2021 Hill County Preliminary Report

Cotton

Preliminary Data Compiled by:

Zach Davis, Hill County Extension Agent – Agriculture & Natural Resources

Tyler Mays, Extension Agent – IPM Hill/McLennan County

Shane McLellan, McLennan County Extension Agent – Agriculture

November 12, 2015

TO: Cotton Producers

Agribusiness

Extension Personnel

Enclosed are the preliminary results from cotton trials conducted in Hill and McLennan Counties. The tests include strip trials and replicated studies. Results of data should be reviewed over several years before making conclusions.

Appreciation is extended to producers who conducted these trials: Josh Gerik, Ronnie Gerik, Ronnie Joe Gerik, Matt Pustejovsky and Derik Pustejovsky.

If you have any questions or comments, please give us a call.

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Hill County

Tyler Mays, CEA-IMP
Hill/McLennan County

Shane McLellan, CEA-AG
McLennan County

Demonstration: 2017 Hill County Evaluation of Multiple Row Transgenic Cotton Variety Trial

Cooperator's Name and Location: Josh Gerik, FM 2114 Aquilla, TX

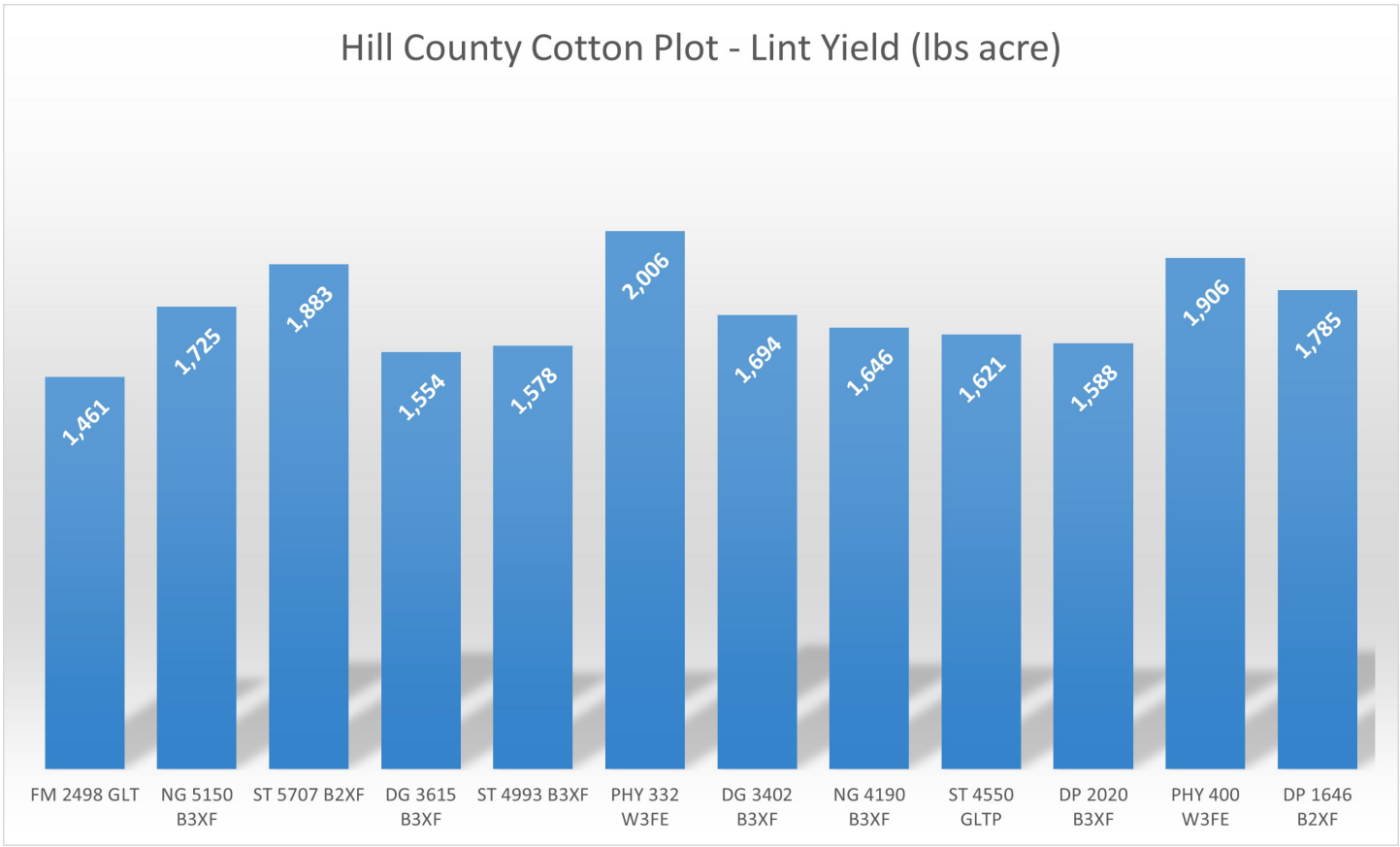
GPS Ordinance: 31.792102, -97.177416

Date Planted: 4/8/2021
Date Harvested: 9/24/2021
Seeding Rate: 55,000
Harvest: Machine

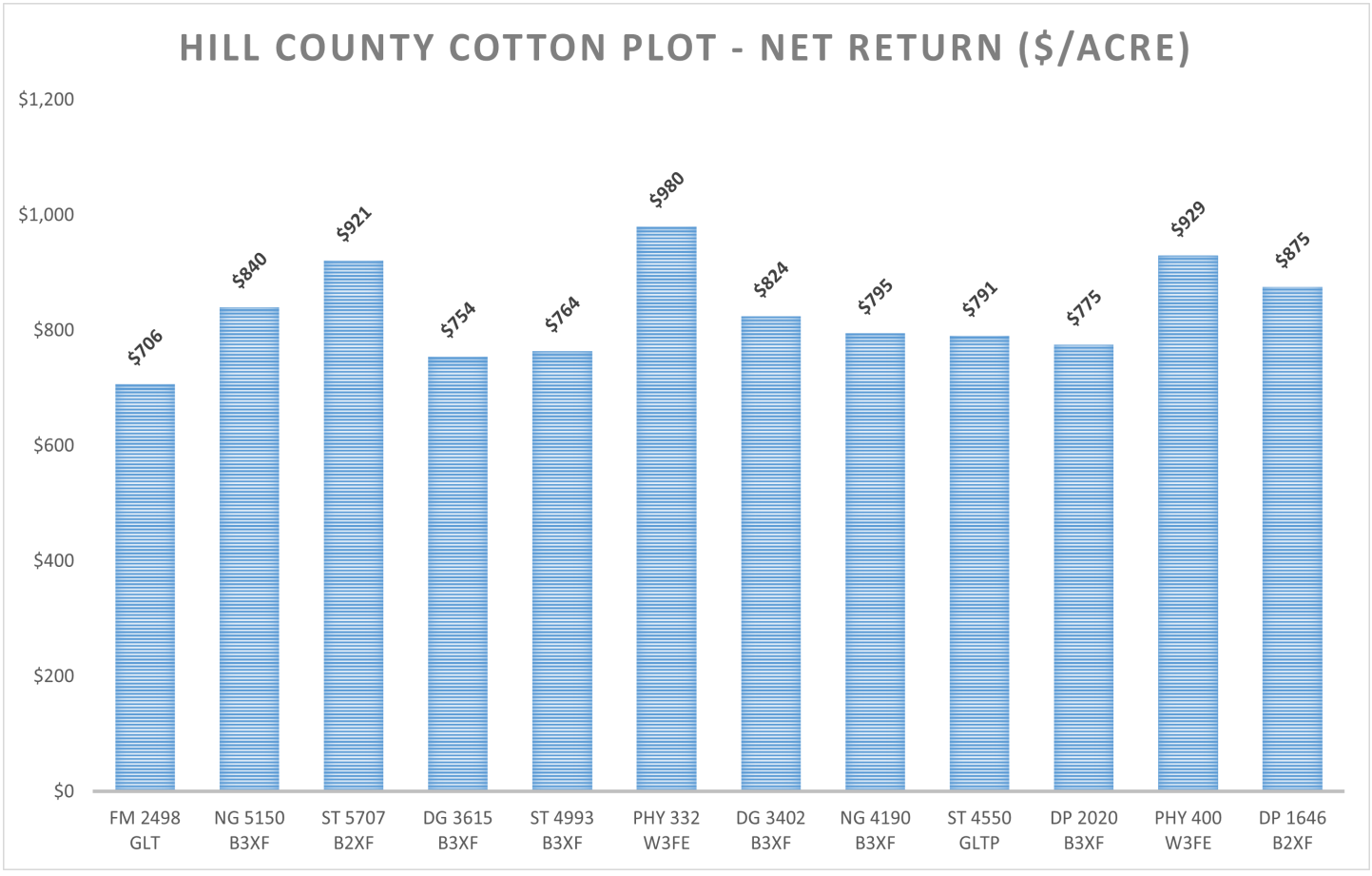
Number of Rows/Variety: 12
Row Spacing: 30 in.
Previous Crop: Corn

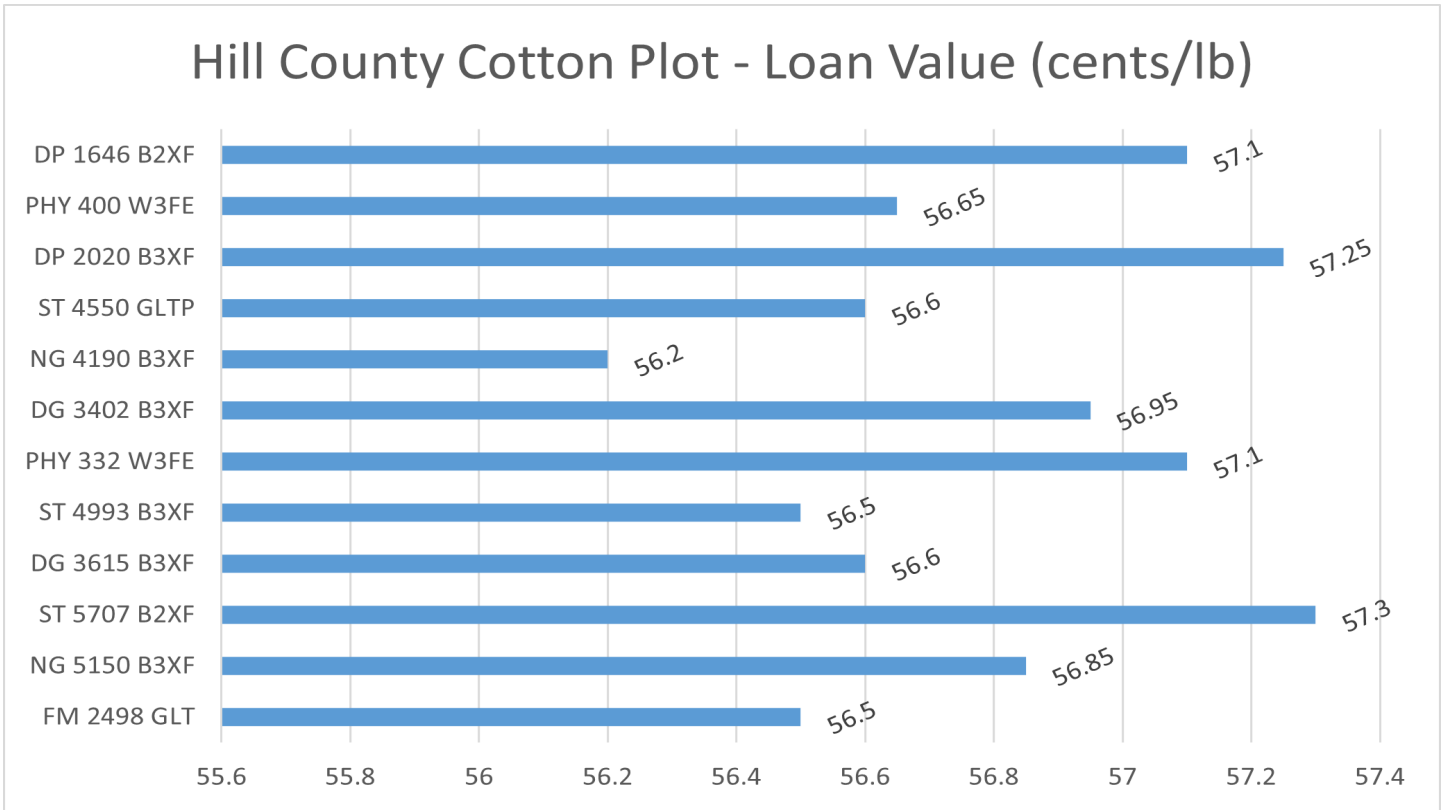
Variety	Lint Yield/A	Turnout	Strength	Length	Staple	Mic	Uniformity	Color*	Leaf*
PHY 332 W3FE	2,006	39.99%	31.7	1.19	38	4.51	83.5	31	3
PHY 400 W3FE	1,906	40.04%	30.6	1.14	37	4.49	81.7	31	3
ST 5707 B2XF	1,883	38.85%	33.0	1.18	38	3.99	84.1	31	3
DP 1646 B2XF	1,785	40.41%	31.5	1.22	39	4.58	83.5	31	3
NG 5150 B3XF	1,725	40.23%	30.7	1.18	38	4.33	82.8	31	3
DG 3402 B3XF	1,694	39.51%	30.8	1.18	38	4.46	84.4	31	3
NG 4190 B3XF	1,646	39.32%	29.6	1.13	36	4.52	84.0	31	3
ST 4550 GLTP	1,621	41.42%	33.1	1.13	36	4.61	84.7	31	3
DP 2020 B3XF	1,588	41.73%	32.3	1.18	38	4.29	84.3	31	3
ST 4993 B3XF	1,578	38.59%	31.6	1.11	36	4.84	83.9	31	3
DG 3615 B3XF	1,554	41.30%	29.6	1.14	37	4.60	83.2	31	3
FM 2498 GLT	1,461	40.36%	28.9	1.16	37	4.72	82.8	31	3

**** Color & Leaf were adjusted to a consistent 31-3 due to the lack of a lint cleaner on table top gin used to gin samples***



TEXAS A&M AGRILIFE EXTENSION





Impact of Various Sources and Rates of Foliar Potassium on Yield and Fiber Quality

Authors

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Zach T. Davis, County Extension Agent-Ag/Nr

Dale Mott, Extension Program Specialist-Cotton

Ben McKnight, Extension Specialist-Cotton Agronomy

Cooperator

Ronnie Gerik

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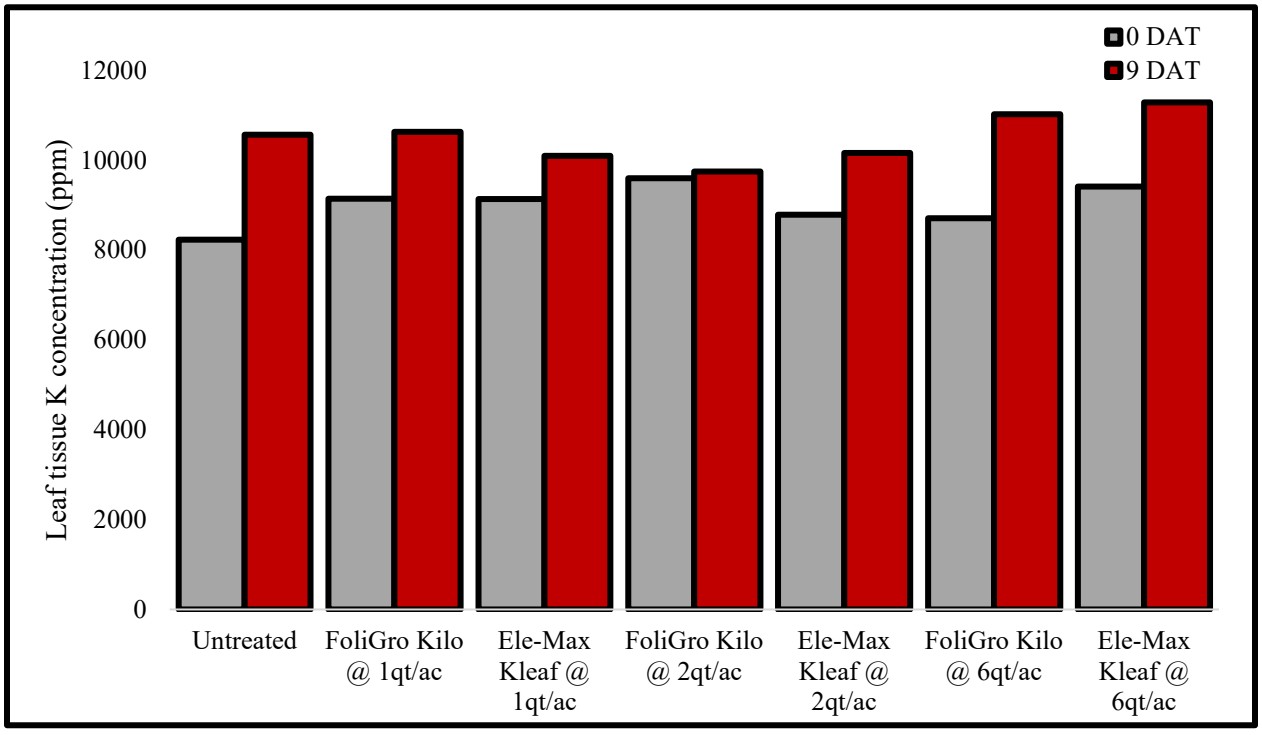

Fig. 1. Leaf tissue Potassium concentration at 0 (gray) and 9 (red) days after treatment. Hill County, TX; 2021

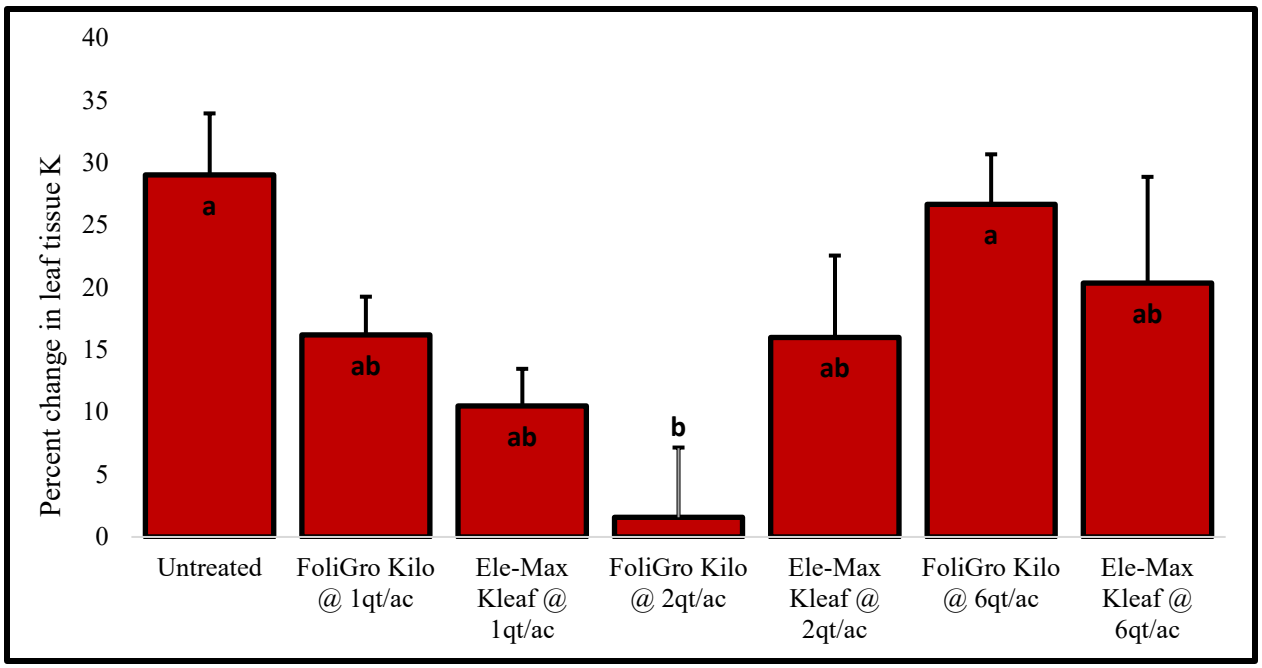

Fig. 2. Percent Change in leaf tissue Potassium between 0 and 9 days after treatment. Hill County, TX; 2021

Table 1. Plant height, nodes, and height to node ratio in Hill County, TX 2021

Treatment	Plant height (inches)	Total Nodes	Height to Node Ratio
Untreated	31.13	21.6	1.45
Foli-Gro Kilo @ 1qt/ac	33.03	23.4	1.42
Ele-Max K-Leaf @ 1qt/ac	30.20	22.3	1.36
Foli-Gro Kilo @ 2 qt/ac	30.95	22.8	1.36
Ele-Max K-Leaf @ 2 qt/ac	31.10	22.6	1.43
Foli-Gro Kilo @ 6 qt/ac	28.63	21.7	1.33
Ele-Max K Leaf @ 6 qt/ac	31.43	22.5	1.40

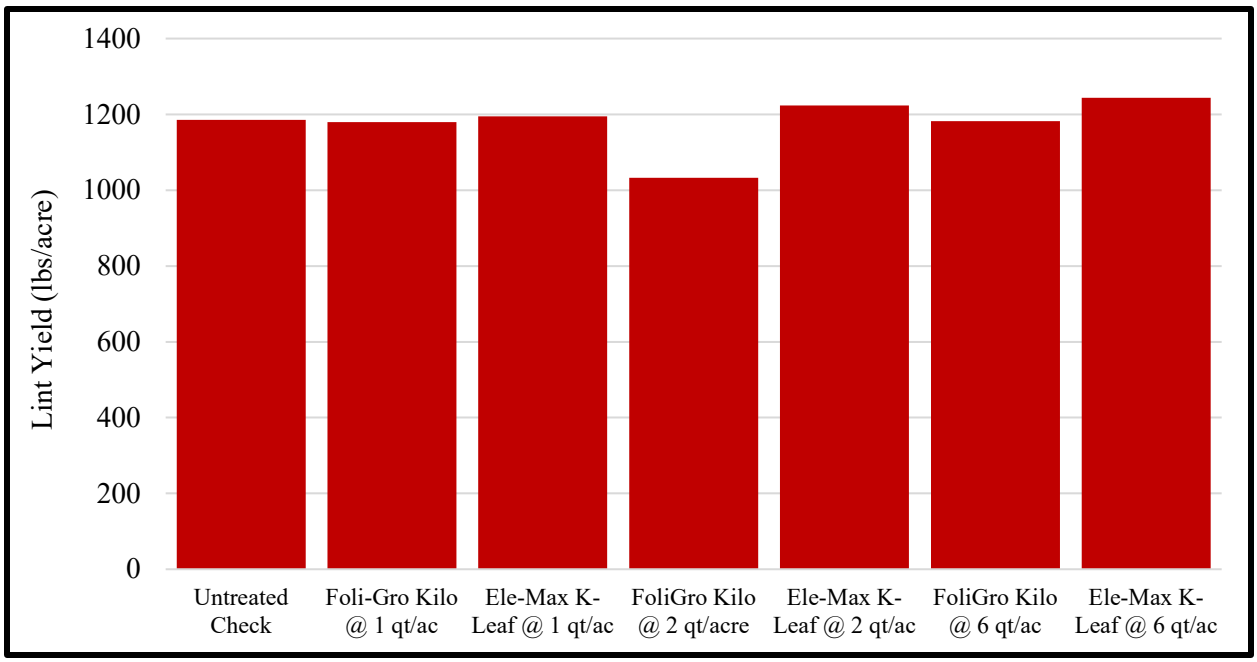

Fig. 3. Cotton lint yields (lbs/acre) for the different foliar K products and rates in Hill County, TX, 2021.

Table 2. Cotton fiber quality[1] and loan value for different foliar K products and rates in Hill County, TX, 2021.

Treatment	Micronaire	Length (in.)	Strength (g/tex)	Elongation	Uniformity	Loan Value ($/lbs.)
Untreated Check	4.2	1.168	29.20	6.33	83.5	0.57038
Foli-Gro Kilo @ 1 qt/ac	4.1	1.140	29.55	6.28	83.0	0.56475
Ele-Max K-Leaf @ 1 qt/ac	4.4	1.165	29.23	6.25	83.7	0.56913
Foli-Gro Kilo @ 2 qt/ac	4.3	1.155	29.00	6.35	82.8	0.56838
Ele-Max K-Leaf @ 2 qt/ac	4.2	1.148	29.85	6.20	83.5	0.56975
Foli-Gro Kilo @ 6 qt/ac	4.3	1.173	29.28	6.33	83.3	0.56975
Ele-Max K-Leaf @ 6 qt/ac	4.2	1.148	28.33	6.33	82.8	0.56813

[1]- Cotton fiber quality was determined by HVI analysis at the Texas Tech University Fiber and Biopolymer Research Institute in Lubbock, TX.

Conclusions

The three rates of Ele-Max K-Leaf and Foli-Gro Kilo applied at peak bloom had no impact on leaf tissue K concentrations, plant growth, yield, or fiber quality. Rains shortly after the applications likely increased soil K availability, thus hindering our ability to observe any differences between the treatments. Foliar feeding nutrients is not a cure all, especially for K as the plant demand can be as much as 3 lbs. K_2O per acre per day. It is not feasible to foliar fertilize to meet this demand, and currently the best way to combat K deficiencies in cotton is by either inject liquid K_2O or applying a dry K_2O fertilizer prior to planting. Based on these results foliar applied K has not impact on leaf tissue K concentrations, yield, or fiber quality.

Effect of Nozzle Selection on Cotton Fleahopper Management, 2021

Authors

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Cooperator

Matt Pustejovsky

Derik Pustejovsky

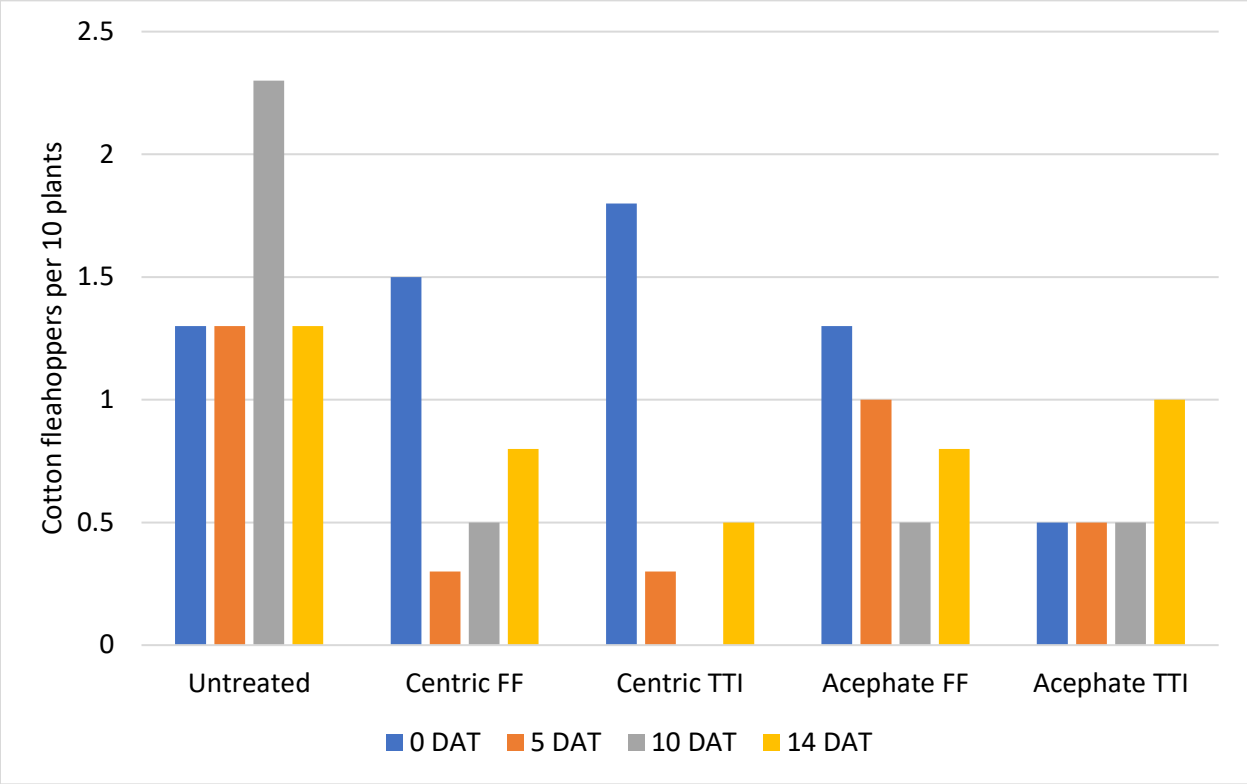

Figure 1. Cotton fleahopper populations affected by Centric and acephate applied with either a TeeJet XR8002 flat fan or Turbo TeeJet Induction (TTI)11002 spray tip in Hill County, 2021

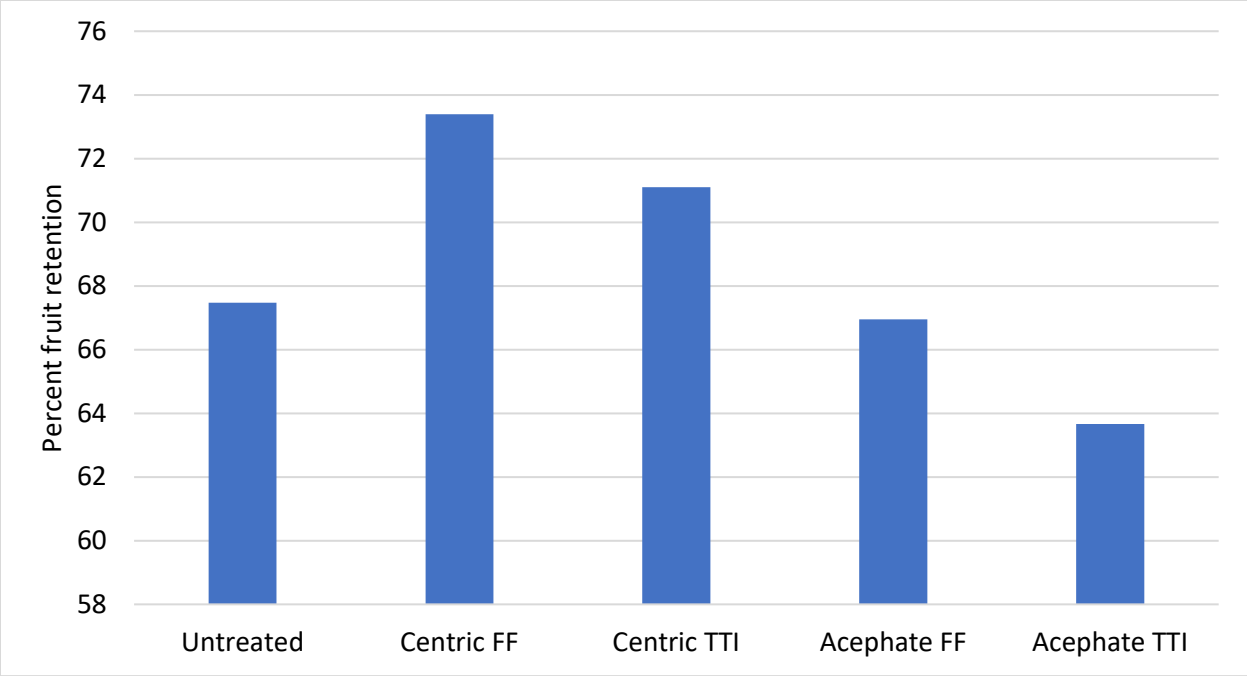

Figure 2. Cotton fruit retention rates affected by Centric and acephate applied with either a TeeJet XR8002 flat fan or Turbo TeeJet Induction (TTI)11002 spray tip in Hill County, 2021

Conclusions

Cotton fleahopper populations were numerically reduced by Centric applied with both the flat fan and TTI spray tips, and acephate applied with the TTI spray tips at 5 and 10 DAT. The lack of statistical difference between treatments for fleahopper populations at any sampling date or the fruit retention rate indicates that spray tip selection has little impact on insecticide efficacy against the cotton fleahopper. It appears from this project that application volume is more important on insecticide efficacy rather than spray tip selection. Since the label for these auxin-based herbicides require more than 10 gal./acre application rates there should be not reduction in insecticide efficacy when applied in a tank mix with an auxin-based herbicide like XtendiMax or Enlist Duo.

Efficacy of 5 Commercial Cotton Bt Trait Packages, 2021

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Cooperator

Ronnie Gerik

Ronnie Joe Gerik

Table 1. Percent fruit (squares & bolls) damage by sampling date, Hill County, 2021

Date	Non-Bt	TwinLink	TwinLink Plus	Bollgard 2	Bollgard 3	WideStrike 3
9 July	0	0	0	0	0	0
16 July	3	0	0	0	0	0
23 July	9	0	0	0	0	0
30 July	13	3	0	1	0	0
6 Aug.	9	0.5	0	1	0	0
13 Aug.	10	1	0	0.5	0	0
20 Aug.	4.5	0	0	0	0	0

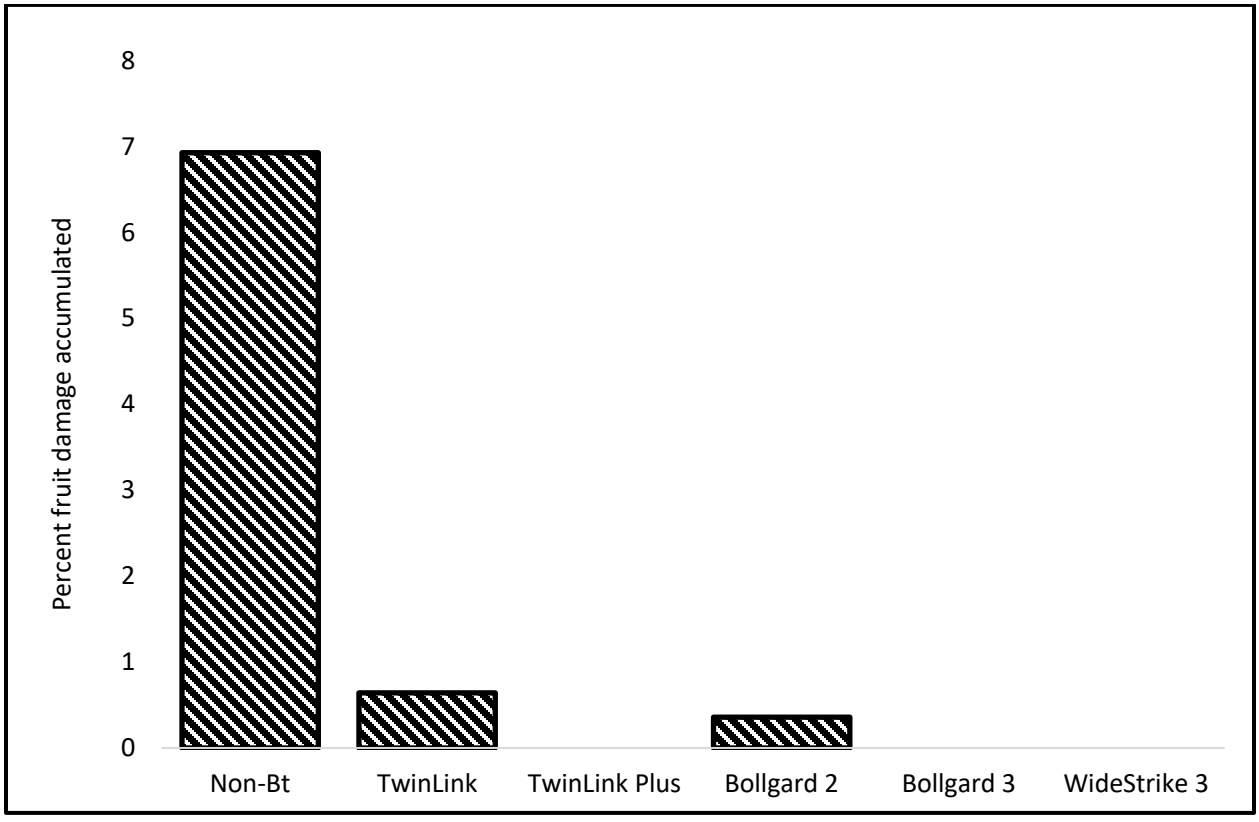

Figure 1. Percent of fruit damage across the entire sampling period in Hill County, 2021

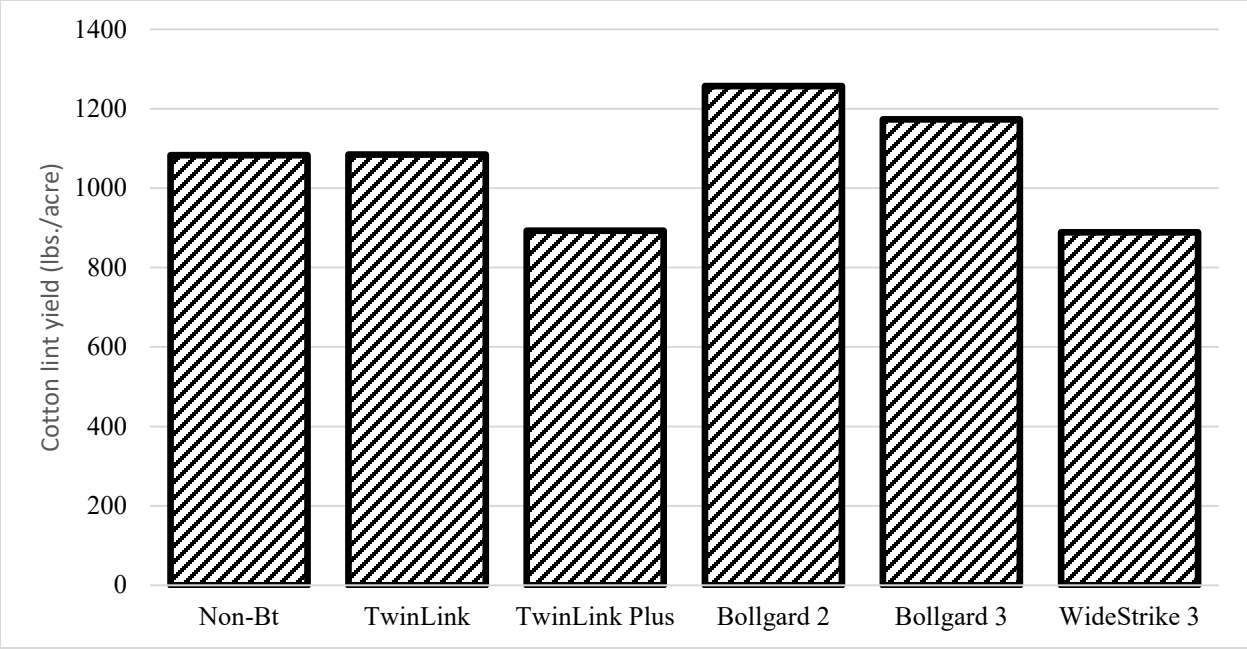

Figure 2. Cotton lint yields for five different Bt trait packages and a non-Bt variety, Hill County, 2021

Conclusions

The results of this trial indicate that the current Bt trait packages can keep bollworm damage well below the economic threshold. The live bollworms being found only in the non-Bt variety indicates that the Bt proteins are still effective at controlling bollworms, but the damage in the 2-gene Bt trait packages indicated that some individuals may have a decreased sensitivity to the proteins. Weather conditions can also impact the efficacy of Bt trait packages, as when plants are stressed the production of the Bt proteins can be reduced. The growing conditions throughout the latter portion of the growing season was very favorable for cotton growth, which when coupled with low bollworm pressure produced low amounts of damage in the two-gene Bt trait packages. Based on these results all five Bt trait packages remain effective at control bollworms, but two-gene Bt trait packages should be watched carefully to avoid economic loss from bollworm damage. These results also indicate the importance of selecting a variety based on its yield potential, rather than the variety's trait package.

BASF FiberMax/Stoneville Cotton APT Trial

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Zach T. Davis, County Extension Agent-Ag/Nr

BASF We create chemistry

Stoneville

BASF ASA: **Michael Perkins**
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Cooperator:
Ronnie Gerik
Ronnie Joe Gerik

On Farm Trial Results

Ronnie Joe Gerik_Strp

Hill County TX
near Abbott

Planting Date: 4/7/2021
Harvest Date: 10/5/2021
Tillage: Conventional
Soil Texture: Clay

Seeding Rate: 62500
Row Spacing: 30
Irrigation: No
Yield Env. 2-3 bales

APT

Variety	Yield	Yield Rank	Lint %	Length	Staple	Strength	Mic	Unif.	Loan Value	Value / Acre	Plant Ht. (in)	% Open	Storm Tolerance*
DP 1646 B2XF	1257	1	42%	1.20	38	31.5	5.0	83.4	57.95	$728.24			5.0
ST 4550GLTP	1240	2	38%	1.13	36	32.3	5.2	83.9	54.45	$675.39			5.0
ST 5707B2XF	1214	3	36%	1.16	37	35.1	5.2	84.7	51.00	$618.95			6.0
BX 2295B3X	1206	4	38%	1.15	37	30.5	5.2	82.6	52.70	$635.48			7.0
ST 5091B3XF	1186	5	39%	1.10	35	28.8	4.7	81.7	55.35	$656.61			6.0
ST 4990B3XF	1173	6	37%	1.15	37	30.0	4.7	83.4	56.75	$665.89			6.0
FM 1953GLTP	1162	7	37%	1.16	37	32.2	4.8	82.7	56.90	$661.40			7.0
ST 4993B3XF	1133	8	38%	1.13	36	35.0	5.4	84.1	53.45	$605.71			8.0
BX 2297B3X	1091	9	37%	1.15	37	30.1	5.1	82.4	54.65	$596.11			5.0
FM 2498GLT	1085	10	38%	1.18	38	34.3	5.5	83.4	53.60	$581.37			7.0
FM 2202GL	1083	11	38%	1.11	36	33.7	4.7	82.5	55.05	$596.41			7.0
BX 2296B3X	1052	12	38%	1.09	35	30.7	5.3	82.6	52.35	$550.83			8.0
NG 4936 B3XF	990	13	36%	1.17	37	30.5	4.9	83.7	56.75	$561.78			6.0
FM 1730GLTP	980	14	36%	1.15	37	34.5	4.8	83.2	57.00	$558.62			4.0
BX 2298B3X	979	15	38%	1.16	37	31.2	5.3	84.0	54.60	$534.43			7.0
FM 2398GLTP	893	16	38%	1.16	37	31.9	5.3	83.0	53.35	$476.55			7.0
PHY 490 W3FE	889	17	35%	1.16	37	37.3	5.0	84.0	53.40	$474.49			7.0
Test Mean	1095		37%	1.15	36.7	32.3	5.1	83.3	54.7	$598.72			6.4

BASF Agronomist: **Luke Etheredge**
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*Storm Tolerance 1 = No Storm Tol, 9 = Very Storm Tol