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General Area Crop Progress

Most of the cotton has been harvested and the wheat planted.. We had a hard killing frost the week of Thanksgiving. Most of the month was cooler and much drier than past years allowing for field work. There were still sugarcane aphids in Johnson grass. Ladybugs are everywhere looking for warm places to stay for the winter. I have not seen any significant wheat pests. Continue to look for armyworms and aphids. We do have Hessian flies in our September planted Hessian fly test plots. Winter weeds seem to be the greatest issue. There is an abundance of volunteer annual ryegrass due to a full seed bank from the previous years. Emerged ryegrass control in emerged wheat will need applications of Metribuzin, Axiom, or Axial for control. Axial still provides some control in the region despite existence of herbicide resistant biotypes if it is applied early and with other products. Last year's herbicide trial results were in the previous newsletter.

A third year of a study to control annual ryegrass in fallow fields was established at Greenville in mid November.. Trial results from previous years are enclosed. The



Figure 1. 2021-22 Fallow Ryegrass Control Study D.Drake Nov 2021

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annual **AG Technology Conference on Thursday Dec. 9th 2021** at
Texas A&M University Commerce

- 5 Pesticide Applicator CEU's including L&R, IPM, and Drift Minimization
- 6.5 Certified Crop Advisor CEU's

Topics: Controlling Annual Ryegrass in Crops
UAV Herbicide Application Technology
Soil Fertility
Drift Minimization
Pesticide Laws and Regulations
Crop Protection Industry Updates

Registrations forms were mailed and a full agenda is enclosed. For more information contact drdrake@ag.tamu.edu or 903-658-3295

Evaluating Volunteer Annual Ryegrass As a Weed, Forage, and Cover Crop in Texas Blackland Prairie Cropping Systems

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Introduction and Abstract

Volunteer annual ryegrass, *Lolium spp.*; is an important weed in the Texas Blackland Prairie cropping systems. During the winters of 2019 and 2020 volunteer ryegrass was managed as a weed with several herbicide control options, as a forage, and as a cover crop. Soybeans, *Glycine max*; were then seeded the next spring without tillage into the various treatments. Plots were evaluated for weed control, forage production, and soybean production. Several residual herbicide treatments provided excellent weed control. Volunteer annual ryegrass was also managed as a winter and spring forage and a cover crop in other treatments. The ryegrass provided erosion control and some suppression of fall and spring weeds in comparison to fallow herbicide treatments. Treatments that included forage production produced up to 663 kg ha^{-1} (592 lbs/ac) of dry matter in January and 2764 kg ha^{-1} (2468 lbs/ac) of dry matter in March/April. Soybean plots in 2020 suffered from a hot dry growing season and grasshopper damage resulting in soybean yields for herbicide treatment of 349.7 kg ha^{-1} (5.2 bu/ac) and for the cover crop 369.9 kg ha^{-1} (5.5 bu/ac). Soybean yields for the 2021 herbicide treatments were 1055 kg ha^{-1} (15.7 bu/ac) and for the cover crop 1198 kg ha^{-1} (17.8 bu/ac). Soybean yields were not statistically significantly different in either year demonstrating the opportunity for producers to use volunteer annual ryegrass as a forage or a cover crop with no-till soybeans.

Materials and Methods

Plots were established on November 15, 2019 and December 23, 2020 in fields with emerged volunteer annual ryegrass. Individual plots were 1.5m (5ft) in width and 6.1m (20ft) in length with 4 replications in a randomized complete block design. Herbicide plots received a treatment of Paraquat or Glyphosate alone or in combination with one or more of the following residual herbicide active ingredients: Atrazine, S-metolachlor, metribuzin, Flumioxazin, Pyroxasulfone, and/or Carfentrazone. Treatments for forage were clipped in January to simulate grazing then March or April to estimate forage/biomass production. All forage and cover crop plots were terminated with Glyphosate or Paraquat at least 2 weeks prior to planting soybeans. Soybeans were seeded on April 21, 2020 and June 23, 2021 with a glyphosate and dicamba (Extend Flex) tolerant variety. All plots received a post emergent application of glyphosate, S-metolachlor, and dicamba to control weeds until harvest. Soybean seed yield was determined by hand harvesting a 1m row in representative plots in 2020. All plots in 2021 were harvested with a plot combine.



Figures 1 & 2. Annual ryegrass plots 7 days after initial treatment in Nov. 2019, Left. Forage harvest to estimate grazing production in January 2020, Right

Results and Discussion

Herbicide, forage, and cover crop treatments showed various levels of fall annual ryegrass and other broad leaf weed control. Table 1, shows the levels of weed control for the various treatments. Some treatments controlled and suppressed annual ryegrass and winter broadleaf weeds up to 120 days after the initial treatment. The cover crop and forage treatments also provided suppression of fall broadleaf and spring weeds.

The average forage yield for a late January clipping was 663 kg ha^{-1} (592 lbs/ac) of dry matter in the 2019-20 trial 503 kg ha^{-1} (449 lbs/ac) in the 2020-2021 season. The average forage yield for plots clipped in March or April prior to cover crop termination was 2764 kg ha^{-1} (2468 lbs/ac) of dry matter in the 2019-2020 season and 2446 kg ha^{-1} (2184 lbs/ac) in the 2020-2021 season.

Table 1. Percent Control of Fall Annual Ryegrass and Spring Broadleaf Weeds at the Time of Soybean Planting for Herbicide, Forage, and Cover Crop Treatments in NE Texas April 2021.

Treatment	Fall An. Ryegrass	Spring Broadleaves
Cover Crop - Volunteer Annual Ryegrass	0	90-100
Forage Harvest followed by Spring Herbicide	95	85-100
Fall Atrazine	0	73
Glyphosate or <u>Paraquat</u> in fall and spring	90	85
<u>Paraquat</u> + <u>Pyroxasulfone</u> + <u>Carfentrazone</u> in Fall	100	85
<u>Paraquat</u> + <u>Flumioxazin</u> in Fall	100	80
<u>Paraquat</u> + <u>S-metolachlor</u> + <u>Metribuzin</u> in Fall	100	63



Figure 3. Volunteer annual ryegrass control and cover crop plots in April 2021. Terminated plots had been clipped for forage production and then treated with glyphosate or paraquat.

Early 2020 annual ryegrass clippings had 23 percent crude protein and March 2020 clippings has 16.4 percent crude protein. Clippings were evaluated for forage quality by near infrared (NIR) spectroscopy. This study simulates a potential livestock grazing in January, which is a common practice in the Southern Great Plains and a potential hay crop in March and April. Actual grazing and hay production may introduce some compaction and additional management costs to producers as compared to a fallow system. These experiments followed wheat in the cropping system which provided volunteer ryegrass seed and depending on the system and field history a forage or cover crop would need to be seeded.



Figure 4. No-till Soybeans in an annual ryegrass cover crop plot on left and herbicide treated plots on the right of each image. Pictures were taken in August and October 2021 in Northeast Texas.

Soybean plots in 2020 suffered from a hot dry growing season and grasshopper damage resulting in soybean yields for herbicide treatments of 349.7 kg ha^{-1} (5.2 bu/ac) and for the cover crop of 369.9 kg ha^{-1} or 5.5 bu/ac. Soybean yields for the 2021 herbicide treatments were 1055 kg ha^{-1} (15.7 bu/ac) and for the cover crop 1198 kg ha^{-1} (17.8 bu/ac). Treatments that harvested the ryegrass forage before termination prior to planting yielded 1396 kg ha^{-1} (20.8 bu/ac). There were no statistically significant differences between any individual treatment in either year demonstrating cover cropping system viability.

The soybean planting in 2021 was delayed due to high rainfall conditions during the spring. In Northeast Texas producers are reluctant to use a cover crop system due to heavy clay soils and wet conditions that frequently delay planting. Bare soils, although susceptible to erosion tend to dry faster and facilitate timely planting. This is especially important for producers that have large acreages of multiple fields that are geographically fragmented.

Conclusions

- Several herbicide treatments with residual active ingredients provided excellent annual ryegrass control well into the spring.
- Herbicide labels need to be carefully consulted for crop rotation restrictions.
- Treatments that included forage production produced up to 663 kg ha^{-1} (592 lbs/ac) of dry matter in January and 2764 kg ha^{-1} (2468 lbs/ac) of dry matter in March/April.
- Annual ryegrass forage was high protein and could provide extra income in a producer's production system.
- Volunteer annual cover crops provided erosion control and some suppression of fall and spring weeds during the fallow period and subsequent soybean crop.
- There was no statistically significant difference between soybean seed yields following an annual ryegrass cover crop compared to a herbicide fallow treatment, demonstrating potential cover crop viability.
- In 2020, treatments that included a forage harvest and stubble termination showed numerically higher soybean yields.
- All treatment systems need to be evaluated for economic inputs and returns.

Acknowledgements

- Authors would like acknowledge the chemical and seed companies that provided herbicides, seed, and partial funding for the project. Texas A&M University – Commerce students also assisted with the study.

Residual Herbicides and Tank Mixed Herbicides with Glyphosate or Paraquat in the 2021-2022 Ryegrass study include.

Anthem Flex

Atrazine

Axiom

Boundary

Dual Magnum

Lead Off

Metribuzin

Sequence

Valor

Warrant

Zidua

NOTE: HERBICIDE LABELS NEED TO BE CAREFULLY CONSULTED FOR RATES AND CROP ROTATION RESTRICTIONS WITH THESE PRODUCTS.

Name brands are used for clarity and educational purposes.

Ag Technology Conference

Thursday - December 9, 2021

*Presented by Texas A&M AgriLife Extension, Texas A&M University-Commerce,
Cereal Crops Research Incorporated and the Agribusiness Industry*

Program:

8:00 AM - 9:15 AM **Registration and Visit with Suppliers/Exhibitors**

Morning Section: **Presiding** – *Mr. Ben Scholz, President, Cereal Crops Research Incorporated*

9:15 AM **Welcome to Texas A&M University-Commerce**
*Dr. Randy Harp, Dean and Professor, College of Agricultural Sciences and
Natural Resources, Texas A&M University-Commerce*

9:20 AM – 10:10 AM **IPM for Control of Annual Ryegrass in Crops**
*Dr. Ronnie Schnell, Corn & Sorghum Extension Specialist, Texas A&M AgriLife
Extension*

10:10 AM – 11:00 AM **Pesticide Laws and Regulations**
*Dr. Mark Matoka, Extension Specialist, Pesticide Safety Education, Texas A&M
AgriLife Extension*

11:00 AM – 12:00 PM **UAV's and New Technologies in Aerial Herbicide Application**
Mr. Matthew Kutugata and Mr. Bishwa Sapkota, Ph.D. Students, Texas A&M University

12:00 PM – 1:00 PM **Lunch** - *Conference Rooms A & B (overflow seating available in Traditions Room)*

Afternoon Section: **Presiding** – *Dr. David Drake, CEA-IPM Texas A&M AgriLife Extension*

1:00 PM – 2:00 PM **Drift Minimization**
Dr. Scott Nolte, State Extension Weed Specialist, Texas A&M AgriLife Extension

2:00 PM – 3:00 PM **Fertility Management Practices for Maximum Return on Crop
Protection Products** *Dr. Jake Mowrer, Extension Specialist, Texas A&M AgriLife
Extension*

3:00 PM – 4:30 PM **Industry Update: New & Current Pesticide Technology**
*Dr. Greg Steele, Technology Development Rep, Bayer CropScience
Dr. Sam Rushtom, Technical Service Manager, FMC Agricultural Solutions
Dr. John Gordy, R&D Scientist, Syngenta Crop Protection
Dr. Adam Hixson, Technical Service Representative, BASF Corporation
Dr. Spencer Samuelson, Integrated Field Scientist, Corteva*

Location: Sam Rayburn Student Center (Second Floor)
2200 W Neal St, Commerce, TX 75428, United States

Directions from East bound I-30 - Take Exit 101 to Hwy 24 and travel northbound to the City of Commerce. At the first light in Commerce, turn right onto Culver Street. Take the third left onto Bois D'Arc Street and proceed north to the parking lots. Parking is East of the Student Center in the lot off of Bois D'Arc Street between Cooper and Campbell Streets. The best entrance for the student center after parking is near the corner of Bryan and Stonewall Streets.

Collin County

2021 Fall Range & Pasture Program

Friday, December 10th from 8:30 am - 1:00pm

Fall is the time of year to manage cool season forages & begin planning for the upcoming warm season. Join us virtually or in-person to learn about managing common pasture weeds, brush management, how to manage forage pests, & how to safely handle pesticides.

This program offers 2 general and 1 IPM CEU's for Texas Agricultural Pesticide License holders.

Presentation Topics:

- Weeds of Collin County and How to Control Them - **1 General CEU**
Presented by Dr. Curtis Jones, Texas A&M - Commerce
- An IPM Approach to Brush Management - **1 IPM CEU**
Presented by Chase Brooke - AgriLife Extension
- Managing Forage Pests - **1 General CEU**
Presented by Dr. Vanessa Corriher-Olson, AgriLife Extension
- Pesticide Safety
Shelbie Powell- Southwest Center for Agricultural Health

Cost: \$25.00 (includes lunch for in person participants)

Location: Myers Park, 7117 County Road 166, McKinney, 75071

Registration: <https://www.eventbrite.com/e/2021-fall-range-and-pasture-program-tickets-200456048437>

Contact: Chase.brooke@ag.tamu.edu or (972) 548-4232

Website: Collin.agrilife.org | **Twitter:** @anr_co

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TRINITY VALLEY PESTICIDE CONFERENCE

MABANK FIRE DEPARTMENT
111 E. MASON
MABANK, TEXAS 75147
FRIDAY—DECEMBER 17, 2021

TEXAS A&M
AGRILIFE
EXTENSION

**\$35 Per
Person**

6 CEU's
(1 IPM-1 L&R-
1 Drift and
3 General)

8:15 A.M. Registration

9:00 A.M. **Laws and Regulations Update**
*Clint Perkins-County Extension Agent-AG/NR
Smith County*

10:00 A.M. **Prescribed Fire Benefits to Wildlife Habitat**
Heidi Bailey—Texas Parks and Wildlife Biologist

11:00 A.M. **Beef Cattle External Parasite Control Strategies**
*Dr. Jason Cleere—Associate Professor and Extension
Beef Cattle Specialist*

12:00 P.M. **Lunch -**

1:00 **Prevention and Treatment of Tree Diseases**
*Jason Ellis—Texas A&M Forest Service—
District Forester*

2:00 **It's Not Just 'Soap'; Spray Adjuvants - What they Are and
How they Work -**
*Steve Thurman, President, Blue Norther
Investments, LLC - Agri-Consulting Practice*

3:00 **Product Update and Information on Ongoing Herbicide
Trials**
Colton Spencer—Range and Pasture Specialist -Corteva



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Van Zandt, Henderson, and Kaufman**

Please Pre-Register before Friday, December 10th. Pre-Registration form at the end of this flyer.

Van Zandt: 903-567-4149 Kaufman 469-376-4520 Henderson 903-675-6130

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*The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts Cooperating.
If you need auxiliary aids to attend this or any Extension Program-please contact the Extension office at 903-567-4149 one week prior to event.*

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Calendar

Northeast TX Farm and Ranch Pesticide Applicator Seminar—Paris December 6, 2021

Texas Plant Protection Conference-Bryan December 7 & 8, 2021

<http://www.texasplantprotection.com/>

Ag. Technology Conference-Commerce December 9, 2021

Range and Pasture Workshop-McKinney December 10, 2021

Trinity Valley Pesticide Conference—Mabank December 17, 2021

Beltwide Cotton Conference-San Antonio January 4-6, 2022

District 4 4-H Entomology Workshop—Dallas Co. January 15th, 2022

For information on COVID-19

<https://agriflifeextension.tamu.edu/coronavirus/>

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