CHALLENGE OF INSECT CONTROL IN THE AUSTRALIAN GRAIN INDUSTRY

Robin Reid – Quality Services Manager : Grain Protection
GRAIN GROWING AREAS OF AUSTRALIA

Source: Department of Agriculture and Water Resources, Grain Export Systems
Key Target Pests

Stored cereals

Lesser grain borer
*Rhizopertha dominica*

Rust-red flour beetle
*Tribolium castaneum*

Rusty grain beetle
*Cryptolestes ferrugineus*

Rice weevil
*Sitophilus oryzae*

Sawtoothed grain beetle
*Oryzaephilus surinamensis*
TYPES OF STORAGES

GrainCorp Storage & Logistics
# Grain Protectant Resistance

<table>
<thead>
<tr>
<th>Protectant</th>
<th>Lesser grain borer</th>
<th>Red flour beetle</th>
<th>Rice weevil</th>
<th>Sawtoothed grain beetle</th>
<th>Rusty grain beetle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pirimiphos-methyl e.g. Actellic™</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>R</td>
<td>✓</td>
</tr>
<tr>
<td>Fenitrothion e.g. Fenitrothion 1000™</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>R</td>
<td>✓</td>
</tr>
<tr>
<td>Chlorpyrifos-methyl e.g. Reldan™</td>
<td></td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>Methoprene e.g. IGR™, Rizacon™</td>
<td>R</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spinosad Conserve™</td>
<td>✓</td>
<td></td>
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<tr>
<td>Deltamethrin + Piperonyl Butoxide e.g. K-Obiol™</td>
<td>✓ !</td>
<td>✓ !</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

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Australia has been collecting data on PH3 resistance since the 1990s.

Industry has been able to monitor the increase in level and advise changes.

Frequency of resistance remains below 10% in Australia compared to 80-90%.
Rusty Grain Beetle

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Department of Agriculture and Fisheries
National Resistance Management Strategy
PBCRC
National Working Party on Grain Protection
Continue to Monitor
THANK-YOU

Questions???