Louisiana Forage Farmer

Volume 34, Number 3

Articles

LFGC and AFGC Annual Meetings

The Louisiana Forage and Grassland Council (LFGC) will hold its annual meeting on Friday, December 6, 2019 at the LSU AgCenter's Woodrow Dewitt Livestock Barn Facility. The annual meeting program committee will be meeting in August to plan the program for the 2019 annual meeting. If you have any topics that you would like to see on the program, please contact Ed Twidwell at etwidwell@agcenter.lsu.edu. The complete program for the annual meeting will be contained in the next newsletter, which should come out in late-October. For now please mark the date of December 6 in your calendar and plan to attend the annual meeting.

The American Forage and Grassland Council (AFGC) will hold its annual meeting on January 5-8, 2020 in Greenville, South Carolina. The theme of the meeting is: "The more you know, the more you grow." For more information on the conference, contact AFGC Headquarters at www.afgc.org.

Upcoming Field Days

October 17: Dean Lee Research Station Beef Cattle and Forages Field Day, Alexandria, LA. Registration begins at 2:30 p.m. Contact person: Vince Deshotel (vdeshotel@agcenter.lsu.edu)

November 2: Acadiana Beef Producers Field Day, UL Cade Farm, Cade, LA. Contact person: Stan Dutile (sdutile@agcenter.lsu.edu)

New LFGC Representative on Louisiana Grazing Lands Conservation Initiative

The LFGC has a voting delegate on the Louisiana Grazing Lands Conservation Initiative (LGLCI). This committee is composed of individuals and organizations committed to working together to maintain and improve the management and health of Louisiana's grazing lands. This committee meets on a quarterly basis. For many years, LFGC's representative was Mr. Cliff Vining from Pioneer, LA. Cliff retired from this position at the end of 2018. The LFGC members thank Cliff for his many years of service on this committee.

This spring the LFGC Board of Directors voted to nominate Mr. Justin Fuselier as its representative to the LGLCI. Justin resides in Eunice, LA. He has a broad interest in grazing systems and has worked many years studying and applying holistic grazing concepts in south Louisiana. He has a B.S. in Horticulture from LSU. Since graduation he has been self-employed running a landscaping/nursery operation. He also helps his father run and manage a 90-head cow/calf operation. Their focus is utilizing high stock densities and maintaining native/range forages in their pastures. They strive to drive the system naturally with minimal chemical or mechanical inputs. Included with their operation they farm pesticide-free crawfish and rotate those fields to grass-finish >2-year-old steers on summer annual forages. He loves to meet like-minded people to share and learn, so that we may all one day utilize the most sustainable and profitable methods available to raise livestock on grass.

Heifer Development and Forage Evaluation in Silvopasture Systems

S.J. Thomsen, G. Pent and J.H. Fike
Virginia Tech University

Silvopasture- the intentional integration of trees with forages and livestock – may have the potential to increase land productivity and decrease the effects of heat stress on livestock. Two experimental silvopastures were developed from a thinned timber stand in Blackstone, VA and seeded with a cool-season forage mixture to compare with an

open pasture system. Treatment pastures include an open pasture, a thinned pine silvopasture, a thinned hardwood silvopasture, and a silvopasture that had been created by clearing and replanting both forages and loblolly pine in 2016. Cattle were introduced in 2017 and rotationally stocked with each system according to forage availability. Our objectives were to determine the forage availability, forage nutritive value, and the performance of heifers in silvopasture and open pasture systems. Forage availability was similar between treatments in 2017 (5037 lbs/ac); but lowest in the hardwood silvopastures (2981 lbs/ac) compared to the other treatments (3242 lb/ac) in 2018. There was no significant difference in crude protein content between silvo- and open- pastures (12.7%). In 2017, there were no differences in average daily weight gains between heifers in the four treatments (1.3 lb/day); in 2018, daily weight gain was lower in hardwood silvopastures (0.8 lb/day) in contrast to other treatments (1.0 lb/day). Temperature loggers were used to remotely collect vaginal temperatures of the heifers over eight days in 2018. The heifers in the silvopastures had core temperatures of 102.9 ^{0}F from 2 to 5 PM while heifers in the open pastures in contrast had an average core temperature of 104.0 ^{0}F. A drone with a thermographic camera was also used to collect external hide temperatures in the morning and afternoon. Heifers in the silvopastures had lower heat loads in the afternoon than heifers in the open pastures. Overall, silvopastures may increase land use and product diversity while sufficiently meeting cattle requirements and benefiting animal welfare if resource competition is effectively managed.

Source: 2019 SPFCIC Proceedings

Harvest Management Effects on Growth of Winter Cover Crop Mixtures and Subsequent Hay Production

A. Bruce Smith, M.W. Alison, K. Han, W. D. Pitman, L.M. Fultz, D. Lang K.R. Reddy, B. Rude and B. Macoon

Louisiana State University AgCenter and Mississippi State University

Cover crops reportedly improve soil health and production in cropping systems, but there are few reports of cover crop use in pastures. Experiments were conducted at Raymond, MS and Homer, LA to determine the contributions of grasses, legumes, and brassicas as cover crops, with 4-, 8-week harvest frequency (HF), or left as a mulch. Using 11 species, cover crop (CC) treatments were mixtures of 1) all species, 2) all grasses, 3) all legumes, 4) all brassicas, 5) grass-legume, 6) grass-brassica, 7) legume-brassica, 8) monoculture annual ryegrass, 9) none over-seeded with weed control, and 10) none-overseeded with no weed control. The experiment was a split-plot arrangement of a randomized complete block design with three replications. At Raymond, there was an effect of HF ($P<0.05$) on CC forage mass. Mulch (2450 lb/acre), and 8-week (2350 lb/acre), both were greater than 4-week HF (1900 lb/acre). There was an interaction effect on botanical composition(BC). Generally, grass was

dominant (73-83%) in mixtures with legumes harvested at 4-week but not at 8-week HF (55-60%) or mulch treatment (59-65%). There was an HF effect ($P<0.001$) on subsequent annual hay production, ranking mulch (3300 lb/acre) > 8-week (2800 lb/acre) > 4-week (2550 lb/acre). At Homer, there were CC ($P<0.001$) HF ($P<0.001$) effects on CC production. Across HF, forage mass ranked mulch (3850 lb/acre) > 8-week (3200 lb/acre) > 4-week (2850 lb/acre). Across CC treatments, the all-species and the grass-legume mix had greater forage mass (4500 – 4600 lb/acre) than grasses alone (2700 lb/acre), grass-brassica (3400 lb/acre) or monoculture annual ryegrass (2500 lb/acre). There was an interaction effect ($P<0.001$) on BC at Homer also. In mixtures with grasses, the percent grass was greater in the mulch treatment than harvested plots, and percent legume in mixtures were greater in 8-week and mulch than 4-week HF. Hay production was greater at 4-week than 8-week or mulch, and greater in treatments that included legumes. These first-year results indicate that winter CC and HF can have an effect on hay production, and legumes in the mix can be beneficial.

Source: 2019 SPFCIC Proceedings

Did you know?

Forage crops account for about 25% of the total value of U.S. agriculture, occupy about 50% of the total land area of the U.S, and provide recreation, wildlife habitat, soil conservation and esthetic value for all.

Grazing Brassicas Alone or Mixed with Annual Forages during Transition Periods

Guillermo Scaglia

LSU Agricultural Center Iberia Research Station

Warm-season perennial grasses primarily bermudagrass and bahiagrass are the backbone of forage systems in the Gulf Coast region. Annual summer legumes and grasses can complement these resources. In winter, cool-season annual grasses or legumes are available. Even though many species can fit into the different ecoregions, we deal with a few weeks in the Fall and Spring when quantity and/or quality of forage are not enough to support normal animal production targets. Stockpiled and conserved forages are used to cover these gaps. A tool to add to this toolbox is forage brassicas. They are annual crops with great nutritive value that are grazed starting 70 to 150 days after seeding, depending on the species and region of the country. In our conditions, when growing conditions were appropriate in the Fall, it was possible to start grazing them 55 days after planting. The leafy top of these forages is grazed, and the roots that contain protein and carbohydrates can be consumed in the animal can access them. This project aimed to evaluate under grazing conditions: 1) a mix of brassicas (turnip, kale, radish) as a forage source in the Fall transition period; 2) a mix of brassicas, legumes (red and white clover) and grasses (oats, cereal rye, and

annual ryegrass) for Fall and Spring transition periods. With or without the addition of forages to the mix, brassicas constituted the greatest proportion of forage available in the Fall transition period (first 50-65 days of grazing depending on the year). Novelty played a role in the first 7-14 days of grazing and preference for radish was observed. Brassicas represented very little to nil of the standing forage from March to June; however, annual ryegrass but primarily red clover maintained a very good stand. Animal gains during the Fall transition period were greater when grazing these pastures than when hay was fed or stockpiled bermudagrass grazed. Rotational stocking in both experiments helped maintaining a healthy stand of brassicas until cold temperatures (and rainfall in the 2 of the 3 years of evaluation) in late-December to early February affected their survival.

Source: 2019 SPFCIC Proceedings

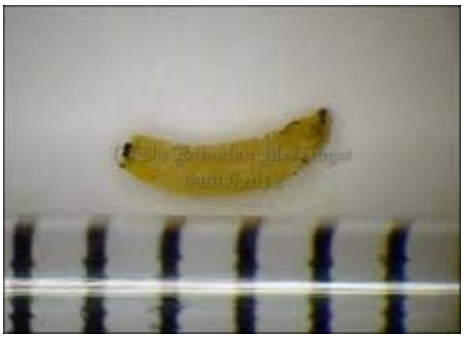
Detecting and Monitoring Bermudagrass Stem Maggot Populations

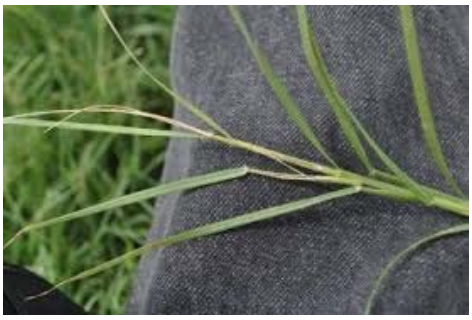
Lisa Baxter, Holly Anderson, Andy Carter, Michasia Dowdy, Brooke Hampton, Stephanie Hollifield, Carole Knight, Will Lovett, Kelly Paulk, Pamela Sapp, Andrew Sawyer and Dennis Hancock

University of Georgia

The bermudagrass stem maggot (BSM) continues to be a major pest problem throughout the Southeast US. Although strategic pyrethroid insecticide applications are an effective control strategy, much work is needed to fine-tune these recommendations. County Extension Agents and Coordinators from eight counties across South GA participated in an on-farm trial to determine the best method for monitoring BSM activity. This trial tested the use of sweep nets and stick card traps during different times of the day (8:00 to 11:00 AM, 11:00 AM to 2:00 PM, and 2:00 PM to 5:00 PM). The BSM were most active at the first time point (8:00 AM to 11:00 AM) and a greater number of flies are caught using the sweep net. More BSM flies were observed on the sticky cards at the 8” height than the 16” or 24”. Although the objective of this project was to determine the best method for monitoring the BSM, we have gained valuable insight in how to optimize the efficiency of insecticide applications. These data show that insecticide applications would be most effective at or before 11:00 AM and should be sprayed deep into the canopy.

Source: 2019 AFGC Proceedings





BSM larvae and damage to Bermuda

Performance of Cool-season Annual Forage Crops in Louisiana

M.W. Alison, C.F. Hutchison, E.K. Twidwell, Jerry Simmons and Greg Williams
LSU AgCenter

Introduction

Winter annual forages are adapted for grazing, green chop, hay and silage production in Louisiana. Each year scientists of the Louisiana State University Agricultural Center conduct performance trials to evaluate the forage production of annual ryegrass and oat varieties. Trials are conducted at various Louisiana State University Agricultural Center research stations throughout the state to provide information on the performance of varieties under varying soil and climatic conditions.

Information provided by these trials is used by Louisiana State University Agricultural Center scientists to develop a list of varieties that have performed satisfactorily in forage performance trials in Louisiana. Louisiana forage producers can use this information to decide on varieties to use in their production systems. To be included on the list of varieties that are considered to have performed satisfactorily from a crop for which several varieties are available, a commercial variety must be tested for three consecutive years and have an average yield not less than 90 percent of the three-year statewide mean of the top three yielding commercial varieties. A variety will be listed as "Promising" if, following two consecutive years of testing, it has shown acceptable agronomic performance and has yielded at least 90 percent of the statewide average of the top three commercial varieties. A variety previously suggested for planting consideration will be dropped from the list if it fails to perform satisfactorily considering both two and three-year yield data, if it is no longer commercially available to producers or if not submitted for evaluation.

Testing Procedures

The cool-season annual forage variety testing program is open to all commercially available varieties and advanced experimental lines of annual ryegrass and oats developed by either public or private plant breeding programs. The trials are managed using production practices suggested by the Louisiana Cooperative Extension Service (LCES) for each species, with soil amendments applied as indicated by soil test and herbicides used as appropriate.

Data on the cumulative forage yield and seasonal distribution of forage yield are collected for each trial to evaluate the adaptation of varieties to specific geographic regions of the state. The trials are conducted in randomized complete-block designs with at least three replications. Plots of each species are cut to a 2- to 4-inch stubble height when growth reaches eight to twelve inches. Cumulative forage yield data are combined across locations and years and analyzed by analysis of variance procedures to evaluate variety yields. The least significant difference (LSD) value represents the minimum amount by which variety yields must differ to be considered statistically different from one another. If differences are not detected among varieties, the LSD value is not presented.

ANNUAL RYEGRASS

Annual ryegrass (*Lolium multiflorum*) is suggested for use as a high-quality winter grazing, hay or silage crop on most soils throughout Louisiana. Annual ryegrass should be planted at rates of 30 pounds per acre if seeded alone or 20 pounds per acre if seeded with another species such as clover. Suggested planting dates for annual ryegrass are between Sept. 20 and Oct. 15 if planted into a prepared seedbed and approximately Oct. 15 if planted into an existing sod.

Annual ryegrass forage variety trials were conducted at three Louisiana State University Agricultural Center research stations during the 2018-19 growing season (Table 1). Lack of rainfall in late summer and into the fall delayed planting somewhat. Plots at all locations were seeded at the rate of 30 pounds per acre into a prepared seedbed. Phosphorus (P) and potassium (K) fertilizer was applied at all locations according to soil test recommendations made by the Louisiana Cooperative Extension Service. Total nitrogen (N) applied varied among locations but was at least 180 pounds per acre during the growing season and applied in multiple applications during the season.

Table 1. Planting dates and soil types of locations cooperating in the 2017-2018 annual ryegrass variety tests.

Research Station	Location	Planting Date	Soil Type
Southeast	Franklinton	October 13, 2018	Tangi silt loam
Iberia	Jeanerette	December 4, 2018	Baldwin silty clay loam
Macon Ridge	Winnsboro	October 26, 2018	Gigger silt loam

Results of annual ryegrass forage trials

Annual ryegrass entry, location and statewide yield means over three years are presented in Table 2. Varieties considered to have performed satisfactorily over the past three growing seasons and suggested for consideration in fall 2019 are Bashaw Diploid, Bashaw Tetraploid, Diamond T, Double Diamond, Earlyploid, Flying A, Wax Marshall, Nelson Tetraploid, Prine, RM4L, TAMTBO, Triangle T and Winterhawk. Very wet conditions predominated in Louisiana during early fall and through most of the spring. These wet conditions caused a delay in planting at the Iberia location.

Table 2. Mean dry forage production from annual ryegrass entries at three locations in Louisiana during three growing seasons, 2016-2017 through 2018-2019.

Entry	Location			Mean Eight Year/Location Environments Over 3 Years[‡]
	Franklinton	Winnsboro	Jeanerette[†]	
	---------- Dry Forage, lbs. / acre ----			
ME4 (expt.)[†]	10,582	6,146	8,485	8,394
Wax Marshall	10,051	6,182	8,909	8,315
ME94 (expt.)	8,870	6,212	9,226	7,962
TAMTBO	9,723	5,706	8,390	7,884
Prine	9,486	5,816	8,543	7,874
Double Diamond	9,439	5,789	8,603	7,861
M2CVS (expt.)	8,959	6,145	8,726	7,846
Bashaw Tetraploid	8,799	6,237	8,644	7,800
Bashaw Diploid	8,563	6,091	8,761	7,686
Diamond T	8,745	5,812	8,528	7,591
Triangle T	8,970	5,818	8,175	7,589
Lagniappe I (expt.)	8,607	5,976	8,476	7,588
Flying A	8,301	5,937	8,940	7,574
Nelson Tetraploid	8,858	6,161	7,759	7,572
RM4L	9,210	5,566	8,109	7,568
WMWL (expt.)	8,503	5,762	8,840	7,559
WinterHawk	8,642	5,847	8,304	7,509
Earlyploid	8,813	5,639	7,974	7,413
Passerel Plus	7,955	5,639	9,107	7,375
FrostProof	8,348	5,844	8,149	7,359
Jackson	8,138	5,991	8,201	7,349
Marvel	8,123	5,693	8,107	7,208
Gulf (certified)	7,407	5,661	8,425	7,007
Mean	8,830	5,899	8,494	7,647
LSD (.1)	1,042	403	NS	467
CV (%)	15	9	10	13

[†]Entries followed by (expt.) are experimental and not commercially available.