

## PRODUCTION SYSTEMS

Terry Klopfenstein, Will Griffin,  
Aaron Stalker, Dan Adams,  
Darrell Mark

## Ethanol

- \$4 - 5/bu corn?
- Be prepared
- Forages and Byproducts

## Opportunities

- Feedlot in weights ↑
- Backgrounding ↑
- Hypothesis –  
Forage Gains Cheaper



## Yearlings Versus Calf-feds

- Eight years
- 804 calf-feds in 80 pens
- 642 lb calf-feds
- 302 yearlings in 18 pens
- 526 lb yearlings (as calves)

## Animal Performance

Item	Calf-fed	Yearling	Diff.
Initial BW, lbs	642 <sup>b</sup>	526 <sup>c</sup>	-116
FIWT, lbs <sup>a</sup>	642 <sup>c</sup>	957 <sup>b</sup>	315
Final BW, lbs	1282 <sup>c</sup>	1365 <sup>b</sup>	83
DMI, lbs/d	21.36 <sup>c</sup>	30.55 <sup>b</sup>	9.19
ADG, lbs/d	3.81 <sup>c</sup>	4.53 <sup>b</sup>	0.72
F:G	5.63 <sup>c</sup>	6.76 <sup>b</sup>	1.13
DOF	168 <sup>b</sup>	90 <sup>c</sup>	-78
Total Feed, lbs	3592 <sup>b</sup>	2754 <sup>c</sup>	-838

<sup>a</sup> Feedlot initial weight  
<sup>b,c</sup> Means within row with different superscripts differ P<0.05

## Carcass Characteristics

Item	Calf-fed	Yearling	Diff.
HCW, lbs	808 <sup>c</sup>	860 <sup>b</sup>	52
YG	2.71	2.60	-0.11
Marbling <sup>a</sup>	510	525	15
FT, in.	0.53 <sup>b</sup>	0.47 <sup>c</sup>	-0.06
Choice, %	58.4	65.0	6.6
%Yield Grade 4+	11.9	3.3	-8.6
% Overweight	1.1 <sup>b</sup>	11.3 <sup>c</sup>	10.2

<sup>a</sup> Marbling = 400 = Slight<sup>9</sup>, 500 = Small<sup>9</sup> etc.

<sup>b,c</sup> Means within row with different superscripts differ  $P < 0.05$ .

## Adjusted Fat

	Calf-fed	Yearling	P-value
Act. Marbling	510	525	0.21
% Choice	58	65	
Adj. Marbling	503	533	0.04
% Choice	53	68	

## Summary

- Yearlings – 200 lb more gain
- 77% as much feedlot diet
- 58% as much feedlot diet  
(adjusted for gain)

## Corn Price/Cattle Price

- Fed Price - \$90(\$2.50, 3.50, 4.50)
- Breakeven for calf-feds
- \$131, \$121, \$112
- Kansas State University Model
- Slide – 61% in Oct. and Nov.
- \$5.60, \$4.28, \$2.95

## Budget by Corn Price

	\$2.50	\$3.50	\$4.50
Steer cost			
Calf-fed	\$847	\$782	\$723
Yearling	\$740	\$667	\$610
Feed cost			
Calf-fed	\$190	\$255	\$320
Yearling	\$144	\$194	\$243

## Profit by Corn Price

	\$2.50	\$3.50	\$4.50
Steer cost			
Calf-fed <sup>1</sup>	\$1155	\$1154	\$1154
Yearling <sup>2</sup>	\$1184	\$1181	\$1181
Profit			
Calf-fed	0	0	0
Yearling	\$44	\$46	\$47

<sup>1</sup>Live value - \$1154.

<sup>2</sup>Live value - \$1228.

## Background Costs by

### Corn Price<sup>1</sup>

	\$2.50	\$3.50	\$4.50
Stalks	\$48	\$48	\$48
WCGF	\$36	\$51	\$66
Total	\$84	\$99	\$114
COG	\$36	\$43	\$49

<sup>1</sup>Grass - \$104, \$53.18 COG.

## Corn Price/Calf-fed/Yearling

- Yearling profit
- Yardage \$.35 - \$.45 (+7.80)
- Pasture rent – 10% ↑ (-\$9.00)
- Little effect of corn price

## Systems Influencers

- Matching cattle to system
- Month of sale or purchase
- Winter costs
- Grass expense, gains, supplements
- Calving date
- Transportation

## Background

- Calf-fed
  - Enter feedlot at time of weaning (October-November)
  - Fed from November till May



## Background

- Summer Yearlings
  - Backgrounded on corn stalks or other forage
    - Though winter until end of spring
  - Fed during the summer

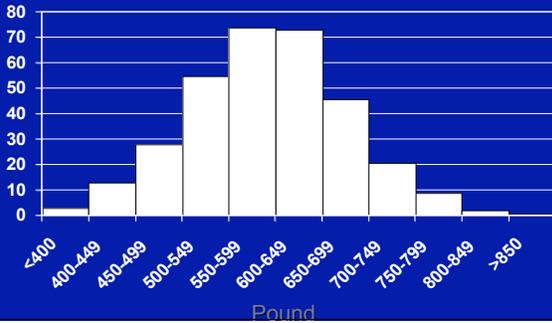


## Background

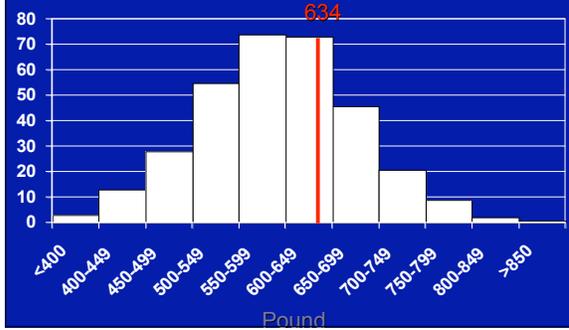
- Fall Yearlings
  - Backgrounded
    - Corn stalks or other forage until spring
    - Graze pasture during summer
  - Enter feedlot in fall
  - Marketed at the first of the year



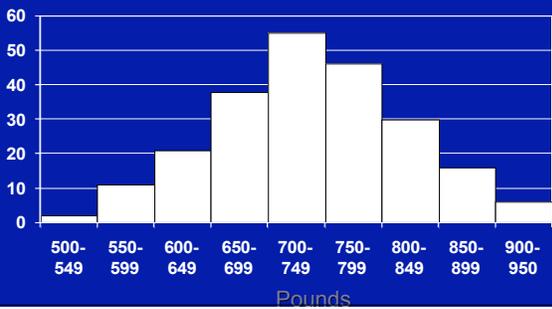
### Weight Distribution at Receiving



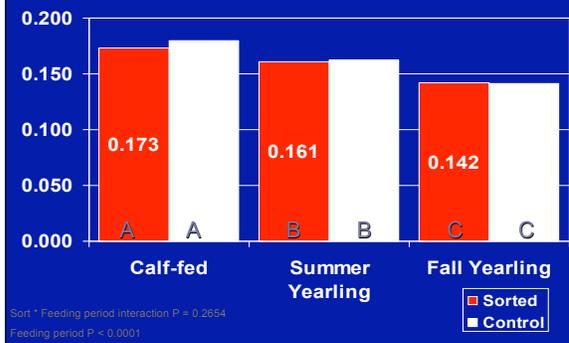
### Weight Distribution at Receiving



### Weights after Corn Stalks



### Gain Efficiency, Gain/ lb of feed



### Feedlot Initial BW, Lbs

Feeding period	Sorted/control	Feedlot in weight	In weight S D
Calf-fed	Control	605	63
Calf-fed	Sorted	696	55
Summer Yearling	Control	824	71
Summer Yearling	Sorted	823	33
Fall Yearling	Control	1008	121
Fall Yearling	Sorted	944	70

### Hot Carcass Weight, Lbs

Feeding period	Sorted/Control	HCW	HCW S D
Calf-fed	Control	777	68
Calf-fed	Sorted	830	68
Summer Yearling	Control	867	77
Summer Yearling	Sorted	865	44
Fall Yearling	Control	933	105
Fall Yearling	Sorted	878	73

## Overweight Carcasses

Feeding period	Sorted/Control	Carcasses over 950 lbs	Carcasses over 1000 lbs
Calf-fed	Control	2.08%	0.00%
Calf-fed	Sorted	6.38%	2.13%
Summer Yearling	Control	18.75%	2.08%
Summer Yearling	Sorted	4.17%	0.00%
Fall Yearling	Control	42.00%	23.00%
Fall Yearling	Sorted	11.00%	2.00%

## Month of Sale/Purchase

- 650 lb steers – Oct./Nov. ↑
- 500 lb steers – Oct./Nov. ↓
- May \$39 profit
- Sept. \$55 profit
- Dec. \$68 profit
- Oct., 500 lb \$106/cwt
- Feb., 650 lb \$97/cwt (\$6)

## Winter Costs

- Crop residues
  - DDGS - \$.50 - \$.55/lb gain
  - WCGF - \$.50 - \$.55/lb gain
- Winter range
  - DDGS - \$.45 - \$.50/lb gain
- Cost of byproduct to cattle!

## Grass Expense/Gains

- \$90/5 month
- Increases?
- 1.25 ADG - \$.53/lb
- 2 ADG - \$.34/lb
- Total \$.56/lb @ 1.6 lb/day

## Grass Supplements

- Byproducts
- Eight trial summary - DDGS
- \$.50/lb vs \$.56/lb
- Cost of byproduct?
- Grass saved
- Feedlot performance

## Calving Date

- June \$76 ↓ than March cow cost
- Calves – wt. ↓ price ↑
- Weaning wt?
- May profit - \$58
- September profit - \$54
- DDGS ↑ profit

