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7. Title

Forage and Feedstuff Quality Analysis

12. Investigator Name(s) (Last Name and Initials)

Han, K. J.; McCormick, M. E.

20. Termination Date 05/31/2013

40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011

Outputs:

The findings from this project were disseminated in two field day events in Louisiana and Mississippi. Another presentation was made to the annual ACE group for Forage meeting in Baton Rouge, Louisiana, under the title of "Forage Quality Analysis at the LSU AgCenter Forage Quality Lab." Two publications in LSU AgCenter Southeast Research Station Field Day Summaries and Beef and Forage Reports resulted from this project. We were able to use findings to suggest optimum harvest and utilization of forage for highly efficient forage-based livestock production goals. 7. Findings on lignin content and digestibility changes of bmr (brown midrib) type forage sorghum, sorghum-sudangrass hybrids, and sudangrass were presented at the 2011 ASA-CSSA-SSSA International Annual Meetings.

Outcomes/Impacts:

LSU AgCenter Forage Quality Analysis Laboratory has analyzed forage and feed samples from producers and university researchers since 1983. Annually, approximately 2,000 samples from producers covering a broad spectrum of forage and feed samples are submitted and analyzed for feed values and mineral contents. The major sample categories appearing in 2011 were not much different from those of the previou six year average. In 2011, the largest sample submission made was summer grass mix (22%), followed by bermudagrass (21%), and ryegrass (16%). When the proportions of other warm-season grasses, bermudagrass, bahiagrass, forage sorghum, sorghum-sudangrass hybrid, millet, etc. were totaled, warm-season grass sample proportion reached 62%. Although not a commonly submitted forage species, crabgrass, milo hay, and some tall grass samples were also submitted. Compared with the six year average, commonly submitted forage samples' proportion decreased in 2011. Summer grass mix samples and other less common forage species proportions increased, indicating increasing interest in alternate forage resources. Hay sample proportion has taken more than 68% of the toatl utilization. The categories of fresh, baleage, and silage submittals were near 10% each. Although grazing is the most common forage utilization type in Louisiana and Mississippi, high frequency of hay sample submittals indicates relative importance of hay as an agricultural commodity. Compared with the long-term average, milo hay sample submittal in 2011 increased from 0.6 to 3.6%. This was an example of temporary interest in a certain commodity caused by a market demand. This probably reflects more demand on milo hay occurring from the adjacent TX area due to this year's extremely dry weather in eastern Texas. As we noticed before, cool season grass contains generally higher CP and TDN than warm-season grasses. When utilizing the analysis results with a minimum CP (7.0%) and TDN (54%) requirements for not limiting total intake and animal performance, our average TDN in warm-season grass hay was mostly below 54%; and with such forages, it would be necessary to supplement concentrates to meet cattle nutrient requirements. Averages of protein content as CP in warm-season grass samples were less problematic than TDN since more of the sample contained higher CP than 7%. Warm-season grasses are valuable forage resources during the long summer growing season in the southeast US. However, management efforts to improve warm-season grass forage quality are required. Harvesting warm-season grass at a younger stage may be one of the approaches, along with moderate and timely fertilization. Also, production management for cool season legumes and warm-season legumes needs to be developed.

Publications:

Zeringue,L., S. Forbes, J. Simmmons, T.D. Martin, M. E. McCormick, and K.J. Han. 2011.Review of Louisiana and Mississippi Livestock Producer Sample Analyses (2001). p. 59-62. In Southeast Research Station Field Day Summaries, 2011. Louisiana State University Agricultural Center, Baton Rouge, LA.

Han, K.J., M.E. McCormick, E.K. Twidwell, and V.R. Moreira. 2011. Nutritive values of forage utilized in Louisiana and

Mississippi livestock operations. Beef and Forage Report. Vol. 36. Louisiana State University Agricultural Center, Baton Rouge, LA.

Han, K.J., M.E. McCormick, R. Bardwell. 2011.Evaluation of Salvaged Corn Gluten Feed As Organic Fertilizer and Weed Control Effects. In 2011 AFGC Annual Conference. Proc. June 12-15, 2011. French Lick, IN.

Participants:

K.J. Han (PI), and M.E. McCormick, LSU AgCenter.

Target Audiences:

Targeted audience was cattle and forage producers as well as extension agronomists and animal scientists.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
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