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# Ultimate Canola Challenge

Nicole Philp

Agronomy Specialist, SW Saskatchewan

Canola Council of Canada

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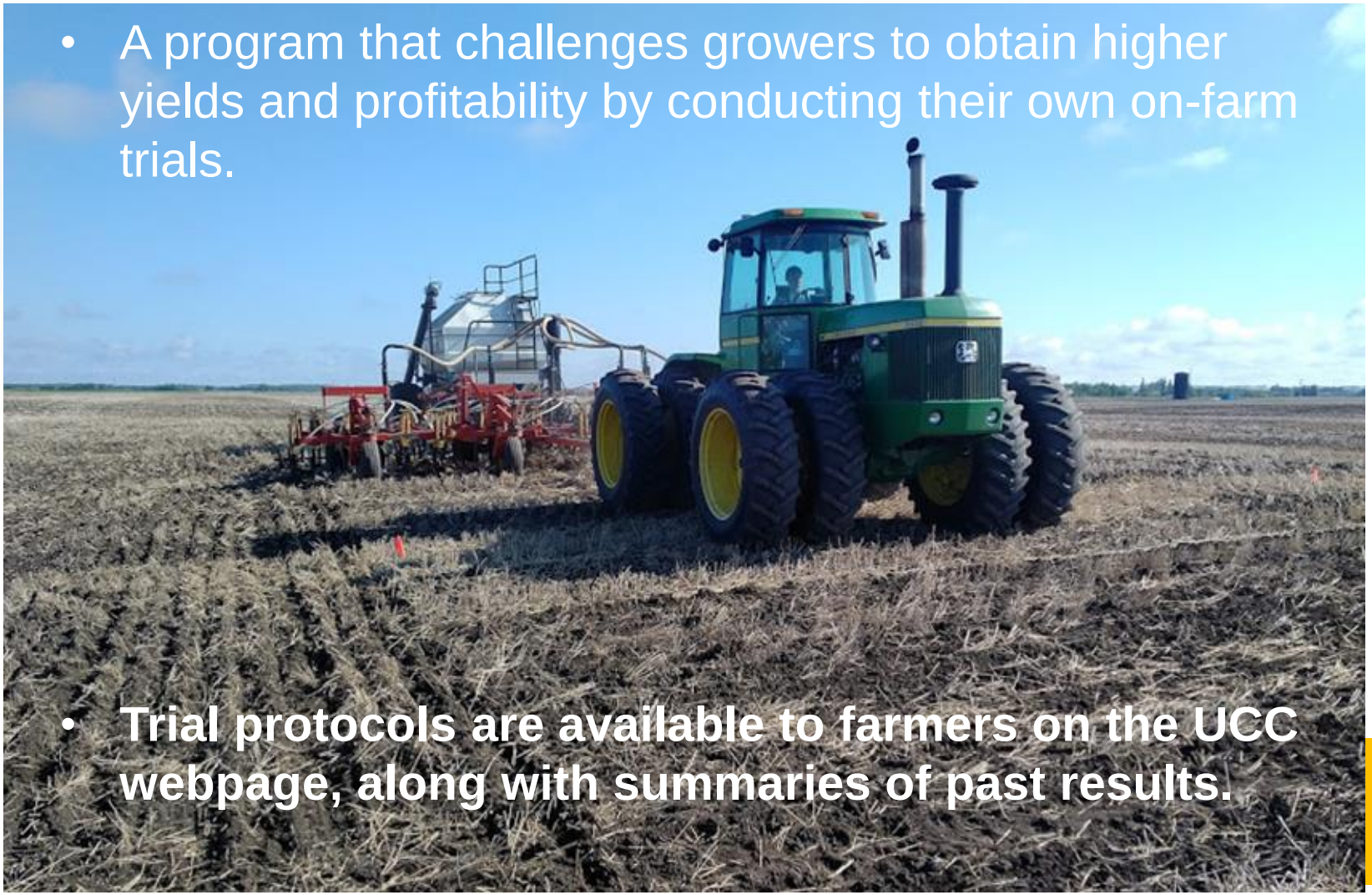
# What is the Ultimate Canola Challenge?



- 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.**

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# 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

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# 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**

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# 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)

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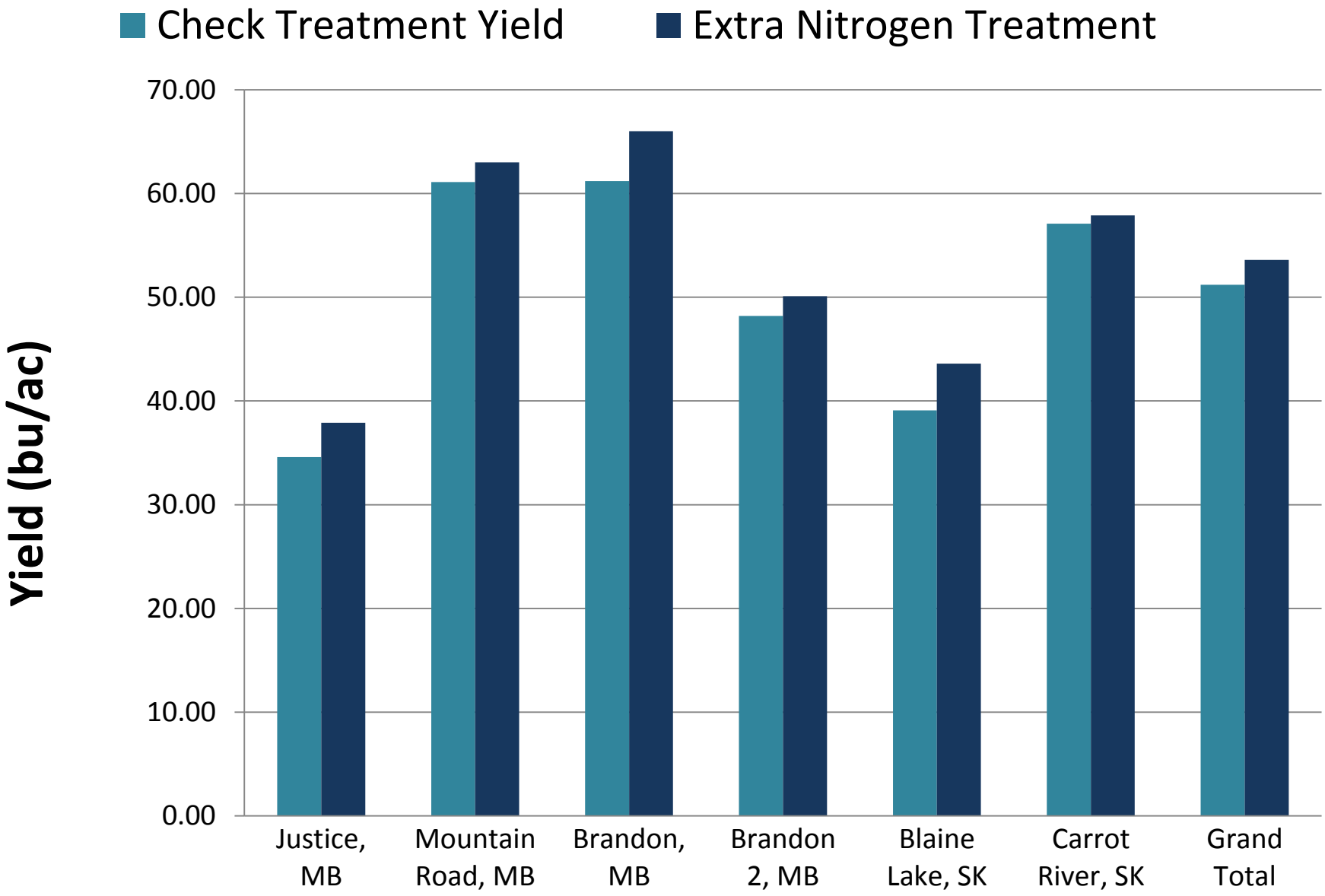
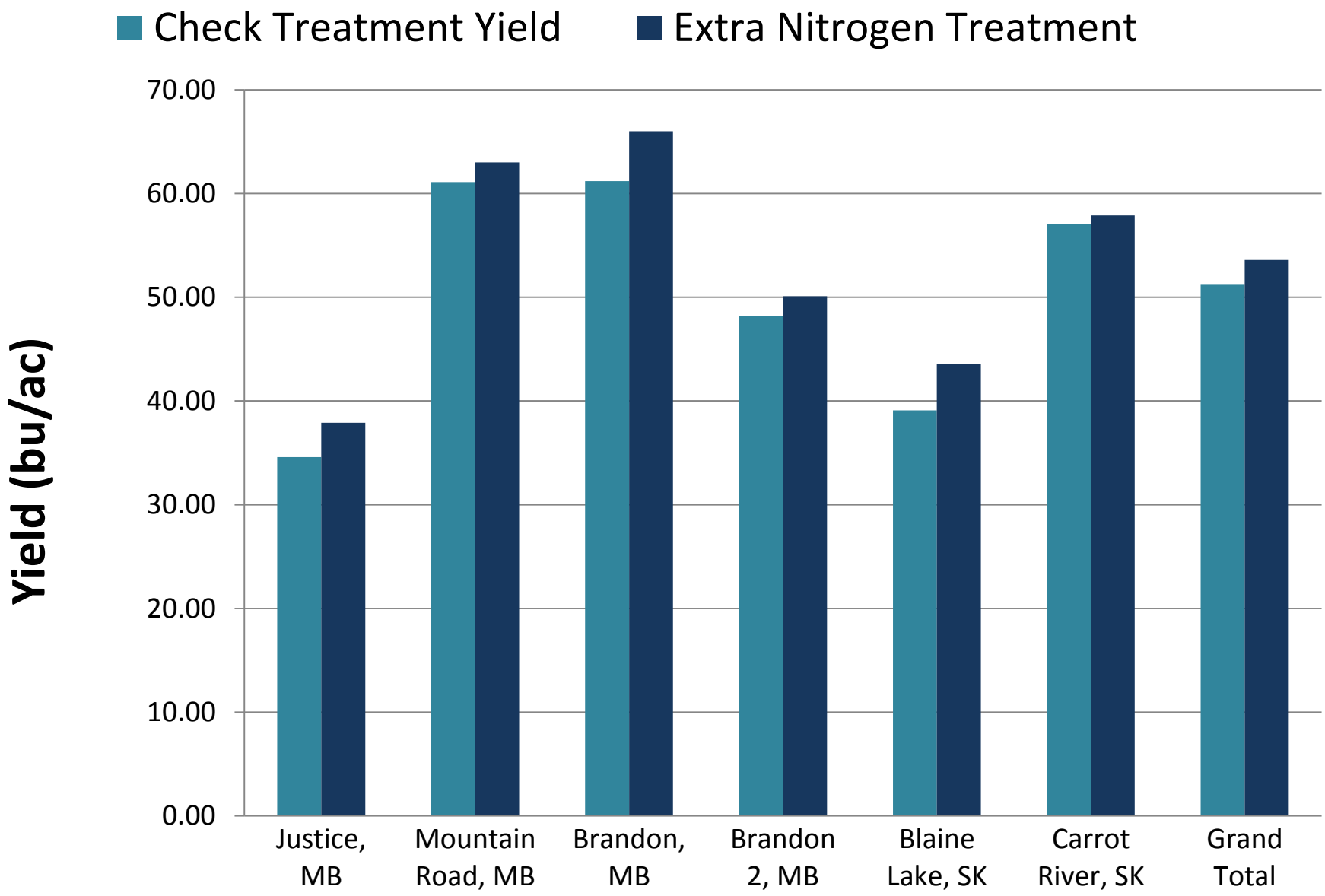
# 2016 Ultimate Canola Challenge Interim Results



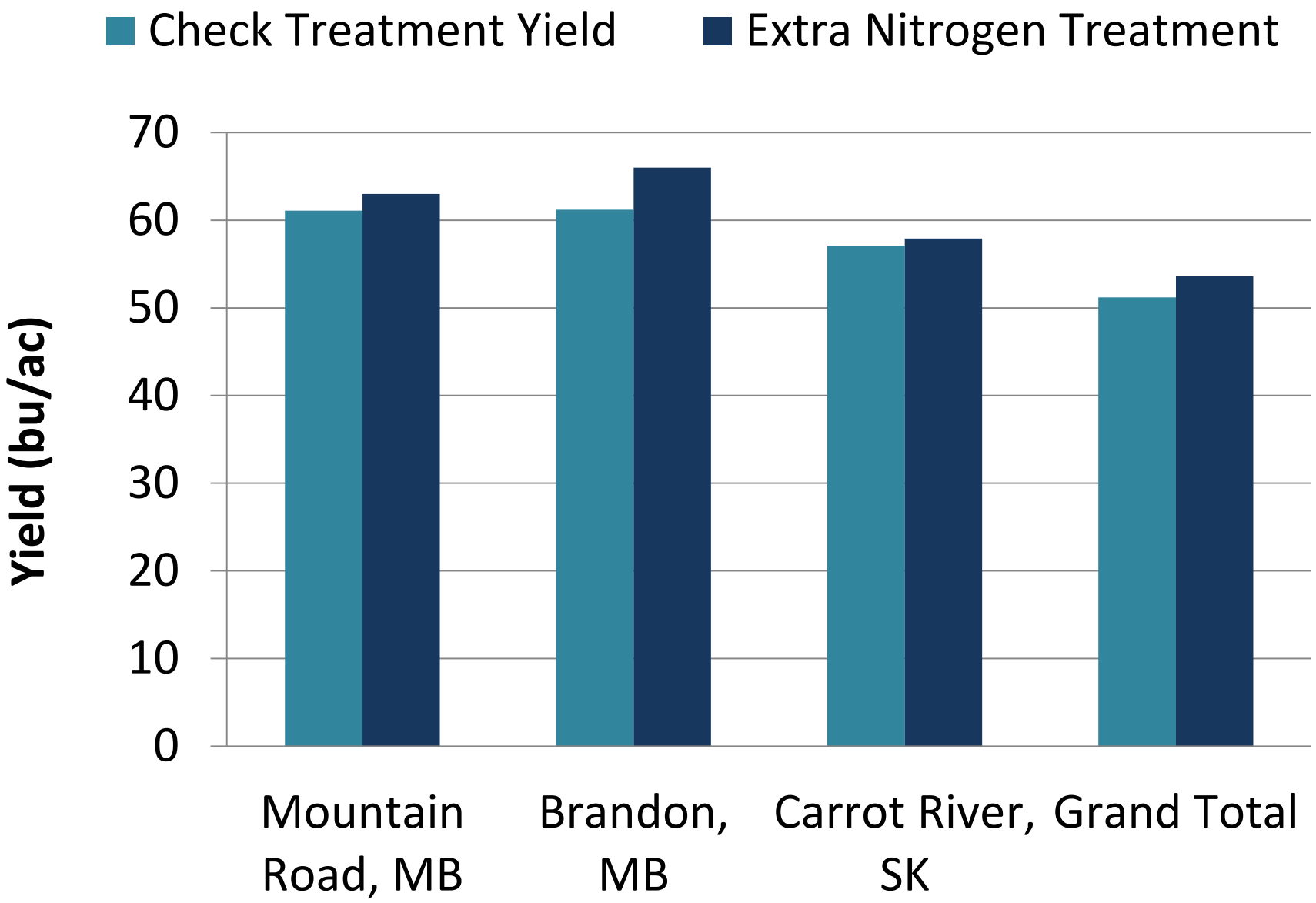

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Base Rate** | 163.90 | 200.00 | 142.46 | 115.00 | 70.00 | 90.00 | 130.23 |
| **Treatment Rate** | 204.90 | 250.00 | 178.22 | 144.00 | 87.50 | 112.50 | 162.85 |

# 2016 Ultimate Canola Challenge Interim Results




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **t test** | 0.24 | 0.04 | 0.00 | 0.57 | 0.18 | 0.04 | 0.00 |
| **Statiscially Significant?** | NS | * | ** or * | NS | NS | * | *** |

# 2016 Ultimate Canola Challenge Interim Results



# 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

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# 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
  - Protocols and data collection sheets available here: http://www.canolacouncil.org/crop-production/ultimate-canola-challenge/\
- **Want to participate? Let me know!**

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philpn@canolacouncil.org

306-551-4597

@PHILPCCC

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