Rutherglen bug

_Nysius_ vinitor

**Summary:**

The Rutherglen bug is a native species that breeds on a range of native and weed hosts and is a pest of numerous crops across Australia. It is a small, fast moving bug that can build up to high numbers during the warmer months when suitable hosts are available. The pest occurs most commonly in late canola pod set and at windrowing. Damage of Rutherglen bugs can be reduced by parasitoids, controlling weeds and ploughing a deep furrow around emerging summer crops. There are several organophosphates and synthetic pyrethroids registered against Rutherglen bugs but these are disruptive to natural enemies. Insecticide applications will not guarantee a clean crop as Rutherglen bugs can readily reinvade a sprayed area.

**Occurrence:**

The Rutherglen bug is a highly migratory native species that is a sporadic pest throughout most of the year. This species is common in New South Wales, Queensland, Victoria, South Australia, and the southern part of Western Australia.

**Description:**

Adults are 4 mm long and grey-brown in color with clear wings folded flat on their back. They have a narrow body with prominent dark eyes, sucking and piercing mouthparts and they are highly mobile. Nymphs are wingless and have a dark red, pear-shaped body.

Rutherglen bug adult (Source: cesar)
Lifecycle:

The Rutherglen bug is a warm-season pest. The species can have up to 8 generations per year and adult females may lay up to 400 eggs on the soil, grasses or flowering parts of plants. In the warmer months a generation time can be approximately 4 weeks.

In a crop environment, the pest commonly breeds on prostrate weeds surrounding and under winter crops. Young nymphs hatch in autumn, slowly develop through winter and mature in spring. As the weeds senesce, late stage nymphs and adults move on to crops during pod development, during which time several generations can be completed. Breeding intensifies during late spring and early summer.

Outside the crop environment, Rutherglen bug will breed on a diverse array of plants found throughout arable and more arid environments. As these plants begin to senesce, vast populations of Rutherglen bug will commence migrations which can take them hundreds or thousands of kilometers.
**Behaviour:**

Watch video of Rutherglen bugs in canola stubble:

https://www.youtube.com/watch?v=RjXIWs2tRw&feature=share&list=UU5mTbJ5q34bZGEWbpqKLAA

Rutherglen bugs are very mobile. As their host plants begin to dry off, adults and nymphs will walk and fly onto neighbouring crops or plants, sometimes in vast numbers. Adults will migrate large distances to colonise more favourable environments after the onset of unfavorable conditions, particularly host plant senescence. The migratory influx most commonly occurs in spring and summer.

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*Rutherglen bugs are an opportunistic pest and can reach plague proportions in some seasons over short periods of time.*

**Similar to:**

Green mirid and coon bugs

**Crops attacked:**

A wide host range, including canola, lucerne, wheat, sunflowers, safflowers, linseed and sorghum. Favoured weed hosts are wireweed and common purslane (summer-autumn) and capeweed (winter-spring).

**Damage:**

Rutherglen bugs are sucking insects that most commonly attack crop plants in spring, during seed set, or in summer on emerging or established summer crops or, less commonly, in autumn during emergence of winter crops. In spring, adults and nymphs feed on sap from stems, leaves, flowers and can decrease yield, oil content and oil quality in canola and sunflowers. Damage to susceptible plants can be heightened if the crop is under moisture-stress. Rutherglen bug will often continue to feed on pods after windrowing and at harvest cause problems with seed flow through harvesters, and by raising the moisture content of the grain to above acceptable standards.

In summer pulse crops, pod set can be reduced and seed can become shriveled. In favorable autumn conditions, feeding by high numbers of bugs can cause cupping of young leaves, retardation of emerging seedlings and seedling death.

**Monitoring:**

Rutherglen bug can infest crops at any time, but are most common in spring, from pod filling until maturity. Distribution is typically patchy across paddocks. Inspect flowering parts of crops either visually or by shaking flowering heads into a tray or bucket, or onto a beat sheet.

In autumn, particularly if conditions for summer hosts have been favorable, check crop perimeters, paying particular attention to surviving weed hosts.
Economic thresholds:

**Canola:**
- Flowering-windrowing: 10 adults or 20 nymphs per plant. Higher number if moisture not limited (Colton & Sykes 1992, Hertel et al. 2013, Berlandier & Baker 2007).

**Sorghum:**
- Anthesis: 20-25 bugs/head; Milky dough: 25-40 bugs/head; Soft dough: 30-50 bugs/head (unvalidated M. Miles, unpublished data 2009)

**Sunflower:**
- Spring plant: Budding: 10-15 adults per plant; grain fill: 20-25 adults per plant
- Summer plants: Budding: 20-25 adults per plant; grain fill: 50 adults per plant
- Confectionary grade: 5 adults per plant (Franzmann 2007)

Management options:

**Biological:**
Parasitoids that attack eggs can aid in reducing Rutherglen bug populations.

**Cultural:**
Rutherglen bug populations will be reduced by controlling summer-autumn weeds in and around paddocks and in fallows, well before sowing. Nymphs will survive on weed seeds, so controlling summer weeds before seed set is crucial.

At harvest, allow the pest to escape from open bins to reduce numbers in deliveries. Rutherglen bug will not survive in storage, or do any damage to harvested grain.

In susceptible areas of summer cropping, plough a deep furrow around the crop edge will prevent wingless individuals migrating from the paddock margin.

*Populations of Rutherglen bugs can be reduced by controlling weeds.*

**Chemical:**
There are several organophosphates and synthetic pyrethroids registered against Rutherglen bugs. Be aware that Rutherglen bugs can readily reinvade a sprayed area due to their migratory behavior and insecticide applications will not guarantee a clean crop. If spraying windrowed canola, consider the withholding period or chemical restrictions on spraying this late in the season.

As there are no soft chemicals available, spraying for Rutherglen bug will directly impact on the beneficials that contribute to the control of other pests such as Helicoverpa, aphid and diamondback moth populations in the crop.

*Rutherglen bugs can readily reinvade an area sprayed with insecticides due to their migratory behavior*

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This article was compiled at cesar by Sandra Hangartner and Garry McDonald (cesar).

**References/Further reading:**


Hertel K, Roberts K and Bowden P. 2013. Insect and mite control in field crops. New South Wales DPI. ISSN 1441-1773.


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