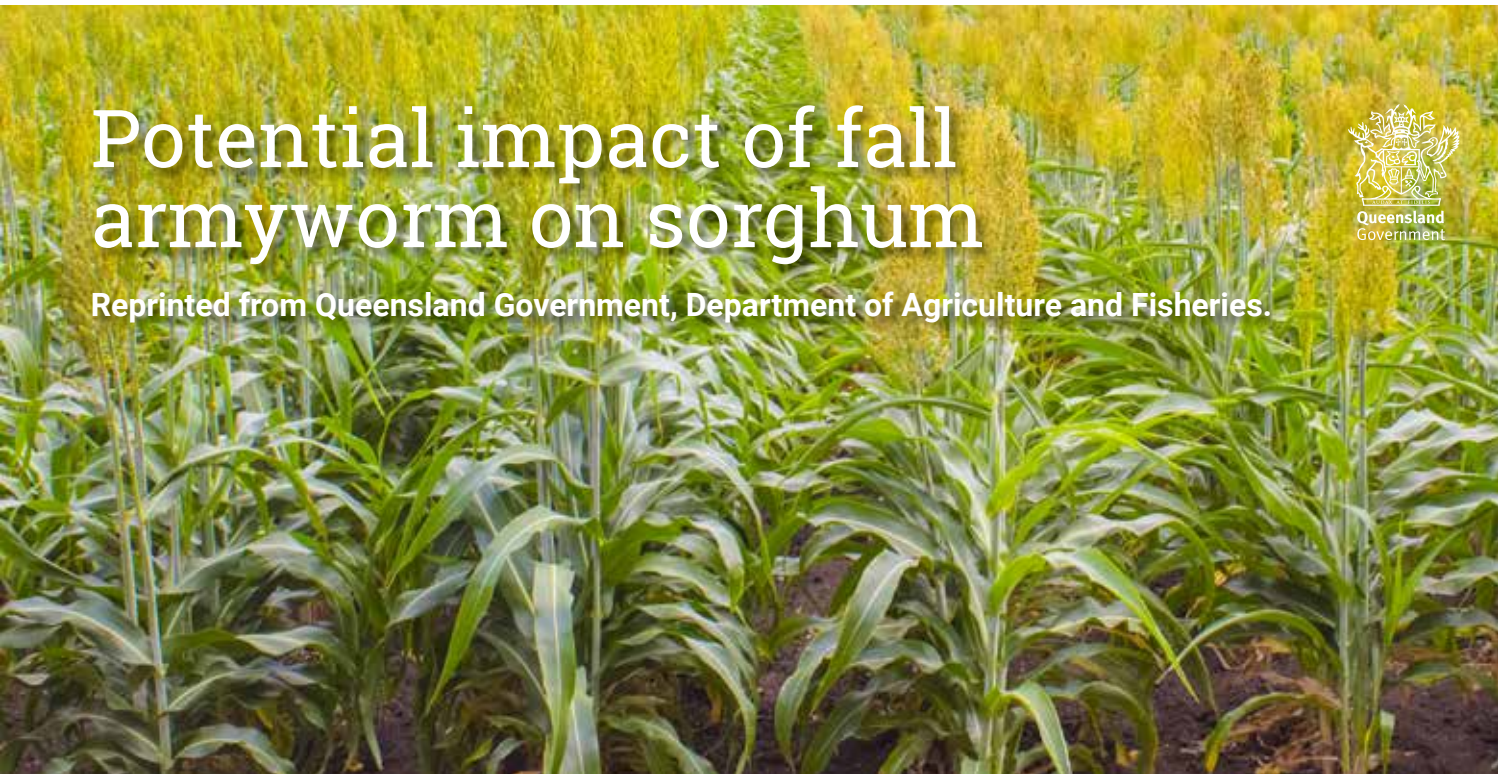

Potential impact of fall armyworm on sorghum

Queensland Government

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Sorghum is a host of fall armyworm (FAW) and is at greatest risk of crop loss at crop establishment as a result of defoliation and seedling death. Crops destined for grain, as well as forage or silage are at risk. Crops can experience significant defoliation during the vegetative stage, but the impact of this on yield is unclear at this point. The risk of significant yield loss at grain-filling stages is likely to be relatively low as a result of the exposure of heads (which FAW doesn't like) and the unattractiveness of maturing crops to egg-laying females.

Reported damage has been similar to that found in maize, but usually of lesser severity. Populations of FAW tend to decline as sorghum approaches head emergence.

What to look for

Early detection is essential. Regularly check your crops for eggs, larvae and damage.

Damage includes 'windowing' of leaves by young larvae, 'shot hole' damage to unfurling leaves, lower stem damage to seedlings and some damage of heads, particularly before they are fully emerged.

Monitor for fall armyworm in sorghum as you would for *Helicoverpa armigera*, paying particular attention to signs of infestation in the establishment stage. Fall armyworm damage to young sorghum plants will impact plant growth and yield if pest pressure is high and defoliation severe or stem damage occurs. Later vegetative stages are likely to compensate for leaf area loss.

FAW cause large, irregular-shaped holes in leaves emerging from the whorl. *Helicoverpa armigera* and other armyworm species will cause similar damage in sorghum, so it's important to open up the whorl to identify the larvae. Decisions must not be made on the presence of damage alone.

Management

Establishing crops are very vulnerable to FAW damage. It is essential to prevent medium and large larvae developing in seedling crops. These larger larvae have the capacity to feed at the base of the plants, on the growing point, resulting in seedling death. Severe defoliation at the seedling stage will compromise the rate of crop establishment.

Chemical control of FAW is most likely to be effective when targeting larvae on small plants. Use banding, if appropriate, to optimise application and reduce cost. Products with residual activity will make it more likely that larvae emerging at night to feed on plants (from the soil) will encounter a lethal dose.

Like *Helicoverpa armigera*, small FAW larvae feed on the pollen and larger larvae feed on the developing grain. Managing infestations before heads emerge will reduce the risk of this type of damage.

An integrated pest management approach is key to the control of any pest. The Department of Agriculture and Fisheries is working with industry to identify appropriate thresholds and the most effective management strategies for Australian conditions.

In the meantime, if an infestation occurs during the grain fill stage, use the *Helicoverpa* economic threshold calculator at The Beatsheet.

While insecticides used for the control of other caterpillar pests may provide some level of control of FAW, the population that arrived in Australia is already demonstrating resistance to some chemical groups, including synthetic pyrethroids and carbamates. When choosing chemical products, consider the implications for chemical resistance development in FAW other pests (including *Helicoverpa*) that may be exposed, as well as the potential impact on natural enemies.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has issued several permits for FAW in a range of crops. Check the APVMAs permit portal for more details (search for 'fall armyworm' and tick the 'pest/purpose' button).

More detailed information on FAW identification, damage and resistance levels, as well as the counts from the FAW moth trapping network are available on The Beatsheet.