UNDERSTANDING THE PRE-HARVEST SPROUTING SUSCEPTIBILITY OF NEW WHEAT VARIETIES

JEREMY CURRY, DPIRD
Pre-harvest sprouting

- GxExM
- Management options are limited
  - Harvest as soon as practical after maturity
  - Choose varieties with low risk of low falling number
Pre-harvest sprouting

• GxExM

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  • Harvest as soon as practical after maturity
  • Choose varieties with low risk of low falling number

Aim: To rate varieties for their susceptibility to pre-harvest sprouting and low FN at harvest.
How is pre-harvest sprouting resistance measured?

• Germination Index
  • Measure of grain dormancy
  • Quick and repeatable
  • Influenced by growing environment and time of sampling
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  - Quick and repeatable
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- Field data
  - Opportunistic – reliant on ‘favourable’ conditions to induce low FN
  - Maturity effects – need to be taken into account
Factors affecting PHS/FN

Strategy

- Use multiple times of sowing to ‘line up’ timing of maturation between varieties
  - Try to compare within samples of varieties that matured at a similar time and under similar environmental conditions
- Rainfall simulator
  - Consistency between samples
  - Between samples that matured at different times
  - Across seasons
  - Repeatable
  - Allows assessment in dry years
Factors affecting PHS/FN Strategy

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FN sampled at maturity

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Rainfall simulator results

Rainfall treatment - increasing in duration/intensity from R0 (no rainfall) to R4
Rainfall simulator results

The graph shows the falling number of three varieties: Mace, Westonia, and Scepter, across different rainfall treatments labeled R0 to R4. The rainfall treatments increase in duration/intensity from R0 (no rainfall) to R4. The falling number decreases as the rainfall intensity increases.
## Field data

### 2017

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<tr>
<th>Variety</th>
<th>TOS1</th>
<th>TOS2</th>
<th>TOS3</th>
<th>FNI Rating</th>
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<td>4p</td>
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### 2018

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</tbody>
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Summary

• Aim: To rate varieties for their susceptibility to pre-harvest sprouting and low FN at harvest.

• Standard methods have limitations
  • Low grain dormancy varieties vary in their PHS susceptibility
  • Maturity differences must be considered when viewing field data

• We use:
  • multiple times of sowing to line up maturation dates of varieties of different maturity length
  • A rainfall simulator to induce PHS
  • In conjunction with GI and field data

Give growers as much information on new varieties as we can, so they can understand risk
Thank you
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