

PROGRAM SPONSORS



United States
Department of Agriculture
National Institute of
Food and Agriculture



Oklahoma Beginning Farmer and Rancher Program



Grazing Systems

- Continuous
- Rotational (Controlled)
- Management Intensive

Management Intensive

- ▣ Seventeen or more pastures (strip grazing)
- ▣ Up to 70% utilization
- ▣ Long rest periods
- ▣ Better manure distribution
- ▣ Fewer weeds
- ▣ Optimize the amount of beef produced/acre

Extending the Grazing Season

- With MIG, we can extend the grazing season by extending the rest period
- Excess forage is stockpiled for use during slow forage growth periods
- But, we also have to extend the grazing period
 - Has to be enough forage available

Extending the Grazing Season

- ▣ How can we extend the grazing period if there is not enough forage?
 - ▣ Fluctuate stocking rate (buy and sell livestock)
 - ▣ Not with cow/calf operation, works with a stocker operation
 - ▣ Feed hay
 - ▣ Plant cool season annuals (wheat, turnips, etc.)



Wheat Grazing Study

- Three pastures (22 acres)
 - #1 pasture (6 acres), light disk, spread chicken litter, and planted wheat
 - #2 pasture (6 acres), spread chicken litter and planted wheat
 - #3 pasture (9 acres), no treatment
 - Planted wheat and spread litter in Sept. 2012
- Chicken litter (2 tons/acre), Wheat (90 lbs./acre)

-
- 31 head of cows
 - Est. weight 1000 lbs./head
 - Total est. DM intake of 930 lbs./day
 - Started grazing the wheat on April 9th 2013

-
- Prior to grazing, clipped forage from 10 random quadrants, weighed and dried to determine DM/acre
 - Measured forage height at each quadrant location
 - Process allows us to calibrate grazing stick for lbs. DM/inch
 - Results shows one inch = 300 lbs. DM

-
- Forage height was measured before each pasture was grazed
 - Expected utilization was 70 %
 - Allotted acreage was determined:
 - $\text{Lbs. DM required (930 lbs. per day)} \div \text{lbs. DM available (measured)} = \text{acres/day}$
 - $\text{Acres/day} \times 43,560 \text{ sq. ft./acre} \div \text{the width (ft.)} = \text{length (ft.)}$

Pasture	Acres	Treatment	Date	Grazing Period (days)	Forage Available (DM/ac)	Percent Utilization	Stock Density (lb. live wt./ac)
1	6.3	Wheat/CL/HSD	4/12	14	2937	70	34,444
		/HSD	5/12	6	1772	52	14,762
2	5.9	Wheat/CL/LSD	4/9	4	1540	41	5,254
		/LSD	5/2	6	2040	46	10,690
		/HSD	5/18	8	1920	83	26,000
		Total Wheat		38			
3	9.0	Control/HSD	5/6	6	1311	47	10,333

Wheat planting Costs

- Disking = \$12.00/ac.*
- Chicken Litter = \$76/ac. spread
- Wheat seed = \$24.75/ac.
- Drill wheat = \$10.00/ac.*
- Total = \$122.75/ac.

- * OSU custom rates

Hay Costs

- 1100 lb. round bale (5x6) = \$45.00 (90% DM)
- Figure 8% is wasted (92% not wasted)
- 1100 lb. bale x 90% DM x 92% not waste = 911 lbs.
- \$45.00/bale divided by 911 lbs. = \$0.05/lb.
- 1000 lb. cow x 2% DM intake/day = 20 lbs.
- 20 lbs. DM intake x \$0.05/lb. = \$0.99/hd./day

Results

- Wheat cost \$1.27/hd./day
- Hay cost \$0.99/hd./day
- Wheat has higher nutritional value than hay
- Protein supplementation would be needed with feeding hay to match cow performance on the wheat
- Cost/hd./day between wheat and hay could be equal.

Summary

- Desire was to extend the grazing season
- Summer drought left us with very little forage
- Applying chicken litter and planting wheat was close to cost effective, given the situation
- Wheat pasture gave us 38 days to grow some forage on the rest of the pastures
- The cow spent 10 days on the next pasture (7ac.) in the rotation (similar to control)