EXOTIC PESTS FACT SHEET

GRDC Grains Research & Development Corporation

FEBRUARY 2008

Exotic pests

NATIONAL GRAINS INDUSTRY ON-FARM BIOSECURITY PROGRAM

Plant Health AUSTRALIA | GRAINS COUNCIL OF AUSTRALIA | Government of Western Australia Department of Agriculture and Food

EXTREME RISK | KARNAL BUNT - The most serious pest for the wheat industry

IMPACT ON

- Market access
- Production costs

- Hosts are wheat, durum and triticale
- Blackened seeds crush relatively easy
- Infected grain has a fishy smell
- Import restrictions in over 45 countries
- If established in Australia, would reduce grain price by $20 to $55/t

PHOTO: PaDIL

HIGH RISK | KHAPRA BEETLE - Serious pest of all stored grain

IMPACT ON

- Market access
- Production costs

- Adults have wings but don't fly
- Insects are spread in infected grain
- Insects are only 2-3 mm long
- Can damage up to 30% grain before it is noticed
- Phosphine fumigation is not very effective
- Larvae can survive over a year without food
- Reduces the number of overseas markets

HIGH RISK | PHOSPHINE-RESISTANT STRAINS OF STORED GRAIN INSECTS - Pest of all stored grain

IMPACT ON

- Market access
- Production costs

- Many overseas countries have grain insects with 'strong resistance' to phosphine
- Phosphine gas is main fumigant used in stored grain
- Threat to exports because resistant insects can survive fumigation
- Poor fumigation also increases selection pressure
- Need regular testing of live insects by entomology laboratory
- Early detection is the key

PHOTO: JIM KALISCH, UNIVERSITY OF NEBRASKA-LINCOLN

HIGH RISK | RUSSIAN WHEAT APHID - Main hosts are wheat and barley

IMPACT ON

- Market access
- Production costs

- Could cause large yield losses
- Symptoms seen with the presence of aphids are:
  - rolled up leaves with white, purple or yellowish leaf streaks
  - rolling of flag leaf & awns
  - bleached heads with small grains

PHOTO: USDA

HIGH RISK | HESSIAN FLY - Main hosts are wheat and barley

IMPACT ON

- Market access
- Production costs

- Crop losses up to 40% recorded
- Adults look like a small mosquito, 2-4 mm long
- Attacks leaves, stems and heads
- Most chemical controls are not effective

PHOTO: UNIVERSITY OF NEBRASKA-LINCOLN

MEDIUM RISK | SUNN PEST - Main hosts are wheat and barley

IMPACT ON

- Market access
- Production costs

- Most easily seen on cereal heads in spring
- Usually found in colonies near paddock edge
- Injects enzymes into grain as it feeds which can cause grain abortion
- Only 3% damaged grain can cause flour to be rejected

PHOTO: ICARDA

MEDIUM RISK | BARLEY STRIPE RUST - Main host is barley

IMPACT ON

- Market access

- Many Australian barley varieties will be susceptible
- Risk of introduction and spread via unwashed clothes or shoes worn in infected crops overseas

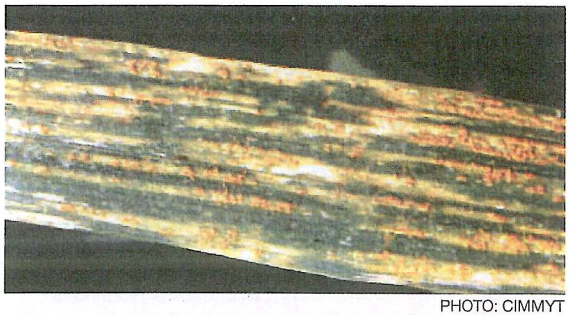

PHOTO: CIMMYT

MEDIUM RISK | WHEAT STEM Rust Ug-99 - Main host is wheat

IMPACT ON

- Market access

- New strain identified in Uganda in 1999
- Some wheat varieties will be susceptible
- Ug-99 has overcome resistance gene Sr31 and some strains have overcome Sr24
- Risk of introduction and spread via unwashed clothes and shoes worn in infected crops overseas

PHOTO: HOME-GROWN CEREALS AUTHORITY, LONDON

Exotic Plant Pest Hotline 1800 084 881

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