Blueberry rust (in NSW)

BB13002: MANAGEMENT OF BLUEBERRY RUST

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Blueberry rust: know your enemy

• What is blueberry rust?
• Where does it come from?
• Where does it survive?
• Using this information to manage rust
• Hygiene and cultural management
• Fungicides and bio-pesticides

Understanding how and when a disease occurs is central to management
Rust on plant tissues

- Red-brown lesions on upper leaf surface
- Yellow-orange pustules on underside of leaf
- Retained leaves are main source of inoculum

Epidemiology

- Blueberry rust spore germination and infection are favoured by:
  - Prolonged leaf moisture
  - Temperatures between 15-25°C
  - Susceptible host tissue
Rust is in the air

Spores are dispersed through air (and water splash/rain)

Survival

• 25% spores remain viable in leaves after 2 weeks on orchard floor
• Retained leaves are main means of survival in evergreen system
Cultural practices and hygiene

• Avoidance
  - Clean planting material
  - Site selection and preparation

• Controlling environmental conditions
  - Good drainage, mounding
  - Pruning, ventilation
  - Nutrition

• Tolerant/resistant varieties

• Good orchard hygiene and sanitation

Management

• Monitor for disease symptoms and conducive weather conditions
  - Assume rust is present

• Protect new shoots

• Select and use fungicides appropriately

• Rotate chemicals
## Disease monitoring: early symptoms

![Image of disease symptoms](image)

## Chemicals (current APVMA permits)

<table>
<thead>
<tr>
<th>Mode of action</th>
<th>Mode of action</th>
<th>Chemical</th>
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<tbody>
<tr>
<td>Multisite, protectant</td>
<td>Prevent infection</td>
<td>Mancozeb</td>
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<tr>
<td>(FRAC M)</td>
<td></td>
<td>Chlorothalonil</td>
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<tr>
<td></td>
<td></td>
<td>Dithianon*</td>
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<tr>
<td></td>
<td></td>
<td><strong>Copper</strong></td>
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<tr>
<td>QoI</td>
<td>Protectant, translaminar, kill germinating spores</td>
<td>Pyraclostrobin (Pristine)</td>
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<td>(FRAC 11)</td>
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<tr>
<td>DMI triazoles</td>
<td>Translocated upward in plant; may limit pustule</td>
<td>Propiconazole (Tilt)</td>
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<tr>
<td>(FRAC 3)</td>
<td>development</td>
<td>Tebuconazole*</td>
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<tr>
<td>SDHI</td>
<td>Locally systemic; translaminar; Inhibit spore</td>
<td>Boscalid (Pristine)</td>
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<tr>
<td>(FRAC 7)</td>
<td>germination, mycelial growth and sporulation</td>
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*Apply as soon as possible when expecting moist conditions*

**ROTATE CHEMICAL GROUPS**
Fungicide efficacy – new permits

Rotate your chemicals
Summary and recommendations

• Rust is anywhere, any time
• Use clean planting material
• Remove infected plant material
• Promote good ventilation
• Monitor to detect symptoms early
• Protect young shoots
• Treat early, when wet
• Select chemical(s) appropriately and rotate
• Breed/select for tolerant or resistant plants
• Nursery certification scheme
Acknowledgements

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