

# Evaluating Fungicides for Management of Areolate Mildew in Georgia



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# Does Areolate Mildew Impact Yield?



# 2021 Georgia Plant Disease Loss Estimate -- Cotton

Disease	% Reduction in Crop Value	Damage (\$ Millions)	Cost of Control (\$ Millions)	Total (\$ Millions)
Boll Rot (lint)	6.0	60.2	—	60.2
Nematodes	6.0	60.2	20.4*	80.6
Southern root-knot	5.0	50.1	—	
Reniform	0.5	5	—	
Columbia lance	0	—	—	
Sting	0.5	5		
Seedling Disease	2.0	20	3.2**	23.2
Fusarium Wilt	0.4	4	—	4
Ascochyta Blight	Trace	—	—	—
Stemphylium Leaf Spot	1.0	10	—	10
Target Spot	0.5	5	4.5***	9.5
Areolate Mildew (Ramularia leaf spot)	1.0	10	—***	10
Bacterial Blight	trace	—	—	—
Cotton Leafroll Dwarf	trace	—	—	—
<b>Total</b>	<b>16.9</b>	<b>169.4</b>	<b>28.1</b>	<b>197.5</b>



# Can we effectively protect yield with use of fungicides?



# Fungicides for Foliar Diseases of Cotton

- **Headline** (pyraclostrobin) (**6 fl oz/A**)
- **Twinline** (pyraclostrobin + metconazole) (**7-8.5 fl oz**)
- **Quadris** (azoxystrobin) (**6 or 9 fl oz/A**)
- **AzoxyStar** (azoxystrobin) (**6 or 9 fl oz/A**)
- **Tebuzol 3.6F** (tebuconazol) (**6-8 fl oz/A**)
  - Labeled for control of southwestern cotton rust
  - *Puccinia cacabata*
- **PROLINE** (prothioconazole) (**5.0-5.7 fl oz/A**)
- **PRIAXOR** (**4.0-6.0 fl oz/A**)
- **MIRAVIS TOP** (**13.6 fl oz**)
- **Elatus**
- **TOPGUARD** (flutriafol)



AzoxyStar





# Materials and Methods

- Treatments – Sprayer width (18 or 36 rows wide)
- Replicated 3 to 4 times.
- Fungicide applications targeted for 3 week of bloom.
- Defoliation ratings were taken during each year.
- Plots harvested with producer picker.
- DPL 1646 (2018-2019) DPL 2055 (2020)  
DG 3615 (2021-2022) DG 3799 (2023)



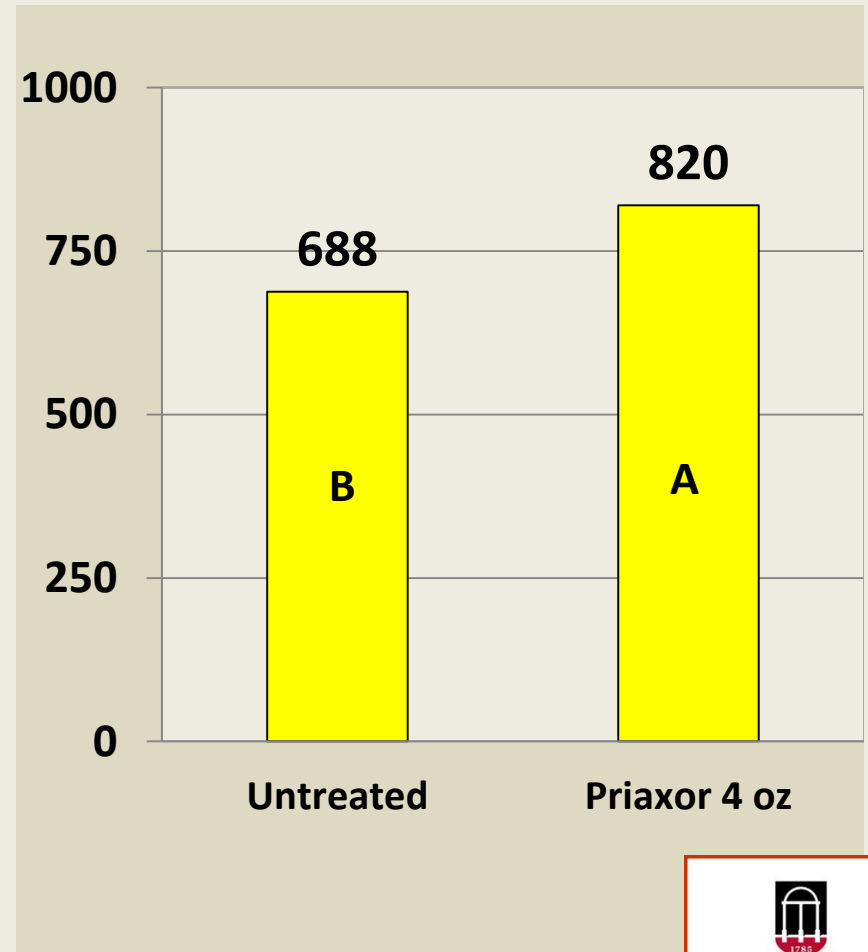
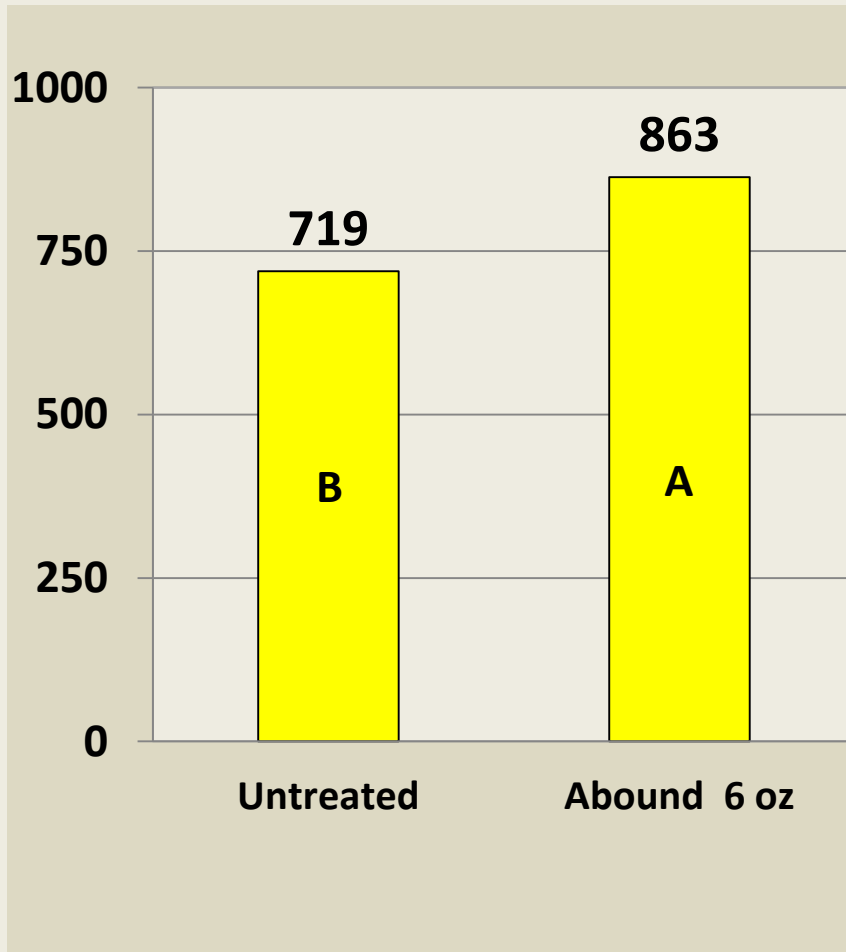


# Treatments

Fungicide	Active Ingredient	Rate oz/A
Untreated		
Abound	Azoxystrobin	6 oz
Priaxor	Pyraclostrobin + Fluxapyroxad	4 oz (2018-2019) 6 oz (2020-2021)
Miravis Top	Difenoconazole + Pydiflumetofen	13.7 oz
Revytek	Mefentrifluazole + Pyraclostrobin + Fluxapyroxad	10 oz

# 2018 Colquitt County Cotton Fungicide Plot

## Bay, Georgia Lint Yield (lb/A)



Fungicide Application 3<sup>rd</sup> week of bloom. DPL 1646

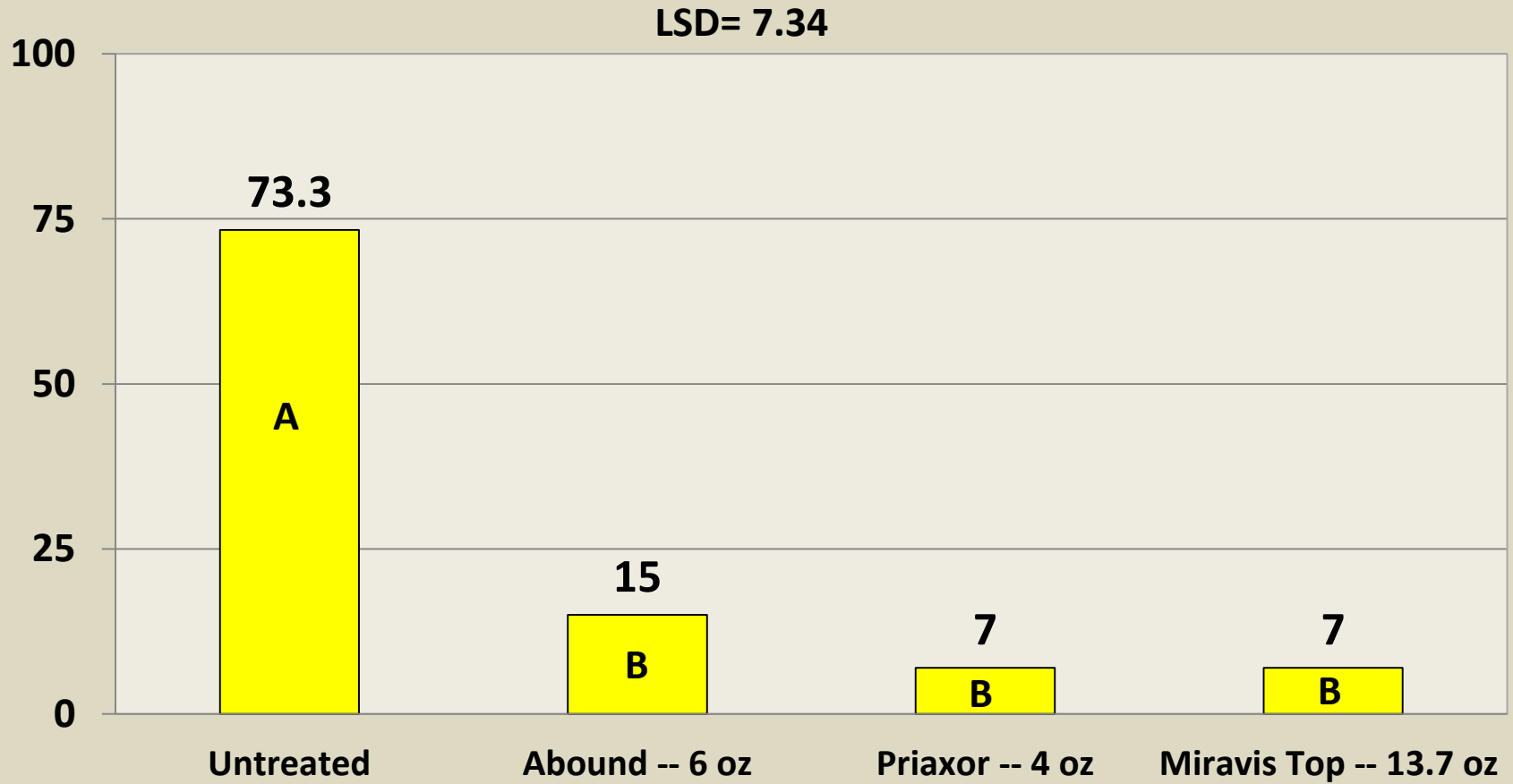




# 2019 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

### % Canopy Defoliation



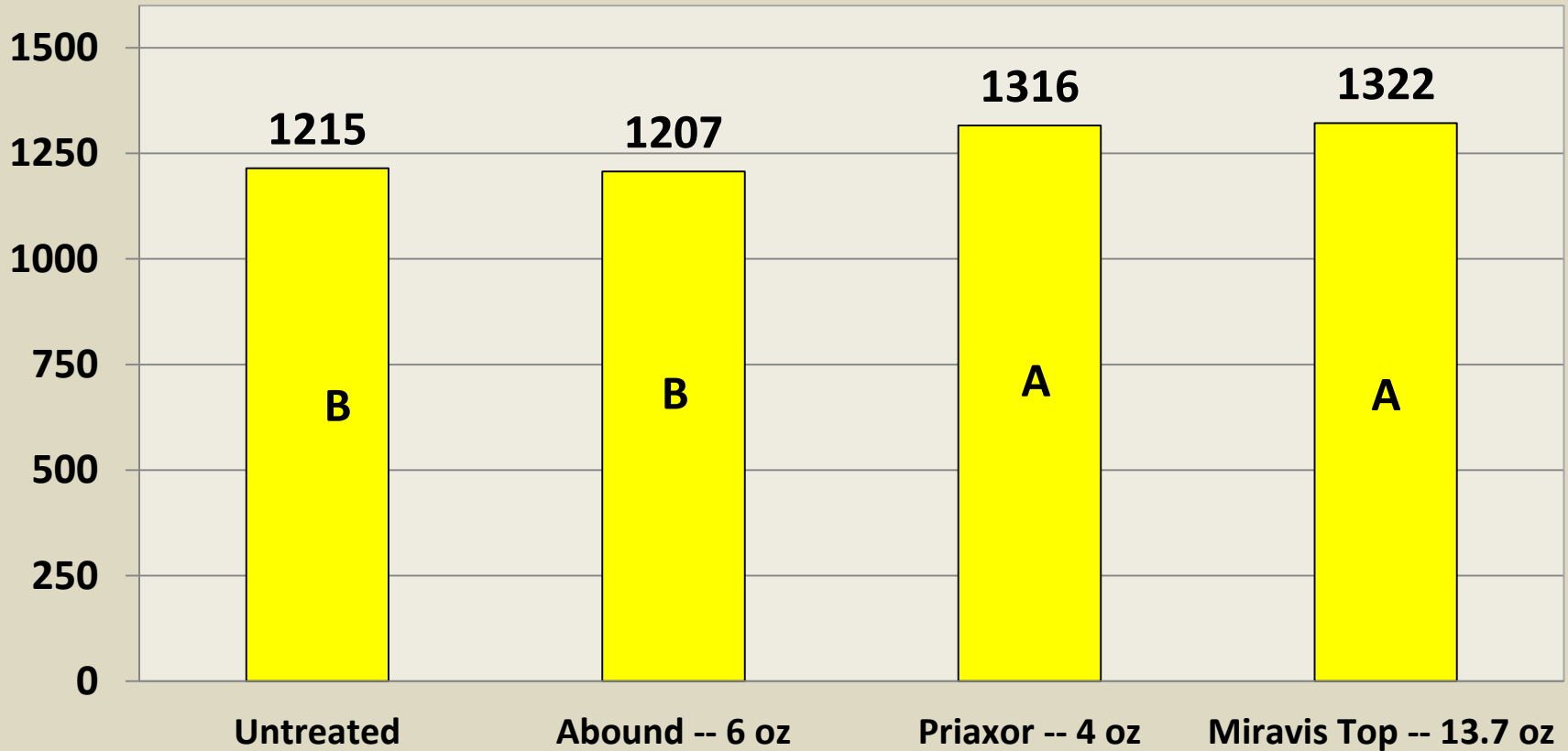
Fungicide Application 3rd week of bloom. Defoliation Ratings 50 % Open Boll DPL 1646

# 2019 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

### Lint Yield (lb/A)

LSD= 64.6



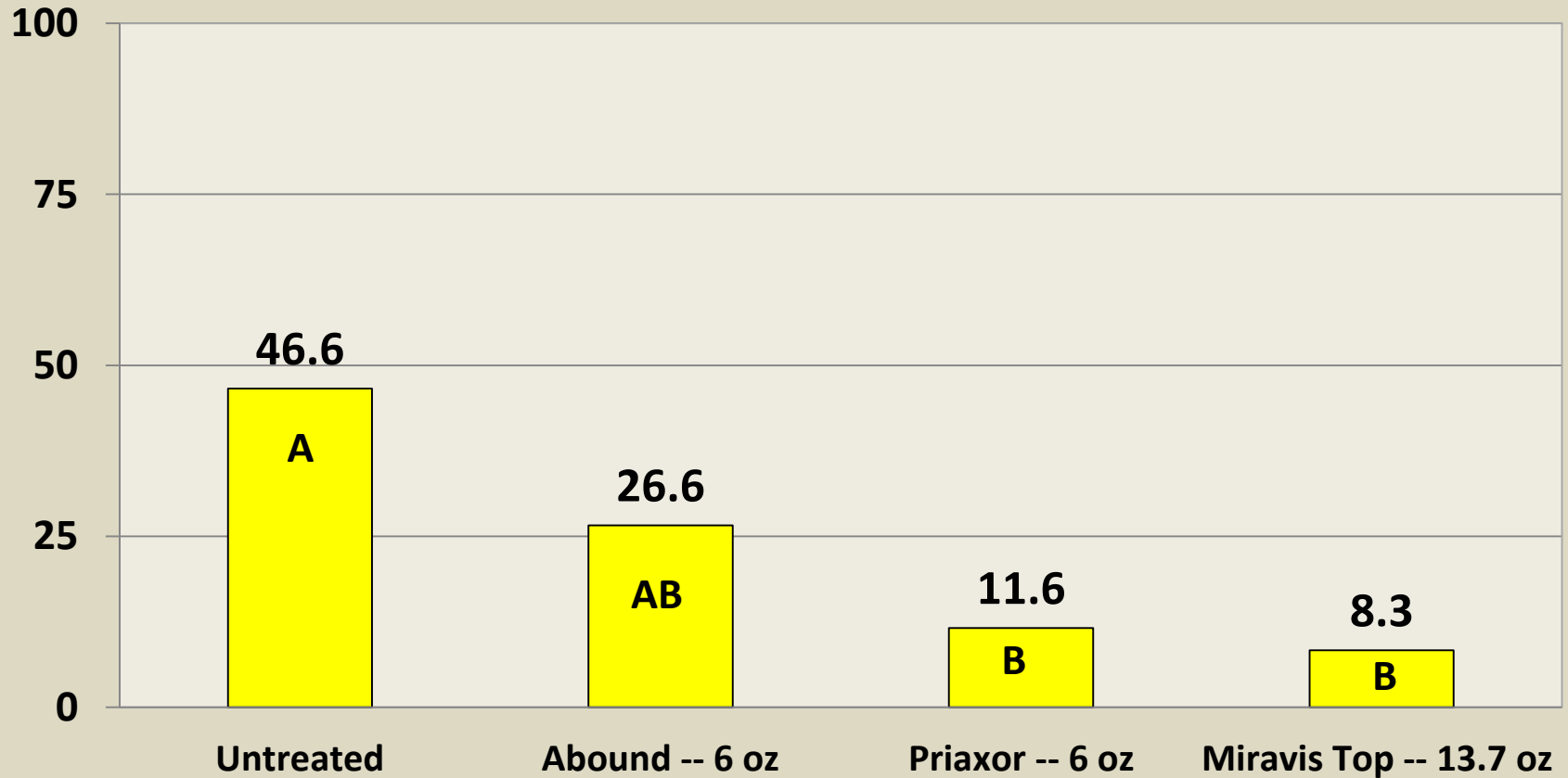
Fungicide Application 3rd week of bloom. DPL 1646



# 2020 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

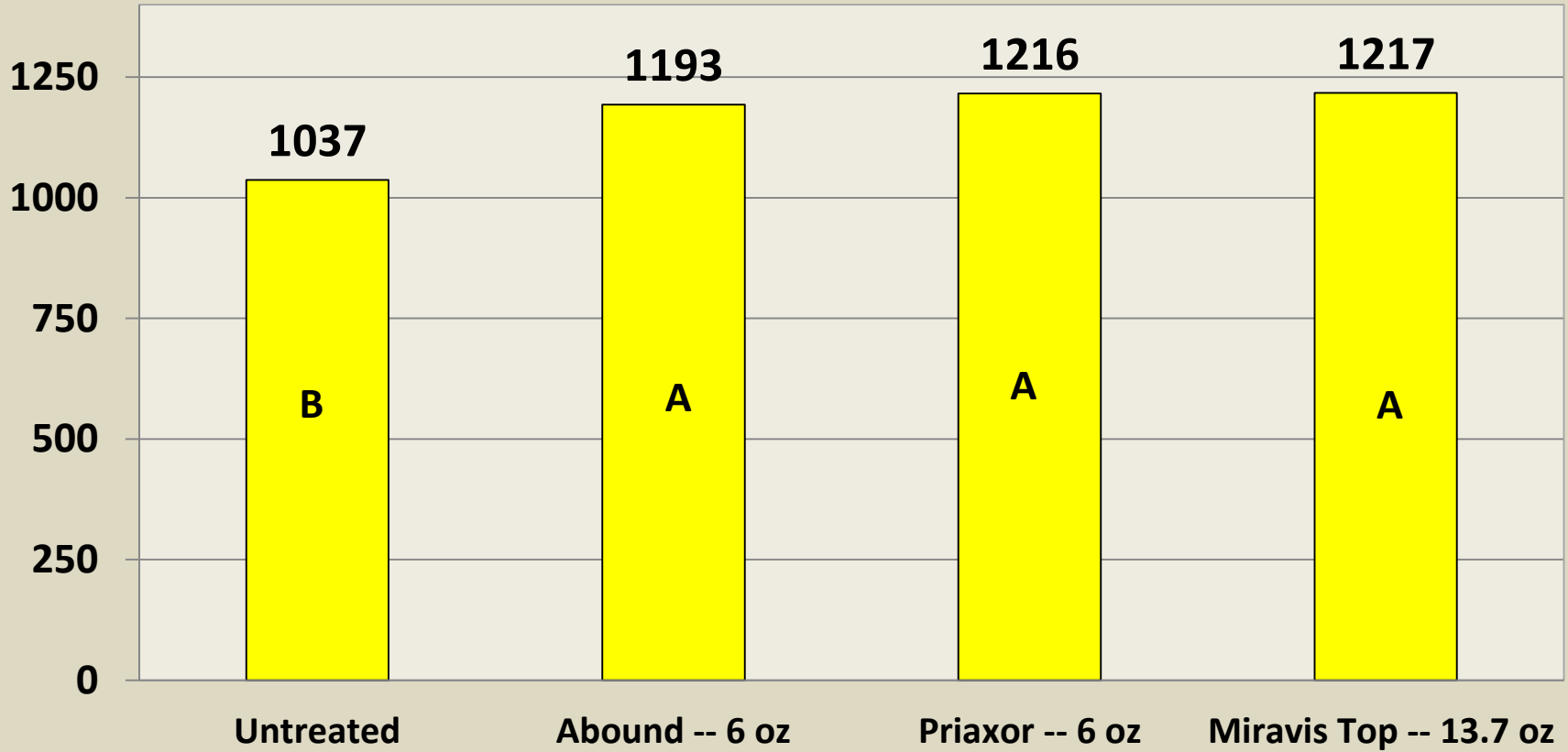
### Percent Defoliation



Defoliation Ratings at 60-70% open boll DPL 2055

# 2020 Colquitt County Cotton Fungicide Plot

## Bay, Georgia Lint Yield (lb/A)



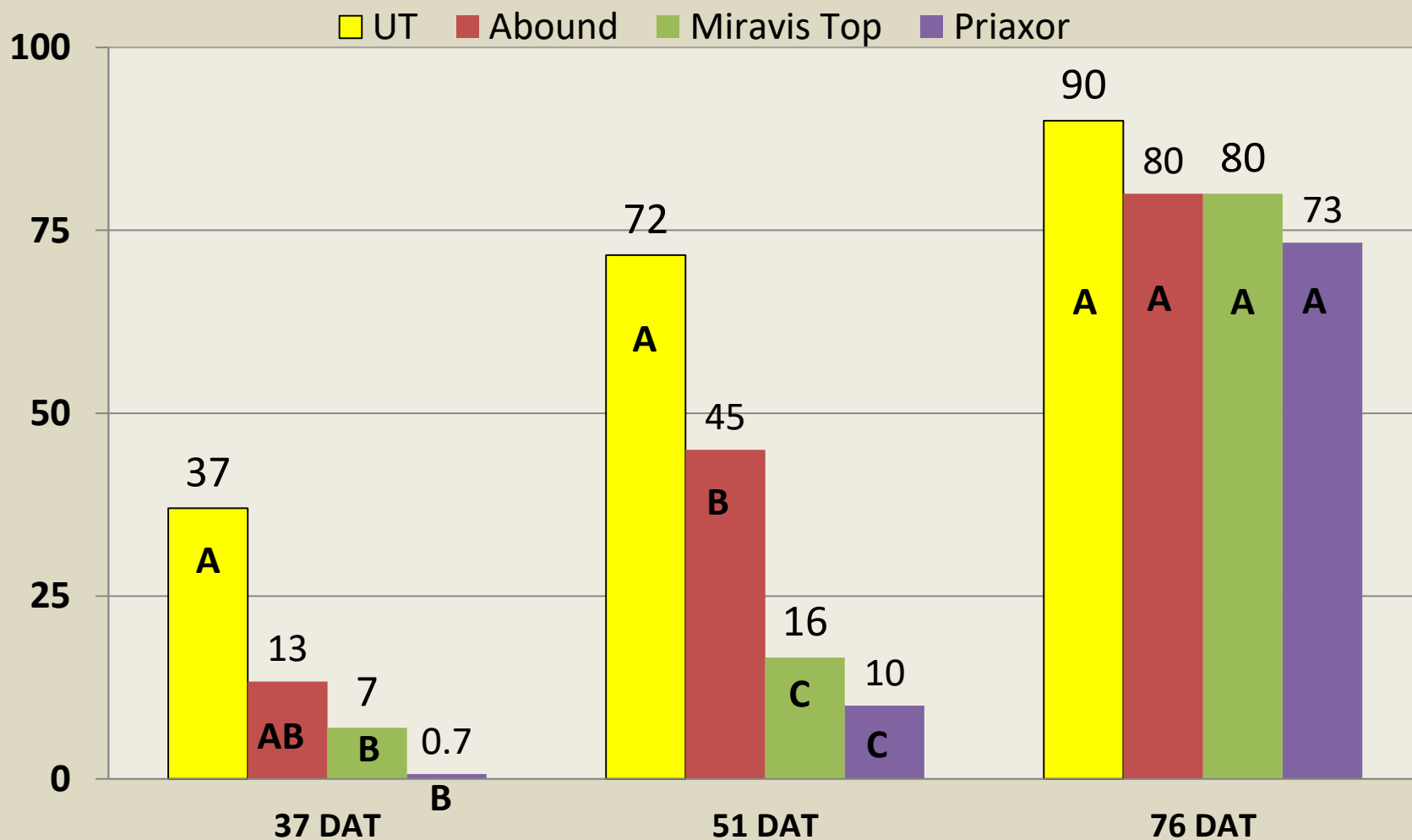
Fungicide Application 3rd week of bloom. DPL 2055



# 2021 Colquitt County Cotton Fungicide Plot

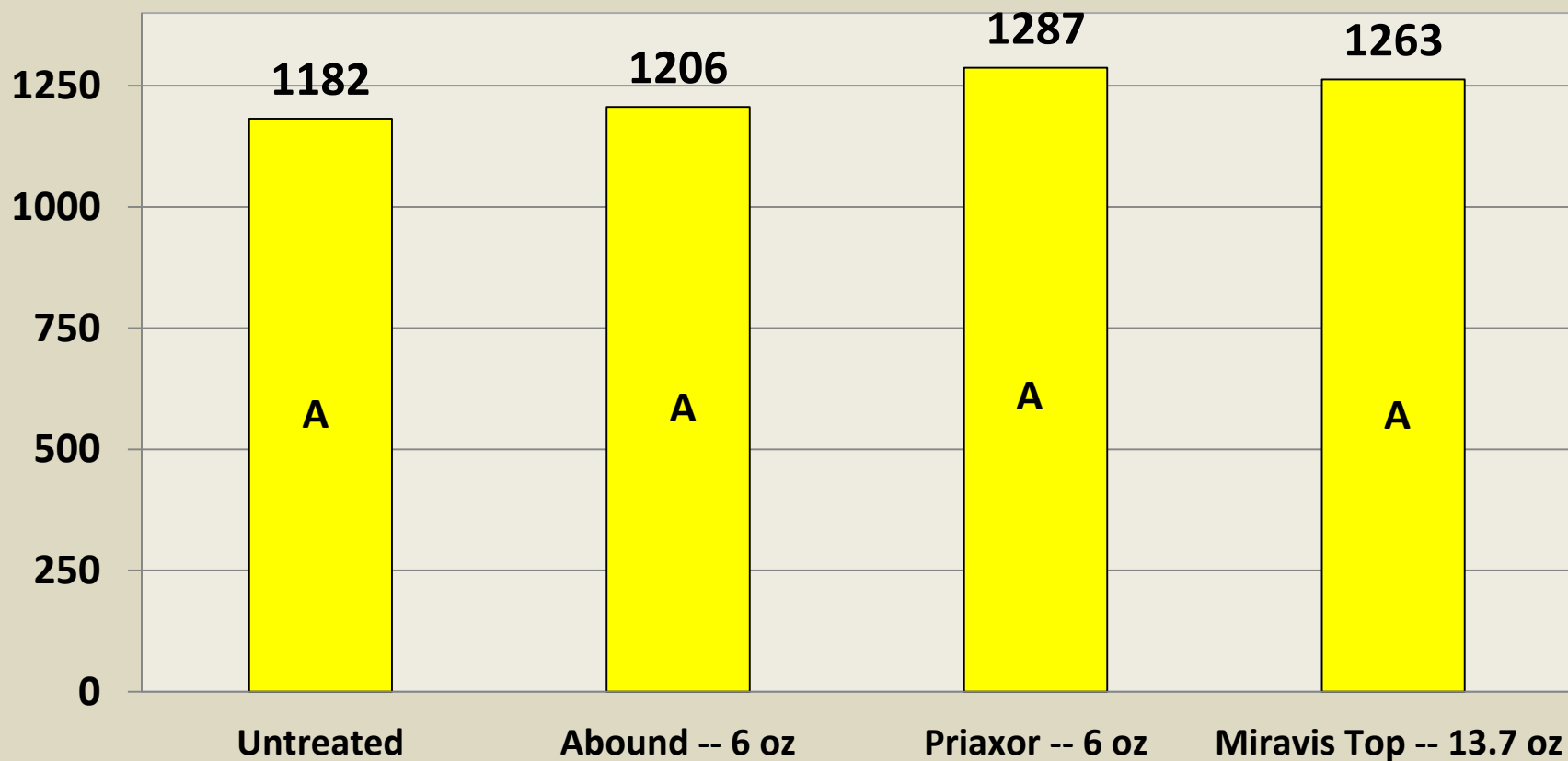
## Bay, Georgia

### Percent Defoliation



# 2021 Colquitt County Cotton Fungicide Plot

## Bay, Georgia Lint Yield (lb/A)



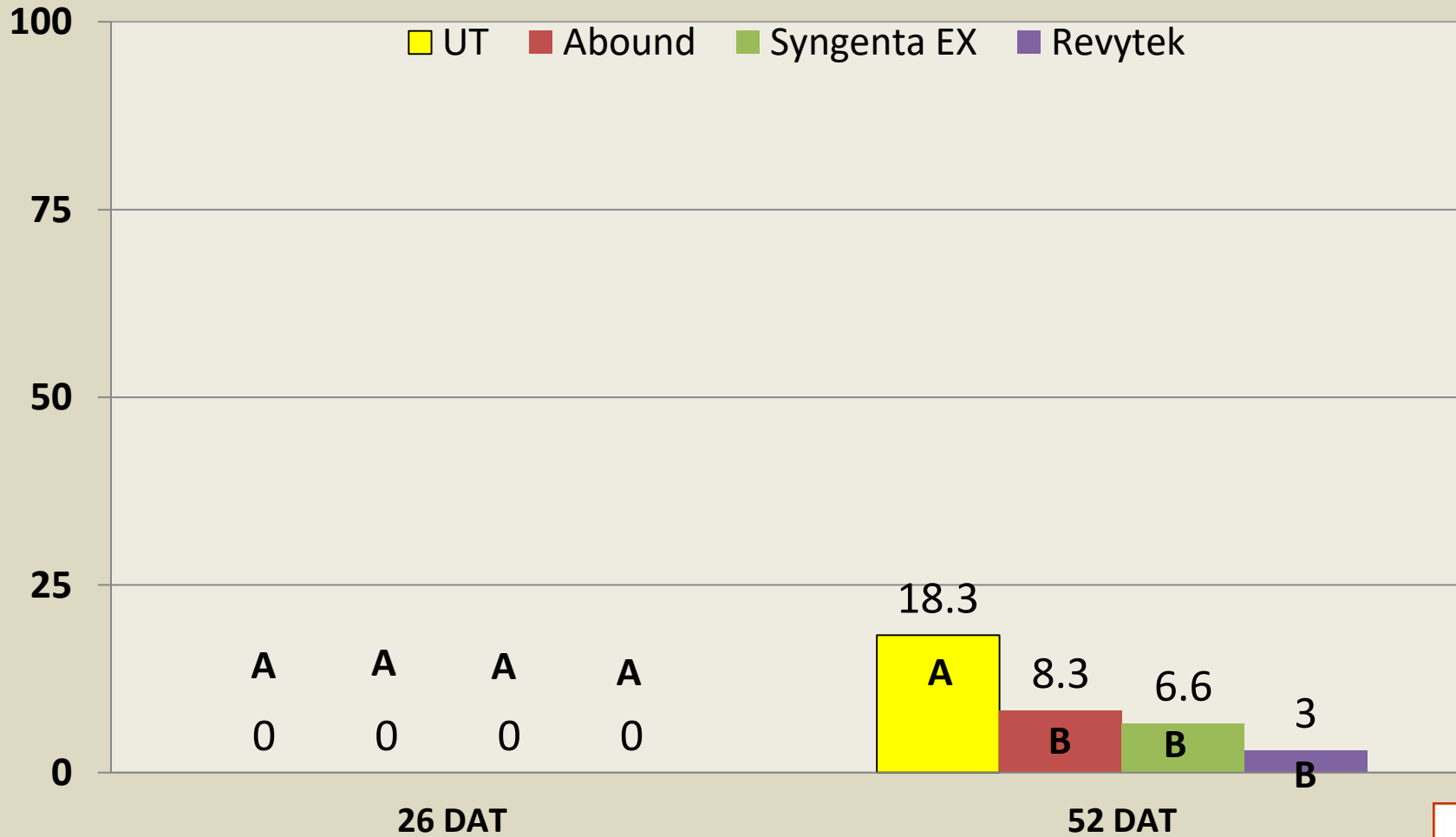
Fungicide Application 3rd week of bloom. DG 3615



# 2022 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

### Percent Defoliation

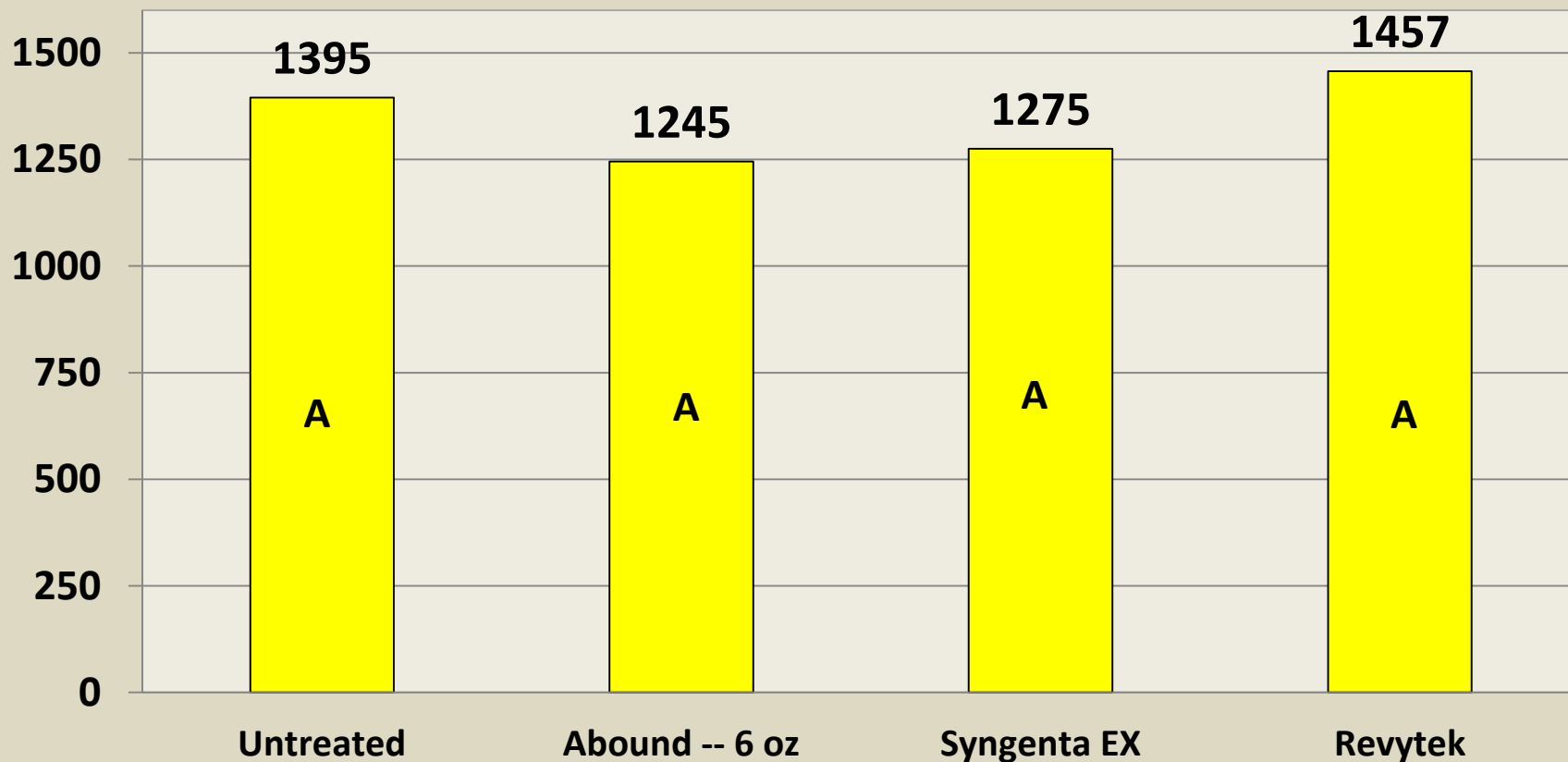


LSD = 5.8

# 2022 Colquitt County Cotton Fungicide Plot

## Bay, Georgia Lint Yield (lb/A)

LSD = 414

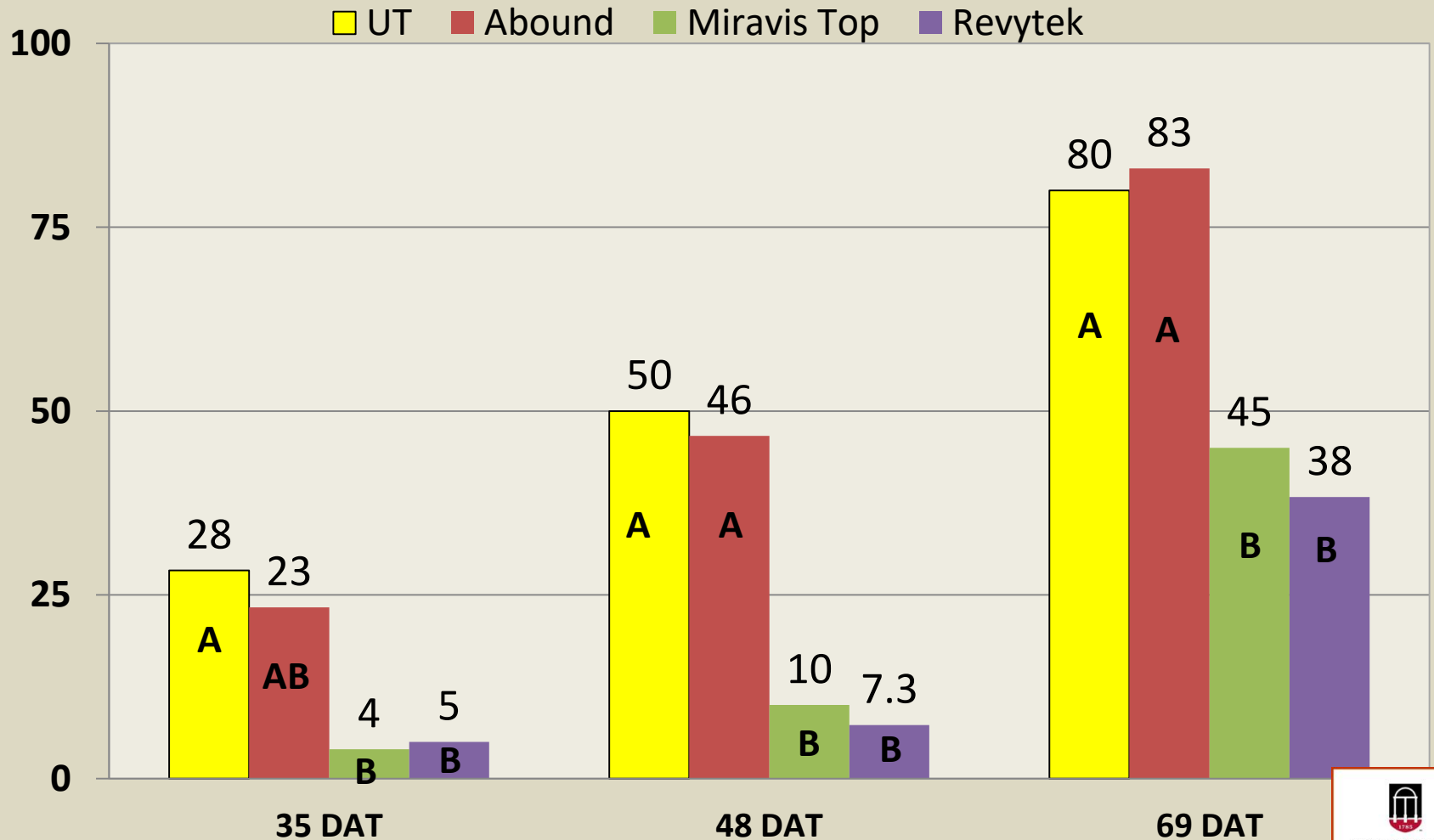


Fungicide Application 3rd week of bloom. DG 3615

# 2023 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

### Percent Defoliation





# 2023 Colquitt County Cotton Fungicide Plot – 50 DAT





# 2023 Colquitt County Cotton Fungicide Plot – 69 DAT



Revytek

Untreated

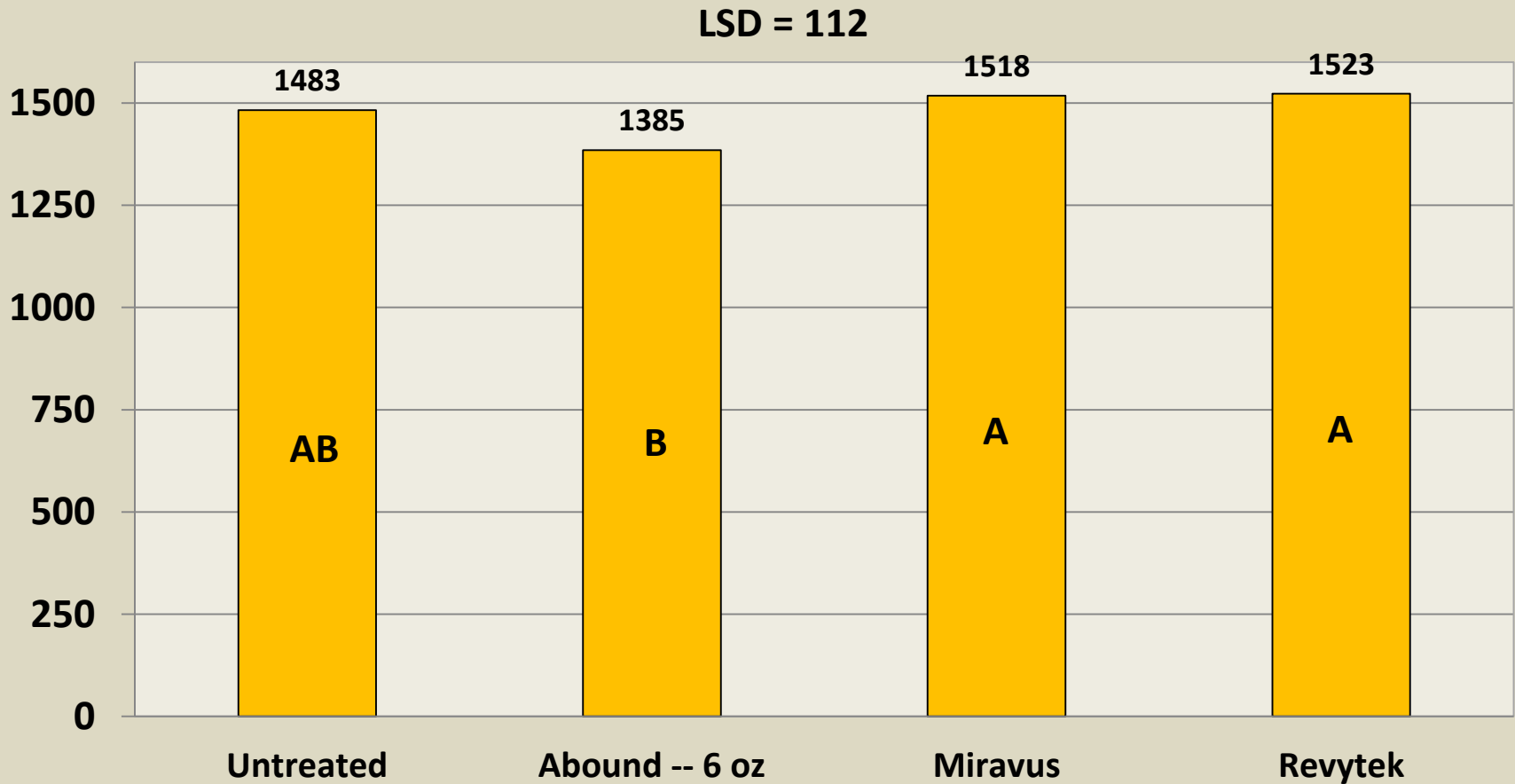
Miravis Top

Abound

# 2023 Colquitt County Cotton Fungicide Plot

## Bay, Georgia

### Lint Yield (lb/A)



Fungicide Application 3rd week of bloom. DG 3799 Assuming 40% Turnout



# Conclusions for Areolate Mildew

- Until 2023, use of fungicides always reduced defoliation.
- In 2023, azoxystrobin did not reduce defoliation.
- Until 2023, Priaxor and Miravis Top were best, azoxystrobin better than untreated check.
- In 4 out of 5 trials, yields increased by at least 100 lb lint/A, sometimes more.
- Concern now is that growers likely not able to use azoxystrobin for management of Areolate Mildew.



# Acknowledgements

- Perryman Farms
- Buckner Farms
- Funston Gin
- BASF
- Syngenta
- The Southern Gin



# Any Questions?

