**Inspired Innovations for Turfgrass Pest Control** 

## Eric Reasor, Ph.D.



## 73<sup>rd</sup> Annual Southeastern Turfgrass Conference 25 April 2019



INSPIRED INNOVATIONS FOR GREEN SPACES, PETS, AND PEOPLE



### Employee-Owned



### Professional | Home & Farm | Animal Health



- **1947:** Private Brands, Incorporated
- **1956:** Gordon Chemicals and Private Brands, Incorporated became PBI-Gordon Corporation to better reflect the company's new role in multiple markets

PRIVATE BRANDS.

CUSTOM COMPOUNDING & PACKADING

**1970:** PBI-Gordon introduced the Trimec<sup>®</sup> Herbicide for turf





New Tools in the Toolbox















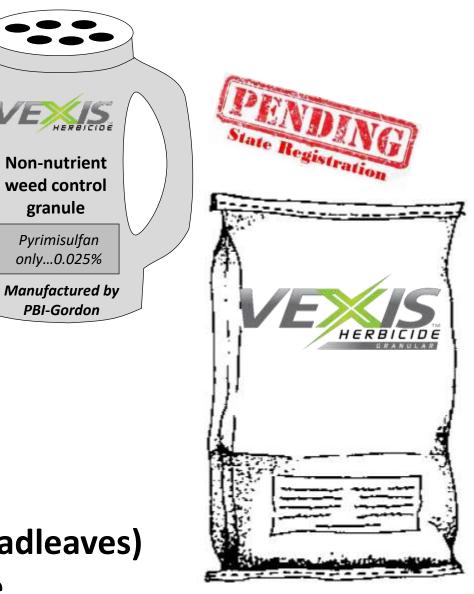


\*Vexis<sup>™</sup> is federally registered and pending state registrations, but is not currently for sale





- Granular herbicide (0.025% pyrimisulfan)
- ALS inhibitor
- Low use rate
  0.047 to 0.062 lb ai/A single application
  0.093 lb ai/A annual max rate
- Safe on warm- and cool-season turfgrasses
- Nutsedge and kyllinga control (some annual broadleaves) Activity on ALS (sulfonylurea) resistant nutsedge





# Vexis - Yellow Nutsedge



- Application June 12 fb July 27, 2015
- Photo July 15, 2015



# Vexis - False-Green Kyllinga



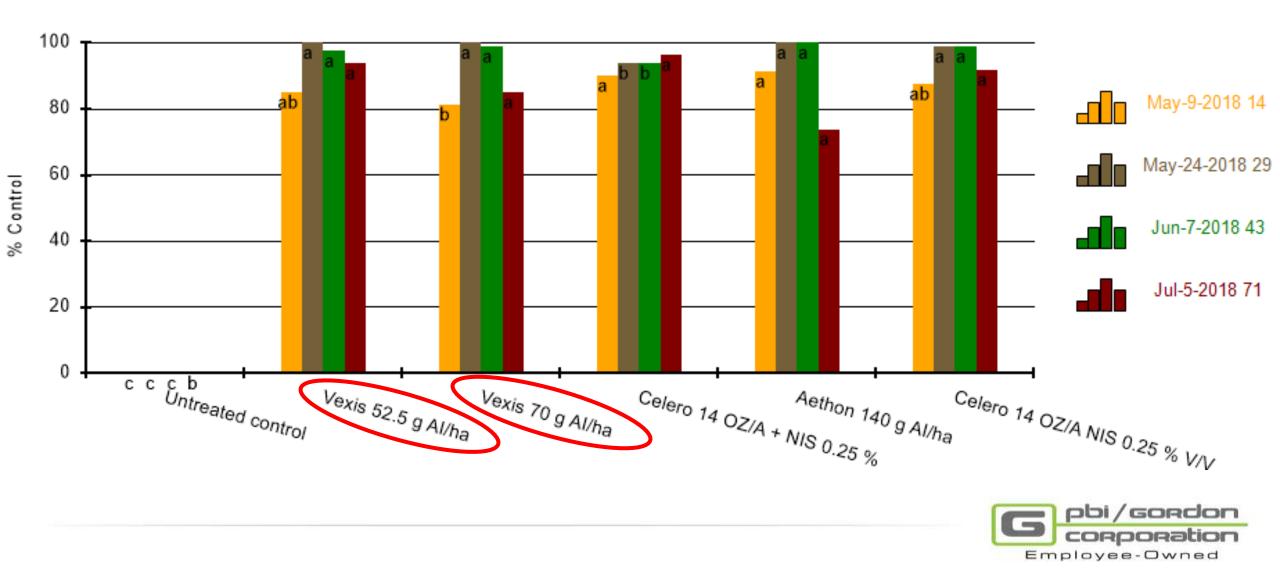


2 apps at 52.5 g/ha

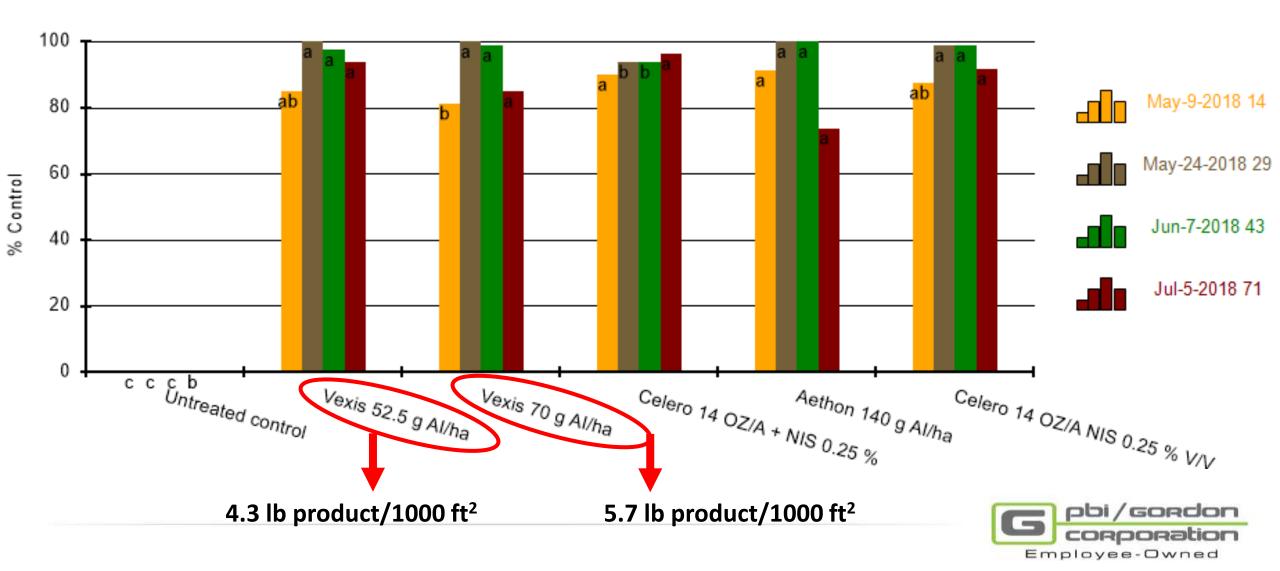
- Application June 7 and July 3, 2018
- Photo July 6, 2018



# Vexis - Yellow Nutsedge



# Vexis - Yellow Nutsedge

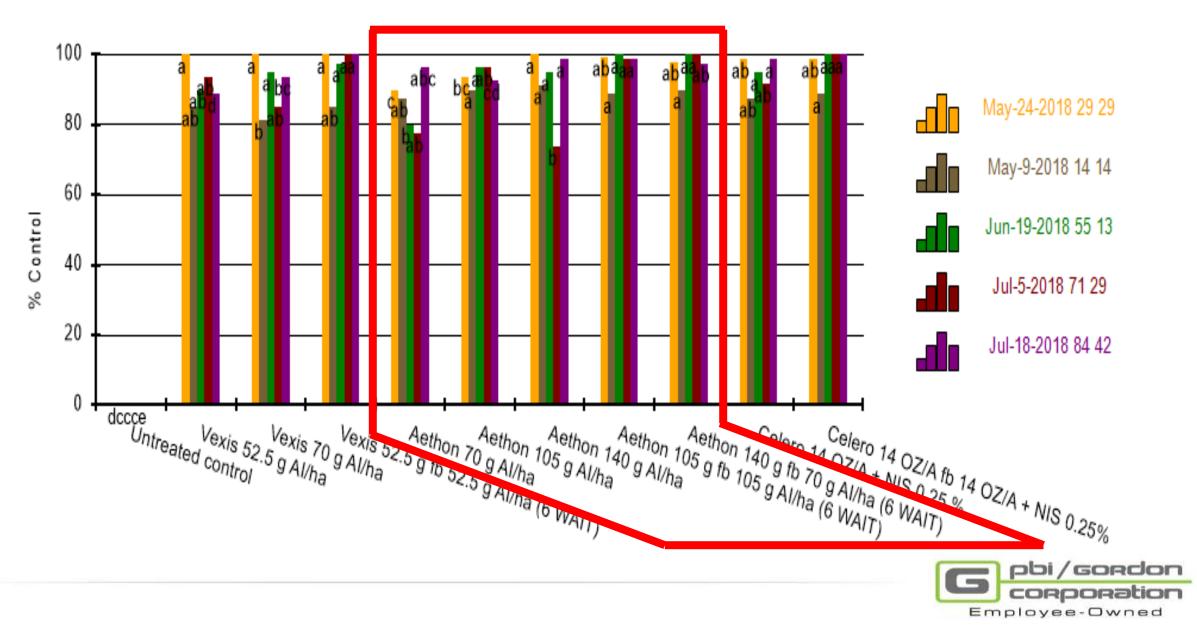




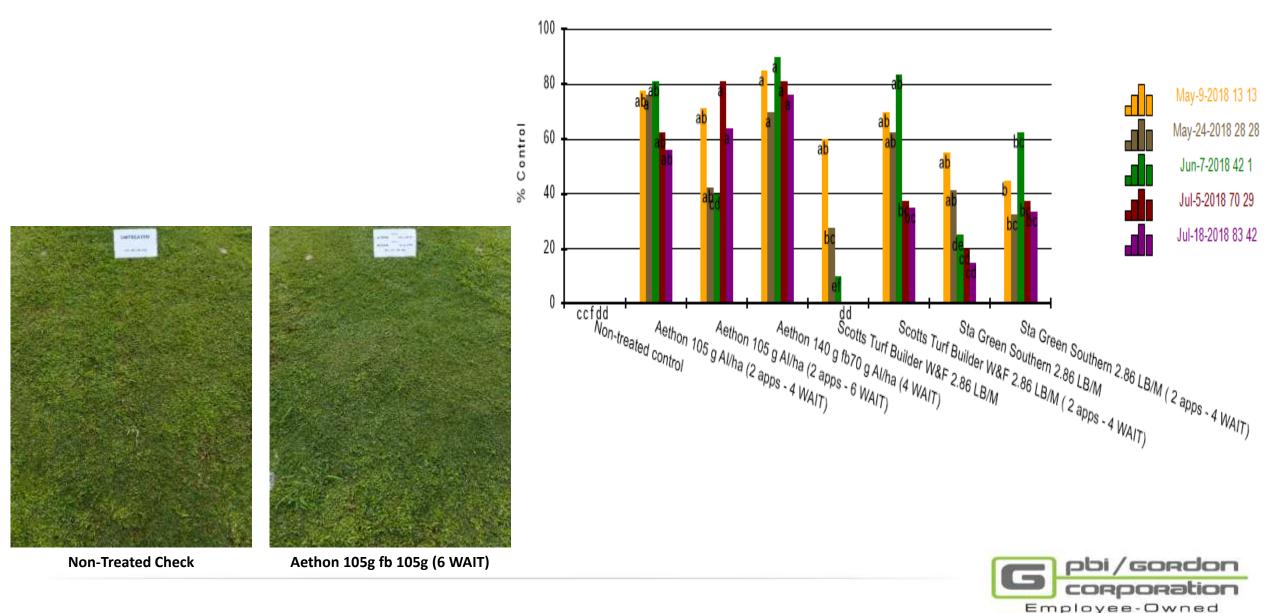
- Granular weed-n-feed
  0.025% pyrimisulfan + 0.025% penoxsulam
- ALS inhibitors
- Low use rate
  0.094 to 0.124 lb ai/A single application
  0.186 lb ai/A annual max rate
- Safe on warm-season turfgrasses
- Broad spectrum broadleaf weed control Nutsedge and kyllinga control



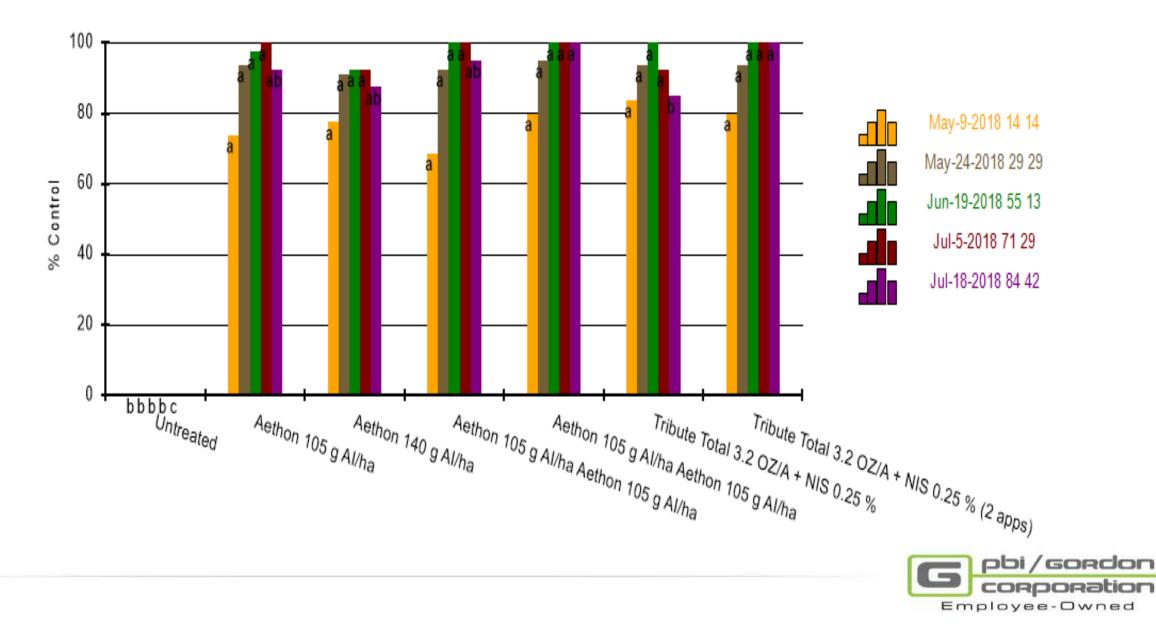
## Aethon - Yellow Nutsedge



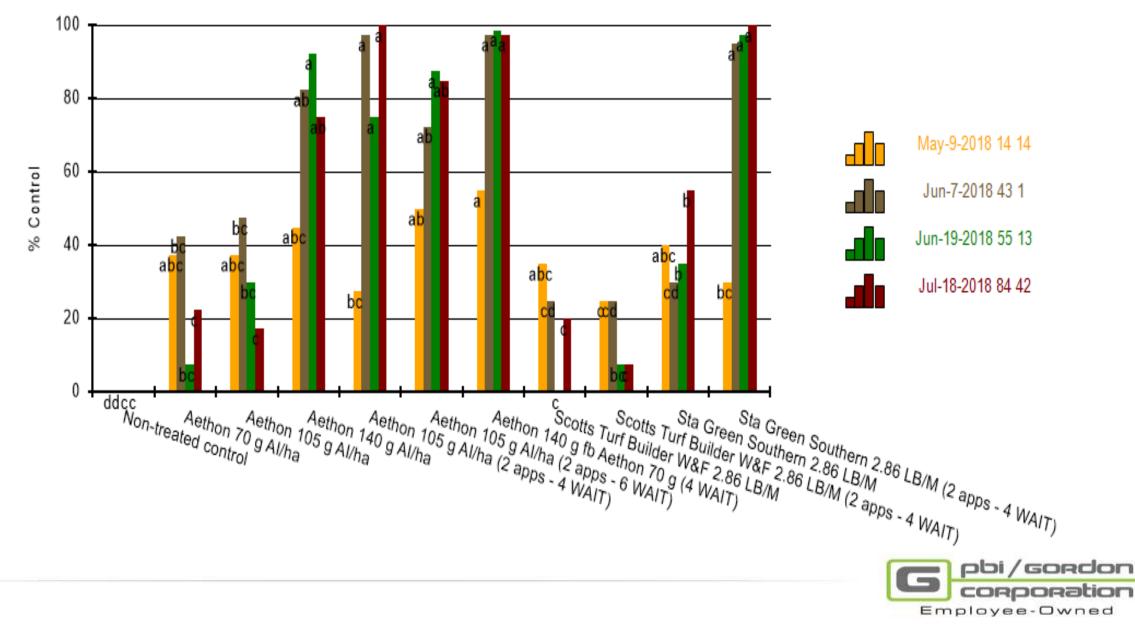
# Aethon – Virginia Buttonweed



## Aethon – White Clover



## Aethon – Wild Violet







- Halauxifen-methyl + dicamba + fluroxypyr
- Synthetic Auxin (Group 4); NON 2,4-D
- POST-emergence systemic control of broadleaf weeds
- Cool- and warm-season turfgrass tolerance
- Resistance management for *Plantain* spp.



# White Clover



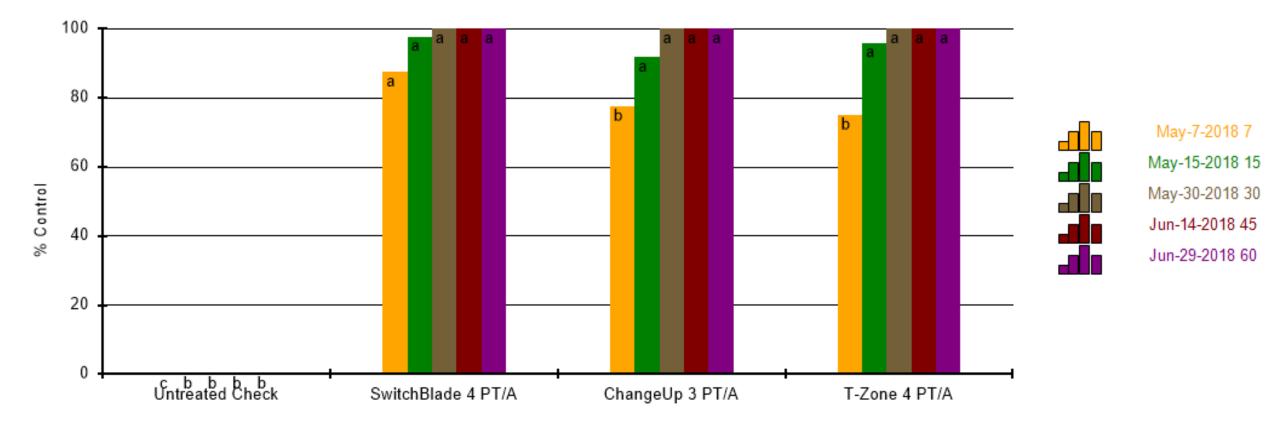


## Non-Treated Check

## 2 apps at 4 pt/A 28 days after treatment



# SwitchBlade - Buckhorn Plantain



Application April 30, 2018



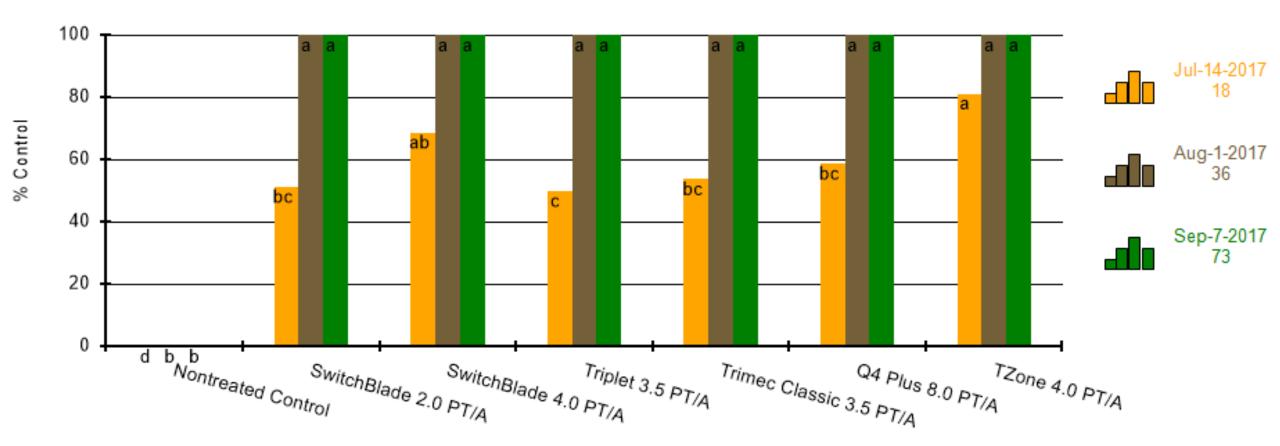
## **Broadleaf Plantain**



## 4 PT/A 28 days after treatment



# SwitchBlade - Broadleaf Plantain



Application June 26, 2018



# **Ground Ivy**





## 25 days after treatment









### Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

### ACTIVE INGREDIENTS:

2,4-D, 2-ethylhexyl ester		9.02%
Dichlorprop-p, 2-ethylhexyl ester		5.19%
Dicamba, acid		0.59%
Carfentrazone-ethyl.		0.47%
OTHER INGREDIENTS:		84.73%
TOTA	LT	100.00%

#### THIS PRODUCT CONTAINS:

0.51 lb. 2,4-dichlorophenoxyacetic acid equivalent per gallon or 5.98%.

0.30 lb. (R)-2-(2,4-Dichlorophenoxy)propionic acid equivalent

per gallon or 3.51%.

0.050 lb. 3,6-dichloro-o-anisic acid equivalent per gallon or 0.59%.

0.040 lb. Ethyl a,2-dichloro-5-[4(difluoromethyl)-4,5-dihydro-3-methyl-5-axo-1H-

1,2,4-triazol-1-yl]-4-fluorobenzenepropanoate per gallon or 0.47%



### ACTIVE INGREDIENTS:

2,4-D, 2-ethylhexyl ester				•	 			-						*	•				-		10.49%
Mecoprop-p acid			į,		 	+	+										+		-		2.66%
Dicamba acid	 +	.,			 	*		-					*	*		 		-		-	0.67%
Carfentrazone-ethyl												2								2	0.54%
OTHER INGREDIENTS:			4			÷	2	÷	2	÷.	÷.	4								4	85.64%
																T	0	T/	A	Ľ	100.00%

#### THIS PRODUCT CONTAINS:

0.52 lb. 2,4-dichlorophenoxyacetic acid equivalent per gallon or 6.96%.

0.20 lb. (+)-R-2-(2-methyl-4-chlorophenoxy) propionic acid equivalent per gallon or 2.66%.

0.05 lb. 3,6-dichloro-o-anisic acid equivalent per gallon or 0.67%.

0.04 lb. Ethyl a,2-dichloro-5-[4(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-

propanoate or 0.54%.

Contains Petroleum Distillate. Isomer Specific by AOAC Methods.









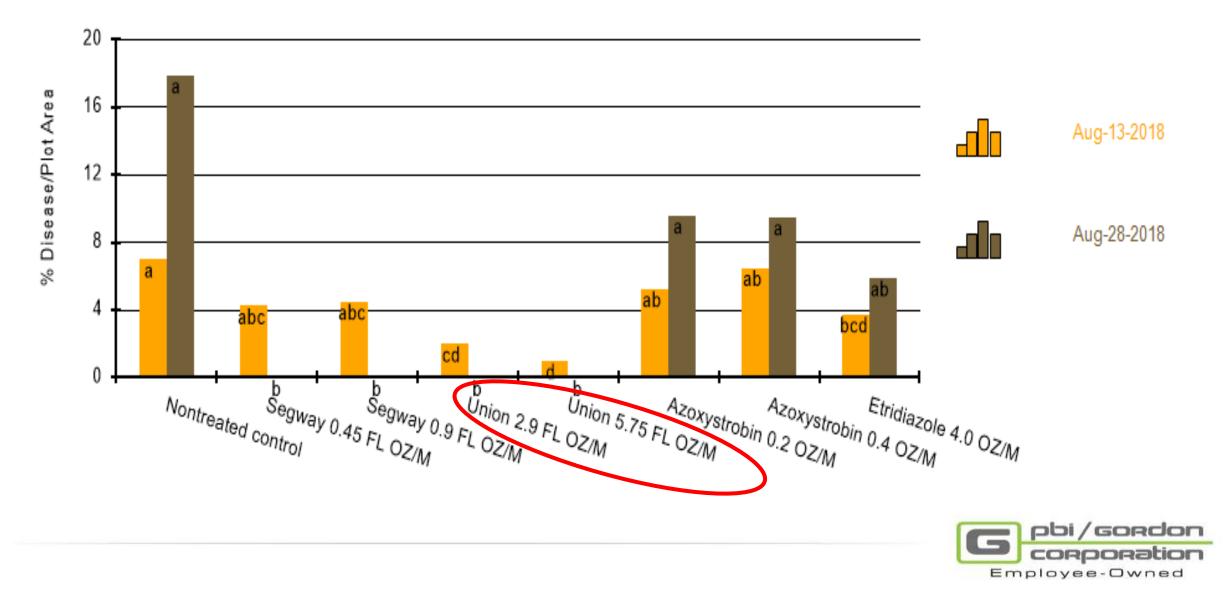


- Cyazofamid (Segway) + azoxystrobin
- No known cross resistance between QoI and Qil groups
- Rates: 2.9-5.75 fl oz/1000 sq. ft.
- Key Diseases:
  - Pythium spp.
  - Brown patch
  - Anthracnose
  - Large patch
  - Fairy ring

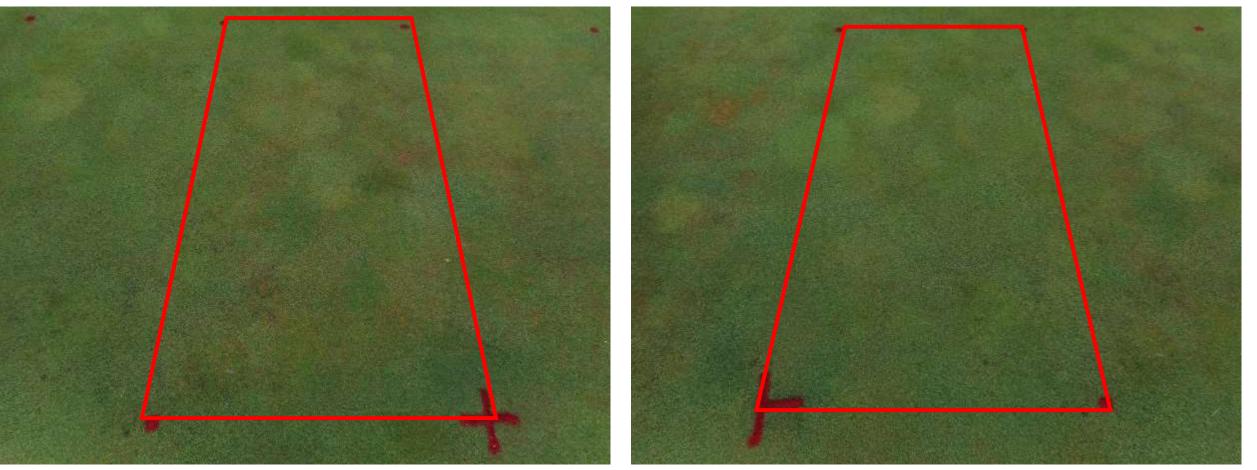


Union<sup>M</sup> is not a federally or state registered product, nor is it currently for sale.

## Union – Curative Pythium Root Rot



# Union – Curative Pythium Root Rot

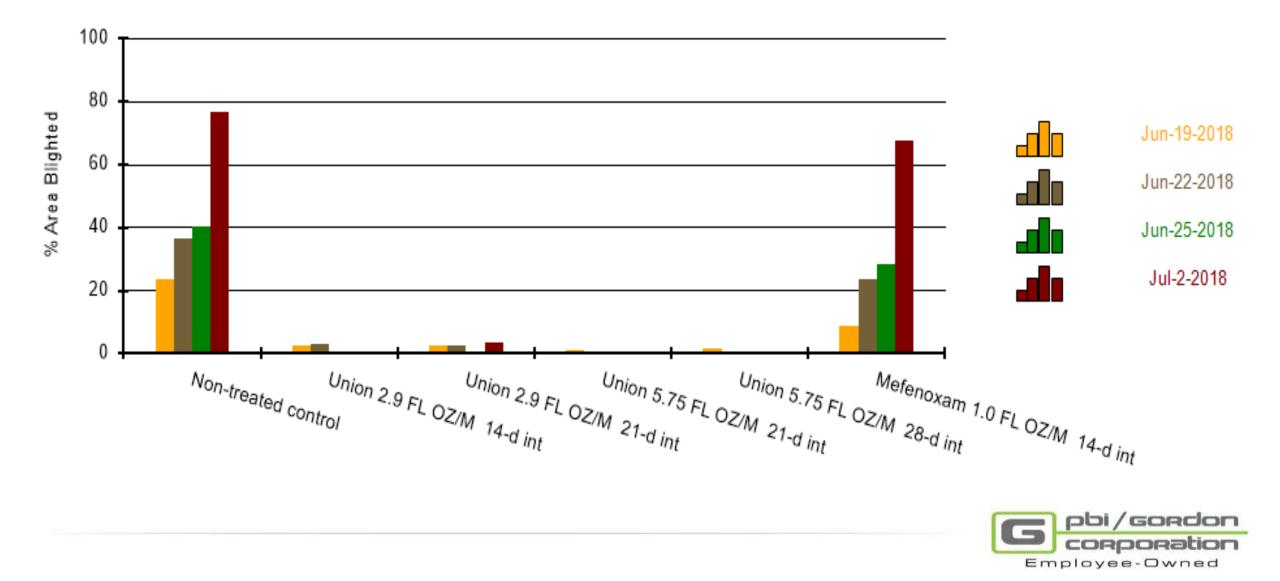


## **Non-Treated Check**

## 2.9 fl oz/1000ft<sup>2</sup> Union



# **Union – Preventive Pythium Foliar Blight**



# Union – Preventive Pythium Foliar Blight



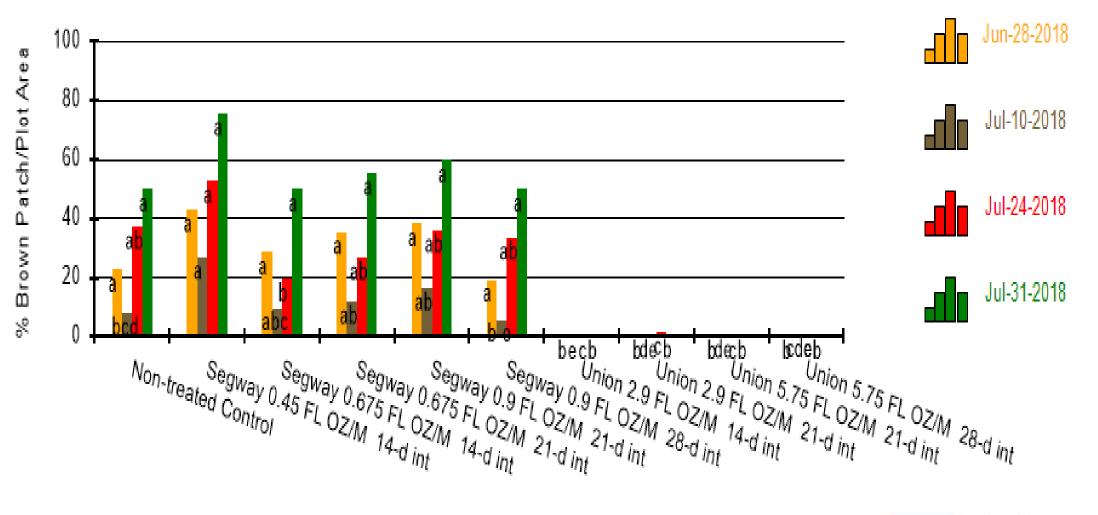
**Non-Treated Check** 



## 2.9 fl oz/1000ft<sup>2</sup> Union every 14 days



# **Union – Preventive Brown Patch**





## **Union – Preventive Brown Patch**







**Non-Treated Check** 

0.9 fl oz/1000ft<sup>2</sup> Segway

2.9 fl oz/1000ft<sup>2</sup> Union

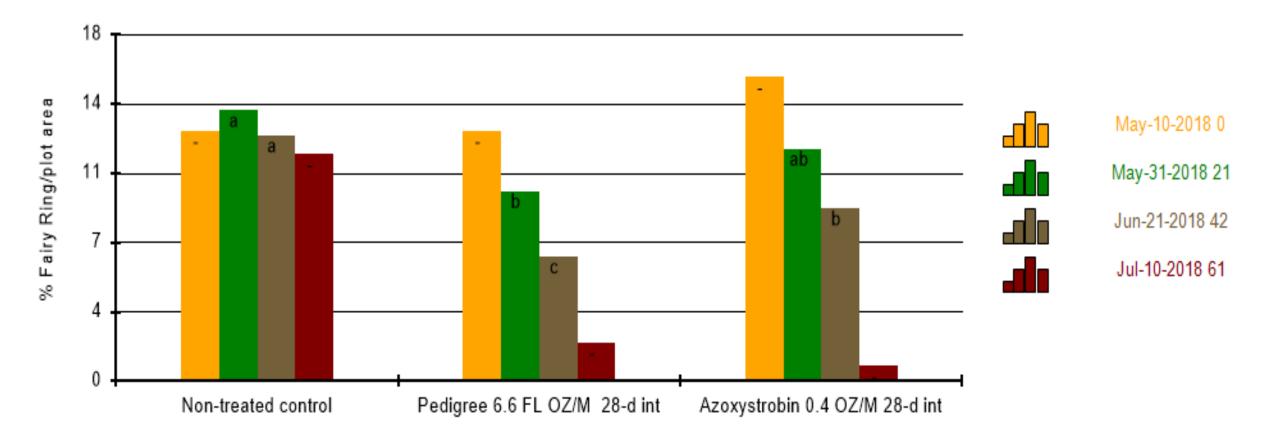




- SDHI
- Excellent fairy ring, brown patch, waitea patch, and gray snow mold control
- SC formulation has smaller particle size (better coverage)
- Application recommendations:
  - Fairy ring
    - Preventive 3.25 fl oz/1000 (21-28d interval); Curative 6.6 fl oz/1000 (30-d interval)
  - Gray snow mold
    - 4.4-6.6 fl oz/1000 (before snow cover)
    - Research trials are on the ground in various locations across the U.S. in 2018 along with tank-mix parters for complete snow mold programs



# Pedigree – Curative Fairy Ring



















## Questions?

