



Gracey about to feed on an aphid with her meal wrappers on her back

Green Lacewing *Mallada signata*

As their common name implies, adult green lacewing are green and have four clear wings. Adult female lacewing live for approximately three or four weeks and lay up to 600 eggs. Each egg sits on the end of a slender stalk, which elevates it; decreasing the chance of predation by ants. Green lacewing eggs take about four days to hatch.

Larvae range in size from 1 mm when they first emerge, to 8 mm just before they pupate. They have small spines on their back upon which they impale the remains of their prey. This provides a form of camouflage and allows the larvae to appear inconspicuous amongst their prey.



Larvae pass through three moults over a period of 12 days before pupating inside a silken cocoon. Adults emerge after nine days and start laying eggs seven days later.

Target pests

- Aphids (various species)
- Twospotted mite *Tetranychus urticae*
- Greenhouse whitefly *Trialeurodes vaporariorum*
- Scale (various species)
- Mealybug (various species)
- Moth eggs and small caterpillars

Gracey is a wide-ranging predator and she will attack and eat almost any small insect or egg. Gracey is particularly effective at controlling aphids and can consume 60 in an hour. Gracey also attacks mealybug, greenhouse whitefly, thrip, twospotted mite, small caterpillars and moth eggs.

Suitable crops/environments

Green lacewing is one of the most common and widely distributed native lacewing in Australia. It is well suited to a wide variety of crops and habitats, including greenhouses, and is most active in warm climates. Cool temperatures slow down green lacewing activity and may initiate diapause (hibernation).

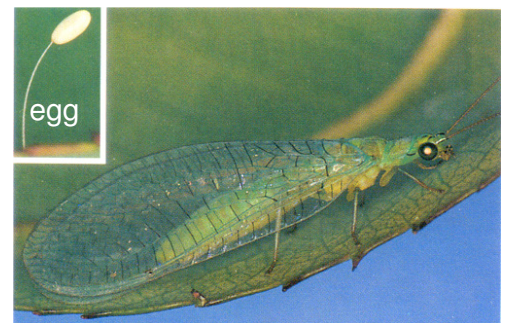
Adult lacewing feed on nectar and pollen, so the presence of flowers after release will assist in keeping lacewing and other nectar loving predators in your garden. Sowing the **BACKYARD BUDDIES Bed & Breakfast Seed Mix** is an excellent way of keeping Gracey in your garden.

Before release

Gracey should be released before pest numbers reach a level at which plant damage becomes evident. As with other beneficial insects, it is better to release them earlier rather than later. Do not use residual pesticides within three to four weeks of release. The **eco-organic garden range of sprays won't harm Gracey**.

At release

Gracey and her brothers and sisters are dispatched as eggs in lots of 100. They are packed in containers with vermiculite and a small quantity of sterilized moth eggs for food. Gracey may emerge during transit. Tap equal amounts of mixture into a minimum of five of Gracey's personalized release boxes and hang in plants close to pest populations.



Recommended release rates

A minimum release rate of between one and five lacewing larvae per plant is recommended. It is best to release larvae in pest 'hot spots', to ensure larvae have an immediate food supply.

Season long release: It is preferable to make **three green lacewing releases 10–14 days apart** to establish a constant larval population. Larvae take about 12 days to develop before they pupate in a cocoon. After this time, there may be few lacewing larvae present, as it takes 16 days before adults emerge and lay eggs. The second release of lacewing should be made 12 days after the initial release to ensure additional larvae are present while the first generation completes its development.

After release

Since Gracey disguises herself with her dead prey, some practice is needed to find her once released. She is more mobile than most pests, and can often be seen moving over plant leaves and stems. Lacewing cocoons are usually well hidden and difficult to find. Adults fly at night and are attracted to lights, so avoid leaving lights on at night. Lacewing eggs can readily be seen on their distinctively long slender stalks. Start scouting for eggs approximately 30 days after releasing larvae.

Cultural practices to aid establishment

Adult lacewing will establish and persist in your garden or crop if nectar and pollen are present. The Bed & Breakfast Seed Mix should be sown close to where you would like Gracey to be actively working in your garden. Little is known about the toxicity of insecticide sprays on lacewing, so it is best to use predator-safe products such as those in the eco-organic garden range where necessary. If fruit fly control is required, only **eco-naturalure** is considered safe to Gracey.

Additional information

Gracey is despatched by express post or overnight courier and is usually received within 48 hours. If larvae have not started to emerge, the eggs can be stored for two or three days in a cool, dark place but it is best to release the eggs as soon as you receive them. If storage is required, containers should be turned upside down daily.



Gracey tackling an aphid

Excerpt from *The Good Bug Book*
Photographs: C. Freebairn



Organic Crop Protectants
61 Turrella St
Turrella NSW 2205
Ph: 1800 634 204
www.ecoorganicgarden.com.au



BUGS
FOR
BUGS