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# Assessment for common pests on Strawberries

This scheme has been designed to monitor for some common pests of strawberries that can cause damage to crops. It aims to monitor crops during the peak of pest pressure in the season which will give you an idea of what pest presence there is in your crop area.

This method can be used in one of two ways:

- For general monitoring of a crop area, whether a small plant bed in a garden or a full size polytunnel.
- For testing new control methods (e.g. biological control or sprays) at which point you have a representative area (e.g. one polytunnel) to be used as a control using your traditional methods and another representative area of the same size testing out the new methods. You can then use the data to compare the two.

## Assessments

The method below has been selected to balance time and data collection. It is based on larger sites with tunnels, but can be simply scaled down for smaller growers.

It covers 4 main pests of strawberries:

- Aphids
- Two spotted spider mite (TSSM)
- Vine weevil
- Thrips

## Number of plants

Select a representative number of plants depending on the size of your crop area. As a guide select one plant per 5m up to around 16 in a poly-tunnel and ensure the plants are randomly selected at roughly spaced intervals down the tunnel.

Please note that the number of plants can be reduced to smaller numbers, but the more plants that are assessed the better the understanding of what is happening in the crop.

## Data Sheets

On each sample date use the data sheets provided and carry out the assessments.

Sample dates should be spaced roughly a month apart between April and October. If sampling can be carried out every 2 weeks that would be ideal but not critical.

## Assessment 1- Aphid Numbers

An example photo of Aphids on the underside of leaves

For this assessment randomly select 4 young (smaller) leaves on a plant as this is the preferred area where aphids inhabit. Make an estimate of aphid numbers on that leaf using the system below, it is not recommended to individually count them as this will take a long time. Aphids will typically be on the underside of the leaf, but if you are seeing aphids on the runners (or stems) instead of the leaves then make a count from there instead.

### Estimate Aphid Numbers

On each of the four leaves make an estimate of numbers using the categories below.

- Nil aphids
- 1-10 aphids per plant
- 10-25 aphids per plant
- 25-50 aphids per plant
- > 50 aphids per plant

## Assessment 2- percentage leaf damage by vine weevil

Example of damage by Vine weevil with an adult for reference

Vine weevil are nocturnal and you will not typically find them in the crop while the sun is up. It is therefore better to estimate percentage leaf area damage.

Randomly select 4 leaves on the plant and for each leaf estimate the amount of damage caused by vine weevil. Vine weevil cause distinctive bite marks on foliage, with irregular-shaped notches along the leaf margins.

## Assessment 3- percentage leaf damage by two spotted spider mite

An example of damage by two spotted spider mite. Note the yellowing in the bottom left and top right.

To estimate percentage leaf area damage by two spotted spider mite (TSSM) randomly select 4 larger leaves on the plant you have been assessing. For each leaf estimate the amount of damage caused by the mites using the description below (in this instance we are estimating damage as TSSM are unlikely to be observed without a hand lens).

**Description of damage -** Leaves of infested plants may turn yellow and dry up, and the undersides of affected leaves appear tan or yellow and have a crusty texture. Heavy infestations produce fine webbing that may cover the entire plant.

## Assessment 4- Thrips counts

Approx 1mm long

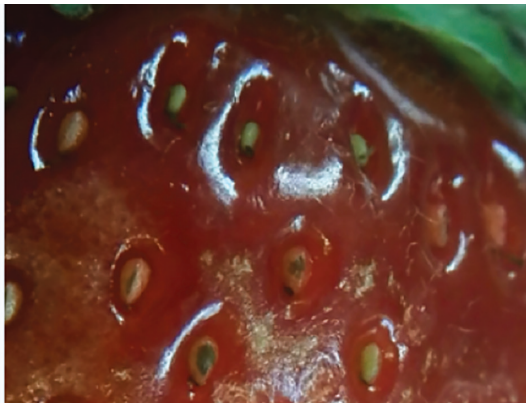
Example of an adult thrip

**For assessment 4 please randomly select four flowers on each plant.**

Thrips typically inhabit flowers or are just behind the calyx, as a result it is best to sample for them by holding the flower head at its base and then subjecting the flower head to five vigorous taps with the hand over a single sheet of A4 white paper.

After you have finished tapping count the number of thrips that have fallen on the sheet of paper. Remove them from the paper and move to the next flower.

## Assessment 5- Thrips damage



Examples of thrips bronzing on red and white fruit

**For assessment 5 please randomly select four pieces of fruit (when applicable) on each plant.**

Please estimate the percentage amount of damage caused by thrips (bronzing) to each of the four fruits. Below is a description and example picture of the damage that can be caused.

**Bronzing** - bronze flecking around the seeds caused by thrips feeding as the fruit develops. As the fruit ripens the bronzing becomes less obvious.

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