



2011 Early Season Foliar Fungicide Timing Trial on Corn

South Central Ag Lab
Clay Center, NE

Tamra Jackson
Extension Plant Pathologist
University of Nebraska - Lincoln

2011 Diseases

Gray leaf spot was the predominant foliar disease during the growing season at this location. Gray leaf spot severity levels were very low (< 1.8%) and reached the ear leaf by early August.



2011 Diseases

Common rust was the foliar disease first observed in this trial & was initially seen in early July. Disease severity was very low at this location (<0.5%) due likely in part to the hybrid used having an “excellent” rating.



2011 Diseases

Southern rust was present and was first identified in this trial on August 24th. This disease was observed in trace amounts (<0.15%).



2011 Diseases

Eyespot, common smut, holcus spot and Physoderma brown spot were also present in this trial, but at very low incidence and severity levels, thus not justifying ratings for these diseases at this location in 2011.



2011 Foliar Fungicide Trials



2005-2006

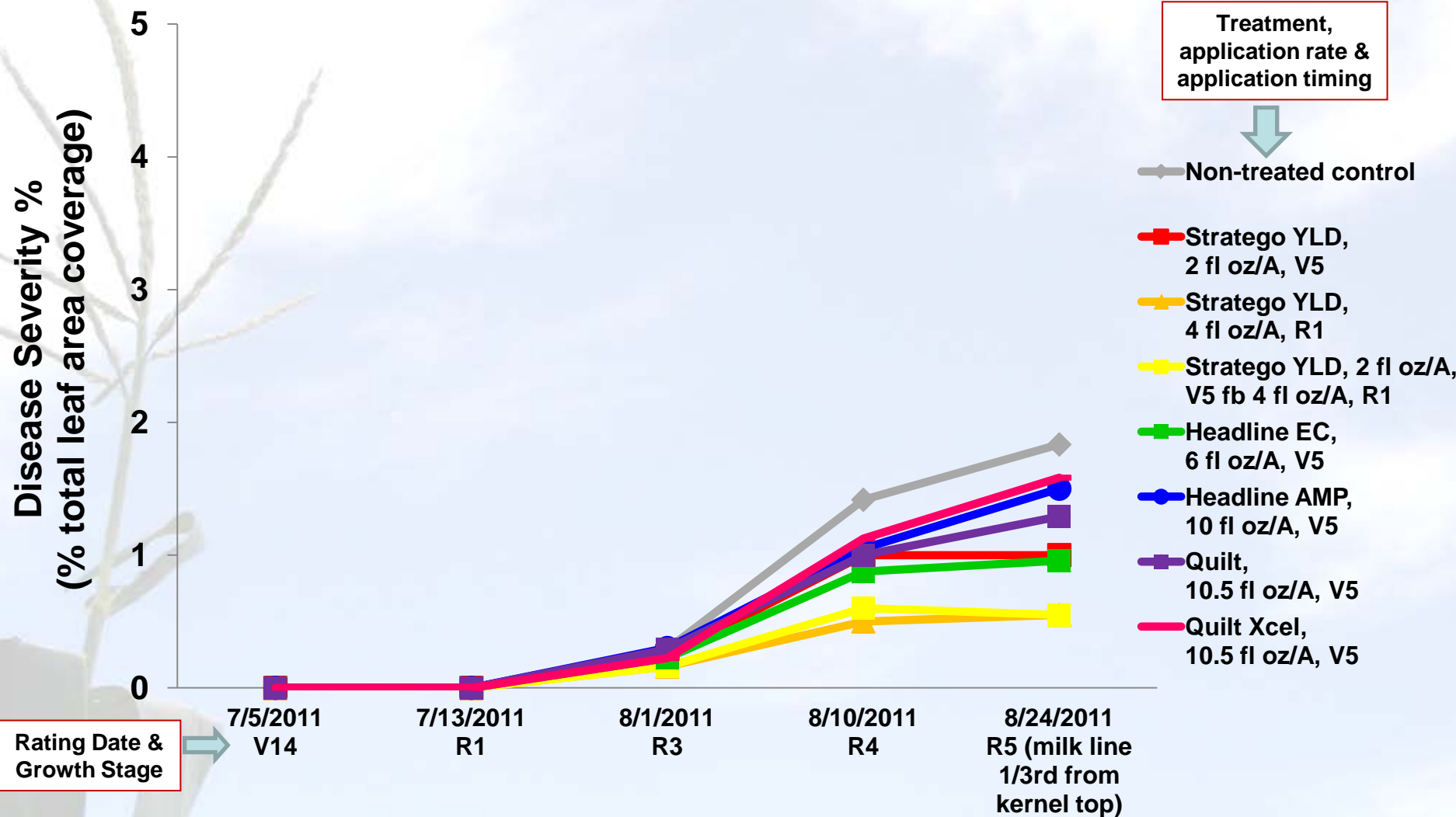


South Central Ag Lab, Clay Center, NE

- High clearance sprayer used
- Previous year's crop was soybean
- Corn hybrid: DKC 62-54 (GLS rating 6/9, "good" & CR rating 2/9, "excellent")
- Planting date: 5/3/11
- Target plant population of 32,000 plants/A
- Seven foliar fungicide treatments plus a non-treated control
 - NIS added at 0.25% v/v
- Alley width & row spacing = 30 inches
- Overhead sprinkler irrigated
- 6 reps, 20 gpa at 40 psi

2011 Early Season Fungicide Timing Trial in NE

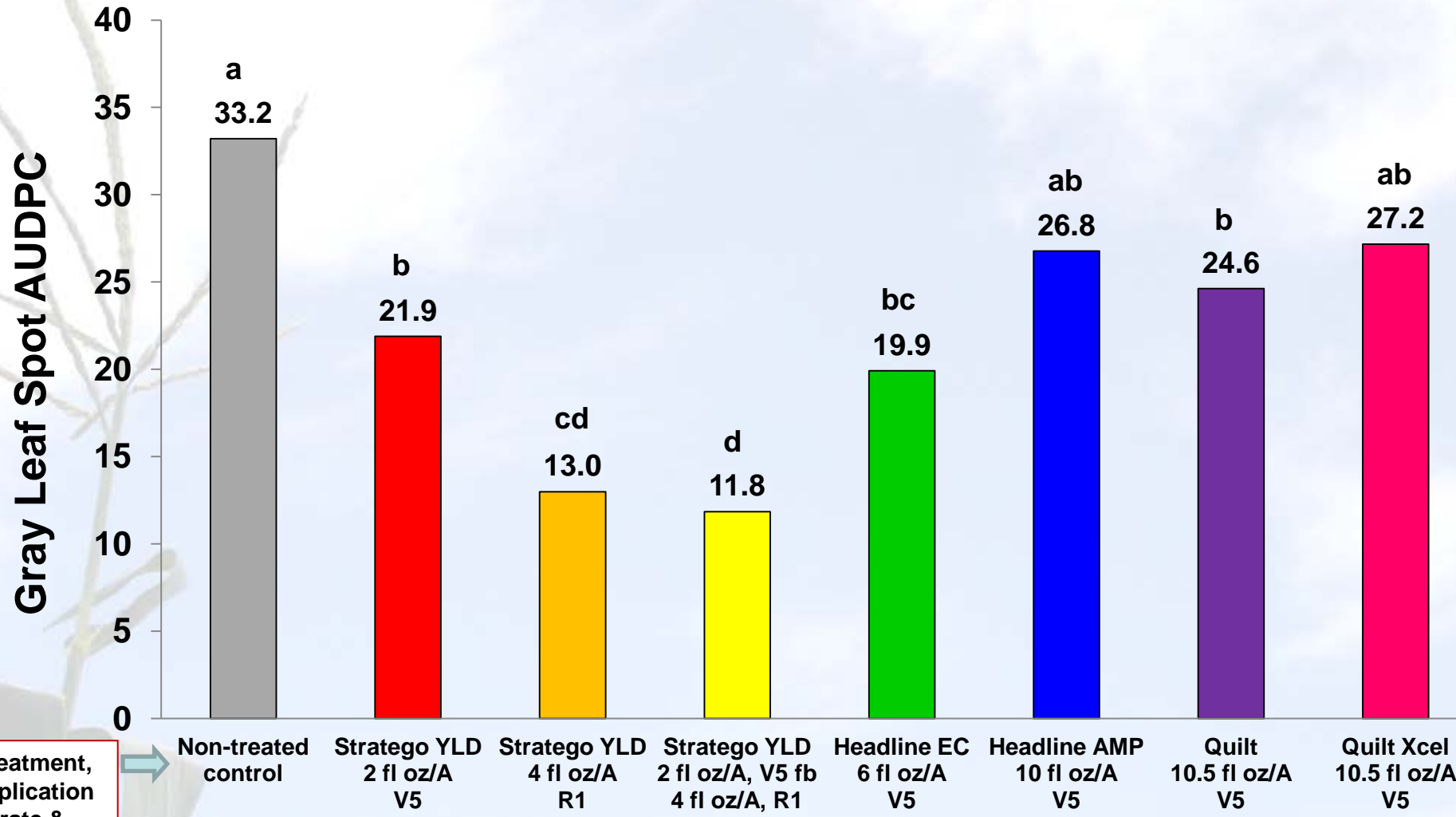
Gray leaf spot disease severity (%)



* NIS added to each treatment application at 0.25% v/v.

2011 Early Season Fungicide Timing Trial in NE

Area Under the Disease Progress Curve (AUDPC) for gray leaf spot



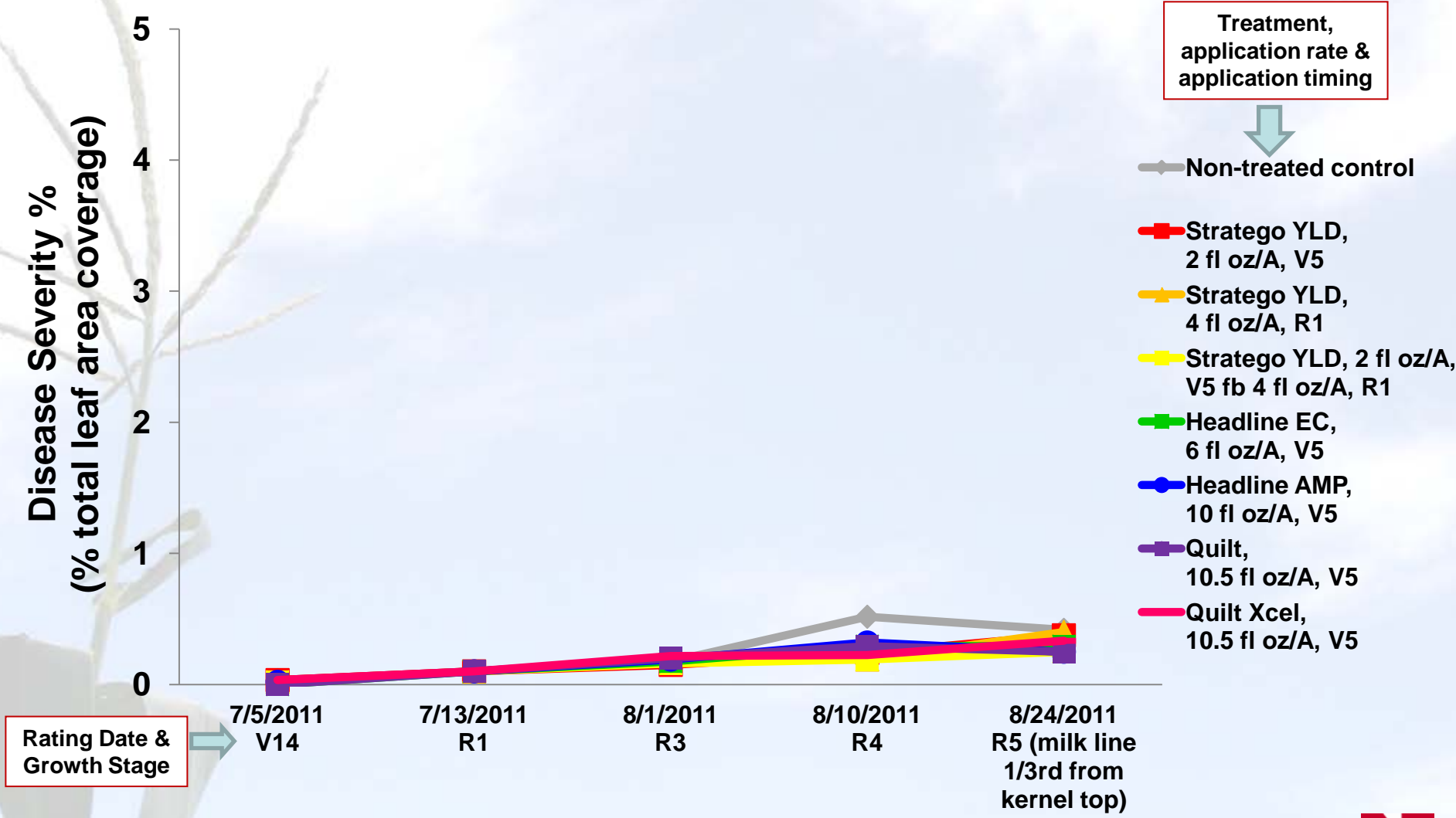
Treatment, application rate & application timing

* NIS added to each treatment application at 0.25% v/v.

* Treatments with different letters are statistically different. Coefficient of variation is 29.1%.

2011 Early Season Fungicide Timing Trial in NE

Common rust disease severity (%)

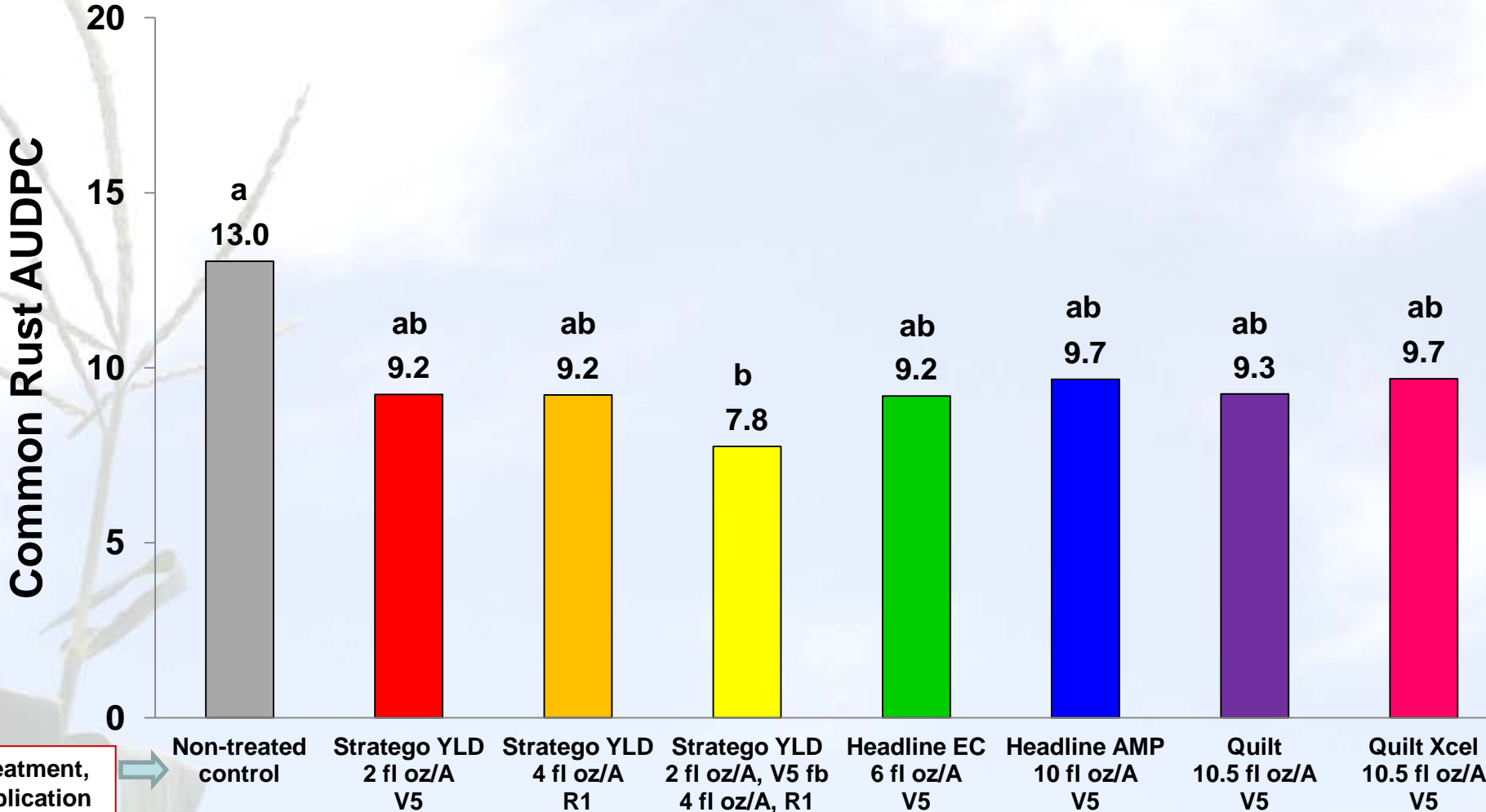


Rating Date & Growth Stage

* NIS added to each treatment application at 0.25% v/v.

2011 Early Season Fungicide Timing Trial in NE

Area Under the Disease Progress Curve (AUDPC) for common rust



Treatment, application rate & application timing

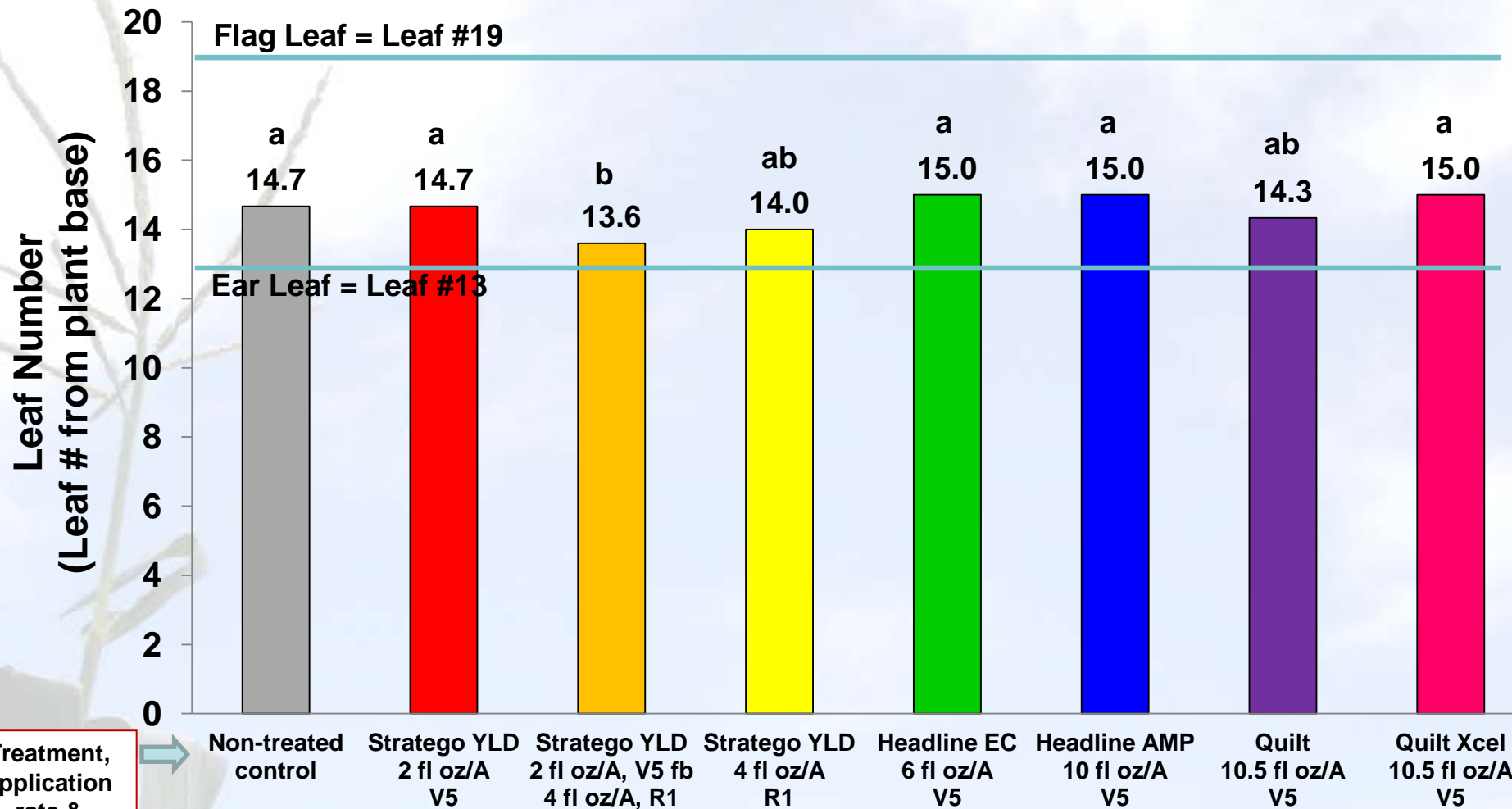
* NIS added to each treatment application at 0.25% v/v.

* Treatments with different letters are statistically different. Coefficient of variation is 26.9%.



2011 Early Season Fungicide Timing Trial in NE

Gray leaf spot progression up the plant (Ear leaf = Leaf #13, Flag leaf = Leaf #19)
 August 10th, 2011 rating date (kernel dough stage, R4)



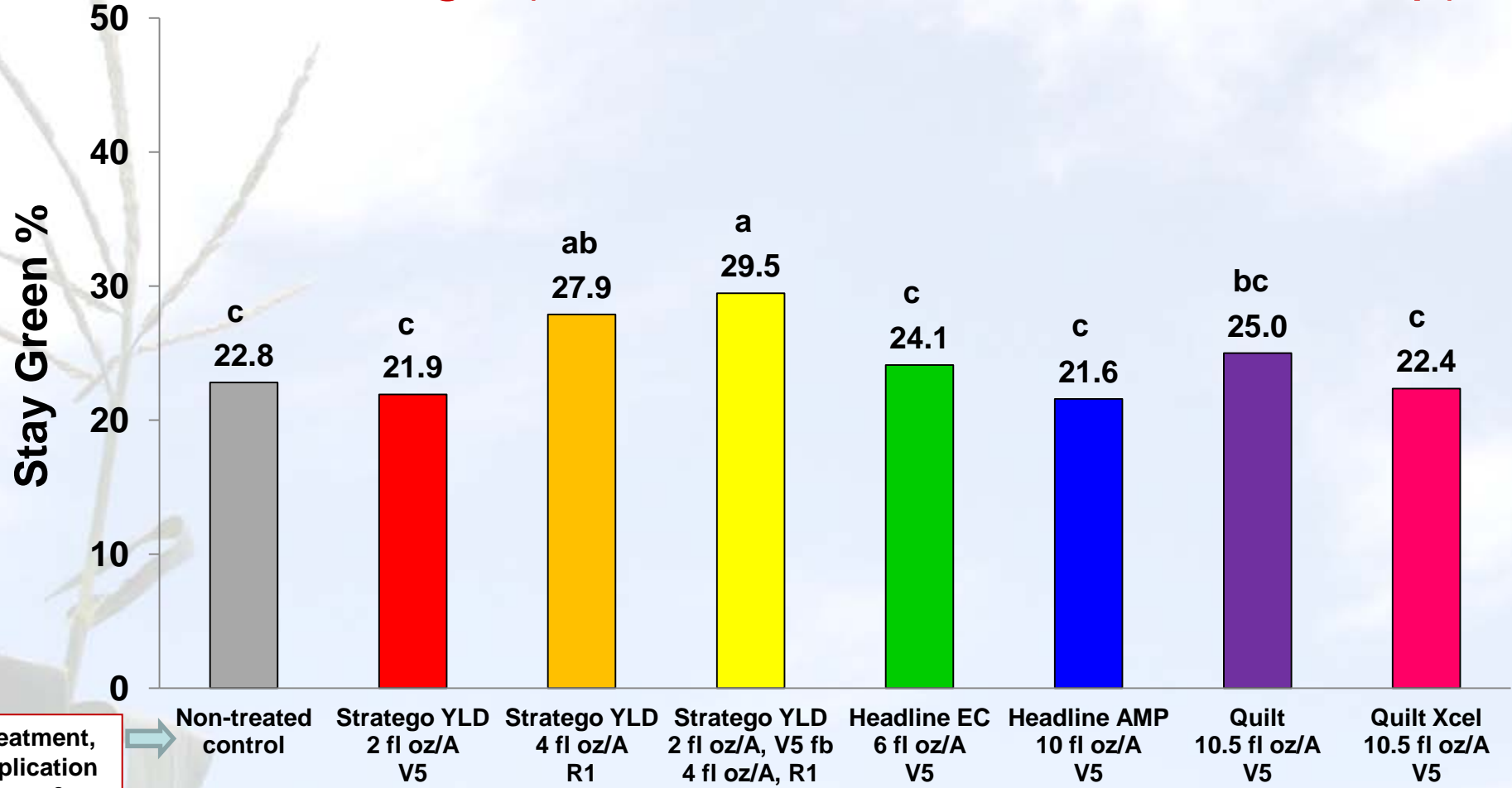
Treatment, application rate & application timing

* NIS added to each treatment application at 0.25% v/v.

* Treatments with different letters are statistically different. Coefficient of variation is 4.8%.

2011 Early Season Fungicide Timing Trial in NE

Stay green % assessed on September 19th, 2011
Kernel dent stage (R5, milk line 2/3rd from kernel top)



Treatment, application rate & application timing

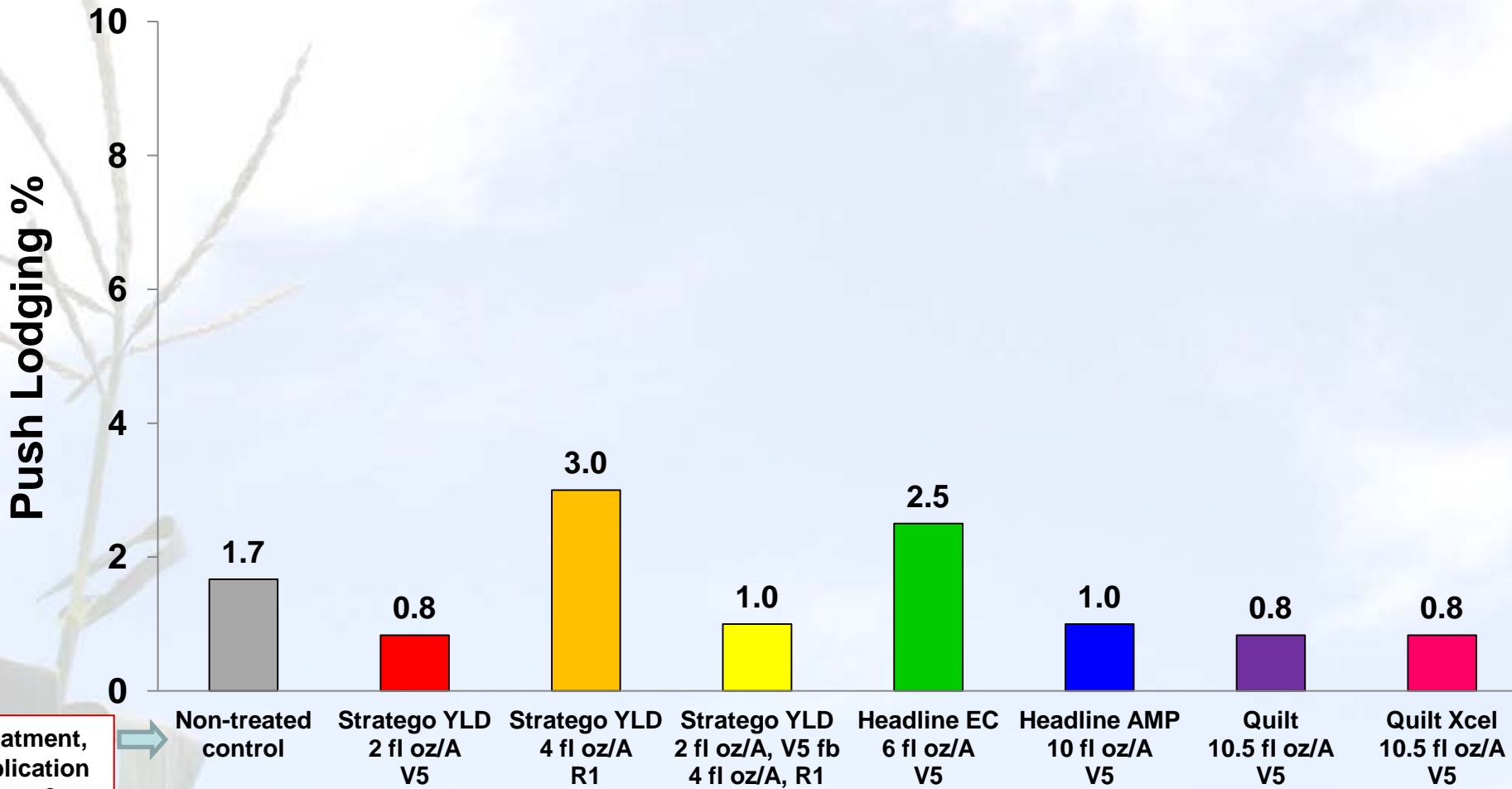
* NIS added to each treatment application at 0.25% v/v.

* Treatments with different letters are statistically different. Coefficient of variation is 11.7%.

2011 Early Season Fungicide Timing Trial in NE

Push lodging % assessed on October 7th, 2011

Physiological maturity stage (R6)



Treatment, application rate & application timing

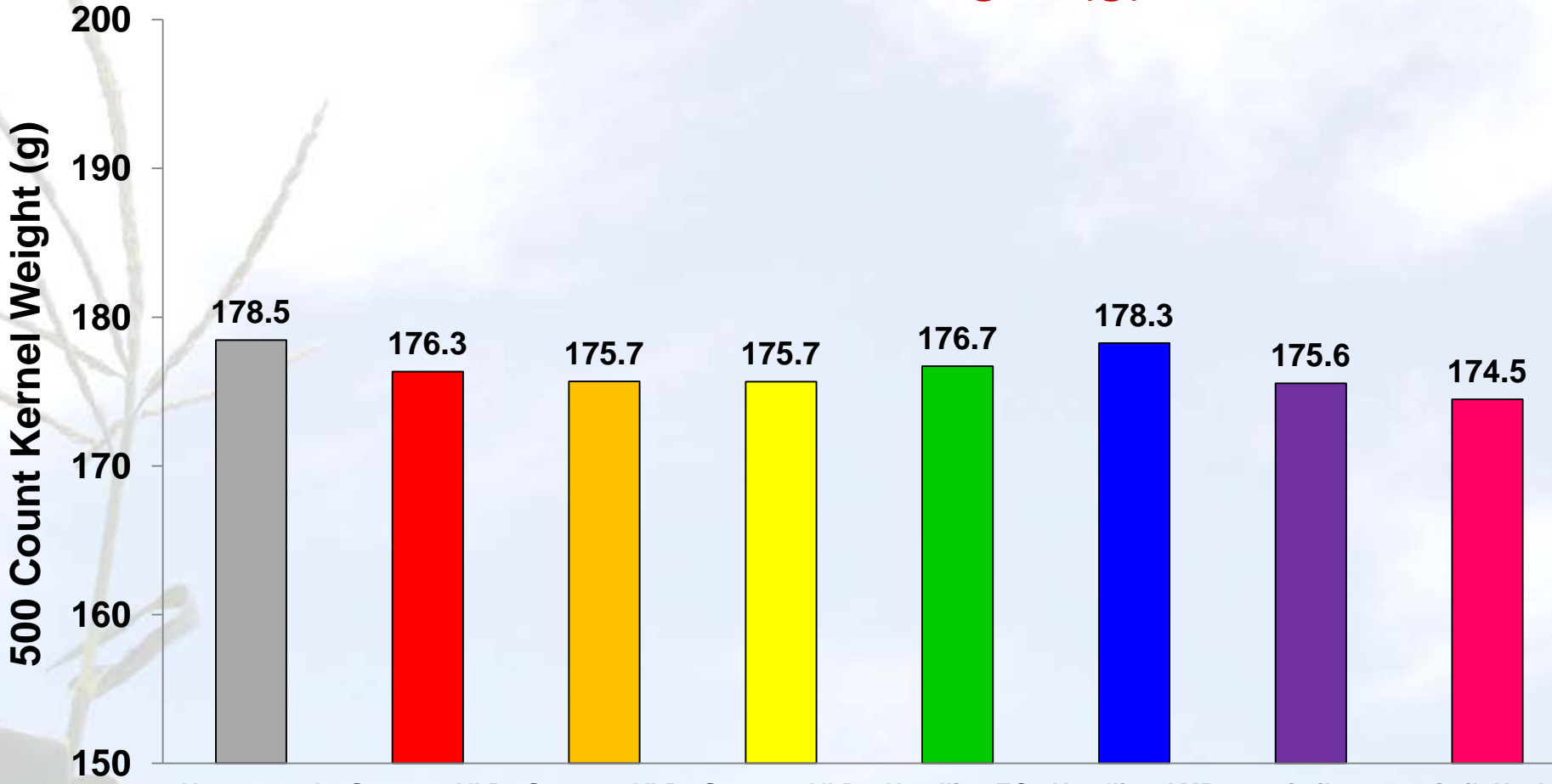
* NIS added to each treatment application at 0.25% v/v.

* Assessment defined as the percentage of 20 stalks lodged below the ear node and do not return to a standing position after being pushed to arms length. No statistical differences

between treatments. Coefficient of variation is 161.4%.

2011 Early Season Fungicide Timing Trial in NE

500 count kernel weight (g)



Treatment, application rate & application timing

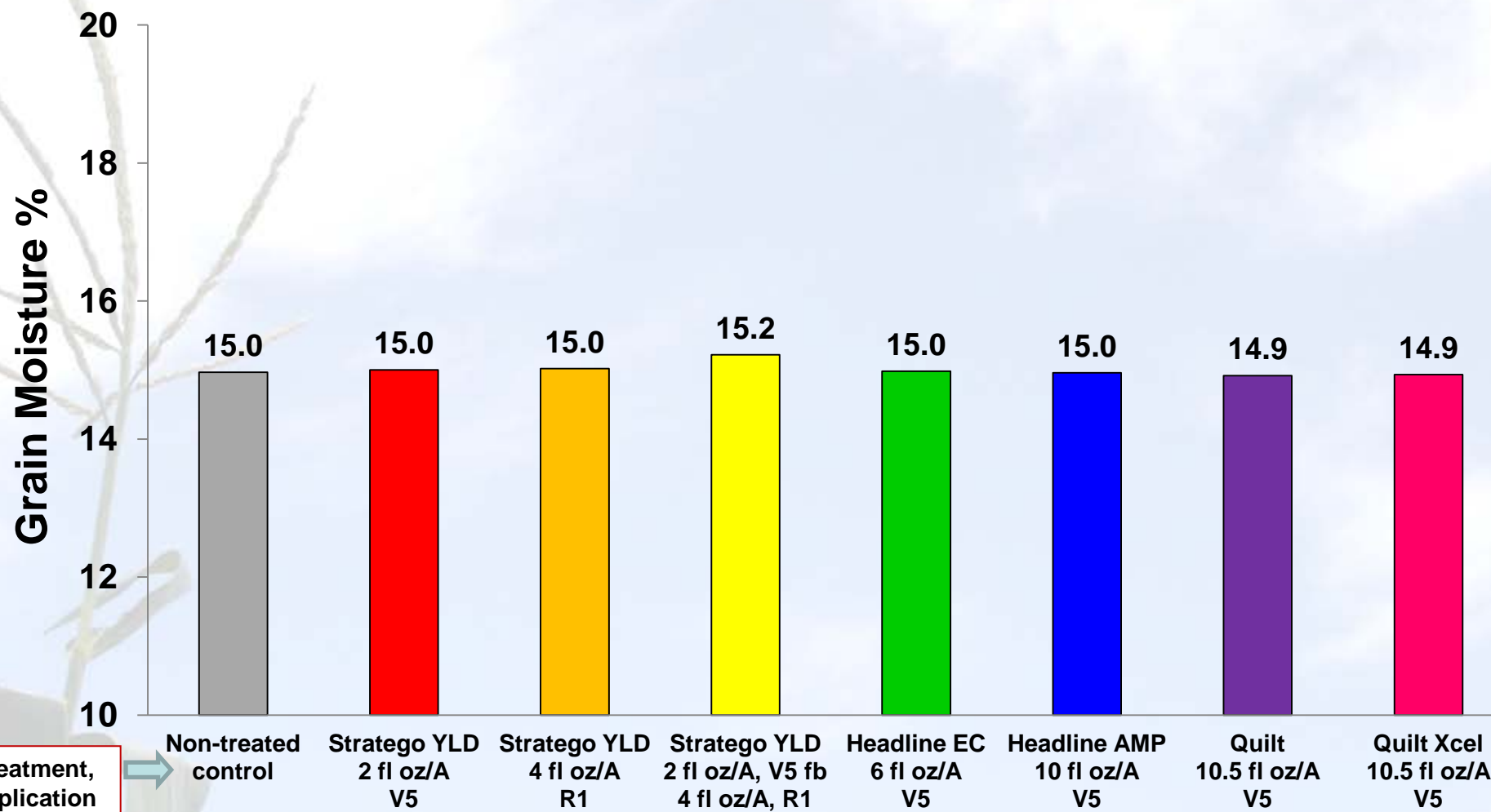
Non-treated control Stratego YLD 2 fl oz/A V5 Stratego YLD 4 fl oz/A R1 Stratego YLD 2 fl oz/A, V5 fb 4 fl oz/A, R1 Headline EC 6 fl oz/A V5 Headline AMP 10 fl oz/A V5 Quilt 10.5 fl oz/A V5 Quilt Xcel 10.5 fl oz/A V5

* NIS added to each treatment application at 0.25% v/v.

* No statistical differences between treatments. Coefficient of variation is 2.6%.

2011 Early Season Fungicide Timing Trial in NE

Grain moisture % at harvest on October 20th, 2011



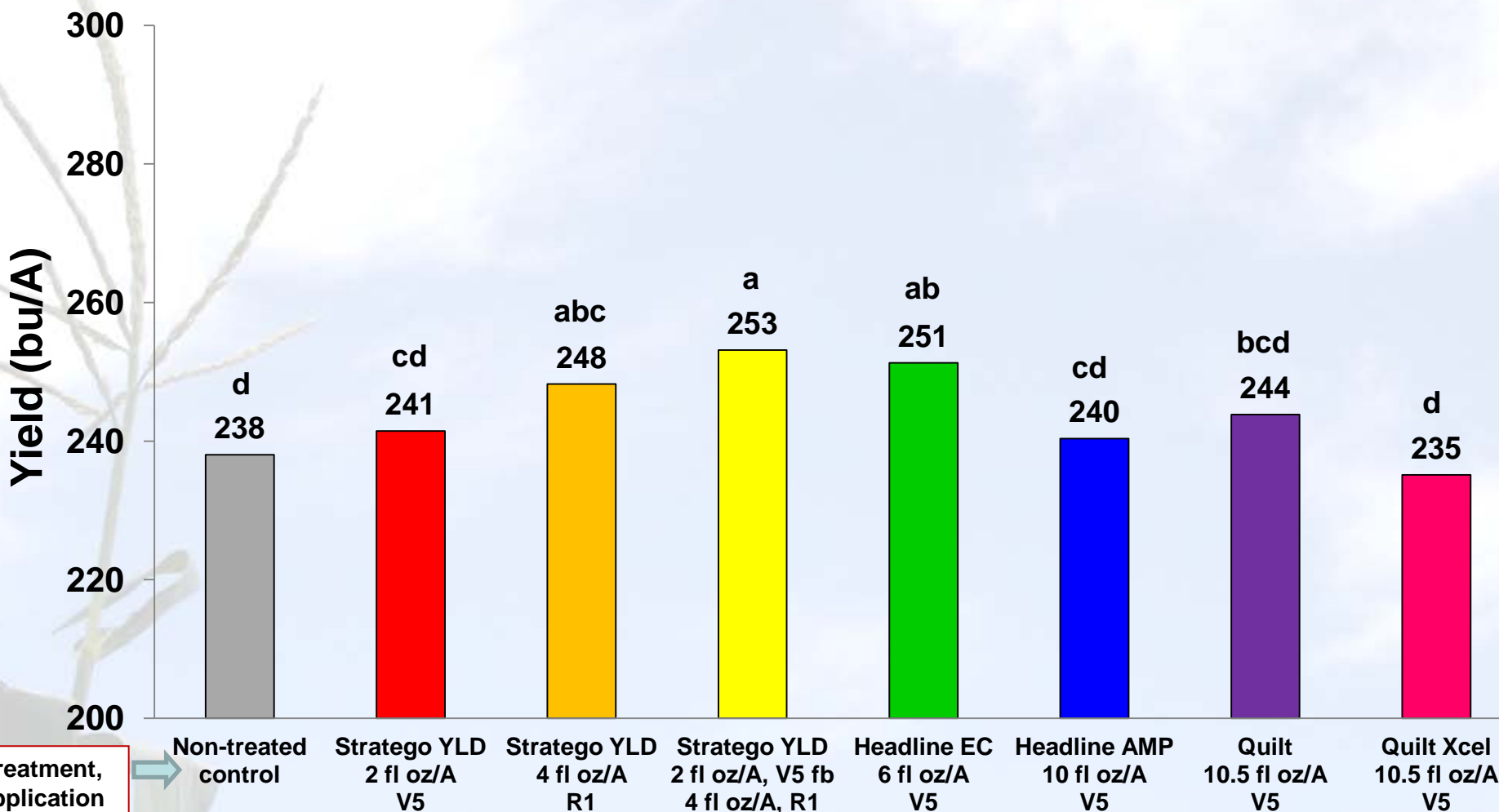
Treatment, application rate & application timing

* NIS added to each treatment application at 0.25% v/v.

* No statistical differences between treatments. Coefficient of variation is 2.4%.

2011 Early Season Fungicide Timing Trial in NE

Yield (bu/A) on October 20th, 2011



Treatment, application rate & application timing

* NIS added to each treatment application at 0.25% v/v.

* Treatments with different letters are statistically different. Coefficient of variation is 3.0%.

Acknowledgments

- Casey Schleicher, Technologist
- Jae Behn, Technologist
- Kim Miller, Technician
- UNL South Central Ag Lab (SCAL) Staff
- UNL Student Workers

UNIVERSITY OF
Nebraska |
Lincoln | EXTENSION

Department of Plant Pathology
University of Nebraska-Lincoln
Institute of Agriculture and Natural Resources