



Investing in Reproductive Management



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Missouri Beef Cow-Calf Planning Budget

Table 1. Missouri beef cow-calf planning budget for 2024.

	Fall calving per cow ¹	Spring calving per cow ¹	Your estimate
Income over operating costs	158.35	193.83	
Income over total costs	-134.12	-103.64	

<https://extension.missouri.edu/publications/p679>

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Table 2. Income assumptions used in Missouri beef cow-calf planning budget for 2024.

Category	Percent	Weight (pounds)	Price per cwt	Calf crop (percent weaned)	Dollars per cow
Fall calving					
Steer	50	590	305.04	88	791.88
Heifers	50	550	279.12	88	675.47
Cull cows	12	1,250	100.00		150.00
Spring calving					
Steer	50	590	309.19	85	775.29
Heifers	50	550	283.27	85	662.14
Cull cows	14	1,250	100.00		175.00

Abbreviations: cwt = hundredweight

Table 3. Other assumptions used in Missouri beef cow-calf planning budget for 2024.

Selected input quantities	Per unit	Selected input prices	Dollars per unit
Labor, hours per cow	8	Labor cost, per hour	17.70
Fall calving cows replaced, percent	13	Heifer replacement value, per head	2,500.00
Spring calving cows replaced, percent	15	Bull value, per head	4,000.00

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Table 4. Feed requirements in Missouri beef cow-calf planning budget for 2024, on a per cow basis.

	Cost per unit	Cow (units)	Calf (units)	Bull ² (units)	Total units	Total cost per cow ³
Fall calving						
Pasture, per animal unit equivalent	18.00	10.5 ¹		0.5	11.0	198.36
Harvested forage, per pound	0.08	4,392.0	510.0	240.0	5,142.0	411.36
Protein supplement, per pound	0.1375	180.0		7.2	187.2	25.74
Salt and mineral mix, per pound	0.6	91.3			91.3	54.75
					Total	690.21
Spring calving						
Pasture, per animal unit equivalent	18.00	10.5 ¹		0.5	11.0	198.36
Harvested forage, per pound	0.08	4,099.5		240.0	4,339.5	347.16
Protein supplement, per pound	0.1375	90.0		3.6	93.6	12.87
Salt and mineral mix, per pound	0.6	91.3			91.3	54.75
					Total	613.14

¹ Cow and calf requirements are combined for pasture animal unit equivalents.
² Bull feed units are based on 4 percent of its total need being allocated to cow-calf enterprise.
³ Totals may not sum due to rounding.

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	Fall calving per cow ¹	Spring calving per cow ¹	Your estimate
Income			
Steer calf sales	791.88	775.29	
Heifer calf sales	675.47	662.14	
Cull cow sales	150.00	175.00	
Total income	1,617.35	1,612.44	

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	Fall calving per cow ¹	Spring calving per cow ¹	Your estimate
Operating costs			
Pasture (rental rate)	198.36	198.36	
Feeds, mineral and stored forage	491.85	414.78	
Labor	141.60	141.60	
Veterinary, drugs and supplies	37.50	37.50	
Marketing	40.43	40.31	
Machinery and utility costs	124.58	115.24	
Livestock facility repairs	8.50	8.50	
Cow replacement	325.00	375.00	
Bull cost	35.00	35.00	
Professional fees (legal, accounting, etc.)	1.00	1.00	
Miscellaneous expense	6.00	6.00	
Operating interest	49.18	45.32	
Total operating costs	1,459.01	1,418.61	

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	Fall calving per cow ¹	Spring calving per cow ¹	Your estimate
Total operating costs	1,459.01	1,418.61	
Ownership costs			
Depreciation on facilities and equipment	9.10	9.10	
Interest on breeding stock, facilities and equipment	234.85	239.35	
Insurance/taxes on breeding stock and capital items	48.52	49.02	
Total ownership costs	292.47	297.47	
Total costs	1,751.48	1,716.08	

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"Real benefits come when managers begin to understand the profound difference between 'cost cutting' and 'eliminating the causes of costs.'"

Brian Joiner in *Fourth Generation Management: The New Business Consciousness*

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BEEF[®]



Rational ranching: Make the time to "Think Slow"

Is that cull cow a good return in enterprise accounting?

Jordan Thomas, Ph.D., State Cow-Calf Extension Specialist - University of Missouri | Mar 16, 2021

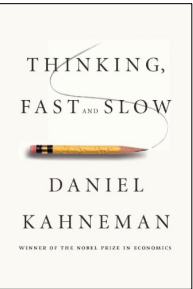
<https://www.beefmagazine.com/beef/rational-ranching-make-time-think-slow>

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Are We Getting in Our Own Way?

- Much of the limitation is from mindsets we need to overcome
- We are not fully rational creatures
- System 1 Thinking
 - Fast, instinctive, emotional
- System 2 Thinking:
 - Slower, more deliberate, logical

THINKING,
FAST AND SLOW



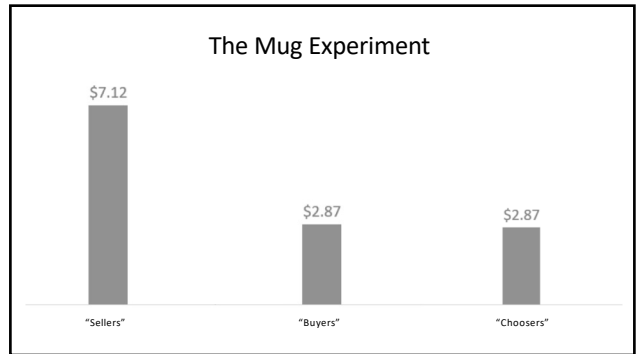
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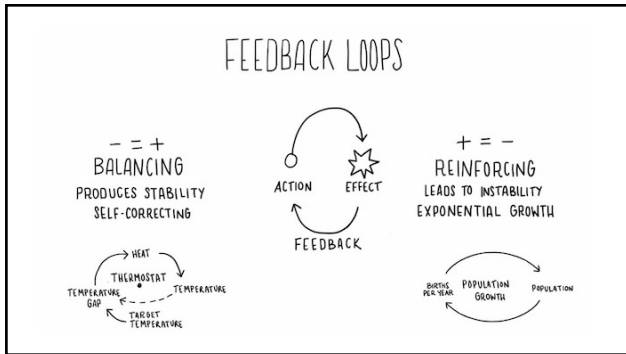
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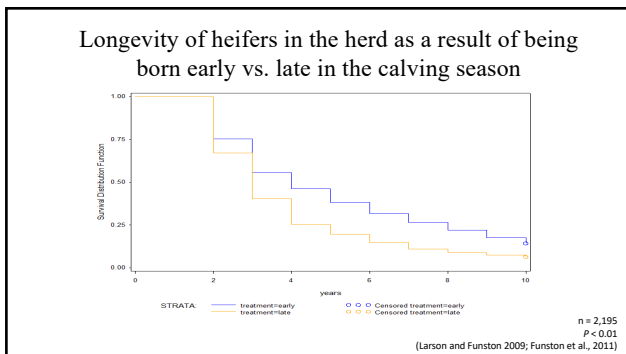
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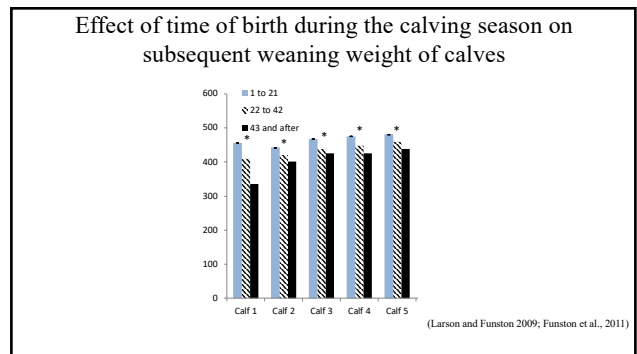
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“Vicious Cycles” vs “Virtuous Cycles”

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	Birth Date of Heifers		
	First 21 Days	Second 21 Days	Third 21 Days
Cycling before beginning of first breeding season	70% ^a	58% ^b	39% ^c
Calve in first 21 days of calving season	81% ^x	69% ^y	65% ^y

(Funston et al., 2012)

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Facilitating Expanded Use of Sex-Selection in the Commercial Beef Industry

Purpose/Vision: Increase adoption of technologies that enable beef cattle producers to select the sex of calf produced in matings

Lead PD and Institution: J.M. Thomas — University of Missouri

USDA-NIFA Critical Agricultural Research and Education (CARE) Program
Award Number: 2022-68008-36646

Division of
Animal Sciences
University of Missouri

USDA NIFA

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Heifers
“Replacement” versus “Replacement Candidate”

- Until a heifer is confirmed pregnant to calve in the earliest portion of your calving season, she is only a replacement *candidate*
- Don't sell yourself poorly profitable, late-conceiving replacement heifers just because you happen to be both the seller and the buyer

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Cows
“Culling” versus “Marketing”

- We actually buy every cow every production cycle
- Pregnancy diagnosis allows us to strategically market cows that are likely to fail to conceive next year
- Marketing this cows “a year ahead of time” means selling them when they are pregnant and younger instead of open and older

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Whole System Management of Beef Cattle Reproduction



Extension

New Publication from MU

- Selection of Replacement Heifers for Commercial Beef Cattle Operations
- Calving Season Considerations for Commercial Beef Cattle Operations
- Determination of Pregnancy Status in Beef Cattle Herds
- Understanding and Minimizing Pregnancy Loss in Cattle
- Herd Health and Reproductive Efficiency of Beef Cattle
- Production Records for Commercial Cow-Calf Operations
- Reproductive Management of *Bos indicus*-influenced Beef Cattle
- Managing the Effects of Stress and Temperament on Beef Cattle Reproduction
- Cow-Calf Systems that Minimize Cow Depreciation Costs
- Determining Reproductive Fertility in Herd Bulls
- Nutritional Management of Developing Heifers: Intensive Versus Extensive Systems
- Beef Cow Nutrition Through the Year: Managing for Efficient Reproduction
- Body Condition Scoring of Beef Cattle
- Reproductive Anatomy and Physiology of the Cow
- Reproductive Anatomy and Physiology of the Bull
- Detection of Estrus in Beef Cattle
- Guide to Estrus Synchronization Products
- Estrus Synchronization Recommendations for Artificial Insemination of Beef Cows
- Estrus Synchronization Recommendations for Artificial Insemination of Beef Heifers
- Served Semen for Artificial Insemination: Recommendations and AI Approaches
- Estrus Synchronization Recommendations for Natural Service Bull Breeding
- Systems to Facilitate Multiple Services of Artificial Insemination in Beef Herds
- 7 & 7 Synch: An Estrus Synchronization Protocol for Postpartum Beef Cows
- Split-Time AI
- Care and Maintenance of a Liquid Nitrogen Tank
- Preparation and Handling of Catheters for Artificial Insemination of Cattle
- Artificial Insemination of Cattle: Step by Step
- Facilities for Artificial Insemination of Beef Cattle
- The Random Shuffle of Genes: Putting the E in EPD
- Decreasing Generation Interval to Increase Genetic Progress
- Hair Shedding: A Tool to Select Heat Tolerant Cattle
- Crossbreeding Systems for Small Herds of Beef Cattle

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