

USING SUMMER ANNUALS TO TRANSFORM FORAGE SYSTEMS IN WESTERN KY

INTRODUCTION

- Perennial cool-season grass growth is limited by high temps
- Summer annuals could provide high quality forage
- Summer annuals could be used as transition between perennial sods

OBJECTIVE

To introduce improved summer annual cultivars and demonstrate their use as part of a pasture renovation program.

MATERIALS AND METHODS

- Conducted in five counties in W. KY
- RCB design with counties serving as replications (5)
- Planted in late May & early June:
 - Sudangrass (SG), 'AS9302'
 - Pearl Millet (PM), 'Wonderleaf'
 - Soybean (SB), 'Large Lad'
 - SG-PM-SB (Mixture)
- 60 lb N/A at planting
- Sampled for yield and nutritive value at height of 30 to 40 in



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RESULTS

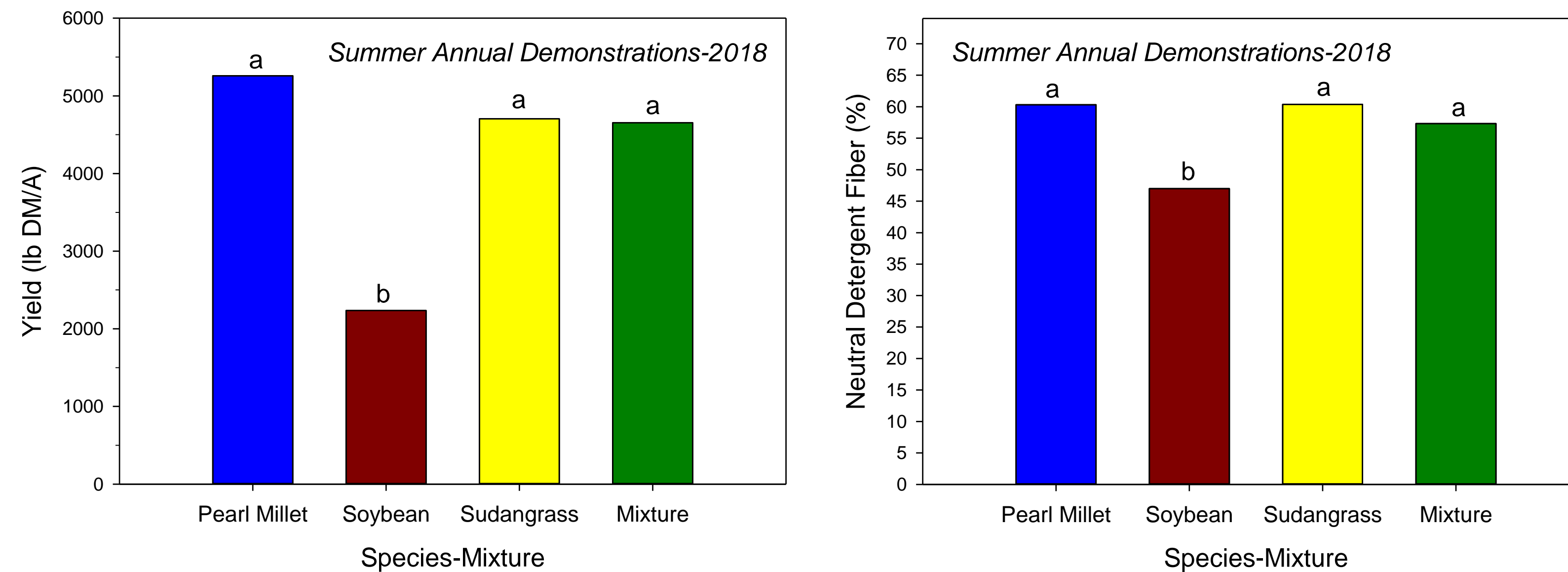


Figure 1 and 2. Yield and neutral detergent fiber of pearl millet, soybean, BMR sudangrass, and a mixture of the three, averaged over five locations in Western Kentucky.

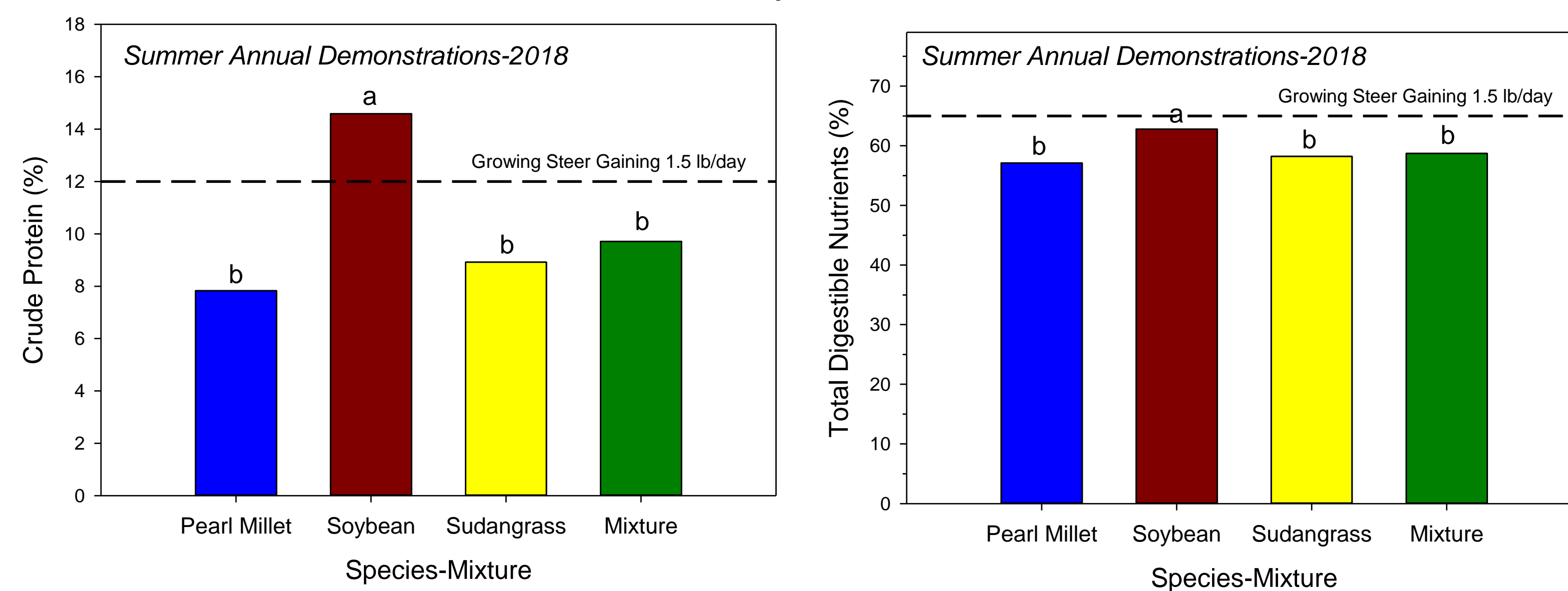


Figure 3 and 4. Crude protein (CP) and total digestible nutrients (TDN) of pearl millet, soybean, BMR sudangrass, and a mixture of the three, averaged over five locations in Western Kentucky.

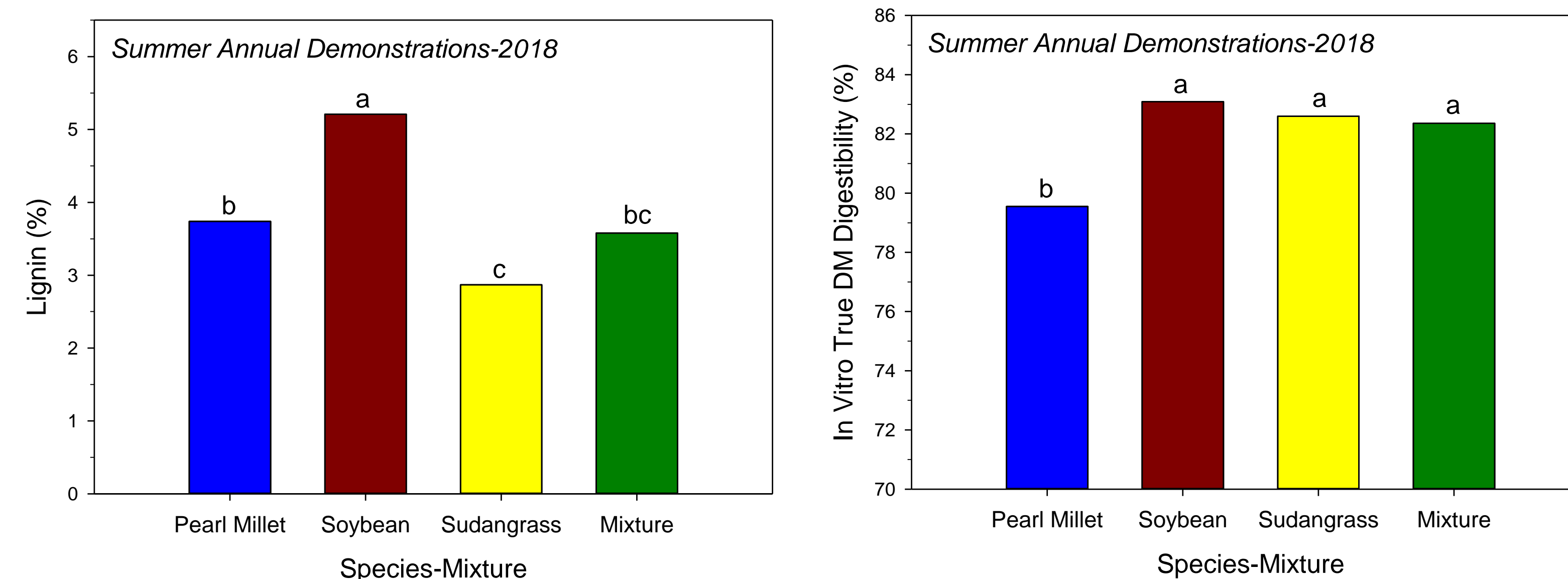


Figure 5 and 6. Lignin and 48-hr in vitro true dry matter digestibility (IVTDM48) of pearl millet, soybean, BMR sudangrass, and a mixture of the three, averaged over five locations in Western Kentucky.

SUMMARY

- Plant height at sampling ranged from 2.2 for SB to 4.2 ft for PM
- Yield at sampling ranged from 1.1 to 2.6 ton DM/A
- Protein in PM, SG, and MIX was deficient for a growing calf
- Energy (TDN) was deficient for a calf gaining 1.5 lb/day
- Lignin was highest in SB and lowest in the BMR SG
- 48 hour-in vitro true dry matter digestibility was lower for PM
- Summer annuals can be used as part of renovation programs
- Nutritive value should be monitored to ensure adequate animal performance



Figure 7. Interns, Hunter Adams and Jessica Buckman, with local extension agent, Darrell Simpson and producer, Mike Putnam in Hopkins County, KY.



A special thank you to Jesse Ramer for supplying the seed for these demonstrations.