

Legumes in Forage Systems

300 Day Grazing – Emphasis Program

Objective:

Demonstrate the benefits associated with adding legumes to grazing systems

Methods & Procedures:

- Soil test field six months prior to planting
- Use soil survey map to determine soil type
- Apply fertilize and lime according to soil test recommendations
- Select legume based on farming operation and soil
- Pasture Inventory prior to planting
- Plant legume in one field and manage similar field as grass only
- Prepare grass sod for planting appropriate legume species
- Measure establishment of legume
 - Take transects to estimate stand
- Rotationally graze to improve persistence of legume
- Record number of acres, stocking rate and turn in and turn out dates.
- Measure forage quality of legume pastures
- Measure forage quality of grass pasture

Data Analysis:

1. Determine cost of planting legume
2. Determine the difference in number of grazing days with and without legumes.
3. Determine differences in yield and forage quality with and without legumes
4. Determine differences in animal performance with and without legumes
5. Determine forage growth in summer after legume growth
6. Determine economic cost difference between legume/grass and N fertilized grass

Outcomes:

1. Total cost comparison as a result of adding legumes.
2. Number of days grazing legumes.
3. Number of days grazing grass pasture
4. Improved forage quality and yield as result of legumes

Outputs:

1. Number of producers reached through field days, news letters, and presentations.
2. Number of producers adopting the practice

Using Legumes in Forage Systems

Grass / Legume Mixture

Agent Name: _____
Producer Name: _____

Field

Acres _____
Soil Test _____
Soil Type _____
Forage Inventory forage inventory sheet included

Fertilizer

Type _____
Date Applied _____
Rate per acre _____
Cost Per Ton _____
Total Cost _____

Grazing Period

Beginning Date _____
Ending Date _____

Grazing Method

Strip – How often were cattle moved _____
Continuous _____

Yield Estimate (*At turn in*) yield estimate worksheet included

Forage Quality (*Routine Analysis*) _____

Rainfall

Record Daily Amounts _____

Livestock

Type _____
Number _____
Estimated average weight _____
Beginning Wt or BCS _____
Ending Wt or BCS _____

Using Legumes in Forage Systems

Grass only

Agent Name: _____

Producer Name: _____

Field

Acres _____

Soil Test _____

Soil type _____

Forage Inventory *forage inventory sheet included*

Fertilizer

Type _____

Date Applied _____

Rate per acre _____

Cost Per Ton _____

Total Cost _____

Grazing Period

Beginning Date _____

Ending Date _____

Grazing Method

Strip – How often were cattle moved _____

Continuous _____

Yield Estimate (*At turn in*) *yield estimate worksheet included*

Forage Quality (*Routine Analysis*) _____

Rainfall

Record Daily Amounts _____

Livestock

Type _____

Number _____

Estimated average weight _____

Beginning Wt or BCS _____

Ending Wt or BCS _____

Livestock Weighing or BCS Guideline

Weighing: Calves or small ruminants

- Make sure you have a scale that is in working condition
- Try to do the beginning and ending weights at the same time of day
- Record weights and keep in project folder

BCS: Mature cows, bred heifers or horses

- Have the same person do the beginning and ending BCS
- Try to do a representative cross section of the herd
- Score a minimum of 5 head or 25% of the herd if over 20 head
- Score the same individual animals for beginning and the ending BCS
- Record BCS and keep in project folder

Forage Inventory Sheet

Name:				Date:			
County:							
Field ID:				Number of Acres:			
Species	County	Total	%	Species	Count	Total	%
Cool-Season Grasses				Legumes			
Fescue				White Clover			
Orchardgrass				Red Clover			
Ky Bluegrass				Annual Lespedeza			
Small Grain				Hairy Vetch			
Annual Ryegrass				Hop Clover			
Other Cool Season Grasses				Other Legumes			
Warm-Season Grasses				Weeds/Other			
Bermudagrass				Perennial Broadleaf Weeds			
Bahiagrass				Annual Broadleaf Weeds			
Dallisgrass				Perennial Grassy Weeds			
Crabgrass				Annual Grassy Weeds			
Other Warm Season Grasses				Sedge/Rush			
				Woody/Thorny Brush			
				Bare Ground			

To conduct a pasture inventory, walk a zip-zag pattern across a pasture and record what is found at the end of your toe on every 5th step. Record at least 50 tally marks—preferably 100 tally marks for each field.

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