

Updates in Wheat Disease Management

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Fusarium head blight (FHB)

- Not a significant issue last 3 years
- New products available, more on the way
- Assessed overall performance of timings and products from 2018 - 2020



Rates for FHB suppression

- Some FHB fungicides (Caramba and Prosaro) allow rate flexibility
- Also flexibility in timing
- Are different rates more or less effective when applied at different times in the application window?

Methods

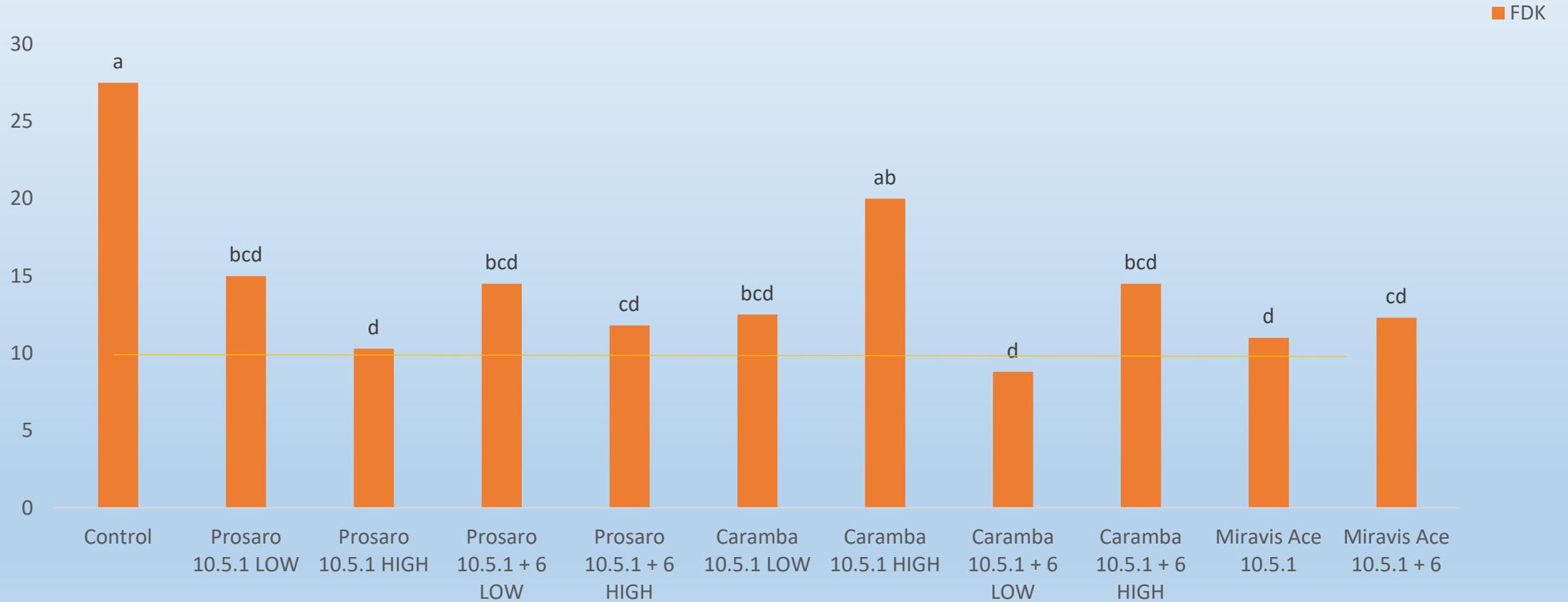
- Agrimaxx 480- 1.2 mil planted on 10 October, 2019
- Applications at 20 gpa on May 23 (FGS 10.5.1) and 29 May (FGS 10.5.1 + 6 days)
- Inoculated with grain spawn on 20 April. Misted nightly for 15 minutes from 20 May through FGS 11.
- Rated on June 12 for FHB severity
- Harvested July 17, grain subsamples for each plot used to assess Fusarium damaged kernels (FDK)

Treatments

Treatment	Rate	Timing
Control		
Prosaro	6.5	10.5.1
	8.2	10.5.1
	6.5	10.5.1 + 6
	8.2	10.5.1 + 6
Caramba	13.5	10.5.1
	17	10.5.1
	13.5	10.5.1 + 6
	17	10.5.1 + 6
Miravis Ace	13.7	10.5.1
	13.7	10.5.1 + 6

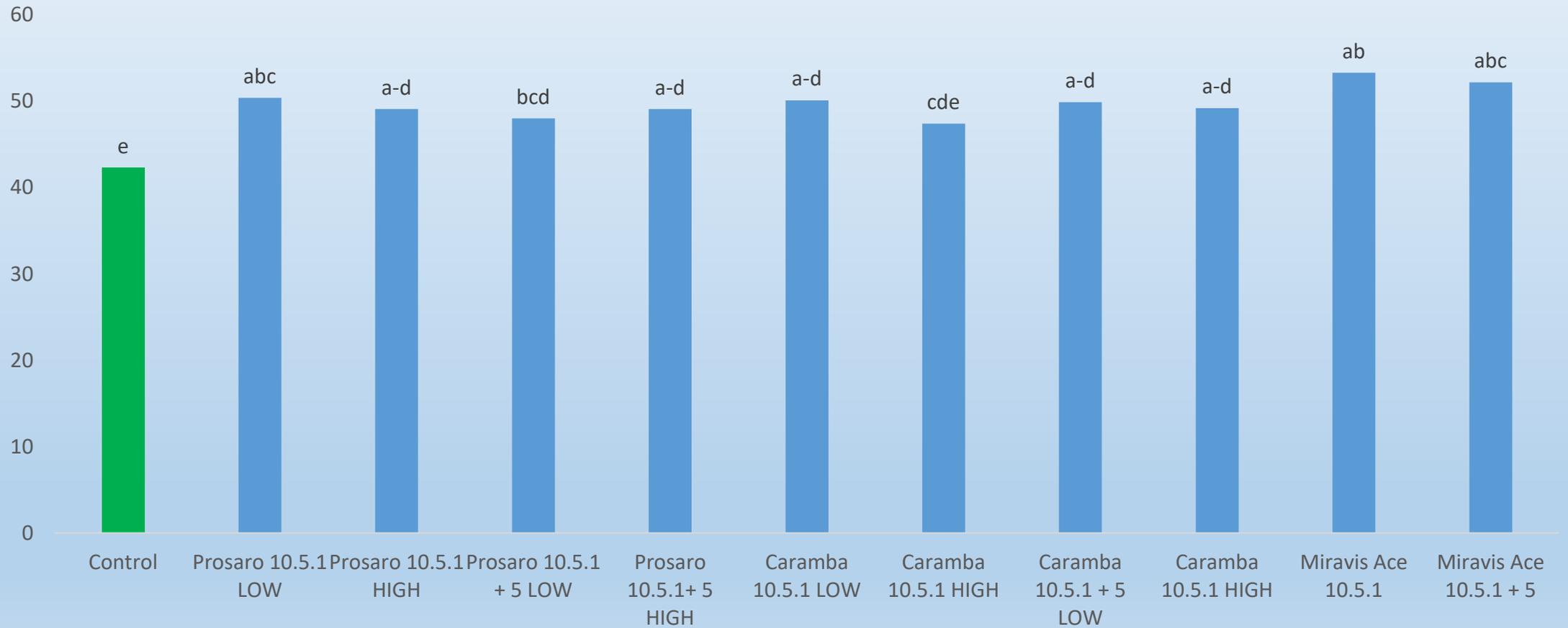
Rate effects on FHB - 2020

No rate impacts
on FHB



Rate effects on Yield 2020

No rate impacts on yield



Varieties and dates for 8 FHB trials

Year	Location	Variety	Planting Date	FKS 10.5	FKS 10.5.1	FKS 10.5.1 + 5 days	Harvest date
2018	Urbana, IL	LCS 2347, DynaGro 9223	10/2/2017	5/15/2018	5/18/2018	5/23/2018	6/28/2018
2018	Urbana, IL	Stone 31W04	10/2/2017	5/17/2018	5/21/2018	5/25/2018	6/28/2018
2019	Urbana, IL	Agrimax 475, Agrimax 446	10/4/2018	5/17/2019	5/23/2019	5/29/2019	7/3/2019
2019	Marion, IL	Agrimax 475, Agrimax 446	10/11/2018	5/1/2019	5/6/2019	5/10/2019	6/21/2019
2019	Urbana, IL	Agrimaxx 446	10/4/2019	5/20/2019	5/24/2019		7/3/2019
2020	Urbana, IL	Agrimaxx 475, Agrimaxx466	10/8/2019		5/23/2020	5/29/2020	7/7/2020
2020	Marion, IL	Agrimaxx 475, Agrimaxx 466	10/17/2019		5/7/2020	5/14/2020	6/24/2020
2020	Urbana, IL	Agrimaxx 480	10/10/2019	5/15/2020	5/23/2020	5/29/2020	7/7/2020

Methods

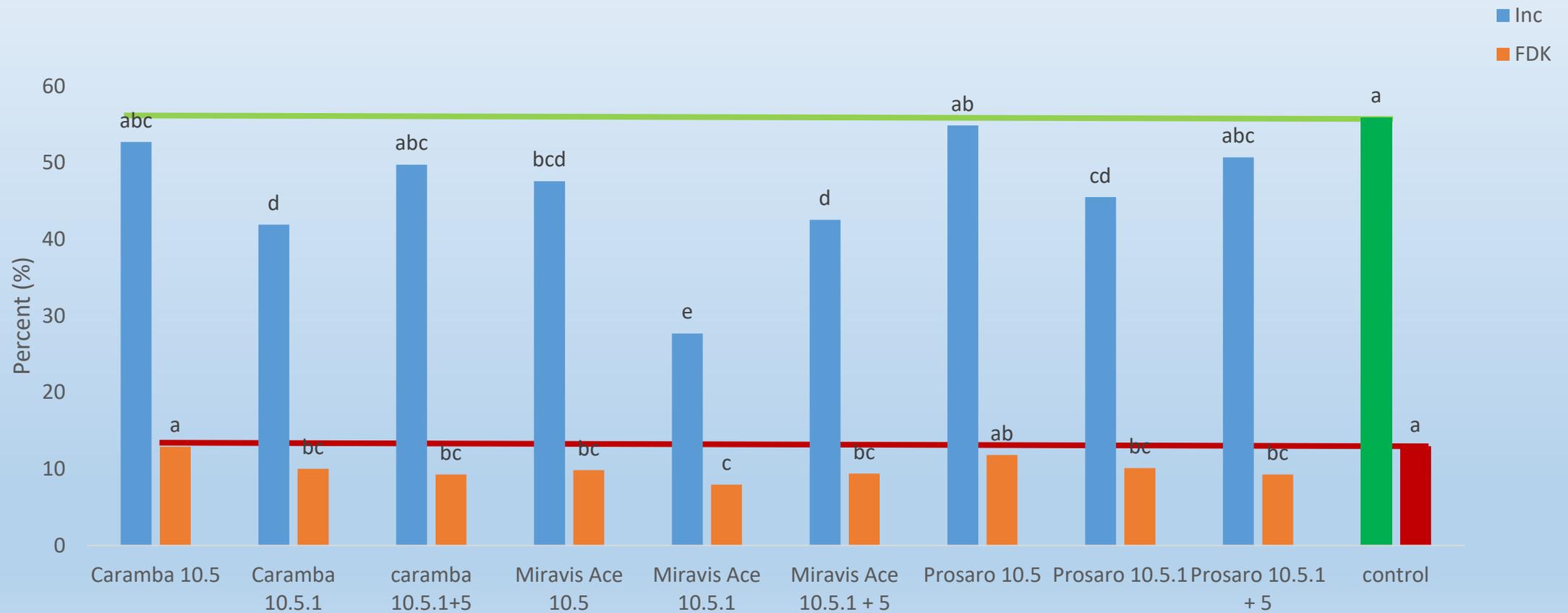
- All trials were inoculated at FGS 9 with grain spawn infested with *Fusarium graminearum*
- All trials in Champaign were mist irrigated
 - 15 minutes nightly from FGS 9 through FGS 11
- Rated for FHB severity, incidence, Fusarium damaged kernels, yield, DON
 - Not all had DON measured and therefore data not presented
- Statistically assessed using mixed model with rep nested within trial (random) trial (random) and treatment (fungicide x timing) fixed ($\alpha = 0.05$) using JMP V. 15. Means separated using Fishers LSD ($\alpha = 0.05$)

Treatments

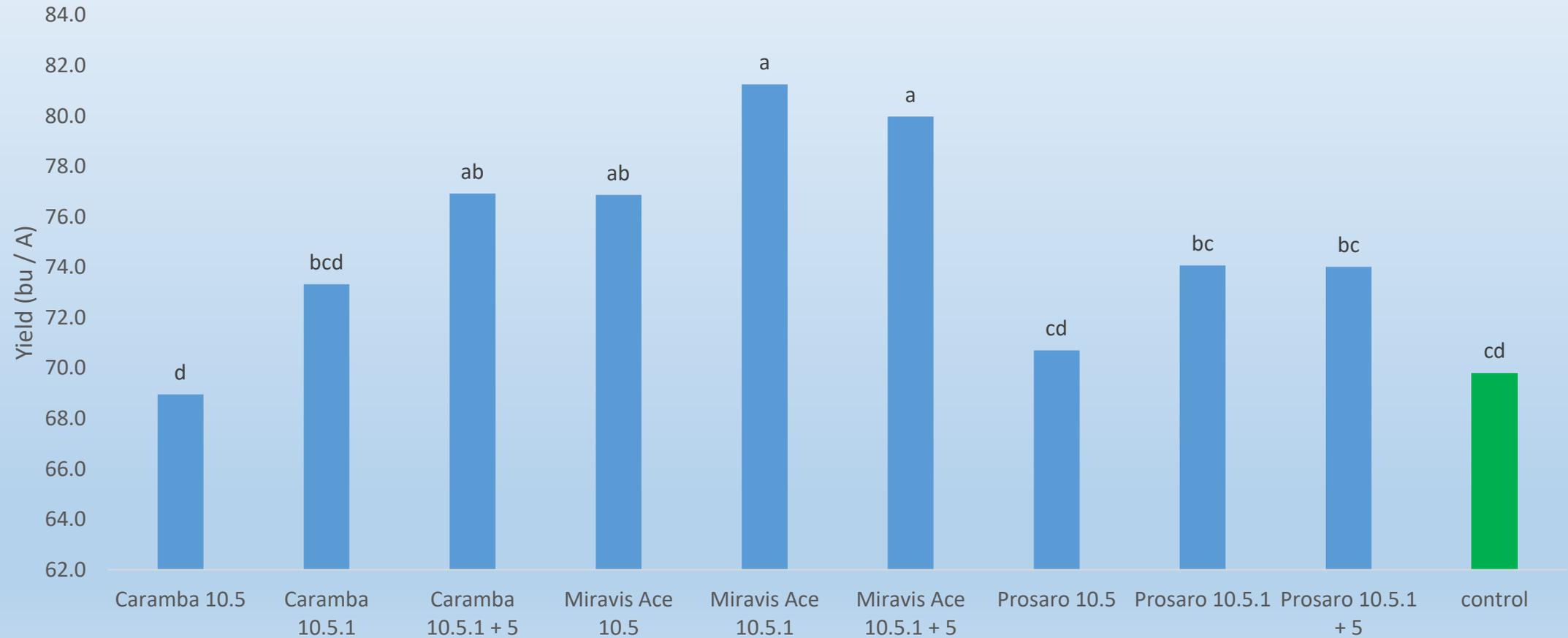
Fungicide	Rate (fl oz)	Timing (FGS)
Control
Caramba	13.5 fl oz	10.5
		10.5.1
		10.5.1 + 5
Miravis Ace	13.7 fl oz	10.5
		10.5.1
		10.5.1 + 5
Prosaro	6.8 fl oz	10.5
		10.5.1
		10.5.1 + 5

FHB Incidence and FDK data from 8 trials

2018-2020



Yield data from 8 trials 2018-2020



Leaf blotch-Stagonospora



Kocide for leaf disease management in wheat?

- Some producers utilizing Kocide as part of foliar disease management program
- Kocide is a copper based fungicide
 - Contact
 - Non systemic- does not redistribute to developing tissues
 - Multi site
 - Not particularly rainfast
- Does application of Kocide provide any benefit for foliar disease management in wheat?

Kocide trial 2020

- Champaign IL- CFAR research plots
- Agrimaxx 454
 - planted at 1.5 million on 10/October/2019
- Applications at 20 gal / A
- FGS 5 (22 April), FGS 9 (5 May), FGS 10.5.1 (29 May)
- Rated 12 June
- Harvest 7 July



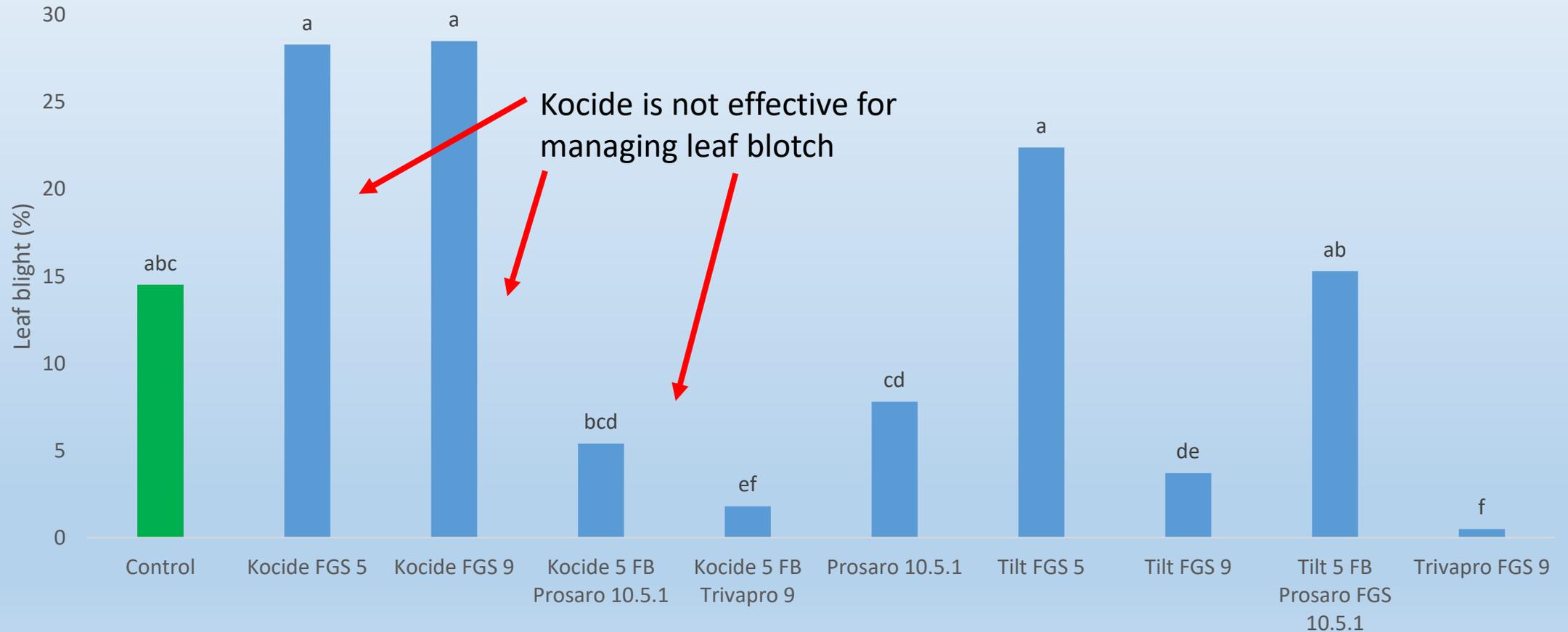
Programs tested – FB = followed by

Treatment	Rate	Timing (Feekes Growth Stage (FGS))
Control
Kocide	0.75 lbs	5
		9
Kocide FB Prosaro	0.75 lbs FB 6.5 fl oz	5 FB 10.5.1
Kocide FB Trivapro	0.75 lbs FB 13.7 fl oz	4 FB 9
Prosaro	6.5 fl oz	10.5.1
Tilt	4 fl oz	5
Tilt FB Prosaro	4 fl oz FB 6.5 fl oz	5 FB 10.5.1
Trivapro	13.7 fl oz	9

Kocide Trial, Champaign IL, 2020- leaf blotch

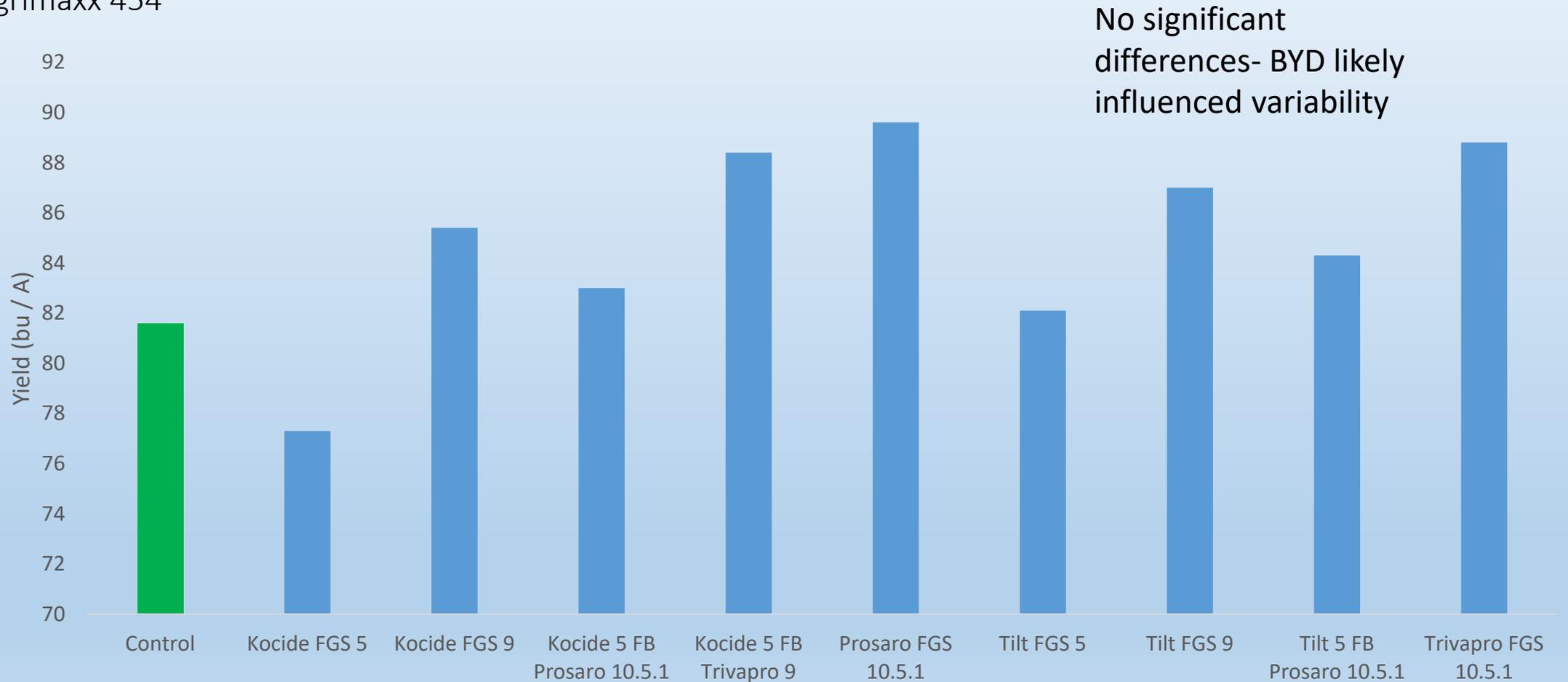
Kleczewski and Ames UIUC

Agrimaxx 454



Kocide Trial, Champaign IL, 2020- Yield Kleczewski and Ames UIUC

Agrimaxx 454



Thank you and News

- Feb 15th- starting new position as Pathology and Entomology Technical Manager for GROWMARK
- Still working with ag community, talks, radio TV, just different shirt
- It's been great working with you all and let's keep Illinois wheat going strong!