

High Priority Pests of the Grains industry



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HIGH PRIORITY PESTS – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

What is a High Priority Pest (HPP)?

High Priority Pests, often referred to as HPPs, are exotic pests or diseases identified as posing a high or extreme overall biosecurity threat to one or more of Australia's commercial plant industries. Identifying these HPPs using a qualitative risk assessment allows industry and government to better prioritise and implement preparedness activities. Risk assessments may result in the identification of different threats in the future due to advances in our understanding of pest biology, changes to pest/host interactions, or new production and /or biosecurity methods.

What are the risk assessment criteria?

- **Entry potential** of the pest, based on all possible entry pathways into Australia including, legal and illegal importation of plant material and natural movement by wind or water.
- **Establishment potential** of the pest, based on the ability of the pest to survive and produce a viable population.
- **Spread potential** of the pest, based on its biology, host range, possible vector movements, contamination or human-mediated movements.
- **Economic impact** of the pest, on the Australian grain industry, based on possible yield and quality reductions, associated control costs and trade impacts such as market access restrictions.

Grains HPP list

These do not have an order of priority but are grouped based on shared biology and response characteristics.

PESTS AND AFFECTED HOST CROPS	AFFECTS
Stored grain pests	
▪ Khapra beetle – <i>Trogoderma granarium</i> Stored grain	Trade and quality
Slugs and snails	
▪ Budapest slugs – <i>Tandonia</i> spp. including <i>Tandonia budapestensis</i> , <i>T. rustica</i> , <i>T. sowerbyi</i> Winter cereals (e.g. wheat, barley, oat, cereal rye), canola	Yield
▪ Peanut snail – <i>Bulimulus sporadicus</i> Soybean, peanuts	Quality and yield
▪ Spanish slugs – Arion ARVC group: <i>Arion ater</i> , <i>A. rufus</i> , <i>A. vulgaris</i> complex Wheat, canola, maize, sunflower, lupin, lucerne, faba bean, field pea, common bean	Yield
▪ Temperate Terrestrial Gastropods (TTG) group – including <i>Xerolenta obvia</i> , <i>Monacha</i> sp., <i>Caracollina lenticula</i> , <i>Massylaea vermiculata</i> Polyphagous, including fodder crops (e.g. millet, cowpea, lupine, soybeans, sorghum, maize), grains (e.g. wheat, triticale, barley, oat, cereal rye) and field pea	Trade and yield
Worms and borers	
▪ Cotton leafworm – <i>Spodoptera littoralis</i> Wide host range including wheat, sorghum, soybean, mungbean, peanuts, soybean, sunflower, common bean, field pea, faba bean, maize	Yield



PESTS AND AFFECTED HOST CROPS	AFFECTS
<ul style="list-style-type: none"> ▪ Purple stem borer – <i>Sesamia inferens</i> Wheat, barley, oats, sorghum, millet, maize 	Yield
<ul style="list-style-type: none"> ▪ Soybean looper– <i>Chrysodeixis includens</i> Wheat, sorghum, canola and pulses (e.g. soybean, pigeon pea, beans, lima bean, common bean, pea, faba bean, cowpea) sunflower, maize 	
<ul style="list-style-type: none"> ▪ Spotted stalk borer – <i>Chilo partellus</i> Sorghum, millet, maize 	

DISEASES AND AFFECTED HOST CROPS	AFFECTS
Disease of cereals	
<ul style="list-style-type: none"> ▪ Barley strip rust (Psh) (Yellow rust) – <i>Puccinia striiformis f.sp. hordei</i> Barley 	Yield
<ul style="list-style-type: none"> ▪ Fusarium head blight (ear rot) – <i>Fusarium asiaticum</i> Wheat, durum wheat, barley, maize, millet 	Quality and yield
<ul style="list-style-type: none"> ▪ Karnal bunt – <i>Tilletia indica</i> Wheat, durum wheat, triticale 	Trade and quality
<ul style="list-style-type: none"> ▪ Wheat blast – <i>Pyricularia oryzae</i> (Triticum pathotype) Wheat, durum wheat, triticale, barley 	Yield
<ul style="list-style-type: none"> ▪ Wheat stem rust Ug99 (Black stem rust) – <i>Puccinia graminis f. sp. tritici</i> (exotic pathogenic races e.g. Ug99) Wheat, durum wheat, triticale 	Trade and yield
Wilts	
<ul style="list-style-type: none"> ▪ Chickpea wilt (Fusarium wilt) – FOC <i>Fusarium oxysporum f. sp. ciceris</i> Chickpea, field pea, lentil, pigeon pea 	Yield
<ul style="list-style-type: none"> ▪ Fusarium wilt – <i>Fusarium oxysporum f. sp. lupini</i> Lupin: blue or narrow-leafed lupin, white lupine, yellow lupine 	
<ul style="list-style-type: none"> ▪ Fusarium wilt of soybean – <i>Fusarium oxysporum f. sp. glycines</i> Soybean 	
<ul style="list-style-type: none"> ▪ Late wilt (slow wilt) – <i>Magnaporthiopsis maydis</i> (syn. <i>Harpophora maydis</i>, <i>Cephalosporium maydis</i>) Maize, lupin 	
<ul style="list-style-type: none"> ▪ Safflower wilt – <i>Fusarium oxysporum f. sp. carthami</i> Safflower 	Trade and yield
Pulse leaf/pod/stem lesions	
<ul style="list-style-type: none"> ▪ Ascochyta blight – <i>Ascochyta rabiei</i> [MAT1-1] Chickpea 	Yield



Diseases and affected host crops	Affects
Pulse leaf/pod/stem lesions	
<ul style="list-style-type: none"> ▪ Lentil anthracnose – <i>Colletotrichum lentis</i> (syn. <i>C. truncatum</i>) Lentil, faba bean, vetch 	Trade and yield
Downy mildews - Summer crops	
<ul style="list-style-type: none"> ▪ Downy mildew of millet – <i>Sclerospora graminicola</i> Sorghum, maize, millet 	Trade and yield
<ul style="list-style-type: none"> ▪ Philippine downy mildew – <i>Peronosclerospora philippinensis</i> Sorghum, maize 	
<ul style="list-style-type: none"> ▪ Sorghum downy mildew – <i>Peronosclerospora sorghi</i> Sorghum, maize 	
<ul style="list-style-type: none"> ▪ Sugarcane downy mildew – <i>Peronosclerospora sacchari</i> Maize 	
Viruses	
<ul style="list-style-type: none"> ▪ Groundnut bud necrosis virus (GBNV) – <i>Orthotospovirus arachinecrosis</i> Soybean, sunflower, common bean, sunberry, pea, black gram, mungbean, Jerusalem pea, cowpea 	Yield
<ul style="list-style-type: none"> ▪ Maize chlorotic mottle virus (MCMV) – <i>Machlomovirus</i> Maize, foxtail millet 	Trade and yield
<ul style="list-style-type: none"> ▪ Maize dwarf mosaic virus (MDMV) – <i>Potyvirus</i> Oats, sorghum, millet, maize 	
<ul style="list-style-type: none"> ▪ Mungbean yellow mosaic virus (MYMV) (yellow mosaic disease YMD) – <i>Begomovirus</i> Mungbean, black gram, pigeon pea, common bean, cowpea, soybean 	Yield

If you see anything unusual, call the **Exotic Plant Pest Hotline on 1800 084 881**.



Visit grainsbiosecurity.com.au for more resources to implement practical biosecurity measures. For a full list of Grains Biosecurity Officers in your region, visit grainsbiosecurity.com.au/contact

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