Range Management
Career Development Event (State Only)

Revised February 2006

PURPOSE

The purpose of the State FFA Range Management CDE is to develop the student's skills and knowledge in range plants, management, and evaluation.

EVENT DESCRIPTION

Students involved in this event identify range plants from a given list using plant mounts. They are also required to figure current use of range sites and determine best management practices for these sites. Students prepare to take a test over range management practices and history of range management.

TEAM MAKE-UP

A team will consist of three or four members. A team score consists of the total of the top three individuals' score.

I. OBJECTIVES

- To test the student's ability to:
  - Identify Arizona range plants and indicate their longevity and forage value.
  - Make realistic decisions regarding range management practices and estimation of plant utilization.
  - React to a written exam pertaining to management planning and implementation of evaluating range condition, trend, forage utilization and grazing capacity practices, based upon hypothetical situations.

- To motivate learning in the classroom and create a spirit of competition among the students.

- To provide recognition for those individuals excelling in this area.

- To promote career choice in range management occupations.

II. STANDARDS

1.1	**27.4.4d**
9.4	**29.2.1d**
9.8	**29.2.2d**

- Describe environmental zones, vegetation types and range sites and identify appropriate management practices.
- Identify range plants.
- Describe the effects of grazing on rangeland production.
- Evaluate range condition and trend.
- Develop range management plans to insure consideration of multiple uses and obtain maximum productivity and good range care.

III. GENERAL RULES

A. The event will consist of three parts- plant identification, plant utilization and general questions and will require approximately 2 hours.

B. Scoring of the plant identification portion of the event will be as follows: 3 points for common name, 1 point for longevity and 1 point for forage value. Point for value will not be given unless properly identified. Spelling will be used to break tie scores. A maximum of 250 points will be given for the identification part of the event.

C. Participants will identify a maximum of fifty (50) plants selected from the enclosed master list of plants, using Form 1. There will be no restriction on the number of duplicate mounts included in the event.

D. Participants will have 55 seconds to write in the common name and check the appropriate characteristics of each plant. Five seconds will be allowed to move to the next plant.

E. Participants will have 3 minutes at the end of the identification event to check their papers. No participant will be allowed to look at the plants a second time.

F. Participants will use photo guides to estimate the average percentage utilization on 50, 8 X 10 photos of a single plant species clipped to represent varying degrees of utilization.

G. Participants will have 30 seconds to classify each photo plant. Participants will move to the next photo on signal only.

H. Participants will place each photo plant in the nearest grazed class. Estimates will be recorded for each plant on part 1 of form 2 using dot dash tallies will be recorded on part 2 for grazed classes on Form 2. Participants should note the starting photo to avoid duplication of estimates.

I. Utilization estimates should be based primarily on the growth form of the plant. Variations on height growth will be automatically adjusted for by the eye.

J. For plants clipped irregularly to simulate grazing, the normal plant growth on the photo guides should be used as a guide to estimate the proper grazed class.

K. After utilization estimates have been completed by the participants on the 50 plants, the percentage of plants in each grazed class will be calculated by doubling the number of tallies in each grazed class.

L. Each participant will calculate his estimate of the average percentage utilization for the plants by multiplying the percentage of photo plants in each grazed class by the appropriate percentage for each class (0, 10, 30, 50, 70, or 90%) and totaling the products. Participants will write their estimate of total current species used in both Form 2 and at the top of the written exam to be used in calculating an estimate of grazing capacity.

M. The participant score for the utilization event will be calculated by determining the deviation of the participant's estimate of utilization from the actual utilization score and subtracting from 100. The actual utilization score will be calculated by using oven-dry weight utilization percentage for each photo plant to determine its grazed class.

N. Participants may refer to Arizona Cooperative Extension Service Agricultural Experiment Station Bulletin A-73, *Estimation of Range Use with Grazed-Class Photo Guides*, for photo guides to be used, for the method of recording data and for procedures to calculate percentages.

O. The written exam will be graded for a maximum of 100 points per participant. Points will be added to the points on the identification and utilization part for total event points.

P. The written questions will be in two parts, (1) questions dealing with range issues and (2) questions dealing with management planning, range condition, plant growth, determining range carrying capacity, range

utilization, range livestock grazing management, livestock poisoning and range improvements. Questions will pose hypothetical situations and will give the students an opportunity to select the best solutions of explanations.

Q. Sample Question:
1. Suppose a rancher owns a ranch near Phoenix. He is grazing steers on the ranch which has vegetation that is dominated by the following species: (a) three awns, (b) six week's needle grama, (c) burroweed, (d) mesquite and (e) cholla. One day in May, he checked his animals to find several dead and some others alive but trembling. Which of the above species is the most likely cause of the poisoning? ..... a b c d e

IV. REFERENCES

General
SRUR-4, *Range Management,* University of Arizona, Agricultural Education Department.

Plant Identification
Arizona Range Plants (80, 35mm Color Slides), U of A Student Chapter, Society for Range Management, University of Arizona.

Arnberger, Leslie P., *Flowers of the Southwest Mountains,* Southwestern Parks and Monument Association, Tucson, Arizona, 1982.

Dodge, Natt N., *Flowers of the Southwest Desert,* Southwestern Parks and Monuments Association, Tucson, Arizona, 1985.

Elmore, Francis H., *Shrubs and Trees of the Southwest Uplands,* Southwester Parks and Monuments Association, Tucson, Arizona, 1987.

Gould, Frank W., *Grasses of the Southwestern United States,* University of Arizona, Tucson, Arizona, 1977.

Plant Utilization
Utilization Study Kit, (25 photo guides and 25 quiz photos), University of Arizona Student Chapter Society for Range Management, University of Arizona.

Schmutz, Ervin M., *Estimation of Range*

Use with Grazed-Class Photo Guides. The University of Arizona Cooperative Extension Service and Agricultural Experiment Station, Bulletin A-73, 1971.

Written Exam
Current periodical stories and newspaper articles related to range management issues.

Holecheck, Jerry L., Rex D. Pieper and Carlton H. Herbal, *Range Management Principles and Practices.* Prentice Hall, Englewood Cliff, N.J., 1989.

Team Number:_____ School Name: _____ Contestant Name:_____

Score:_____

Place the correct letter for plant name on the row with the correct plant number
Place an X in the colum for the correct Longevety and forage value.

		Longevety		Forage Value		
	Plant Name	Perennial	Annual	Good	Fair	Poor
1						
2						
3						
4						
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Grasses

A	Crested Wheatgrass
B	Western Wheatgrass
C	Cane Beardgrass
D	Red Threeawn
E	Pine Dropseed
F	Six-weeks Needle Grama
G	Sideoats Grama
H	Black Grama
I	Slender Grama
J	Blue Grama
K	Hairy Grama
L	Rothrock Grama
M	Cheatgrass
N	Feather Fingergrass
O	Lehmann Lovegrass
P	Arizona Fescue
Q	Tanglehead
R	Curly Mesquite
S	Galleta
T	Tobosa
U	Junegrass
V	Sprangletop
W	Wolftail
X	Bush Muhly
Y	Mountain Muhly
Z	Indian Ricegrass
AA	Vine Mesquite
BB	Kentucky Bluegrass
CC	Plains Bristlegrass
DD	Squirreltail
EE	Johnson Grass
FF	Alkali Sacaton
GG	Sand Dropseed
HH	Arizona Cottontop
I I	Fluffgrass

FORBS

JJ	Horsetail Milkweed
KK	Blue Loco
LL	Lambsquarter
MM	Low Larkspur
NN	Tansy Mustard
OO	Filaree
PP	Lupine
QQ	Russian Thistle
RR	Globemallow
SS	Annual Goldeneye

SHRUBS

TT	Catclaw
UU	Manzantia
V V	Sagebrush
WW	Chamiza
XX	False Mesquite
YY	Mountain Mahogany
ZZ	Shrubby Buckwheat
AAA	Triangle-leaf Bursage
BBB	Snakeweed
CCC	Range Ratany
DDD	Creosotebush
EEE	Burroweed
FFF	Mesquite
GGG	Turtinella Oak
HHH	Soaptree Yucca
I I I	
JJJ	