**WHITEFLIES**

**What are Whiteflies?**

Whiteflies are among the most destructive pests in the garden. As individuals they do some physical damage to plants, but the real danger is in their role as vectors of plant viruses. The insects can be found on many vegetables, trees and ornamentals. They are a very serious problem in cabbage, tomato and pepper production.

The female whiteflies lay eggs on the leaves of plants; eggs hatch into larvae known as nymphs which feed on the plants before developing into adults. Whitefly eggs are distinctive since they are usually held on a stalk and are laid in arcs mainly on the underside of the leaves.

Adult whiteflies are very small insects, averaging a wingspan of 2mm, with two pairs of wings. Though small, whiteflies can be seen with the naked eyes especially when they congregate in large numbers; they rise up like a cloud from plants when they are disturbed.

The wings and body are covered in a mealy white wax and is responsible for the insects’ name.

**Signs and Symptoms of Whiteflies**

Individual whiteflies or clouds of whiteflies around disturbed plants are the first sign indicating the pest is present. Plants that are showing symptoms of viruses are another indication of whiteflies.

The mouthparts of whiteflies are fused together to form a narrow beak which the insects use to pierce plant leaves and suck up the plant sap. This type of feeding, known as piercing and sucking, is the most common way insects spread viruses from diseased plants to healthy plants.

Whiteflies are messy eaters. When feeding some of the plant sap falls onto the leaves encouraging the growth of a black fungus on the surface of the leaves known as sooty mould. The presence of sooty mould is another sign that there are whiteflies in the garden.
Management

Whiteflies are polyphagous which mean they feed on a variety of plants. Therefore, having a mixture of plants in the garden/area is not very helpful in managing whiteflies. This makes management quite challenging.

Whiteflies multiply rapidly in warm climate/conditions, quickly growing to overwhelming numbers that cause severe damage to plants. They are easily spread by the wind or by the use of infested planting material containing whiteflies nymphs. It is recommended to manage the populations using the following:

- **Use Yellow Sticky Traps:** Whiteflies are attracted to the colour yellow, so yellow sticky traps attract whiteflies when it is placed above the canopy.

- **Practice Field Sanitation:** This is critical in managing all insect pests, including whiteflies. Weed control is essential in managing whiteflies since the polyphagous nature of the insect means it can feed and multiply in many weeds.

- **Use Chemicals:** insecticides with different modes of entry can be used:
  - **Contact** (works when droplets gets into contact with pest) – with the active ingredient Spirotetramat to control the larvae/nymph
  - **Systemic** (works in the system of the plant) - with the active ingredient Spiromefisin, Imidachloprid or Chlorofenapyr.
  - **Translaminar** (works between the leaf layers) – with the active ingredient Abamectin.

**Did you know?**

The first nymphal stage of the whitefly is mobile and is called a crawler, the next two stages are immobile and remain fixed on the plant. This makes it easy to use contact insecticides that target the immobile nymphs to control whiteflies.

Once a plant gets a virus it reduces production. The virus needs the live plant as a host to survive therefore, the virus does not usually kill the host plant.

Classical signs of a virus on plants includes:

- Mosaic leaf pattern (yellow-green look)
- Crinkling of both young and old leaves
- Plant stunting