United States Department of Agriculture

Conservation Enhancement Activity

E528Q

CONSERVATION STEWARDSHIP PROGRAM

Use of body condition scoring for livestock on a monthly basis to keep track of herd health

Conservation Practice 528: Prescribed Grazing

APPLICABLE LAND USE: Crop (Annual and Mixed), Crop (Perennial), Pasture, Range, Forest, Associated Ag Land, Farmstead

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 year

Enhancement Description

Body condition scoring (BCS) serves as a useful management tool to monitor livestock performance with respect to current and recent feeding or grazing programs. Body condition scoring is a numeric scoring system, producers can use to consistently evaluate animals' estimated body energy reserves through degree of fatness. This information can be used to adjust nutritional strategies to reach optimal BCS. Since body condition is closely associated with reproductive performance as well as feed efficiency, monitoring body condition can help producers reach production goals and increase the operation's bottom line. Knowledge and understanding of BCS will assist producers to adjust a supplemental feeding program to maintain animal health and nutrition on a-monthly-basis.

Criteria

- A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
- A written plan for maintaining diversity of forage plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration

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of grazing and/or browsing needed as determined through the planning process with: 1) Clear objectives, 2) A resource inventory including forage inventory, structural improvements and existing resource conditions, 3) Grazing schedule, and 4) All potential contingency plans.

- A written plan to monitor and document Body Condition Scores monthly using Land Grant University Scoring Guidelines.
- Supplemental feed and/or mineral will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
- Animals must maintain ideal/Land Grant University recommended BCS for their breed, phase of production, or livestock type. (animals should not be emaciated to thin, or fat to obese).

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Documentation and Implementation Requirements

Participant will:

- ☐ Prior to implementation, acquire a Grazing Management Plan with all the following components: (provide plan to NRCS for review and approval)
  - o Producer goals and objectives
  - o Location and condition of structural improvements
  - o Watering sites with availability, quantity and quantity
  - o Forage inventory
  - o Forage-animal balance sheet
  - o Grazing plan for livestock movement
  - o Contingency plan
  - o Monitoring plan
- ☐ Prior to implementation, develop a written BCS monitoring plan
- ☐ During implementation keep a record of livestock movement and BCS of livestock type, breed and phase of production
- ☐ During implementation, keep a record of supplemental feeding
- ☐ During implementation, take photos of livestock from several representative animals. Photos should be taken of the side with the entire animal in the picture frame

- ☐ After implementation, provide the following items for review by NRCS:
  - o Map of paddocks used
  - o Forage-animal balance sheet
  - o Records of livestock movement through paddocks
  - o BCS monitoring plan with livestock photos
  - o Supplemental feeding plan
  - o Written modifications to grazing management plan based on results of BCS monitoring and supplemental feeding program

NRCS will:

- ☐ As needed, provide technical assistance to participant as requested
- ☐ Prior to implementation, provide and explain NRCS Conservation Practice Standard Prescribed Grazing (CPS 528) as it relates to implementing this enhancement

- ☐ Prior to implementation, review the plan provided for livestock movement, BCS monitoring and supplemental feed plan
- ☐ After implementation, review the livestock movement plan, BCS monitoring data, and supplemental feed contingency plan (if implemented)
- ☐ After implementation, review the modifications to the grazing management plan based on results of BCS monitoring and the supplemental feeding program

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

- _____ _____
  NRCS Technical Adequacy Signature Date

ALABAMA – E528Q Supplement- Use of body condition scoring for livestock on a monthly basis to keep track of herd health

Requirements:

1. Written conservation plan that includes producer goals, objectives and resource concerns. Plan map will show and label all fences, feeding/watering areas, and sensitive areas. Livestock should be restricted from sensitive areas.

2. Average annual livestock dry matter needs will be balanced with available forage without deficiency for the yearly summary. The Forage/Animal Balance Worksheet will be completed to document.

3. Livestock will be rotated between at least 3 pastures in a particular functional-group (e.g. warm season pastures or cool season pastures) to facilitate prescribed grazing. Fences and water sources should be in place so that trails do not occur and concentrated livestock areas are minimized. Starting and ending grazing periods will meet the guidelines in the table below. Pastures will be sized and stocked to facilitate meeting the requirements for grazing heights and resting periods. It is anticipated that with a three-pasture rotation that each pasture would rest about 66 percent of the grazing cycle. Additional pastures are preferred and will enable more forage rest.

4. A contingency plan will be developed denoting the use of sacrifice areas for pasture management during drought or other weather-related events. These areas will be labeled on the conservation plan map.

5. A monitoring site will be selected in each forage type or forage mixture to be evaluated with the Pasture Condition Scoring (PCS) tool **quarterly** (typically, March or April, June or July, September or October, December or January). Sites should be reflective of average conditions of the pasture and labeled on the plan map. Photographs are required at the time of monitoring. The PCS should note whether forages are being actively grazed or in a rest period.

6. Perform a soil test annually for each field with different soils and/or management and apply lime and fertilizer according to soil test results. If manure or by-products are applied, follow Phosphorus Index and Nitrogen Leaching Index limitations according to the Nutrient Management Standard (590).

7. Maintain grazing records to include pasture or field number, acres, forage type, animal type and number, forage height in and out-with dates. Records should be submitted quarterly along with the Pasture Condition Score.

Grazing will be managed according to the Prescribed Grazing (528) Standard.
The days of rest needed for plant recovery and regrowth range from 7 to 45 days, depending on the forage species (see below table). Stocking rates and growing conditions can also affect the forage growth. Grazing systems should be designed to meet the rest requirements of a specific forage as well as the needs of the livestock. For example, by using four pastures with 14 days of grazing per pasture, the grazing cycle is 56 days and each pasture rests 75% of the time or 42 days.

FORAGE GUIDELINES FOR PRESCRIBED GRAZING SYSTEMS

Common Forages	Begin Grazing (in)	End Grazing (in)	Usual days of Rest
Alfalfa grazing types	10	4	35 - 40
Bahiagrass	6	2	10 - 20
Bermudagrass common	5	2	7 - 10
Bermudagrass hybrid	6	3	7 - 10
Big Bluestem	18	10	30 - 45
Dallisgrass	6	3	7 - 15
Eastern Gamagrass	15	8	30 - 45
Tall Fescue	6	3	15 - 30
Indiangrass	12	6	30 - 40
Orchardgrass	8	3	15 - 30
Switchgrass	18	10	30 - 45

Body Condition Scores

Body condition scoring (BCS) is an on-the-hoof visual appraisal using numbers (1–9) to suggest the relative body fat of the beef cow. With this nine-point scale, a score of 1 represents a very thin body condition and a score of 9 represents extreme obesity. For mature cows, a target BCS score of 5 to 6 is recommended at calving.

Because heifers are still growing, however, their nutritional requirements are higher, so manage heifers to calve in BCS 6. It is important to remember that the single greatest factor influencing rebreeding performance of beef cows is body condition at calving.

Condition scoring cows and heifers allows us to properly plan and adjust forage and feeding programs. Key times to body condition score beef cattle are

- Weaning
- 60 to 90 days before calving
- At calving
- The beginning of the breeding season

Keep records of body condition scores to track changes in the herd throughout the calendar year. For most cows, an increase of one body condition score equates to gaining about 80 to 100 pounds of body weight. The accompanying photos and descriptions describe the nine body condition scores.

Steps to Evaluating Body Condition Score

- Evaluate fat cover from the front, side, and rear of the animal.
- Ask if the skeletal structure is visible or if the animal has a smooth appearance.
- Use Table 11 to determine relative condition.

Body Condition Score and Reproductive Implications

Body condition score relates to overall reproductive health of cows and first-calf heifers and represents a measure of energy reserve of the animal. Decreased conception rates and increased calving interval length is often observed in animalswith too low or high body condition (tables 9 and 10).

Table 9. Relationship of Body Condition Score to Beef Cow Performance

BCS	Pregnancy Rate (%)	Calving Interval (days)
3	43	414
4	61	381
5	86	364
6	93	364

Adapted from Kunkle et

Table 10. Problems Associated with Thin and Fat Body Condition

Thin Condition BCS 1- 4	Fat Condition BCS 8-9
1. Failure to cycle	1. Costly to maintain.
2. Failure to conceive	2. Increased dystocia
3. Increased calving interval	3. Impaired mobility
4. Increased days to estrus	4. Failure to cycle
5. Decreased calf vigor	5. Failure to conceive.

-Supplemental feed and/or mineral will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.
-Animals must maintain ideal/Land Grant University recommended BCS for their breed, phase of production, or livestock type. (Cows-BCS 5-6, heifers- BCS 6)
-Photos must be taken each month that livestock are present. From type of livestock, photos must be taken of 2-3 representative animals. Representative meaning the animal has body condition score like most of the other animals of that type.

Score	Description
1	**Emaciated.** No palpable fat is detectable over the spinous processes, transverse processes, ribs, or hooks. The tailhead and ribs appear very prominently.
2	**Poor.** Animal is still somewhat emaciated but the tailhead and ribs are less prominent. Individual spinous processes are still sharp to the touch. Some tissue cover is present over the ribs toward the top of the back.
3	**Thin.** Beginning of fat cover over the loin, back, and foreribs. Backbone still highly visible. Processes of the spine can be identified individually by touch and may still be visible. Spaces between the processes are less pronounced.
4	**Borderline.** The foreribs are not noticeable, although the twelfth and thirteenth ribs are still noticeable to the eye, particularly in cattle with a big spring of rib and ribs wide apart. The transverse spinous processes can be identified only by palpation to feel rounded rather than sharp. Full but straightness of muscling in the hindquarters.
5	**Moderate.** The twelfth and thirteenth ribs are not visible to the eye. Areas on the side of the tailhead are filled but not mounded.
6	**High Moderate.** The ribs are not noticeable to the eye. There is fat around the tailhead. The hindquarters are full and plump. The skin has a smooth appearance.
7	**Good.** Abundant fat cover on either side of the tailhead. The cow appears in very good flesh, but not over conditioned.
8	**Fat.** The animal is very fleshy and appears over conditioned. Large fat deposits are present over the ribs and around the tailhead. Fat pones around tailhead are obvious.
9	**Extremely fat.** The overall appearance is blocky. Tailhead and hooks are buried in fatty tissue. Bone structure is no longer visible and barely palpable.

Body Condition Score Calendar
(list date of scoring in each month, insert average score for livestock type and attach representative photos from 2 or 3 animals {taken from the side with the entire animal in the frame})

	Number of Animals	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Date													
Cows													
Bred Heifers													
Calves													
Bulls													

Grazing Management Records

Keeping accurate records is a continual and critical process in effective pasture and livestock management.

Pasture ID		Pasture acres		Forage type			
Soil test date		Lime/ Fertilizer rate		Lime/ Fertilizer type		Date applied	

Livestock		Date in	Forage height	Date out	Forage height	Notes (fertilizer applied)
Type	Number					

Pasture ID		Pasture acres		Forage type			
Soil test date		Lime/ Fertilizer rate		Lime/ Fertilizer type		Date applied	

Livestock		Date in	Forage height	Date out	Forage height	Notes (fertilizer applied)
Type	Number					

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Pasture Condition Score Sheet

Operator:		**Date:**	
Evaluator:		**Pasture ID:**	
Soil(s), ESD(s) and or FSG(s):		**Livestock type:**	
Current Season's Precipitation (check one)	Above Normal ◦ Normal ◦ Below Normal ◦		
Seasonal Temperature Trend (check one)	Above Normal ◦ Normal ◦ Below Normal ◦		

Evaluate the site and rate each indicator based upon your observations. Scores for each indicator may range from 1 to 5. Sum the indicator scores to determine overall pasture condition score.

Indicator	1 Point	2 Points	3 Points	4 Points	5 Points	Score Points
Percent Desirable Plants* (Dry Weight; for Livestock Type)	Desirable species <20% of stand.	Desirable species 20 – 40% of stand.	Desirable species 41 – 60% of stand.	Desirable species 61 – 80% of stand.	Desirable species exceed 80% of stand.	
Percent Legume by Dry Weight	<5% **OR** >50% bloating legumes.	5-10% legumes **OR** >40% bloating legume.	11-20% legumes.	21-30% legumes.	31-40% legumes. No grass loss; grass may be increasing.	
Live (includes dormant) Plant Cover	Less than 40% is live leaf canopy. Remaining is either dead standing material, or bare ground.	40-65% is live leaf canopy. Remaining is either dead standing material, or bare ground.	66-80% live leaf canopy. Remaining is either dead standing material, or bare ground.	81-95% live leaf canopy. Remaining is either dead standing material, or bare ground.	More than 95% live (non-dormant) leaf canopy. Remaining is either dead standing material, or bare ground.	
Plant Diversity by Dry Weight (*See footnote at bottom of page)	**Diversity:** Very low	**Diversity**: Low	**Diversity:** Moderate	**Diversity:** High	**Diversity:** Very high	
	<50% desirable species **OR** 1 dominant desirable species in 1functional group **OR** No dominant desirable species and all minor species in each functional group totaling <15%	2 dominant desirable species in 1functional group **OR** 2 functional groups each represented by minor speciestotaling ≥15%	3 dominant desirable species in 1functional group **OR** 2-3 dominant desirable species in 2 functional groups **OR** 3 functional groups each represented by minor speciestotaling ≥15%	4 dominant desirable species in 2functional groups **OR** 3 dominant desirable species in 3functional groups **OR** 3 dominant desirable species in 2functional groups **AND** 1 additional functional group represented by minor species totaling ≥15%	4 dominant desirable species in 3functional groups **OR** 4 dominant desirable species in 2functional groups **AND** 1 additional functional group represented by minor species totaling ≥15%	
Plant Residue and Litter as Soil Cover (*Pull back canopy*)	Bare soil is very easily seen;	Openings of bare soil can be seen fairly easily;	Small openings of bare soil can be seen, but minimal;	No bare soil is easily seen;	No bare soil is seen;	
	There is <20% cover on the soil surface or it is excessive, and slow to break down.	Soil cover is 21-40%.	Soil cover is 41-60%.	Soil cover is 61-80%.	Soil cover is >80% with good biological activity and decomposition of older residue.	
Grazing Utilization and Severity	Pasture is overgrazed throughout.	Pasture consists primarily of overgrazed and/or refused areas (former dung areas, older plants, undesired plants).	Pastures show uneven grazing throughout with heavier grazing near water or feeding areas, or distinct zone grazing.	Pasture grazed evenly throughout with minimal overgrazing with some under grazed small areas and heavier use near water sources.	Pasture grazed evenly throughout with no overgrazing.	

*Use NRCS plant list for livestock species. Functional groups are as appropriate for your state (cool-season grasses, legumes, warm-season grasses, non-leguminous forbs). Any time there are more undesirables than desirables, it will be 1 point. Desirable species must total more than 50% of the total biomass. Dominant species are ≥15%. Functional groups must be ≥15% of stand to be counted.

Indicator	1 Point	2 Points	3 Points	4 Points	5 Points	Points

Livestock Concentration Areas (If field <1 acre, see ** footnote)	Livestock concentration areas are within 100 feet of, or are a direct conveyance to surface water, and cover more than 0.1 acre, including trails.	Livestock concentration areas are within 100 feet of, or are a direct conveyance to surface water, and cover less than 0.1 acre, including trails.	Livestock concentration areas are farther than 100 feet from and are not a direct conveyance to surface water, and cover more than 0.1 acre, including trails.	Livestock concentration areas are farther than 100 feet and are not a direct conveyance to surface water, and cover less than 0.1 acre, including trails.	Livestock concentration areas, including trails, not present.
Soil Compaction and Soil Regenerative Features (***See footnote at bottom of page)	**Compaction:** Dense or thick platy layer very distinct;	**Compaction:** Dense or moderate platy layer noticeable;	**Compaction:** Thin dense or platy layer still present;	**Compaction:** Minor dense or platy layer; good aggregates common (crumbly soil);	**Compaction:** No dense or platy layers; crumbly soil throughout;
	Roots: Dominantly horizontal; most shallow/sparse;	**Roots:** Numerous horizontal; moderate amount shallow/sparse;	**Roots:** Some horizontal with increasing downward;	**Roots:** Few horizontal, more downward through the soil profile;	**Roots:** Abundant growth primarily downward through the soil profile;
	Color: Surface horizon same as subsoil;		**Color:** Surface horizon moderately darker than subsoil;		**Color:** Surface horizon dramatically darker than subsoil;
	Soil Life: Few or no signs.	**Soil Life:** Signs scattered in surface layer.	**Soil Life:** Signs scattered throughout.	**Soil Life:** Signs numerous throughout.	**Soil Life:** Signs abundant throughout.
Plant Vigor	No plant recovery after grazing/harvest. Pale, yellow or brown, or severe stunting of desirable forage.	Some recovery. Yellowish green forage, or moderately or slight stunting of desirable forage.	Adequate recovery of desirable forage. Yellowish and dark green areas due to manure and urine patches.	Good recovery of desirable forage. Light green and dark green forage present.	Rapid recovery of desirable forage. All healthy green forage.
Erosion (Circle all that apply; the overall indicator score will be the lowest rating indicated)	**Sheet and Rill:** Plant density is insufficient to stop runoff, with poor infiltration. Erosion easily visible throughout pasture;	**Sheet and Rill:** Plant density slows runoff. Erosion present and easily seen on steeper terrain;	**Sheet and Rill:** Plant density good and runoff moderate. If present, erosion concentrated on heavily used areas;	**Sheet and Rill:** Plant density high, runoff low, good infiltration. May have evidence of past erosion if present;	**Sheet and Rill:** Plant density high, no runoff, good infiltration. No evidence of present or past erosion;
	Wind: Severescoured areas and deposition throughout;	**Wind:** Scoured areas common, deposition effecting plants;	**Wind:** Occasional scoured areas, litter windrolled;	**Wind:** Minimal soil exposed, some detatched vegetation windrolled, minor plant damage;	**Wind:** No exposed soil;
	Streambank and/or Shoreline: Banks bare, major sloughing, no bank vegetation;	**Streambank and/or Shoreline:** More than half the bank vegetation trampled; sloughing.	**Streambank and/or Shoreline:** Less than half the bank vegetation trampled; eroding at crossing/entrances.	**Streambank and/or Shoreline:** Eroding at crossings, entrances; all the bank vegetation is intact and banks are stable.	**Streambank and/or Shoreline: V**egetation intact and stable, hardened crossings and alternative water sources used;
	Gully: Very large mass movement, caving sides.	**Gully:** Advancing upslope, increasing fingering extensions.	**Gully:** Not all active but extensions present.	**Gully:** Stable with vegetative cover.	**Gully:** None, drainage ways vegetative.

** If field size is less than 1 ac. Use 10% of field size in place of 0.1 acre. ***Use a shovel. Root and Compaction sub-indicators are primary and should be considered first. Soil color and soil life are secondary sub-indicators which can be considered where applicable.

Overall Pasture Condition Score	Individual Indicator Score	Management Change Suggested
45 to 50	5	No changes in management needed at this time.
35 to 45	4	Minor changes would enhance, do most beneficial first.
25 to 35	3	Improvements would benefit productivity and/or environment.
15 to 25	2	Needs immediate management changes, high return likely.
10 to 15	1	Major effort required in time, management and expense.

Overall Pasture Condition Score =

Comments/Notes: