THE COLLEGE of AGRICULTURAL SCIENCES

COST EFFECTIVE DESTOCKING & SUPPLEMENTATION

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COLLEGE OF AGRICULTURAL SCIENCES
COLORADO STATE UNIVERSITY

ADAPTABILITY!

- “It is not the well adapted that will thrive, but the adaptable.”

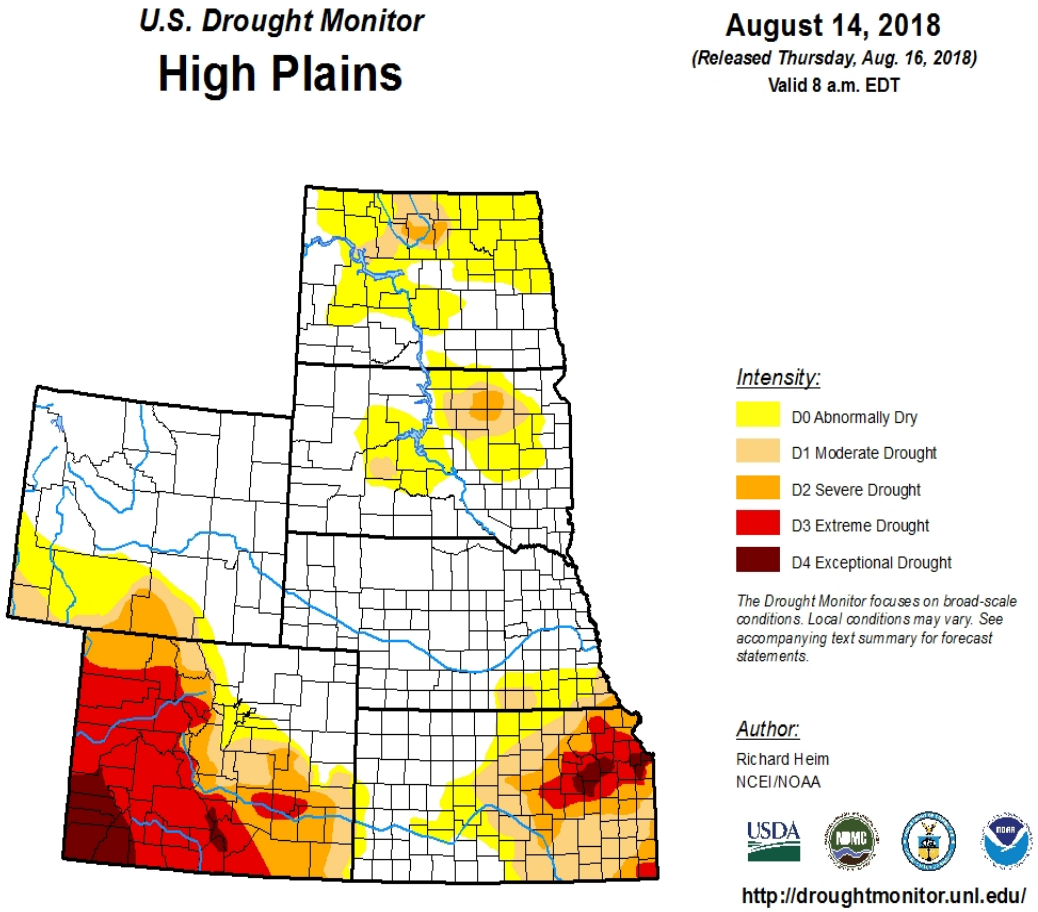
Michael Swanson, PhD

Chief Agricultural Economist

Wells Fargo

RISK #1- DROUGHT

- Ranching in the West
  - Low Precipitation
  - Variable Precipitation – Frequent Drought
- Must design a ranching system to reduce the known risk inherent to arid rangeland production!

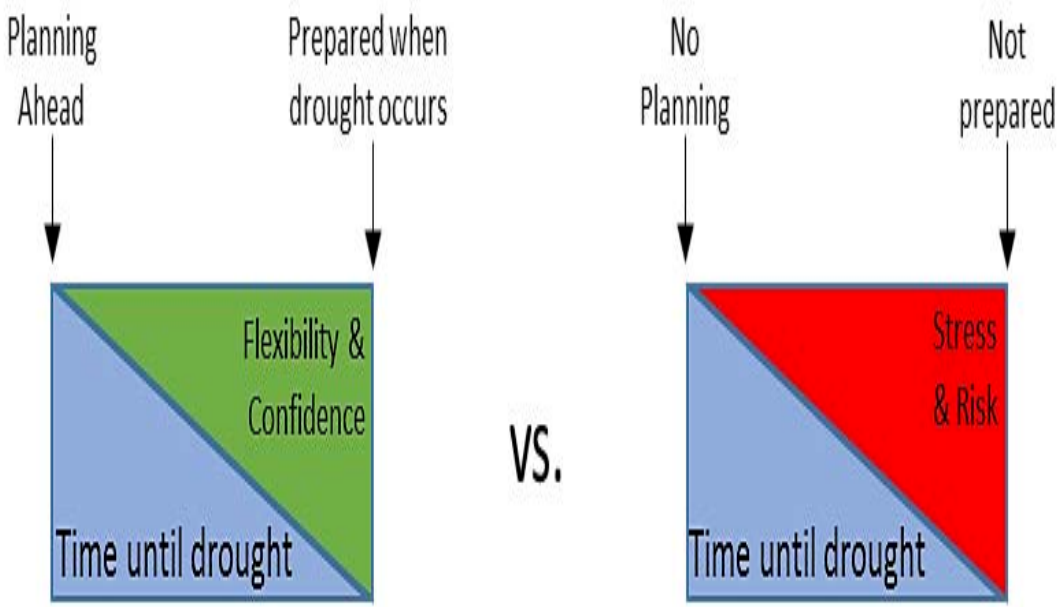


#1 RISK - DROUGHT

Drought Management Plan:

- Primary Objectives for Cow-Calf Enterprise

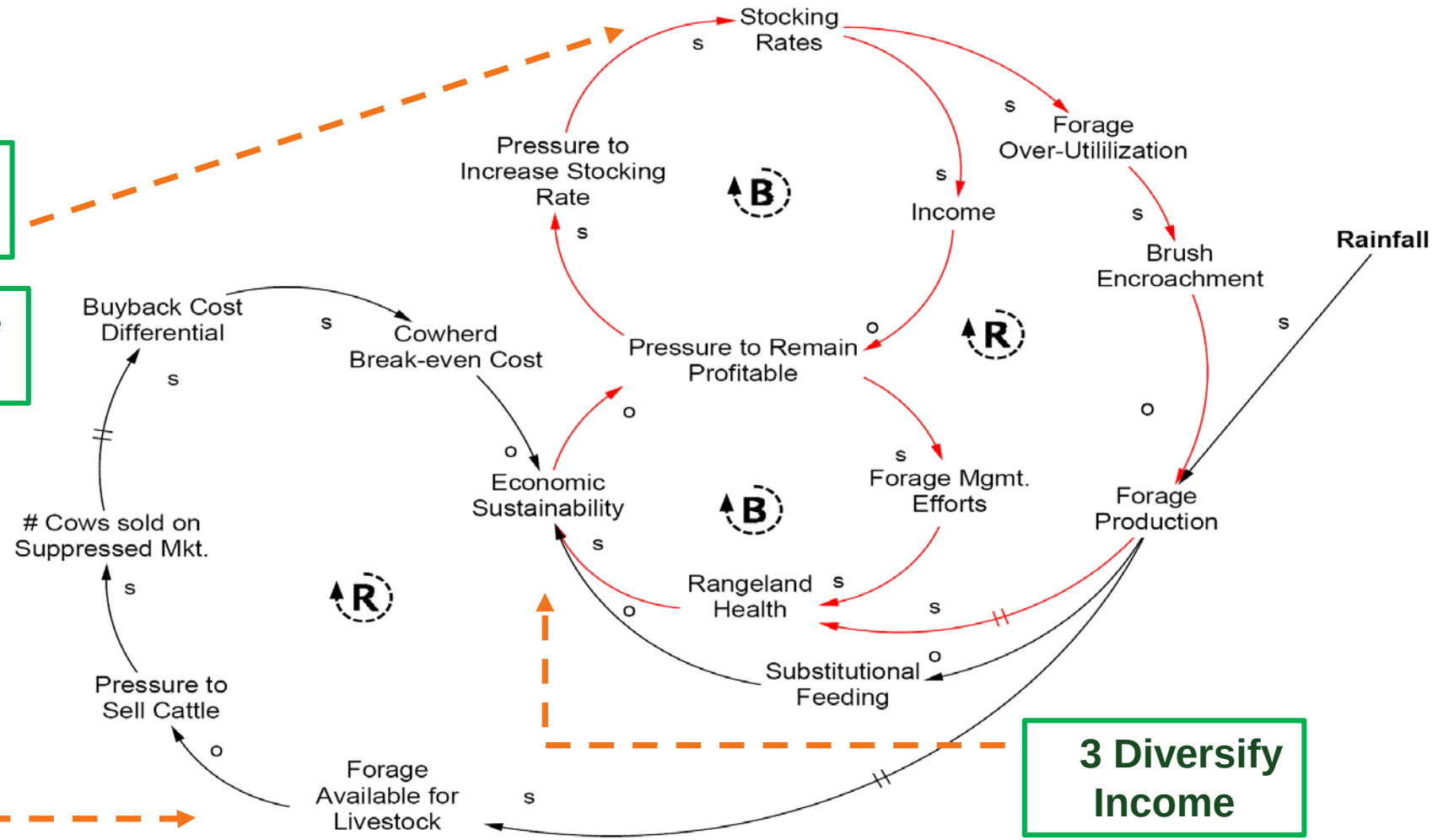
1. Minimize Negative Impact on Grazed Forage Resource
2. Keep Productive Cows in Herd
3. Stay Profitable



#1 RISK - DROUGHT

1 Flexible Enterprise

2 Infrastructure Development



3 Diversify Income

DESTOCKING

GROUND RULES

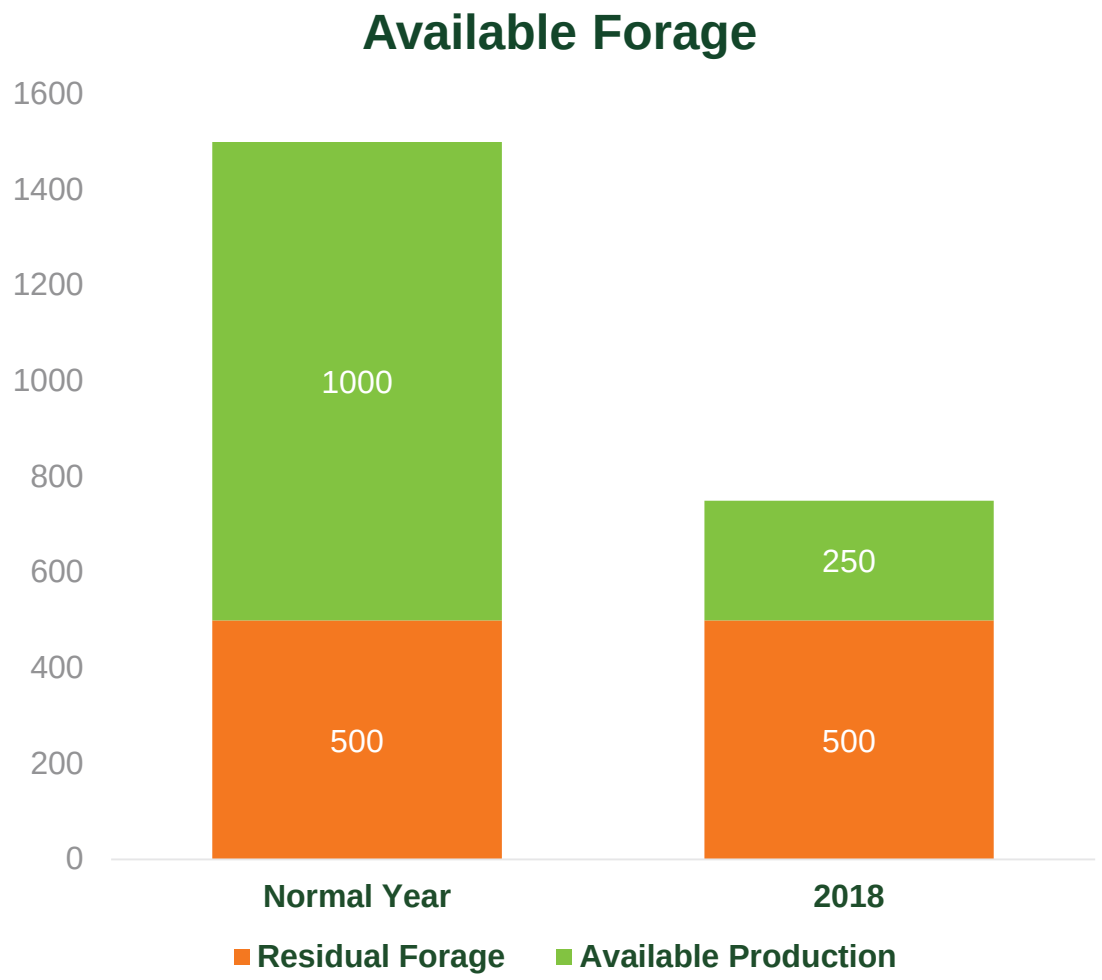
1. Must match stocking rate to ranch carrying capacity.
   - Carrying Capacity = Supply; Stocking Rate = Demand
2. Quick stocking adjustments result in less severe herd reductions in the future.
   - Can't feed out of drought (time, feed cost, markets).
3. Leave enough residual forage to capture limited precipitation.
   - Minimum of 50% total production. Good or bad year.
4. Overgrazing reduces long-term carrying capacity and ranch profitability.
   - TAMU Study- 50% reduction NI (10 year)- No destocking

Destocking:
1) Avoid Excessive Feed Costs and 2) Protect Resource Base

DESTOCK- BY HOW MUCH?

- Normal Total Production = 1500 lbs./acre
- Minimum Residual = 500 lbs./acre
- 2018 (50% of normal) = 750 lbs./acre
- Destock = 50%
  - This is correct, right?

Available Forage = 75%



MANAGEMENT OPTIONS

Early Weaning

1. Economical Decision
   - Milk production expensive
   - Reduce cow energy demand
   - Easy to cull cows and gather data
2. Guidelines
   - 100-150 days recommended
   - Under 90 days or 300 lbs. will require concentrate feeds
   - Day 1- 0.5% BW Diet & 0.5% BW Hay. Progressively increase Diet by 0.2% BW over 7 days.

Destocking

1. Easy Decisions
   - Open cows- Older cows with problems- Unused bulls
2. Use Production Records
   - Least Productive- Late calvers
   - Bad Mark System: Calving difficulty-LW calves-Bad attitude
3. Heifers vs. Cows
   - Depreciation vs. value of heifers
   - Feed requirements
   - New genetics and market outlook

COST EFFECTIVE FEEDING

STEPS BEFORE FEEDING

Need to assess the situation. Consider these three steps.

1 Cow Requirement	2 Assess Forage	3 Determine Supplement
• Stage of Production • Good Weight Estimate Critical • Focus on CP and TDN	• Forage or Fecal Sample Analysis • Color of Forage Is Easy Test • Estimate Available Forage	• Protein Needs To Be Adequate • Forage Supply Limited • Limitation Must Be Considered

SCENARIO ASSUMPTIONS

All situations will be different. This represents a good example.

1
Cows

- Mature 1020 lb BCS 4
- Increase to BCS 5 in 90 Days
- Dry- Early Weaned Calves

2
Feed

- Range Forage = 5%CP
- Crop Residues = 4% CP
- Grass Hay = 9% CP

3
Prices

- Low Quality Hay = $165 Ton
- Grass Hay = $255 Ton
- DDG ($175)- Corn ($220)- Barley ($260)

CURRENT FEED VALUES

- Comparison if corn is worth $7.60 per cwt ($220/ton).
- Equivalent value of other feedstuffs.
- If current price is below equivalent value, might be a good buy.

Item	$/Ton Equivalent Value	$/Ton Current Price
DDGS	$374	$175
Wheat Middlings	$272	$220
Barley	$257	$260

SCENARIO OPTIONS

Hay is expensive. Make the most economical decision.

1 Range Grazing	2 Limit Feed Drylot	3 Extend Range Alternative
• Poor Forage Present • Ranch Destocked Appropriately • Cost Effective Supplement	• Forage Severely Limited • Resources Available • Concentrates Less Expensive	• Forage Severely Limited • Drylot Not Good Option • Crop Residues Available

SCENARIO #1- GRAZING

- Protein supplement is required.
- DDGS are available.
- Cost- $0.35/hd/d
- Shadow Prices:
  - Corn- $168
  - Wheat- $171
  - Barley- $167

Ration	Lbs (AF)	% (DM)
Fall- Native Range	23.9	
DDGS	3.6	
Range Mineral	0.15	
Crude Protein	1.91	8.5
TDN	12.22	54.0

SCENARIO #1- GRAZING

- Frequency of delivery can reduce cost.
- > 30% CP can be feed 1-3X a week.
- < 30% CP need to be fed daily.

ITEM	Daily	3X Per WK	1X Per WK
Vehicle Cost			
Feeding	136.50	58.50	19.50
Checking Cows	0	0	19.50
Labor Cost			
Feeding	210.00	90.00	30.00
Checking Cows	0	0	22.50
Total Weekly Cost			
Vehicle	136.50	58.50	39.00
Labor	210.00	90.00	52.50
Combined Weekly Cost	346.50	148.50	91.50

Vehicle cost $0.65/mile; assumes 30 mile trip
Cows checked a minimum of twice per week
Labor cost $15/hr; feeding requires 2 hrs
Checks require 1 hr driving and 0.5 hr observing

SCENARIO #2- DRYLOT

- Limit feeding is required.
- DDGS and crop residues are available.
- Cost- $1.69/hd/d
- Mix Issues:
  - Add 2-5% Molasses
  - Up to 30% water by weight

Ration	Lbs (AF)	% (DM)
Crop Residue *Corn Stover-Oat Hay-Wheat*	11.7	
DDGS	8.1	
Range Mineral	0.10	
Crude Protein	3.21	17.0
TDN	12.67	68.0

SCENARIO #2- DRYLOT

Not For Everyone

1. More intensive management
2. Feed storage
3. Feed mixing-equipment
4. Drylot or sacrifice pasture
5. Feed bunks

Considerations

1. Method to limit roughage consumed daily.
   - Free-choice access will not work.
2. Feeding ration:
   - Fed separately (hay vs. mix)
   - Total mixed ration (grinder-processor)
   - Commercial hay grinding affordable alternative ($8-11)
3. Adaptation of ration:
   - Day 1- 75:25 Hay:TMR (2% BW)
   - Day 15- 100% TMR (1.6% BW)

SCENARIO #3- ALTERNATIVE

- Substitution of range is required.
- DDGS and crop residues are available.
- Cost- $2.17/hd/d
- Shadow Prices:
  - Corn- $162
  - Wheat- $168
  - Barley- $178

Ration	Lbs (AF)	% (DM)
Crop Residue *Corn Stover-Oat Hay-Wheat*	20.6	
DDGS	4.0	
Range Mineral	0.15	
Crude Protein	1.89	8.4
TDN	12.22	58.0

SCENARIO #3- ALTERNATIVE

- Treatment of low quality forage is an option.
- DDGS and crop residues are available.
- Cost- $2.02/hd/d

Ration	Lbs (AF)	% (DM)
Crop Residue *Corn Stover-Oat Hay-Wheat*	20.45	
DDGS	1.47	
Hay Treat	1.07	
Range Mineral	0.15	
Crude Protein	1.89	9.1
TDN	12.33	53.0

COW FEED COSTS

- Feed for next 120 days.
- Hay = $255/ton
- Hay = 22 lbs/day (2% BW). Supplement = 3 lbs/day
- Range assumes no pasture cost.

Ration	$/hd/d	Total Cost Per Cow
#1- Range Supplement	$0.35	$42
#2- Drylot Ration	$1.69	$203
#3- Crop Alternative	$2.02	$242
#4- Hay + Supplement	$3.06	$367

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THANK YOU!

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