



On-Farm Evaluations of Auxin Nozzles For Peanut Pest Management

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Peanut and Cotton In Georgia

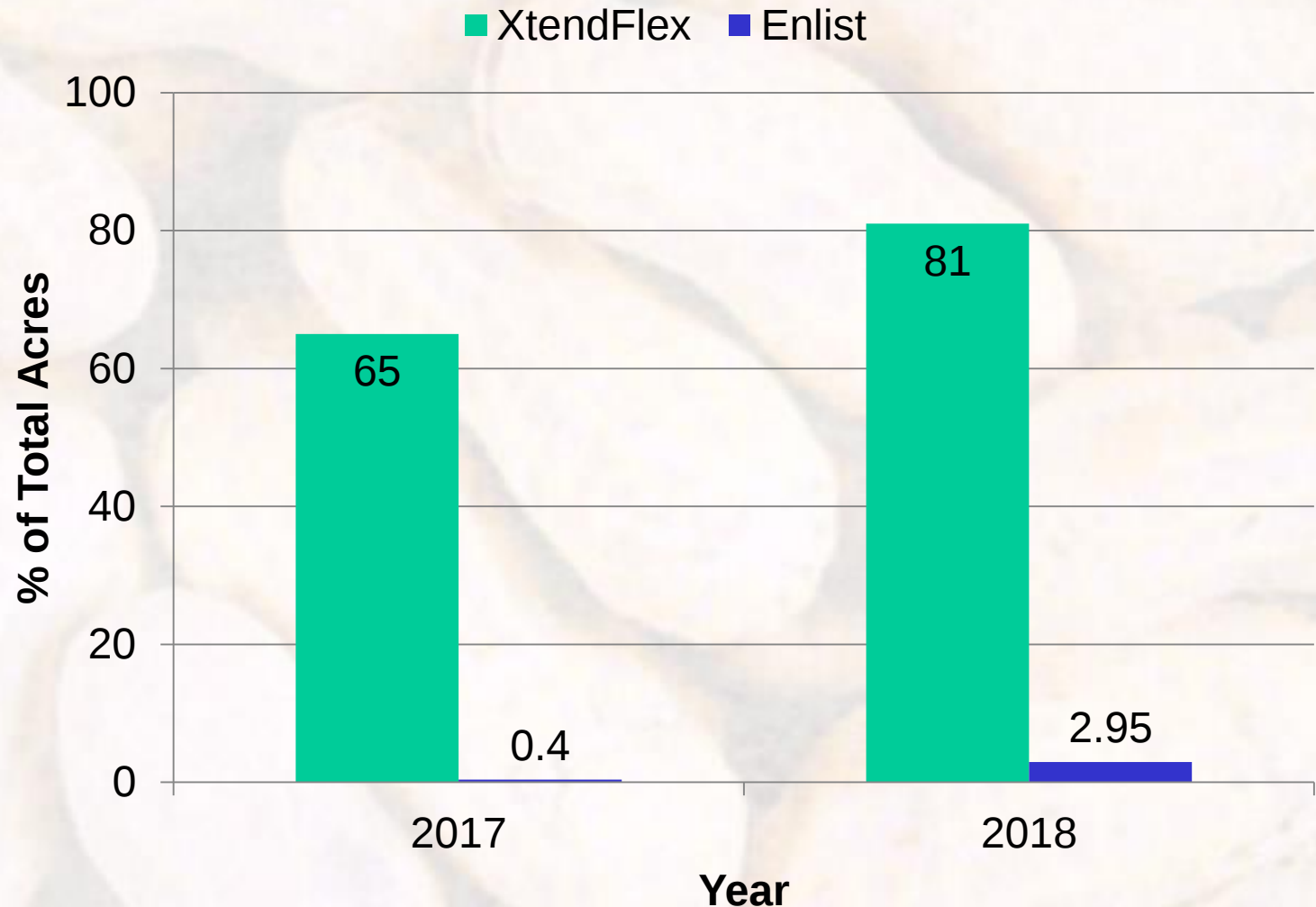


640,000 acres harvested in 2018
47.6% of US Total (#1)



1,350,000 acres harvested in 2018
13.0% of US Total (#2)

XtendFlex® and Enlist™ Cotton Varieties in Georgia



Source: USDA/AMS Annual Cotton Variety Reports (mp_cn833)



Research Questions?

- Can coarse droplet producing “auxin” nozzles be used for pest mgt. in peanut?
 - *herbicides, fungicides, insecticides, fertilizers*
- UGA small plot weed science research has been very positive but what about other disciplines and on-farm?





Objective:



- Compare the field performance of auxin nozzles to flat fan nozzles in commercial peanut fields.





Methodology

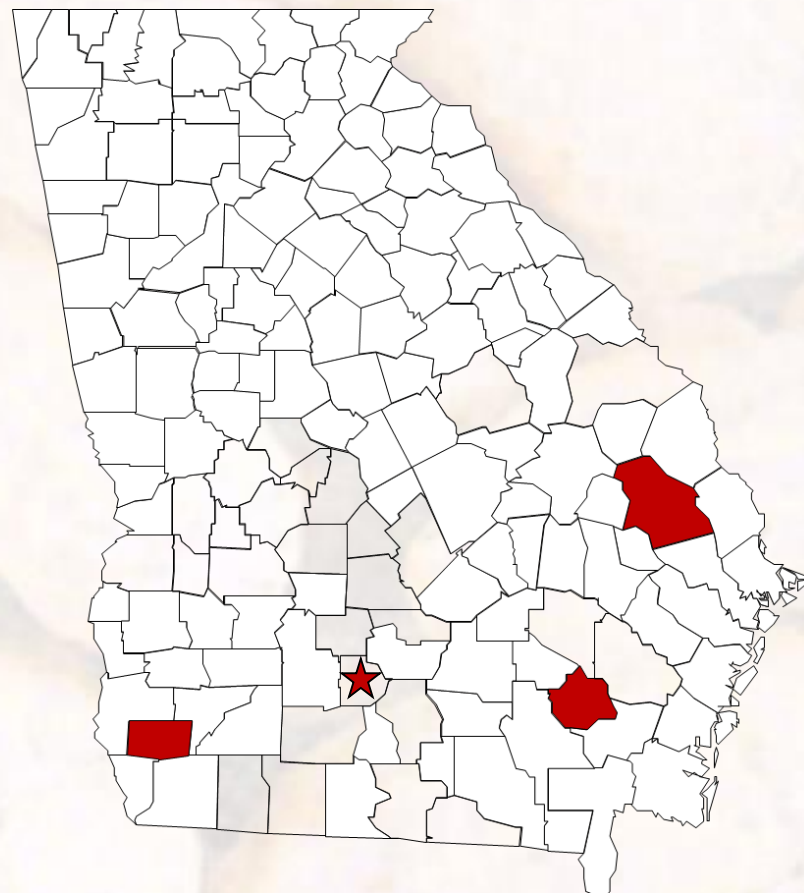
- 3 commercial peanut fields
- Plot size
 - Sprayer width X field length
- 3-4 replications
- 2 nozzle types
- All agri-chemicals
- ANOVA
- Tukey's HSD
($P=0.10$)





2018 Nozzle Tests Farmer Cooperators

- Bulloch County
 - Greg Sikes
- Miller County
 - Kim Henley
- Pierce County
 - Jim Waters



2018 Nozzle Tests



XR-11006-VP
Bulloch Co.
Pierce Co



TTI-11006-VP-C
(Pierce Co.)



TADF06-D
(Bulloch Co.)



Miller County Nozzle Test - 2018



XRC-11005

TTI60-11005



Bulloch County Nozzle Test - 2018



JD 4630
15 GPA
25 PSI
12.6 MPH
90' boom
15" nozzle spacing
32"-34" boom height
72 nozzles
600 gal tank

Miller County Nozzle - 2018



JD4030
110' boom
20" nozzle
10 MPH
24 PSI
10 GPA
66 NOZZLES
800 GAL TANK



Pierce County Nozzle Test - 2018



JD 4730
BOOM LENGTH = 100'
NOZZLE SPACING = 15"
79 NOZZLES
800 GALLON TANK
SPEED = 11.6 MPH
GPA = 16
PSI = 21-23
BOOM HEIGHT = 28"



Disease Evaluations





Insect Evaluations





Yield Data



Miller Co.
October 3

6 rows (18') X 1000' (0.413 acres/rep) – Bulloch/Miller
6 rows (18') X Field Length (0.680-0.735 acres/rep) - Pierce



2018 Peanut Nozzle Tests

County	Rotation	Variety	Planting	Digging	Harvest
Bulloch	corn- cotton- cotton- peanut	GA-06G	May 11	Oct. 9	Oct. 17
Miller	peanut- corn- peanut	GA-06G	May 3-4	Sept. 24	Oct. 3
Pierce	tobacco- cotton- peanut	GA-06G	June 8	Oct. 17	Oct. 31



2018 Nozzle Tests

Pesticides/Fertilizers Applied

County	Herbicide	Fungicide	Insecticide	Other
Bulloch	Valor Strongarm Acumen Gramoxone Storm Dual Magnum 2,4-DB	Alto Bravo Elatus Folicur	Bifenthrin Dimilin	Boron PegPower
Miller	Cadre Dual Magnum 2,4-DB	Bravo Elatus Folicur Priaxor Propulse	Acephate Beseige	FullBor Micropak PegPower
Pierce	Valor Dual Magnum Cadre 2,4-DB	Chlorothalonil Convoy Tebuzole	Dimilin	Boron



Bulloch County Nozzle - 2018



- Following agi-chemicals were applied with either XR11006 or TADF06-D nozzle:
- **May 11** = *Valor + Strongarm + Acumen*
- **June 14** = *Gramoxone + Dual Magnum + Storm + 2,4-DB*
- **June 19** = *Alto + Folicur*
- **July 9** = *Elatus*
- **July 25** = *Elatus + PegPower + Boron*
- **August 15** = *Bravo + Folicur + PegPower + Boron + Dimilin*
- **August 27** = *Elatus + Bifenthrin*

JD 4630
15 GPA
25 PSI
12.6 MPH
90' boom length
15" nozzle spacing
32"-34" boom ht

Results



Bulloch Co.
October 17

Pierce County Nozzle Test September 19, 2018

XR11006-VP



Pierce County Nozzle Test September 19, 2018

TTI-11006VP-C



Bulloch County Nozzle Test - 2018

Nozzle Type	Disease		Insects - 10/2/18 #/10 sweeps			Yield (lbs/A)
	Early Leaf Spot (1-10) 9/18/18	White Mold (%) 10/12/18	Soybean Looper	3-CAH	Garden Flea Hopper	
XR11006	1.0	4.8	0.5	27.3	18.3	6628
TADF06-D	1.0	8.4	0.5	31.3	19.5	6810
P-Value THSD (0.10)	1.0 NS	0.1866 NS	1.00 NS	0.1558 NS	0.8920 NS	0.3060 NS

Miller County Nozzle Test - 2018

Nozzle Type	Diseases		Insects – 9/11/18 #/10 sweeps		Yield (lbs/A)
	Early Leaf Spot (1-10) 9/11/18	White Mold (%) 9/26/18	3-CAH	Garden Fleahopper	
XR11005	2.8	3.7	3.7	34.0	5784
TTI60-11005	3.0	3.9	9.0	47.0	5880
P-Value THSD (0.10)	0.5799 NS	0.8995 NS	0.0153 1.95	0.6035 NS	0.4634 NS

Pierce County Nozzle Test - 2018

Nozzle Type	Diseases		Insects – 9/19/18 #/10 sweeps				Yield (lbs/A)
	Late Leaf Spot (1-10) 9/18/18	White Mold (%) 10/18/18	Velvet Bean CP	Soybean Looper	3-CAH	Garden Flea Hopper	
XR11006	3.2	15.5	0.7	2.0	5.0	8.3	5160
TTI-11006	3.8	11.8	0.3	0.0	3.3	9.0	5297
P-Value THSD (0.10)	0.1835 NS	0.5458 NS	0.4226 NS	0.1835 NS	0.4226 NS	0.8675 NS	0.3990 NS

Summary



- No differences in weed, insect, disease control observed except for 3-CAH in Miller Co.
- No differences in peanut yield
- Growers liked auxin nozzles and plan to expand use in 2019



Nozzle Tests – Final Thoughts

- TTI60 will likely not be registered for dicamba
- Growers who historically have less than ideal pest control should not take a chance on coverage
- Timing is important!
- More work with TTI



Questions/Comments?

