## Improving Weight Gain in Goats grazing Cover Crops

LINCOLN

# Selected through Soil Health Samples



SARE PARTNERSHIP GRANT ONC15-004

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#### Introduction

Cover crops improve soil health, is it possible to improve weight gain in goats by broadcasting cover crop seeds into perennial pastures? Goals set for selecting cover crops: A. must improve soil via performance B. must be leafy/tall variety allowing goats to eat with head up.

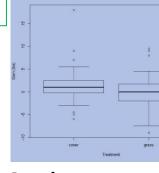
#### Methods

Soil health analysis: soil samples were collected prior to each planting with a final sample at conclusion of project. Cover crop seeds were planted using four different styles of broadcasting. Cover crops and grass was measured using a grazing stick, grazing days were calculated prior to each grazing period for each treatment on all 3 farms. Ten goats were selected and weighed at each farm. Five goats were placed in cover crop pen, five goats in grass pen. Following 3-5 days of grazing, goats were removed from pens and weighed again to determine rate of gain. Four replications per farm.

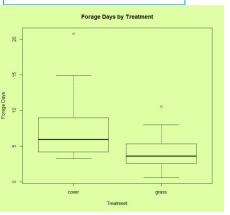
Partial Results of Soil Samples (Active Carbon) Drumm May 2015 429.1 mg/kg Drumm Oct 2016 483.1 Hallar May 2015 325.4 Hallar Oct 2016 496.1 Lynne- May 2015 409.7 Wood Oct 2016 424.1 For more details on Soil Health Analysis see grant ONC15-004 northcentralsare.org

### Results

AVERAGE GAIN per GOAT per Graze: **On Cover Crops** 1.509090909 pounds /period On Grass -0.009090909pounds 



Average Gain by Treatment



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Average Days of Forage/Grazing Days Cover Crops 7.924545 days Grass 4.427455 days <<<<<<<<<<

The R Project was used for all statistics.

Conclusion Adding cover crops, such as winter annuals or summer annuals onto perennial pastures, nearly doubles grazing days on same amount of space, plus goats gain weight, soil is healthy.

Cover crop mixtures, planting dates and costs can be found in the SARE report for this project, low tech equipment was used to broadcast seeds.

