



Multi-Species Grazing

Dr. Alison Crane



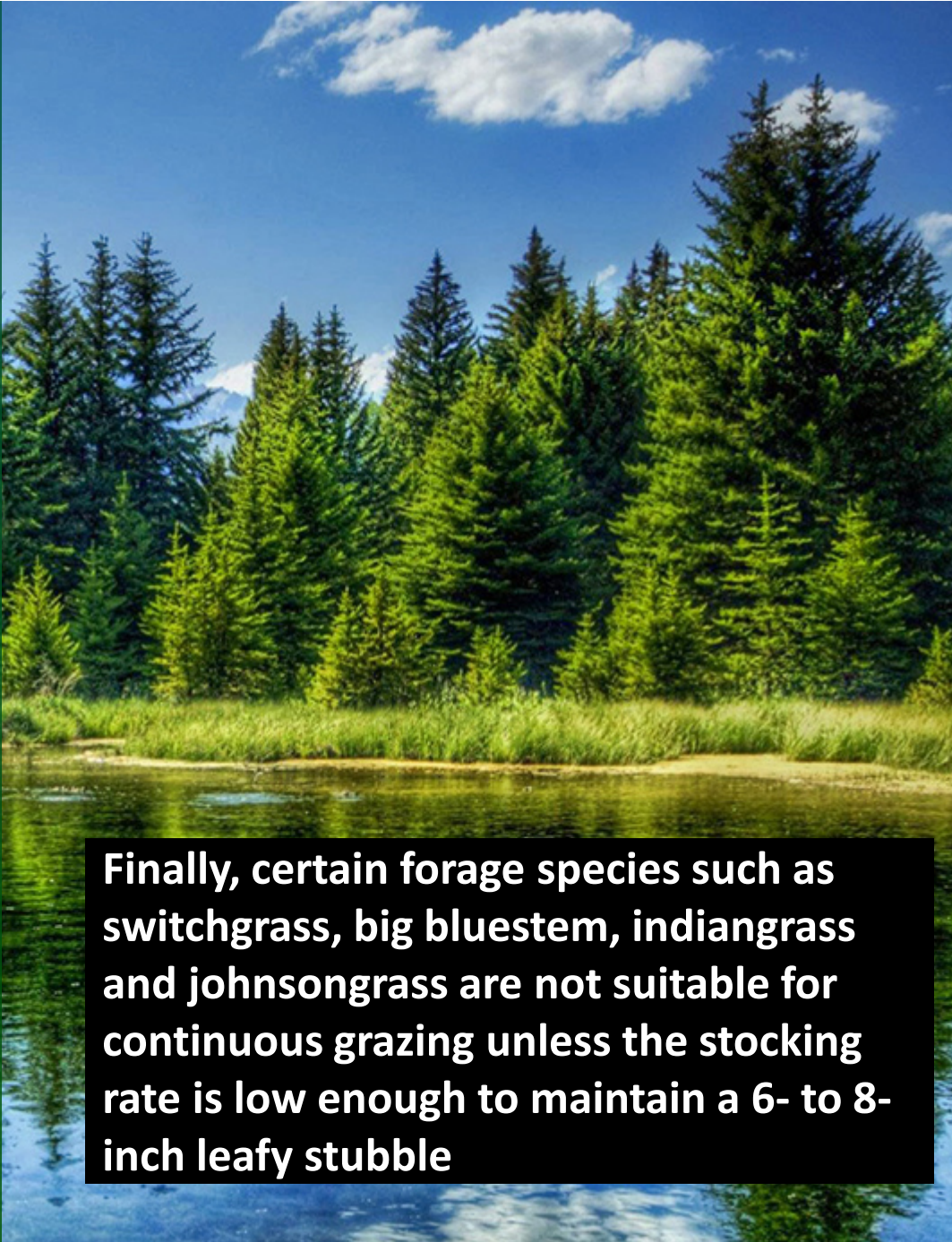
What are differing types of grazing management?

Continuous, Controlled, Strip, Co-species, Multi-species

Continuous Grazing

Maintained on one pasture- entire season

- Goat/Sheep makes decision
 - Where to graze, when to graze
 - Where to congregate, selectively graze unless the stocking rate is too high
- Overgraze the plants they prefer and undergraze other
 - Less preferred plants if the stocking density is not adjusted as conditions change
- Forage availability may be ideal, too high or too low during throughout grazing season
 - Adjusting the stocking density as needed greatly improves forage utilization
- Temporary fences: fence off portions of the pasture, harvest surplus forage for hay



Finally, certain forage species such as switchgrass, big bluestem, indiagrass and johnsongrass are not suitable for continuous grazing unless the stocking rate is low enough to maintain a 6- to 8- inch leafy stubble

Controlled

What does controlled grazing imply?

- Pastures grazed for limited time
- Stubble, not less than 4 inches
- Smaller paddocks, more success
- Leave some leaves, allow recovery

- Can increase plant diversity



Uses

- Pasture improvement, extend season
- Improve quality of forage
- Reduce parasite load (< 4 inches)

Strip Grazing

What does strip grazing imply?

- Can be implemented alongside Controlled
 - Larger Paddocks
 - Move every 2-3 days
- Why?
 - Increases pasture utilization
- Increases ADG, gain/acre, rapid increase BCS

ADD A FOOTER



Uses/Ideal

- When? Pasture is vegetative, high quality
- Cool weather
- Stockpiled fescue in late fall/early winter
- In low quality scenarios, goats are too selective

Good vs Bad

Positive Impacts

- More utilization because more control
- Seasons of fast growth, excess forage → HAY
- Stretch forage availability/season
- Forces consumption of less palatable plants

Other repercussions: Tamer animals, less waste, trampling, urine/dung distribution, increased observation, better management

Negative Impacts

- High cost
- Unsatisfactory layout: long, narrow paddocks
 - Wet/dry areas within the same paddock
- Overstocked pastures
- Overly long rest period between grazing
 - Maturing of available forage, lowering nutritive value, fewer young green leaves
- Pastures dominated by low-forage quality

Co-Grazing/Multispecies Grazing

- Unique Differences in feeding behavior among cattle, sheep & goats
 - Utilization of different feeds/forages available
 - Consider differences in animal when utilizing a particular source
- Feeding behavior:
 - Determining whether single or multi-species best utilize available plant materials
- Most studies indicate greater production and better pasture utilization achieved when sheep & cattle or sheep, cattle and goats are grazed together
 - Opposed to grazing only one specie at a time
 - Especially true where a diverse plant population exists
- Because of the complimentary grazing habits:
 - Differential preferences/wide variation in vegetation within most pastures, one to two goats can be grazed with every beef cow without adversely affecting the feed supply of the beef herd
 - Selective grazing habits of goats in combination with cattle will eventually produce pastures which are more productive, of higher quality and with little weed and brush problems



Multispecies Grazing



- Judicial mixed-species grazing -- additional benefits
 - GI parasites cannot survive in cattle
 - Decreases GI parasite loads and slows resistance of GI parasites to conventional dewormers
- Several strategies can be used to ones' advantage
 - In fields with a low parasite load, animals can be grazed together
 - Or animals with greatest requirements have access to the field first, followed by the animal having lower requirements
- Variation of co-grazing for nursing animals
 - Have openings in the fence giving forward access to ungrazed pasture to young stock
- Alternatively, in fields infected with high loads of goat or sheep parasites, cattle should be grazed first, followed by goats or sheep

Crossover of Species-Specific Grazing



Percent of Grasses, Broadleaves and Browse consumed by different animal species if a varied forage diet is presented

Diet Preference Animal Species	Type of Diet		
	Grasses	Broadleaf weeds and legumes	Browse ¹
Cattle	65 – 75	20 – 30	5 – 10
Horses	70 – 80	15 – 25	0 – 5
Sheep	45 – 55	30 – 40	10 - 20
Goats	20 – 30	10 – 30	40 – 60
White-tail deer	10 – 30	30 – 50	30 – 50
Elk, red, and fallow deer	30 – 60	40 – 50	10 - 30

¹Shrubs or trees

SOURCE: D. Forbes and G.W. Evers, Texas A&M Univ.; D.I, Bransby, Auburn Univ.; M.A. McCann, Virginia Tech Univ.; and W>R> Getz, Fort Valley State Univ. in Southern Forages 3rd Edition.



Other things to Consider

- Aligning nutrition with stage of production
- Stocking rates
- Predator Control
- Fencing
- Sheep (5:1)
- Goats (6:1)
- Increased stocking Rates by 25%



Chemical composition of various plants browsed by goats (%)

Browse type	Crude protein	Neutral detergent fiber	Calcium	Phosphorous
<i>Multiflora rose</i>	18.2	34.5	0.99	0.32
<i>Black locust</i>	23.0	44.0	1.26	0.21
<i>Honeysuckle</i>	16.0	34.5	1.21	0.30
<i>Brambles</i>	17.1	24.5	0.23	0.84
<i>Privet</i>	20.0	26.8	0.89	0.34
<i>Green briar</i>	16.1	39.5	0.60	0.18
<i>Trumpet creeper</i>	16.7	43.1	0.42	0.22

Note: It is important to have a good free choice mineral available at all times but particularly when browsing briars since the calcium phosphorous ratio is inverse of what is typically desirable. You would typically not plant these species but if they are present they serve as forage for goats.



**Sentinel Butte, N.D.
1998**



2000

No sheep



Sheep



ADD A



Grazing Sheep
New/Old
Brush Control

Project Begins March 20th, 2019



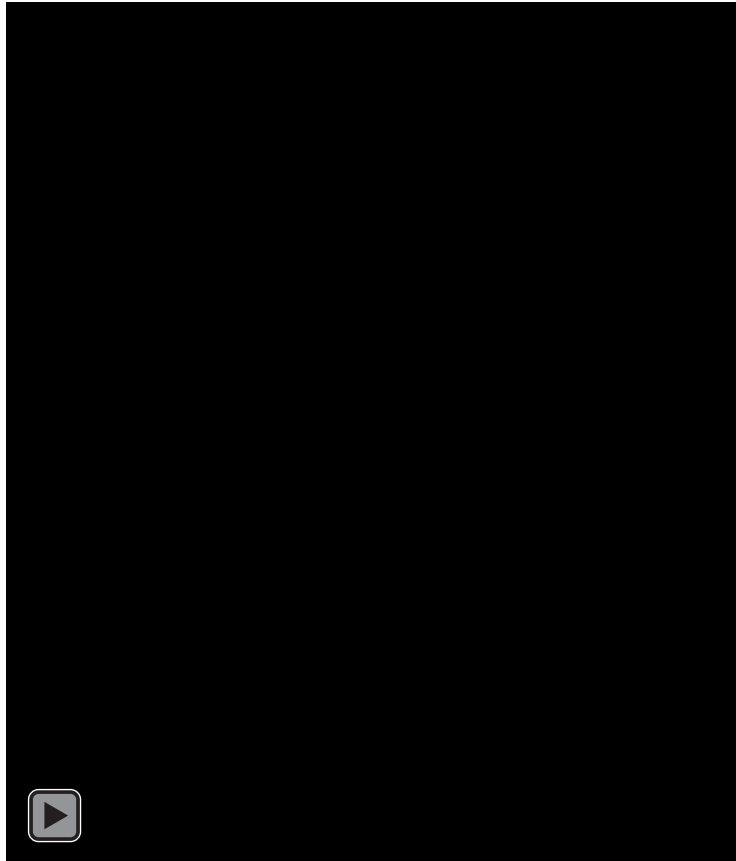
Guard Dog

- Sonny, the dog, is kept with the sheep at all times. He guards them during the night when coyotes are around. We are responsible for feeding him daily. This also gives us a chance to regularly check the progress of the grass and sheep.

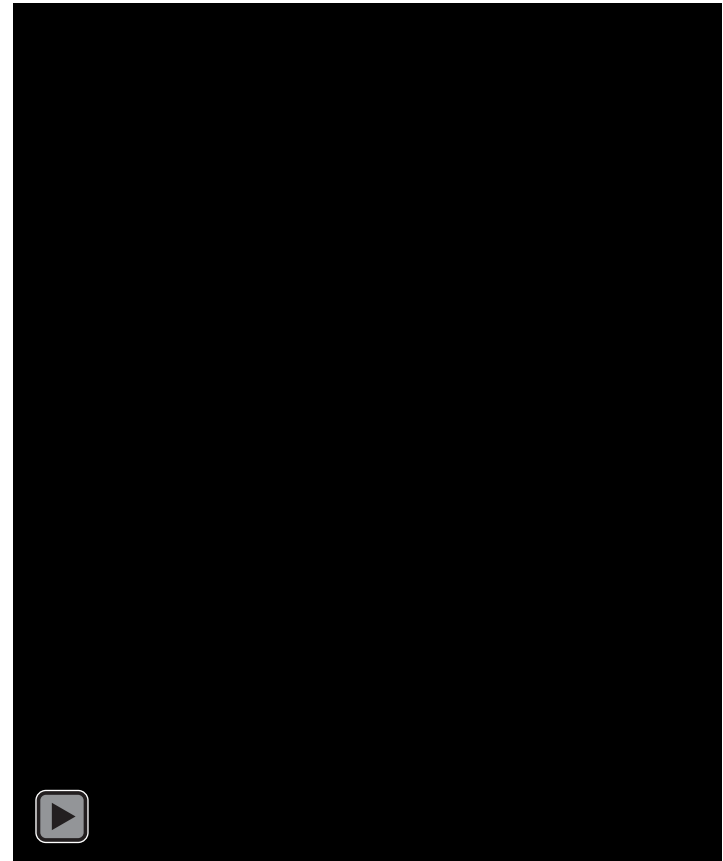


Comparison

May 27, 2019



August 8, 2019



Beginning to End

April 14, 2019



May 27, 2019



August 8, 2019



August 8, 2019



Conclusion

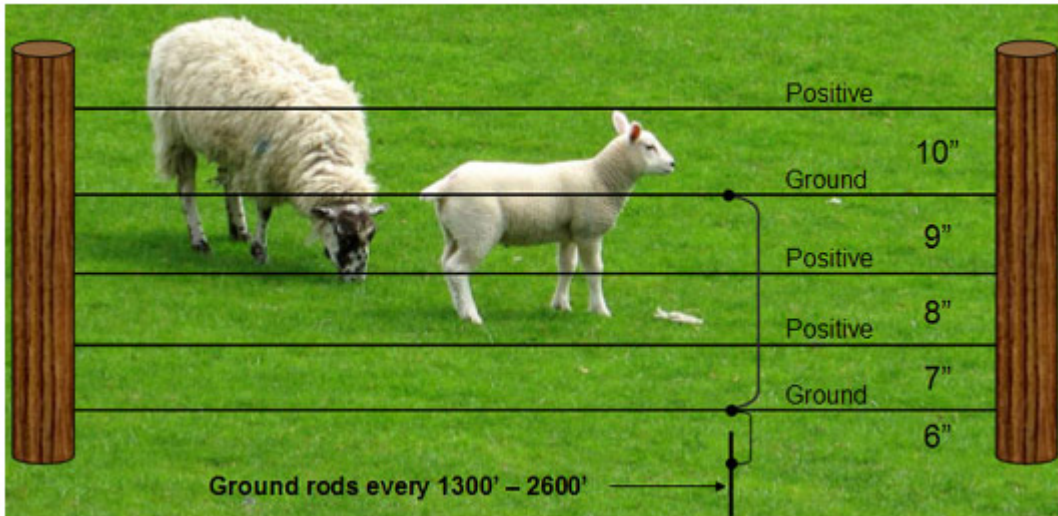


Things to Consider:

- Facilities
 - What do you already have?
 - How could it be adapted?
 - How much space is needed?
 - Chutes, alleys, etc.
 - Jugs
- Things to Change:
 - Fencing, predator challenges, lambing/kidding



ELECTRIC BOUNDARY FENCE



Electric Fence Wire Height and Spacing					
<p>40" total height</p>	<p>24" total height</p>	<p>46" total height</p>	<p>52" total height</p>	<p>40" total height</p>	<p>42" total height</p>
<p>3 Wire Cattle, Horses, and large animal fence</p>	<p>3 Wire Hog fence</p>	<p>4 Wire Cattle, Horses, and large animal boundary fence</p>	<p>5 Wire Feedlot, Horse, boundary fence</p>	<p>5 Wire Predators, Cattle, Deer, Sheep or boundary fence</p>	<p>6 Wire Predators, Cattle, Deer, Sheep or boundary fence</p>

GOATS: ELECTRIC FENCE

Once trained, electric can be used to keep goats in

Needs lots of voltage

Must stay on to maintain respect

PORTABLE NET FENCING

Electric

Subdivide Pasture

Temporary Fence

Must train animals to electric fence first



THANK YOU!

Alison Crane, Ph.D.
Sheep and Meat Goat Extension Specialist
Kansas State University

Email
arcrane@ksu.edu

Facebook
[Facebook.com/KSUSheepandGoatExtension](https://www.facebook.com/KSUSheepandGoatExtension)