



Replacement Females: Buy or Raise?

MSU Extension Beef Nutrition Conference 2015.



Big Picture

Three Areas:

1. Strategic Business Considerations
2. Financial Capacity Considerations
3. Enterprise Economic Considerations



DISCLAIMER

It Depends ?



Strategic Business Considerations



Growth Strategies

- | | |
|------------------|--|
| Expand | <ul style="list-style-type: none"> • Frequently used • Incremental versus significant |
| Diversify | <ul style="list-style-type: none"> • Addition of new enterprises • May spread management too thin |
| Replicate | <ul style="list-style-type: none"> • Copy existing operation in a different site • E.g. multiple dairies |
| Integrate | <ul style="list-style-type: none"> • Moving forward, backward, or horizontal • E.g. grower-packer-shippers |

*Adapted from "Strategic Alternatives in Growth & Downsizing" by Alan Miller, Boehlje, and Dobbins



Rightsizing Strategies

- | | |
|----------------------------------|---|
| Focus/
Specialize | <ul style="list-style-type: none"> • Improve efficiencies and reduce costs |
| Intensify/
Modernize | <ul style="list-style-type: none"> • ↑ production through the same fixed asset base • ↓ production costs (e.g. double shifts) |
| Network | <ul style="list-style-type: none"> • Create economies of size • E.g. alliances, partnerships, etc. |
| Delay/
Wait & See | <ul style="list-style-type: none"> • Decision trigger is key • Not a long-term strategy |
| Downsize | <ul style="list-style-type: none"> • Doesn't necessarily mean business exit • May help improve focus and/or efficiency |

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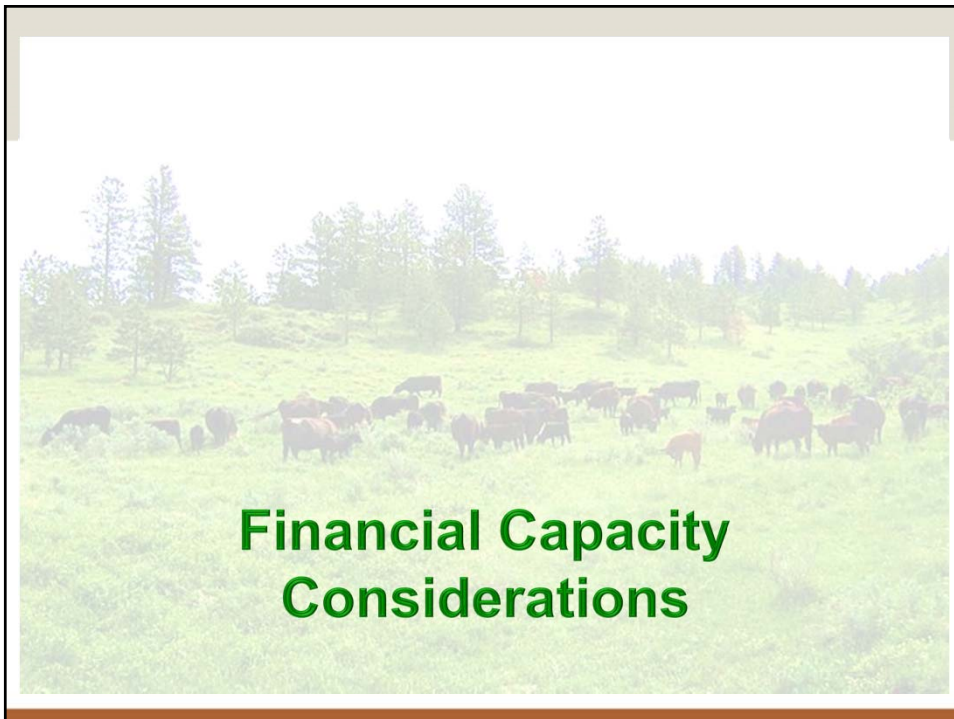


What is Your Business' Strategy?

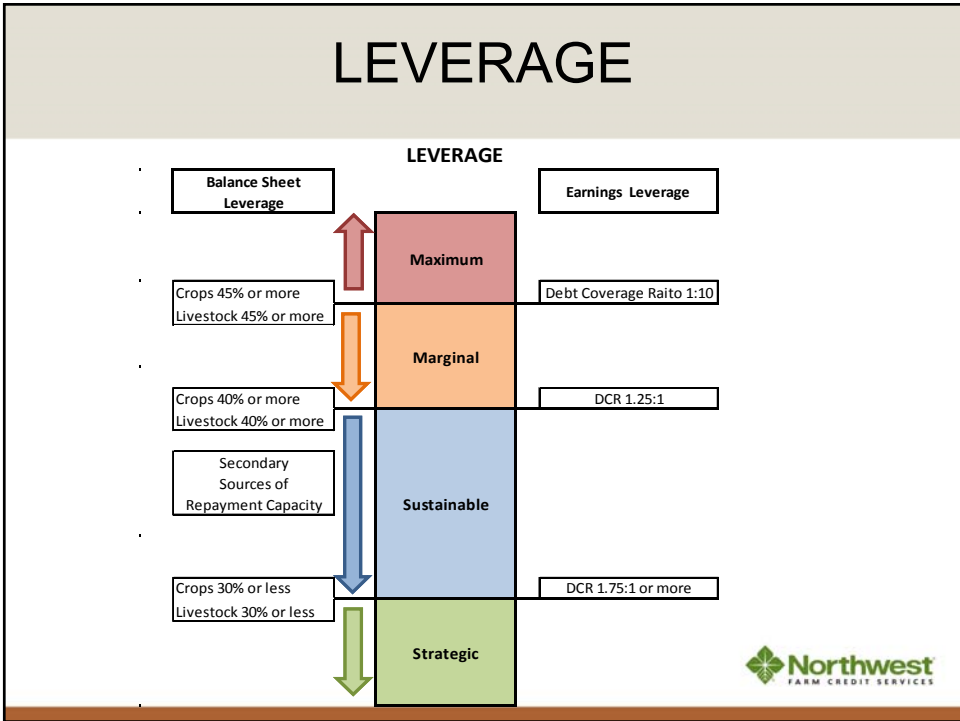
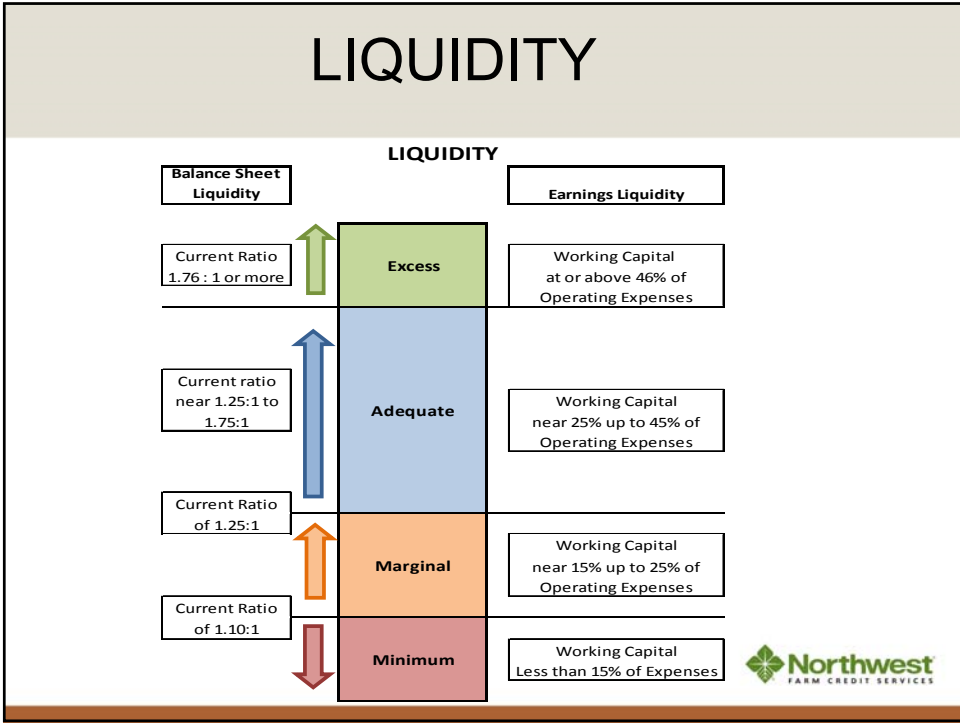
Growth	Rightsizing
Expand	Intensify/modernize
Diversify	Focus/specialize
Replicate	Network
Integrate	Delay/wait and see
	Downsize

- Every business involved in at least one alternative.

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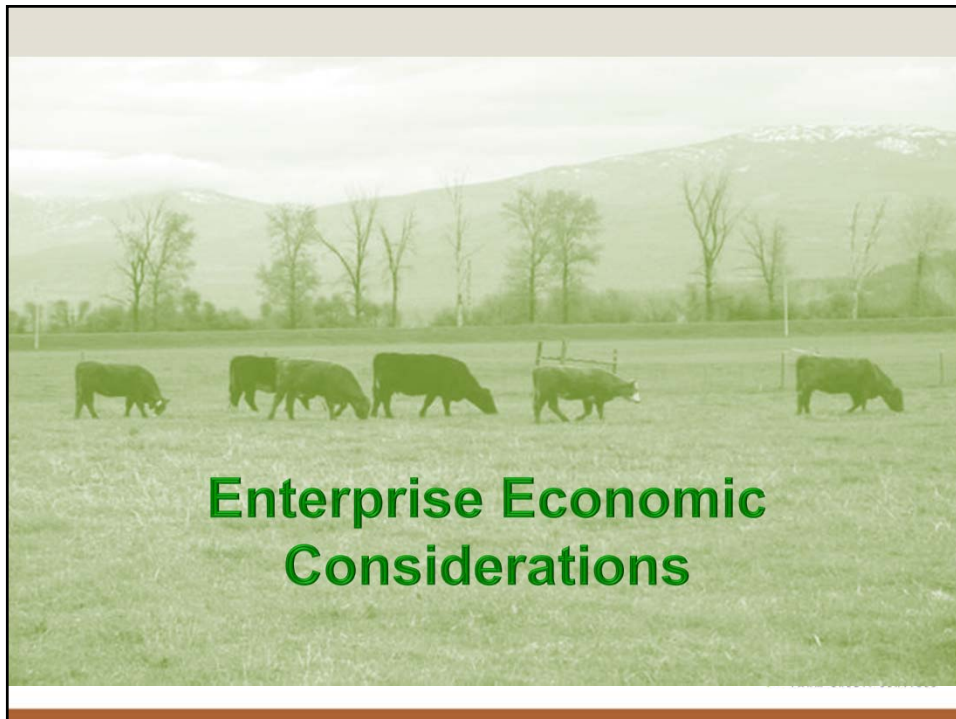
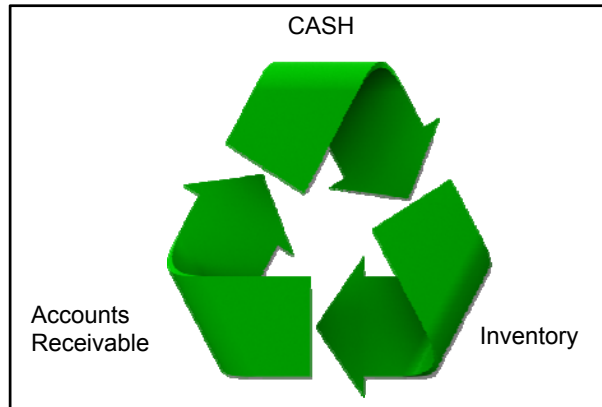


Financial Capacity Considerations



Cash Cycle – Operational Activities

- Cash moves as shown in the following diagram:



Enterprise Economic Considerations

Specific Genetic Goals.

Resources and facilities available.

Cost Structure.

Operational (Enterprise) Model.



Specific Genetic Goals.

- Reliable source for purchase.
- Reasonable cost of purchase.
- Need to Raise to meet goals?



Resources and facilities available.


- Owned?
- Leased?
- Custom Development?



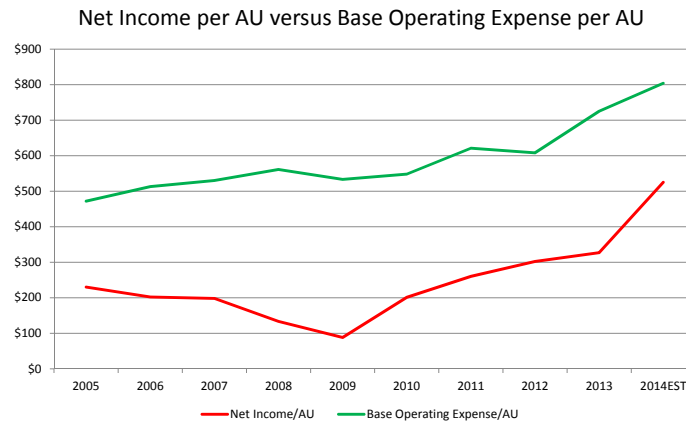
Cost Structure

	Cash Cow Cost		
Calf Price \$/pound	\$600	\$700	\$800
\$2.40	\$4,000	\$3,400	\$2,800
\$2.20	\$3,400	\$2,800	\$2,200
\$1.96	\$2,800	\$2,200	\$1,600
Assumptions:			
	Calf Weight 550#		
	Cow produces 7 calves		
	Annual cow cost increases 3% per year		
	Interest rate is 6%		
	Cull cow value estimates at \$1.04 / pound		

Chart based on Cattle Fax 2015 Data.



Cost Structure



Enterprise Economic Considerations

Enterprise Model

- Sell all calves – Purchase bred replacements.
- Sell calves – Retains replacement heifer calves.
- Sell all calves – Purchase replacement heifer calves.



Enterprise Model

Sell all calves – Purchase bred replacements.

- Reliable Source?
- Cost of purchase?
- Quality & condition?
- Timing of purchase?
- Calving window?
- Risks?



Enterprise Model

Sell calves – Retains replacement heifer calves.

- Opportunity costs?
- Cost of development?
- Cost of breeding?
- Cost of carry to calving?
- Risks?



Enterprise Model

Sell all calves – Purchase replacement heifer calves.

- Reliable Source?
- +Retained replacement consideration.
 - Opportunity costs?
 - Cost of development?
 - Cost of breeding?
 - Cost of carry to calving?
 - Risks?



Example

Buy?



Raise?



One Example

Buy	Raise
Cost of Purchase \$ 2,500	Value of heifer \$ 1,380
Transportation \$ 15	Interest cost (calf) \$ 45
Cost of feed \$ 100	Feed cost to calving \$ 358
Other costs \$ 42	Med & Vet \$ 32
Interest costs \$ 16	Labor cost (develop) \$ 225
Total Cost to Calving \$2,673	Cost of breeding \$ 44
	Other costs \$ 75
	Interest cost (devl) \$ 31
Cost Difference \$ 483	Total cost to Calving \$ 2,190

QUESTION: Should the comparison end here?



One Example

Additional Opportunity Cost

Assumptions:

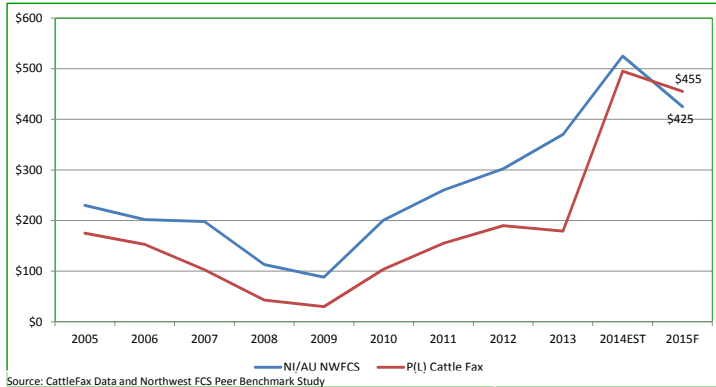
- 400 head cow herd with 10% culling annually.
- Requires 40 bred replacements.
- AU required per raised heifer to calving 0.8 AU
- Retention rate of raised heifer weaning to 1st preg. 85%
(48 head retained at weaning to have 40 bred)
- Change in stocking rate if bred heifers are purchased: 37 AU's.

Conclusion: Operation could run 37 more bred females using the resources devoted to raising replacement females.



One Example

Cow/Calf Profit (Loss), Cattle Fax vs. Net Income/AU NWFCS



Average net income per head \$455
Average net income X 37hd = \$16,835.00



Decision Help

Comparing Purchasing vs. Raising Beef Replacement Females

Spread sheet developed by Dr. Jack Whittier and Kevin Miller, CSU Beef Ext.

— CSU Extension web site.

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Decision Help

Comparing Purchasing vs Raising Beef Replacement Females

Cells that are highlighted can be modified by the user. Other cells in the spreadsheet are protected.
 Many cells with numbers are calculated based on the input in the highlighted cells. Formulas for these cells can be view by placing the cursor on the cell of interest.


Worksheet 1 - Change in net income if replacement heifer is purchased rather than raised.

Positive Effects to Consider in Decision

1	Enter net returns from sale of raised heifer calf	Calf Wt	580	Calf Price	\$ 2.44	\$ 1,415.20		
2	Enter interest on net returns from heifer calf sale	Calf Value	#####	Int rate	4.20%	Months	9	\$ 44.58
3	Total added returns							\$ 1,459.78

Reduced Costs

4	Enter value of hay fed to raised heifer calf	T of hay	2	\$/T	\$ 150.00	\$ 300.00				
5	Enter value of pasture grazed by raised heifer calf					\$ 80.00				
6	Enter value of salt and mineral for raised heifer calf					\$ 8.00				
7	Enter other feed costs for raised heifer calf					\$ 20.00				
8	Enter veterinary and medicine (including synch drugs) for raised heifer calf					\$ 12.00				
9	Enter value of labor and management for raised heifer calf	Hr of labor	12	\$/hr	\$ 15.00	\$ 180.00				
10	Computed share of bull costs for raised heifers	Enter bull's expected production lifetime	4	Annual bull costs	\$ 1,271.40	Females/Bull	30	Months	9	
		Feed	\$ 410							
		Non-feed operating	\$ 135							
		Depreciation	\$ 550							
		Interest	4%	\$ 176						
		Purchase cost	\$ 4,200							
		Salvage	\$ 2,000							
11	Enter other non-feed costs for raised heifer calf									\$ 35.00
12	Enter interest on feed and nonfeed costs of raised heifer calf	Sum of lines 4 to 11	\$ 666.79	Interest	4%	Months	9	\$ 10.50		
13	Total reduced costs (sum of lines 4 to 12)							\$ 677.29		
14	Total positive effects (line 3 + line 13)							\$ 2,137.07		



Thank You !

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