PROGRESS REPORT

PROJECT TITLE: Enhancing the feeding value of corn residues to improve beef cattle production
PROJECT NUMBER:
REPORTING PERIOD: 2015
PRINCIPAL INVESTIGATOR: Tara Felix and Alfredo DiCostanzo
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1.) PROJECT ACTIVITIES COMPLETED DURING THE REPORTING PERIOD. (*Describe project progress specific to goals, objectives, and deliverables identified in the project workplan.*)

University of Minnesota yr 1

The feedlot project has been completed. Steers were slaughtered this past summer. We are in the process of analyzing growth performance and impact of growing phase diet and growth on finishing performance.

University of Minnesota yr 2
In situ ruminal DM and NDF disappearance have been determined on the samples. Data have been analyzed and are compiled. Results on DM and NDF disappearance support growth data observed during the growing phase. Also, an in vitro gas production assay supports data, which reflect impact of alkali treatment on reduction of fiber bonds in NDF fraction, thereby improving digestibility. An interesting finding is that water only treatment reduced gas production and NDF disappearance. This was unexpected. Meat quality data collection is proceeding at this time.

2.) IDENTIFY ANY SIGNIFICANT FINDINGS AND RESULTS OF THE PROJECT TO DATE.

University of Minnesota yr 1
Steers fed untreated stover had similar gains and feed conversion as those fed alkali treated corn stover. Feeding alkali treated corn stover did not improve feed conversion efficiency. This may be due to the fact that diet palatability for the untreated corn stover diet was poor leading to low intake but gains did not suffer. Feeding cattle water-treated corn stover led to greater gains because of greater intakes but at a lower conversion efficiency.

University of Minnesota yr 2
Currently meat samples being analyzed no data available yet.

3.) CHALLENGES ENCOUNTERED. (*Describe any challenges that you encountered related to project progress specific to goals, objectives, and deliverables identified in the project workplan.*)

University of Minnesota yr 1
No serious challenges encountered. Due to the lightweight of calves at the start of the study, given their age, caution should be used when extrapolating data to practical situations. Feed conversions in the 4-to-1 to 5-to-1 range for a 50% forage diet are not common (too good).

University of Minnesota yr 2
None encountered

4.) FINANCIAL INFORMATION (*Describe any budget challenges and provide specific reasons for deviations from the projected project spending.*)

University of Minnesota yr 1
No challenges observed.

University of Minnesota yr 2
No challenges observed.

5.) EDUCATION AND OUTREACH ACTIVITES. *(Describe any conferences, workshops, field days, etc attended, number of contacts at each event, and/or publications developed to disseminate project results.)*

University of Minnesota yr 1
Growing data were shared at the annual NCCC308 Regional Research Meeting in NE in May (~12 professors of feedlot nutrition), in addition to the annual MN Cow Calf Days (500 attendees in 10 locations; mix of producers and industry reps).

University of Minnesota yr 2
The in situ data have been compiled with the feedlot trial data and will be presented as one complete abstract at Midwest Animal Science Meetings in Des Moines, IA in March, 2016.