

***Effects of Preconditioning
on Health, Performance
and Prices of Weaned Calves***

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History of Preconditioning

Preconditioning has been loosely defined in the beef industry

1967: Preconditioning = preweaning vaccinations + "conditioning" calves for the next phase (Gill et al., 1967)

70's and 80's: evolution of various state and regional "preconditioning programs" that included process verification



History of Preconditioning

Typical "process" included pre-weaning and (or) weaning vaccinations, 21 to 30 day minimum weaning period, castration and dehorning

Typical verification process: producer's and (or) veterinarian's signature on an official affidavit



What has happened?

- ☞ Adoption has been extremely slow
- ☞ Many "certified" preconditioning programs have come and gone
- ☞ Quality control, trust and cow/calf producer motivation are major hurdles

We have met the enemy...

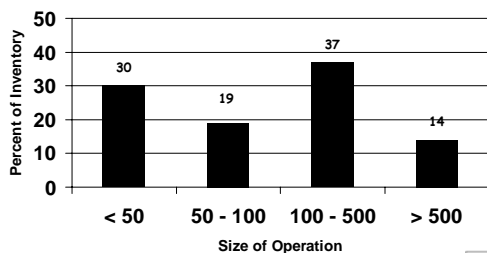


Hurdles?

- Lack of supplier enthusiasm
Most small operations are not profit centered
Profit for small cow/calf operation?
Average herd = 38 head * \$20 more/hd = \$760
So how important are these operations to you?



Percent of Beef Cow Inventory by Size of Operation



"The challenge for sellers is to identify what's valuable to the buyer, and then add and capture a portion of that value - not just add costs"

"Buyers are generally willing to pay for value, but they need to be assured that the preconditioning program will deliver it."

Dr. John Lawrence, Iowa State University



Recent developments in preconditioning



What is happening?

- Beef industry and the "Marketing Revolution"
- Interest in sourcing and buying "bullet proof" calves continues to grow
- Evidence that *sick cattle costs everyone* continues to grow



Cost of Sick Cattle Ranch to Rail Data

Item	Healthy	Sick
ADG, lb	2.99	2.67
Net return	\$67.32	-\$20.28
USDA Ch, %	39.6	27.5
USDA Std, %	5.25	10.0

Source: McNeil and McCollum, 2001



Cost of Sick Cattle Noble Foundation Data

Item	Untreated	Treated
Number	354	99
ADG	3.32	2.99
Carcass Wt	765	723
Medicine Cost	0	\$20
Death Loss	0.5%	7.3%

Source: Cook, 2001



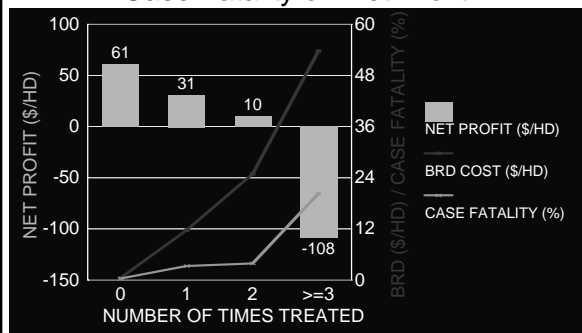
Cost of Sick Cattle

	Untreated	Treated
Net Return	\$63.84	-\$35.42

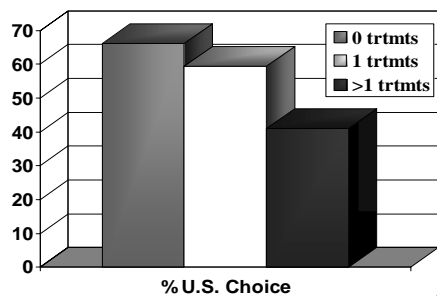
Source: Cook, 2001



The Effect of BRD Treatment Costs and Case Fatality on Net Profit



Effect of BRD during the Receiving Period on Percent U.S. Choice

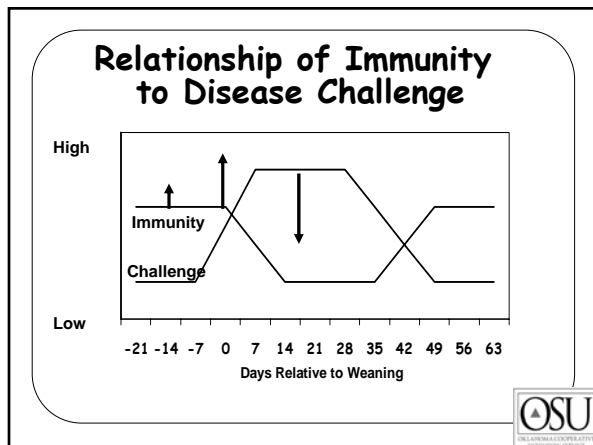


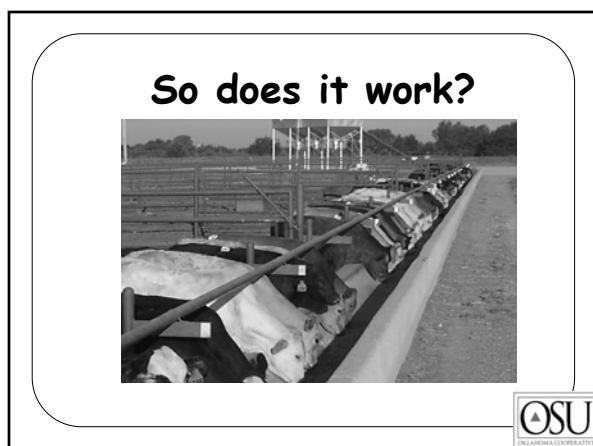
Stovall et al., 2000



OK Steer Feedout	Healthy	Treated	Repulls
Steers	118	122	30
Death Loss, Hd	0	1	7
ADG, lb/day	3.51	3.55	3.36
Medicine Cost	0	\$ 29.58	\$ 105.97
USDA Choice	61.8 %	44.5 %	45.4 %
USDA Select	33.9 %	43.6 %	45.4 %
No Roll	4.3 %	11.9 %	9.1 %







Effects on Health and Performance

- Limited data
- Matador Cattle Co., Koch Ind., 1995
 - No precon VS Vac 45
 - On feed at 550 lb and 640 lb, respectively
 - Precon calves netted \$60 more per head
- Producer's Edge, Friona, 1996
 - No precon VS Vac 45
 - On feed at 562 and 594, respectively
 - Precon calves netted \$56 more per head



Wheat Pasture Graze Out Case Study

Noble Foundation
Ardmore, OK





Methods

- 146 cattle purchased from AAA OQBN sale at OKC West on Feb. 28, 2002
- 148 non-process verified cattle purchased through Southern OK sale barns March 6 through March 13





Methods Traditional Cattle

- 56% were bulls
- 41% had horns
- Purchased from Durant, Sulphur, McAlester, Ada, and Wister



Receiving Management

- Day after arrival OQBN calves were tagged, branded, dewormed, eye problems treated and turned out on wheat
- Day after arrival, Traditional calves were tagged, castrated, dehorned, dewormed, branded, vaccinated with Blkg, BRD complex (MLV), past. And turned out on wheat
- Traditional revacced BRD 14 days later



Results Performance

Item	NPV Bulls	NPV Strs	PV Strs
In. Date	3/9	3/9	2/28
In. Wt	490	490	472
ADG through 3/27	-0.10	1.0	2.64



Results Performance

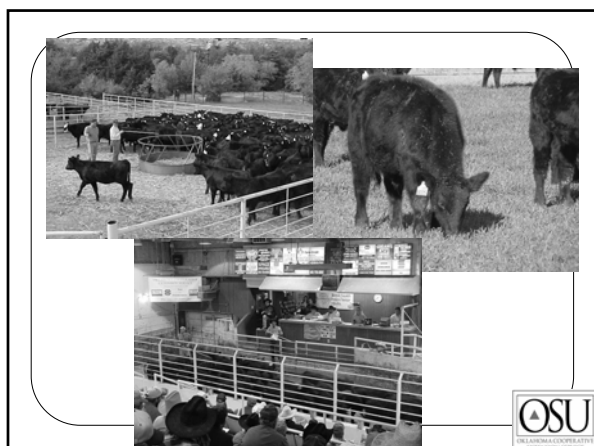
Item	NPV Bulls	NPV Strs	PV Strs
April ADG	2.18	2.65	2.54
May ADG	2.84	2.49	2.31
Cumulative ADG	2.00	2.24	2.48



Results Health



Item	Trad	OQBN
% trtd foot rot	1.0	2.1
% trtd pink eye	1.0	4.8
% trtd for BRD	9.5	0
\$ per head trtd	19.88	6.23







**Preconditioning Reduces Sickness
and Death Loss in Weaned Calves**

D. Lalman, A.L. Hutson, W.
Shearhart, C. Ward, S. McKinley

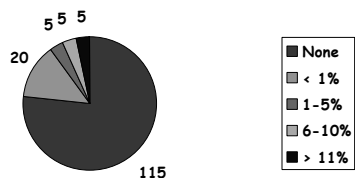





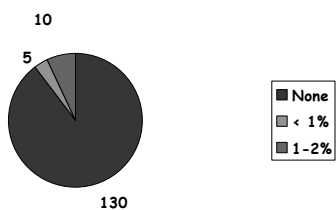
**Survey Results from OQBN
Producers (sellers)**



Sickness at Home Ranch # of Operations



Death Loss at Home Ranch # of Operations



Health Assessment



Health Assessment

- 45 sale lots of cattle, each to a different buyer
- From 8 different OQBN sales
- 1,711 head of OQBN certified cattle
- Buyers were asked to provide pull rate and death loss data on "other" non-certified cattle purchased during the same time period

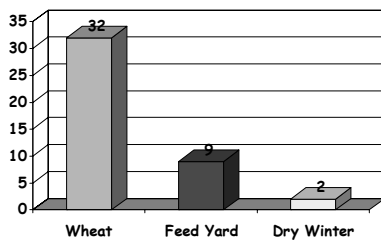


Buyers

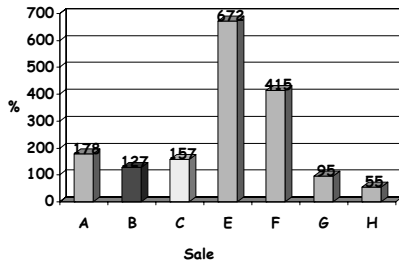
- 40 lots purchased by final owners
- 5 lots purchased by order buyer for customer



Cattle Destination



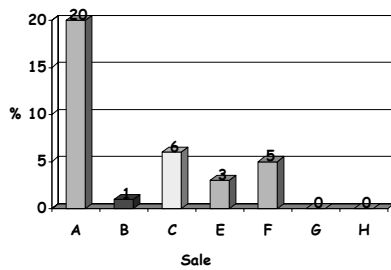
Cattle Tracked From Each Sale



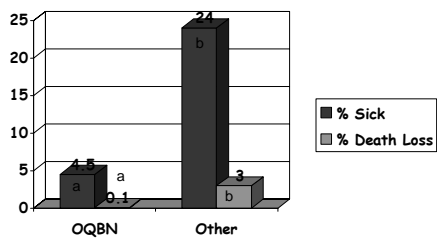
Sale D cattle were eliminated from the data set: only 50 head



Sickness (Pull Rate) by Sale



Frequency of Deads and Sickness



^{a,b}Means are different, $P < .01$



Recent developments in preconditioning












Superior Livestock






JORDAN

Cattle Auction

Premium Stocker & Feeder Sale



What has changed? Marketing

Value based marketing has arrived:
1978: 1 "branded" marketing
program registered with USDA

Today: 49 with several pending



What has changed? Marketing

Consumer and animal health driven:
Source verification (McDonald's)
Age verification (30 month rule)
Process verification (All Natural)



What has changed? Management

- 45 day weaning requirements
- Use of MLV vaccine in protocols
- Revaccination is required
- Nutritional recommendations
- Increasing awareness of the importance/value of records



Are buyers willing to pay?



Number of sale lots by health program: Superior Livestock

Weaned	No	No	No	Yes
Vaccinated	No	Yes	Yes	Yes
Certified	No	No	Yes	Yes
1994	88.3	-	8.3	1.8
1995	43.7	38.6	12.4	3.2
1996	34.0	33.9	27.7	4.5
1997	29.8	33.2	23.1	4.5
1998	18.0	26.5	21.3	5.0
1999	17.7	32.8	30.3	6.9
2000	18.0	47.0	26.0	9.0
2001	14.3	28.4	44.2	13.1
2002	10.5	28.7	45.3	15.5
2003	6.3	19.1	48.6	20.9
2004	5.4	14.0	49.2	25.2

Source: CSU, Pfizer Animal Health
Auctions held April through October each year

Price differences by health program: Superior Livestock

Weaned	No	No	No	Yes
Vaccinated	No	Yes	Yes	Yes
Certified	No	No	Yes	Yes
1994	-	.77	.25	
1995	.70	1.35	2.47	
1996	.43	.99	3.35	
1997	.72	1.61	3.89	
1998	.74	1.38	3.35	
1999	.96	1.17	3.33	
2000	1.27	1.76	3.66	
2001	1.23	2.21	4.06	
2002	1.10	1.80	5.01	
2003	1.85	3.39	6.69	
2004	1.71	3.47	7.91	

Source: CSU, Pfizer Animal Health
Auctions held April through October each year

Estimated Performance Benefits by Feedlot Managers

	Preconditioned	Non-Preconditioned
% Percent sick	9.2	36.4
% Percent dead	1.5	4.3
% ADG	2.9	2.6
% Conversion	6.3	6.9
% Percent Choice	50.4	35.8
% Percent outs	2.5	6.9
Market value - Average \$5.25/cwt. Range \$0.00 to \$10.00		

Source: Avent, R.K. OSU, Master's Thesis



Cowboy Economics

What must we consider?



Price Discount for Fleshy Cattle

- Medium VS
Medium HVY to Fleshy
If classified as Fat, excluded
- Superior, 1999: \$1.35
- Superior, 2000: \$.94
- OK, '97 & '99: \$1.63



Preconditioning Budget 50 days

Cattle Interest	\$6.58
Health sup. and meds	\$7.00
Death loss (.5%)	\$2.57
Labor, equip.	\$6.78
Feed (2% of body wt)	\$33.00
Hay and pasture	\$5.00
Total	\$60.93





Producing better cattle, one head at a time!