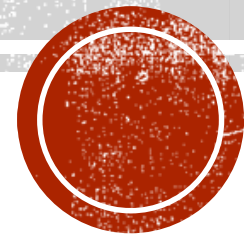


WEED MANAGEMENT

West Texas Agricultural Chemicals Institute

September 9, 2020

Peter Dotray and Wayne Keeling



TOPIC ITEMS

- Weed management with and without dicamba
- Cotton residuals
- Sorghum – residuals and new technologies
- Importance of RU in POST applications
- Weed resistance update
- Volunteer cotton control
- Palmer amaranth seed burial study
- Weed size
- Pesticide waste collection



WEED MANAGEMENT WITHOUT DICAMBA?

FOCUS ON WEST TEXAS

Life without “Engenia, Xtendimax, FeXapan, Tavium”

- More reliance on effective soil-active herbicide (PP, PRE, EPOST, MPOST, Lay-by)
- Enlist herbicides, Liberty, RU, and Staple are other “POST” options
- Still a “system”



2020 Weed Control Programs for Texas High Plains Cotton Growers

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Texas A&M AgriLife Research and Extension Service – Lubbock, TX*

This publication serves as a guide to commonly used cotton herbicide options in the Texas Southern High Plains. Always carefully read and follow herbicide labels for rates and soil and plant back restrictions. Other generic brand names may exist that are not listed in these tables as well as other herbicides registered for use in cotton.

Preplant Incorporated (Conventional Tillage)/ Burndown (Conservation Tillage)

Tillage	Herbicide	Rate
Conventional	Treflan ¹ , generic trifluralin	1-2 pints/acre ²
	Prowl H ₂ O ¹ , generic pendimethalin	1-3 pints/acre ²
Conservation/No-till	Prowl H ₂ O ¹ , generic pendimethalin	2-4 pints/acre ²
	Dicamba/2,4-D	See product label for rates and planting restrictions
	Roundup, generic glyphosate	32-44 fl oz/acre
	Valor, generic flumioxazin	2 oz/acre >21 days before planting + at least 1-inch irrigation
	Gramoxone, generic paraquat (2 and 3 lb formulations)	1-2 pints/acre (2 lb/gallon) 1.7-2.7 pints/acre (3 lb/gallon)

Preemergence Herbicide Options³

Herbicide	Rate
Prowl H ₂ O ¹ , generic pendimethalin	1-3 pints/acre ²
Caparol, generic prometryn	1.6-3.2 pints/acre ² DO NOT USE on sand or loamy sand soils
Direx, generic diuron	0.8-1.2 quarts/acre ² DO NOT USE on sand or loamy sand soils
Cotoran, generic fluometuron	2 pints/acre DO NOT USE on coarse soils
Warrant	3 pints/acre
Reflex ⁴ , Sinister, generic fomesafen	1 pint/acre DO NOT USE on coarse soils
Staple LX, generic pyriithiobac	2 fl oz/acre DO NOT USE on coarse soils
Brake	16 fl oz/acre DO NOT USE on coarse soils

¹ For optimal weed control, a two-pass incorporation system should be utilized with the dinitroaniline herbicides.

² Rate dependent on soil type. Always consult the label prior to herbicide application.

³ Preemergence herbicides will be most effective when activated by irrigation or rainfall events.

⁴ Reflex may be applied at 1 pt/acre immediately after planting of cotton provided that 0.5 inch of irrigation is applied prior to cotton cracking the soil surface. Do not apply more than 1 pt/acre of Reflex in any year.

SEQUENTIAL APPLICATIONS OF ENGENIA AND LIBERTY WITH OUTLOOK



WEED MANAGEMENT IN SORGHUM



NEW SORGHUM TECHNOLOGY

- Inzen Sorghum
 - Soft launch in 2021 and expect full commercial availability in 2022
 - Zest herbicide (ai - nicosulfuron, WSSA Group 2 herbicide)
 - POST control of key annual grass weeds (BYG, panicum, foxtail,...)
 - Systems approach with an effective BL herbicide, stewardship!)
- iGrowth sorghum (grain and forage hybrids)
 - Soft launch in 2021
 - ImiFlex herbicide (ai – imazamox, WSSA Group 2, registration pending EPA approval)
 - Broad-spectrum herbicide with soil residual activity, can be applied PRE or POST
 - Systems approach / stewardship
- S&W Seeds/ADAMA sorghum – Double Team™
 - First Act™ herbicide (ai – quizalofop, WSSA Group 1, registration pending EPA approval)
 - Full-spectrum grass control. Applied POST and no soil residual activity
 - Systems approach / stewardship



ADD RU IN POST TANK MIXES

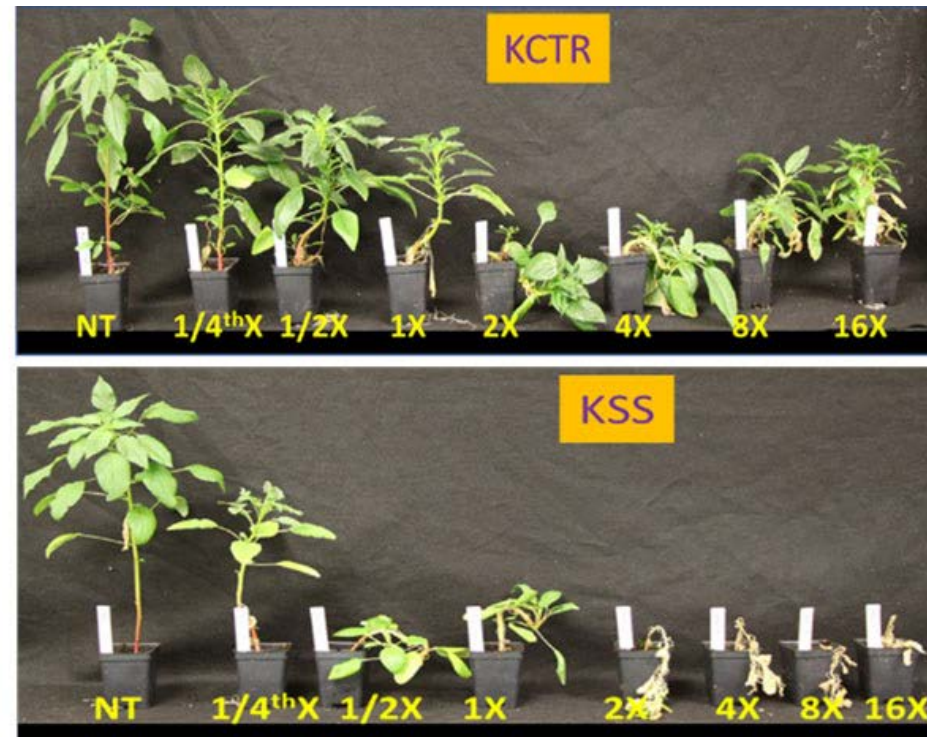


WEED MANAGEMENT ISSUES

FOCUS ON WEST TEXAS

1. Herbicide Resistant Weeds

- 514 unique cases, 262 species, 23 of 26 known herbicide SOA, 167 herbicides
- Newest concerns: kochia (dicamba, glyphosate, 2,4-D), Palmer amaranth (dicamba, HPPDs)

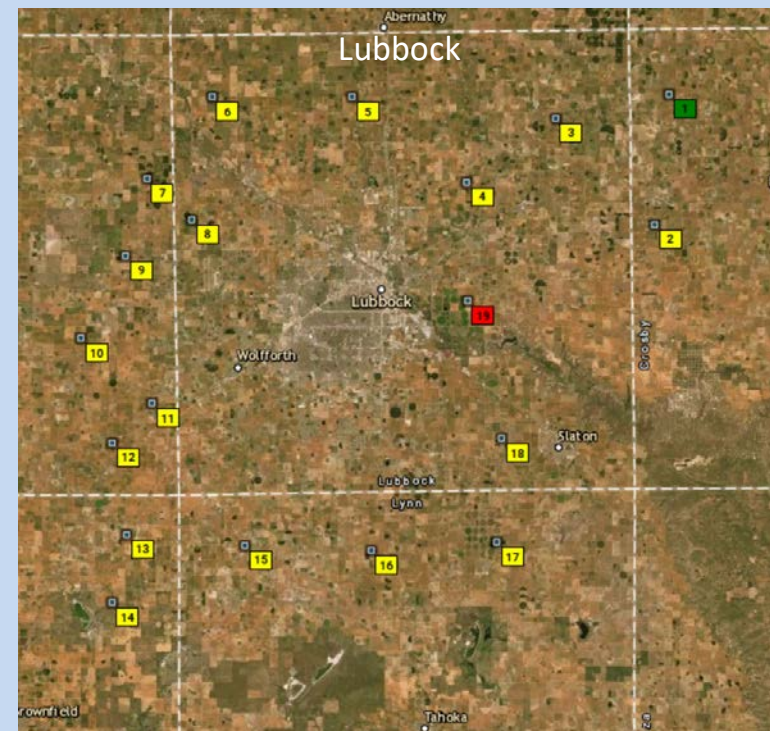
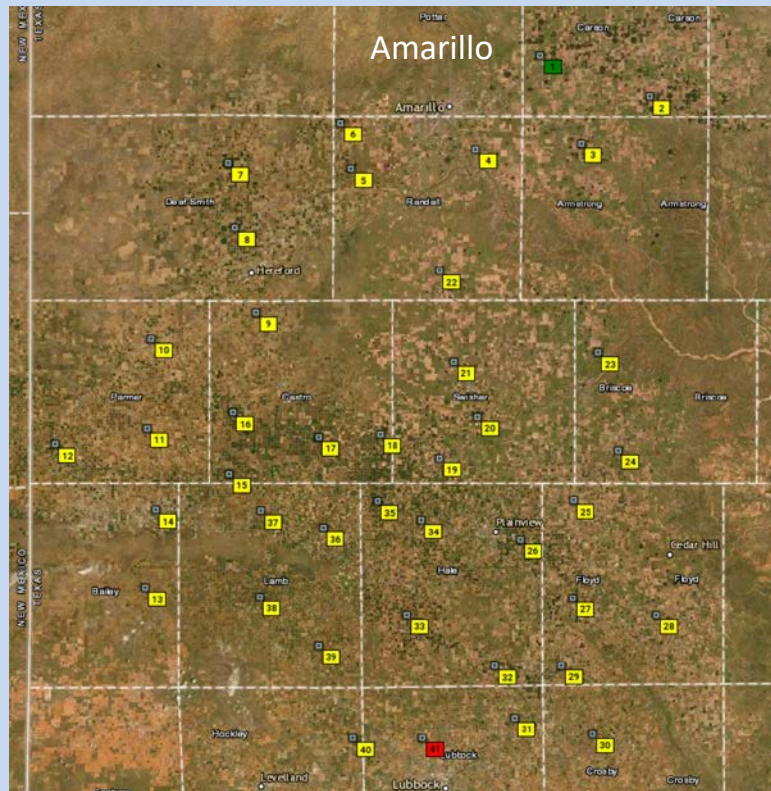
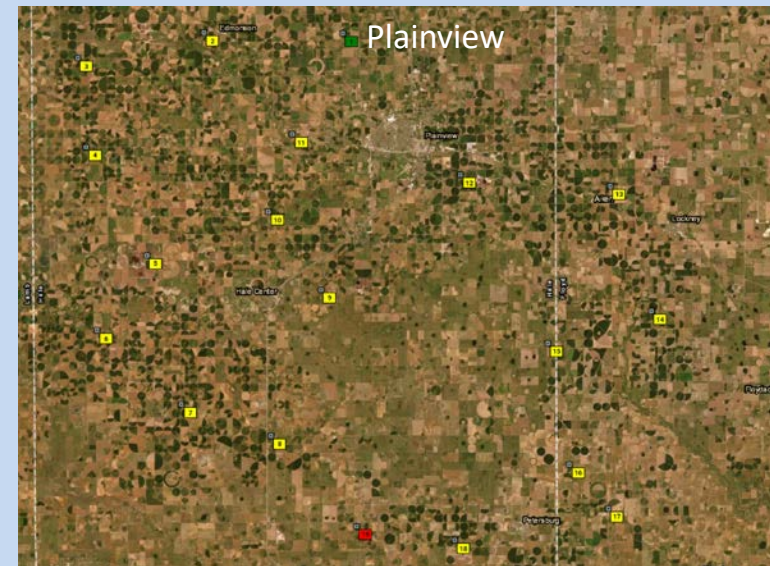
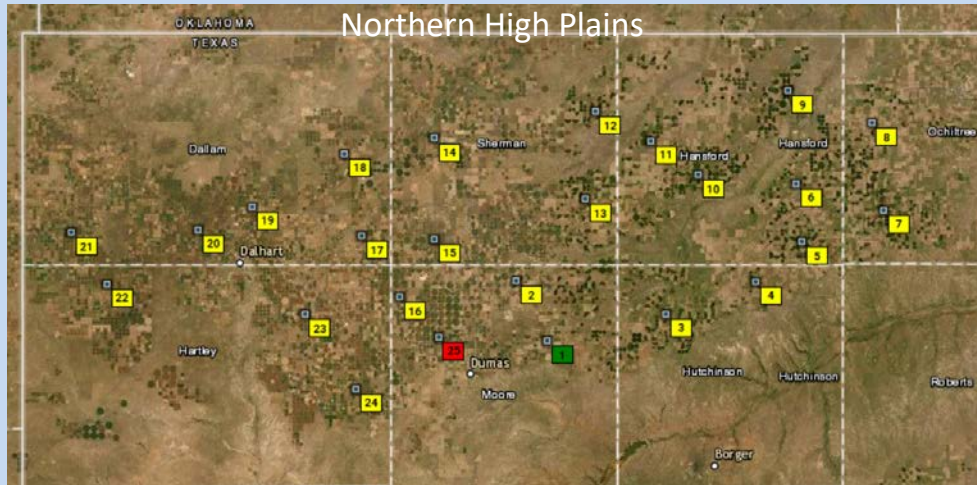


<http://www.weedscience.org>





Kochia survey maps - 2019





CONTROLLING VOLUNTEER XF COTTON WITH ENLIST ONE

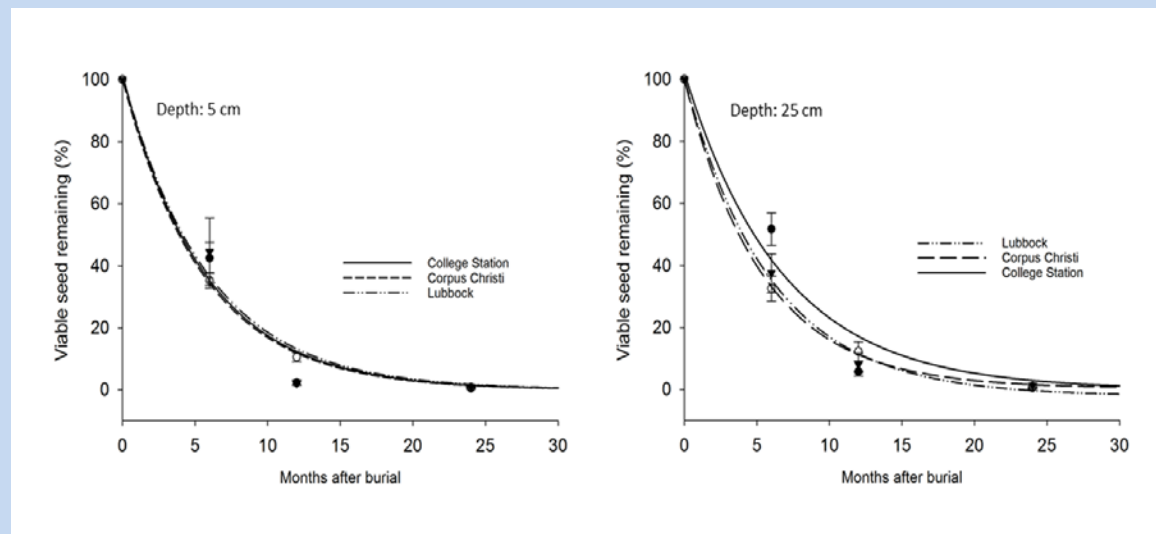


CONTROLLING VOLUNTEER ENLIST COTTON WITH XTENDIMAX



Seedbank longevity of Palmer amaranth and Common Waterhemp

- 3 locations: Lubbock, College Station, Corpus Christi
- 5-year study
- 200 seed were placed in nylon micromesh bags
- Buried: Mar 31, 2016
- 2 depths: 2- and 8-inches
- 2 weeds: PA, WH
- Retrieval times (months):
 - 06 (Sep 30, 2016)*
 - 12 (Mar 31, 2017)*
 - 24 (Mar 31, 2018)*
 - 36 (Mar 31, 2019)*
 - 48 (Mar 31, 2020)*
 - 60 (Mar 31, 2021)



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	-	-



Pesticide Waste Collection

- The Texas A&M AgriLife Extension Service will be holding an agricultural pesticide waste collection event Oct. 21 in Lubbock in partnership with the Texas Department of Agriculture.
- The event will run from 8 a.m.-2 p.m. at the South Plains Fairgrounds at 105 E. Broadway

<https://agrifetoday.tamu.edu/2020/09/07/agrilife-extension-agricultural-pesticide-waste-collection-set-oct-21/>