



# Managing Stripe Rust In Winter Wheat In Western Canada

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# Outline



- Winter wheat
- Stripe rust
- Disease control
- Objectives
- Results
- Conclusions



# Winter Wheat



- Higher yield potential than spring wheat (15 to 40%)
- Reduced herbicide use
- Workload evenly distributed
- Less disturbance to wildlife



Credit: Sharon Drummond

# Stripe Rust

*Puccinia striiformis* f. sp. *tritici* Eriks

- Yellow-stripes along the leaf blades
- Favoured by cool conditions and high moisture
- Can be dispersed by wind over long distances
- Can reduce yield up to 35%



Credit: Kim Findlay

# Disease Control



- Agronomic practices
  - Plant spacing
  - Eradication of alternate host
- Cultivars
  - Resistant or moderately resistant
- Fungicides





# Objectives

Use of fungicide and fungicide timing to control stripe rust on four cultivars of winter wheat, assess cultivar resistance



# Methodology



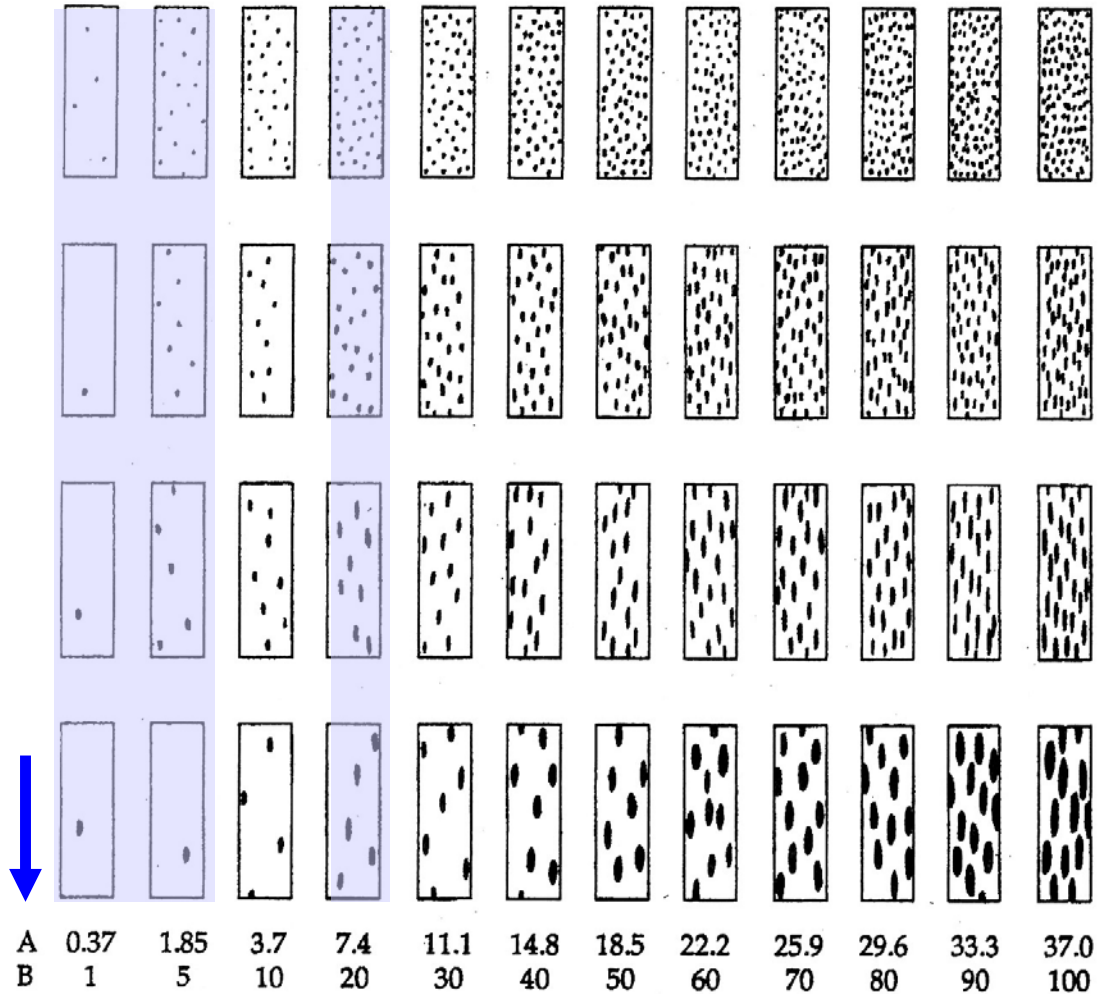
- Location and year: Saskatoon 2014
- Cultivars:
  - Osprey, Bellatrix (S)
  - Moats, Radiant (R)
- Fungicide: metconazole and pyraclostrobin ( 40 g and 65 g a.i/ha)
- Treatments:
  - Check
  - Fall
  - Spring
  - Both

# Rust Severity Assessment Key

**A= actual amount of tissue occupied by pustules (Cobb scale)**

**B= equivalent damage to leaf (Modified Cobb)**

**\* If A=18.5% area occupied by pustules, this is equivalent to B=50% damage to the leaf**

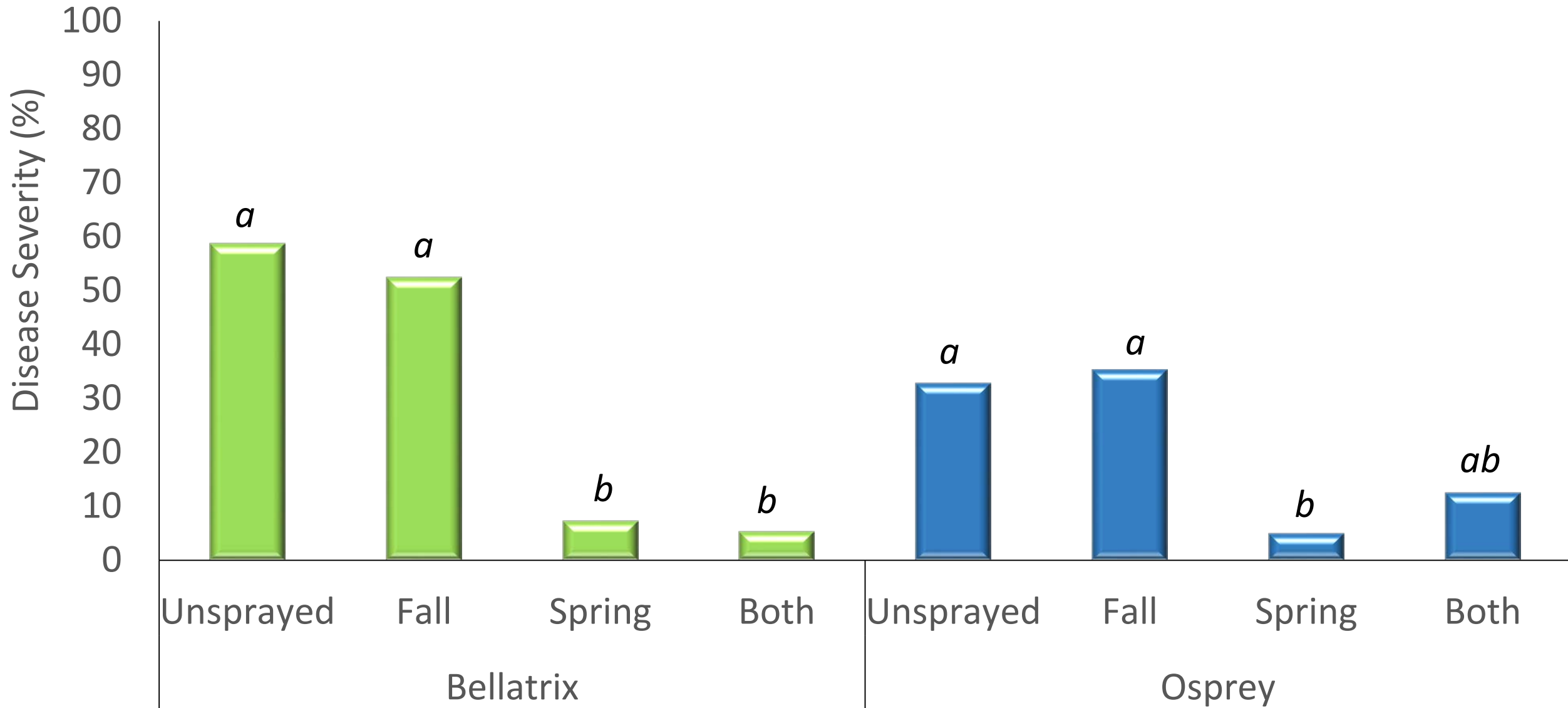


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# Stripe Rust at Saskatoon in 2014

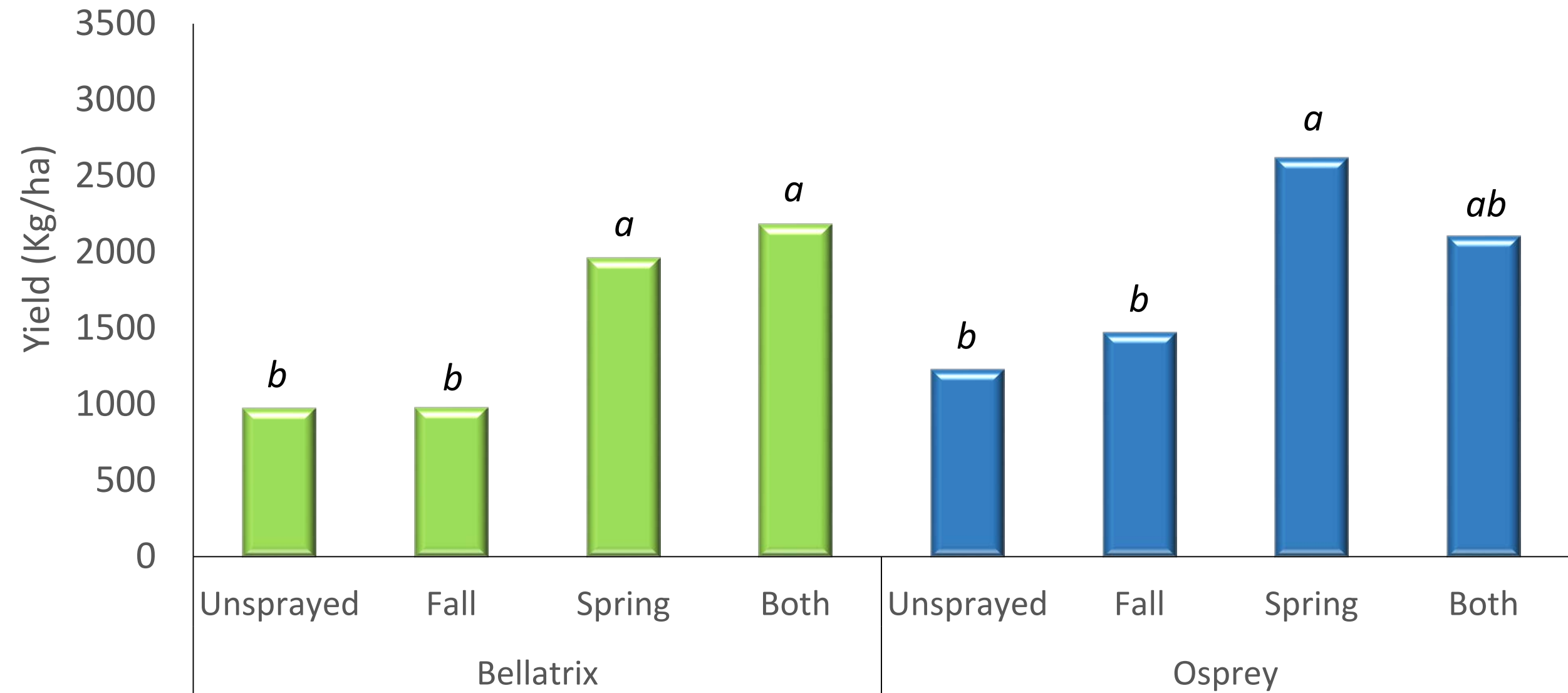
## Susceptible cultivars





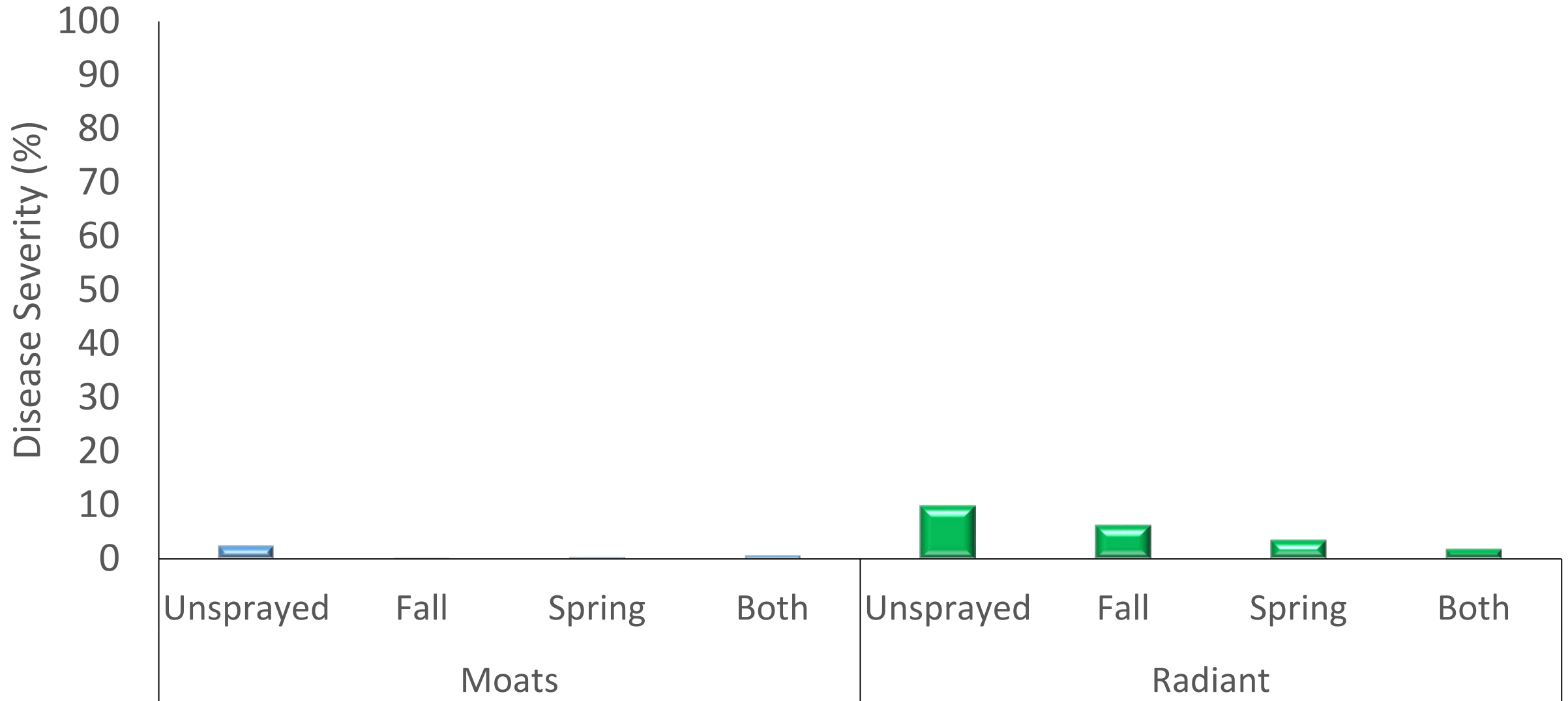
# Yield at Saskatoon 2014

## Susceptible cultivars



# Stripe Rust at Saskatoon in 2014

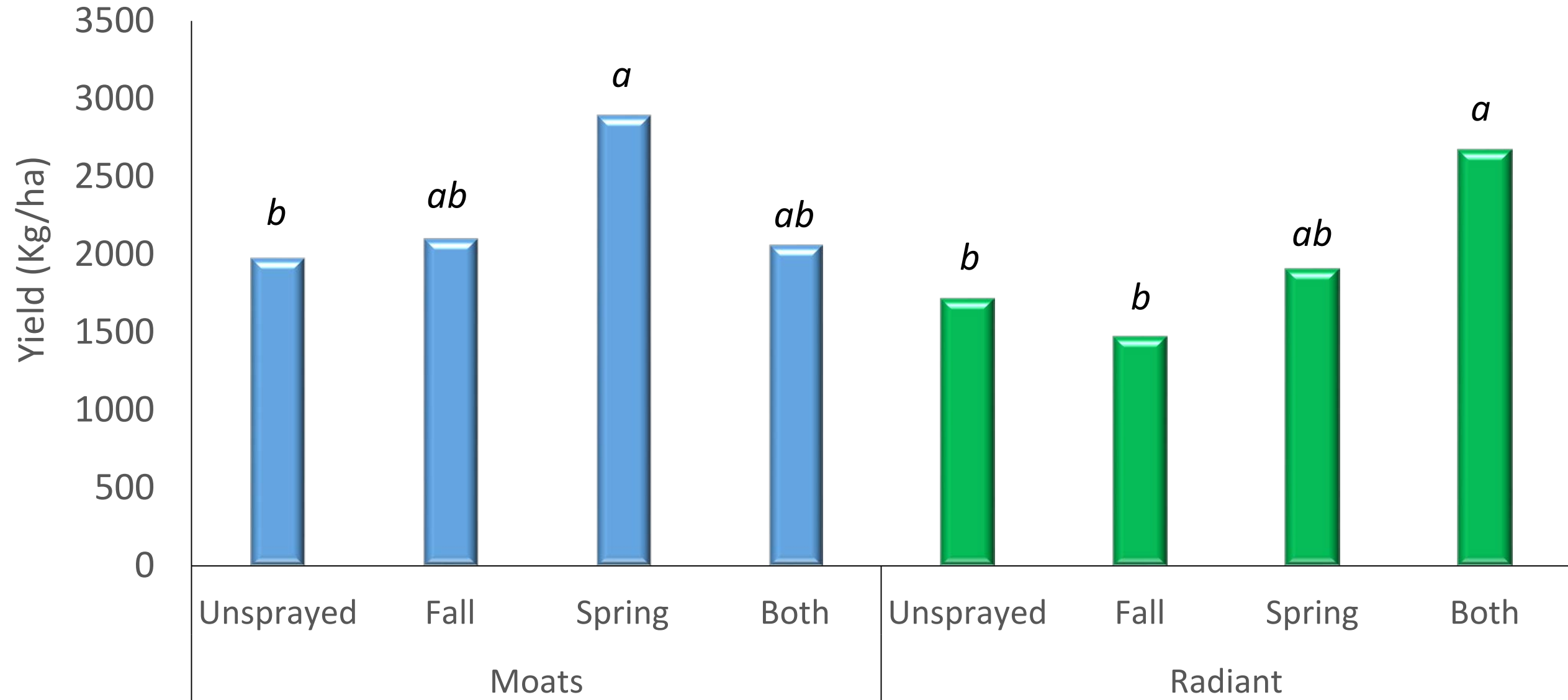
## Resistant cultivars



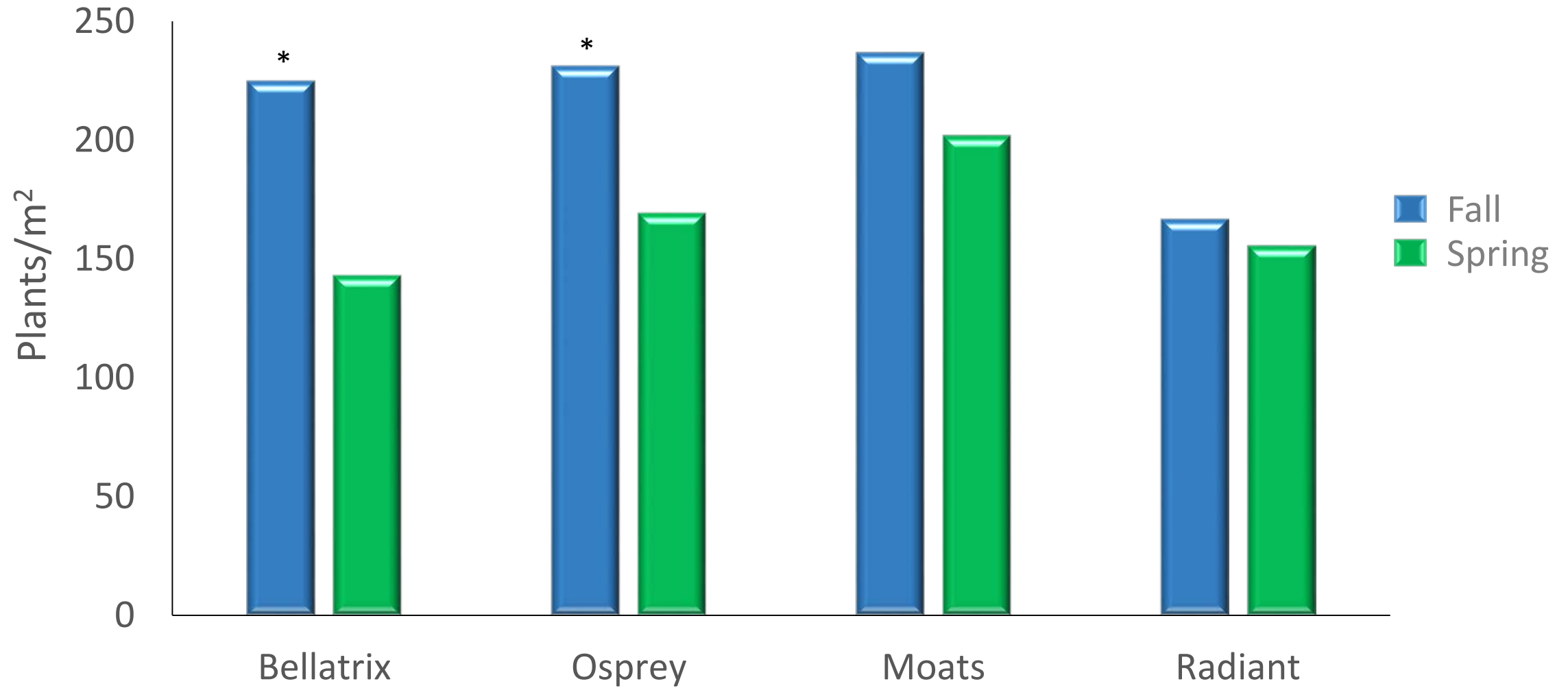


# Yield at Saskatoon 2014

## Resistant cultivars



## Emergence counts



# Conclusions



- Bellatrix and Osprey are the most susceptible cv to stripe rust and yield is affected
- Spring time is the most effective to control stripe rust on winter wheat
- Resistant cultivars can yield as much as susceptible cultivars with fungicide treatment

# Acknowledgments

- Cereal and flax pathology lab
- Summer students



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# Questions?

