



# 2017 Soybean Weed Control Update

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# Soybean Weed Control

## *How does this happen?*



NTC



Dual Magnum - PRE  
Roundup + Reflex – POST  
(76 DAP)

- Started Clean
- Activated soil applied residual herbicide
- Timely POST
  - Knockdown + residual



# Narrow Rows and Weed Control - Soybeans

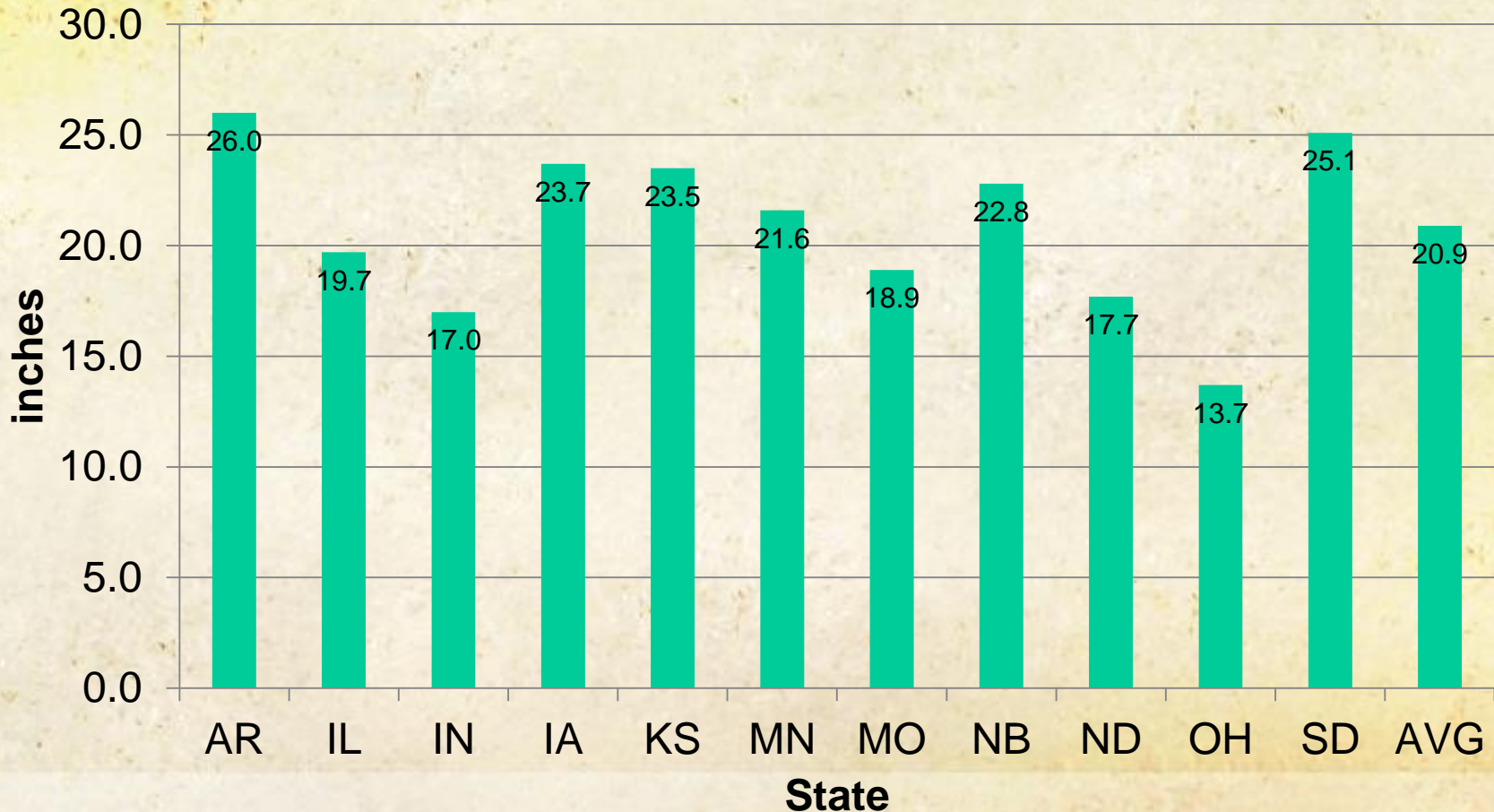


- “A review of row spacing experiments in which an initial weed management practice had been accomplished revealed that in **64% of the cases (72 of 113 site-years)**, less late-season weed density and/or biomass, or greater late-season weed control, was achieved in narrow-row (< 30”) compared to wide-row soybean production systems.”



- *Bradley, K. W. 2006. A review of the effects of row spacing on weed management in corn and soybean. Online. Crop Management doi:10.1094/CM-2006-0227-02-RV.*

# US Soybean Row Spacing – 2016 (80% of US acres/53.1 Bu/A)





# My Program Still Works!



NTC



Dual Magnum 7.62EC @ 21 oz/A (PRE)  
Roundup P-MAX 5.5SL @ 32 oz/A (30 DAP)  
Reflex 2SL @ 24 oz/A (30 DAP)



SB-11-16  
July 26  
62 DAP



# Boundary/Reflex



Boundary 6.5SC @ 24 oz/A (PRE)

Roundup PowerMax 5.5SL @ 22 oz/A (28 DAP)

Reflex 2SL @ 24 oz/A (28 DAP)





# Liberty Programs - 2016



Dual Magnum 7.62EC @ 21 oz/A (PRE)  
Liberty 2.34SL @ 29 oz/A (28 DAP)  
Reflex 2SL @ 16 oz/A (28 DAP)



Valor 51WG @ 3 oz/A (PRE)  
Liberty 2.34SL @ 29 oz/A (28 DAP)  
Dual Magnum 7.62EC @ 16 oz/A (28 DAP)



SB-12-16  
August 23  
92 DAP





# Bolt™ Soybeans

- Pioneer 4909<sub>BR</sub> and Pioneer 50T15<sub>BR</sub>
- Enhanced tolerance to sulfonylurea herbicides such as Leadoff and Basis Blend
  - **Leadoff** = rimsulfuron (16.7%) + thifensulfuron (16.7%)
  - **Basis Blend** = rimsulfuron (20%) + thifensulfuron (10%)
- Better tolerance than STS® beans
- Fit in Georgia?
  - *ALS-resistant Palmer amaranth is a problem already*
  - *Protection from strong PRE's that contain chlorimuron (i.e. Canopy, Envive, Trivence, Rowel FX)*



**PIONEER**  
A DUPONT COMPANY



# Bolt™ Soybeans - 2016



Diligent (PRE)  
(Valor + Classic + Rimsulfuron)

Roundup PowerMax 5.5SL @ 22 oz/A (28 DAP)  
Synchrony XP 28.4DG @ 1.1 oz/A (28 DAP)



# Canopy or Canopy Blend??



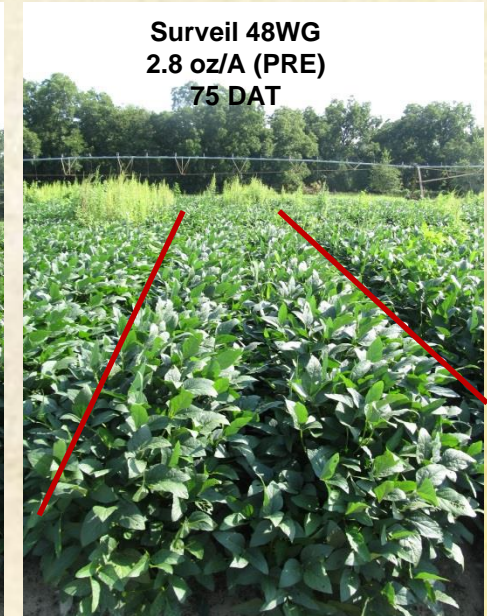
- **Canopy 75DG**
  - *metribuzin (64.3%) + chlorimuron (10.7%)*
  - *6-10 oz/A based upon soil type and OM*
- **Canopy Blend 58.3DG**
  - *metribuzin (50%) + chlorimuron (8.3%)*
  - *7.75 – 12.4 oz/A based upon soil type and OM*
- Use an SR/STS® or Bolt™ variety if you can



# Surveil 48WDG



- Dow AgroSciences
- Valor (36%) + FirstRate (12%)
- 2.8 to 4.2 oz/A
- PRE within 3 days of planting
- Better residual control of annual mg than Valor alone?
- **2.8 oz/A**
  - 2 oz/A Valor 51WG
  - 0.4 oz/A FirstRate 84WG





# 2,4-D/Dicamba Technologies



2,4-D



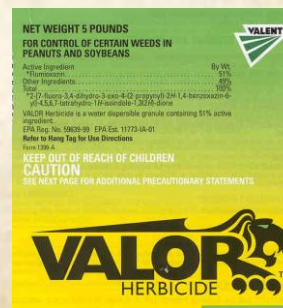
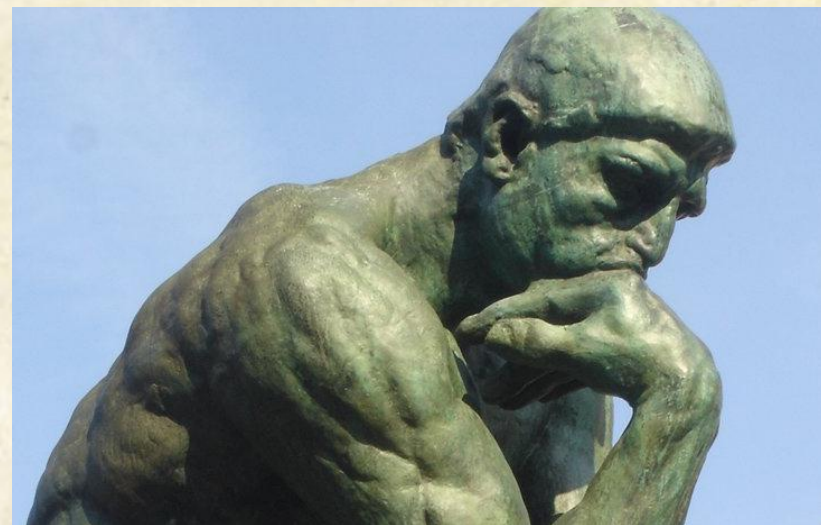
dicamba



# Do we have to have this new technology?



- PPO's still working?
  - Reflex, Valor
- When will Liberty crash and burn?
- Dryland production
  - Residual activation





# Do we have to have the auxin technologies?



NTC



Roundup Ready

Gramoxone 2SL @ 48 oz/A (2 DBP)  
Tricor 75DG @ 5.3 oz/A (2 DBP)  
NIS @ 0.25% v/v (2 DBP)

Roundup PowerMax 5.5SL @ 32 oz/A (25 DAP)  
Reflex 2SL @ 24 oz/A (25 DAP)



Dicamba

Roundup PowerMax 5.5SL @ 32 oz/A (2 DBP)  
Clarity 4SL @ 16 oz/A (2 DBP)  
Valor 51WG @ 2.5 oz/A (2 DBP)

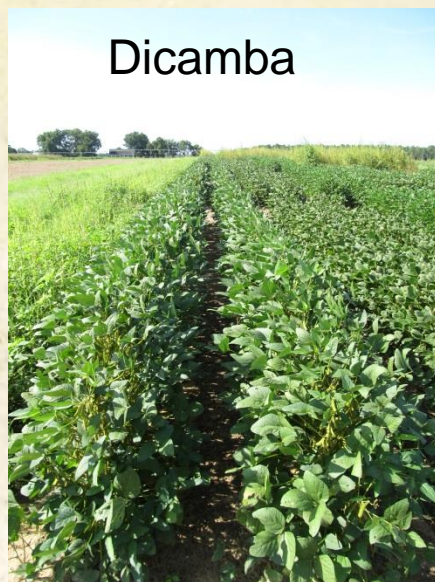
Roundup PowerMax 5.5SL @ 32 oz/A (25 DAP)  
Clarity 4SL @ 16 oz/A (25 DAP)  
NIS @ 0.25% v/v (25 DAP)



# Do we have to have the auxin technologies?



NTC



Dicamba

Rowel FX 40.3WG @ 3 oz/A (PRE)

Roundup Xtendimax 3SL @ 64 oz/A (21 DAP)



RR

Rowel FX 40.3WG @ 3 oz/A (PRE)

Warrant 3SC @ 48 oz/A (PRE)

Roundup PowerMax 5.5SL @ 32 oz/A (21 DAP)  
Warrant 3SC @ 48 oz/A (21 DAP)



Liberty

Prefix 5.29EC @ 32 oz/A (PRE)

Liberty 2.34SL @ 29 oz/A (21 DAP)



# Enlist™ Soybeans (2016)



NTC



Surveil 48WG @ 2.83 oz/A (PRE)  
Enlist Duo 3.33SL @ 75 oz/A (34 DAP)  
Dual II Magnum 7.64EC @ 16 oz/A (34 DAP)  
AMS @ 2.5% v/v (34 DAP)





# DT-Soybeans (2016)



NTC



Rowel FX 40.3WG @ 3 oz/A (PRE)  
Roundup Xtendimax 3SL @ 64 oz/A (21 DAP)



SB-05-16  
July 27  
64 DAP



# Variety Performance?????





# 2016 University Xtend Soybean Variety Performance



- **Georgia**
  - ??
- **South Carolina**
  - ??
- **Arkansas**
  - Early Planted: 17/25 Xtend varieties yielded above all-location test average
  - Full Season: 27/57 Xtend varieties yielded above all-location test average
- **Mississippi**
  - 4/37 Xtend varieties yielded above all-location test average
- **Wisconsin**
  - 200 RR2Y vs 47 RR2X varieties
  - RR2Y +1.8 Bu/A advantage over RR2X



# Enlist™ Duo vs. Xtendimax™



	Enlist Duo (Proposed**)	Xtendimax
Tractor Speed	NL	< 15 MPH
Boom Height	24" or less	24" or less
Nozzles	23 listed on label	TTI11004
Wind Speed	3-10 MPH but < 15 MPH	3-10 MPH but < 15 MPH
GPA	10-15	10+
Buffers (Sensitive Areas)	30 ft	110-220 ft
Tank-Mixes	NO herbicides EnlistTankmix.com	NO herbicides EPA approved adjuvants

**\*\*NOT YET LABELED IN GEORGIA!**



# Table 1. Spray Droplet Size Classification<sup>1</sup>.

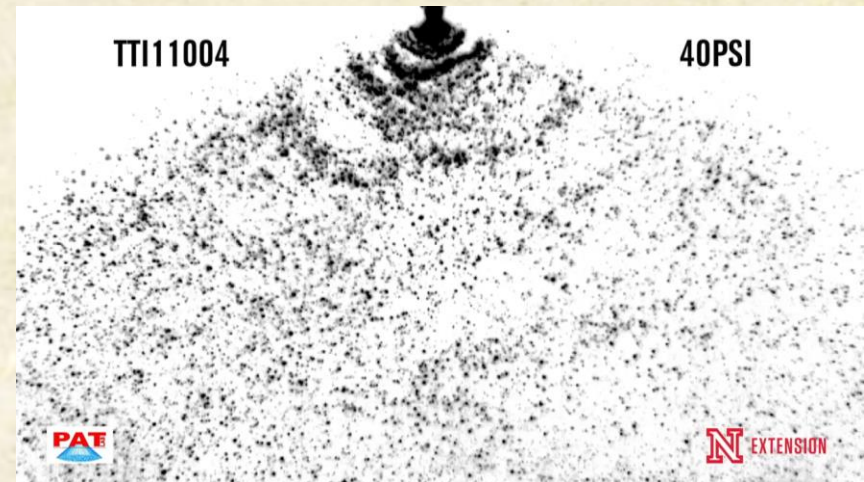
Category	Symbol	Color Code	Approximate VMD <sub>50</sub> <sup>2</sup> (Microns)
Extremely Fine	XF	PURPLE	<50
Very Fine	VF	RED	51-136
Fine	F	ORANGE	137-177
Medium	M	YELLOW	178-218
Coarse	C	BLUE	219-349
Very Coarse	VC	GREEN	350-428
Extremely Coarse	XC	WHITE	429-622
Ultra Coarse	UC	BLACK	>622

<sup>1</sup>Estimated from sample reference graph in ASBAE/ANSI/ASAE Standard S572.1

<sup>2</sup>VMD = Volume median diameter

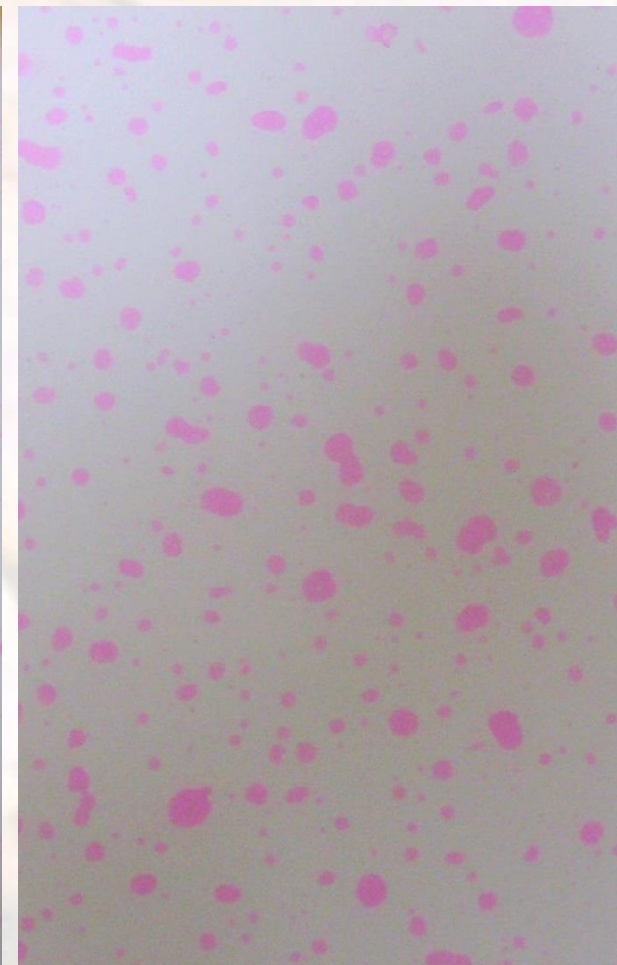
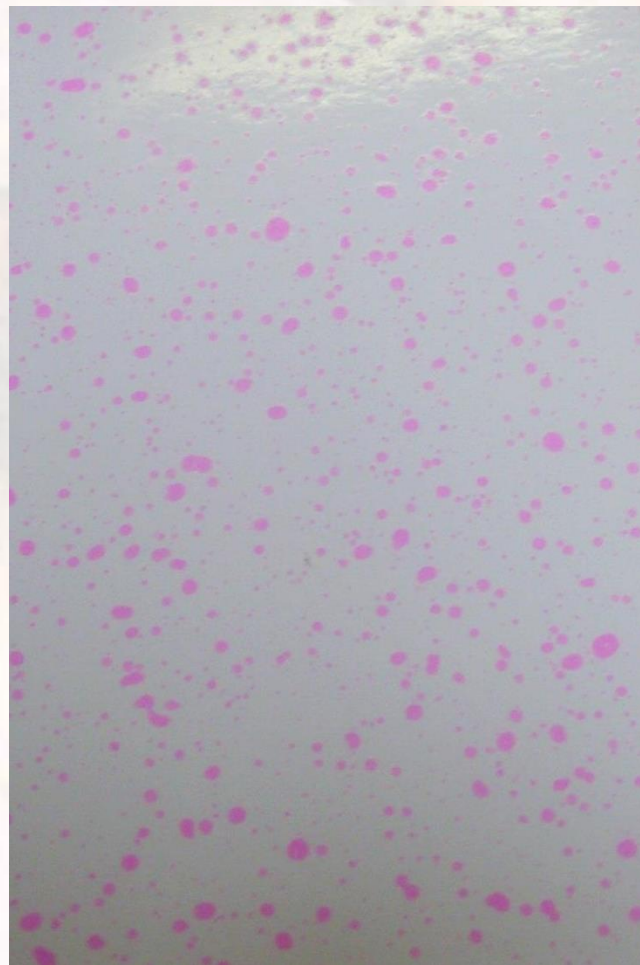
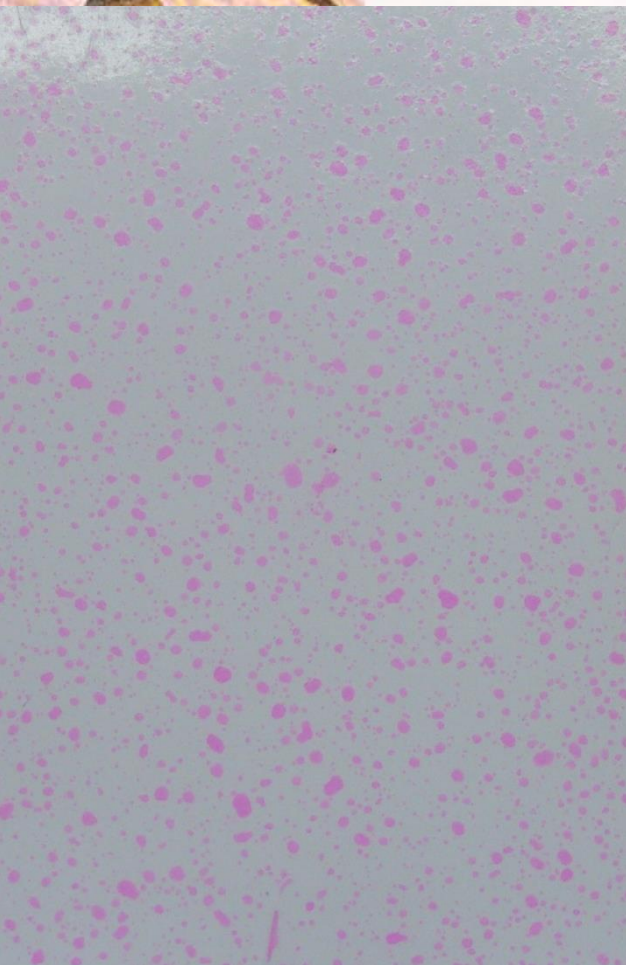


# Medium vs. Ultra Coarse Droplets



Source: University of Nebraska – PAT Lab





11002DG  
 $VMD_{50} = 322$  (C)

AIXR 11002  
 $VMD_{50} = 402$  (VC)

TTI 02  
 $VMD_{50} = 524$  (XC)

3.5 MPH - Walking  
20" nozzle spacing  
20" boom height  
35-40 PSI  
15 GPA



# Enlist™ Duo Rec's – 2017 (when labeled)



- Start clean!
  - Tillage, herbicides, cover crops
- Plant in narrow rows.
- **USE A PRE**
  - Valor, Fierce, Boundary, many others
- **Enlist™ Duo 3.3SL @ 56-76 oz/A**
  - VE to/thru R2 (full-flowering)
  - Palmer < 4" tall
- 2<sup>nd</sup> application of Enlist Duo?
  - 12 days apart
- hand-weed escapes





# States



- **Current (15)**

- Arkansas
- Illinois
- Indiana
- Iowa
- Kansas
- Louisiana
- Minnesota
- Mississippi
- Missouri
- Nebraska
- North Dakota
- Oklahoma
- Ohio
- South Dakota
- Wisconsin

- **Proposed Additions (19)**

- Alabama
- Arizona
- Colorado
- Delaware
- Florida
- Georgia
- Kentucky
- Maryland
- Michigan
- North Carolina
- New Jersey
- New Mexico
- New York
- Pennsylvania
- South Carolina
- Tennessee
- Texas
- Virginia
- West Virginia.



# Approved Enlist™ Tank-Mix Partners (11/30/2016)

[www.enlist.com/en/tank-mix](http://www.enlist.com/en/tank-mix)



- AMS 4XL, Array, Bronc, Buckhorn Total, Choice Weather Master, Class Act NG, Class Act Ridion, Coact-D, Coact-D Plus, Deliver DX2, Deriva, Deuce, Direct DRT, Downdraft, Eminence, Event, Fixate, Foam Breaker, Foam Fighter, FS Attero, FS Certin, FS Tenax, Gundown Max, Hypertonic, InterLock, Kontakt, LI 700, Liberate, Max-In Zinc, M-Power, MSO Concentrate with Lecitech, NDemand Nitrozin, Nutrisync D, PinPoint Plus, PowerShot!, Prefer 90, R-11, Remain, Request, Savvy, Sedate Max, Smart Trio, Smoke, Syntact, Torus, Traverse D, Turbo, Woodside, Zenith



# Xtend Soybean Rec's - 2017



- **ONLY use Xtendimax!!!**
- Start clean!
  - Tillage, herbicides, cover crops
- Plant in narrow rows.
- **USE A PRE**
  - Valor, Fierce, Boundary, many others
- **Xtendimax 2.9SL @ 22 oz/A**
  - VE to/thru R1 (beginning bloom)
  - Palmer < 4" tall
- Clean up grasses with glyphosate
- 2<sup>nd</sup> application of Xtendimax?
  - 7 days apart
- hand-weed escapes





# Approved Xtendimax™ Tank-Mix Partners



- ?????????



# 2,4-D and Dicamba Crops

## *(Don't Get Messed Up!)*



Crop	Glyphosate	Glufosinate	2,4-D	Dicamba
2,4-D field corn	YES	<u>YES/NO</u>	YES	YES <sup>1</sup>
2,4-D soybean	YES	YES	YES	<u>NO</u>
2,4-D cotton	YES	YES	YES	<u>NO</u>
Dicamba cotton	YES	YES	<u>NO</u>	YES
Dicamba soybean	YES	<u>NO</u>	<u>NO</u>	YES

<sup>1</sup>Dicamba is already registered for use in field corn (up to a certain point). Not sure at this point if new formulations will be specifically labeled.



# Off-Label Dicamba Use in 2016



- Missouri
  - > 100 complaints
- Arkansas
  - 24 complaints
- EPA Compliance Advisory
  - August 2016
- It's on the EPA's radar!







However, local regulators did not approve a revamp of this system. — new.tucmba



# 2,4-D and Dicamba Soybeans

## *Final Thoughts*



- **NOT** a miracle cure for all weed problems!
- Improvements in formulations and nozzles reduce volatility/drift potential but do **NOT** eliminate it! Still have to be a smart applicator!
  - ***Using Pesticides Wisely***
- Lessons learned since introduction of glyphosate resistant crops?
  - ***Weed Science is not just herbicides!***



# 2015-2016 Auxin Trainings

## *"Using Pesticides Wisely"*



This is to attest that **Eric P. Prostko**  
is certified as a **Commercial Applicator**  
in the following categories:

**21, 33, Using Pesticides Wisely Training**

Certification Date: **10/27/2014**

License Expiration Date: **10/27/2019**

License Number: **08845**





# Auxin Resistance

## *Already Out There!*



- Older chemistries
  - 2,4-D (1945)
  - dicamba (1967)
- 32 species worldwide
- 8 species in US
  - tall waterhemp (NE, IL)
  - yellow starthistle (WA)
  - spreading dayflower (HI)
  - wild carrot (MI, OH)
  - smooth crabgrass (CA)
  - barnyardgrass (AR, LA)
  - kochia (MT, ND, ID, CO, NE, KS)
  - prickly lettuce (WA)





# QUESTIONS?

[www.gaweed.com](http://www.gaweed.com)



UNIVERSITY OF  
**GEORGIA**  
College of Agricultural &  
Environmental Sciences