

Biological Control of Weeds Recovery Sheet

(Please refer to the back of this sheet for instructions)



Manaaki Whenua
Landcare Research

Site name:

Organisation:

Observer(s):

Date:

Time of day:

Current weather conditions

- 1) Sunny / Partly / Overcast / Rain
- 2) Strong wind / Light wind / Calm
- 3) Temperature (°C) < 10 / 10-15 / 15 -20/ 20 -25 / >25



Moth Plant Beetle

Insect information

4) Number of: Adults:

Larvae:

5) Time spent searching (mins):

6) Furthest distance insect found from release point (m):

None Found / <20 / 20-50 / 50-100 / 100-300 / 300-500 / Further?

7) Overall damage to foliage: None / Occasional / Patchy / Heavy / Severe

Weed Information

8) Most obvious life stage: New Leafy Growth / Flowers / Plants with few pods (< 10) / Plants with many pods (> 10)

9) Moth plant type at the release point: Isolated vines / Clumps / Block

10) Infestation: Major (as far as eye can see) / Moderate (>100m²) / Minor (<100m²)

11) Percentage cover at densest accessible point:

12) Photos taken: Yes / No

13) Photo compass bearing:

14) GPS for photopoint:

15) Photo file name:

Comments

16) Have any of the following happened to the site recently?

Mowing / Spraying / Grazing / Flood / Drought / Fire / Other?

17) Please use the back of this sheet to record any further observations or comments about the site, including any checks for non-target damage.

INSTRUCTIONS FOR FILLING OUT THIS SHEET

(Please note that it is important to complete these questions in order)

Where choices are given mark the correct answer by bolding or highlighting it or by deleting the other options.

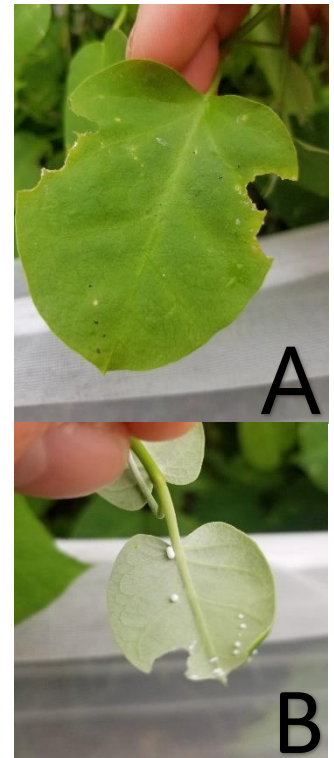
- **Site Name** – please be consistent in the use of site names to prevent confusion.
- **Organisation** – the name of your organisation.
- **Observer(s)** – the names of people who helped with this recovery not onlookers.

Current Weather Conditions

1-3) Choose the words that best describe the weather conditions.

Insect information

- 4) Eggs are laid in the soil and larvae develop and feed entirely within the soil. Look for the adult beetles and their feeding damage from October - April. Adults may be resting on the plant or occasionally flying in warming parts of the day. Beetles can be found by beating foliage over a 1x1 m white sheet/card/tray, but care should be taken before sampling as adults are prone to fall off the plant once disturbed as a defense mechanism. If you see adults or feeding damage, then collect and examine 20 beating tray samples close to the release point. Adult feeding damage consists of a series of semi-circle chew marks around the margin of the leaf (Fig. A). With fresh feeding damage you may see blotches of white latex on leaf surface near damaged leaf parts and ruptures of latex along leaf veins (Fig. B). For each sample beat a bush or branch briskly twice and examine what is dislodged, before moving to another branch or bush. If no beetles are found spend another 10 minutes beating bushes further away. If you find large numbers it is not necessary to count exactly just estimate how many.
- 5) Record how long you spent actively searching.
- 6) If you have time to look further afield we would like to know how far away from the release point you can find adults or larvae.
- 7) Record the amount of feeding damage seen overall at the site: occasional (signs of damage present but not common), patchy (signs of damage are present but are variable throughout the site, some plants may have no damage, and others may have heavy damage but this would be rare), heavy (the majority of plants are showing signs of damage and at least some plants are beginning to show signs of severe defoliation/damage or stress), and severe (severe damage is obvious and widespread).



Weed Information

- 8) Record the most obvious life stage. When pods are ripe they turn black.
- 9) Record the type of moth plant growing at the release point.
- 10) Estimate and record the approximate size of the infestation using the categories provided.
- 11) Estimate the percentage cover of moth plant at the densest accessible point over an area of 5 x 5m, or if the site lends itself to a square use an equivalent sized shape.
- 12) Please indicate if you have taken photos.
- 13-15) If you have taken photos please record the photo compass bearing, the GPS point, the file name for the photo and attach hard copies to this form if you can.

Comments

- 16) Please indicate if any of these important events have happened to the site.
- 17) Tell us any other important information we should know about the site (e.g. whether you have been harvesting for release at new sites). Although it is highly unlikely to find non-target damage in the field, if you are able to, check for the species of interest if they occur nearby including *Asclepias curassavica*, swan plant (*Gomphocarpus sp.*), *Parsonsia spp.*, tweedia (*Oxypetalum caeruleum*), *Hoya carnosa*, *Mandevilla laxa* and *Nerium oleander*. Please indicate if you look and don't find any non-target damage. If you think you have found some please take photos and specimens to send to us to check. Please write on a separate sheet if you need extra space.