

Multiple Species Grazing In Oklahoma



Dave Sparks DVM
Oklahoma State University
Extension Food Animal Quality
and Health Specialist

Meet Junior

- Junior is the average Eastern Oklahoma Livestock Producer. He has;
 - 80 acres, mostly fertilized improved pasture with some woods.
 - 20 cows
 - A _ ton diesel pick-up w/ stock trailer
 - 2.5 children
 - An operating loan with an ag lender.

How Much Have Things Changed?

2002		2008	% Increase
\$104	500 lb steers	\$115	10.6%
\$98	500 lb heifers	\$108	10.2 %
\$40	grass hay rd. bales/ton	\$55	37.5%
\$142	20% range pellets/ton	\$298	110%
\$5.39	soybean meal/cwt	\$14.43	168%
\$2.41	corn/cwt	\$6.54	171%
\$0.96	diesel	\$4.60	379%
\$200	urea	\$756	278%
\$220	diammonium phosphate	\$1139	417%

How Much Have Things Changed?

- In 2002 Junior's operation used his 80 acres with enough added fertilizer to graze his 20 cows with purchased hay and supplement. Operating cash flow was a positive \$2520, or \$126 per cow.
- 2008 cash flow projection expects the same operation to return neg. <\$4784>, or <\$239.20 per cow>.

What Are the Options?

- Eliminate the fertilizer bill and cut back on cows to what the place can carry without added fertilizer inputs. 8 cows grazed. Returns neg <\$2813>, or <351.63/cow>
- Sell the cows and graze 35 stocker calves for summer only. Cash flow projects return of \$212.45 or \$6.07 per hd.

What Are The Options?

- Sell the cows and graze 75 meat goat does without commercial fertilizer, but need to add fencing costs depreciated over 5 years (\$411/yr). Cash flow projection is profit of \$1352.00 or \$18.02 per doe.

What Are The Options?

- Multiple species grazing option. 35 stocker calves for the summer and 75 does year around.
 - Only one land cost.
 - No commercial fertilizer or herbicides, but option for increasing capacity w/ litter
 - Reduced input costs for goats.
 - Sustainable program.
 - Projected return is \$3564.45

Determining Stocking Rate and Cattle / Goat Stocking Ratio

“Goats have a greater tendency to adapt their dietary habits than other kinds of livestock”



“As long as there is adequate browse there is apparently little competition between goats and cattle”

CRC Handbook of Pest Management in Agriculture



Forage-Budgeting Guidelines

Robert L. Woods
Area Extension Agronomy Specialist

Daren Redfearn
Extension Forage and Pasture Management Specialist

Livestock producers are generally well aware of how much money is required to operate their business from year to year. The cost of incidentals necessary for running the operation have been carefully considered, and money has been allocated for each item. Typically, there may even be a small surplus to handle unforeseen circumstances. This process of allocating money is known as budgeting.

However, the same close attention that is given to the allocation of money should also be given to the allocation of forage resources. The development of a forage-budgeting plan requires a careful and reasonable estimate of both the production capability of the pasture and the forage requirements of the grazing livestock. The plan should also identify any seasonal deficiency or excess in forage availability.

The forage-budgeting process is built around a good recordkeeping system and begins with an accurate estimate of forage production. When an estimate of total forage production is related to the forage demand by grazing livestock

Oklahoma Cooperative Extension Fact Sheets
are also available on our website at:
<http://www.osuextra.com>

Table 1. Estimated daily forage dry matter (DM) requirement.

Animal type	DM requirement (lbs)
Cattle	
Calves	
300 lbs.....	9
400 lbs.....	12
500 lbs.....	15
600 lbs.....	18
Cows.....	26
Bulls.....	32
Horses.....	32
Sheep.....	5
Goats.....	4
White-tailed deer.....	4

<http://pods.dasnr.okstate.edu/>

<http://www2.dasnr.okstate.edu/>

Web Soil Survey - Windows Internet Explorer

http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

File Edit View Favorites Tools Help

Google

Web Soil Survey

Multi-Species Grazing Trial

Web Soil Survey

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Area of Interest (AOI) | Soil Map | **Soil Data Explorer** | Shopping Cart

View Soil Information By Use: All Uses Printable Version Add to Shopping Cart

Intro to Soils | **Suitabilities and Limitations for Use** | Soil Properties and Qualities | Soil Reports

Suitabilities and Limitations Ratings

Open All Close All

- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Land Management
- Military Operations
- Recreational Development
- Sanitary Facilities

Vegetative Productivity

- Crop Productivity Index
- Forest Productivity (Cubic Feet per Acre per Year)
- Forest Productivity (Tree Site Index)
- Iowa Corn Suitability Rating
- Range Production (Favorable Year)
- Range Production (Normal Year)**

View Description View Rating

View Options

Map


Map — Range Production (Normal Year)

Scale (not to scale)


0 858ft

Internet 100%

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Tables — Range Production (Normal Year) — Summary 

By Map Unit

Summary by Map Unit — Washington County, Oklahoma 

Map unit symbol	Map unit name	Rating (pounds per acre per year)	Acres in AOI	Percent of AOI
BcC	Bates-Coweta complex, 3 to 5 percent slopes	4900	45.9	26.7%
Bk	Eram-Verdigris complex, 0 to 12 percent slopes	6350	14.6	8.5%
CtE	Coweta-Eram complex, 5 to 20 percent slopes	4200	3.1	1.8%
DtC	Dennis silt loam, 3 to 5 percent slopes	5250	46.5	27.1%
SoE	Shidler stony silty clay loam, 1 to 20 percent slopes	1875	49.5	28.9%
SuC	Summit silty clay loam, 3 to 5 percent slopes	5138	11.9	7.0%
W	Water		0.1	0.1%
Totals for Area of Interest (AOI)			171.6	100.0%



Are the goats and cattle competing for the same forage?

Diet Overlap?



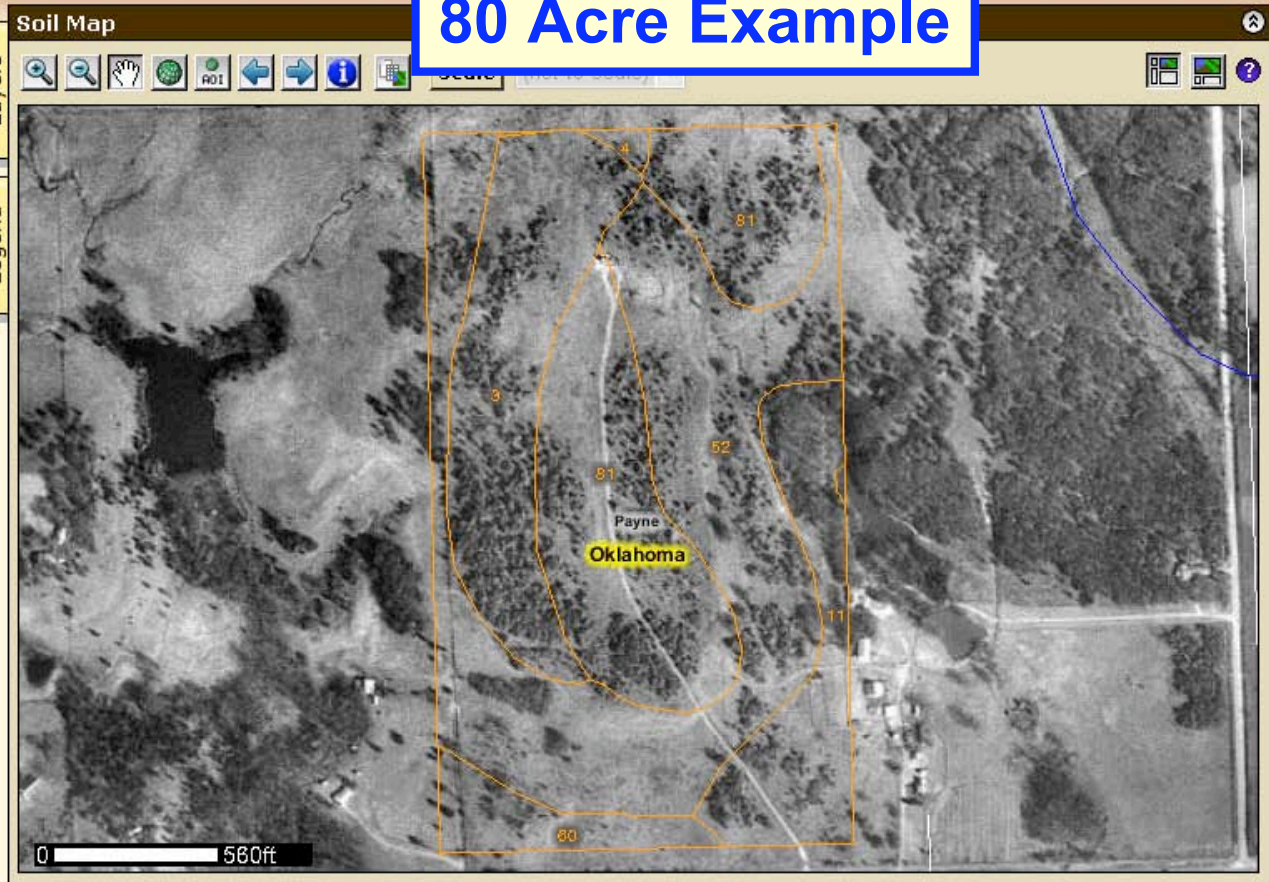
NRCS Web Soil Survey

80 Acre Example

Map Unit Legend Summary

Payne County, Oklahoma

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Coyle loam, 3 to 5 percent slopes	13.9	18.0
4	Coyle loam, 3 to 5 percent slopes, eroded	0.4	0.6
6	Pulaski fine sandy loam, 0 to 1 percent slopes, frequently flooded	0.0	0.0
11	Stephenville-Darnell complex, 3 to 8 percent slopes	8.9	11.5
52	Steedman-Lucien-Shidler complex, 1 to 15 percent slopes	30.3	39.2
60	Mulhall loam, 3 to 5 percent slopes	3.5	4.6
81	Huska silt loam, 1 to 3 percent slopes	20.1	26.1
87	Steedman-Gowen complex, 0 to 8 percent slopes	0.1	0.1



Determine Forage Composition

- Step – Point Transect As you walk through the area to be studied, stop every fifth step and record the type of plant nearest the toe of your boot, grass, legume, sedge, or forb.
- Comparing composition records over time for a given area will allow you to determine changes and adjust stocking ratio.

Predator Control

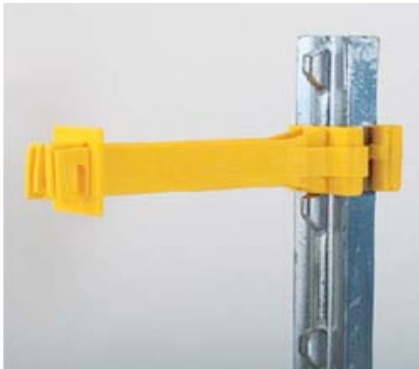
- Dogs are the number one predator of goats.
- Predation increases as the size and scope of the operation increases. Small acreages close to the house have little problem.
- Dogs are the only effective control in large area, high predator situations.
- Dogs are either “goaty” or “territorial”.

Fencing Solutions

- How critical your fencing requirements are will depend largely on the rest of your management program.
- Full, healthy, and browsing goats are easy to keep in.
- Hungry or bored goats are impossible to keep in.

Electric Fencing on Existing Barbed Wire

- Cheapest but requires regular attention
- Don't short yourself on the charger.
- One strand of electric at 6 – 8 inches and another at 16 – 18 inches. Barbed wire serves as grounds.
- Offset at least 5 inches.
- Keeps goats and dogs in and predators out.
- Adequate (moist) grounding a must.



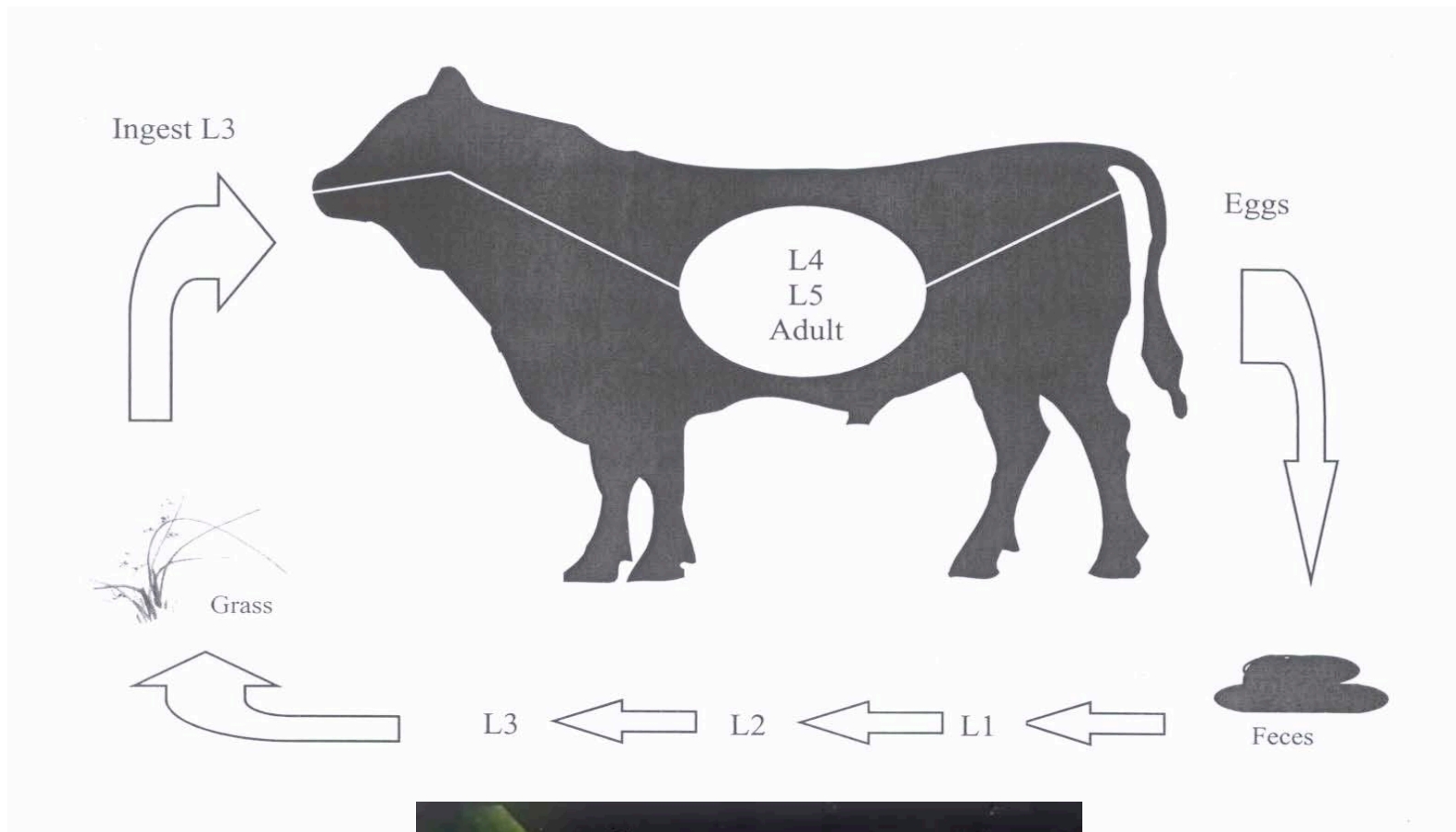
Woven Wire

- More costly than electric but requires much less attention.
- Much of the cost and labor can be saved by using existing cattle fencing.
- Make sure vertical stays are at least 12 inches apart. This lowers the cost and prevents goats caught by their horns.



Parasite Management

- Parasites are an economic factor for cattle but the “barber pole worm” kills goats.
- Parasites kill more goats in Oklahoma than all other predators combined.
- Cattle and goats each serve as end stage hosts for the other’s internal parasites.



L1 = 1st stage larvae
L2 = 2nd stage larvae
L3 = 3rd stage larvae

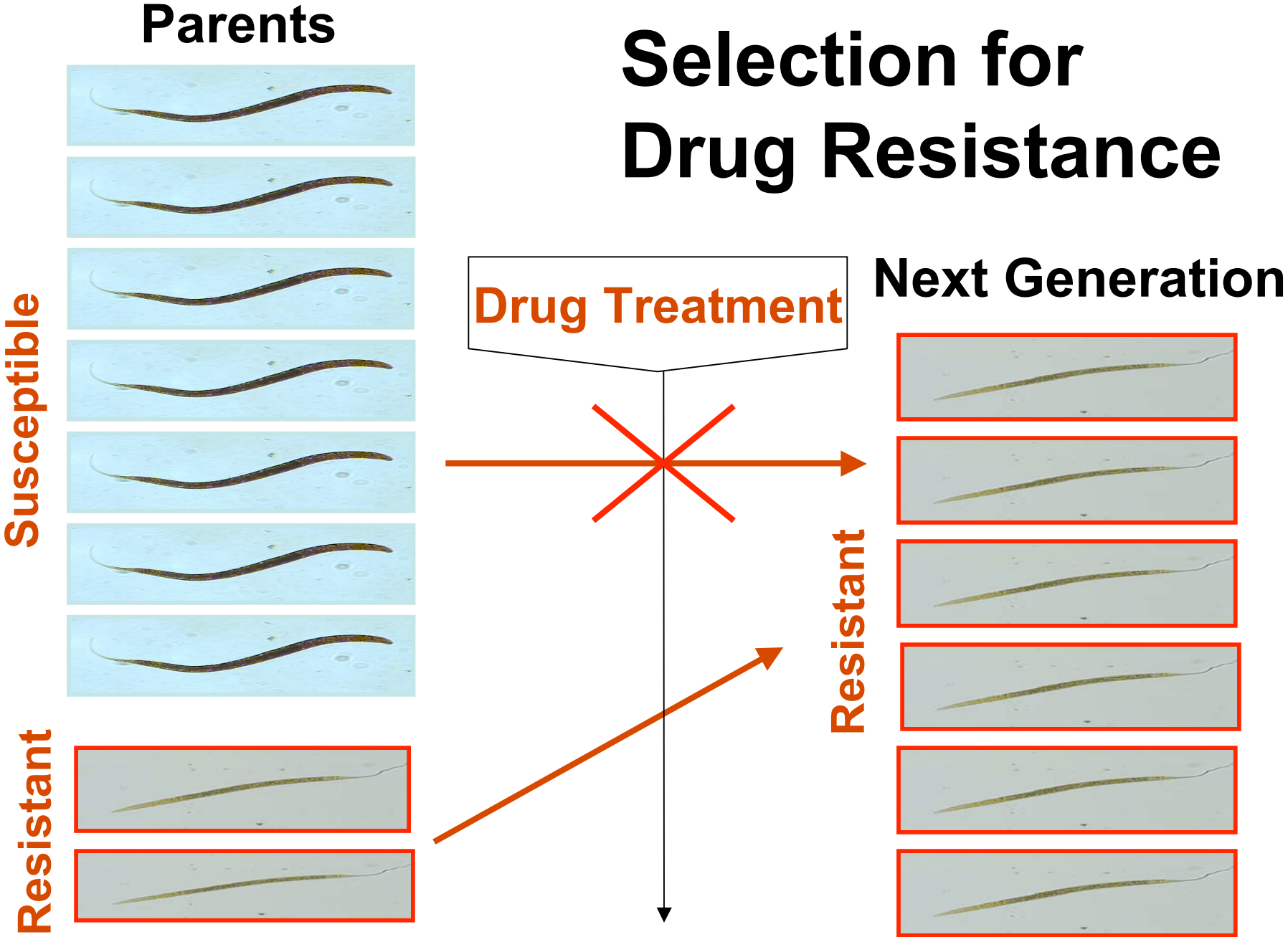


L4 = 4th stage larvae
 (inhibition may occur)
L5 = 5th stage larvae

Dewormer Resistance

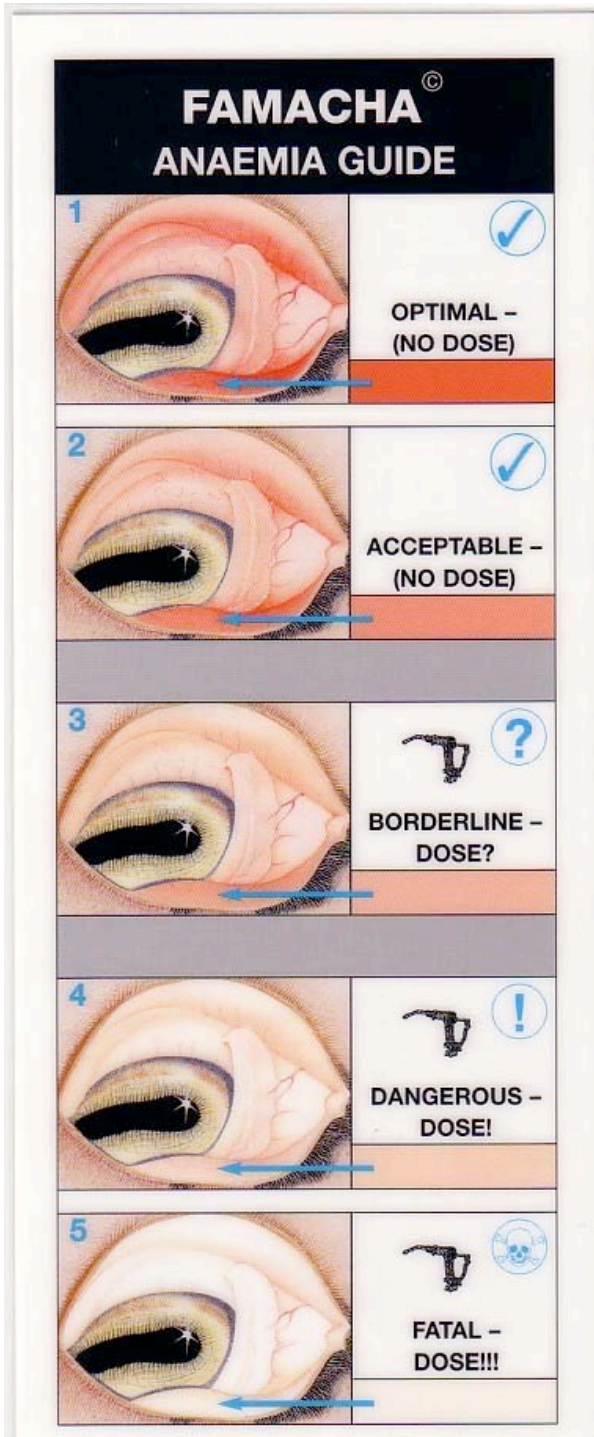
- Biggest threat to the goat industry in the near future 3-5 years
- Means we will have to rely on techniques other than dewormers to control worms
- Animal selection
- Pasture rotation
- Co-species grazing
- Low stocking rates, etc

Selection for Drug Resistance



Concept Behind Selective Treatment

- **Parasites are not equally distributed to all individuals**
- **Resistance of animals to the parasite**
 - **20-30 % of animals harbor 80% of worms**
 - **responsible for most of egg output**



The FAMACHA[®] System

- Eye color chart with five color categories
- Compare chart with color of mucous membranes of sheep or goat
- Classification into one of five color categories:
 - 1 – not anemic
 - 5 -- severely anemic

Multiple Species Grazing and Parasite Management

- Eye score goats as needed during the parasite season and worm only those goats that need it.
- In 2007 Washington Co. test goats grazing with cattle required only 23% as much worming as goats alone.
- This reduces production costs and slows the development of dewormer resistance.

Washington Co. Field Day

- 200 acres of native range divided into three pastures, one with stocker cattle, one with goats only, one with cattle and goats together.
- 2nd year of a 2 year study to look at economic, animal health, and agronomy factors associated with multiple species grazing.
- Field day will be September 6, 2008.

Porum Field Day

- 80 acres of tame grass pastures and wooded areas serving as a demonstration plot for multiple species grazing, pasture rotation, natural soil amendment, and livestock selection for parasites management and system sustainability.
- Joint project supported by Kerr Center for Sustainable Agriculture.
- Field day will be September 27, 2008.



Questions?