recommended pesticides such as the ones based on Deltamethrin (e.g. Atom, Decis) or Lambda-cyhalothrin (e.g. Duduthrin, Karate) or Paraffin oil 98% (e.g. SEGATRON ULTRA Liquid) or Etofenprox (e.g. Trebon 30 EC) as per manufacturers' recommendations.





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