

# Is Creep Feeding Beef Calves Profitable?

WAEA Meeting  
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# **The Interaction of Biology, Markets and Costs on the Profitability of Creep Feeding Beef Calves**

## Objective

- What affects profitability when creep feeding?
- What biological factors can change to make it more profitable?
- Increase costs while also increasing returns



## Animal Science View

- Creep feeding has shown to significantly increase calf BW at weaning
  - Broadhead et al.,2016
- Creep feeding has also shown to increase costs without increasing returns
  - Broadhead et al.,2016

# Biology (The Experiment)

- D.L. Broadhead, M. Stockton, L.A. Stalker J.A. Musgrave, R.N. Funston
- 3 year experiment
  - 120 crossbreed (3/4 Red Angus, 1/4 Simmental)
  - UNL Gudmundsen Sandhills Laboratory, Whitman, Nebraska



# Biology

**4**x2

## ■ 4 groups of late gestation supplementation:

- Control ----> 1) 0 kg/(cow x d) Dec 1 to Mar 1 (DM0)
- 90 days ----> 2) 0.41 kg DM/(cow x d) Dec 1 to Mar 1 (DM1)
- 45 days ----> 3) 0.41 kg DM/(cow x d) Jan 15 to Mar 1 (JM1)
- 45 days ----> 4) 0.82 kg DM/(cow x d) Jan 15 to Mar 1 (JM2)

# Biology

4x2



## ■ Creep Feed Calves:

Creep --->

**1) Unrestricted access to creep feed (Accuration, Purina Animal Nutrition)(Creep)**

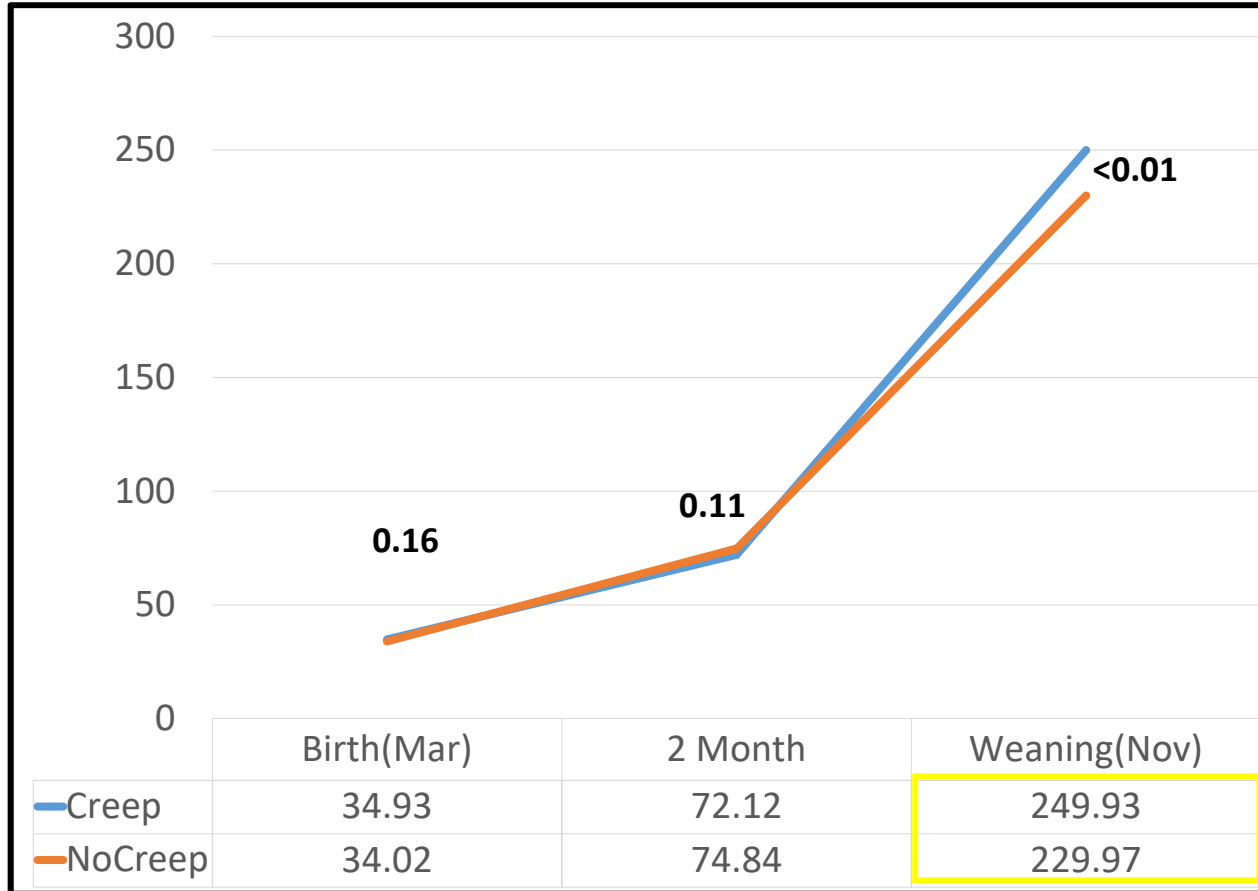
Control --->

**2) No access to creep feed (NoCreep)**

- Creep treatment occupied 2 separate pastures with creep feeders
- 1.2 kg DM/(calf • d)

# Biology

## Creep vs No Creep BW:





## Biology

- Carcass data was collected 24 h following slaughter (Tyson Fresh Meats, Lexington, NE)
- Final BW calculated from HCW based on 63% dressing percentage

## Main effect of Creep Feed on Carcass Evaluation

	Creep	NoCreep	P-Value	SE
Live Weight	602	582	0.04	14
HCW, kg	379	367	0.04	8
12 <sup>th</sup> Rib fat, cm	1.50	1.30	<0.01	0.03
Marbling	474	463	0.59	29
LM, cm <sup>2</sup>	90	90	0.31	29
Yield Grade	3.1	2.8	0.06	0.20

# Economics

	2014	2015	2016
<b>Section I Feed Intake</b>			
	<u>lbs/hd/day</u>	<u>lbs/hd/day</u>	<u>lbs/hd/day</u>
Average daily feed intake	2.72	3.33	5.5
Pounds of feed consumed	272	333	550
<b>Section II Creep Feed Performance</b>			
	<u>lbs/hd/day</u>	<u>lbs/hd/day</u>	<u>lbs/hd/day</u>
Average additional daily weight gain	0.337	0.652	0.453
	<u>lbs feed</u>	<u>lbs feed</u>	<u>lbs feed</u>
Pounds of feed to one pound of gain	8.07	5.11	12.14
	<u>\$/lb gain</u>	<u>\$/lb gain</u>	<u>\$/lb gain</u>
Costs of feed per pound of gain	\$1.34	\$1.06	\$1.69
	<u>\$/lb feed</u>	<u>\$/lb feed</u>	<u>\$/lb feed</u>
Feed cost per pound of feed	0.166	0.208	0.139

# Economics

## Section IV Costs of creep feeding

	\$/Hd	\$/Hd	\$/Hd
Added costs of creep feeding	\$45.16	\$69.11	\$76.56
Equipment costs	\$10.42	\$10.42	\$10.42
Labor and management costs	\$13.82	\$16.46	\$19.21
Transportation costs	\$1.57	\$1.35	\$1.39
<b>Total costs</b>	<b>\$70.97</b>	<b>\$97.34</b>	<b>\$107.58</b>



# Economics

## Average Market Price Comparison (Weaning)

Year	Creep		NoCreep		Creep		NoCreep	
	Calf wt (lbs)	Mkt value	Calf wt (kg)	Mkt value	Diff	Value	Value	Diff
2014	523	\$2.80	489	\$3.06	\$0.26	\$1,463.85	\$1,496.63	(\$32.78)
2015	566	\$2.02	501	\$2.12	\$0.10	\$1,143.30	\$1,061.47	\$81.84
2016	572	\$1.46	526	\$1.56	\$0.10	\$834.52	\$821.04	\$13.48

# Economics

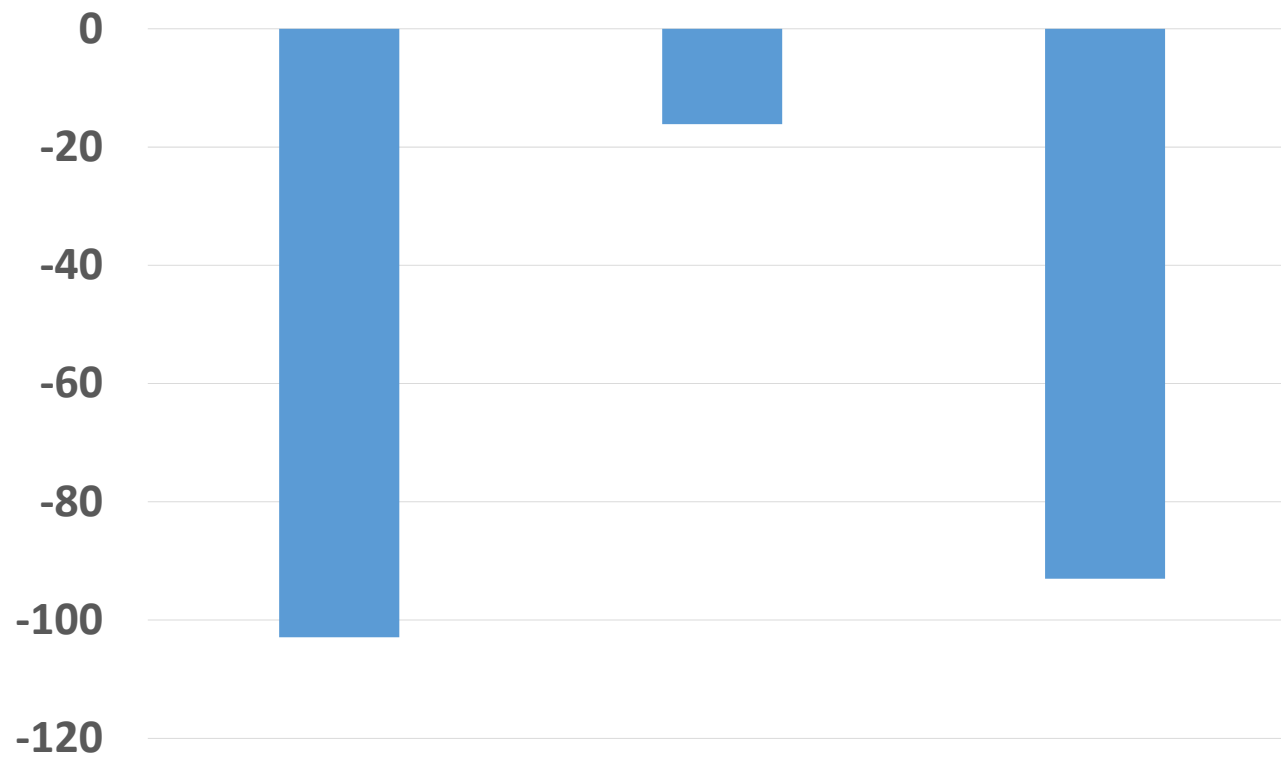
## Section III Revenue Summaries

<b>Calf revenue without creep feed</b>	<u>lbs/hd</u>	<u>lbs/hd</u>	<u>lbs/hd</u>
Calf weaning weight	489	501	526
	<u>\$/lb</u>	<u>\$/lb</u>	<u>\$/lb</u>
Market value @ weaning	\$3.06	\$2.12	\$1.56
<b>Total Revenue</b>	<b>1496.34</b>	<b>1062.12</b>	<b>820.56</b>
<b>Calf revenue with creep feed</b>	<u>lbs/hd</u>	<u>lbs/hd</u>	<u>lbs/hd</u>
Calf weaning weight	523	566	572
	<u>\$/lb</u>	<u>\$/lb</u>	<u>\$/lb</u>
Market value at weaning	\$2.80	\$2.02	\$1.46
<b>Total Revenue</b>	<b>1464.40</b>	<b>1143.32</b>	<b>\$835.12</b>
	<u>\$/Hd</u>	<u>\$/Hd</u>	<u>\$/Hd</u>
<b>Additional revenue from creep feeding</b>	<b>-\$31.94**</b>	<b>\$81.20</b>	<b>\$14.56</b>

# Economics

## Section V Net Return of creep feeding

	<u>\$/Hd</u>	<u>\$/Hd</u>	<u>\$/Hd</u>
*Profit/Loss	-\$102.91	-\$16.14	-\$93.02



# Economics

## Price Slide Effect

	<b>2014</b>	<b>2015</b>	<b>2016</b>
Price Slide Effect	-\$135.98	-\$56.60	-\$57.20
Size Effect	\$104.04	\$137.80	\$71.76
Overall Effect	<i>-\$31.94</i>	\$81.20	\$14.56

*italics* - indicate an unusual relationship, opposite of normal





# Economics

## Implications

- Increased calf weight and added revenue did not offset the cost of creep feed
- Due to:
  - Feed efficiency/efficacy
  - Price slide effect
  - Feed costs

## Economics

### Implications

- Feeding calves in the NE Sandhills was not profitable when calves were sold at weaning or slaughter Factors when altered

**Questions?**

