Ultimate Canola Challenge

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What is the Ultimate Canola Challenge?

- A program that challenges growers to obtain higher yields and profitability by conducting their own on-farm trials.

- Trial protocols are available to farmers on the UCC webpage, along with summaries of past results.
What is the Ultimate Canola Challenge?

- Protocols address all factors required for a scientifically sound trial, such as:
  - Leaving a check strip
  - Field selection
  - Treatment map
  - Minimizing variability (from external factors)
  - Note collection
  - Managing harvest
  - Replication
2016 UCC Protocol: Nitrogen rate trial

• Producers use their base rate of nitrogen (N)
  – Based on a soil test results and yield targets
• Add in a 25% increased N rate treatment
• Replicate 4 times
• Note that N is only applied at seeding

• Data collection sheet included provides a thorough but convenient method of record keeping
UCC 2016 – Nitrogen rate trial

• Why Nitrogen?
  – Nitrogen is a common limiting nutrient (other than water) for canola production
  – High-yielding hybrid cultivars will require more N to support yield
  – Want to see if adding extra N pays in terms of yield and economics?
  – Check out this Canola Watch article: http://www.canolawatch.org/2012/04/04/put-extra-input-investment-into-nitrogen/)
UCC 2016 – Nitrogen rate trial

- 14 sites planted in Western Canada
  - 5 in Manitoba
  - 5 in Saskatchewan
  - 4 in Alberta
- 6 sites completed
  - 4 in Manitoba
  - 2 in Saskatchewan
  - 0 in Alberta
  - Sites lost for various reasons
    (early season frost in Manitoba, harvest conditions in Saskatchewan and Alberta)
2016 Ultimate Canola Challenge Interim Results

<table>
<thead>
<tr>
<th>Location</th>
<th>Base Rate</th>
<th>Treatment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justice, MB</td>
<td>163.90</td>
<td>204.90</td>
</tr>
<tr>
<td>Mountain Road, MB</td>
<td>200.00</td>
<td>250.00</td>
</tr>
<tr>
<td>Brandon, MB</td>
<td>142.46</td>
<td>178.22</td>
</tr>
<tr>
<td>Brandon 2, MB</td>
<td>115.00</td>
<td>144.00</td>
</tr>
<tr>
<td>Blaine Lake, SK</td>
<td>70.00</td>
<td>87.50</td>
</tr>
<tr>
<td>Carrot River, SK</td>
<td>90.00</td>
<td>112.50</td>
</tr>
<tr>
<td>Grand Total</td>
<td>130.23</td>
<td>162.85</td>
</tr>
</tbody>
</table>

Yield (bu/ac)

- **Check Treatment Yield**
- **Extra Nitrogen Treatment**
### 2016 Ultimate Canola Challenge Interim Results

<table>
<thead>
<tr>
<th>Location</th>
<th>Check Treatment Yield</th>
<th>Extra Nitrogen Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Justice, MB</td>
<td>34.60</td>
<td>37.90</td>
</tr>
<tr>
<td>Mountain Road, MB</td>
<td>61.10</td>
<td>63.00</td>
</tr>
<tr>
<td>Brandon, MB</td>
<td>61.20</td>
<td>66.00</td>
</tr>
<tr>
<td>Brandon 2, MB</td>
<td>48.20</td>
<td>50.10</td>
</tr>
<tr>
<td>Blaine Lake, SK</td>
<td>39.10</td>
<td>43.60</td>
</tr>
<tr>
<td>Carrot River, SK</td>
<td>57.10</td>
<td>57.90</td>
</tr>
<tr>
<td>Grand Total</td>
<td>51.20</td>
<td>53.60</td>
</tr>
</tbody>
</table>

**t test**: 0.24 0.04 0.00 0.57 0.18 0.04 0.00

**Statistically Significant?**: NS * ** or * NS NS * ***
2016 Ultimate Canola Challenge Interim Results

Check Treatment Yield  Extra Nitrogen Treatment

Yield (bu/ac)

Mountain Road, MB
Brandon, MB
Carrot River, SK
Grand Total

0 10 20 30 40 50 60 70
2016 UCC Conclusions

• Overall (when all sites were considered) there was a statistically significant response to the application of 25% additional nitrogen (of the recommended rate)
  – A statistically significant yield response was found in 3 of 6 usable sites
  – Some sites did not show a significant yield response
  – Some sites showed a yield difference between the two nitrogen treatments, however statistical analysis couldn’t determine this was necessarily due to treatment differences
• Yield differences could have been due to variability of the trial or other factors
2016 UCC Conclusions

• Making decisions off one site or one year will not give a good idea of product performance over a range of conditions and environments

• Plan for 2017
  – Continue with nitrogen protocol

• Want to participate? Let me know!