

Management of Harlequin Ladybird

WHAT IS HARLEQUIN LADYBIRD?

Originally from Asia, harlequin ladybird has now spread through much of the world. A population has recently been detected in Auckland, and is considered an invasive species. As a species, harlequin ladybird spreads very quickly, and is generally very difficult to distinguish from the common spotted ladybird. As it is colour variant, the best way to identify a harlequin ladybird is the M-shaped markings between its head and abdomen, brown legs and the small bumps to the rear of its back.

WHY YOU WANT TO ENSURE YOUR PROPERTY IS FREE OF HARLEQUIN LADYBIRD.

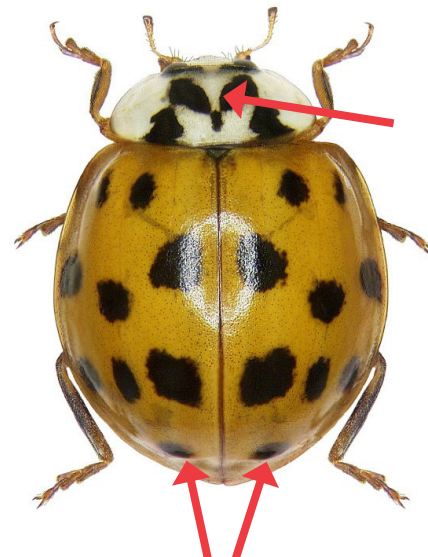
Feeding on aphids, harlequin ladybird can appear to be a useful biological control. However, due to its large appetite and population numbers, it can out-compete native ladybirds. It will also eat native ladybirds as well as other insect species, and may feed on fruit in the event that its primary food source is depleted. This means that the harlequin ladybird may pose a risk to the biodiversity of the New Zealand ecosystem, but also a production risk to the horticultural industries.

WHICH INDUSTRIES ARE MOST AT RISK?

Harlequin ladybird is thought to feed on pipfruit resulting in blemishes on the skin of the fruit. However, this usually only occurs when there is no or low abundance of insect prey. Additionally, harlequin ladybird has been known to cluster in bunches of grapes thereby tainting the juice and wine produced from harvested fruit. However, harlequin ladybirds are opportunists, and will feed on a variety of damaged fruit.

HOW CAN I FIND HARLEQUIN LADYBIRD IN MY ORCHARD OR VINEYARD?

It is recommended that owners of orchards and vineyards regularly conduct surveillance throughout their property, by looking at their plants and fruit along a predetermined path. It is suggested that owners of vineyards check within grape bunches regularly, and orchardists check and remove damaged fruit. Surveillance should be conducted year-round, however it is thought that harlequin ladybird may be particularly prevalent in the late summer and autumn period.



M shaped pronotal marks. This is not present in dark colour morphs

Large size
5–8 mm long
4–6.5 mm wide

Bumps on rear of elytra



Harlequin ladybird has many colour/pattern variations.



Scoli with long end spines. Central row with three spines on each scoli, lateral row with 2 spines on each scoli. Abdominal colour pattern: yellow/black/black/yellow/yellow.

HOW DO I MANAGE HARLEQUIN LADYBIRD ON MY PROPERTY?

The first management tool is to conduct surveillance as mentioned previously.

In the event that harlequin ladybird is thought to be found, general spraying with insecticide is not recommended. This is due to its resemblance to non-detrimental native ladybird species.

In the first instance it is recommended that all damaged fruit is removed, and care is taken when handling fruit still on the vine or in the orchard to ensure its skin is not broken.

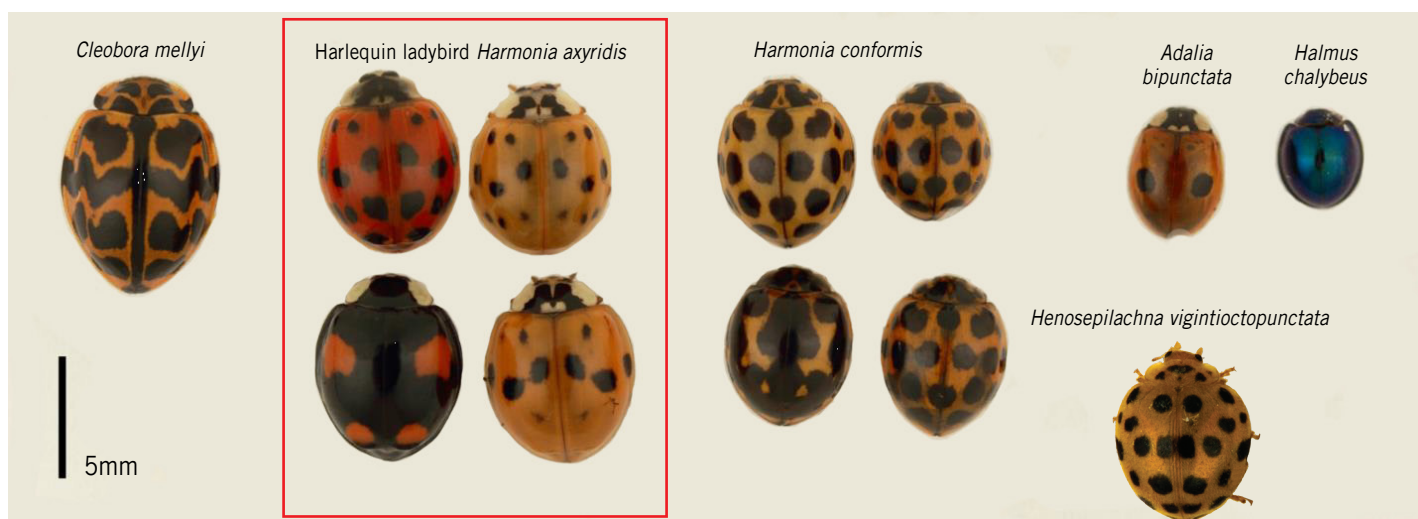
Irrigation may help during warmer periods to prevent fruit splitting, and setting up adequate bird protection is also recommended.

During harvest it is suggested that grape bunches are checked for harlequin ladybird clusters prior to using mechanised harvest techniques – shaking such bunches should remove the ladybirds.

Harvesting during the day, as opposed to night harvests, may mean that ladybirds clustering in grape bunches will be more likely to leave once harvesting begins.



The similar-looking common spotted ladybird (already present in New Zealand). Note the separate U-shaped marks on the pronotum. Adult typically smaller, larva very short end spines on scoli. Larva abdominal colour pattern: yellow/black/black/yellow/black.



The harlequin ladybird (*Harmonia axyridis*) alongside other ladybird species found in New Zealand.

WHAT SHOULD I DO IF I THINK I HAVE FOUND HARLEQUIN LADYBIRDS?

Please collect specimen.

Photograph it.

Contact MPI's free 24-hour pest and disease hotline 0800 80 99 66.

