

# 2018 Texas High Plains Weed Management Update

West Texas Agricultural Chemicals Institute  
September 11, 2018



Peter Dotray  
Texas Tech University

Texas A&M AgriLife Research and Extension Service - Lubbock



2011























# Two Scenarios – Side by Side



# Consider Cultivation



# Control Escaped Weeds





# Auxin-Tolerant Cotton:

---

- XtendFlex™ and Enlist™ cotton was available in 2016
- Xtendimax™ with VaporGrip™ - November, 2016
- Engenia™ - December, 2016
- Enlist Duo® with Colex-D technology® - January, 2017
- FeXapan™ herbicide plus VaporGrip™ – Feb, 2017



























LIBERTY  
LINK



# Success in 2018...



- Started clean
- Used yellows – proper rate and incorporation
- Used PREs (per weeds present) / activated
- Timely POST applications that contained residuals
- Thorough spray coverage
- Managed “escapes”
- Several “modes of action” used









# Be timely with POST applications



# 4-inch Palmer amaranth

---



# Too Big!

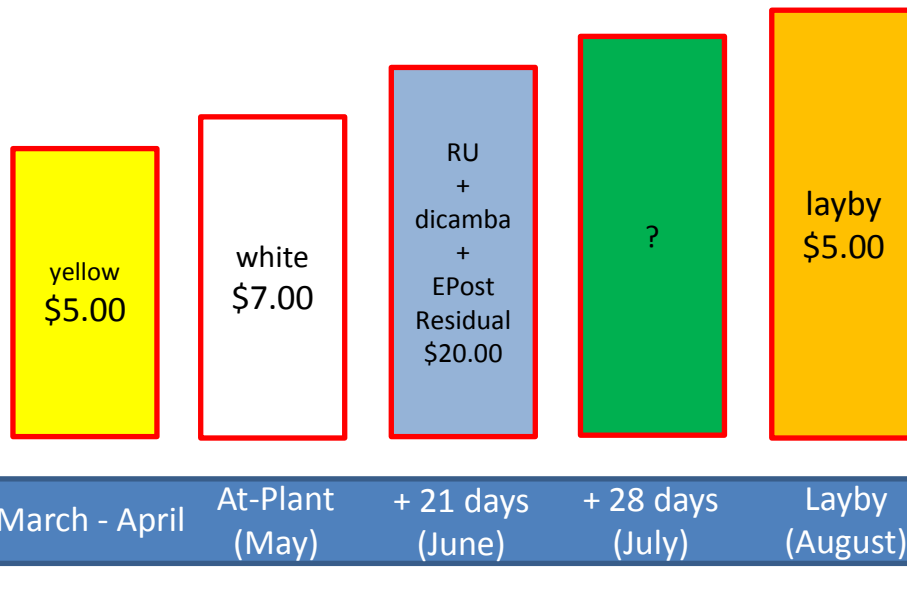
---





# Conventional Tillage

---



# Where do we go from here?

---

- MUST HAVE ON-TARGET APPLICATIONS for the auxin technology to continue with this technology...
- Finish the job!
- EPA has not yet determined label 2019 label changes, which could range from none to slight to major to removal



# Late-season Seed Production in Palmer amaranth

---

- Select 15 PA seedlings (<1 inch) on a weekly basis starting in Sept in 2014, late Aug in 2015, and mid-Aug in 2016 until the first hard frost



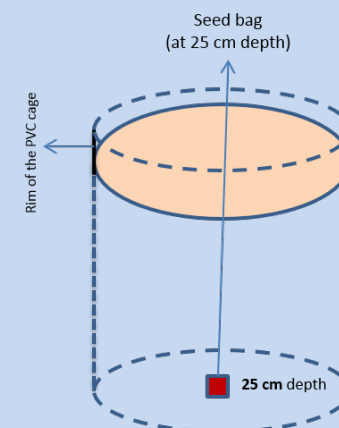
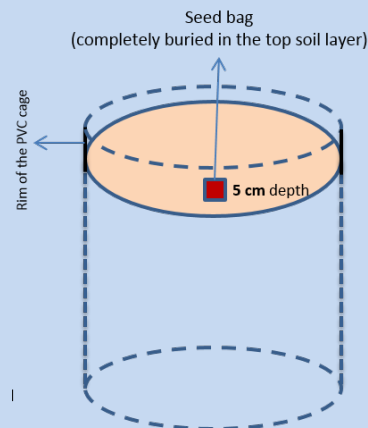
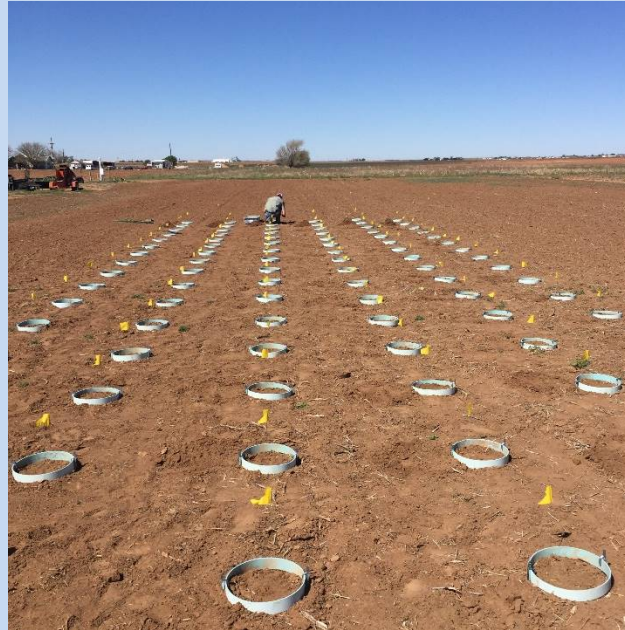
# Palmer amaranth (2016)

Timing (Julian week)	College Station		Lubbock		Fayetteville	
	Biomass (g/plant)	Avg. seed count/ plant	Biomass (g/plant)	Avg. seed count/ plant	Biomass (g/plant)	Avg. seed count/ plant
32 (Aug 06-12)	-	-	110.31	19587	14.91	6019
33 (Aug 13-19)	1.19	525	27.89	10420	7.64	2218
34 (Aug 20-26)	1.12	353	14.65	8651	5.17	2710
35 (Aug 27-Sep 02)	0.85	193	17.51	6699	2.08	430
36 (Sep 03-09)	0.69	177	9.89	1707	2.60	125
37 (Sep 10-16)	0.56	147	3.59	688	2.40	170
38 (Sep 17-23)	0.21	54	3.30	278	2.28	144
39 (Sep 24-30)	0.16	35	2.23	444	0.88	14
40 (Oct 01-07)	0.28	24	2.03	108	0.63	3
41 (Oct 08-14)	-	-	1.18	17	0.97	0
42 (Oct 15-21)	-	-	1.28	1	-	-



# Seedbank longevity of Palmer amaranth and Common Waterhemp

- Three locations: Lubbock, College Station, Corpus Christi
- Five year study
- Burial: March 31, 2016
- Two depths: 2- and 8-inches
- Retrieval times: 6, 12, 24, 36, 48, 60 months
- Two Hundred seed were placed in weed-free soil in nylon micromesh bags



# Palmer amaranth seedbank longevity (% of original viable seeds) when buried at 5 or 25 cm deep, 2 years after burial

