

Early Weaning: Managing the Cow and Calf

**Steve Paisley
UW Extension Beef Specialist**



Early Weaning as a Tool:

- **Coping with drought**
- **Managing cow condition**
- **1st & 2nd calf females**
- **Marketing?**



What is Early Weaning?

- **Wean before the start of breeding season**
 - (Birth to 90 days)
- **Wean during the breeding season**
 - (90 to 150 days assuming a 60 day season)
- **Normal Weaning**
 - (180 to 240 days)
- **Late Weaning**
 - (240 to 280 days)



Wean Before The Start of Breeding Season (Birth to 90 days)

First-Calf Heifers

-  Improve condition

-  Improve rebreeding rates

Mature Cows

-  Accelerated beef production



Weight Changes of Heifers with Suckled or Early Weaned Calves

Item	Treatment	
	Suckled	Early Weaned
Heifer Weights, lb		
Fall before calving, 11/15	739	727
After calving	697	681
Weight Changes, lb		
Calving to start of breeding	-16 ^a	34 ^b
During breeding season	48 ^a	73 ^b
Calving to weaning	90 ^a	195 ^b

Lusby et al., 1981



Conception Rates and Postpartum Intervals of Heifers with Suckled or Early Weaned Calves

Item	Treatment	
	Suckled	Early Weaned
Conception Rate		
No. conceived/exposed	19/32	30/31
Pregnant, %	59.4% ^a	96.8% ^b
Interval from parturition to conception		
(Calving date – 280 d), days	90.5 ^a	73.0 ^b
Interval to onset of ovarian activity for cows cycling by 85 days, days	83.0 ^a	73.0 ^b



Late Summer Weaning (Weaning During the Breeding Season)

A Possible Tool To:

-  Manage limited feed supplies

-  Manage problem young females



Early Weaning in Mature Cows

- ❏ **43.5% less hay consumption in fall-calving cows**
 - ❏ (Ohio study, Peterson et al., 1987)
- ❏ **Oklahoma studies with spring calving cows indicate that cows consume about 1% of BW less following early weaning**



Forage Utilization: Aug-Nov

	Aug	Nov
Forage Use, lb/acre	715	978

Dry cows used 73% the amount of forage **P = 0.15**

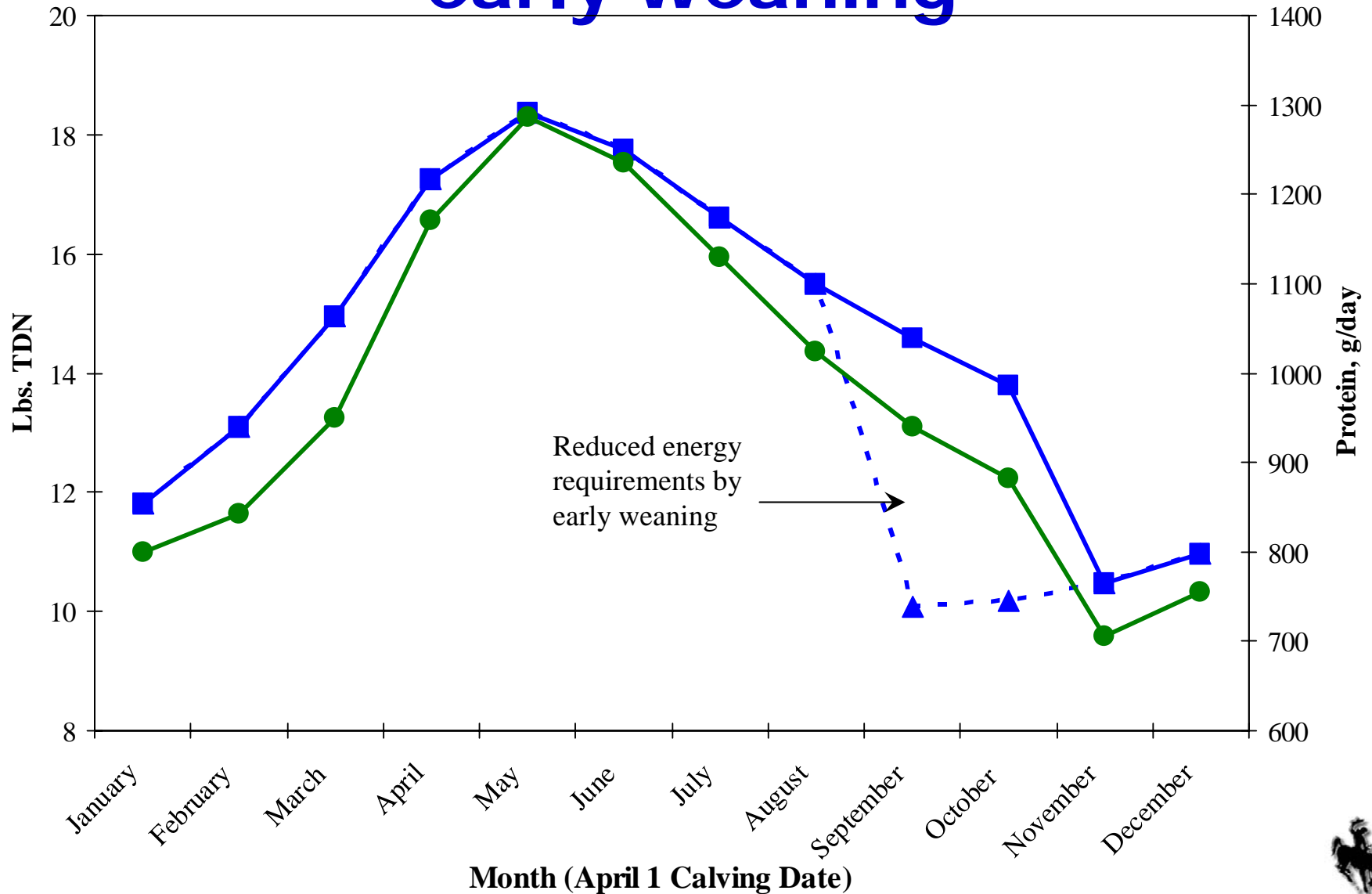
1000 acres; stocked with 175 cows:

- An additional 29 days of grazing (5 animal unit days/acre)

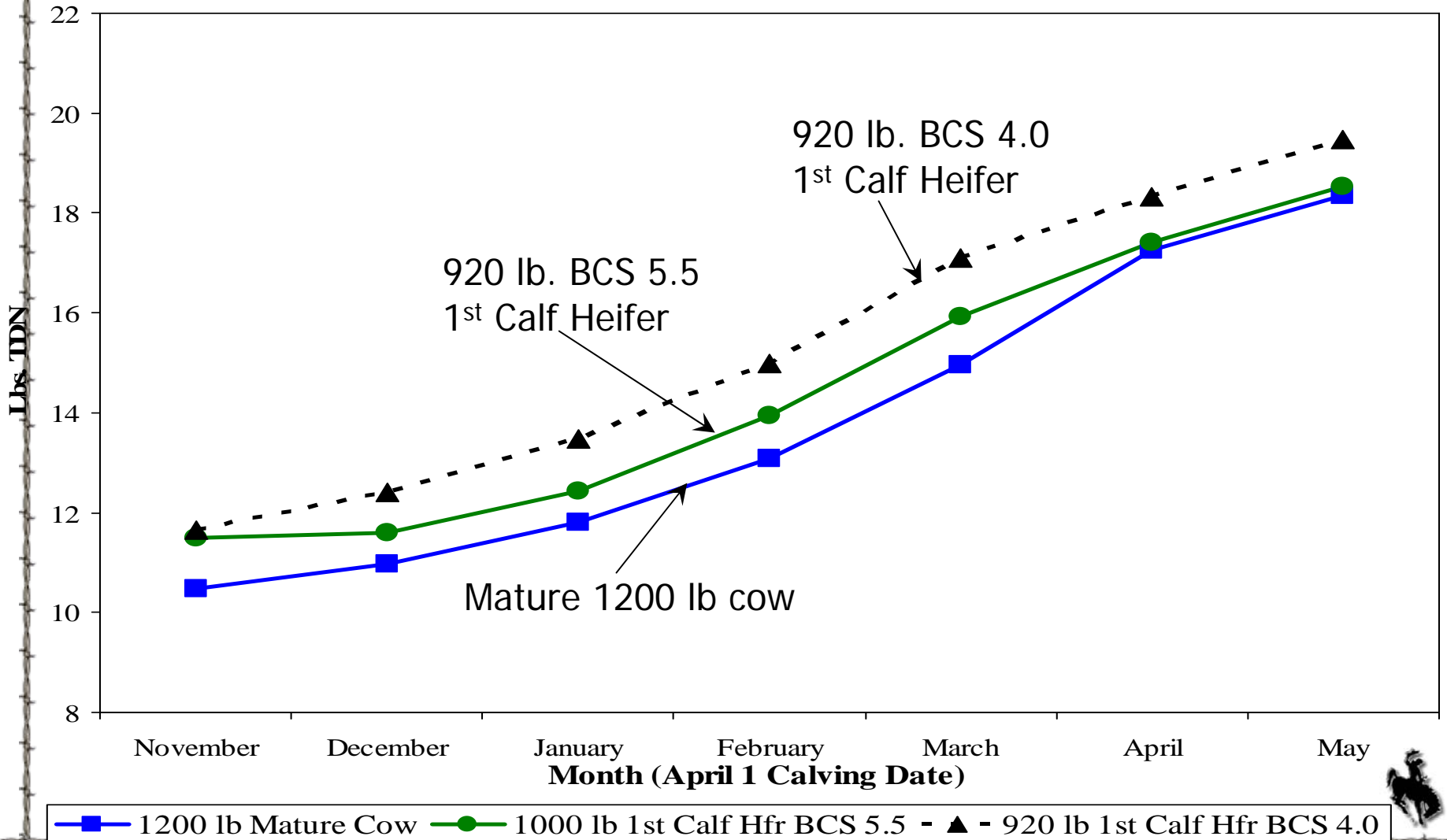
Landblom et al., 2005



Cow energy requirements and early weaning



Comparative energy requirements

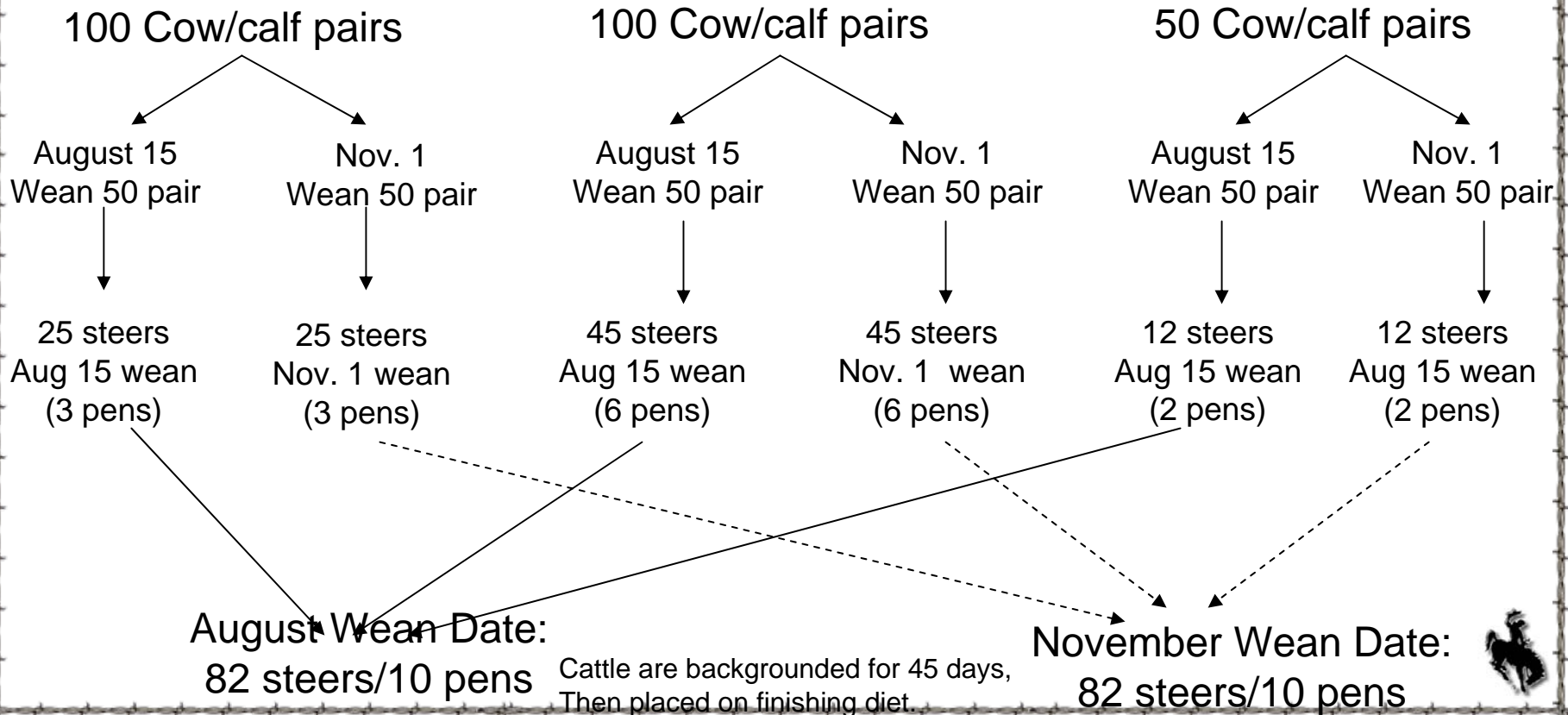


4-State Weaning Study

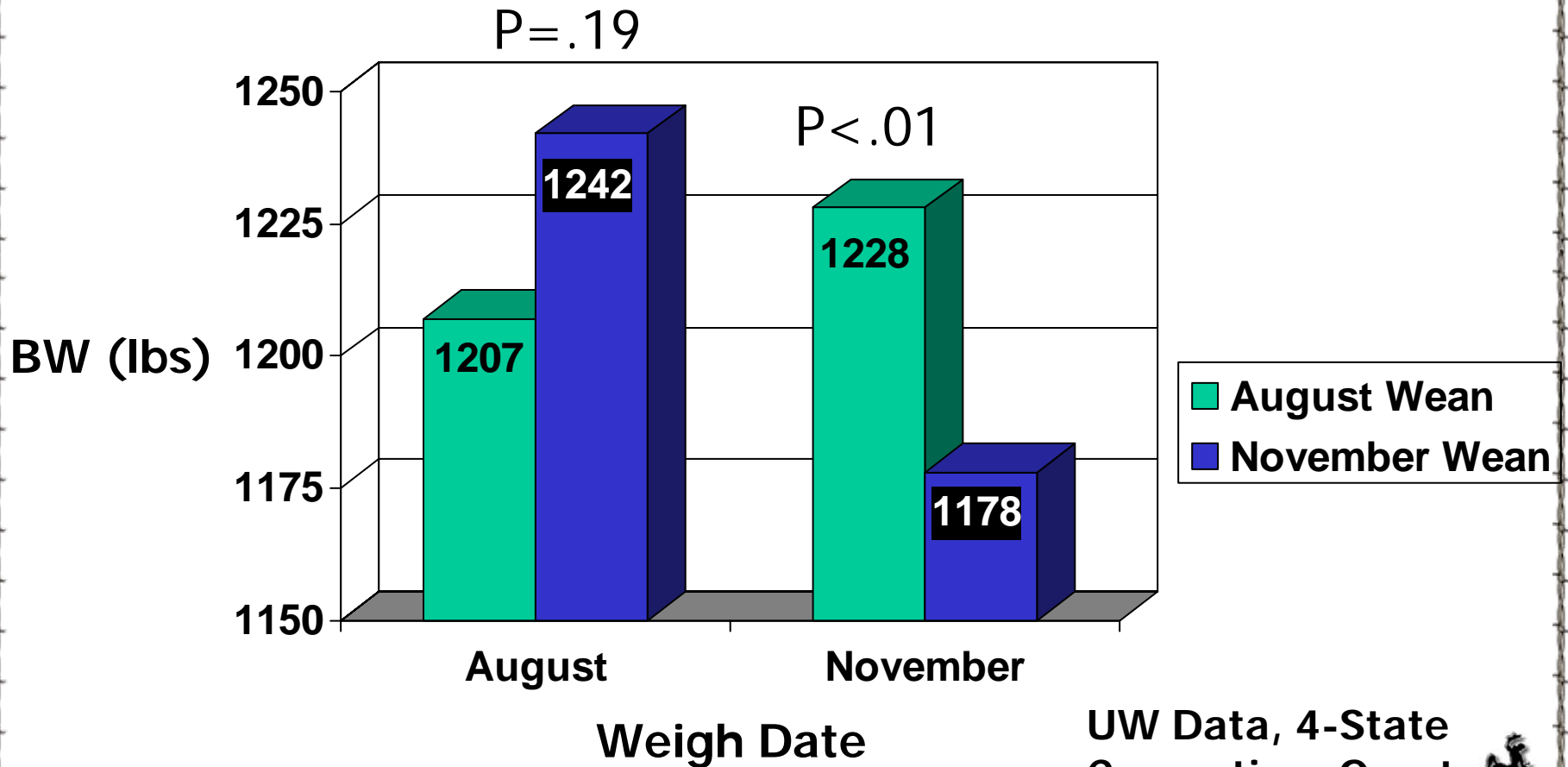
University of Wyoming
UW Beef Unit
Steve Paisley

South Dakota State Univ.
Antelope Research Sta.
H.H. "Trey" Patterson III

North Dakota State Univ.
Dickinson Research Sta.
Doug Landblom



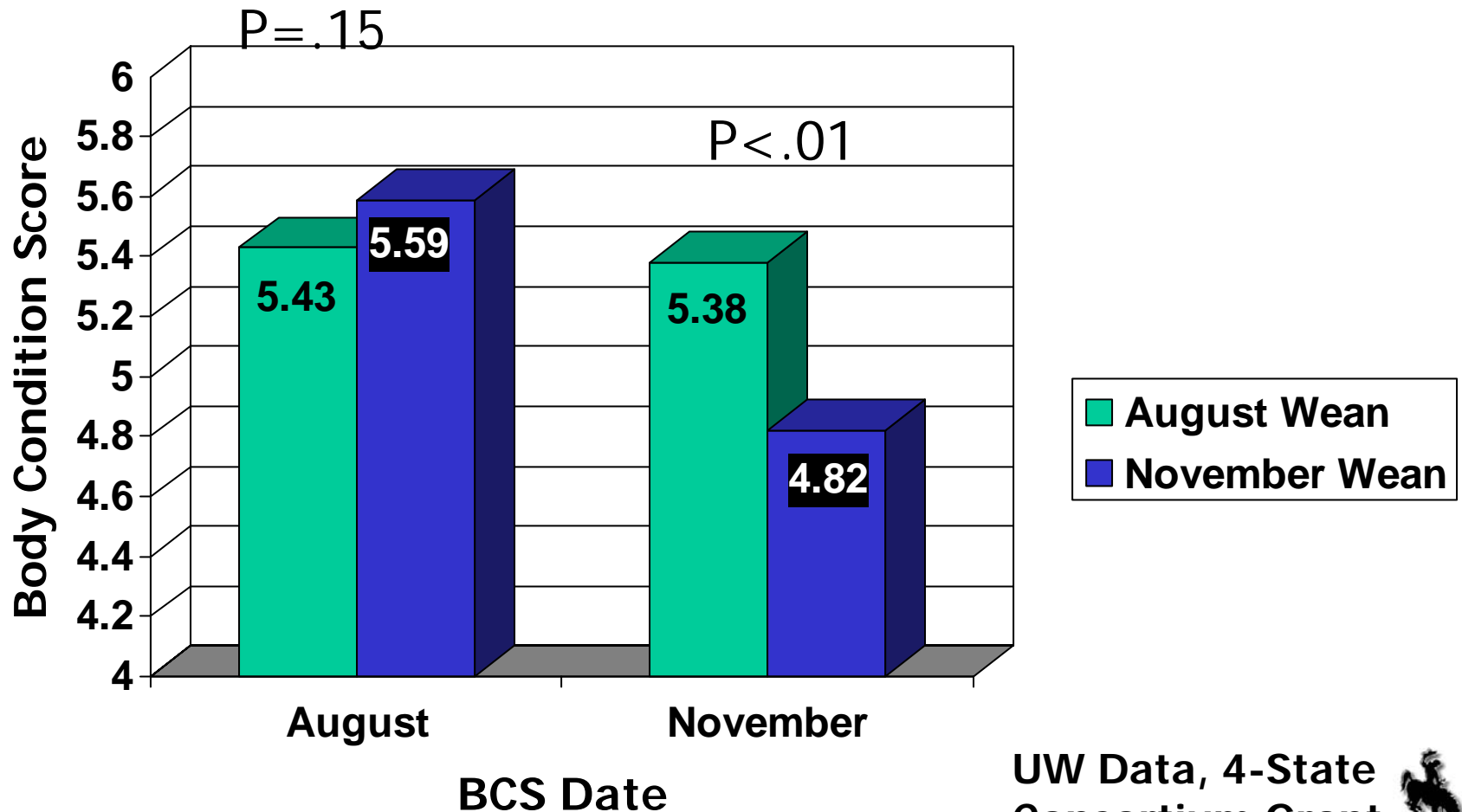
Effect of Weaning Date Cow Weights



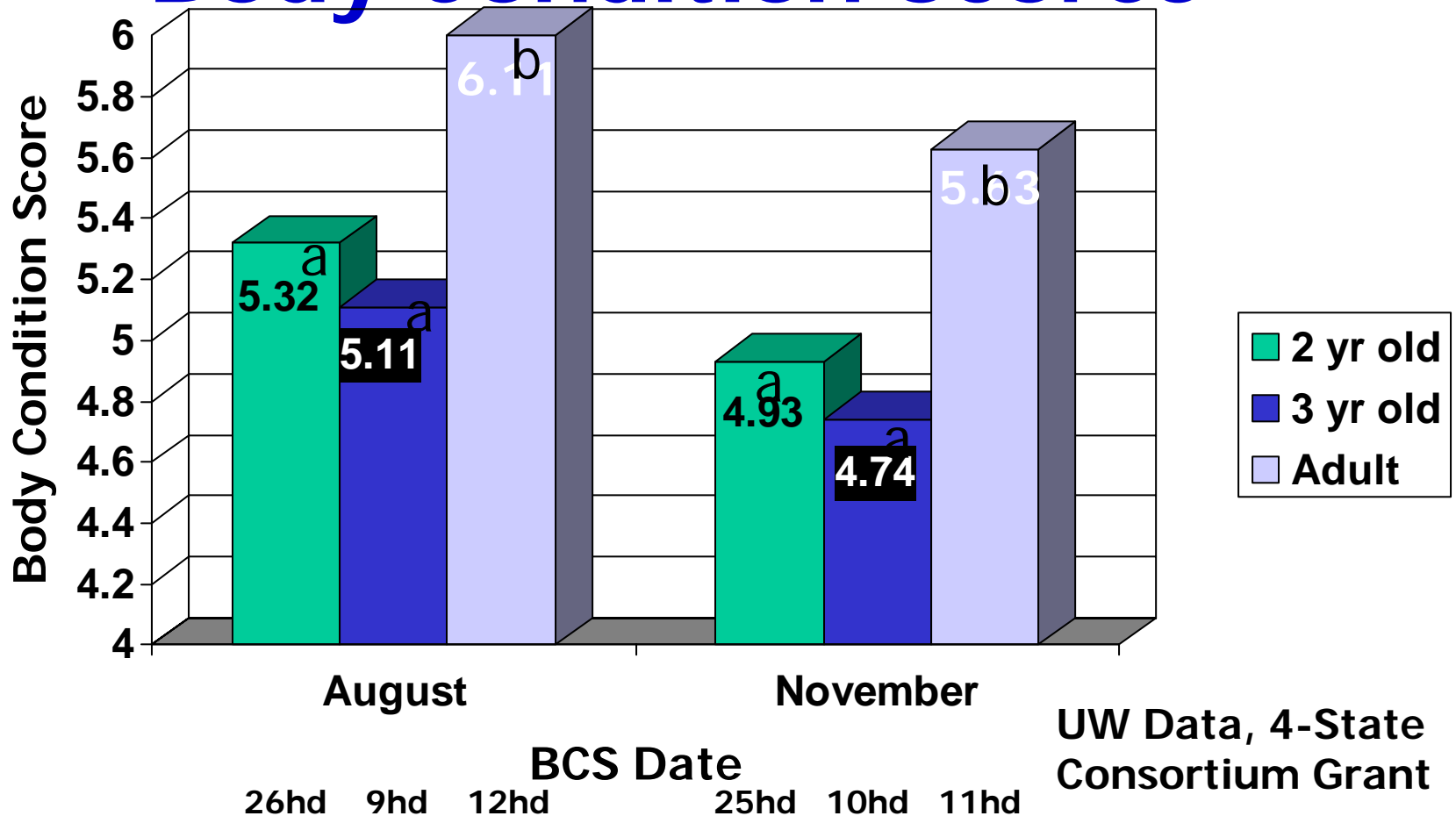
UW Data, 4-State
Consortium Grant



Effect of Weaning Date Cow Body Condition Scores



Cow Age and Body Condition Scores



a,b,c – Values with different superscripts differ ($p < .01$)



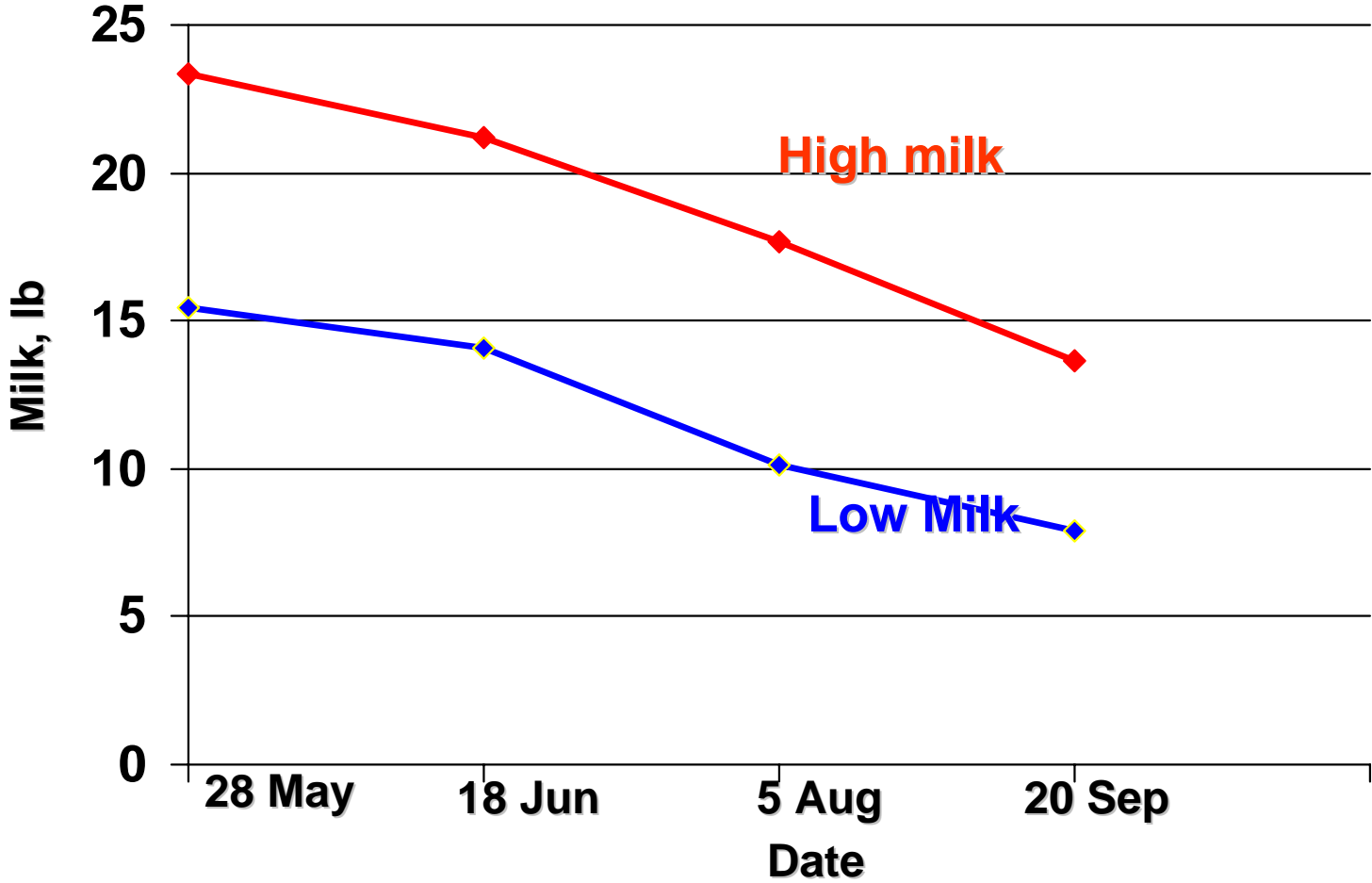
Amount of Milk Produced by the Cow



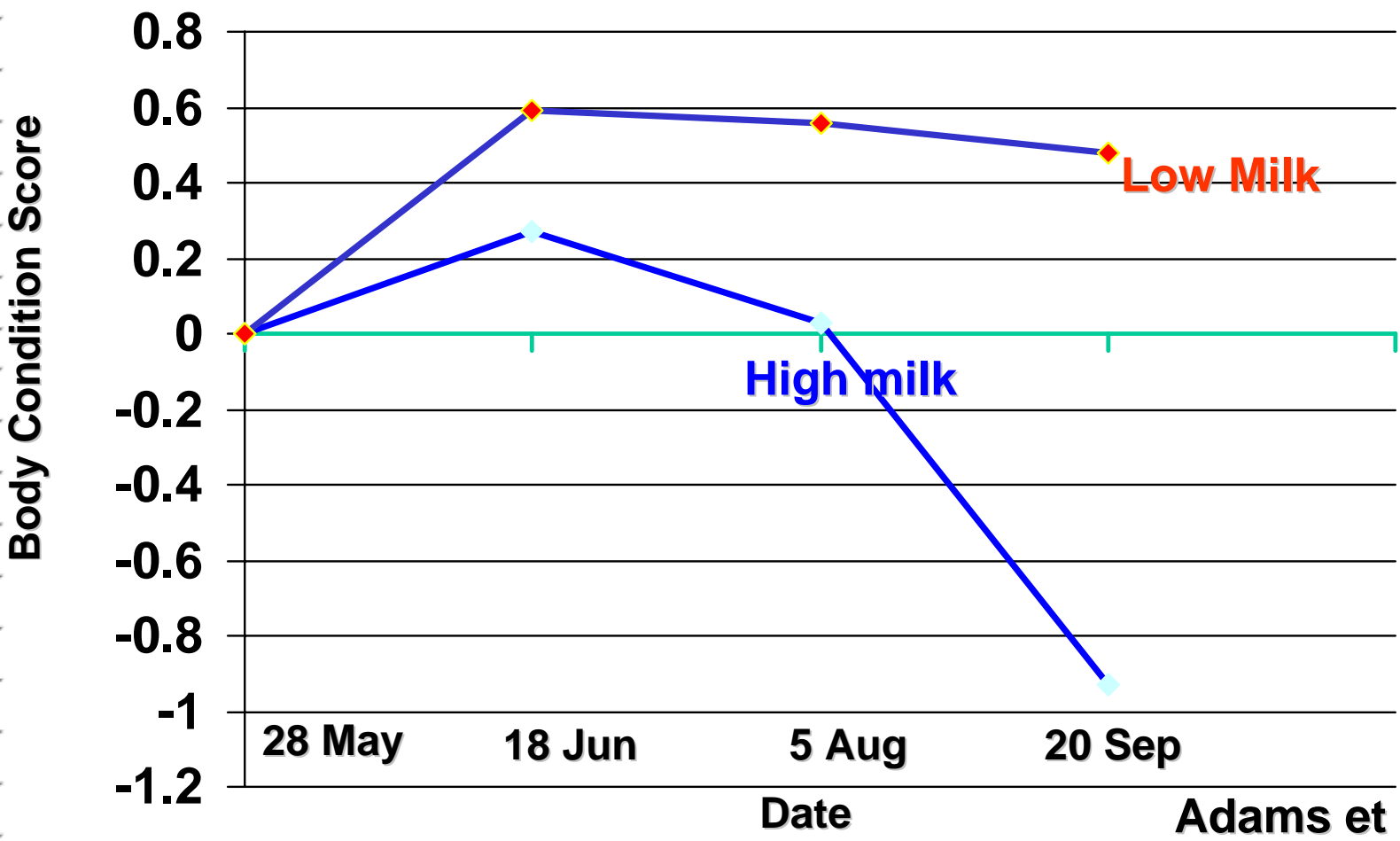




Milk Production by Cows with High and Low Production Potential



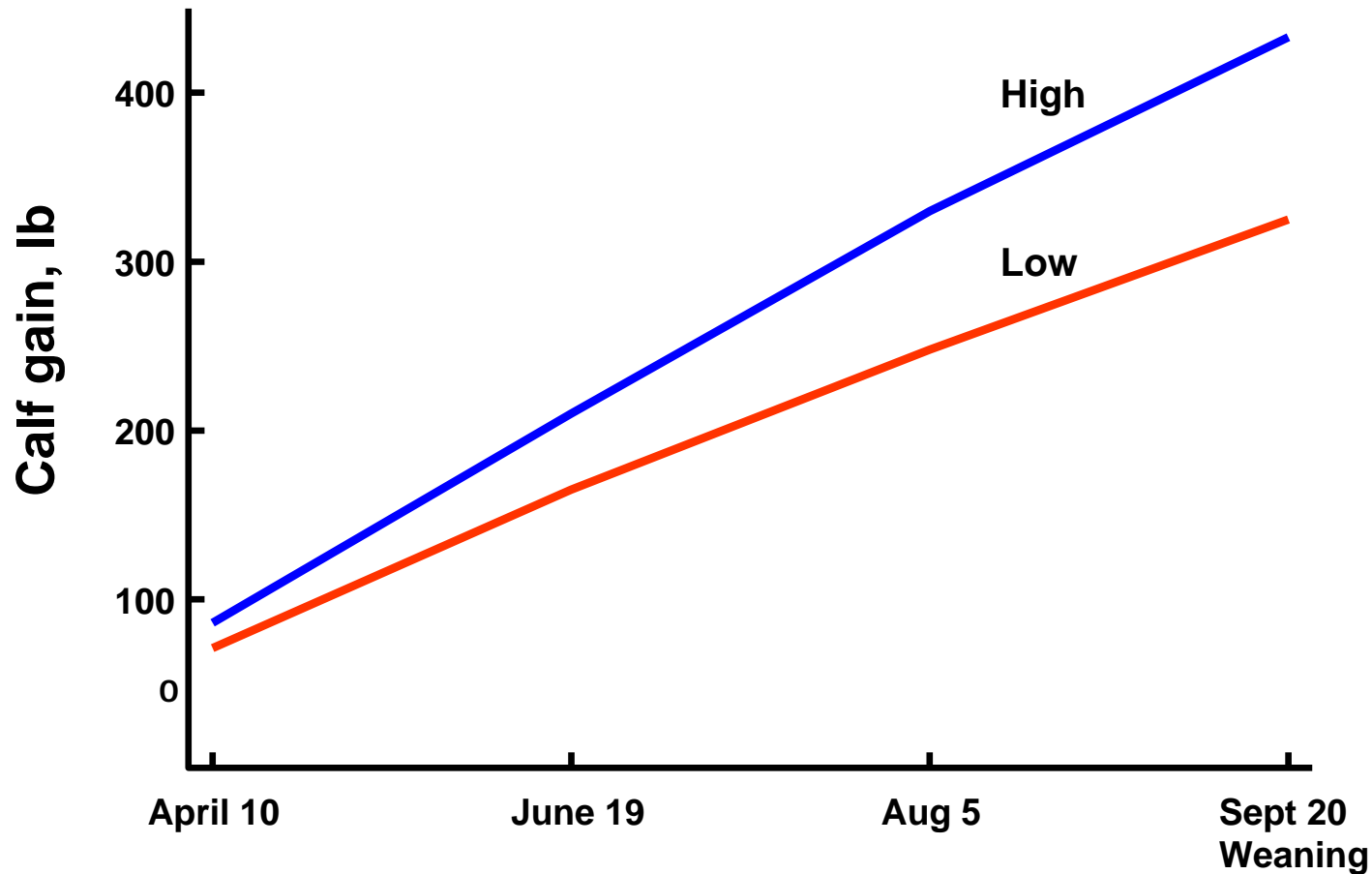
Change in Body Condition Score with High and Low Milk Production



Adams et al. 1993



Weight Gain of Calves From Cows With High or Low Milk Production During Summer Grazing



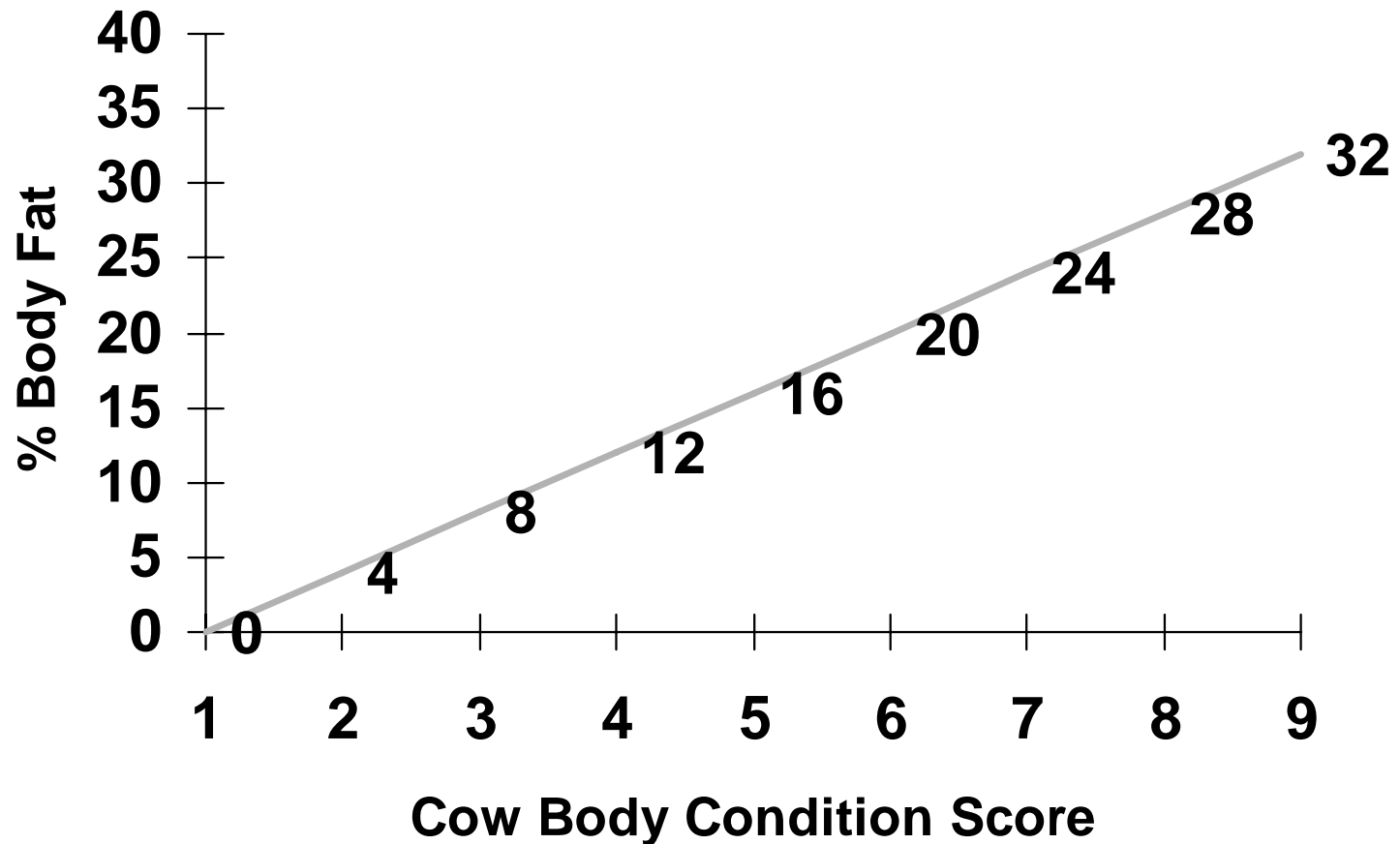
Adams et al. 1993



Impact of decreased body condition scores



Effect of Cow Condition Score on Percentage of Body Fat



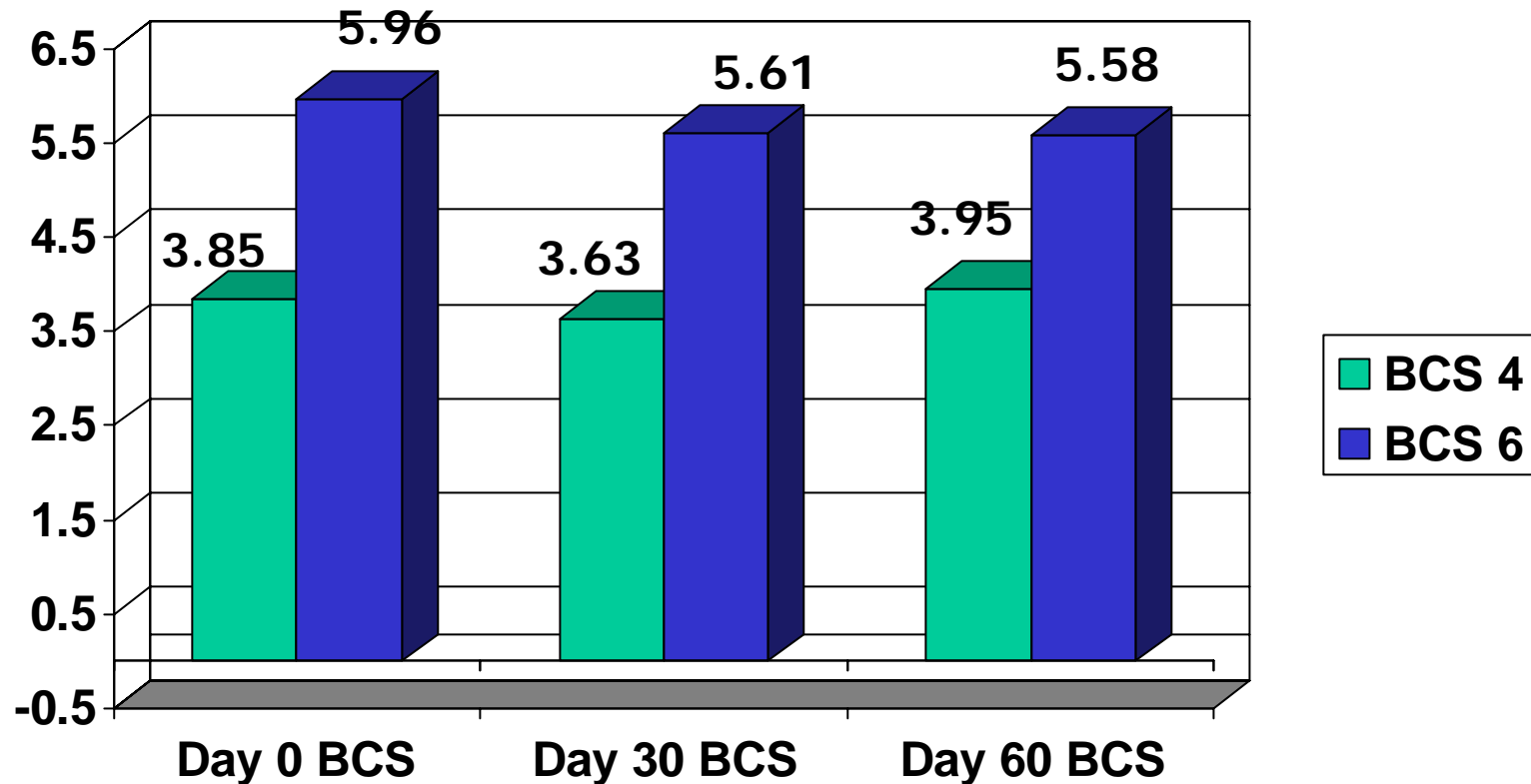
Body Condition Scores Revisited

- **1 BCS = 80 lb Liveweight**
 - what tissues?
 - BCS 3 - 5.5: Primarily Protein (muscle)
 - BCS 5.5 - 9: Predominately Adipose
- **Priority of mobilized tissues:**
 - Internal - - - External
 - Organ tissue (protein)
 - KPH
 - Skeletal muscle and external fat

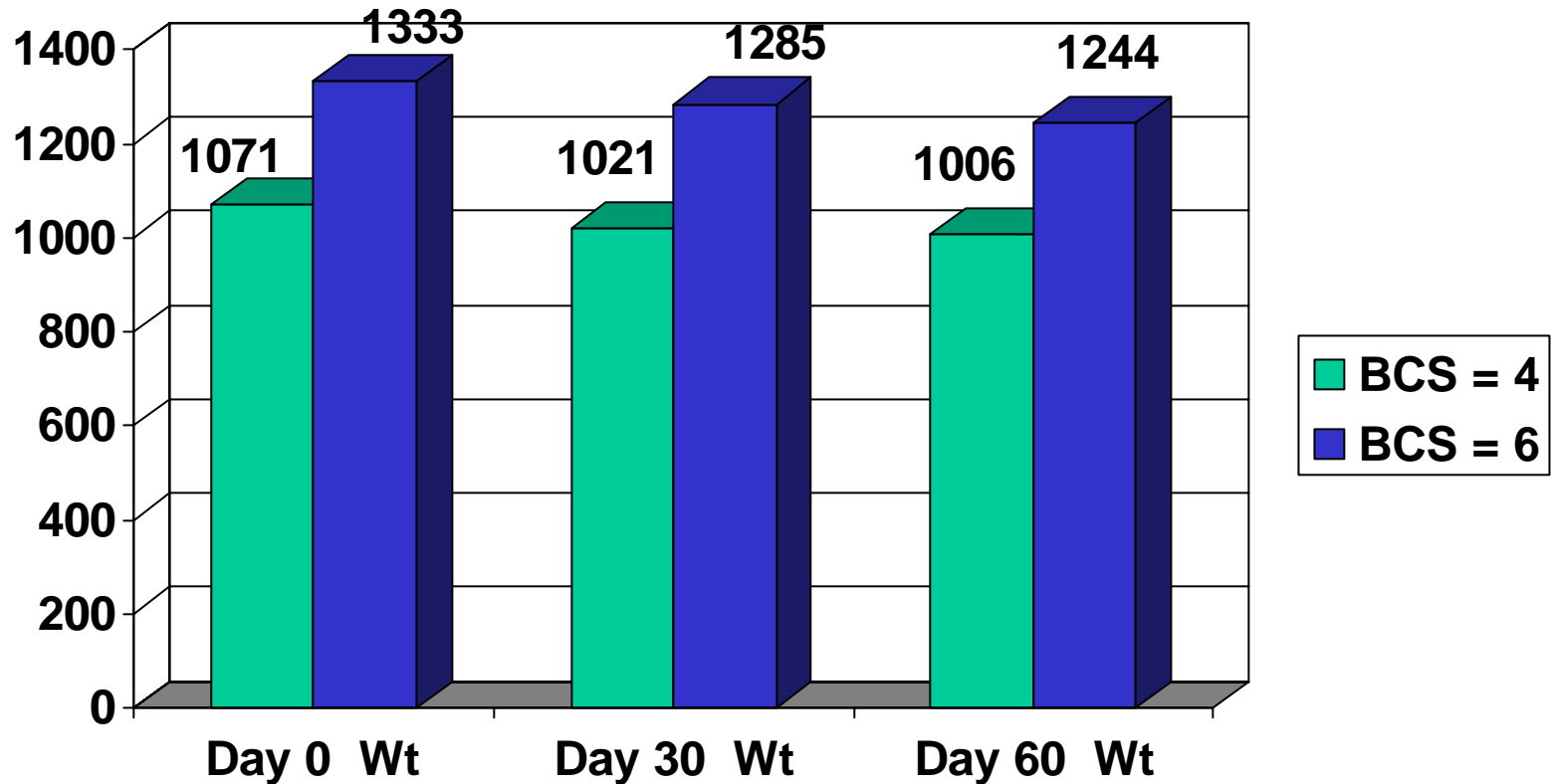


3 yr Old Cows, Sorted By BCS

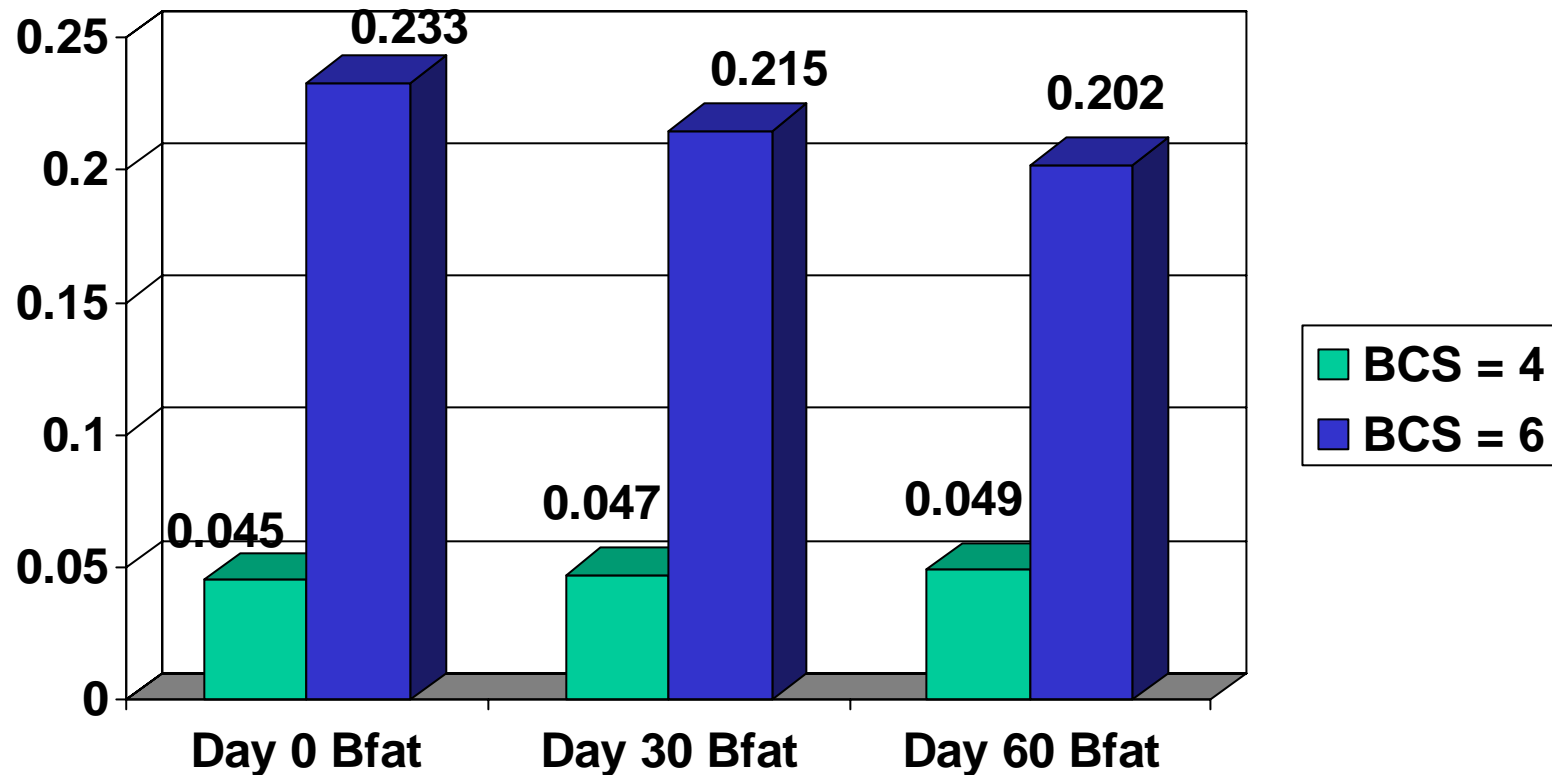
Average BCS, 1-9 scale



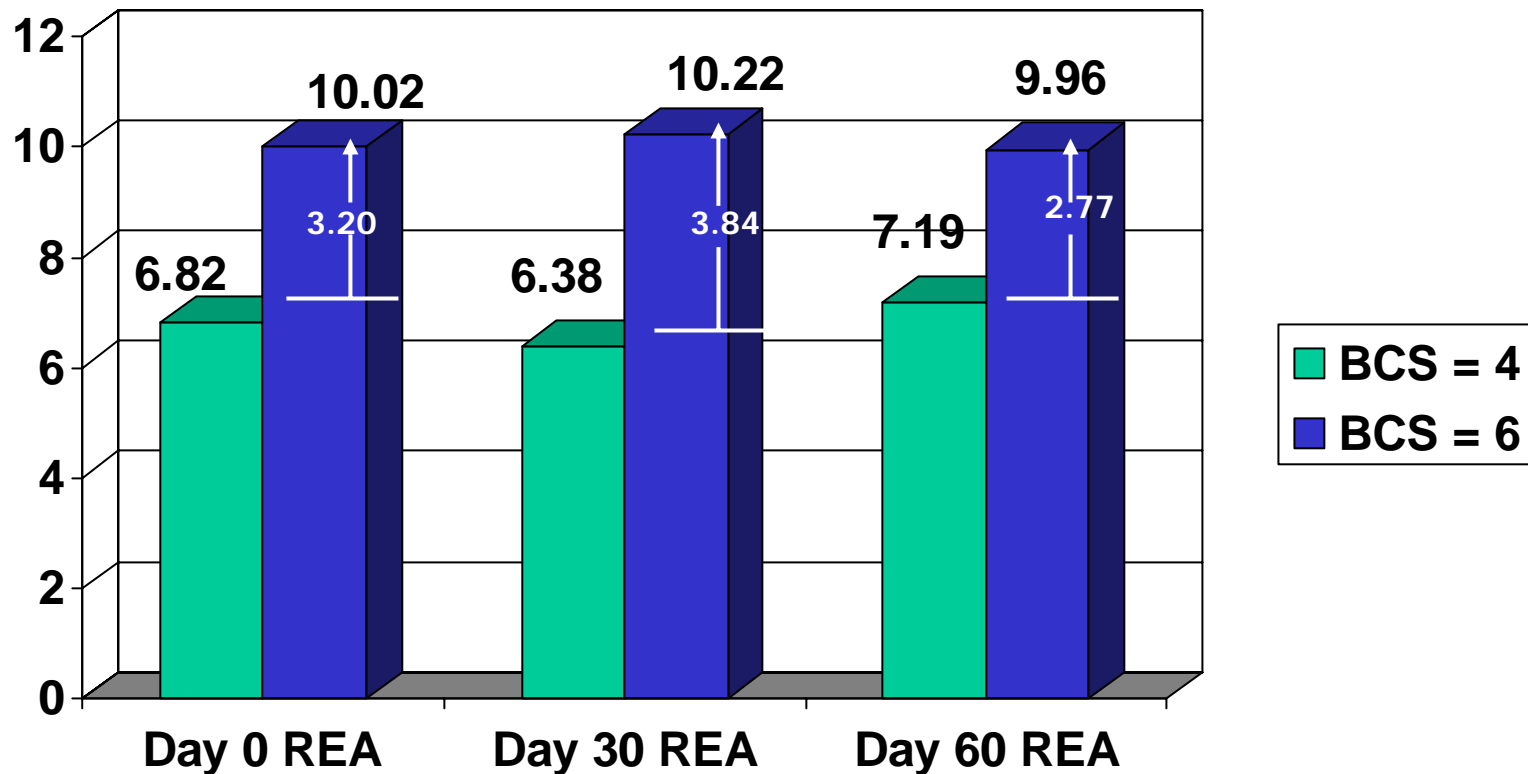
3 yr-Old Cows, Sorted By BCS Average Weight, lbs



3 yr Old Cows, Sorted By BCS Average Fat Depth, in.



3 yr Old Cows, Sorted By BCS Average REA, in²



The condition score at weaning relates to the cow's ability to rebreed on time next year.



Important times to evaluate BCS

Spring Calving Herds

Management Opportunity

Mid-summer

Consider early weaning

Fall, at weaning

Sorting, strategic supplementation

60 d before calving

Sorting, supplementation, strategic hay use

Calving

Meet (and exceed?) nutrient requirements

Spring breeding season

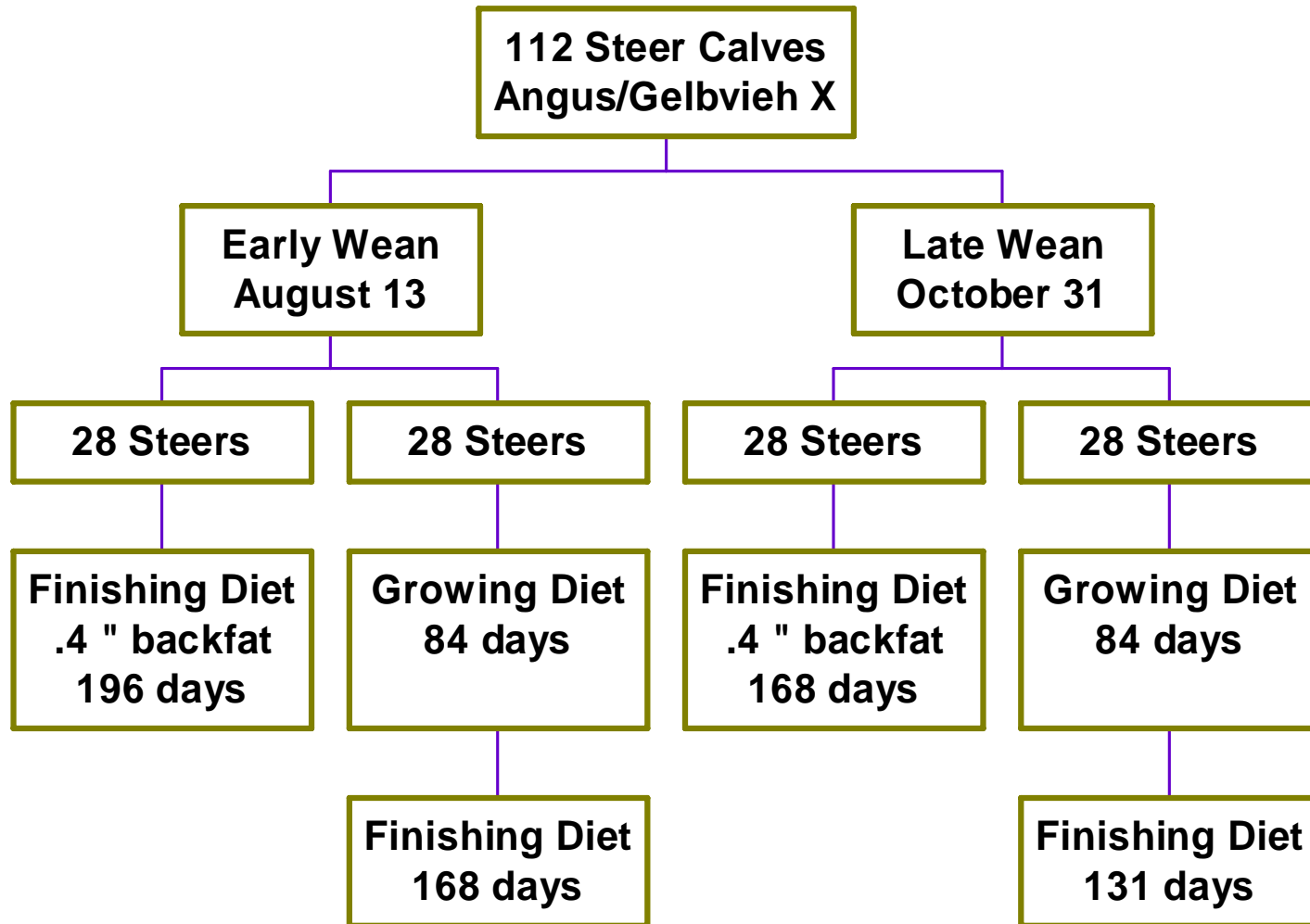
Culling, reconsider turn-in date, synchronization

Relative ease and cost of management decisions??



Thielen et al., 1998

University of Wyoming



Effect of weaning date on calf performance

Item	Early Wean - Finish	Early Wean Grow	Late Wean Finish	Late Wean Grow
Days on finish diet	196	168	168	131
Daily gain, finishing	3.20	3.15	3.37	3.37
Final end weight, lb	1206	1272	1255	1336
Yield Grade	2.09	2.16	2.14	2.08
Qual. Grade	3.29	3.57	3.71	3.31

Thielen, 1998



3 - State Weaning Project Backgrounding Performance

Item	NDSU		SDSU		UW	
	Early	Normal	Early	Normal	Early	Normal
DOF	49	54	49	54	43	40
Start Wt., lb ^a	407	553	414	600	445	622
End Wt., lb ^a	578	715	568	765	536	718
ADG, lb ^b	3.50	2.99	3.12	3.05	2.13	2.56
Feed:Gain, lb ^c	3.44	4.16	3.76	4.35	5.47	6.45

^aTreatments at each location differ (P<.01)

^bTreatments at Dickinson and UW locations differ (P<.01)

^cTreatments at Dickinson and SDSU locations differ (P<.01)



3 - State Weaning Project Feedlot Performance

Item	NDSU		SDSU		UW	
	Early ^a	Normal	Early	Normal	Early	Normal
Receiving Wt., lb ^b	559	699	561	744	536	718
Harvest Wt., lb.	1136	1174	1110	1174	1219	1229
Days on Feed ^b	189	129	183	133	224	150
ADG, lb. ^b	3.08	3.69	2.99	3.22	3.08	3.42
F:G, lb. ^c	5.20	5.18	5.18	5.86	6.07	6.17

^aTwo steers died of bloat during finishing.

^bTreatments at each location differ (P<.01)

^cTreatments at the SDSU location differ (P<.01)



3 - State Weaning Project Carcass Merit

Item	NDSU		SDSU		UW	
	Early	Normal	Early	Normal	Early	Normal
Hot Carcass Wt., lb.	718	720	702	725	735	734
Rib Eye Area, sq. in.	12.19	12.83	12.15	12.41	11.57	12.17
Fat Depth, in. ^a					.55	.44
Yield Grade, ^a	2.61	2.54	2.68	2.70	2.76	2.45
Quality Grade ^b	2.95	2.78	3.00	2.80	4.95	4.38
Percent Choice, %	26.4	25.71	13.9	23.53	85.7	59.1

^aTreatments at the UW Beef Unit differ (P<.05)

^bTreatments at the UW Beef Unit differ (P<.10)



Summer (Early) Weaning

- **Effects on the calf:**
 - **Lighter weaning weights**
 - **Calf Health (+ / -)?**
 - **Longer DOF/Feeding costs**
 - **Lighter final carcass weights**
 - **Quality Grade? (No negative effects)**
 - **Improved Marketing?**
 - **Selling at weaning**
 - **Marketing Fed Cattle**



Summer (Early) Weaning

- **Effects on the Cow:**
 - **Maintain cow weight during late summer/early fall**
 - **Reduce Forage Consumption**
 - (Leave cows on pasture longer)
 - **Potentially reduce winter feed costs**
 - (Esp. 2 and 3 yr. old cows)
 - **Better fall BCS = better spring BCS**
 - (Important for younger/thinner cows)



Does Early Weaning Pencil??

- ❖ **Certainly depends on individual situations:**
 - ❖ **Weaning vs. supplemental feeding**
 - ❖ **Managing young/thin animals**
 - ❖ **Summer grass cost/availability**
 - ❖ **Dependant on:**
 - ❖ **Weaning/backgrounding opportunities**
 - ❖ **Seasonal calf/feeder/fed cattle prices**



Thank You!!

