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MEDIA RELEASES

GROWERS WARNED TO LOOK OUT FOR PODSUCKERS IN SOYBEAN



LOOK OUT: Growers need to ensure soybean crops are monitored for pod sucking insects for top quality soybeans.

Photo: Felicity Pritchard.

Soybean growers aiming to produce a quality product need to monitor their crops closely for pod sucking insects like green vegetable bug (GVB) in the lead up to harvest, according to an industry expert.

Hugh Brier, senior entomologist with Queensland's Department of Primary Industries and Fisheries (QDPI&F) said these insects damage soybean seed during podfill until close to harvest and should be closely monitored twice weekly using a "beat sheet".

Dr Brier also said many crop in coastal areas of Queensland had high levels of green vegetable bug, which can cause soybean crops to be downgraded from culinary quality to crushing for oil and stockfeed which is currently worth anywhere between \$50 to \$200 per tonne less.

The pests affect the shape, colour, oil

content, storage life and taste of soybeans as well as reducing yields.

Dr Brier said that GVBs primarily feed on soybean pods with a preference for well-developed seeds.

“Summer pulses like soybeans are at risk of GVB damage until pods are too hard for the insects to penetrate when they are very close to harvest,” he said.



Damage to young pods produces deformed and shrivelled seeds, potentially reducing yield, although well watered crops can compensate for moderate bug damage.

However, Dr Brier said it was damage to the more mature pods that cause the most headaches for growers and graded out.

BUG CATCHER: Dr Hugh Brier shows advisors and soybean growers how to monitor insects using a beat sheet. Photo: Felicity Pritchard.
the Northern Rivers region of New South Wales.

pod-sucking insects recently in

“They actually shrivel the bean. It’s like comparing the face of a 20-year old fashion model with a 70-year old man,” he said.

“We try to grade them out. For pods with holes (caused by the insects), you see the puncture marks, but won’t know of the damage until after harvest.

“It’s not just the shape of the bean, pod-sucking insect damage can also give the end-product a ‘beany’ taste”.



“Another issue is that it makes the hulls extremely hard to remove when processing the soybean. It’s like comparing a banana peel with an orange peel. Most processors remove the soybean hulls, as this is where yeast, mould and stains occur”.

“When these shrivelled or odd shaped soybeans are processed, the hulls are harder to remove, so more go through the dehulling and into the end-product, which is not acceptable. The result has an undesirable effect on final product in taste, colour, and shelf life,” he said.

Dr Brier and his team have developed “preventative thresholds” for spraying soybean crops for GVB when aiming to maintain quality.

“For podsucking bugs, seed quality is the key factor governing the threshold, with as little as two per cent bug damage downgrading crop value. For this reason, the threshold for podsucking bugs is set at a population lower than that required to inflict two per cent damage.

For beans grown for human consumption, the threshold in edible soybean crops in coastal areas is 0.3 to 0.5 adult GVB per square metre. However, if the end-use is for crushing for oil and stockfeed, growers can tolerate an average of 1.0 GVB per square metre.

Dr Brier said that a number of other podsucking bug species cause similar damage and these can be converted to “GVB –equivalents” for the purpose of calculating the overall damage potential of a mixed bug species population. A brown bean bug has the same score as a GVB for calculating economic thresholds, whereas a redbanded shield bug has a score of 0.75 and the less damaging brown shield bug has a score of 0.20 GVB-equivalents.

He also said that immature bugs (bug nymphs) have a lower score than adults, particularly the younger nymphs.

The maturity of the crop is also a factor to consider before deciding on controlling the pests. For instance, a crop only five days from harvest with lots of very small nymphs may not warrant control, but if it was 10 to 20 days from harvest, growers should use an amended threshold. Growers should seek advice from their agronomist to help with their decisions.

Dr Brier said that spraying was not the only thing growers could do to combat podsucking insects.



“Where possible, avoid sequential plantings of summer pulses as the bug populations will move progressively through from earlier to later plantings, eventually building to very high levels,” he said.

“Also avoid variety and flowering time combinations that are likely to lengthen the duration of flowering and podding.”

He said growers also have an ally in the form of a tiny wasp *Trissolcus basalis* which kills the GVB eggs and turn them black. A whole range of other species, including ants, spiders, bugs, and in northern New South Wales and Queensland, the tachinid fly *Trichopoda giacomellii* has been released by CSIRO and QDPI&F to help growers produce top quality soybeans and other pulses.

Mr Scammell said the thresholds for any podsucking insects in the organic industry is less than the conventional level at zero tolerance. Organic growers have access to environmentally-friendly sprays that can be used effectively to control insect pests.

For further information on pest management of soybean crops, contact Dr Hugh Brier, (07) 41600 740.
