Course Outline
ECOLOGY AND MANAGEMENT OF GRAZING
(An Online Course in Grazing Animal Management)
MODULE 2: FORAGING BEHAVIOR AND LIVESTOCK DISTRIBUTION

Presentation 1: Foraging in Time and Space

A) Spatial and Temporal Scale
   1) Landscape Scale
      a) Behavioral unit: Home Range
      b) Water availability, forage abundance, phenology, competition and thermoregulation
   2) Landscape/Plant Community Scale
      a) Behavioral unit: Camp
   3) Plant Community Scale
      a) Behavioral unit: Feeding Site
      b) Topography, distance to water, forage quality, forage abundance, phenology and predation.
   4) Patch (Group of similar plants) Scale
      a) Behavioral unit: Patch
      b) Forage abundance, forage quality, plant species preferences, social interactions and topography.
   5) Individual Plant Scale
      a) Behavioral unit: Feeding Station
      b) Forage abundance, forage quality, plant species preferences, and social interactions
   6) Plant and Plant Part Scale
      a) Behavioral unit: Bite
      b) Nutrient concentration, toxin concentration, secondary compounds and plant size.
B) Mapping Behaviors

Presentation 2: Landscape Level Decisions

A) Terminology
B) Where to graze
   1) water
   2) forage
   3) barriers
   4) management boundaries
   5) camp location
   6) experience
   7) terrain
C) Daily Activities: A day in the life of a cow Dictated by physiological needs
   1) watering
   2) thermal comfort
   3) grazing
   4) resting
   5) ruminating

6) visiting supplementation site
7) nursing
8) breeding
9) other social activities

Presentation 3: Plant Community and Plant Level of Diet Selection

A) Plant Community and Patch Attributes
1) moisture holding capacity of soil
2) species composition
3) plant frequency
4) abundance
5) structure
6) continuity
7) size
8) aspect
9) orientation in landscape
B) Patch Analysis
C) Preference Index

Presentation 4: Feeding Station level of diet selection

A) Feeding Station
1) time spent feeding
2) time spent searching
B) Daily Forage Intake
1) intake rate
a) bite size
b) biting rate
2) grazing time
C) The Bite
1) cattle
2) sheep
3) horses
4) goats
5) camels

Presentation 5: Learning and Consequences (BEHAVE)

A) The Challenge
B) Origins of Preference
C) More Than a Matter of Taste
D) The Spice of Life
E) The Dilemma
F) Old Dogs, New Tricks

Presentation 6: Livestock Distribution

A) Abiotic Influences
B) Biotic influences
C) Practices
1) Change the Pasture
a) water development
b) fencing

c) roads and trails
d) forage improvement
(1) prescribed burning
(2) seeding and fertilization
(3) grazing and mowing

2) Change the Animal
a) breed selection
b) individual animal selection
c) animal age and status
d) supplementation
e) herding

Assignments

D) Text Chapter 3-Foraging Behavior (M2)
E) Factors and Practices that Influence Livestock Distribution (M2, P6)