

Using Applied Research on Your Farm

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Calhoun, Refugio and Victoria Counties



Mid-Coast IPM

2018 - On Farm Research

- ◎ You Identify Research Topics
- ◎ We work together to design field study
- ◎ We work together to find solutions

2017 Field Projects

Cotton

- ⊙ Thrips control with Seed treatments
- ⊙ Cotton Fleahopper IPM Sampling methods comparison
- ⊙ Variety tolerance to CFH
- ⊙ Insecticide Control Trials
 - ⊙ Cotton Fleahopper
 - ⊙ Bollworm
- ⊙ Evaluation of Bt cottons for bollworm control
- ⊙ Cotton Fertilizer Trial
- ⊙ Cotton Root Rot and UAVs
- ⊙ Cotton Harvest Aid Evaluation
- ⊙ Cotton stalk destruction of Enlist Cotton
- ⊙ Stalk destruction machine from Australian company
- ⊙ Cotton Variety trials
 - ⊙ Calhoun
 - ⊙ Conventional Cotton Variety trial
 - ⊙ Refugio
 - ⊙ Bayer APT Test

Sorghum

- ⊙ Insecticide Control Trials
 - ⊙ Sugarcane Aphid
 - ⊙ Sivanto application methods for SCA control
- ⊙ Hybrid Trials
 - ⊙ Hybrid evaluation for Sugarcane Aphid Resistance
 - ⊙ Calhoun
 - ⊙ Refugio

Corn

- ⊙ Herbicide Control of Smellmelon
- ⊙ Corn Fertilizer Trial
- ⊙ Hybrid Trials
 - ⊙ Calhoun
 - ⊙ Refugio

Soybean Variety Trial

Bermudagrass Pasture

- ⊙ Insecticide Control Trials
 - ⊙ Fall Armyworm
 - ⊙ Bermudagrass Stem Maggot

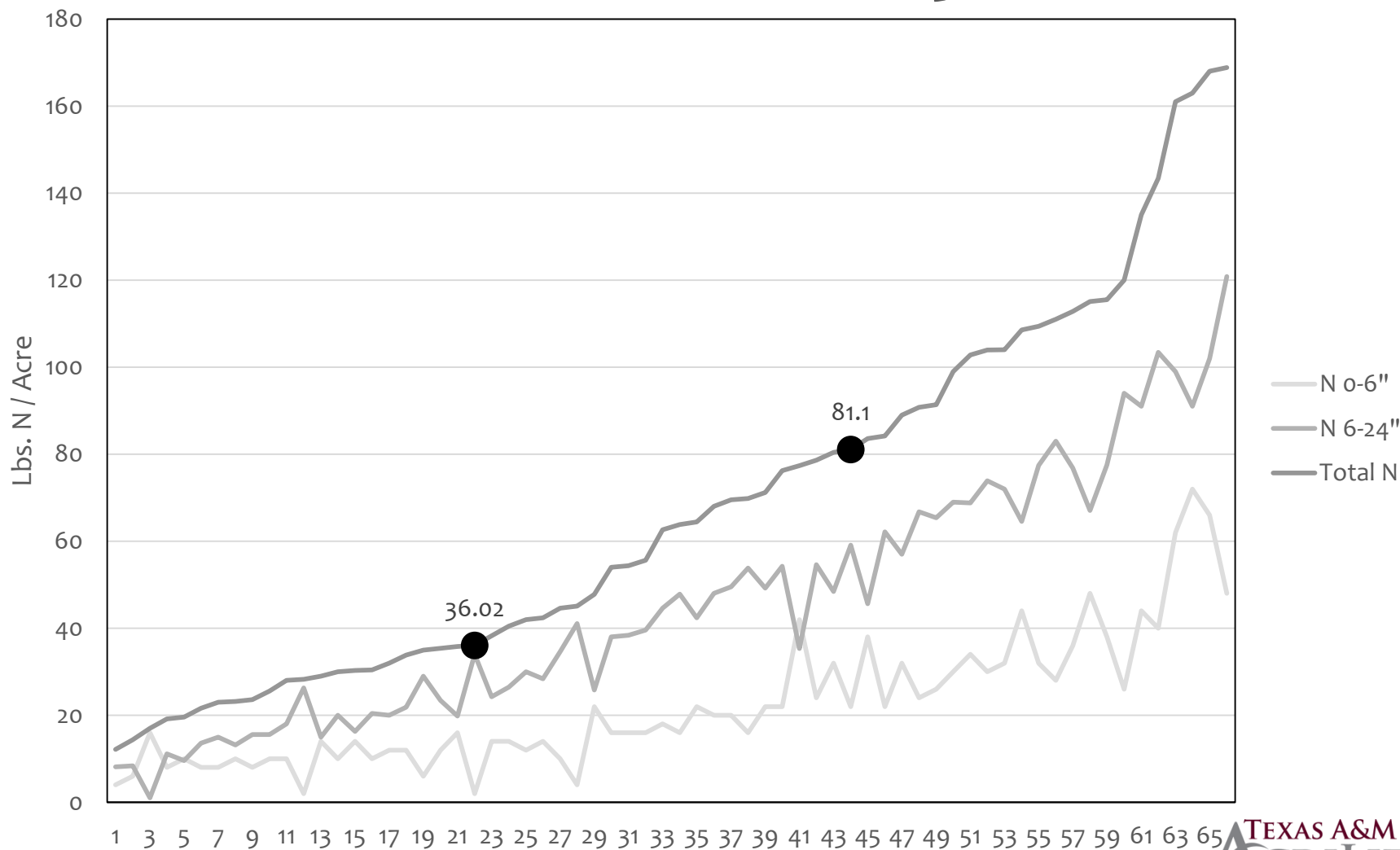
Fertilizer Trials

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Residual $\text{NO}_3\text{-N}$



Cotton Fertilizer Trial

☉ Methods

- ☉ Soil test found **104 lbs N 0-24"**
(32 lbs N 0-6" + 72 lbs N 6-24")
- ☉ Treatments (32 row plots)
 - ☉ 0 lbs N
 - ☉ 34 lbs N applied with JD Sprayer preplant
 - ☉ 68 lbs N
- ☉ Harvest with Picker Yield Monitor

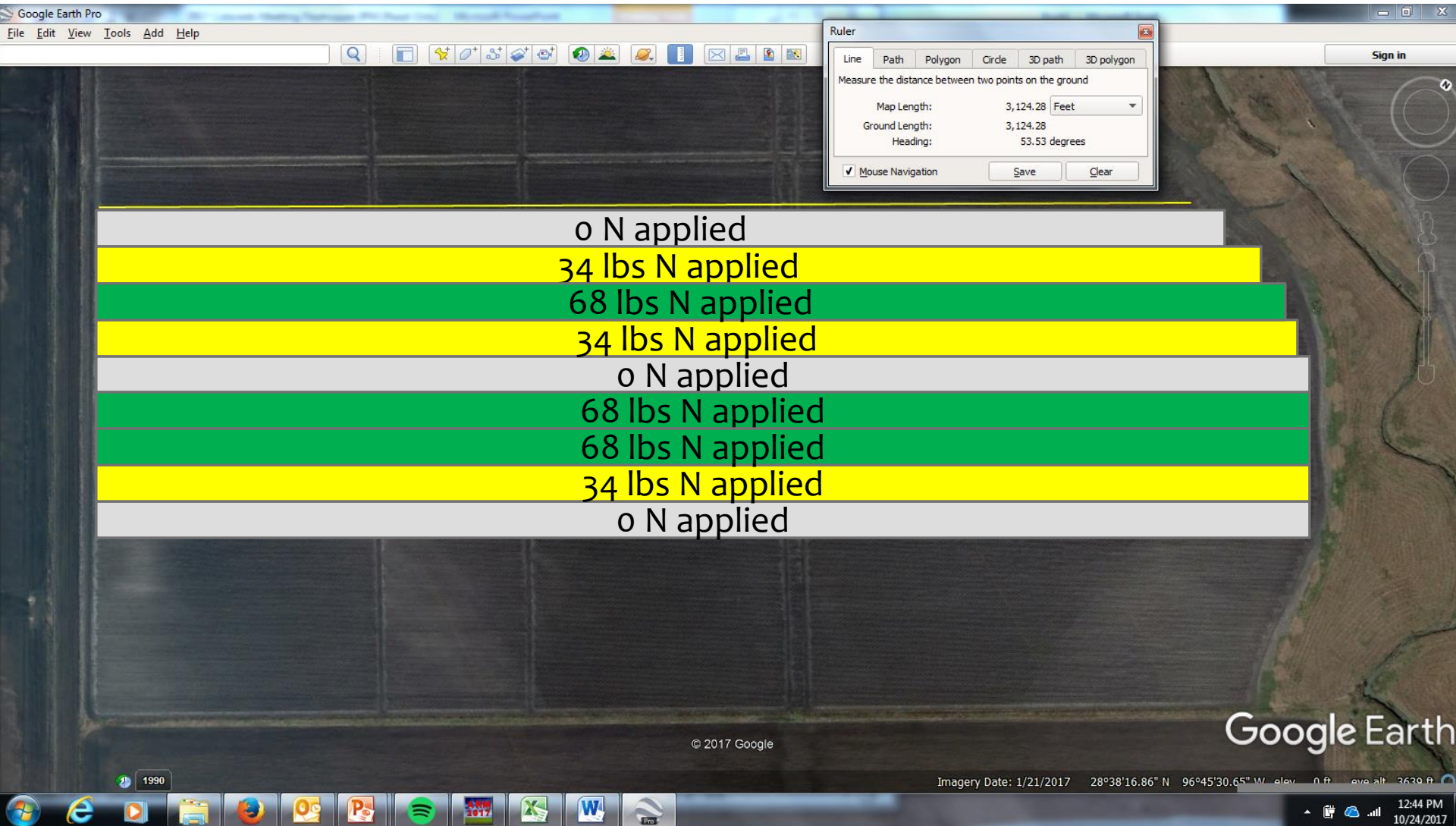
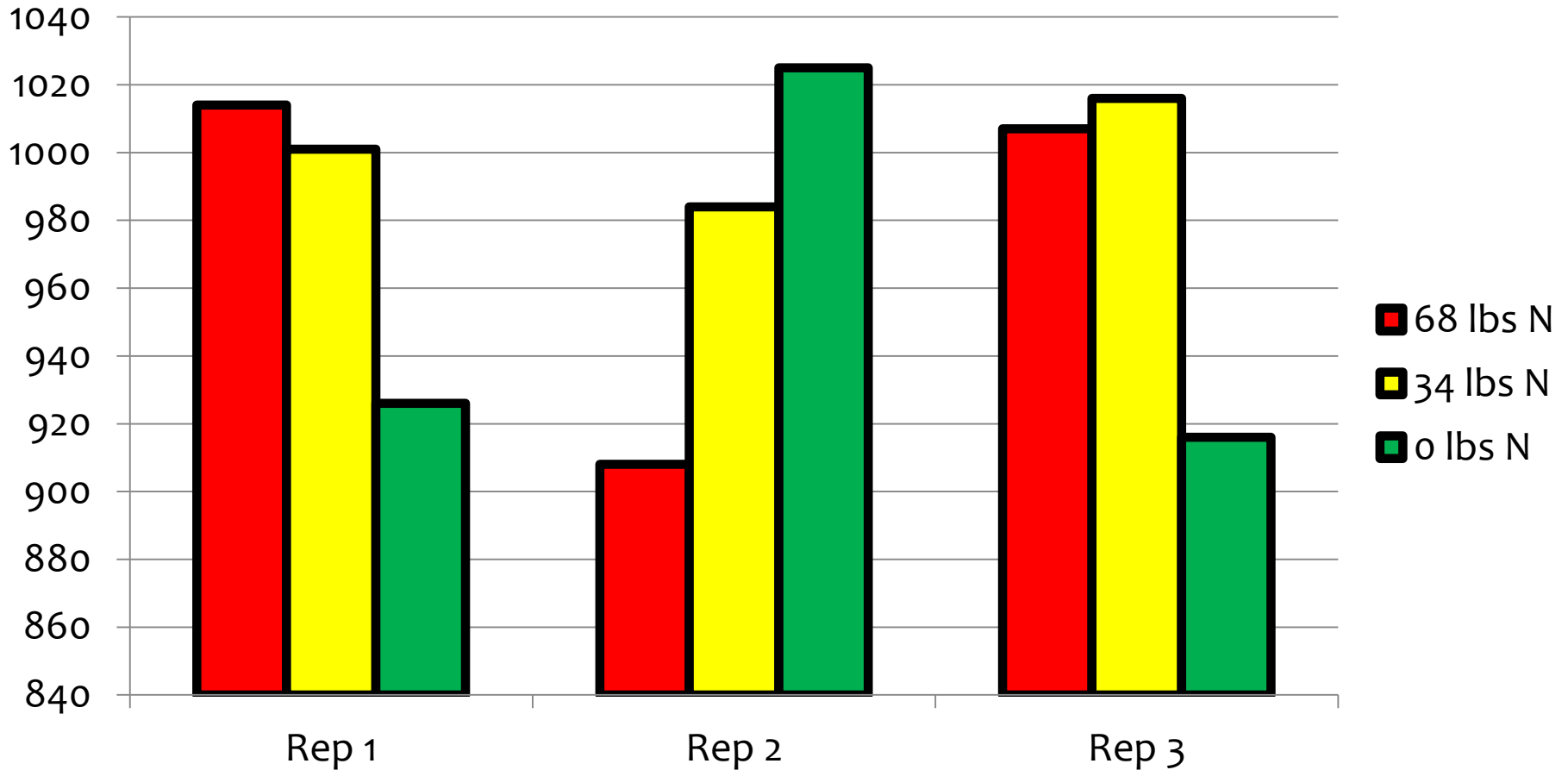


Table 2. Cotton yield, nitrogen cost and net revenue of three different treatments of nitrogen based on soil available nitrogen in the top 24 inches of soil. (Calhoun County, TX 2017).

Treatment		Yield (lbs. lint/A)		Nitrogen Cost (\$/acre)	Net Revenue (\$/acre)
1	130 lbs N	976	NS	\$18.36	\$665.07
2	65 lbs N	1000	NS	\$9.18	\$691.05
3	0 lbs N	956	NS	\$0.00	\$668.97
LSD P=.10		105.46			73.824
Standard Deviation		60.59			42.412
CV		6.2			6.28
Treatment F		0.408			0.327
Treatment Prob(F)		0.6896			0.7384

Means followed by same letter or symbol do not significantly differ (P=.10, LSD)

Cotton Yield by Nitrogen Fertilizer



Corn Fertilizer Trial

◎ Methods

- ◎ Soil test found **120 lbs N 0-24"**
(26 lbs N 0-6" + 94 lbs N 6-24")

◎ Treatments

- ◎ 0 lbs N
- ◎ 65 lbs N knifed application post emergence
- ◎ 130 lbs N

◎ Harvest with Grower Combine Yield Monitor

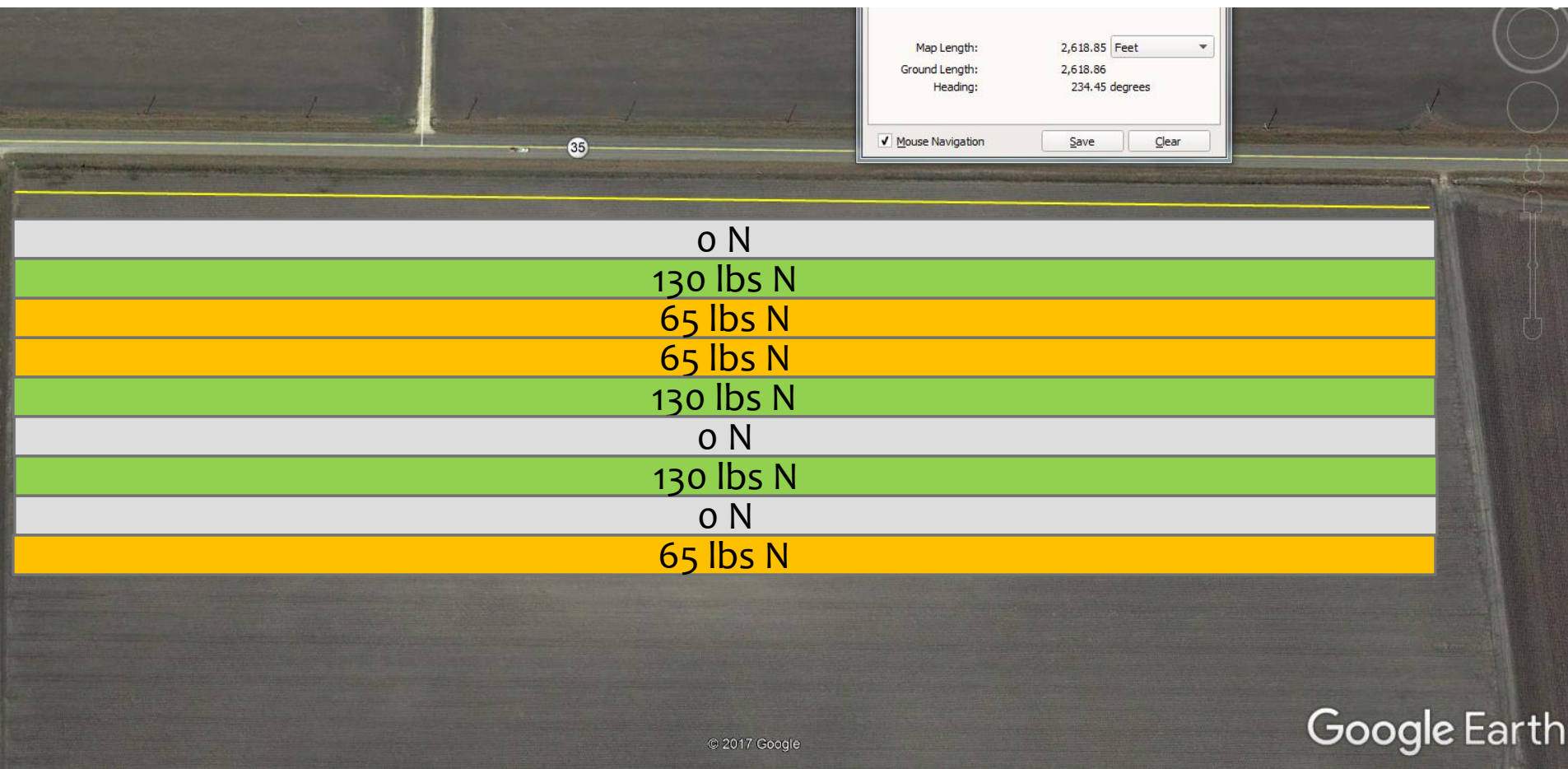


Table 2. Corn yield, nitrogen cost and net revenue of three different treatments of nitrogen based on soil available nitrogen in the top 24 inches of soil. (Calhoun County, TX 2017).

Treatment		Yield (bu/A)		Nitrogen Cost (\$/acre)	Net Revenue (\$/acre)
1	130 lbs N	140.3	a	\$34.67	\$456.50
2	65 lbs N	141.0	a	\$17.33	\$476.17
3	0 lbs N	129.3	b	\$0.00	\$452.67
LSD P=.10		7.93			27.77
Standard Deviation		4.56			15.954
CV		3.33			3.45
Treatment F		6.198			1.874
Treatment Prob(F)		0.0595			0.2665

Means followed by same letter or symbol do not significantly differ (P=.10, LSD)

2017 Cotton Field Trials



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Scouting the Cotton Fleahopper

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◎ **Cotton Fleahopper** (*Pseudatomoscelis seriatus*)

- ◎ Extension ET: 15 per 100 plants (visual)
- ◎ Consultant ET: 1-15 per 100 plants

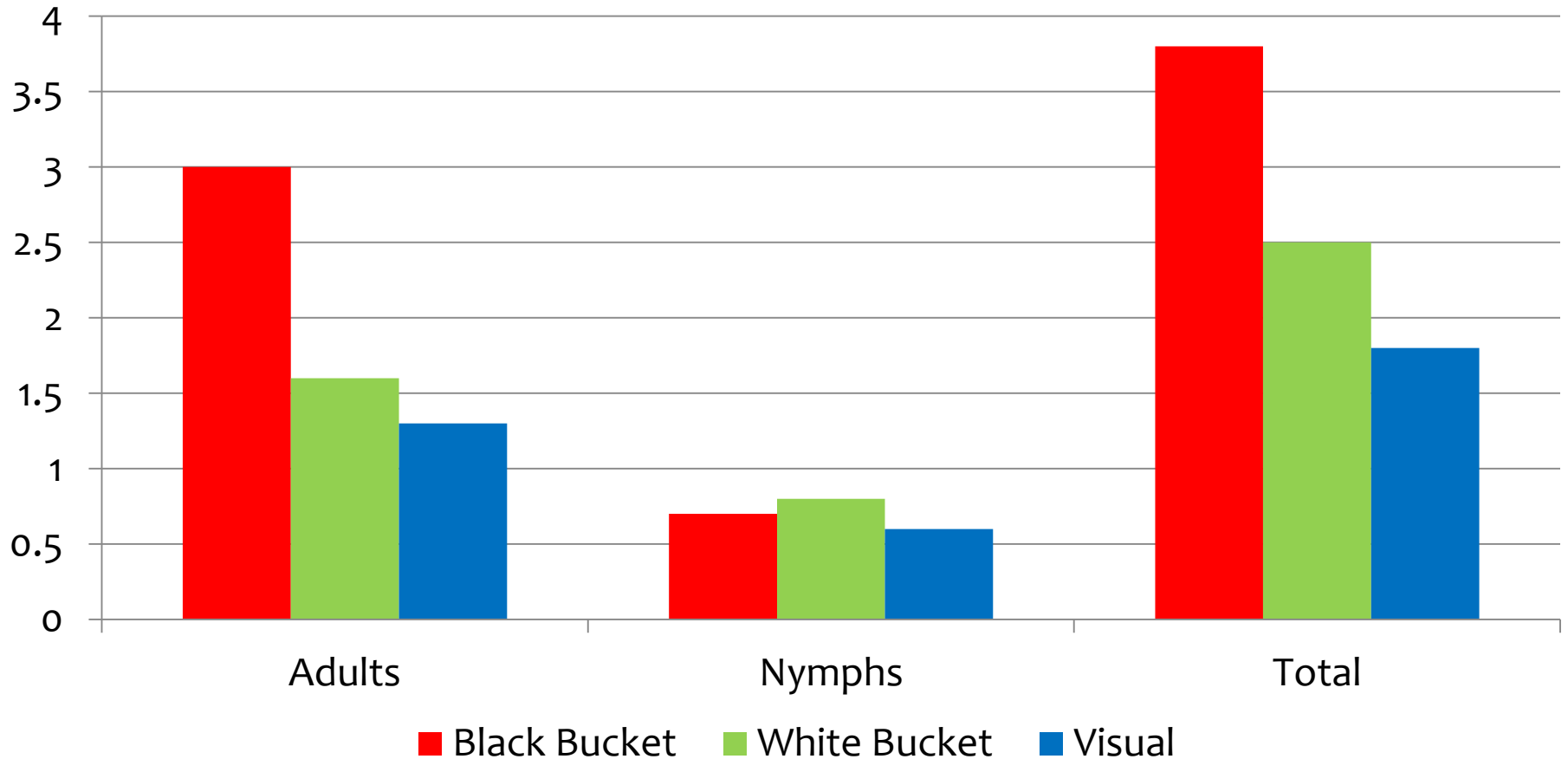


Methods

- ⊙ Compare scouting method
 - ⊙ Visual
 - ⊙ Beat Bucket
 - ⊙ Black 5 gallon bucket
 - ⊙ White 2 gallon bucket
- ⊙ Timing
 - ⊙ First square to
 - ⊙ Mid-bloom



Cotton Fleahoppers (#/10 plants) 2017



Insecticide Control of the Cotton Fleahopper

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Insecticide Control of the Cotton Fleahopper

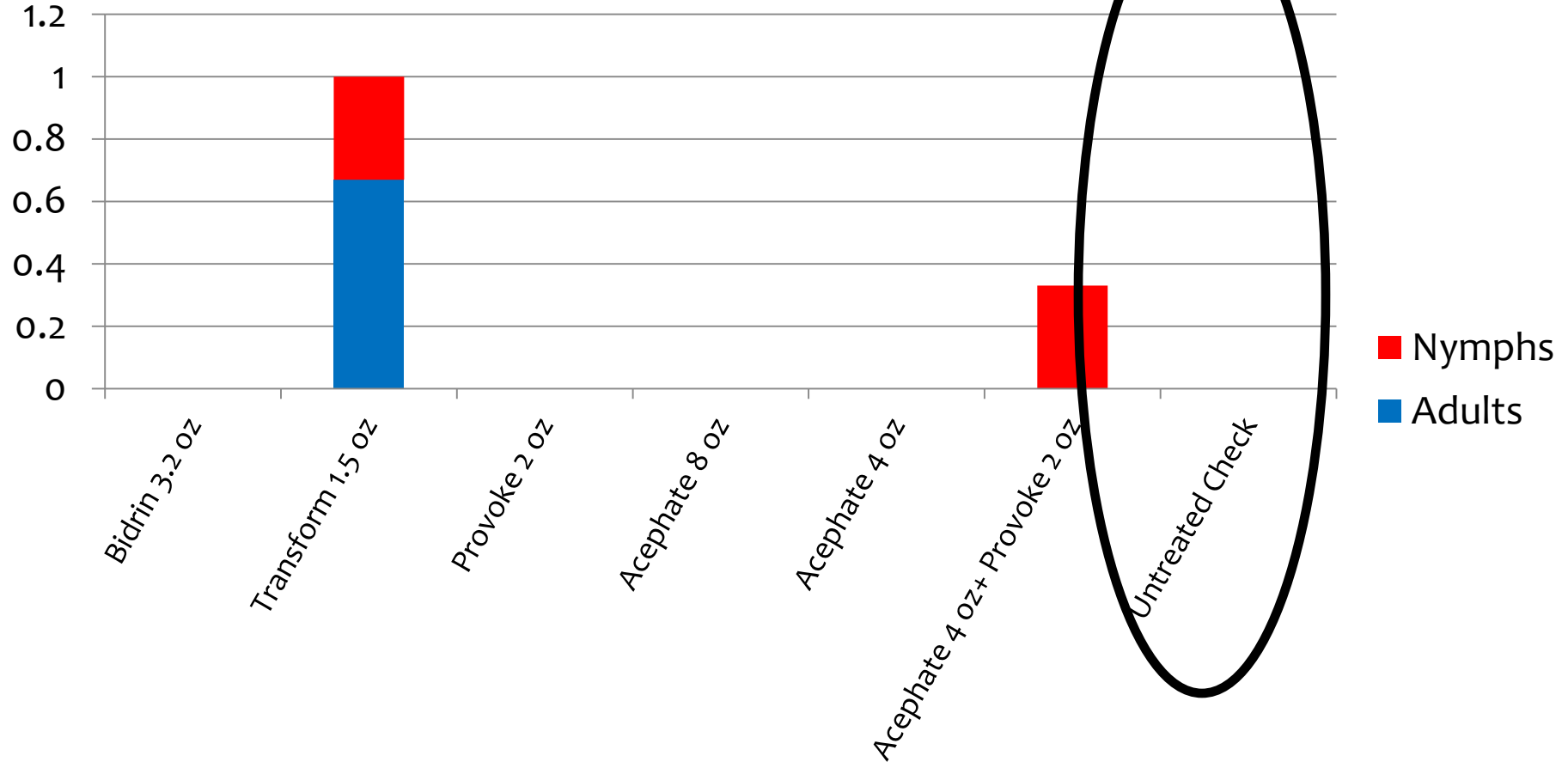
◎ Methods

- ◎ Application Date: May 9, 2017
- ◎ Treated Population 2-3 per 10 plants
- ◎ Spray Volume: 6.8 GPA
- ◎ Spray Tips: Hollow Cone
- ◎ Plot Design Randomized Complete Block

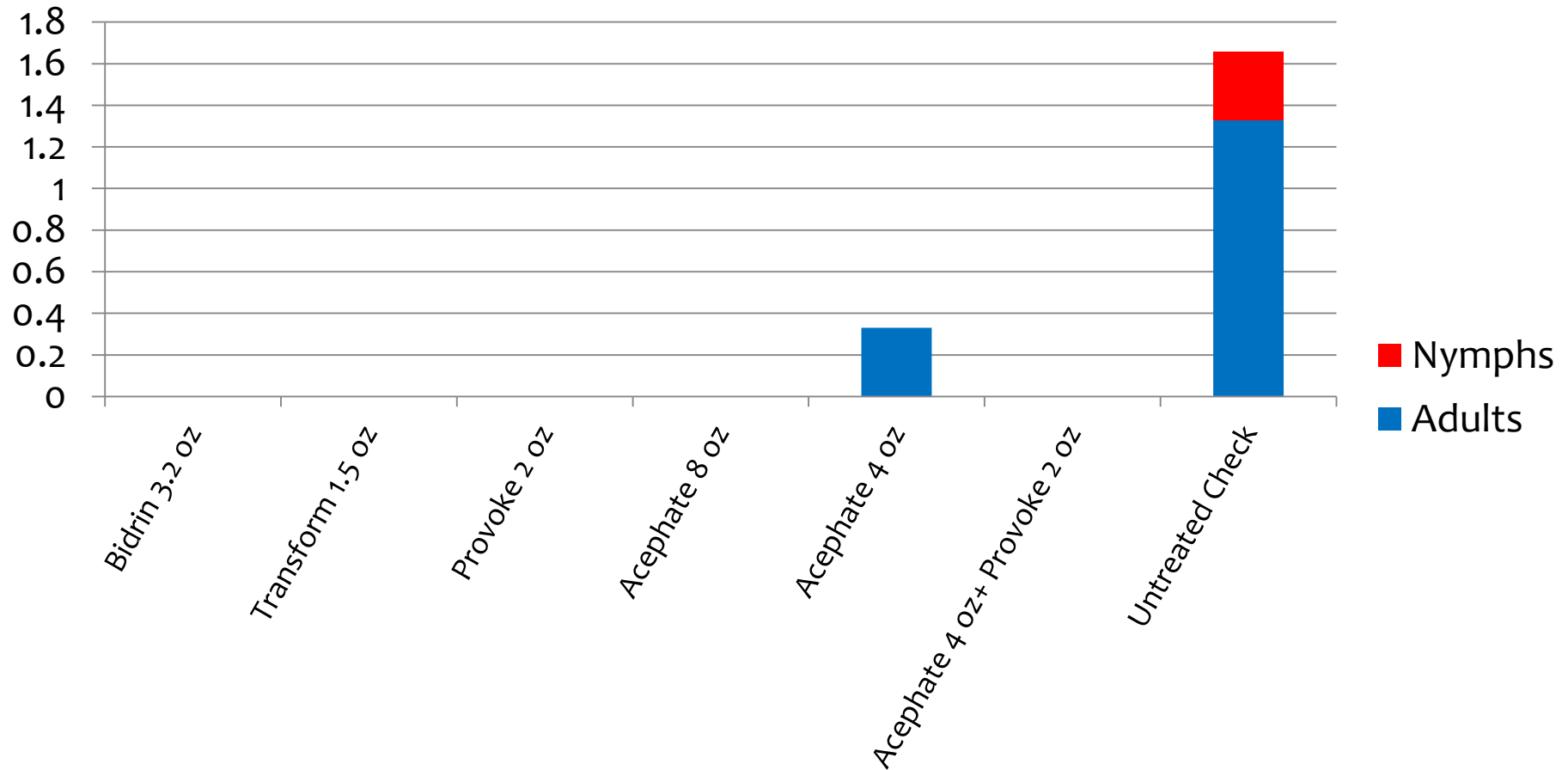
Insecticide Control of the Cotton Fleahopper

	Treatments	Rate	
1	Bidrin	3.2	oz/a
2	Transform	1.5	oz/a
3	Provoke	2	oz/a
4	Acephate	8	oz/a
5	Acephate	4	oz/a
6	Acephate	4	oz/a
	Provoke	2	oz/a
7	Untreated Check		

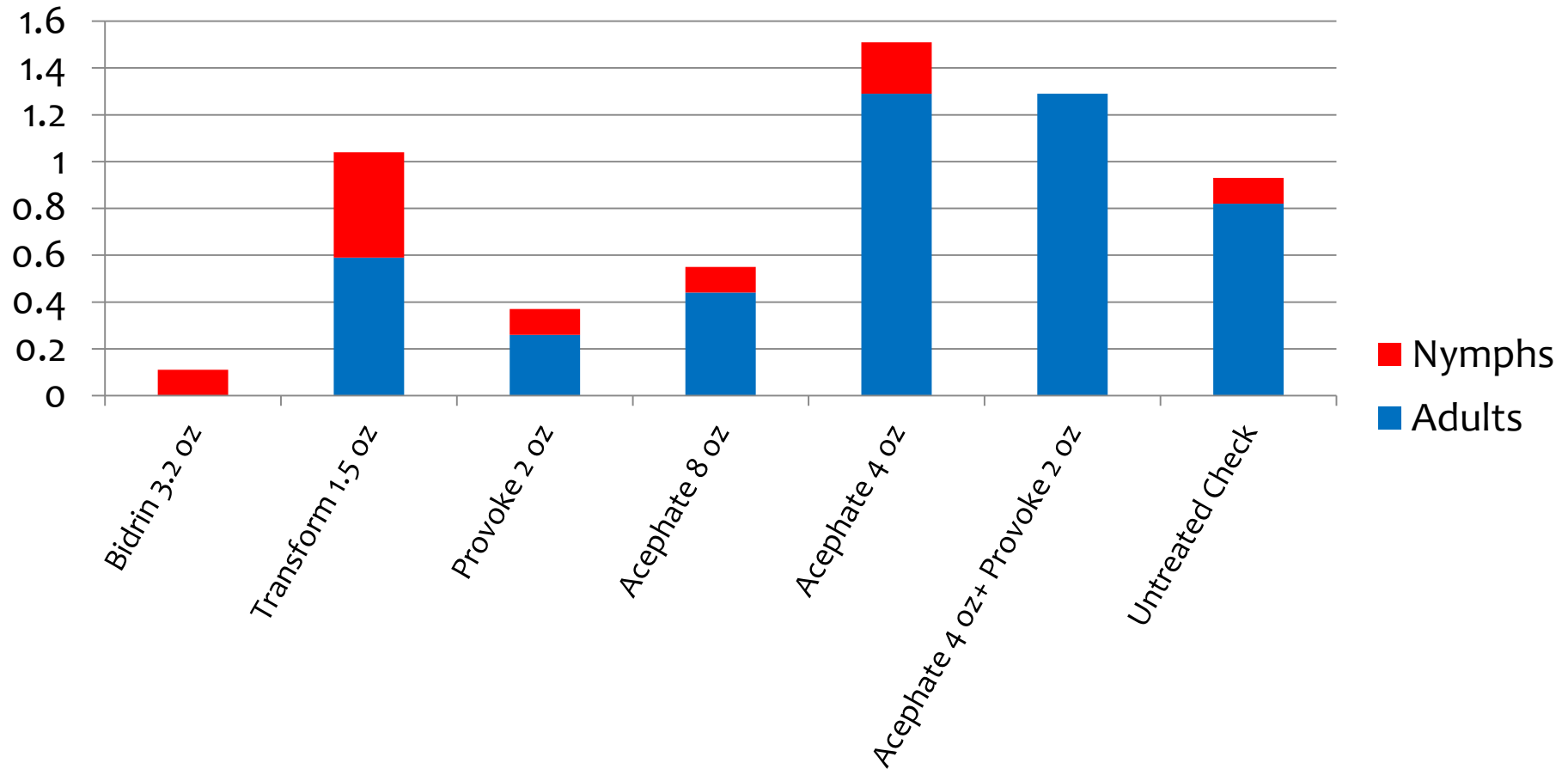
Insecticide Control of the Cotton Fleahopper 3 DAT



Insecticide Control of the Cotton Fleahopper 7 DAT



Insecticide Control of the Cotton Fleahopper 10 DAT



Evaluation of Bt Cotton for Bollworm Control

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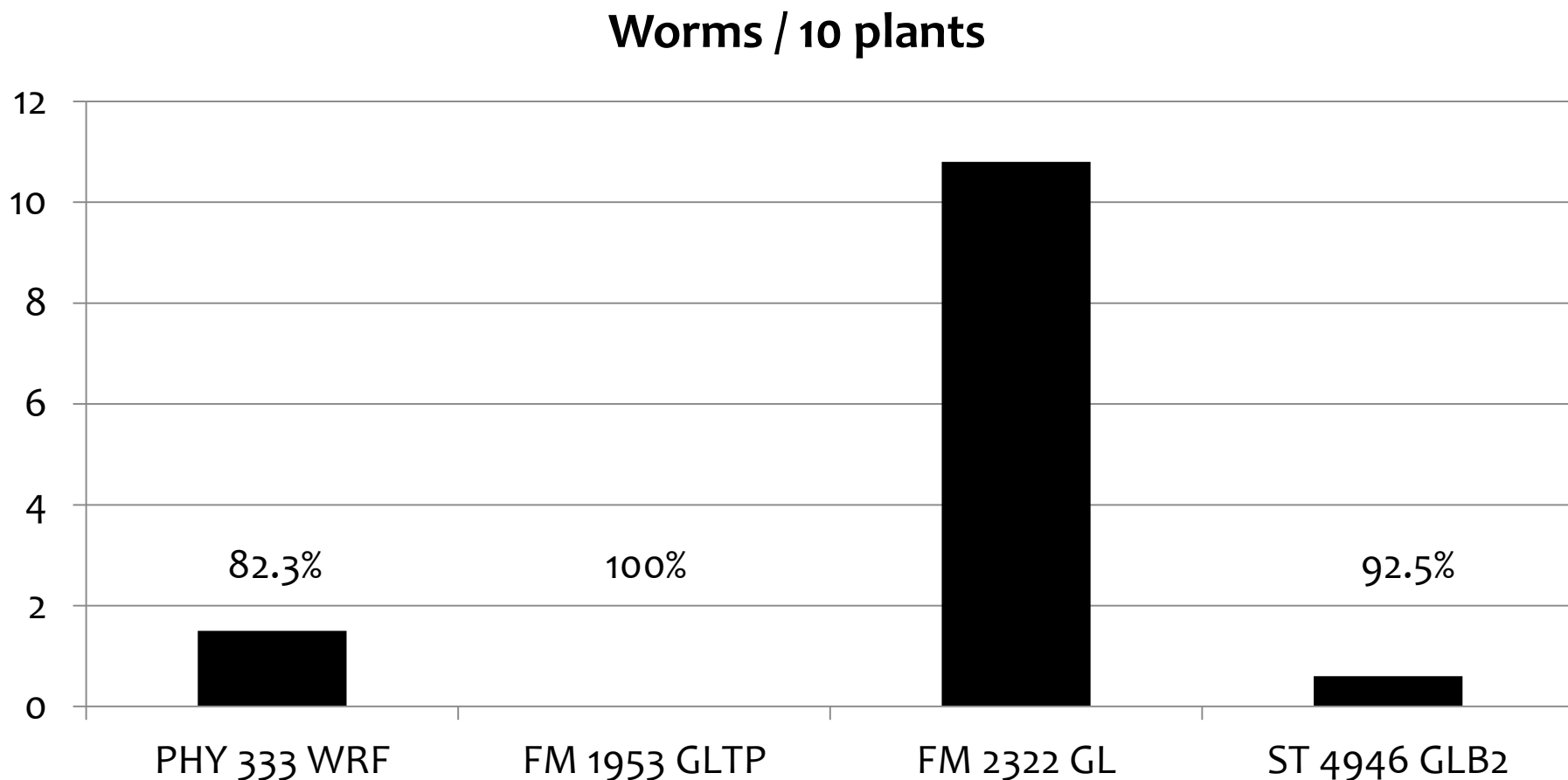
Evaluation of Bt Cotton for Bollworm Control

◎ Methods

◎ Varieties

- ◎ PHY 333 WRF
- ◎ FM 1953 GLTP
- ◎ FM 2322 GL (non-Bt)
- ◎ ST 4946 GLB2

Evaluation of Bt Cotton for Bollworm Control



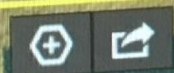


Clear

Clear



FIELD DETAILS





Cotton stalk destruction of Enlist Cotton

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Cotton stalk destruction of Enlist Cotton

⦿ Methods

- ⦿ Cotton Harvest: August 25
- ⦿ Application Date: Sept. 19
 - ⦿ Applied to standing cotton stalks
- ⦿ Shredded: Oct. 6

⦿ Treatments



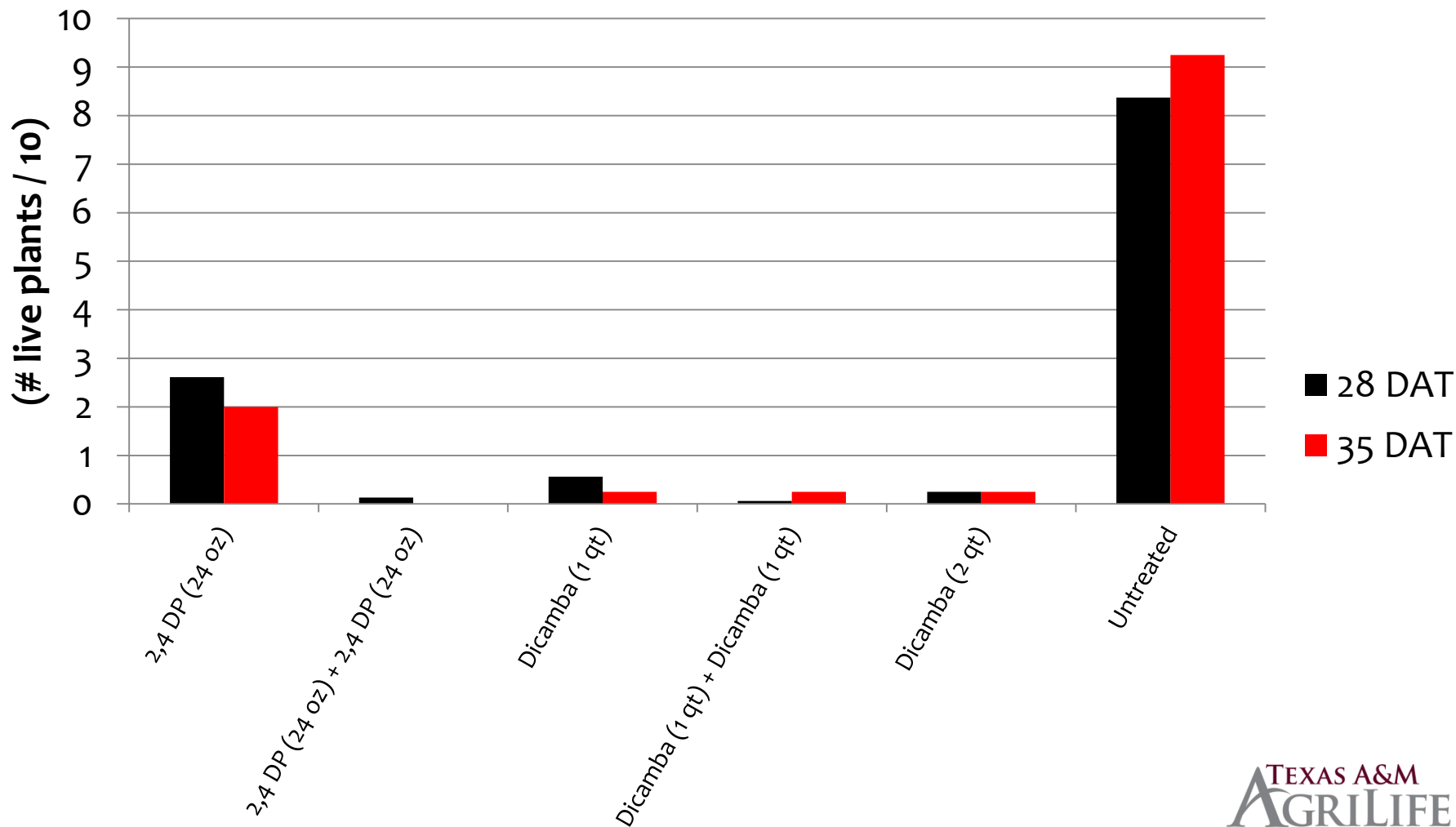


Cotton stalk destruction of Enlist Cotton

Trt	Treatment		Rate
No.	Name	Rate	Unit
1	2,4-DP	24	oz/a
2	2,4-DP	24	oz/a
	2,4-DP	24	oz/a
3	Dicamba (Veritas)	1	qt/a
4	Dicamba	1	qt/a
	Dicamba	1	qt/a
5	Dicamba	2	qt/a
6	Untreated Check		

Agri-Dex applied to all treatments at 1 % v/v

Cotton stalk destruction of Enlist Cotton



Stalk Destruction Machine Australian Method

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Scorpion Root Cutter















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Hybrid evaluation for Sugarcane Aphid Resistance

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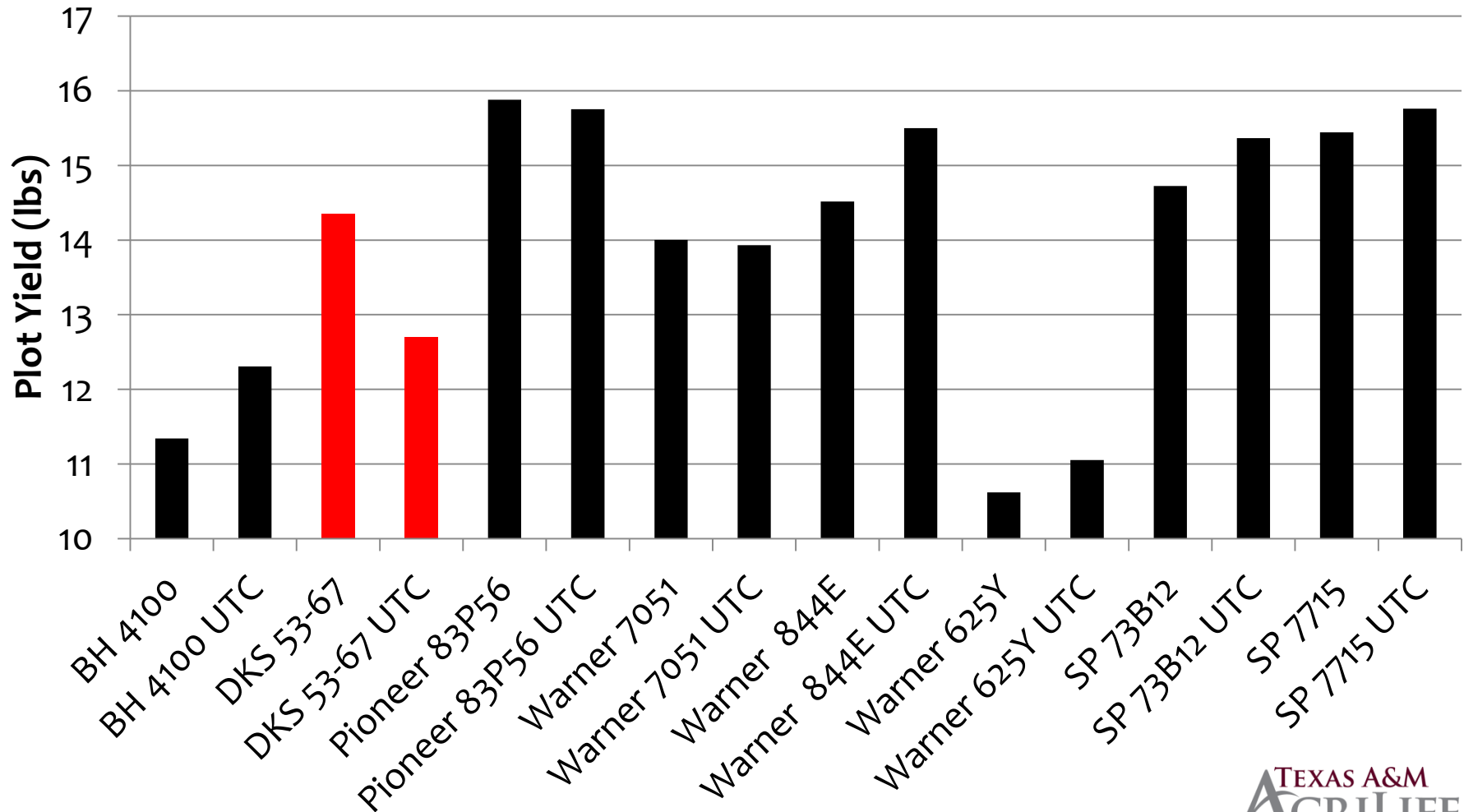


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Hybrid evaluation for Sugarcane Aphid Resistance

- ⦿ Methods
- ⦿ 8 sorghum hybrids planted
 - ⦿ Treated and untreated
 - ⦿ Sivanto 5 oz/A
- ⦿ Harvest

Hybrid evaluation for Sugarcane Aphid Resistance



		YIELD		
No.	Hybrid	lb/A		
1	REV RV9782	5929	NS	
2	SP 78M30	4190	NS	
3	DG M74GB17	5182	NS	
4	BH 4100	5865	NS	
5	DKS 51-01	7560	NS	
6	SP 7715	5283	NS	
7	GA 3960 B	6047	NS	
8	XG 3203	5930	NS	
LSD P=.05		1891.06		
Standard Deviation		1079.86		
CV		18.79		
Treatment F		2.358		
Treatment Prob(F)		0.0814		



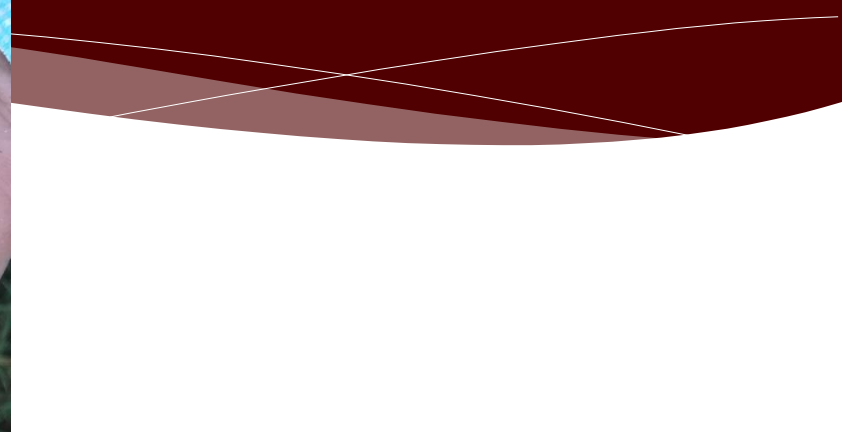
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No.	Hybrid	Yield BU/A	
1	DKS 67-14 1	138	NS
2	My 13M87	122	NS
3	GA G6708	151	NS
4	DKC 67-14	131	NS
5	REV 25BHR26	135	NS
6	DG D57VP51	142	NS
LSD P=.05		21.79	
Standard Deviation		11.98	
CV		8.76	
Treatment F		1.982	
Treatment Prob(F)		0.1672	

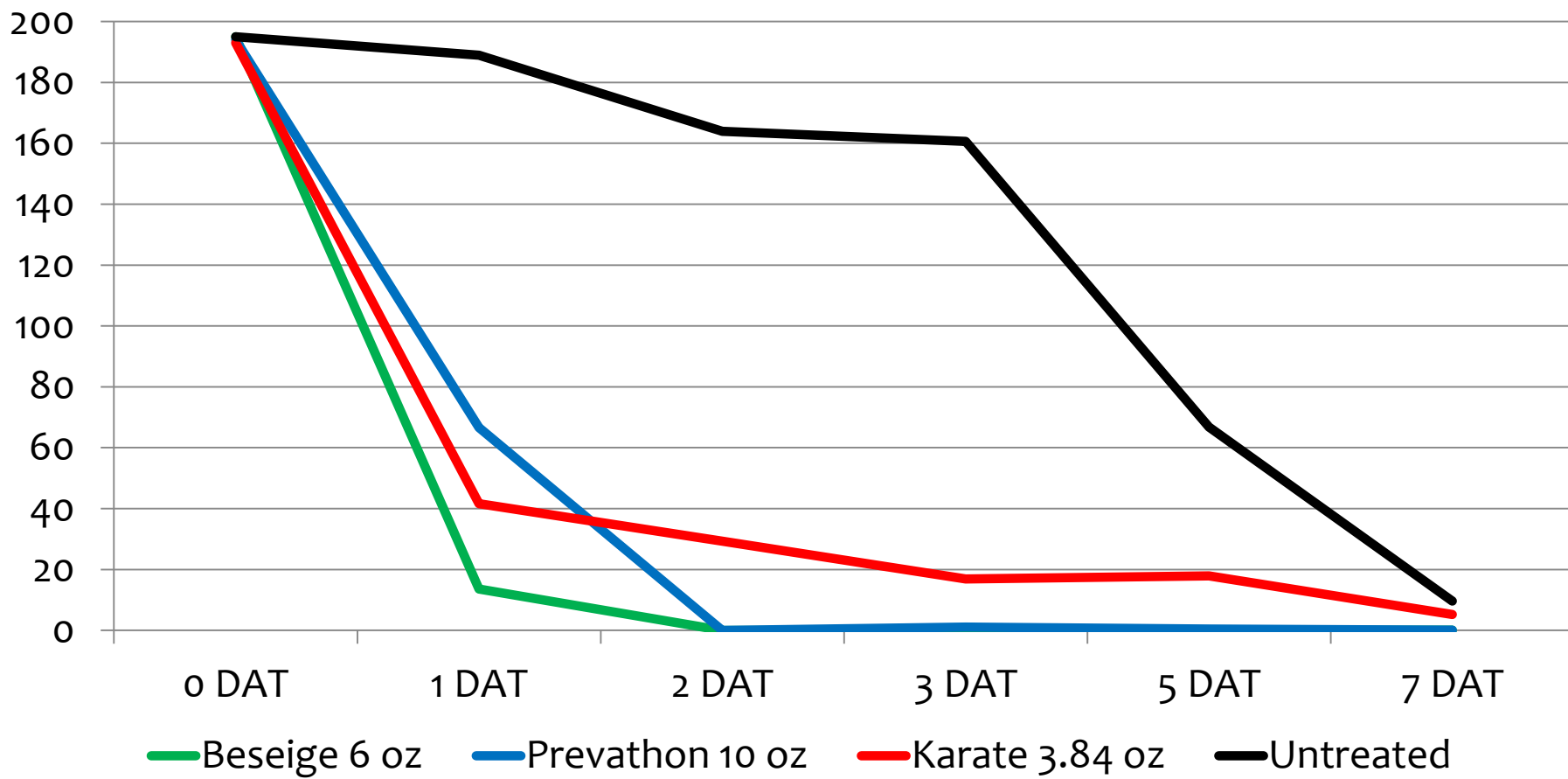


2017 Bermudagrass Field Trials

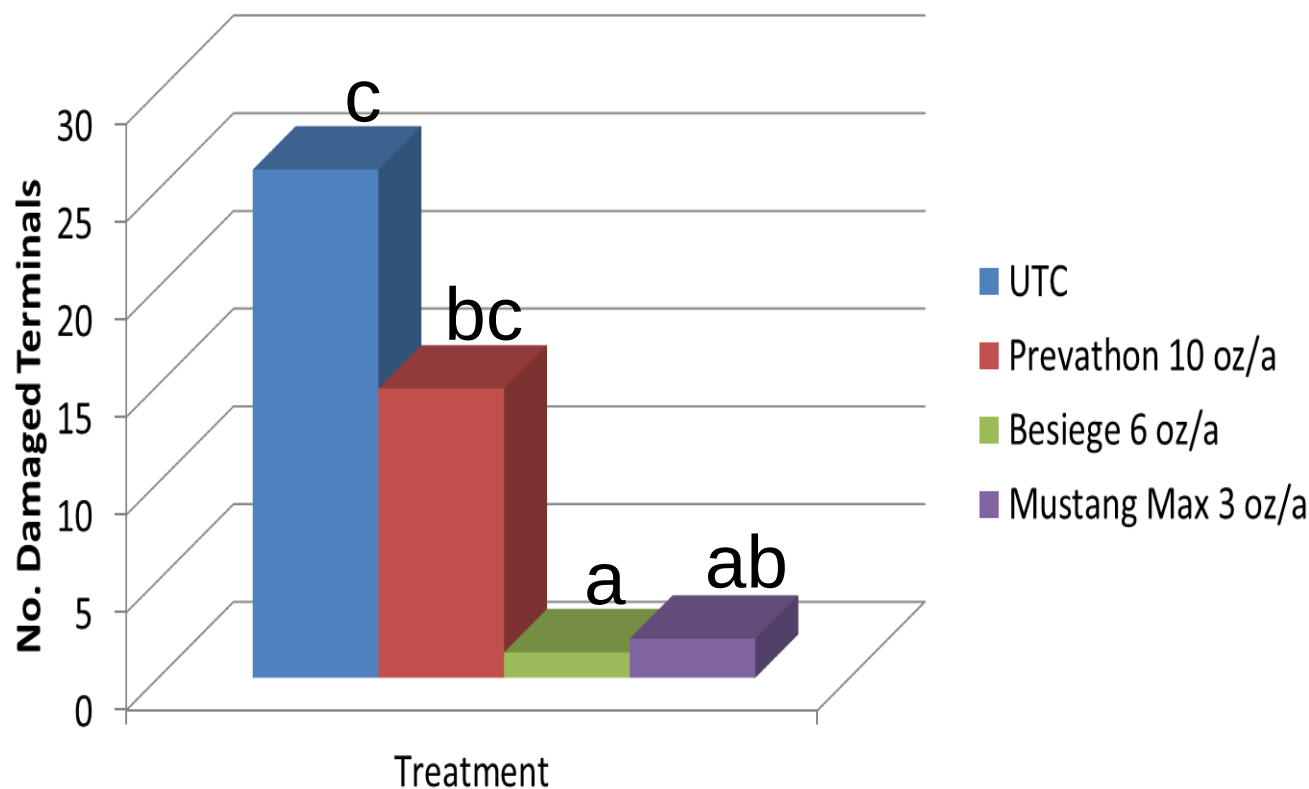
Mid-Coast IPM



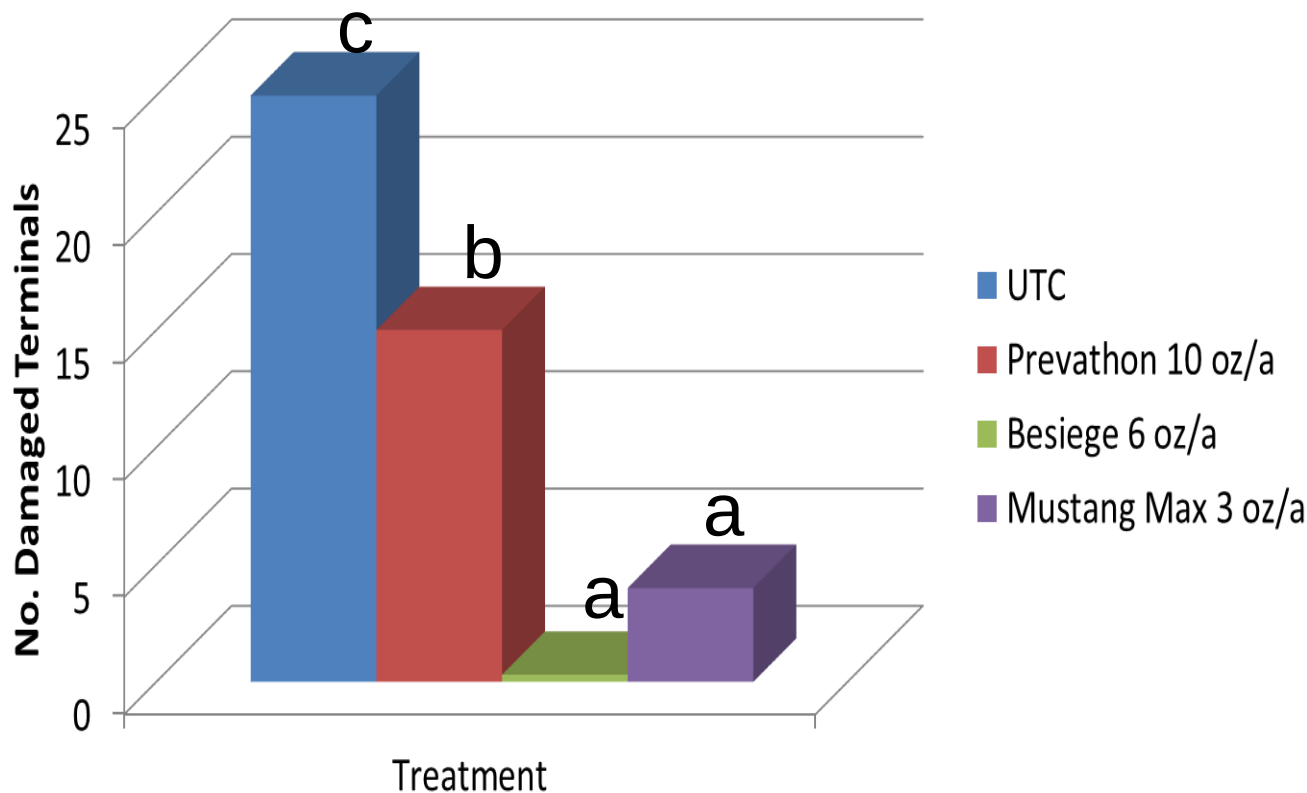
Insecticide Control of Fall Armyworm



Bermudagrass Stem Maggot Insecticide Efficacy Trial Calhoun County, Texas July 22, 2015 – 10 Day Post Treatment Evaluation



Bermudagrass Stem Maggot Insecticide Efficacy Trial Calhoun County, Texas August 5, 2015 – 19 Day Post Treatment Evaluation*



2018 Field Plans



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2018 - On Farm Research

◎ You Identify Research Topics

◎ Variety / Hybrid Trials Cotton, Corn, Sorghum, Soybean

- ◎ Small plot trials
- ◎ I plant and harvest
- ◎ You treat like the rest of the field

◎ Soil Fertility Cotton, Corn, Sorghum

- ◎ I soil test
- ◎ You fertilize 3 rates of Nitrogen
- ◎ Harvest with yield monitors

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