

Graze 300 – Master Grazer Educational Program 2015-2016 Bi-annual Report (January 1, 2015 – December 31, 2016)

Grazing News Newsletter and other resources

- KY Grazing Newsletter: published 13 issues of the monthly newsletter (an additional issue over benchmark and an issue published in early January 2017) which were sent electronically to all KY Agriculture and Natural Resource extension agents as well as 383 electronic subscribers. Hard copies were mailed out to an additional 205 households who have requested printed copies. Over the past two years, our audience receiving these newsletters has increased by 29%.
- Developed Grazing for Cash Pocket Guide: A notebook was developed by the Master Grazer program to record key information regarding a producer's grazing program. This notebook is now distributed to producers at all events related to the Master Grazer Program.

Master Grazer Website (www2.ca.uky.edu/grazer)

- Website: New material was added regularly to the UK Master Grazer Website. The home page contains links to current and previous articles published through the *UK Grazing News* newsletter, electronic subscription to our newsletter, informational video clips, listings of upcoming events and programs, reports and accomplishments, links to other useful websites, and important contacts.
- Master Grazer Informational Booths: The Master Grazer Program set up informational booths at several State and Regional conferences over the past two years. These included, but were not limited to Kentucky Cattlemen's Association Conventions, Kentucky Dairy Partners Annual Meetings, UK Beef Bash, KY Forage and Grassland Council Annual Meetings, and the Mid-South Stocker Conferences. The booth highlighted current projects and educational programs of the Master Grazer program. Additionally, attendees at each meeting could sign up for future issues of the *UK Grazing News* newsletter and receive printed copies of the most recent newsletters, research publications, or promotional flyers for upcoming events.
- Program Promotion to UK Extension Agents: The Master Grazer program accomplishments and upcoming programs were explained to UK Agricultural and Natural Resource agents (2016) during their in-service training.

Kentucky Grazing School-

- A two day, intensive and hands-on educational program (one each year- 2015, 2016- meets benchmarks) held at the Woodford County Extension



Cattle grazing alfalfa/orchard grass mix at Oran C. little research facility.

Office and the C. Oran Little Research Center. These sessions consisted of classroom discussions of grazing practices and components necessary for designing a grazing system with additional hands-on grazing activities. Participants got experience with temporary fencing and water systems during the grazing school's hands on portion of the program. For example, beef heifers were allowed to graze these plots for 18 hours and the participants were able to see firsthand grazing patterns of these cattle.

- 2015 KY Grazing School was held on May 20-21 and was attended by 35 farmers representing over 8374 acres of farm land and 1759 animals. An additional 5 participants attended who represented agricultural industries impacting over 900 thousand livestock animals in KY. Participants represented 25 KY counties and 3 participants from Tennessee. All participants planned to make changes to their grazing systems as a result of attending the grazing school. 70% or more participants plan to make the following changes: use rotational grazing instead of continuous grazing, decrease hay feeding by extending the grazing season using corn or stockpiled fescue, seed some warm season grasses for summer grazing, design a watering system to provide ready access to any grazing paddock, and develop more water sites for grazing cattle.
- 2016 KY Grazing School was held on May 17-18 and was attended by 47 farmers, county agents, and industry representatives. Over 50% of the participants indicated that they planned on making changes in specific grazing practices related to forage production, animal management, and increasing use of fencing and additional waterers. Over 80% of the participants planned to increase access to water where water was readily available in each paddock, increase the use of temporary fencing to increase the number of separate paddocks grazed, renovate pastures with legumes, and soil test pasture fields and apply the amount of lime and fertilizer needed.



Producers learning about forage varieties during grazing school.

Eastern KY University-Berea Grazing School

- This 2-day program is designed to teach undergraduate students how to design and implement a rotational grazing system, and introduce them to various methods of extending the grazing season.
- These programs were held on April 7-8, 2015 and November 1-2, 2016 at the ECU Meadowbrook farm in Richmond, KY. This event was attended by a total of 43 undergraduate students representing ECU and Berea College. Each year all students



Students at the 2016 ECU grazing school learning how to set-up temporary fencing.

found the program to be very educational, and those who owned cattle said they would take what they learned and implement in their personal operation. Several students indicated they would like careers in disciplines related to forage management.

Advanced KY Grazing School

- This one-day course was designed for those who had participated in a previous grazing programs and was meant to be used as a refresher course and to go more in-depth on important forage and animal topics. One session was offered (meets benchmarks) each grazing year.
- The 2015 Advanced Grazing School was held on August 17, 2015 at the University of Kentucky Spindletop Farm and the Veterinary Diagnostic Lab. This program was attended by 43 farmers representing over 3850 acres of farm land and over 3000 animals and 3 industry professionals. Attendees learned how to calibrate both a no-till drill and a sprayer. Participants also had the opportunity to practice how to properly sample and test forages for nitrate and cyanide poisoning. All participants planned to make changes to their grazing systems as a result of attending the advanced grazing school.
- The 2016 Advanced Grazing School was held on April 12, 2016 at the University of Kentucky C. Oran Little “Woodford Co” Research Farm. This program was attended by 42 farmers representing over 8070 acres of farm land and over 2950 animals. Topics, tours, and demonstrations included establishing new stands of alfalfa, animal management programs while grazing alfalfa, spring grazing of winter annuals, and keys for successfully harvesting forages as baleage.



Advance grazing school participants testing for nitrate and cyanide levels.

Lengthening the Grazing Season- Mini Grazing Schools (New Program 2015-2016, benchmark of 3 regional programs per year). This program is designed to reach producers who cannot attend our KY Grazing School or other statewide programs. One day or evening short courses were held in different regions of the state to allow producers access to these programs close to home. They consisted of multiple topics related to managed, rotational grazing to extend the grazing season.

2015-- Clinton County Field Day: Held on September 19th, 2015 in Clinton County on the Jim Delk Farm outside of Albany. This field day was attended by 63 producers representing over 4300 acres and from 8 different counties. Participants took part in several seminars and hands-on demonstrations covering a variety of topics including: Pasture Renovation, No-till Drill Calibration, Benefits of Rotational Grazing, Stockpiling Economics, Introduction to Temporary Fencing and Watering, and Assessing Pasture Production. All participants indicated that their knowledge level of each topic increased after attending the grazing school.

2015- 2, 3-hour sessions--Mason County Field Day: Held on the evenings of October 13th and 22nd, 2015 in Mason County on the Richard Hardy Farm outside of Maysville. Producers from Bracken, Fleming, Lewis, Mason and Robertson Counties attended both sessions.

- October 13th session: 34 Producers attended this session that focused on forage production and management. Dr. Ray Smith presented on topics related to measuring forage availability using a variety of methods, renovating pastures by inter-seeding legumes, and pasture fertility management. Master Grazer Coordinator Austin Sexten led the group in a discussion and demonstration of how to properly calibrate a no-till drill for seeding forages.
- October 22nd session focused on livestock management and was attended by 31 producers. Dr. Donna Amaral-Phillips led a discussion on establishing a mineral program for livestock, as well as how rotational grazing allows proper rest and recovery time for forages. Dr. Jeff Lehmkuhler provided a hands-on discussion for attendees on different methods of rotational grazing along with a discussion of different components used in temporary fencing and watering systems. Master Grazer Coordinator, Austin Sexten discussed the importance of record keeping in a successful grazing operation.



Dr. Amaral-Phillips speaks to producers about proper forage rest and recovery and how it affects forage production.

2015--Central KY- Winter Annual Pasture Walk: On December 16th, 2015 a pasture walk was held at the farm of Mike Wilson in Anderson County to highlight and inform producers about utilizing winter annuals to extend grazing into the colder parts of the year when traditional forages are not available. The Wilson farm is the sight of one of the Master Grazer program's "Grazing for Cash" demonstrations. Earlier in the fall four different seed combinations were planted on the farm to establish late season grazing. A total of 15 producers from Anderson, Mercer, and Franklin counties were present at the pasture walk.

2016- 2 sessions--Eastern KY Program:

- Session 1- A 4-hour, intensive and hands-on educational program focusing on using alfalfa and winter annuals in a grazing system was held on September 15, 2016 on the University of Kentucky's Robinson Center for Appalachian Resource Sustainability Farm. This program was attended by 20 farmers, county agents, and industry personnel. Attendees learned about establishing temporary and



Dr. Lehmkuhler discussing fencing systems with Eastern KY producers.

permanent fencing, selecting forage varieties for use in their grazing systems, and how to calibrate a no-till drill.

- Session 2- an additional program held on October 4th at Sebastian Farms in Breathitt County. This program was attended by 14 farmers, county agents, and extension specialist. Attendees learned the response to fall applied nitrogen, how to manage fall pastures, and how to properly design holding facilities for cattle.

2016--Cumberland/Clinton Co Winter Annuals Field Day: This field day (September 20th, 2016) was attended by 70 producers and was centered on the use of winter annuals in forage programs and the benefits of testing hay and balancing diets to improve animal performance.

2016- 2 sessions--Princeton Grazing Cover Crops Field Day: This field day (November 10th, 2016) was attended by 21 producers, county agents and state specialist. The program focused on the use of cover crops in a forage program, and the effectiveness of planting winter cover crops to extend the grazing season. Session 2 will be held in March of 2017.

"Grazing for Cash" Demonstrations and Educational Program

The goal of these demonstrations is to illustrate to producers how to reduce their reliance on stored forages, improve management of forages grazed or harvested, and increase the profitability of livestock enterprises. For this 2-year grant cycle, demonstrations included: (1) incorporating winter and spring annual forages, (2) incorporating summer annual forages, (3) improving pastures with clover, (4) minimizing hay loss, and (5) managed/rotational grazing.

Winter Annual Demonstrations in Anderson Co:

Winter annual forages can be used to provide forages in the spring and early summer when pastures will be seeded in the fall to perennial grasses or summer seedings of warm season perennials, such as eastern gamma grass. Results were shared with fellow producers during a field day on October 13th and 22nd of 2015.

- Farm #1 (David Burge): In the early spring of 2015, Mr. Burge planted half of a 5-acre field in triticale and the remaining half in spring oats. On June 20th, Mr. Burge harvested as hay 5.5 tons of triticale and an additional 5.5 tons of spring oats. This fall this field will be planted in a permanent grass mixture of orchard grass and red clover. Use of the winter annuals improved forage production on this field as this field would have not contributed forage production during the spring/early summer time frame.
- Farm #2 (Mike Wilson): Mr. Wilson planted triticale, crimson clover, annual ryegrass, and forage collards in 10 acres and was able to graze 24 cows with calves for 20 days. In late May 2015, this field was sprayed with herbicide before planting with Eastern Gamma Grass.
- Farm #3 (Buddy Smith): In a 12-acre field, Mr. Smith planted triticale and forage turnips. He harvested 95 roll-bales of triticale baleage (approx. 24 tons of dry matter) and grazed 18 beef cow-calf pairs an additional 20 days after the forage turnips grew back. In another 13-acre field, Mr. Smith planted spring oats and was able to harvest 92 roll-bales of baleage (approx. 23 tons of dry matter). In this field, Sudan grass forage reappeared as a volunteer crop from the previous year's planting. This volunteer crop

allowed him to graze 25 cow-calf pairs for an additional 10 days. During the fall of 2015, this field was seeded to a novel endophyte fescue, Texoma Max Q II.

Minimizing Hay Loss Demonstrations:

- Since January 2016, 2 Madison County Farms (Yoder and Reynolds) have been conducting a side-by-side comparison using 2 different hay feeders to evaluate the benefits of different hay feeder designs on minimizing hay losses during feeding. Producers are recording the amount of hay fed through each one as a way to determine hay waste over the feeding period. Data collected will be shared with other producers across the state illustrating one way to extend feed resources.
- At a meeting in January, 2016 of the Madison County Beef Cattle Association, Master Grazer Coordinator, Austin Sexten, talked about different hay feeding methods and their effects on hay loss and animal performance to the 50 attendees. Those in attendance also got to hear a first-hand account of the benefits of hay-saving feeders from the 2 demonstration-cooperating producers, Mr. Ervin Yoder and Mr. Roger Reynolds.
- Their initial impressions of the hay-saving feeders were all positive and even though the demonstration was not completed Mr. Yoder liked the feeder so much he went out and purchased an additional hay-saving feeder to use.



Left: The traditional hay ring used in the feeding demonstrations. Right: The hay saving feeder used in the hay feeding demonstration.

Improving Pastures with Clover-Demonstration:

- A demonstration plot was planted on producer farms in each of Bourbon, Henry, Mason, and Nicholas Counties during the month of March 2016 to demonstrate proper establishment techniques for interseeding red clover into pastures using a no-till drill.
- At each of the 4 locations, 4 treatments within a strip were applied. These treatments included: (1) grass control- no red clover planted, (2) red clover drilled after forage was mowed without removing forage residue, (3) red clover drilled after forage was mowed and forage residue removed, and (4) red clover drilled into the standing forage. The first cutting was harvested and in August and late September botanical composition and yields were determined.

- Unfortunately, the Mason and Bourbon County sites had a stand failure and were removed from the on-going collection of data.
- Results at the remaining 2 locations are inconclusive. Henry Co location did show a substantial amount of volunteer red clover in the control strips and improvements in the amount of red clover present where it was drilled into established grass stands. Because of inconclusive results and changing of Master Grazer Coordinators, we did not have a field day at these locations.



Left: Nicholas County Producer Rich Storm and Master Grazer Coordinator Austin Sexten check the no-till drill settings prior to interseeding clover into the demonstration plot. Right: David McGuire interseeding red clover into his pasture in Henry County.

Managed/Rotational Grazing Demonstration:

- In March of 2016, a demonstration plot illustrating the effects of rotational grazing and pasture fertilization was set up in Madison County. This plot will show the benefits of allowing pastures to rest while using rotational grazing compared to continuous grazing. Data from this demonstration plot will be used to show producers how the grazing season can be extended through managed grazing.
- In February 2016, Master Grazer Program Coordinator Austin Sexten gave a presentation to the Harrison County Young Farmer's Association regarding the topic of managed grazing and implementing various grazing methods. Also included in the presentation was information on upcoming Master Grazer events and demonstrations.

A map of Kentucky showing all 120 counties. Ten counties are highlighted in blue: Boone, Carter, Clark, Grant, Harrison, Lincoln, Logan, Madison, Marshall, and Morgan. The other 110 counties are shown in white with black outlines and labels.