

SOYBEAN PRODUCTION RESEARCH IN FALLOW SUGARCANE PRODUCTION SYSTEMS

Albert J. Orgeron

LSU AgCenter

Area Pest Management Specialist

Southeast Region



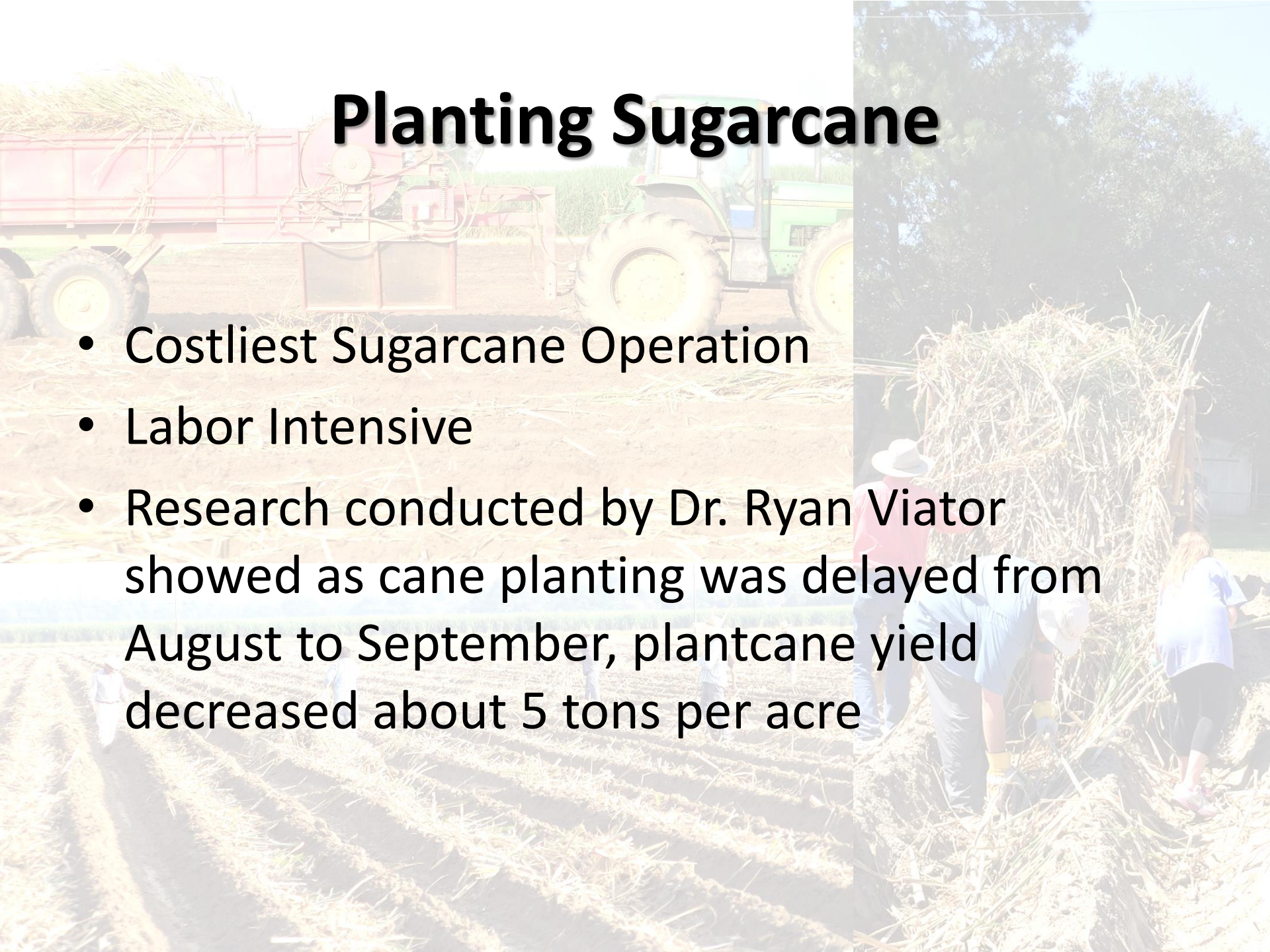
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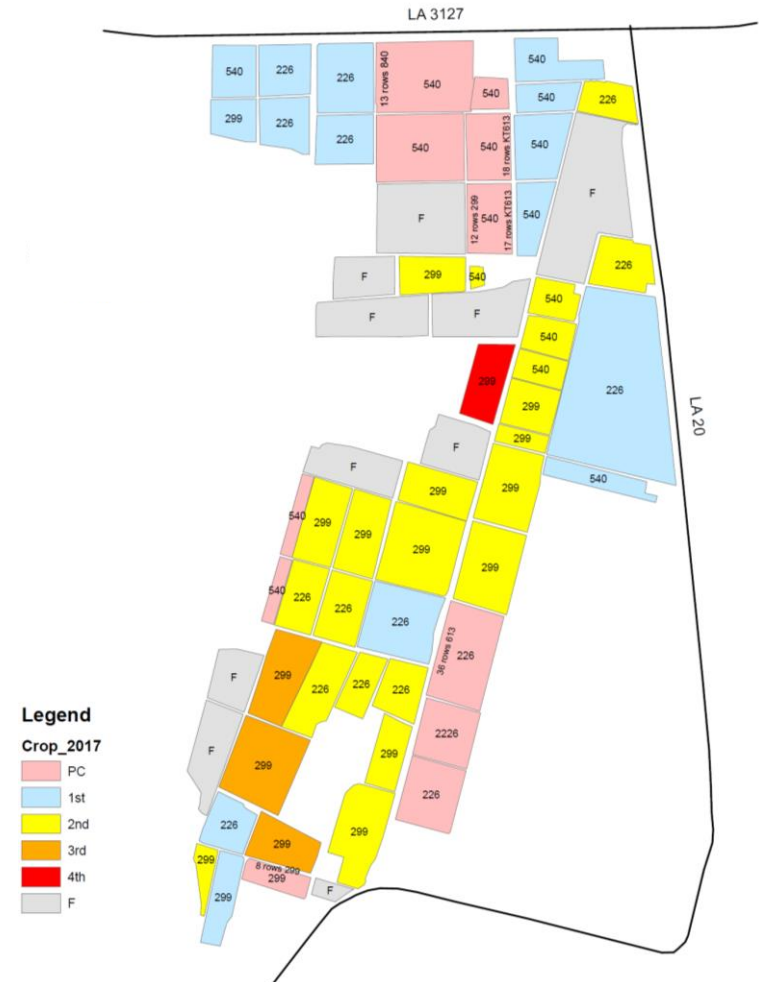
Planting Sugarcane

- Costliest Sugarcane Operation
- Labor Intensive
- Research conducted by Dr. Ryan Viator showed as cane planting was delayed from August to September, plantcane yield decreased about 5 tons per acre



Sugarcane Background Info.

- Perennial Crop
- 20 % fallow
- 24.3 % plantcane
- 24.7 % first stubble
- 20.1 % second stubble
- 10.9 % third stubble and older



Fallow vs Beans

Operations	Fallow Sugarcane	Costs	Operations	Soybeans	Costs
2	Disking to break stubble	\$ 19.08	2	Disking to break stubble	\$ 19.08
1	Quarter drain plow	\$ 2.47	1	Quarter drain plow	\$ 2.47
1	Chisel Operation	\$ 19.15	1	Mark Rows	\$ 8.98
2	Disking	\$ 38.16	2	5 row cultivator	\$ 21.48
1	Mark Rows	\$ 8.98	1	Bed Leveling	\$ 9.59
1	Subsoil Operation	\$ 17.88	1	Row Packing	\$ 9.59
2	5 row cultivator	\$ 21.48	1	Quarter drain plow	\$ 2.47
1	Quarter drain plow	\$ 2.47	1	Soybeans	\$ 75.00
2	RoundUp @ 3qt	\$ 37.50	1	Planting Operation	\$ 12.41
	Total Cost	\$ 167.17	2	Round up @ 44oz/a	\$ 24.18
			2	Insecticide Applications	\$ 24.30
			2	Fungicide Applications	\$ 29.50
			1	Consultant Fee	\$ 5.00
			1	Gramoxone Application	\$ 4.50
			1	Harvest	\$ 24.97
			1	Chisel Operation	\$ 19.15
			2	5 row cultivator	\$ 21.48
			1	Quarter drain plow	\$ 2.47
				Total Cost	\$ 316.62

\$ 149.45

Fallow Weed Control

- **IS THE FOUNDATION OF SUGARCANE WEED MANAGEMENT PROGRAMS**



Major Weed Issues Sugarcane



Bermudagrass



Johnsongrass



Itchgrass

Roundup Ready[®] Soybeans



Evaluation of Planting Date on Group IV Soybeans

Group IV

Asgrow 4232

Asgrow 4533

Rev 48R22

Experimental Design: RCB,
3 Reps
Plot size: 6'x30'
Seeding Rate: 160,000 seed/A
Sugar Research Station,
St. Gabriel, LA

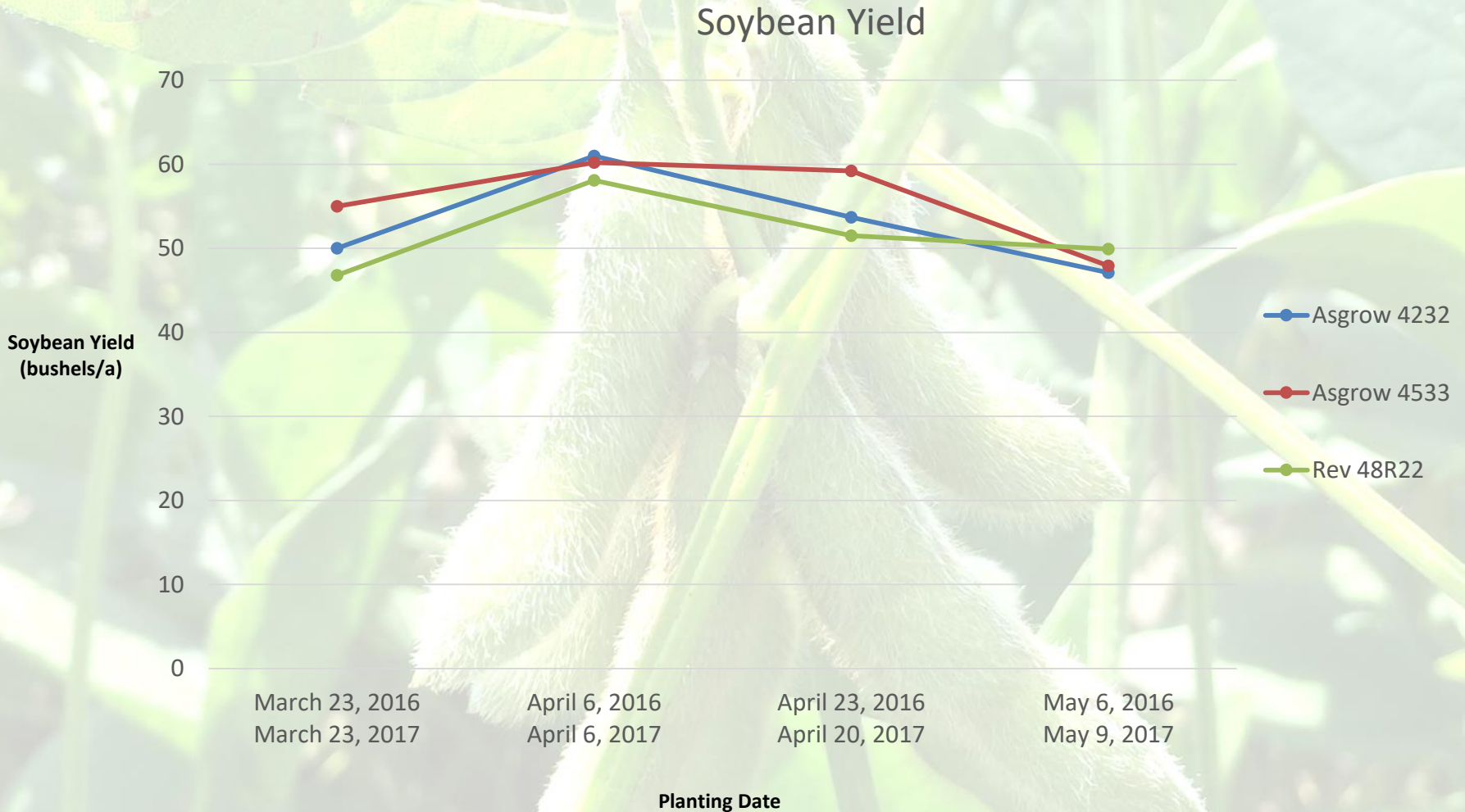
Planting Dates

March 23, 2016	March 23, 2017
April 6, 2016	April 6, 2017
April 23, 2016	April 20, 2017
May 6, 2016	May 9, 2017

Harvest Dates

August 1, 2016	July 31, 2017
*August 24, 2016	August 17, 2017
Sept. 14, 2016	Sept. 13, 2017
Not Harvested	Sept. 20, 2017

Evaluation of Planting Date on Group IV Soybeans



Soybean Variety Evaluation

- Soybean Variety Experiment
 - 10 Varieties (MG 3.9-4.6)
 - 8-Xtend, 2-RR2Y
 - RCB
 - 4 reps
 - Plot size 18' X 30'
 - Planted April 7, 2017
 - Harvested August 18, 2017



2017 Soybean Variety Experiment Results

Brand	Variety	Days to R6.5	Bushels/a	% Purple Seed Stain	% Green Stems
NK	S 39-P5X	110	75.1abc	26cde	22.9a
NK	S 39-R9X	110	66.0cd	46b	40.4a
Asgrow	AG 40X6	101	61.1d	27cde	32.7a
NK	S 41-A1X	110	69.6bcd	23de	3.0a
Asgrow	AG 4232	115	66.4cd	28cde	26.9a
NK	S 42-P6	115	73.0abc	36bcd	32.8a
NK	S 43-V3X	115	79.8a	70a	53.5a
Asgrow	AG 43X7	115	68.2bcd	20e	39.6a
NK	S 45-K5X	115	77.7ab	22de	3.0a
Asgrow	AG 46X6	?(R6 on 8/1)	66.4cd	12f	10.4a

2018 Soybean Variety Experiment Results

Location:	Sugar Research Station	Iberia Research Station	Average
Soil Type:	Commerce silt loam	Baldwin silty clay	
Planting Date:	April 3, 2018	April 12, 2018	
Harvest Date:	August 24, 2018	August 22, 2018	
Variety:	Soybean Yield (bushels/a)		
Asgrow AG 40X6	40.4 c	42.8 b	41.6
Terral 41A48	57.8 ab	53.0 a	55.4
NK S41-A1X	55.4 ab	51.1 a	53.3
NK S42-P6	52.9 b	55.1 a	54.0
Progeny P4255RX	53.4 b	51.4 a	52.4
Terral E422X38998	60.7 ab	56.5 a	58.6
Asgrow AG 43X7	49.4 b	57.6 a	53.5
NK S43-V3X	59.0 ab	55.4 a	57.2
Asgrow AG 44X6	51.7 b	56.5 a	54.1
Terral 45A46	65.7 a	56.0 a	60.9
CV	9.65	5.7	

Evaluation of Insecticide and Fungicide Seed Treatments

8 Insecticide and Fungicide Combinations + 1 Check

1 Apron Maxx RTA + Moly
Poncho 600

2 Apron Maxx RTA + Moly
Cruiser 5FS

3 Apron Maxx RTA + Moly
No Insecticide

4 Acceleron DX-109
Poncho 600

5 Acceleron DX-109
Cruiser 5FS

6 Acceleron DX-109
No Insecticide

7 No Fungicide
Poncho 600

8 No Fungicide
Cruiser 5FS

9 No Fungicide
No Insecticide

-Sugar Research Station,
St. Gabriel, LA

-Asgrow 4232

-6' X 30'

-Planted April 6, 2016 and
2017

-RCB

-5 Reps

-Weekly assessment for first
4 weeks

Evaluation of Insecticide and Fungicide Seed Treatments

Fungicide	Insecticide	Soybean Yield (Bushels/a)		
		2016	2017	Avg
1Apron Maxx RTA + Moly	Poncho	68.1a	68.1a	70.5a
2Apron Maxx RTA + Moly	Cruiser 5FS	79.3 a	73.5a	76.4a
3Apron Maxx RTA + Moly	No Insecticide	73.9 a	67.0a	70.5a
4Acceleron DX-109	Poncho	77.5 a	67.8a	72.7a
5Acceleron DX-109	Cruiser 5FS	77.7 a	71.1a	74.4a
6Acceleron DX-109	No Insecticide	73.0 a	65.4a	69.2a
7No Fungicide	Poncho	75.5 a	69.3a	72.4a
8No Fungicide	Cruiser 5FS	72.0 a	71.7a	71.9a
9No Fungicide	No Insecticide	72.9 a	67.5a	70.2a

Evaluation of Insecticide and Fungicide Seed Treatments

Location:	Sugar Research Station
Soil Type:	Commerce silt loam
Planting Date:	March 23, 2018
Harvest Date:	July 27, 2018
Variety:	NK S41-A1X
	Cucumber beetle injury (% of plants with leaf damage 20 days after planting)
Seed Treatment:	
Untreated Check	7.0 b
Cruiser 5FS	5.8 b
Poncho 600	5.9 b
Apron Maxx RTA + Moly	8.6 a
Apron Maxx RTA + Moly & Cruiser 5FS	5.5 b
Apron Maxx RTA + Moly & Poncho 600	5.3 b
CV	16.6

Evaluation of Insecticide and Fungicide Seed Treatments

Location:

Planting Date:	April 6, 2016	April 6, 2017	March 23, 2018
Harvest Date:	August 24, 2016	August 17, 2017	July 27, 2018
Variety:	AG 4232	AG 4232	NK S41-A1X

Seed Treatment:	Soybean Yield (bushels/a)		
Untreated Check	72.9 a	67.5 a	35.0 ab
Cruiser 5FS	72.0 a	71.7 a	37.7 a
Poncho 600	75.5 a	69.3 a	31.7 b
Apron Maxx RTA + Moly	73.9 a	67.9 a	19.8 c
Apron Maxx RTA + Moly & Cruiser 5FS	79.3 a	73.5 a	19.8 c
Apron Maxx RTA + Moly & Poncho 600	72.9 a	68.1 a	16.0 c
Acceleron DX-109	73.0 a	65.4 a	
Acceleron DX-109 & Cruiser 5FS	77.7 a	71.1 a	
Acceleron DX-109 & Poncho 600	77.5 a	67.8 a	



Apron Maxx RTA + Moly
+
Poncho

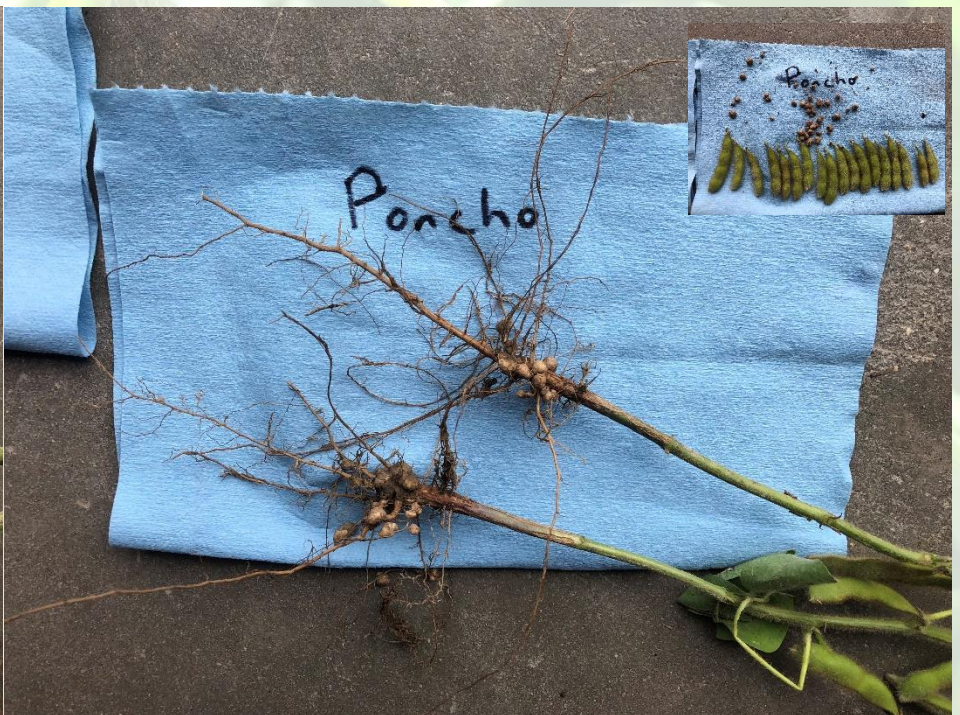
Apron Maxx + Moly
+
Cruiser

Apron Maxx + Moly

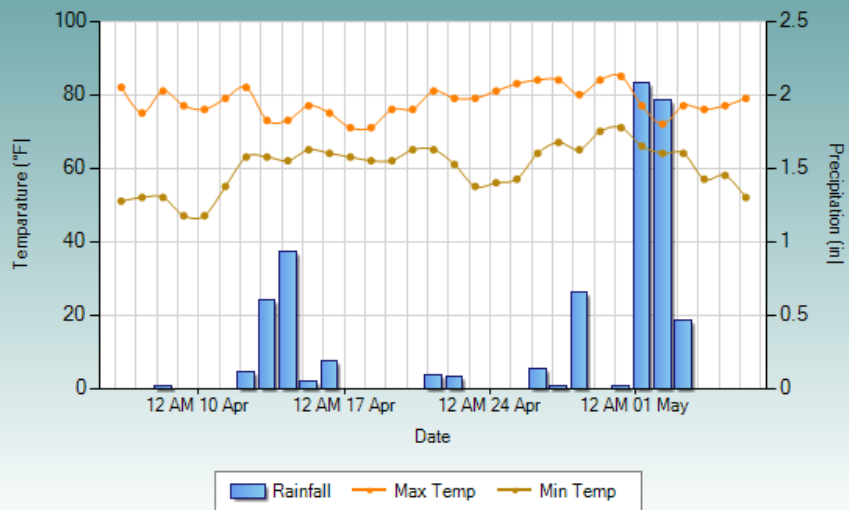
Poncho

Cruiser

Non-Treated

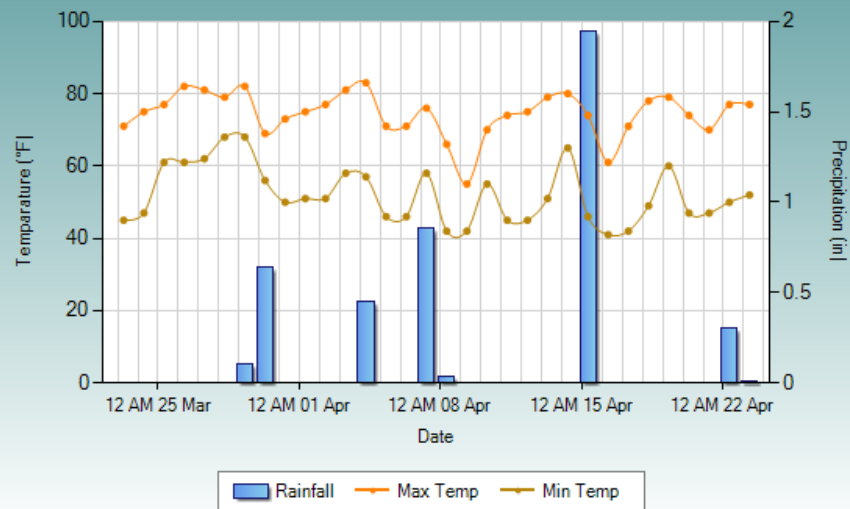


Air Temp and Precipitation: Baton Rouge (Ben Hur R/S)



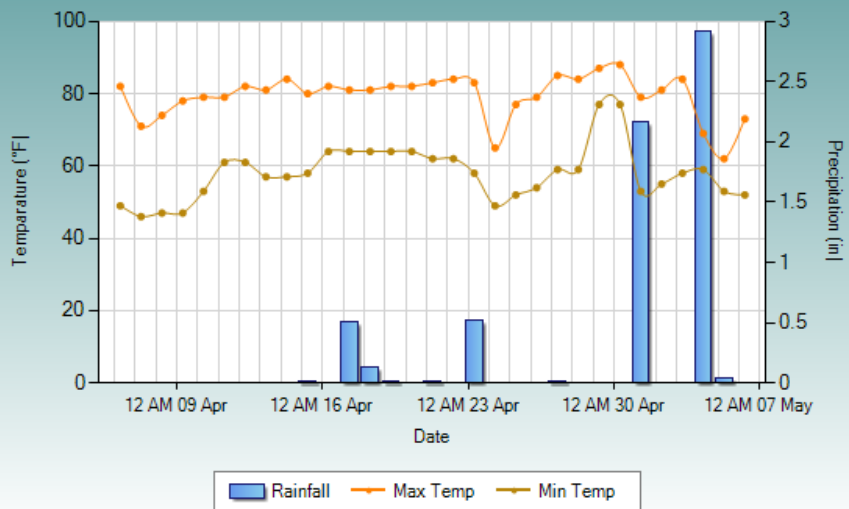
April 6, 2016

Air Temp and Precipitation: Baton Rouge (Ben Hur R/S)



March 23, 2018

Air Temp and Precipitation: Baton Rouge (Ben Hur R/S)



April 6, 2017

Bio-Forage Seed Treatment and R3 Experiment

- **Maximize yield potential • Stay ahead of crop stress**
- **What it does**
- Up-regulates key genes associated with plant stress
- Improves root-hair growth to enhance nutrient uptake
- Reduces excess ethylene from stress
- **What that means**
- Continuous new root growth for efficient nutrient uptake
- Optimum hormone balance for continued cellular viability
- Improved yield and quality for maximum ROI
- **Application timing**
- With all foliar sprays
- Bio-Forge is a patented formulation of N,N' — diformyl urea, classified as an antioxidant — and has significantly improved plant growth in a variety of crops by working at the genetic level. Bio-Forge works by up-regulating genes from the plant's own major anti-oxidative pathways as well as genes responsible for ethylene production and root growth

- Sugar Research Station, St. Gabriel, LA
- Asgrow 4232
- 6' x 30'
- Planted April 6, 2016
- Split Plot, 125 ml/100 lb seed treatment, 16 oz/A @ R3
- 4 Reps
- Harvested August 24, 2016

Treatment	At-planting	R3	Bushels/a
1	no	no	72.3 a
2	no	yes	71.8 ab
3	yes	no	66.0 bc
4	yes	yes	64.8 c

Influence of 2,4-D on Xtend Soybeans

- Ben Hur Farm, Baton Rouge, LA
- AG 40X6
- Planted May 10, 2016
- RCB
- 4 Reps
- Harvested September 21, 2016



Treatment		Rate oz/a	V3	Bushels/a	R1
1	Brash	32	0.0 f		0.0 f
2	Brash	4	18.2 e		27.5 cde
3	Brash	2	31.4 abcd		29.8 bcd
4	Brash	1	34.7 abcd		36.2 abcd
5	Brash	0.5	36.1 abcd		45.5 a
6	Brash	0.25	41.1 abc		39.4 abc
7	Brash	0.125	37.6 abc		41.2 abc
8	Weedar 64	3.05	23.8 de		30.2 bcd
9	Weedar 64	0.75	33.5 abcd		40.1 abc
10	Untreated Check			43.1 ab	

Summary

- Maximum soybean yield was achieved with early-April planting.
- The Xtend germplasm has high yield potential.
- Insecticide and fungicide seed treatments have not resulted in improved yield.
- Bio-Forage provided no yield improvements when seed and/or plants were treated.
- 2,4-D tank contamination can negatively impact yield.

Questions???



Albert J. Orgeron, Ph. D
Area Pest Management Specialist
Southeast Region
504-616-4750