

FEBRUARY 2014

RUTHERGLEN BUG FACT SHEET



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RUTHERGLEN BUG IN SUNFLOWER

Preventing adults from breeding is the key to controlling Rutherglen bug in sunflower.

KEY POINTS

- The Rutherglen bug (RGB) is the most damaging sunflower pest in Queensland and northern New South Wales, reducing both yield and oil content.
- It is important to monitor the crop from budding through to harvest, when it is susceptible to damage.
- During seasons with persistent invasions, crops may require several applications of insecticide to keep RGB populations below an acceptable threshold.
- Insecticides for controlling RGB will kill beneficial insects that can suppress pests such as helicoverpa, loopers and whitefly.

IMAGE: KEITH POWER



The Rutherglen bug (RGB), a common native insect, is the most damaging sunflower pest in Queensland and northern New South Wales.

They live on weeds over winter and migrate to sunflower in spring. Adults feed on developing sunflower seed, reducing sunflower seed yields and oil content.

The critical time to monitor for RGB is from budding through to harvest.

Broad-spectrum insecticides are the only effective management tool.

Growers should be aware of the potential to cause an increase in other pests as a result of controlling RGB, and monitor and manage these other pests accordingly.

The adult RGB is a sap-sucking insect; four to six millimetres long; with clear, silvery-grey wings folded flat over its back.

About Rutherglen bug

The adult RGB (*Nysius vinitor*) is a sap-sucking insect; four to six millimetres long; mottled grey, brown and black in colour; with clear, silvery-grey wings folded flat over its back. It is often mistaken for grey cluster bug (*Nysius clevelandensis*), which is a close relative, but is a minor pest compared to RGB.

The RGB nymph is wingless with a reddish-brown, pear-shaped body. It is more mobile than similar-looking aphids.

Depending on the time of planting, adult RGB may be present on sunflower crops during budding and flowering; nymphs may be present after flowering. Spring-planted crops are at highest risk of infestation.

Large numbers of adults congregating and feeding on sunflower stems just below the bud can cause the bud to wilt, become malformed or die.

After flowering, the RGB lays eggs in the florets of sunflower. Both adults and nymphs feed on the seed—the females for protein to lay eggs, the nymphs for food to fully develop. When RGB feed on grain that is developing and filling, they reduce the yield, oil content, oil quality and seed viability (% germination). Damage can occur from budding until harvest.

Life cycle

On sunflower there is one RGB generation per crop. Adults live for up to four weeks, in which time females can lay up to 400 eggs. Small, wingless nymphs emerge seven days later and develop into adults in three weeks.

Adult bugs breed on weeds and non-crop plants in inland Australia. When their host plants dry out and die during spring and

PHOTO: KEITH POWER



The RGB nymph is wingless with a reddish-brown, pear-shaped body. It is more mobile than aphid nymphs.

summer, adults migrate to eastern cropping regions to feed and breed; some travel 200–300 kilometres in a single night. During wetter winter–spring seasons, weeds in cropping regions can also be key breeding hosts. It is hard to predict which plants will drive RGB invasions in any one season.

Adults generally stop breeding in late February as temperatures drop and days grow shorter.

PHOTO: DAFF



At budding, RGB can cause sunflower to wilt.

PHOTO: DAFF



Rutherglen bug is the most damaging pest of sunflower in Queensland and Northern New South Wales, reducing yield and oil content.

Monitoring for infestation

Monitoring for RGB helps you to identify trends in population growth or decline and allows you to make informed decisions about whether you need to control the pest, and when.

The critical time to monitor for RGB on sunflower is from budding through to harvest. During this period, you need to count bug numbers at least once a week because infestation can occur or recur in two to three days.

Controlling RGB

Broad-spectrum insecticides are the only effective management tool for reducing RGB damage.

Certain insecticides from the carbamate, organophosphate and synthetic pyrethroid groups are suitable for controlling RGB. However, they are highly disruptive to natural insect enemies of RGB and applying repeatedly may increase the potential for resistance to those insecticides in other pests.

Speak with your advisor about which insecticide is most suitable for your situation.

When to spray

To effectively control RGB on sunflower, it is important to understand how their

Monitoring RGB numbers

1. Shake a sunflower bud or head into a bucket or zip-lock bag and count the number of bugs present.
2. Repeat for at least 10 randomly selected sunflowers across the field. RGB infestations are typically patchy; some heads host large numbers and others none at all.
3. Calculate the average number of bugs found per head (divide the number of bugs by the number of plants sampled).

When the average number of bugs per head exceeds the threshold (see Table 1), you should use control measures to prevent further infestation.

Table 1 Rutherglen bug threshold guidelines by crop stage

Type of sunflower at growth stage	Threshold (number of adult bugs per plant)	
	Early planting (Aug–Oct)	Late planting (Jan–Feb)
Oilseed–budding	10-15	30
Oilseed–seed fill	20-25	30
Confectionary*	5	5

* The threshold is lower for confectionary sunflower because it needs to meet specifications for human consumption.

populations change in-crop (Figure 1). This will help you to determine the best time to spray.

If you experience early or heavy infestations, spray towards the end of budding.

Typically you should spray towards the end of flowering to prevent most of the egg-laying and to stop the next generation

developing, which is the most damaging situation for seed and, subsequently, yield.

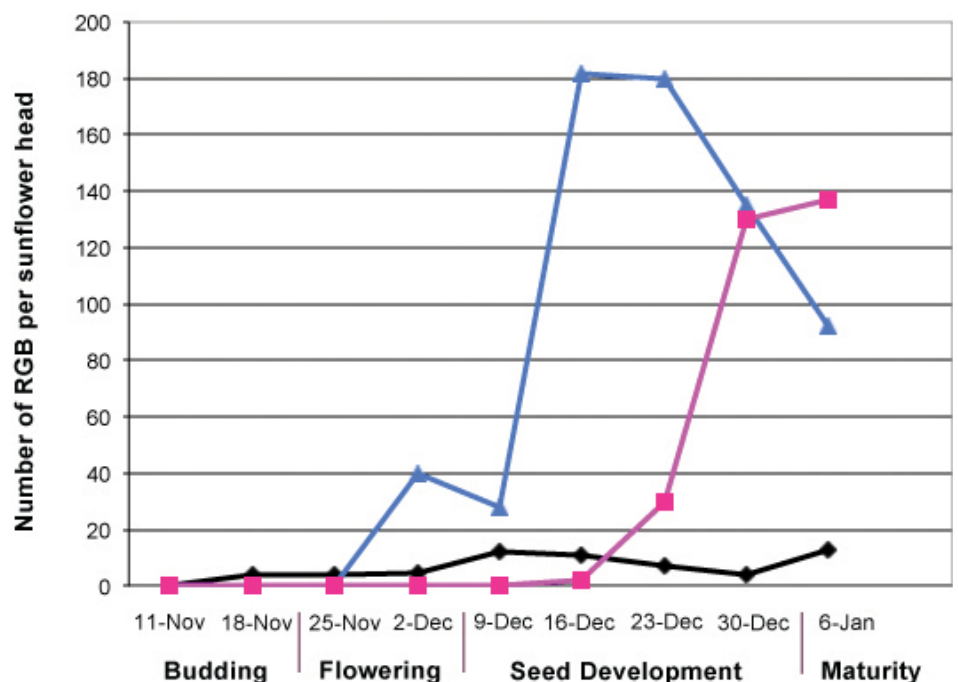


Figure 1 The three lines represent the average number of adults, eggs and nymphs found on sunflower from November to January.



Large numbers of adults congregating and feeding on sunflower stems, just below the bud, can cause the bud to wilt, become malformed or die.

PHOTO: DAEF

Spraying strategically

Growers should use a strategic approach to chemically controlling RGB on sunflower, and consider the potential impact on other pests and beneficial insects.

The following tactics will reduce the impact on beneficial insect species and complement your integrated pest management program for other pests and crops:

- Spray around the border of the crop when nymphs are migrating from surrounding weeds and green belts.

- Spray before sunflower heads turn down, to get the best coverage and reduce the likelihood that RGB will survive the spray and go on to damage the developing grain.
- Avoid spraying during flowering or, if you have to, spray as close to sunset as possible to reduce the risk to bees.

In outbreak seasons, infestations can continue for several weeks. You may need to apply an insecticide several times. Speak with your advisor or agronomist about which insecticide is most suitable for your situation.

PHOTO: DAFF



Spray before sunflower heads turn down, to get the best coverage and reduce the likelihood that RGB will survive the spray and go on to damage the developing grain.

Acknowledgements: Kate Charleston

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MORE INFORMATION

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GRDC PROJECT CODE

DAQ00153