



**REWARDS AND RISKS
OF
MULTI-SPECIES GRAZING**

**MULTI-SPECIES GRAZING AND SHEEP PRODUCER WORKSHOP
WINNET, MT 9 JUNE 2009**

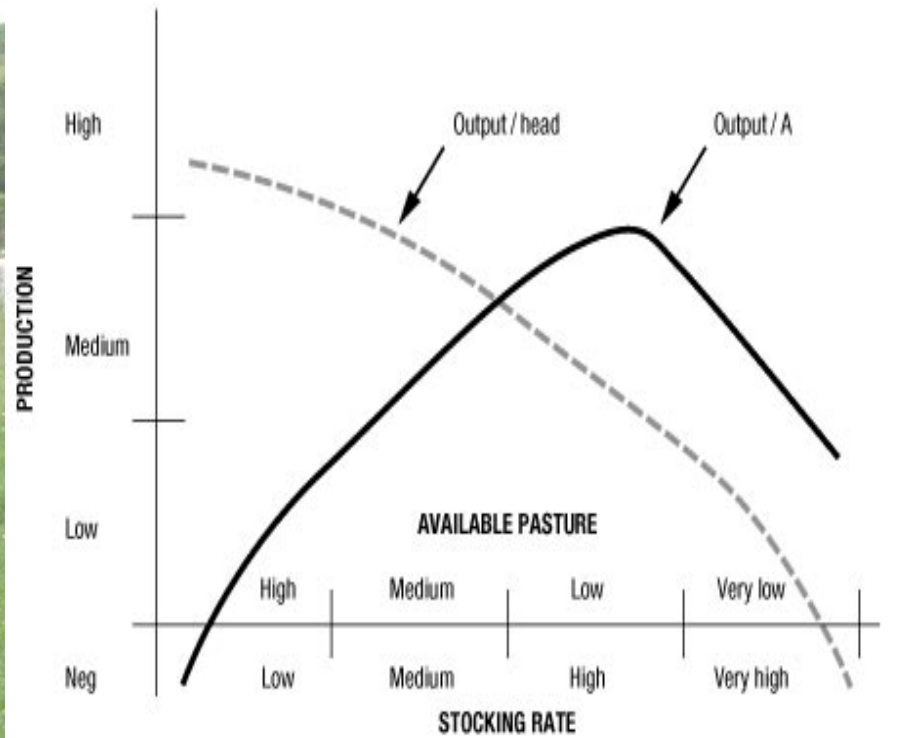
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GRAZING MANAGEMENT: ART AND SCIENCE OF BALANCING PRODUCTION WITH FORAGE RESOURCE NEEDS



SINGLE SPECIES GRAZING

Figure 1.8-2. Effect of grazing pressure on production per animal and per acre.



- **LOW STOCKING RATE**
 - HIGH ADG/HD
 - UNUSED FORAGE
- **HIGH STOCKING RATE**
 - Low ADG/HD
 - OVER USE

UNEVEN UTILIZATION



**EVENTUAL
OUTCOME**



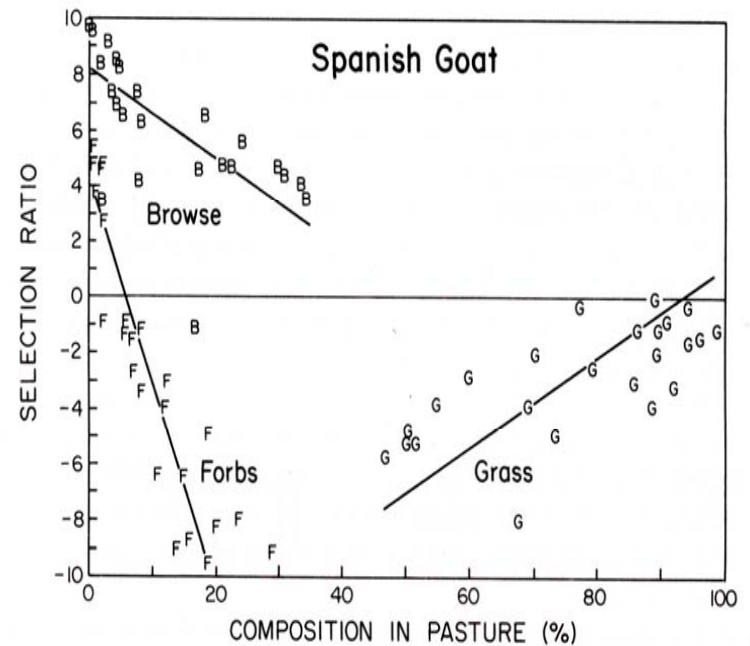
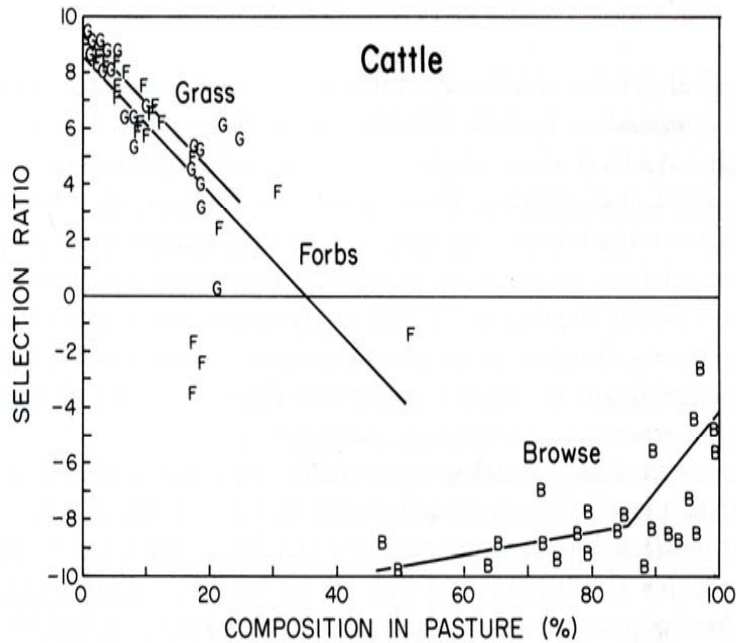
TAKING ADVANTAGE OF MULTIPLE GRAZING BEHAVIORS TO ACHIEVE UNIFORM FORAGE USE



COMPLIMENTARY BEHAVIORS

CLASS	RUMINANTS	NON RUMINANTS
SELECTIVE FRUITS BROWSERS	BIRDS DEER	RABBITS
INTERMEDIATE FORB/BROWSE GRASSES	MOOSE, GOATS SHEEP	
ROUGHAGE GRASSES	BISON, CATTLE	HORSES

SELECTIVE BEHAVIOR



WITHIN FORAGE CLASS

SPECIES	CATTLE	SHEEP
WHEATGRASSES	24%	15%
BROMES	6%	NA
SEDGES	3%	NA
FESCUES	31%	NA
JUNEGRASS	7%	2%
BLUEGRASSES	4%	72%
NEEDLEGRASSES	4%	2%
FORBS	12%	10%
BIG SAGEBRUSH	0	1%

WITHIN SEASON (SHEEP)

SPECIES	JUNE	JULY	AUG
P. SANDREED	22%	47%	51%
SEDGE	48%	15%	21%
WESTERN WG	13%	31%	17%
WITCHGRASS	4%	2%	2%
NEEDLEGRASS	1%	1%	1%
YARROW	1%	1%	1%
DANDELION	0(14%)	0(12%)	0(16%)
BIG SAGEBRUSH	2%(24)	1%(24)	1%(24)
PRICKLY PEAR	0(20%)	0(19%)	0(20%)

FIGURES IN PARENTHESES = COMMUNITY COMPOSITION; FIRST FIGURE = PERCENT DIET

TIME IN PASTURE (SHEEP)

SPECIES	DAY 1	DAY 3	DAY 5
GRASSES	21%	28%	40%
ASTER	7%	4%	3%
M. KNOTWEED	4%	4%	1%
M. SORREL	10%	3%	3%
NW CINQUEFOIL	26%	35%	28%
YARROW	TRACE	1%	1%
AGOSERIS	9%	4%	2%
GROUNDSEL	5%	3%	1%
GERANIUM	1%	2%	2%

COMPLIMENTARY BEHAVIORS

UTAH HIGH ELEVATION

TREATMENT	YARROW	DAISY	VETCH	SNOW BERRY
SHEEP ALONE	67%	69%	99%	45%
CATTLE ALONE	42%	67%	93%	12%
COMBINED	96%	65%	96%	41%

ELEVATED COMPETITION?

FORAGE	DEER	ELK	CATTLE	SHEEP	SAGE
WG	2.5	21	24	15	0
FESCUE	3	20	31	NA	0
BLUEGRASS	<1	<1	4	72	0
YARROW	2	<1	2	1	20-75^A
VETCH	0	0	1	3	0
DANDELION	0	0	0	0	75^C
FRINGED	7	2	<1	<1	75^C
B. SAGEBRUSH	2	3	0	2	90^{AC}

SEASONAL IMPACTS

FORAGE	SEASON	DIET%	SAGE GROUSE
B. SAGEBRUSH	SUMMER	<1	
	FALL	4	
	WINTER	19	90-100
FORBS	SUMMER	2	20-75
	FALL	5	
	WINTER	2	
GRASSES	SUMMER	49	60-INSECTS
	FALL	63	
	WINTER	48	

SHEEP = RED DESERT, WY; GROUSE = MONTANA

STARTING POINT I.

- **MANAGEMENT GOALS**
 - EFFICIENT FORAGE USE
 - HABITAT IMPROVEMENTS
 - CHANGE COMMUNITY STRUCTURE
- **PASTURE INVENTORY**
 - WHAT'S AVAILABLE
 - WHEN IS IT AVAILABLE (SWEETCLOVER)

STARTING POINT II.

- **RE-CALCULATE STOCKING RATE**
 - **5 SHEEP/COW SUBSTITUTION**
 - **30-40% USE NOT 50%**
- **SEASON OF USE**
 - **INCREASE FORBS; EARLY USE SHEEP; MID SUMMER CATTLE**
 - **INCREASE SHRUBS; EARLY SUMMER USE CATTLE; HEAVY MID SUMMER USE SHEEP**
 - **WEED CONTROL; EARLY SUMMER USE BY CATTLE (40-50%), MID-LATE SUMMER SHEEP USE**

MONITOR, MONITOR, MONITOR



REWARDS

- **“EVEN OUT” COMPETITIVE STATUS AMONG VARIOUS PLANT SPECIES**
- **EFFICIENT FORAGE USE (\$\$)**
- **LIVESTOCK AS WILDLIFE HABITAT IMPROVEMENT OR WILDFIRE PROTECTION TOOL (\$\$\$)**
 - **HUNTING OR ACCESS FEES**
 - **PROVIDE EXPERTISE TO AGENCIES, COMMUNITIES**

RISKS

- **REDUCED INDIVIDUAL PERFORMANCE**
- **ANIMALS AND VEGETATION VERY SENSITIVE TO OVERUSE (DROUGHT)**
- **ELEVATED COSTS**
 - **PREDATOR CONTROL**
 - **FENCING**
 - **MANAGEMENT TIME**

QUESTIONS/COMMENTS

