Ultimate Canola Challenge

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Boron in Canola

- Boron fertilization of canola has not consistently improved seed yield, kernel weight, protein or oil content
- Where boron deficiency does occur in western Canada, it probably is in small field patches
- Soil organic matter is the primary source of B in western Canadian soils

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Boron in Canola

- Boron is one of the essential micronutrients for plant production and canola has higher boron (B) requirements than wheat or barley

- Of the known micronutrient deficiencies, boron deficiency is the most widespread globally
  - Rare in western Canada

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Boron Deficiency

- Boron deficiency is more likely to occur in:
  - Sandy soils with low organic matter
  - High pH soils (8.0 or higher)
  - Drought
  - Saturated fields. Under high rainfall conditions B can be leached in sandy textured soils
  - Fields with high levels of calcium and potassium.

Boron Deficiency

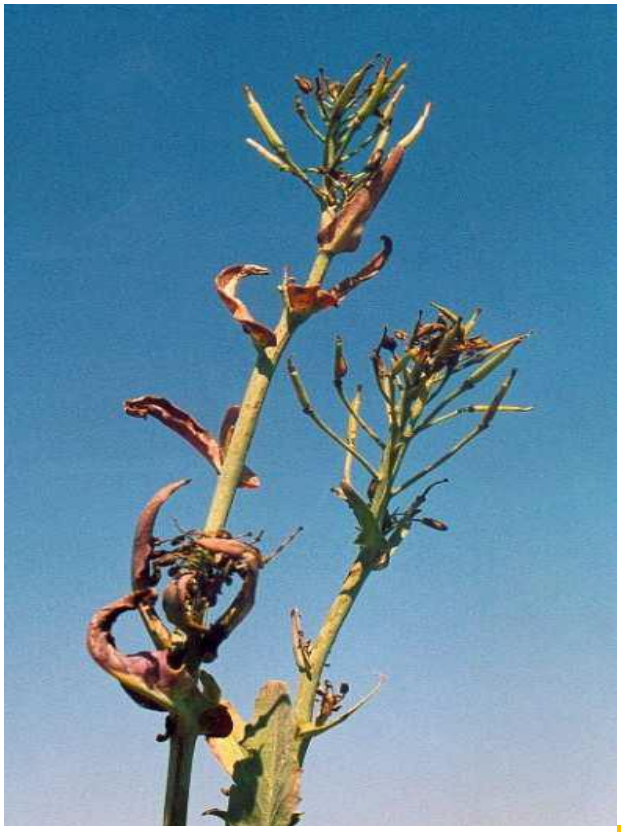
Pre-bolting

Reddened cupped leaves

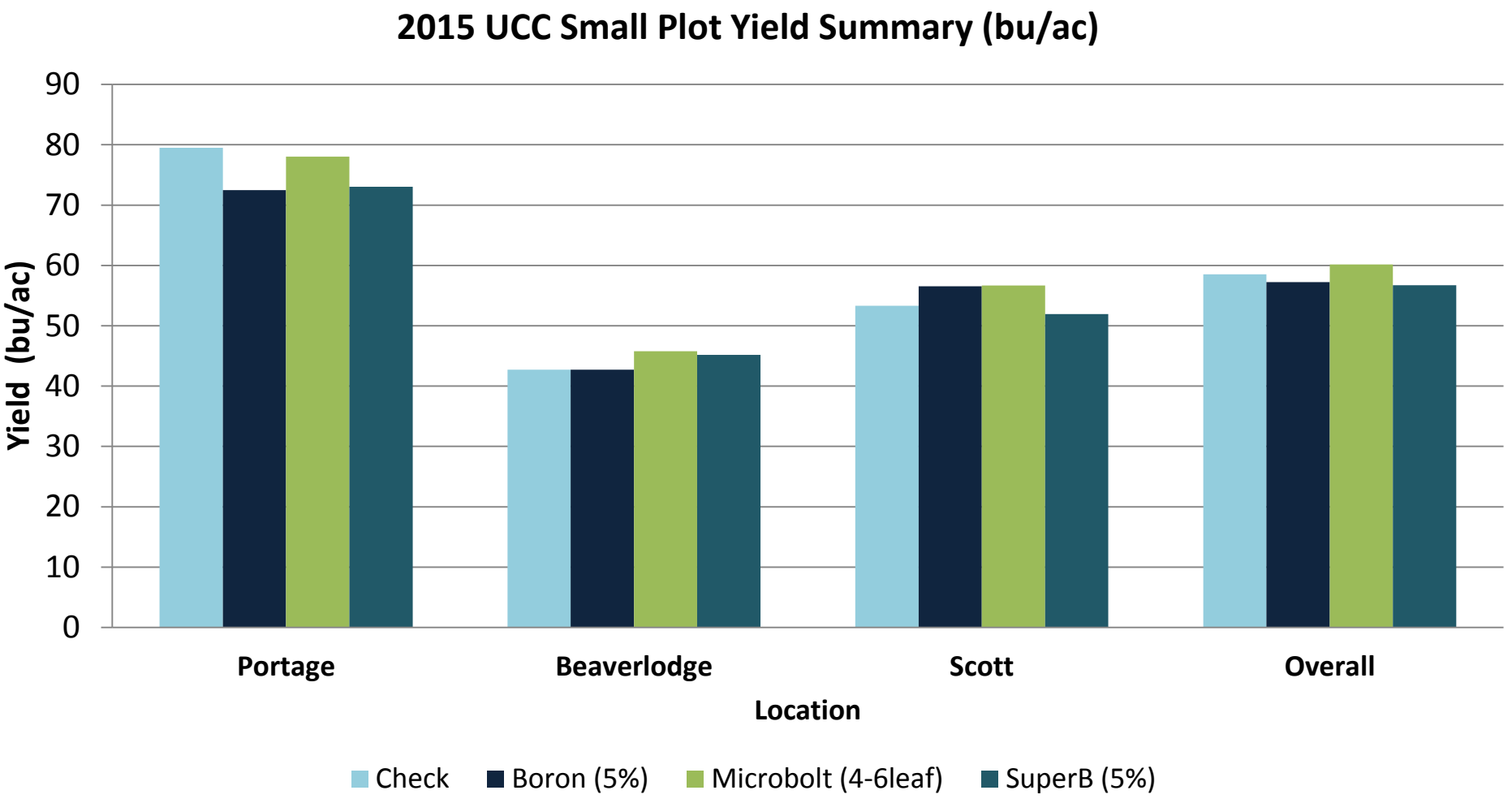
Late flowering to Early podding

Reddened pods
Pale deformed flowers

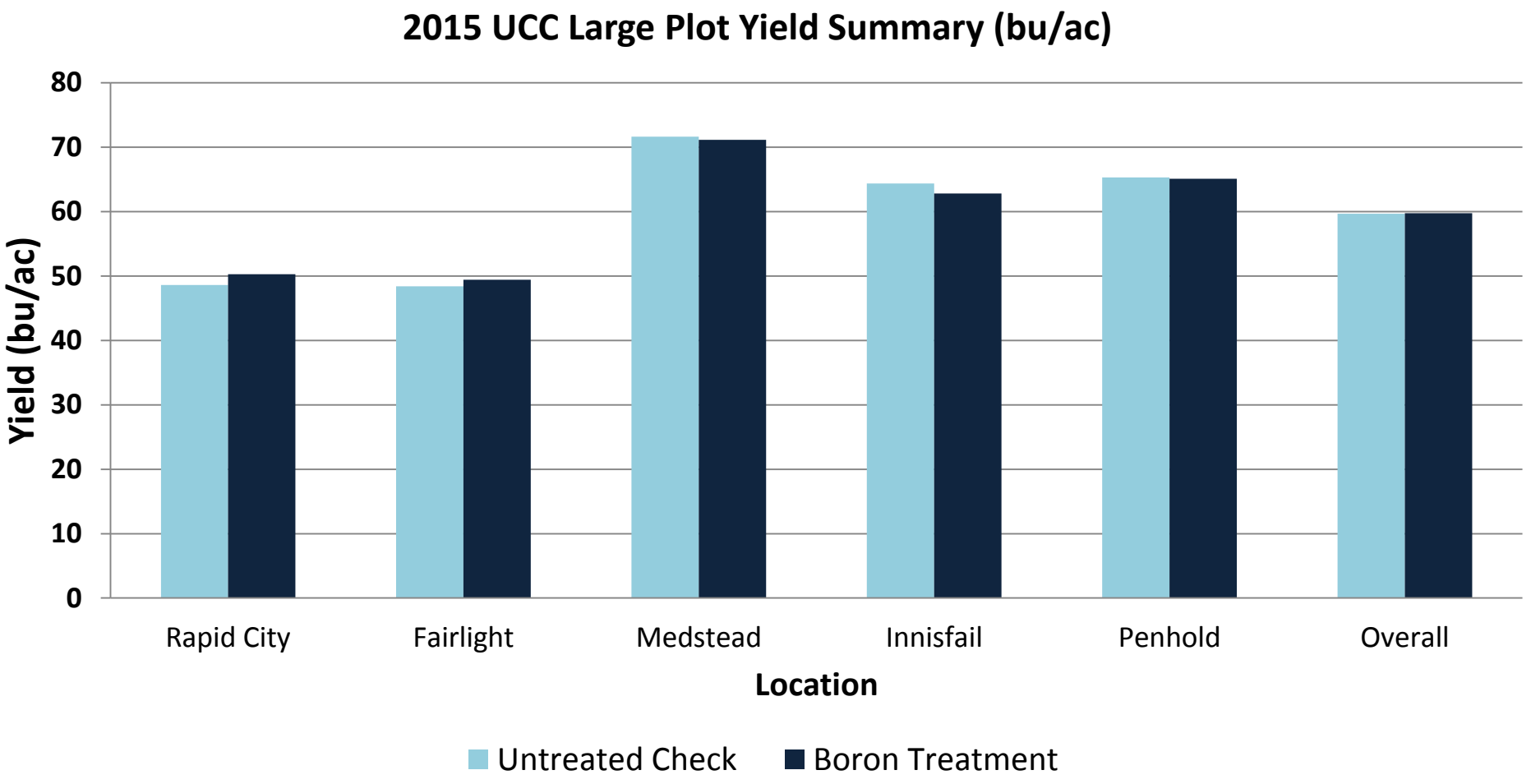
Later podding



Aborted pods
Poorly developed pods
Dead terminal buds



Trial Location	Soil Texture	Soil Organic Matter	Soil Boron Levels	Soil pH
Portage	Loam	3.5	1.2 ppm	7.9
Beaverlodge	Clay Loam	4.5	0.8 ppm	5.6
Scott	Loam		1.5 ppm	5.6



Trial Location	Soil Texture	Soil Organic Matter	Soil Boron Levels	Soil pH
Rapid City	Loam/Clay Loam	5.0	0.7 ppm	7.5
Fairlight	Sandy Loam	5.4	1.4 ppm	7.6
Medstead	Clay Loam	3.6	0.2 ppm	5.3

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2015 UCC Conclusions

- No significant or statistical yield difference between untreated checks and boron treatments in small or large plot trials

- Three years of small plot boron trials do not show any consistent, significant or statistical differences in canola yield or quality

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