Factors that Increase Profitability and Stability of Grazing Programs

Get Your Operation in Sync with Reality

Use forms of production (enterprises) that are compatible with the available resources

Physical resources:

Quantity, quality & timing of forage

Markets

Fencing & water

Weather considerations

winter, drought likelihood

Financial considerations:

Income vs. expense - margins

Capital requirements and availability

Production & market risks

:**Human resources:**

Labor availability & cost

Management & knowledge

Risk tolerance

Likes & dislikes

Production plan A

- High quality purebred cattle producing premium priced breeding stock. Cows average 1200 # and calves are born in late spring. Breeding bulls sold as performance tested two year olds while breeding heifers sold as pregnant long yearlings. Steers and cull heifers sold retail as grass finished beef. Cattle time controlled grazed through 24 permanent paddocks per herd with temporary fencing used to increase paddock numbers when needed.

Production plan B

- Crossbred cows averaging 850 pounds calve in early fall. Calves are weaned in spring and sold. Cattle grazed through 6 paddocks.

Ranch Description

Ranch is located in southwest Texas 80 miles from town of 7,000 population. Area receives 15 inches of moisture in normal year coming mostly in August and September. Annual evaporation rate averages 12 feet. Stocking rate varies from AU/70 acres in good years to AU/200 acres in poor years. Stock water is from low output wells pumped with windmills

Create, use and update a business plan

- **Do the research!**
- Prices, costs
- Realistic yields
- Labor & equipment required
- Markets
- Problems

Use enterprise and gross margin analysis's

Pay close attention to the ratio of risk to potential profit

Remember that biological capital is at least as valuable as fiscal capital

- Having biological capital creates and saves fiscal capital
- Biological capital is the great risk reducer

Be an economic pessimist

Design and use a carefully planned, managed and monitored grazing program.

Plan must use time control based on forage growth

Plan must be based on your conditions

Expect the plan to go wrong - Monitor

- Growth rate of forage
- Forage usage
- Animal performance
- Condition of ecological processes

The plan must meet the needs of all parts of the operation:

Land – animals – financial – human

Needs of the land
(soil, plant, animal complex)

- All land “problems”- weeds & brush, poor forage production, soil erosion – are caused by faults in the ecological processes and can be cured with good grazing management.

Manipulate the ecological processes to achieve the desired results on the land

- Water cycle
- Nutrient cycle
- Energy flow
- Biological succession

Needs of the animals

Land should supply nutritional needs of the animal types and classes grazed with minimal supplementation

Parasites, disease, predators & weather conditions must be addressed in the plan

Human needs:
Quality of life

Financial needs

Increase efficiency of grazing

Reduce purchased inputs

Reduce labor

Build biological Capital

Biological capital is biodiversity plus the long term effects of biodiversity.

- Healthy & diverse populations of healthy individuals
- Abundant soil life – healthy soil
- Healthy plant communities
- Healthy animals communities
- Biological capital is real wealth
- Well managed stock density builds biological capital

Use the grazing plan to help make financial decisions

- Determine stock inventories by expected forage availability and monitor to fine tune
- Number of animals by time period
- Types of animals
- Use the knowledge gained by operating the plan to reduce risks and inputs

- Plan
- Control
- Monitor
- Re-plan

- **Substitute management for money**

The goal should be profit and stability not production

Expenditures should be made only if:

- It will profitably increase production enough to offset the additional risk
- It will reduce cost of production
- It will increase stability of production

Expenditures that must be repeated regularly signal an opportunity to improve management

The question should not be how to lower the cost of a practice but, “How to change the operation so that this practice is no longer needed?”

“Best Management Practices” concept is flawed

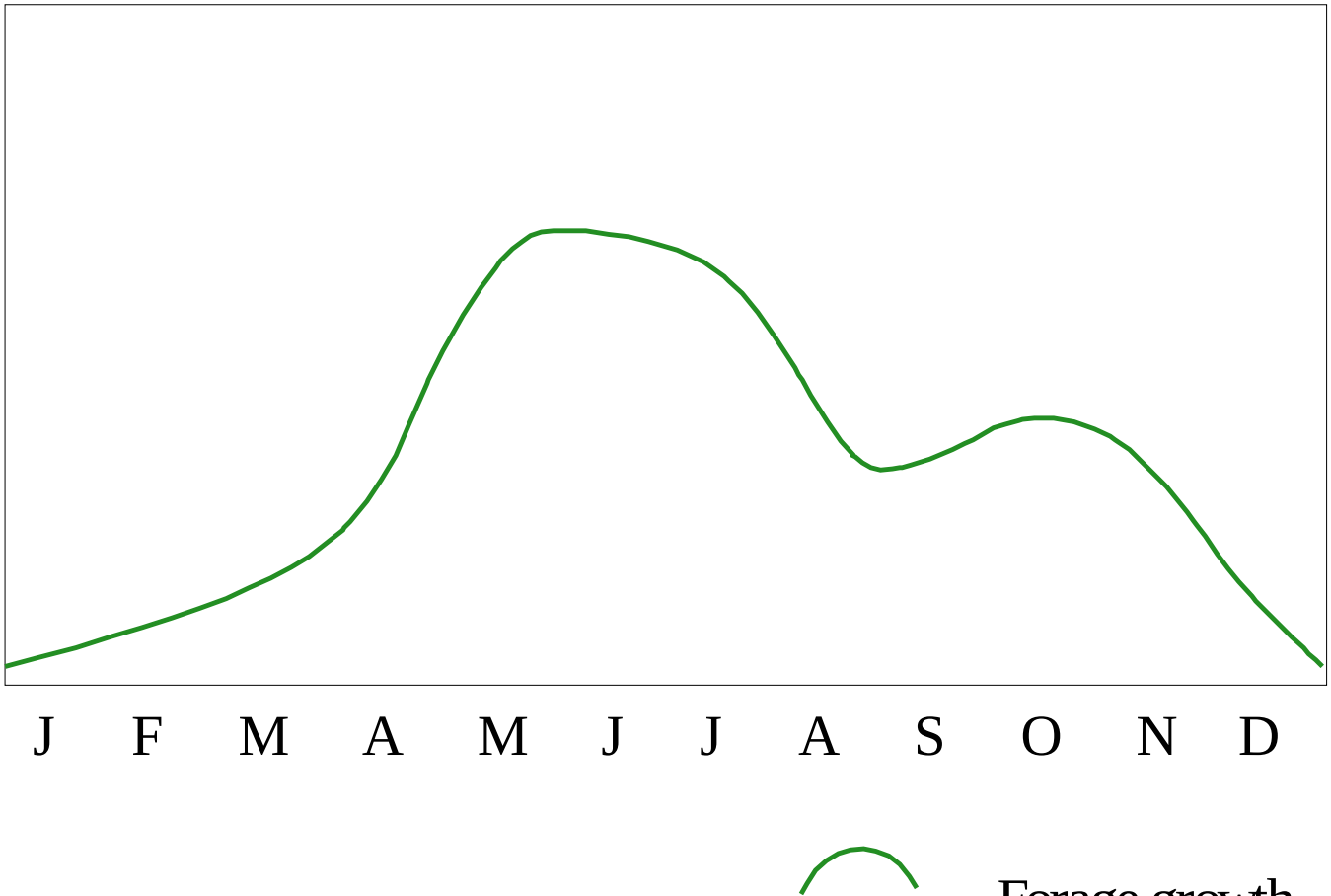
Agriculture in the U. S. is over capitalized

Use gross margin analysis to weed out unprofitable enterprises

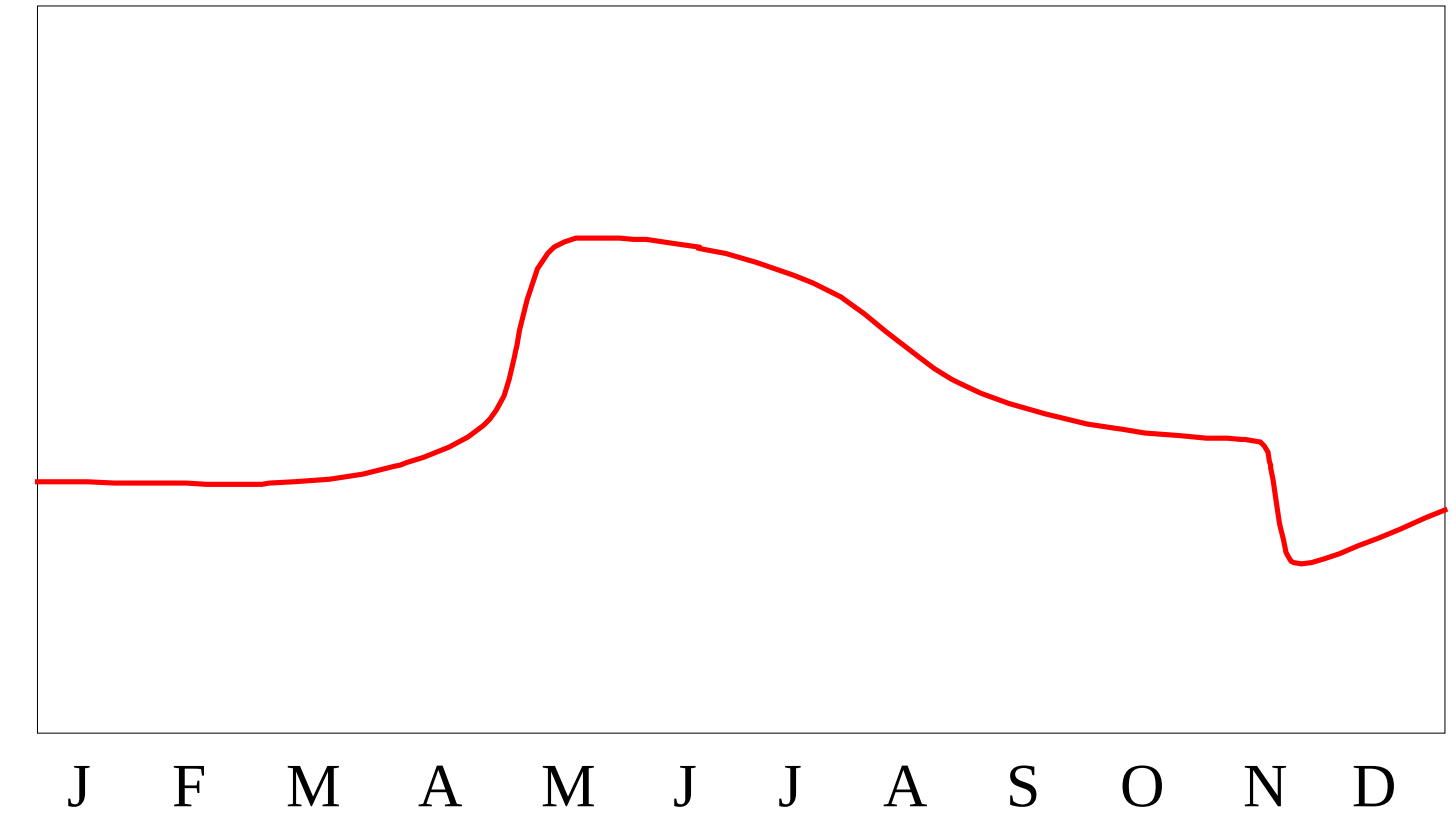
- **Work with rather than against nature**

- **Choose enterprises and management practices that fit the available resources**

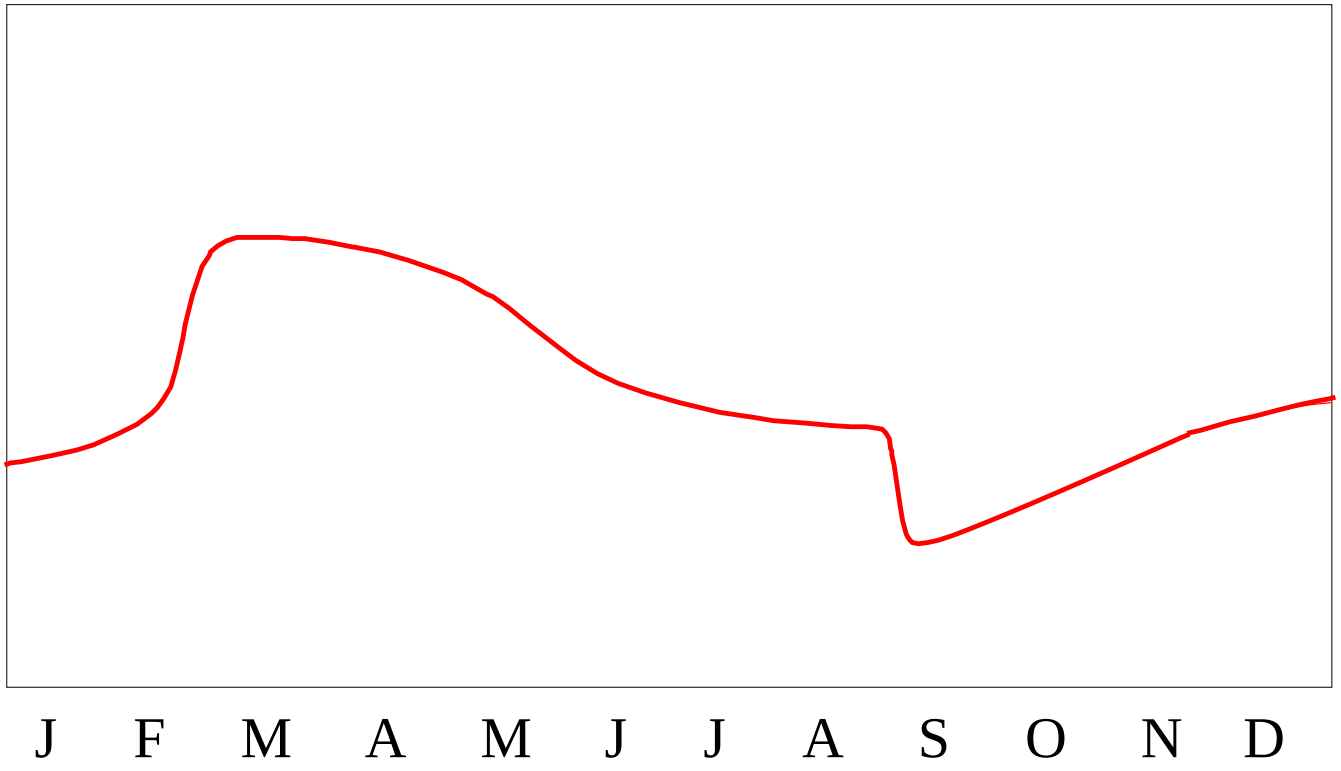
Nutrient supply warm season grass



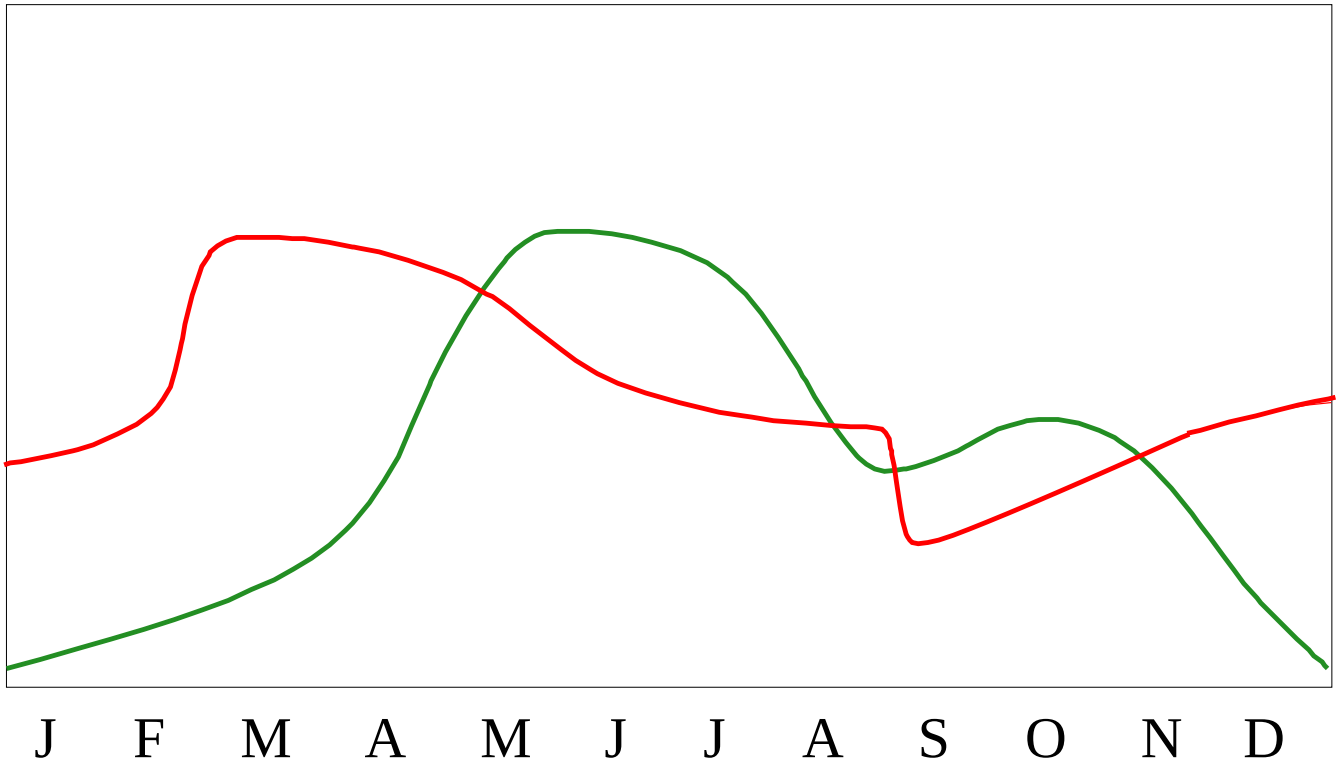
Nutrient demand spring calving



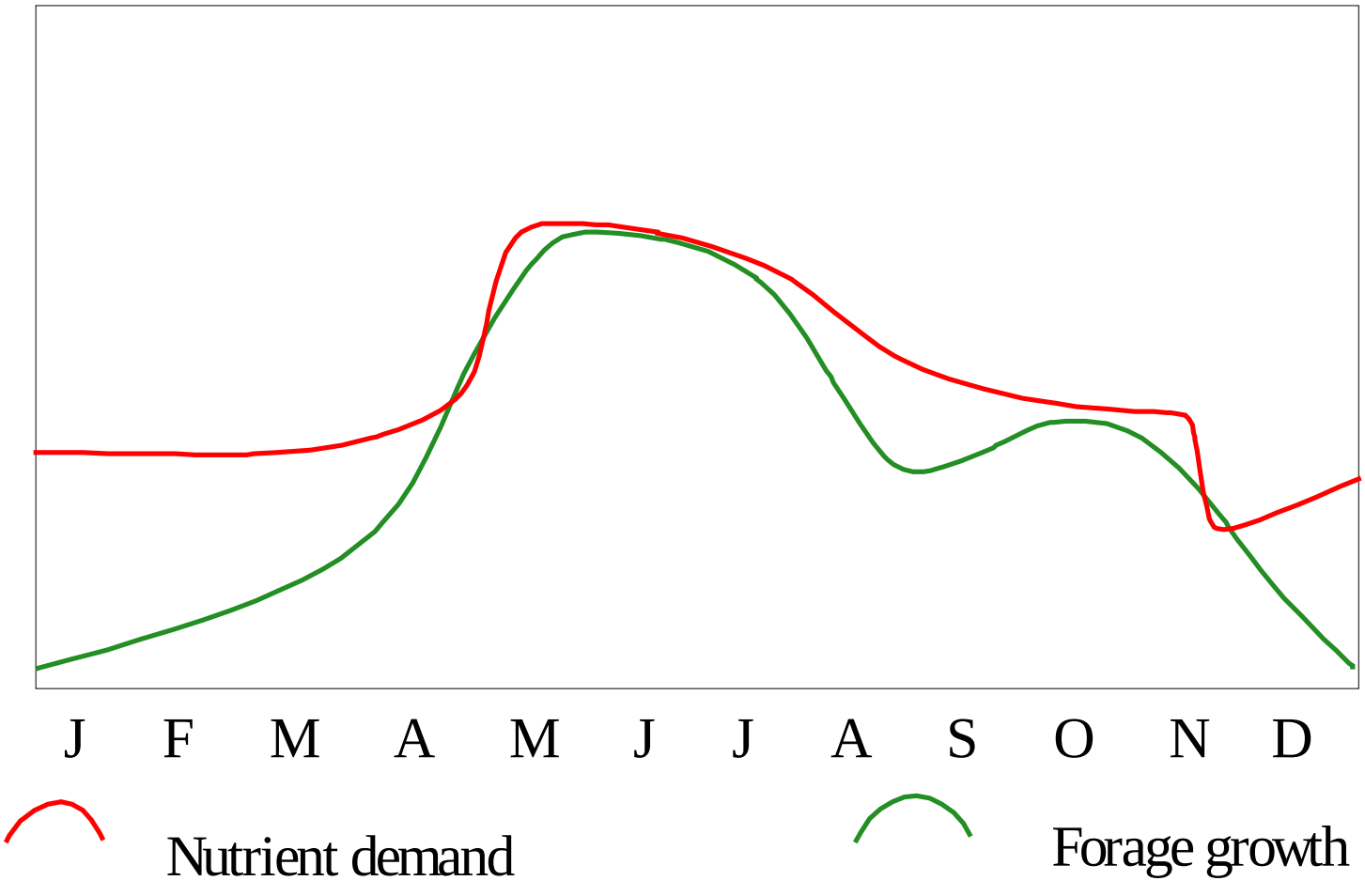
Nutrient demand winter calving



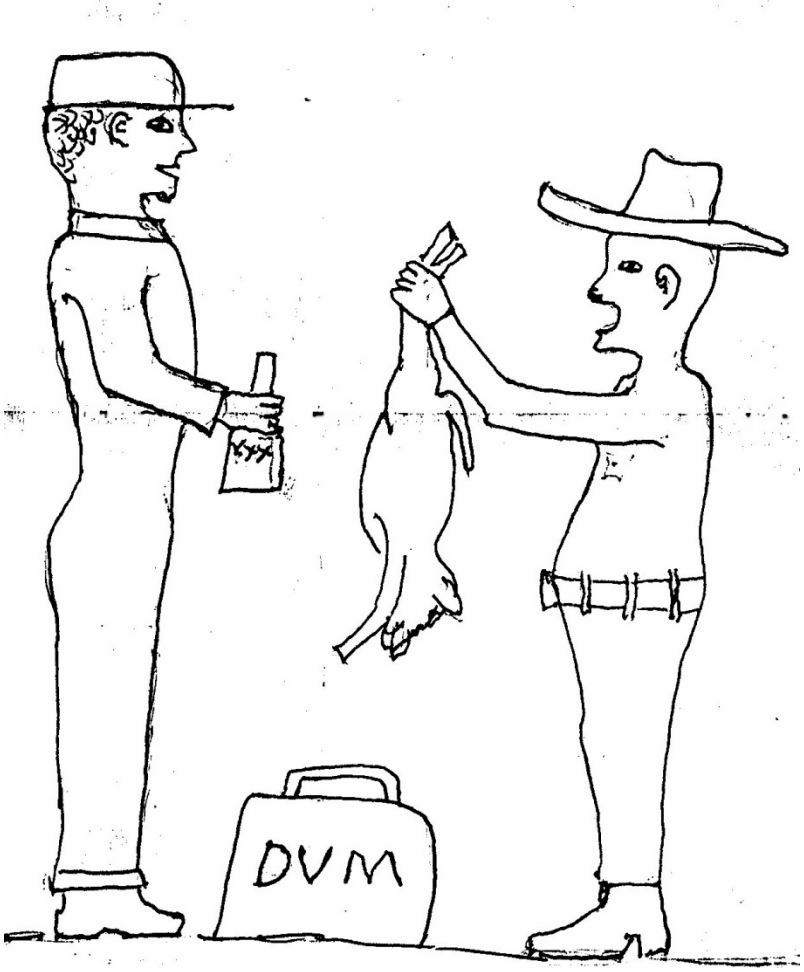
Out of season calving



In season calving



Manage for what you want not against what you don’t want



That’s true but the worms are dead.

Understand the total and long term effects of management practices

Agriculture is a biological pursuit

Its' purpose should be to increase life so that we can have some of the surplus

- **Have stocking rate in balance with carrying capacity.**

Agile goats seek the fruit of Morocco's argan trees. Herders and barriers of thorny branches help thwart the animals.

- **Stocking rate that is too high is a guaranteed profit killer**

Stocking rate that is too low reduces production and can cause shift in vegetation

Match forage demand to supply within the year as well as between years

Reduce stocking rate as soon as it is seen to be too high

Do not hold stock on land that can no longer feed them

- **Stocking mix correct for vegetation composition.**

- **Cattle – grass**
- **Sheep – forbs**
- **Goats – browse**

Mineral Content of Grass vs "Weed"

Element	Percent of Dry Matter N	P	S	Ca	Mg	K	PPM Fe	Mn	Cu	Zn	Mo	B	Cl
Big Bluestem	1.00	.20	.07	.23	.16	1.02	54	55	3.6	30	.20	11	776
Prairie Coreopsis	1.17	.15	.12	1.05	.42	1.19	52	117	7.9	65	.37	61	957
Percent Advantage Coreopsis	+17	-5	+5	+82	+26	+17	-4	+62	+54	+54	+46	+82	+19

Adapted from Mineral Nutrition of Plants :Epstein

Feed Value of Browse and Forbs

Feed	% TDN	% CP
Bermuda hay 49 days	54-58	9-11
Alfalfa hay	50-63	13-20
Kudza hay early	55	14
Honeysuckle leaves & buds	70+	16+
Honeysuckle mature	68+	10+
Sumac early vegetative	77	14
Oak buds & young leaf	64	18
Persimmon leaves	54	12
Hackberry mature	40	14
Juniper leaf	64	6
Acorns	47	5
Curly dock	74	13
Chicory	65	15
Mimosa leaf	72	21

Adapted from Nutritional Requirements of Goats. 1981 National Research Council

- “Weeds” and brush that are grazed increase the amount of minerals cycling and the rate at which they cycle
- Grazing weeds and brush increases the amount of energy flowing through the system

- **Plan for the drought that is surely coming**

Plan stocking mix to reflect the likelihood of drought

Formulate a destocking plan

- **Reduce forage demand as soon as drought is obvious**

- **The sooner demand is reduced, the more animals can be saved and the less damage will be done to the land**

Conditions

500 AU, 60,000 AUD of Forage

160 Days to New Grass

Action & Result

1. Do nothing

Out of feed in 120 days (60,000/500=120)

2. Wait 40 days

Will have feed for 333 AU (60,000 -500X40=20,000)
40,000/120 days=333 AU

3. Wait 80 days

Will have feed for 250 AU (60,000 – 500X80=40,000)
20,000/80= 250 AU

4. Move 125 AU

Will have feed for remaining 375 AU
500-125=375AU, 60,000/375=160 days

Stockmanship

- **Stock handled so as to minimize stress on animals and humans.**

Use stockmanship and animal husbandry to promote animal health and production

- Most animal health and production problems are caused by stress
- Physical
- Nutritional
- Psychological

Our jobs as stockmen is to make our animals as happy as it is possible for animals to be

- **Use animals that are adapted to the area and to producing on the available forage.**

- **Many of today's cattle are not adapted to all grass rations or to grazing**

- **Even cattle that graze efficiently, may not have the ability to store energy as fat**

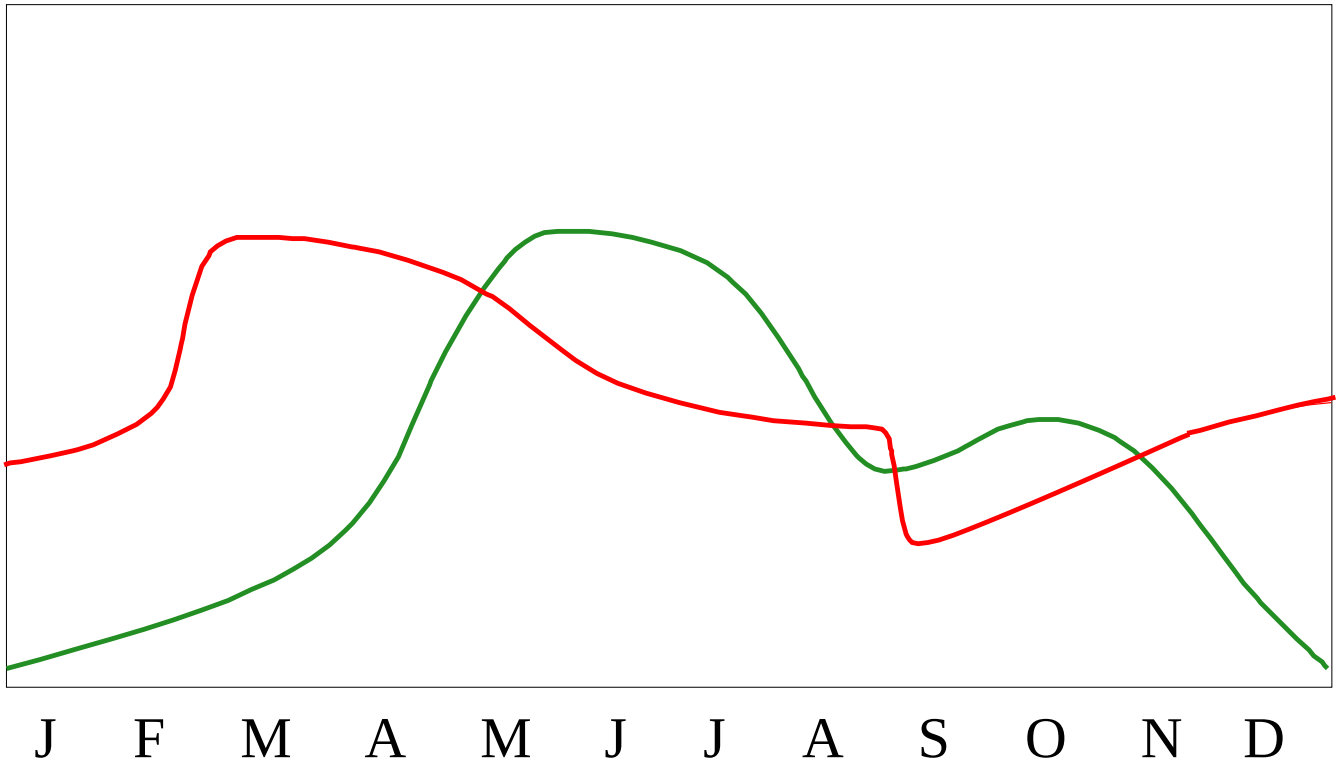
- **The best animals are the ones that work under your conditions**

Try to start with local animals

- **Moving animals from one locale to another is always stressful**
- **Cold to hot – high to low – strong to weak - dry to wet are especially bad**

- **Short breeding season properly timed in regard to forage availability.**

Out of season calving



- **Fertility is the most important trait in profitability of breeding cattle**
- **Condition at parturition is critical to fertility**

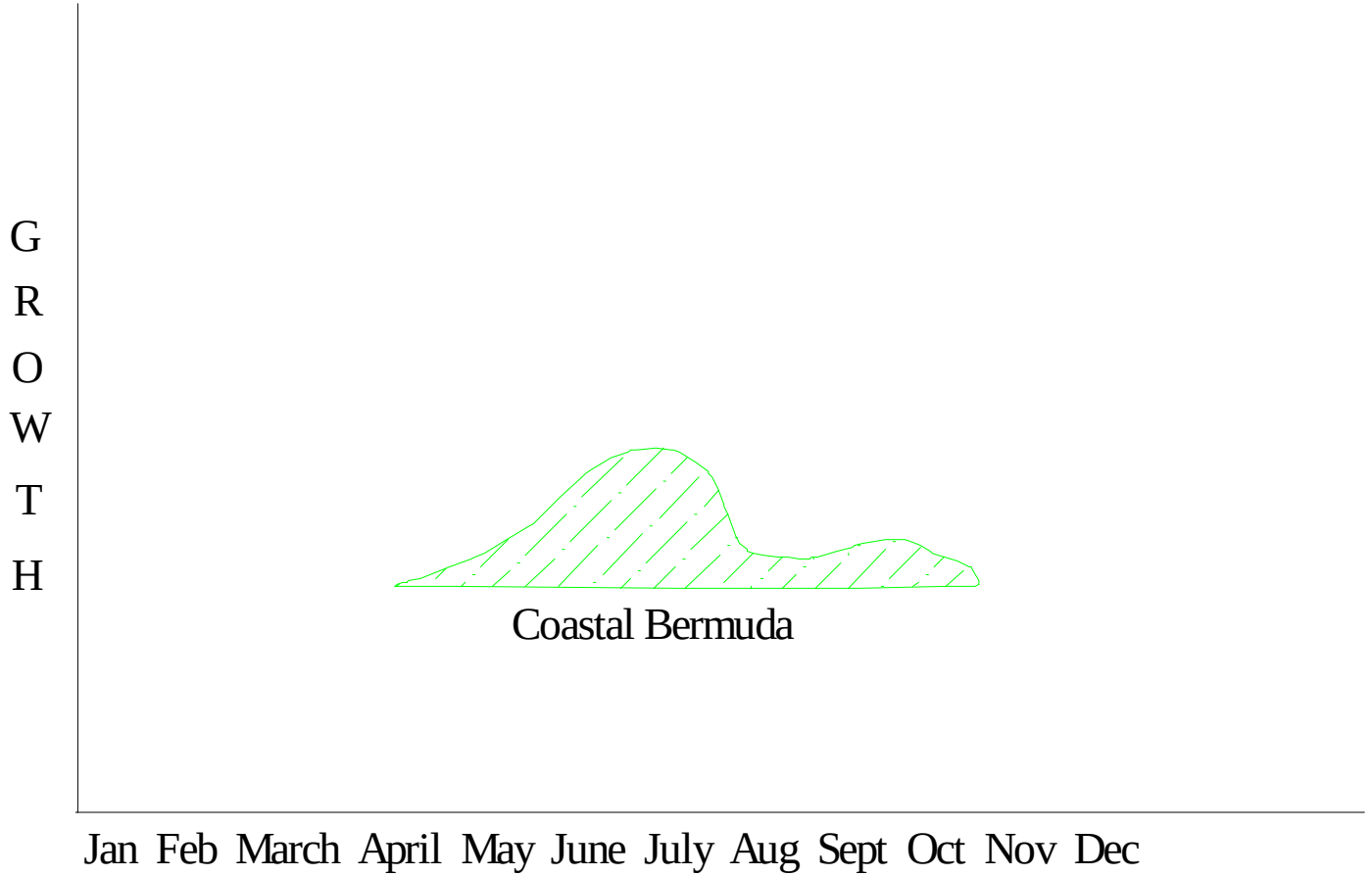
There are reasons that baby deer, elk, rabbits etc. are not born in the winter

- **The shorter the breeding season, the better the management that can be applied**
- **Nutrition**
- **Health**
- **Predators**
- **Marketing**

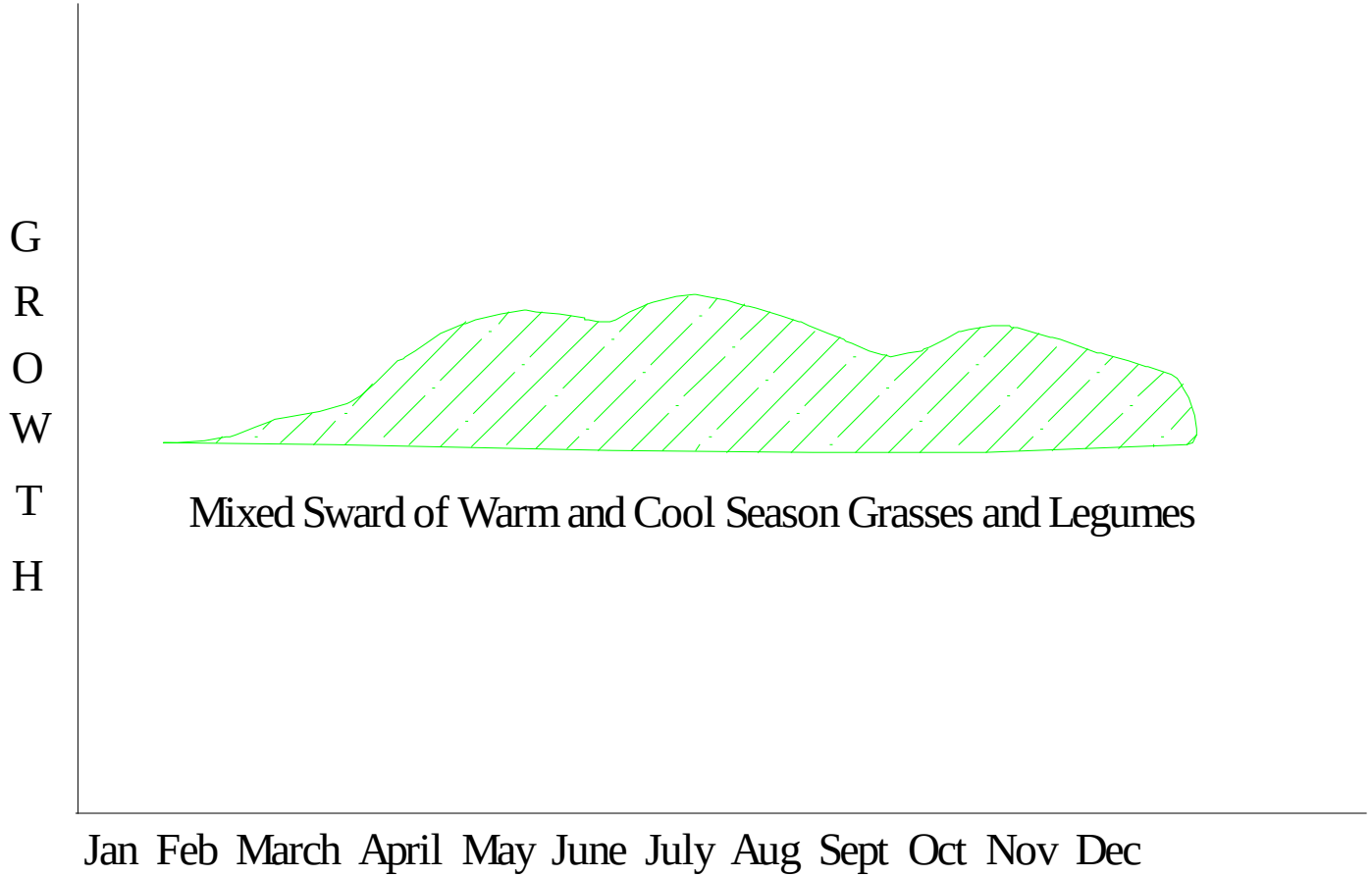
- **Maximize biological diversity**

- **Complex communities make the best use of available resources**

Bermuda Monoculture



Bermuda Plus Cool Season



- **Organisms – weeds, disease, insects, predators – rise to pest concentration only in simplified communities**