

NC-1182
September 24-25, 2014
Fayetteville, AR

Meeting Minutes

Participants: Walt Schacht (Nebraska), Rhonda Miller (Utah), Ben Goff (Kentucky), Ken Coffey (Arkansas), and Dirk Philipp (Arkansas)

General Notes:

- This annual meeting was scheduled primarily to start drafting a new project proposal for the committee.
- During both days, objectives were drafted, refined, and tentatively finalized for review by all members of the NC-1182 committee (see below additional information).
- The participants drafted 6 objectives including specific objectives which will serve as guideline for submitting the new proposal for review in 2014.
- The meeting participants toured the University of Animal Science farm on Tuesday (9/24) afternoon and met for a joint dinner that evening.
- Before adjourning the meeting, an email was sent out to all committee members detailing assignments and procedures for submitting the full proposal in 2014
- Internal deadlines:
 1. Submit methodology and literature review to Dirk Philipp by Oct 30, 2013
 2. Finish draft of proposal by Dec 1, 2013
 3. Submit proposal for review shortly after or early January of 2014
- Administrative issues:
 1. Dirk Philipp was elected as Secretary/Chair for 2013-2014
 2. Rhonda Miller was elected as incoming Secretary and will be the incoming Chair at the 2014 meeting
- Next meeting
 1. Walt Schacht volunteered to host the meeting in 2014
 2. Meeting location will be Lincoln, NE. The exact meeting time will be determined via a poll; the month of July was suggested as a possible time frame.

Additional information:

Summary of objectives for new proposal(tentative)

Title: Management and Environmental Factors Affecting Nitrogen Cycling and Use Efficiency in Forage-Based Livestock Production Systems

Overall Objectives:

1. Evaluate legume cultural and management strategies emphasizing legume establishment, GHG emissions, and nitrogen cycling and use efficiency. (AR, KY, NE, UT)
2. Quantify N harvest efficiency of grassland agro-ecosystems in response to grazing strategies by determining N inputs and takeoff. (AR, NE)

3. Improve soil quality and soil fertility with N inputs. (MI, UT)
4. Evaluate supplementation practices, including use of distillers grains and other co-products, to increase N capture and use efficiency. (AR, NE, OK)
5. Determine the symbiotic effects of grass-fungal endophytes on pasture N cycling. (KY, MO)
6. Assess the efficacy of secondary plant metabolites for increasing nitrogen retention and improving nutrient cycling in forage-livestock systems. (UT, KY)

Objective 1:

Evaluate legume cultural and management strategies emphasizing legume establishment, GHG emissions, and nitrogen cycling and use efficiency. (Chair Dirk)

Specific objectives:

- (i) *Investigate the N-availability from annual and perennial legumes under multiple management scenarios. (AR, KY)*
- (ii) *Identify factors that help optimize legume establishment, persistence, and utilization in pastures. (AR, KY)*
- (iii) *Determine the impact of legumes on the GHG footprint of livestock production systems, agronomic practices, and livestock finishing procedures. (AR, KY)*
- (iv) *Compare N-cycling and N-use efficiency in grass-legume mixtures vs. grass monocultures. (KY, NE, UT)*

Objective 2:

Quantify N harvest efficiency of grassland agro-ecosystems in response to grazing strategies by determining N inputs and removal. (AR, NE) (Chair Walt and John)

Specific objectives (To be determined)

Objective 3:

Determine how strategic application of nutrients and soil amendments to forage crops affects nitrogen cycling in agricultural systems. (MI) (Chair Kim Cassida)

Specific Objectives (To be determined)

Objective 4:

Evaluate supplementation practices, including use of distillers grains and other co-products, to increase N capture and use efficiency. (AR, NE, OK) (Chair Ken)

Specific Objectives (To be determined):

Objective 5:

Determine the symbiotic effects of grass-fungal endophytes on pasture N-cycling. (KY, MO) (Chair Rebecca)

Specific Objectives (To be determined):

Objective 6:

Assess the efficacy of secondary plant metabolites for increasing nitrogen retention and improving nutrient cycling in forage-livestock systems. (KY, UT) (Chair Ben)

Specific Objectives:

- (i) *Effects of tannins on nutrient cycling, including soil leaching and urine-feces shifts. (UT)*
- (ii) *Determine the ability of non-tannin secondary metabolites to alter N-availability in forage diets. (KY)*