



Forage Strategies For Small Acreages

C.K. Rice

S.E. District Area Agronomist
Oklahoma Co-Operative Extension
Oklahoma State University





**Old McDaniel's Farm: 80 acres, 60% open, 40 % woodland
New owner would like to raise registered cows and goats.**

My Cow

- I have to supply her forage or feed for 365 days of the year.
- Her nutritional needs change: Dry, late gestation, lactation.
- Needs high quality forage when lactating.
- When is this?



My cow is 1200 lbs: Average daily consumption is 30 lb forage. She gets 60% utilization of the forage I grow: She wastes 20 lb per day.

I have to supply my cow with 50 lb of forage per day.

My cow has her calf in February.

She needs high quality forage in March and April to keep her calf well fed and she has to increase her condition to be able to rebreed in Spring.

My cow would need 18,250 of forage for the year or 9.125 tons.

Meet “Average” Doe!



**120 lbs
of grace
and
beauty!**

How much forage will she eat? (Dry Matter)

If she weighs 120 # she will consume:

On average = 4% of her body weight (Texas A&M) 5 lb/day

With rotational grazing we might get 75% utilization of the forage we grow, we will need supply about 7 lbs/forage/Doe /day .

If you do not rotational graze, utilization will be 60% or 8 lbs/day.

What does he need to consider?

- First of all, stocking rate!!!!!!!!!!
- With no fertility, this place will turn out about 1 ton of forage/acre/year. Grass and browse!
- For 80 acres = 160,000 lb
- @60% utilization = 96,000 lbs
- Assuming 4 months of feeding purchased hay
- $96,000 / 8 \text{ months} = 12,000 / \text{month of forage}$
- = About 12 cows or about 80 goats
- With fertility on 40 of the acres, stocking rate = 18 cows or 120 goats or some mix there of!



Fence: McDaniel will get better use of his forage and be able to manages those forages better if he cross fences the place and rotationally grazes it.

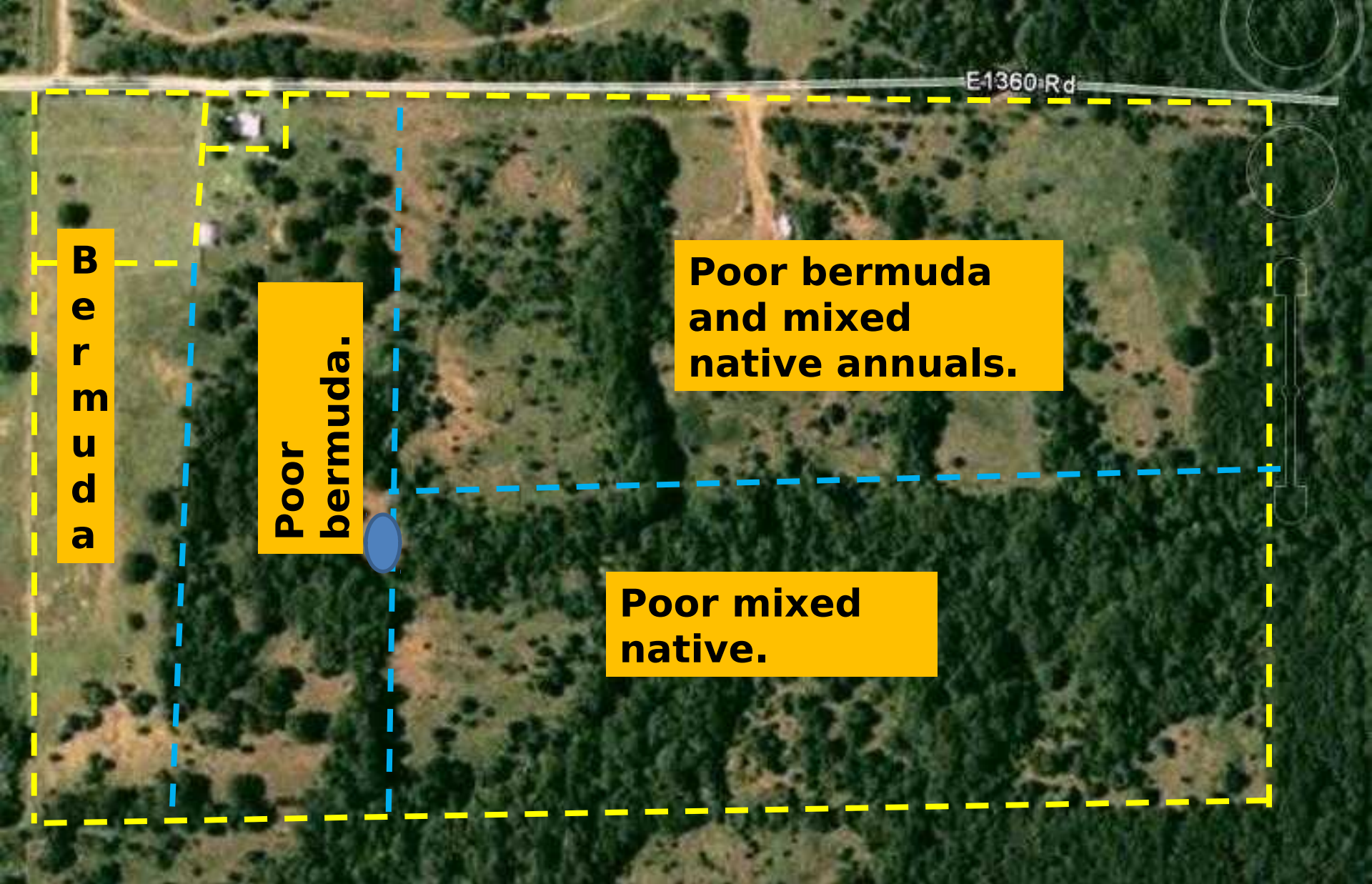
Old McDaniel Has Made His Choice.

- He wants to run 12 cows and 40 goats.
- He is going to build a net wire fence around the perimeter and use a 3 wire electric fence to split the place into 5 paddocks.
- He is going to run water from the house to the paddocks instead of building ponds.





Water: The small pond on the place is not reliable, so he opts for an underground pipe system that is gravity flow from house tank.



Current Forage Base: Bermuda, forbs, brush, and native.

Do you foresee any problems old McDaniel may have here?



- 1) With the poor quality forage on the place, he is overstocked.**
- 2) He has no cool season forage to take advantage of all growing days.**
- 3) He might be better off starting with more goats to clean out the weeds and underbrush before buying any cattle.**
- 4) During that time he could work on improving the grass forage component, and then reduce his goat herd and buy 12 cows.**

Balance your forage system!

Growing Season Months X Forage Type

<u>Warm Season</u>	<u>Cool Season</u>	<u>Marginal Plant Growth.</u>
May	March	December
June	April	January
July	October	February
August	November	
September	(Expect some overlap in growing days.)	

- In Oklahoma our growing seasons =
- Warm season: 160 days (44%)
- Cool season: 130 days (36%)
- To cold to grow: 75 days (20%)
- A balanced forage system = enough warm and cool seasons production to cover all of the growing days.
- And hay or stockpiled forage to cover the remaining days!

Getting Started

- Fertility:
- Plants don't care where their N, P & K come from as long as they can get it.
- Commercial fertilizer, chicken litter, animal manure or lagoon effluent.
- In this case, there is a hog house three miles away and McDaniel has a tanker he can use to apply the hog slurry with, and he gets it for free!
- He can get enough to apply about 50# of N/acre on 40 acres.



Fertility:

- 1) Right now, there are only 3 pastures that he can get a spreader over.**
- 2) As the goats clean out the underbrush and open up the other pastures, the potential to fertilize more acres will be there.**



Changing the forage base:
1) Right now, This place has only a warm season grass forage system.
2) Adding some cool season component such as fescue, ryegrass, and legumes would help to balance this forage system. Maybe reduce haying in the winter.

Fertilizing bermuda for summer grazing and grazing it May through October in the rotation.



Changing the forage base:
1) Right now, The bermuda on this place is in poor shape.
2) By adding some fertility, in a few years the bermuda should strengthen and provide good grazing for his cows during the summer months.

**Fertilizing bermuda in September and stockpiling for limit grazing in Nov. and Dec.
Limit grazing will reduce wastage.**



Changing the forage base:
1) Stockpiling fall bermudagrass can provide a ton of forage, Protein 10%, TDN 55%.
2) It must be grazed close in Aug., and fertilized prior to Labor Day.
3) It should be grazed out by the end of Dec. to prevent loss due to the environment

E-1360 Rd

Adding ryegrass to this pasture would help balance this forage system. A good cool season forage for use in March and April. Bermuda would be grazed May - October in the rotation.

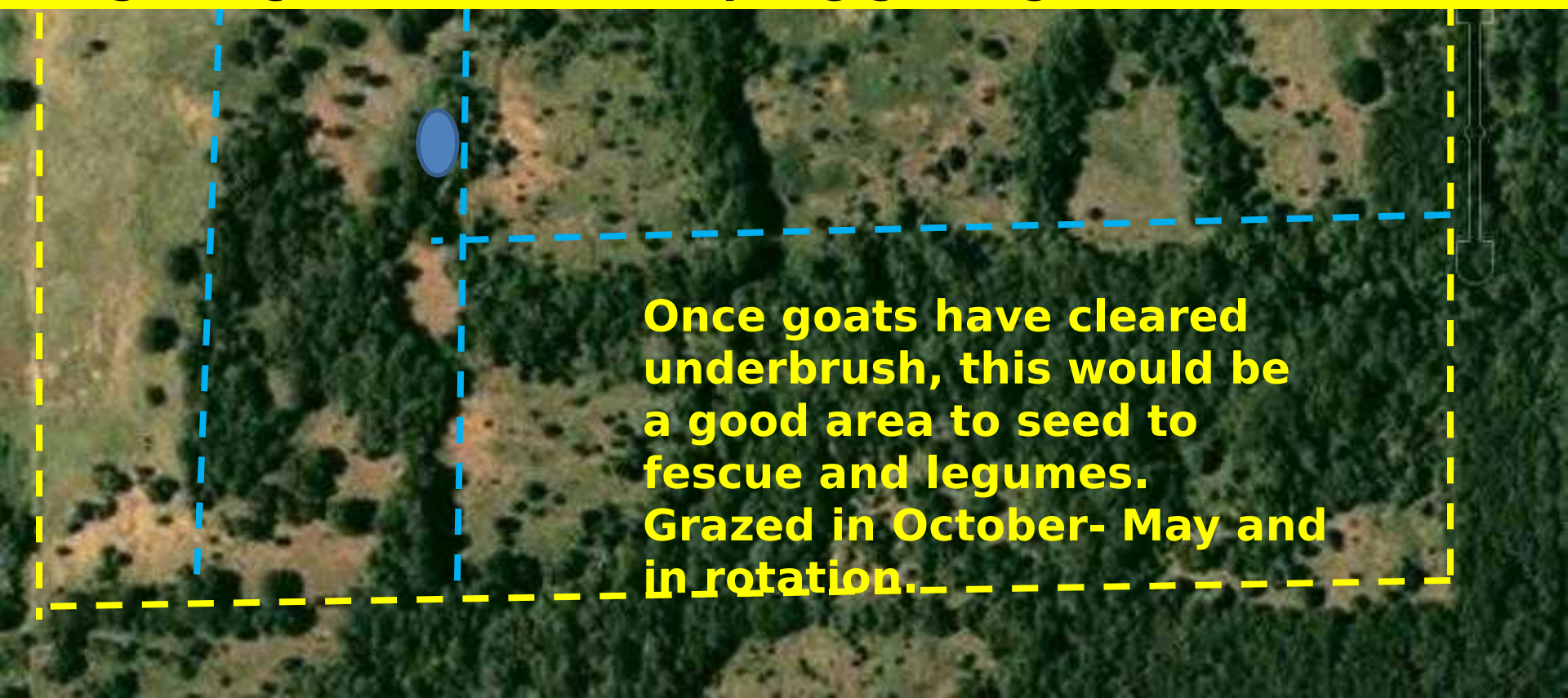


Changing the forage base:

- 1) Ryegrass is an easy to grow cool season forage that is high in protein and TDN.**
- 2) Planted at 25# /acre in Late Sept. the first year and 10 #/acre there after.**
- 3) Produces only about 900# in the fall, can produce 2 tons in the spring with fertility.**

Changing the forage base:

- 1) Fescue and legumes are cool season forages that are high in protein and TDN.
- 2) Fescue planted at 25# /acre in Late Sept. A perennial that will return every year.
- 3) Mixed with legumes, a good forage choice in deep soils and around shady areas.
- 4) With good fertility, has the potential to produce a ton of fall grazing and 1-2 tons of spring grazing.



Once goats have cleared underbrush, this would be a good area to seed to fescue and legumes. Grazed in October- May and in rotation.

Changing Your Forage Base. Balance Your forage System!



- 1) Sit down and make a plan!!!**
- 2) Check with your local Extension Agent on the forages that will work in your area.**
- 3) Do Not attempt to get it all done in one year, its going to take time!!!!**
- 4) It will take the goats some time to reduce the weed and brush cover.**
- 5) It will take some time for the bermuda grass to strengthen and cover the ground.**
- 6) It will take some time to get cool season forages to establish.**

Any
Questions
?

If Not,
Thanks
For
Listening!

