

Locust can impact on pulse deliveries

Key points

- Locusts pose more than just a physical threat to pulse crop yields and quality.
- Controlling locusts before harvest is imperative to ensure marketable quality grain and to ensure successful delivery.
- Pulse growers need to make contact with their receival agent well in advance of harvest to discuss probable industry attitudes to high locust inclusion in the grain sample.
- Both receival agents and marketers may reject grain with high locust inclusion despite the sample technically meeting the receival standard for field insects.
- Grain staining, slimes and objectionable odours may arise from squashing live locusts during harvest. This material is difficult, if not impossible to remove.
- Objectionable material and odours in the sample will result in the product being rejected at the receival point.
- Only permitted chemicals are to be used for control of locusts.
- Maximum residue limits apply and grain samples may be collected and analysed for compliance with regulatory and market requirements.

Pulse growers in most areas of south-eastern Australia have recently experienced the presence of plague locust swarms or have been alerted to their threat. Government agencies have been monitoring locusts and providing advice to growers. Crop sowing was delayed in many cases, hoping to avoid problems after emergence. Some insecticide controls have already been used by growers to help protect their green crops and pastures. Despite all these measures, locusts have been damaging in many areas and may still be present and laying eggs. The current focus has been on mapping these autumn flights. Future planning and actions will be focused on controlling locusts in spring before the newly hatched locusts take the wing again.

Just how successful locust control measures have been is yet to be seen. From a pulse crop perspective, initial concerns relate to potential locust damage to crops and their impact on yield and delivery quality.

What marketers and grain storage managers are concerned about is the presence of high concentrations of locust bodies and body parts in pulse samples at the receival point.

Currently the 2010/11 receival and export farmer dressed standards for most pulses have a tolerance for "field insects" in the sample of 30 per 400 gram grain sample or 15 per 200 gram grain sample. The tolerance applies to dead or live insects, and includes all field insects including locusts and grasshoppers at all stages of their development. This limit has been set based on historical experience and assumes a combination of small field insects and only a limited number of large field insects such as locusts.

The current limit has worked well in practice in the past, and has been deemed acceptable by pulse marketers, buyers and end-users in most seasons to date. However this year the industry is concerned that if significantly higher levels of locusts than normal are found in the receival grain sample, this will be unacceptable to buyers.

*By comparison, note that for cereals such as wheat and barley grain, the receival standards only allow 3 "field" insects per half litre (approx 1.5 per 200g).
Canola receival standards only allow 10 large insects per half litre (approx 5 per 200g).*

In addition, the wheat, barley and pulse standards cite that 6 legs, 3 body parts or 2 wings constitute a 'whole' insect.

Locust presence in pulses and other grain at delivery is potentially a much greater concern than normal for this harvest. Storage and handling companies and marketers may refuse to receive grain into current market grades if they find unacceptable levels of locusts present, despite the sample technically meeting the standard for field insects. Tolerances akin to that used in cereal grains may well be implemented if storage receivals reach high levels of contamination.

In this regard it should be noted that the pulse standards are provided as a basis for trade, and industry participants may adjust and implement variations based on their own commercial decisions. An exception might be if that grain can be accepted into a “cleaning” grade (where cleaning is considered to be possible). The storage agent may attempt to reduce the level of contamination through providing this grower service.

DISCUSS THIS ISSUE WITH YOUR PROSPECTIVE STORAGE AGENT OR MARKETER BEFOREHAND TO UNDERSTAND WHAT THEY MIGHT BE PLANNING TO DO AT HARVEST.

Apart from the issue of physical presence of locusts in grain samples, there is an added quality concern, similar to snail contamination. Slime and intestine contents from live locusts squashed during harvest are a major concern. Seed staining is likely, and there is added potential for objectionable odours to occur. This slime and odour cannot be removed from the grain prior to processing and thus is not accepted by the market.

THERE IS A NIL TOLERANCE IN THE STANDARDS FOR OBJECTIONABLE ODOUR AND CONTAMINATION WITH SLIME MATERIAL. EVEN IF THE SAMPLE TECHNICALLY MEETS THE STANDARD FOR FIELD INSECTS IT MAY STILL BE REJECTED ON THE BASIS OF OBJECTIONABLE MATERIAL.

Therefore growers should consider suitable locust control measures from their crops prior to grain harvest and delivery. Note also that there are only certain chemicals registered for control of locusts. These must be used according to product labels and the required withholding periods, to ensure that maximum residue limits are complied with. Using chemicals off-label is an offence and places the marketing of those pulses in jeopardy.

GIVEN ALL THE ABOVE, IT IS CLEAR THAT CONTROLLING LOCUSTS FROM CROP EMERGENCE, THROUGH SPRING GROWTH AND UP TO HARVEST IS AN IMPERATIVE FOR GROWERS TO ENSURE SUCCESSFUL PULSE CROP YIELDS, MARKETABLE GRAIN QUALITY AND SUCCESSFUL DELIVERY.

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