

Economic Scenarios, Opportunities and Roadblocks

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Strategic Supplementation Strategies to Enhance Texas Rangelands and Reduce Livestock Production Costs

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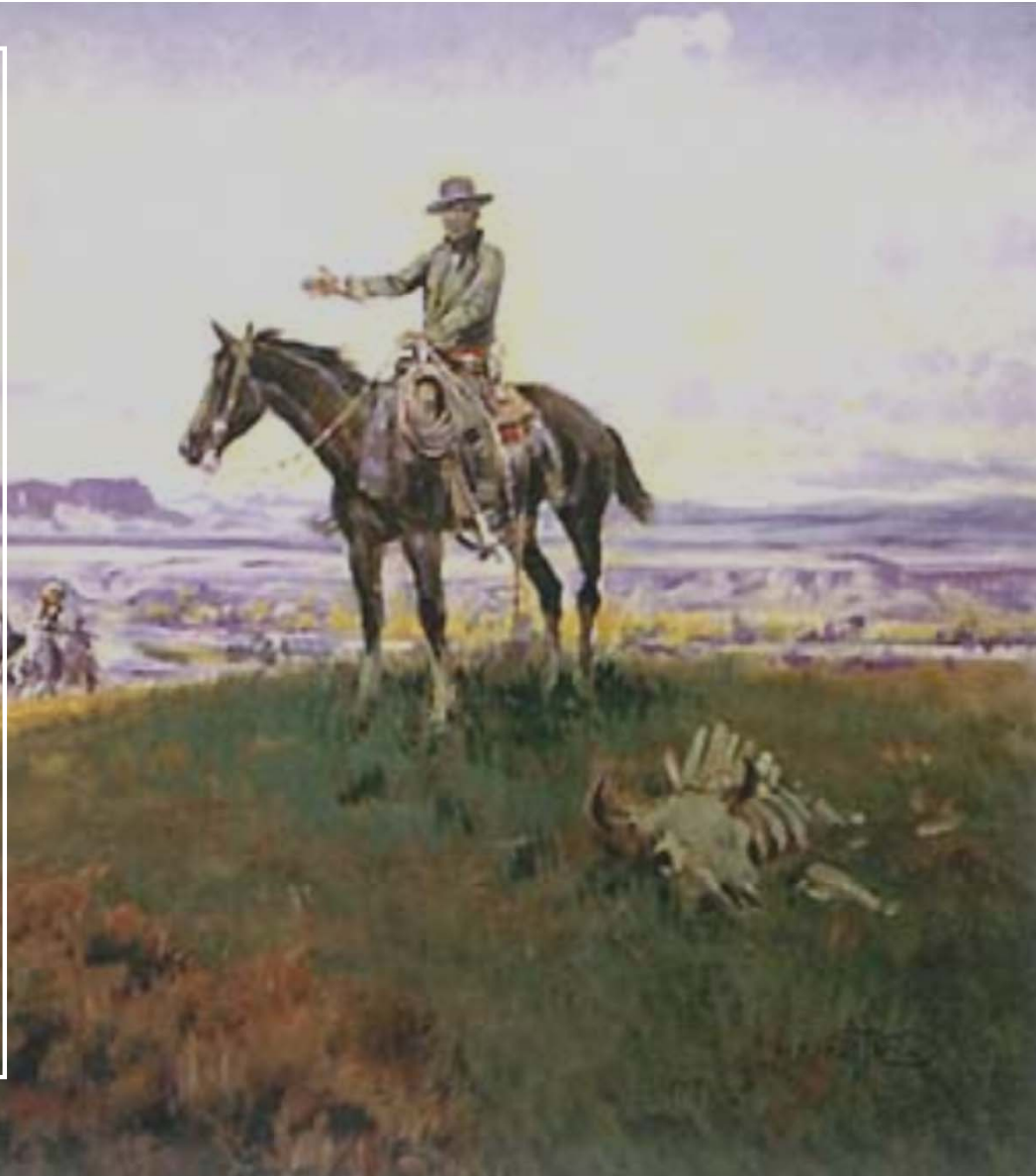
Strategic Supplementation

- Key Word here is *Supplementation*
- We want to supplement the nutritional needs of sheep, goats or cattle. Not replace the forage produced on rangelands.

Rangeland Production

- Native rangelands are still our least cost source of Forage
 - When Managed properly
 - When it rains

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Cow/Calf and Other Livestock Production Budgets

- Margins are tight, and always will be
- Sheep Budget is a commercial hair sheep budget.
- Goat Budget is a commercial meat goat budget.
 - This is the only one that is currently shows positive returns
- May not reflect your situation exactly, but you should be able to recognize things.
- I don't get too excited about sales prices, as I calculate Breakeven prices.

Cow/Calf Budget

Variable Cost: Comments

- Brush Control
- PRF Insurance
- Marketing Exp
- Not a drought budget
- Labor = Day labor

VARIABLE COSTS	Quantity	Units	\$/Unit	Total	Total
Production Costs					
Miscellaneous					
Supplies	5	Head	\$3.00	\$15.00	\$1,500.00
Predator Control - Ca	1	Head	\$3.85	\$3.85	\$385.00
Brush Control	30	Acre	\$1.00	\$30.00	\$3,000.00
PRF Rainfall Ins	30	Acre	\$0.85	\$25.50	\$2,550.00
Marketing Expense	1.00	AU	\$21.01	\$21.01	\$2,101.00
Feed					
Hay	0.3	Ton	\$105.00	\$31.50	\$3,150.00
Range Mineral	49.2	pound	\$0.40	\$19.68	\$1,968.00
Range Cubes 20%	0.2	Ton	\$280.00	\$56.00	\$5,600.00
			\$0.00	\$0.00	\$0.00
	0		\$0.00	\$0.00	\$0.00
Vet. Medicine					
Work Bulls	0.04	Hd	\$2.37	\$2.37	\$237.00
Work Cows	1	Hd	\$10.64	\$10.64	\$1,064.00
Work Calves	0.830	Hd	\$6.07	\$6.07	\$607.00
Fuel	1.0	AU	\$42.00	\$42.00	\$4,200.00
Lube (As a % of fuel)	10.0%	Percent	\$42.00	\$4.20	\$420.00
Repairs	1	AU	\$66.92	\$66.92	\$6,692.00
Labor	0.40	Hours	\$15.00	\$6.00	\$600.00
Utilities	1.00	AU	\$24.00	\$24.00	\$2,400.00
Interest on Credit Line			5.25%	\$16.63	\$1,663.00
Total Variable Costs				\$381.37	\$38,137.00

Cow/Calf Budget

Fixed Cost: Comments

- Management Depreciation
 - Not IRS Depr.
 - Equipment
 - Cattle (Bulls)
- Pasture Cost

FIXED COSTS	Quantity	Units	\$/Unit	Enterprise	
				Total	Total
Depreciation - Equipment	1	AU	\$ 72.72	\$72.72	\$7,271.76
Depreciation - Livestock	1	AU	\$ 15.96	\$15.96	\$1,596.20
Equipment Investment	\$177,685	dollars	3.25% ▲	\$57.75 ▲	\$5,774.76
Insurance/Taxes	1	AU	\$0.00	\$0.00	\$0.00
Management Fee, Owner/Operat	1	AU	\$0.00	\$0.00	\$0.00
Salaried Labor	1	AU	\$0.00	\$0.00	\$0.00
Pasture Cost	30	Acres	\$8.00	\$240.00	\$24,000.00
Total Fixed Costs				\$386.43	\$38,642.72
Total Costs				\$767.80	\$76,779.72
Planned Returns to Management, Risk, and Profit:				(\$111.22)	(\$11,122.02)
Average Calf Breakeven Price to Cover Total Costs			\$178.88	CWT	

Break Even Analysis

- I start with an 83% calf crop.

Sensitivity Analysis for Example				
Example Weaning Percent	Example Gross Sales per Animal Unit	Pounds Produced per AU	Example Breakeven Calf Pay Weight to Cover Total Cost	Example Average Breakeven Price to Cover Total Cost
89%	\$696.06	547	598	\$166.82
86%	\$676.32	534	623	\$172.64
83%	\$656.58	521	650	\$178.88
80%	\$636.84	507	681	\$185.58
77%	\$617.10	494	713	\$192.81
			Example Male Calf Price	\$153.70
			Example Female Calf Price	\$140.00
			Example Weighted Average Calf Price (\$/cwt)	\$148.61

Small Scale Cow/Calf operator

- We are replacing 400 lbs per cow of 20% range cubes
 - Not enough volume to justify the overhead of owning:
 - Hammer mill
 - Commodity Barn
 - We will need a Grinder/Mixer
 - \$12,500 Initial cost
 - \$4,000 SV (\$8,500 to depreciate)
 - 10 Yr estimated Life = \$850 annual Depreciation
 - Estimate \$400 annual repairs
 - Estimate \$406.25 in Interest on Investment
 - I'm assuming we can come up with some bunkline feeders



Small Scale Cow/Calf operator

- Buying hammermilled cedar for \$100/ton
 - Assuming a 20% loss without commodity barn
 - Net cost = \$120/ton
- Buying a premixed concentrate, most likely bagged
 - \$240/ton

Small Operation: Feed Components Delivered						
Alternative Feed Stuffs	Qty	Units	\$/Unit	Total \$/Hd	Total \$\$	
Hammermilled Cedar	60	Lb	\$ 0.06	\$ 3.60	\$ 360.00	
concentrate mix	340	Lb	\$ 0.12	\$ 40.80	\$ 4,080.00	
	Depr on Mixer/Grinder			\$ 8.50	\$ 850.00	
	Repairs on Mixer/Grinder			\$ 4.00	\$ 400.00	
	Interest on Mixer/Grinder			\$ 4.06	\$ 406.25	
				\$ 60.96	\$ 6,096.25	

Small Scale Cow/Calf operator

- Using cedar **is not** cost competitive as long as . . .
 - 20% cubes are less than \$305/ton.
 - They **are often** above \$300/ton
- My analysis assumes 100 cows. Even more expensive if supplementing fewer cows.

Larger Scale Cow/Calf operator (100+ Hd.)

	Purchase Price	Salvage Value	Estimated Life	Annual Depreciation	Annual Repairs
Commodity Barn 90X30	\$67,500	\$45,000	30	\$743	\$113
Mixer/Grinder	\$12,500	\$ 4,000	10	\$850	\$400
Hammer Mill (50 HP)	\$ 6,500	\$ 1,625	10	\$488	\$245
Conveyor System (1,500 – 2,000 lbs per Hr.)	\$ 3,000	\$ 300	7	\$386	\$315



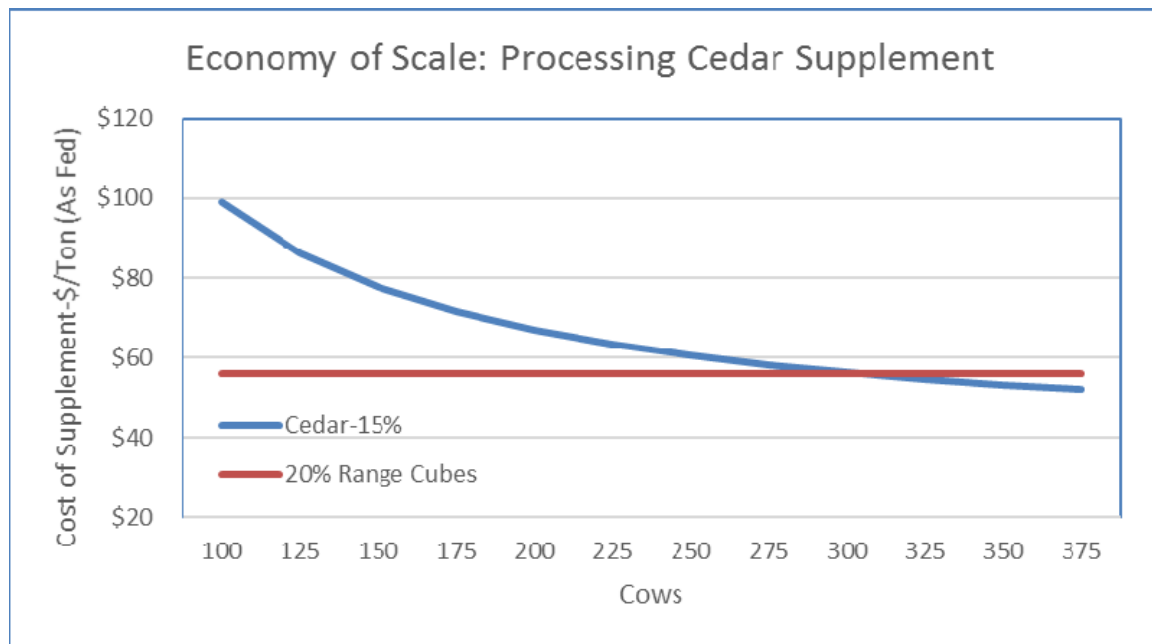
Large Scale Cow/Calf operator

- Buying chipped cedar for \$43.13/ton
 - \$30/ton Chips +
 - \$13.13/ton Trucking
- Buying a concentrate components, Bulk
 - \$196/ton - delivered

Large Operation (200 Cows): Delivered Chips						
	Alternative Feed Stuffs	Qty	Units	\$/Unit	Total \$/Hd	Total \$\$
	Cedar	60	Lb	\$ 0.02	\$ 1.29	\$ 258.78
	concentrate mix	340	Lb	\$ 0.10	\$ 33.32	\$ 6,664.00
Depr on Mixer, Hammermill/Conveyor & Commodity Barn					\$ 12.33	\$ 2,465.71
Rep. on Mixer, Hammermill/Conveyor & Commodity Barn					\$ 5.36	\$ 1,072.50
Int. on Mixer, Hammermill/Conveyor & Commodity Barn					<u>\$ 14.54</u>	<u>\$ 2,908.75</u>
					\$ 66.85	\$13,369.74

Larger Scale Cow/Calf operator (100+ Hd.)

- Economy of scale is key here as well. We need to spread overhead cost over more cows to make this truly economical



Large Scale Cow/Calf operator

- At 200 Cows:
 - Using cedar **is not** cost competitive as long as . . .
 - 20% cubes are less than \$334/ton.
 - Our overhead costs are similar to what I have listed
 - Do we have overhead bulk bins in place for some of the concentrate additives?
 - Do we already have a place to store chipped cedar?
 - De we already have a mixer wagon?

Drought Mitigation Strategies

- Ranching here in Texas we must have a drought contingency plan in place.
- Would having the ability to replace a sizeable percentage grazed forage with a wood based alternative justify slightly higher supplement costs?

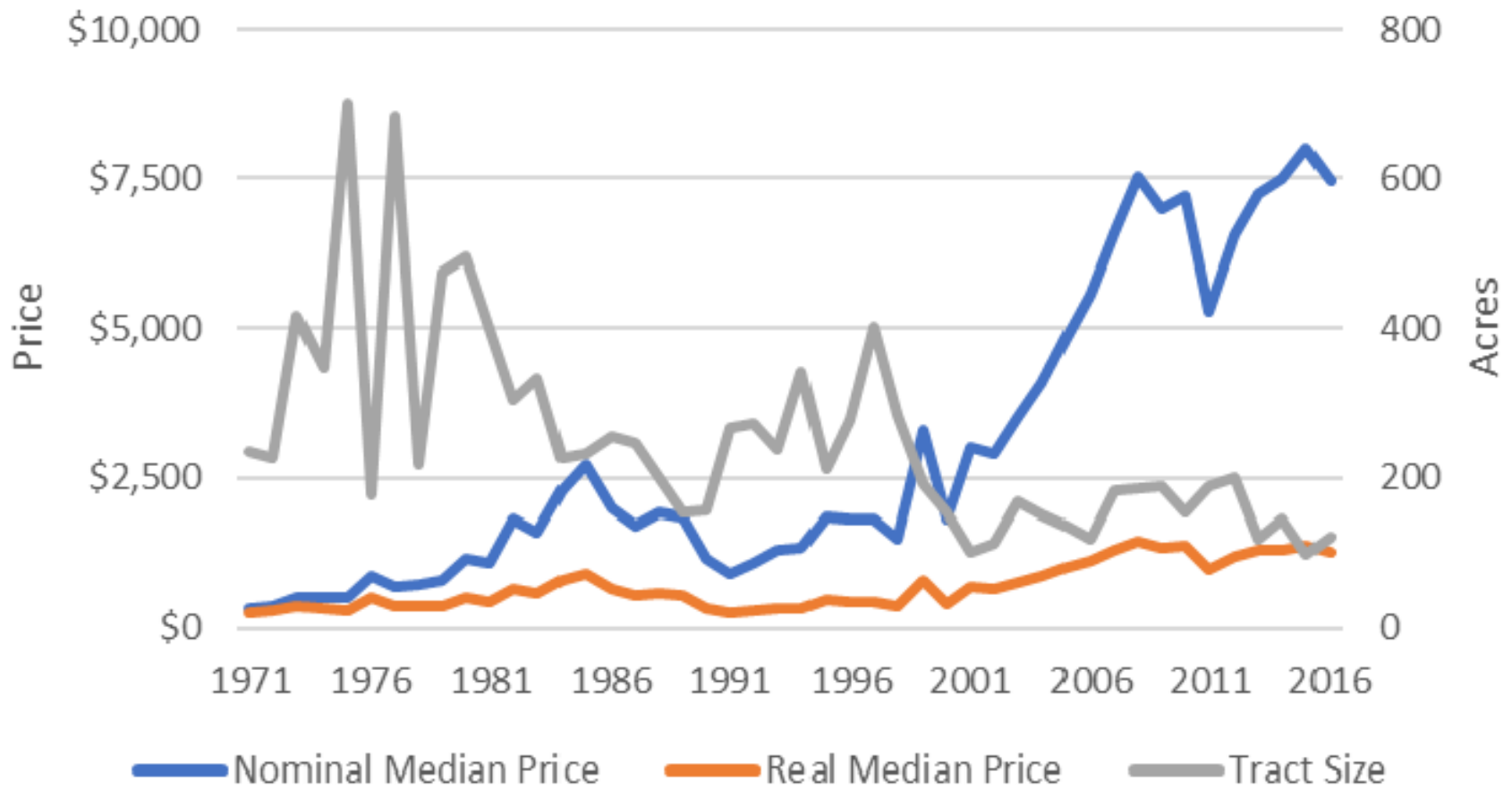


Texas Rain Gauge

Other Issues

- Demand for Hill Country Ranchettes - Picturesque “Sculpted” landscape
 - Market for produced cedar chips has not developed to the point of being marketed as a commodity.
 - Value of small acre tracts is making this feasible.
 - Where are they going with the chips?

Hill Country - South Land Price Data



Other Issues

- Ranch scale Brush Removal
 - Cost: Easily in the \$400/Ac range
 - Market channel for chips not fully developed
 - Makes it difficult to use the value of the chips to offset the cost of removing the trees
- Some estimates of Volume
 - 100 cedar trees/Acre can yield Approx. 15 tons of chips/Ac (300# DM/tree)
 - Supplemented at 60 lbs/Cow/Year (means we need 500 cows per acre cleared)

From an Economists Perspective

- The development of a market chain, making cedar chips more of an undifferentiated commodity will
 - Benefit small livestock operators
 - Just in time inventory system (Hand to mouth)
 - Will allow contractors to reduce tree removal costs because of the ability to sell the produced chips.
- It will take small feedyards and/or backgrounding operations to push the market in that direction.
 - Initially they will be some of the few operations requiring enough cedar tonnage spread their fixed costs over more units.

Questions



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