

PASTURE INVENTORY WORKSHEET

PRODUCER _____ FIELD/ LOCATION _____ ACRES _____

FIELD OFFICE _____ ASSISTED BY _____ DATE: _____

SOIL MAP UNIT _____ PREDOMINANT FORAGE SUITABILITY GROUP _____

KEY MANAGEMENT SPECIES _____

LANDOWNER OBJECTIVES/ DESIRED PLANT COMMUNITY _____

<input type="checkbox"/> IRRIGATED <input type="checkbox"/> DRYLAND	AGE OF STAND (YEARS) : _____	CURRENT GRAZING SYSTEM:
NUTRIENT MANAGEMENT: (LBS. / ACRE / YR.) <input type="checkbox"/> NONE <input type="checkbox"/> N <input type="checkbox"/> P <input type="checkbox"/> K <input type="checkbox"/> OTHER _____	SOIL COMPACTION EVIDENT: <input type="checkbox"/> YES <input type="checkbox"/> NO	GRAZING SEASON OF USE: <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER

FORAGE INVENTORY: POTENTIAL YIELD (Total Annual Lbs./Acre) : _____ % of Potential Yield = _____ (Current/Potential)
CURRENT YIELD (Total Annual Lbs./Acre) : _____ Measured Estimated

PLANT SPECIES NAME	PERCENT COMPOSITION	TOTAL LBS/ACRE	PREFERRED OR DESIRABLE FORAGE (X)	% PREFERRED OR DESIRABLE FORAGE
TOTAL:	100%			

CONDITION AND APPARENT TREND: Check the appropriate rating in each column below. Multiply the number of answers in each row by the rating factor. The sum, divided by 3, will give the condition score and rating.

RATING	PLANT VIGOR ^{1/} (KEY SPECIES)	YIELD PERCENT OF POTENTIAL	PERCENT OF STAND WHICH IS PALATABLE FORAGE SPECIES	SCORE
3	HIGH	75 – 100%	81 – 100%	
2	MEDIUM	56 – 74%	61 – 80%	
1	LOW	0 – 55%	0 – 61%	
				TOTAL:

^{1/} Plant Vigor guide: If the pasture produces >0.6 AUM/Acre, vigor is HIGH. If pasture produces 0.35 to 0.6 AUM/Acre, vigor is MEDIUM. If pasture produces <0.35 AUM/Acre, vigor is LOW. Use this as a guide only.

PASTURE CONDITION TOTAL SCORE _____ DIVIDED BY 3 = _____ = _____ PASTURE CONDITION RATING

PASTURE CONDITION RATING:

- HIGH = 2.6 TO 3.0
- MEDIUM = 2.0 TO 2.5
- LOW = 1.0 TO 1.9

SUGGESTED STOCKING RATE: _____

(LBS. / ACRE FORAGE X H.E.* DIVIDED BY 915 LBS. / AUM)

*H. E. = Harvest Efficiency of 30% is generally recommended for pasture grazing

NOTES: _____

PASTURE INVENTORY WORKSHEET INSTRUCTIONS

- A. Enter producer name, field number, acres, field office, assisted by, and date.
- B. List the soil map unit(s) for the field to be inventoried.
- C. List the predominant Forage Suitability Group name (where developed).
- D. List the desired key species the producer plans to manage for (generally two to three species).
- E. List the producer's major objectives for pasture management and improvement. If species composition change is a main objective, list the plant community that is desired to be achieved.
- F. Check whether the field is irrigated or dryland. The field should be considered irrigated if it receives any type of supplemental moisture.
- G. Enter the age of the stand in years.
- H. Enter a short description of the current grazing system or plan.
- I. Enter the current nutrient management that is being applied to the field. Enter nutrients in pounds per acre per year.
- J. Check whether or not soil compaction is evident.
- K. Check the predominant grazing season of use. If more than one, check all that apply.
- L. Enter the potential yield for the field based on soils, and annual precipitation. Reference Soil Survey Manuscripts, Pasture Yield Tables, Soil Data Mart. Use Forage Suitability Group (FSG) yield tables where developed.
- M. Enter the current yield for the pasture by total annual production, dry weight, in pounds per acre. Check whether data is measured production data or estimated from experience. Production sampling should be done based on National Range and Pasture Handbook (NRPH), Section 4, pages 4-2 to 4-8, *Methods of Determining Production and Composition*. Sampling should be done within the predominant plant community. Do not count any of the decadent material from previous year's growth. If the plant community and production are uniform throughout the field, three clipped plots are adequate. If production in the field is not uniform, sample in areas of both high and low production, and average the data.
- N. Calculate the percent of potential yield by dividing the current yield by the potential yield.
- O. List the common name for all plant species currently in the pasture.
- P. Estimate or measure the percent composition by weight for each individual species in the pasture. The total composition must equal 100%.
- Q. Compute the total annual production (lbs/acre) for each individual species by multiplying the current yield by the percent composition for that species. EXAMPLE: 1,500 lbs. total production x 20% composition for Timothy equals 300-lbs. total production for Timothy. This information will be used to determine the appropriate stocking rate.
- R. Mark an "X" in each column for the plant species that are considered desirable forage plants for the animals to be managed for. This information will help determine the percent of the pasture that is composed of desirable forage.
- S. To complete the % Preferred or Desirable Forage column, carry over the percent composition number for each species marked with an "X". Total this column to determine the percent of the plant community that is desirable forage.
- T. Check the appropriate Plant Vigor rating (High, Medium, Low) for the current vigor of key forage species. Vigor can be determined by examining the size, productivity and color of plants in relation to site growing conditions. Plants may have low vigor due to poor soil fertility, severity of grazing use, climatic or moisture stress, and insect or disease pressures. Reference *Guide to Pasture Condition Scoring*, GLTI Supplemental Publication, Montana NRPH Supplement MT3, for a detailed narrative on plant vigor. You may also use the guidance footnote under the table which attempts to correlate vigor with total production.
- U. Check the appropriate range for the Yield - % of potential column.
- V. Using the total preferred forage percentage, check the appropriate range of percentages the total falls within.

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- W. Enter the total the score for each row by multiplying the number of answers in each row by the rating factor. Note that the Score column allows you to enter the Score of the Present System and the Score of the Proposed System, based on the conservation plan developed.
- X. The Total Score for the Present and Proposed Systems are the sum of their total respective scores, divided by three. This provides the condition score and rating for both the Present and Planned systems. EXAMPLE: $7 / 3 = 2.3$.
- Y. Enter the appropriate Pasture Condition Score Rating: "HIGH" – "MEDIUM" – "LOW" on the blank line following the numerical score for both systems (present and planned/proposed).
- Z. Calculate a suggested safe stocking rate by the following steps:
1. Determine the total pounds per acre of available forage by summing the total pounds per acre from for all species that are desirable forage for the grazing animals to be managed. Low palatable and weedy species that are grazed only occasionally should not be included. EXAMPLE: $1,500 \text{ lbs/acre} \times 90\% = 1,350 \text{ lbs/acre}$.
 2. Determine the appropriate Harvest Efficiency (H.E.) for the pasture, based on forage uniformity, and type of grazing system. The average H.E. for pastures under a moderate management level is 30%. Fields in good condition with a high level of grazing management may use a H.E. of 40%. Pastures in low condition with poor forage quality should use a H.E. of 25%.
 3. Multiply the results from 1 above by the results in 2 above to determine the total pounds of available forage. Example: $1,350 \text{ lbs/acre} \times 30\% \text{ H.E.} = 405 \text{ lbs/acre}$.
 4. Divide the answer in 3 by 915 pounds per animal unit month and enter the results (AUM per acre) on the blank line provided. Example: $405 \text{ lbs/acre} / 915 \text{ lbs/AUM} = .44 \text{ AUM/acre}$.
- AA. Make notes as to resource conditions, weedy or undesirable species, or other observations.

EXAMPLE – PASTURE INVENTORY WORKSHEET

(A) PRODUCER Name (A) FIELD/ LOCATION 3 (A) ACRES 100
 (A) FIELD OFFICE Office (A) ASSISTED BY NRCS (A) DATE 8/26/2005
 (B) SOIL MAP UNIT 121D (C) PREDOMINANT FORAGE SUITABILITY GROUP Loamy
 (D) KEY MANAGEMENT SPECIES Orchardgrass, Timothy, Alsike clover
 (E) LANDOWNER OBJECTIVES/ DESIRED PLANT COMMUNITY Increase forage production by improving fertilizer program and implementing a rotational grazing system.

(F) <input type="checkbox"/> IRRIGATED <input type="checkbox"/> DRYLAND	(G) AGE OF STAND (YEARS): <u>7</u>	(H) CURRENT GRAZING SYSTEM: <u>Uses field in summer for 2 months each year.</u>
(I) NUTRIENT MANAGEMENT: (LBS./ ACRE / YR.) <input type="checkbox"/> NONE <input type="checkbox"/> N <input type="checkbox"/> P <input type="checkbox"/> K <input type="checkbox"/> OTHER _____	(J) SOIL COMPACTION EVIDENT: <input type="checkbox"/> YES <input type="checkbox"/> NO	(K) GRAZING SEASON OF USE: <input type="checkbox"/> SPRING <input type="checkbox"/> SUMMER <input type="checkbox"/> FALL <input type="checkbox"/> WINTER

FORAGE INVENTORY: (L) POTENTIAL YIELD (Total Annual Lbs./Acre) : 2,500
 (M) CURRENT YIELD (Total Annual Lbs./Acre) : 1,500 Measured Estimated

(N) PLANT SPECIES NAME	(O) PERCENT COMPOSITION	(P) TOTAL LBS/ACRE	(Q) PREFERRED OR DESIRABLE FORAGE (X)	(R) % PREFERRED OR DESIRABLE FORAGE
<i>Orchardgrass</i>	50	750	X	50
<i>Timothy</i>	20	300	X	20
<i>Alsike clover</i>	10	150	X	10
<i>Quackgrass</i>	10	150	X	10
<i>Canada thistle</i>	5	75		
<i>Houndstongue</i>	3	45		
<i>Tansy mustard</i>	2	30		
TOTAL:	100%	1,500		90

CONDITION AND APPARENT TREND: Check the appropriate rating in each column below. Multiply the number of answers in each row by the rating factor. The sum, divided by 3, will give the condition score and rating.

RATING	(S) PLANT VIGOR (KEY SPECIES)	(T) YIELD PERCENT OF POTENTIAL	(U) PERCENT OF STAND WHICH IS PALATABLE FORAGE SPECIES	(V) SCORE
3	HIGH	75 – 100%	81 – 100% 4	3
2	MEDIUM 4	56 – 74% 4	61 – 80%	4
1	LOW	0 – 55%	0 – 61%	0
				TOTAL: 7

(W) TOTAL SCORE 7 DIVIDED BY 3 = 2.3 PASTURE CONDITION RATING

(X) PASTURE CONDITION RATING: HIGH = 2.6 to 3.0
4 MEDIUM = 2.0 to 2.5
 LOW = 1.0 to 1.9
 (Y) SUGGESTED STOCKING RATE: .44 AUM/ACRE
 (LBS. / ACRE FORAGE X H.E.* DIVIDED BY 915 LBS. / AUM)
 *H. E. = Harvest Efficiency of 30% is generally recommended for pasture grazing

(Z) NOTES: 1,500 lbs./acre x 90% preferred = 1,350 lbs./acre available forage x 30% H.E. / 915 lbs./AUM = .44 AUM/acre
Canada thistle, Houndstongue, and Tansy mustard are located in 4-5 patches throughout the field and can be spot-treated without much damage to clover plants.