Can Early Weaning and Alternative Post-Weaning Management Methods Improve Ranch Profitability?

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Abstract

Two hundred fifty-two range beef cows were used to evaluate the effect of weaning date and post-weaning management method on beef system profitability during a 2-year study. Treatments consisted of a normal weaned control group (Nov.) that grazed native pasture until weaning the first week of November when they were transferred directly to the feedlot (NW-control/feedlot), a normal weaned group that grazed unharvested corn set aside for grazing after weaning (NW-corn), an early weaned group (Aug.) that was transferred directly to the feedlot (EW-feedlot), and an early weaned (Aug.) group that grazed unharvested corn before transfer to the feedlot (EW-corn). Following steer grazing, cows grazed the corn stalk residue before winter hay feeding began. From September to January, corn CP declined 52.4%, IVDMD declined 42.3%, NDF content increase 30.8%, and ADF increased 67.7%. Due to field variability, peak DM corn production for the EW-corn group averaged 3.18 Ton/Ac. and for the NW-corn group peak corn production was 2.76 Ton/Ac. The EW-corn steers grazed for 81 d compared to 38.5 d for the NW-corn steers. Although peak corn production was less, reduced grazing days was also due to field DM losses of 1.25 Ton/Ac. in the corn set aside for the NW-corn steers. Total gain ($P < 0.01$) and ADG ($P = 0.052$) for the NW-control, NW-corn, EW-corn, and EW-feedlot was 161, 1.99; 85, 2.21; 179, 2.21; and 168, 2.07, respectively. System cost/lb. of gain and backgrounding net return/steer for the NW-control, NW-corn, EW-corn, and EW-feedlot was \$0.6043, \$83.02; \$1.09, \$0.40; \$0.5153, \$102.86; and \$1.6974, \$70.99, respectively. When EW-corn steer beef gain and cow hay savings from corn stalk residue grazing were converted to corn grain equivalents/ac, the combined beef to corn equivalent was 110.2 bu/ac. The 110.2 bu/ac beef corn equivalent was 35.6% greater than conventional corn grain production reported in Western North Dakota. Under grazing conditions, post-weaning illness was virtually non-existent; however, EW-feedlot steers experienced 1st, 2nd, and 3rd feedlot pulls for treatment of 17.5%, 8.77%, and 3.51%, respectively.

The effect of weaning treatment on subsequent feedlot performance was evaluated. Due to the systems comparison, feedlot starting weight differed significantly ($P < 0.01$) ranging from 422 lb in the EW-feedlot group to 715 lb in the NW-corn group; slaughter weight did not differ ($P > 0.10$). The number of days on feed was greatest for EW-feedlot steers (291d) and least for the NW-corn steers (177d) ($P < 0.01$). For the NW-control, NW-corn, EW-corn, and EW-feedlot, gain, ADG, feed:gain, and feed cost/lb of gain differed significantly and were 666, 3.16, 6.04, and \$0.63; 588, 3.41, 6.75, and \$0.70; 625, 3.39, 6.38, and \$0.63; 843, 3.03, 5.51, and \$0.53, respectively. Carcass marbling score was greater ($P < 0.01$) for the EW-feedlot steers, but all other carcass measurements did not differ ($P > 0.10$).

Retained ownership net return for the NW-control, NW-corn, EW-corn, and EW-feedlot was \$91.87, \$67.12, \$109.97, and \$173.60, respectively.

This evaluation of beef systems indicates that early weaning has a positive influence on beef profitability. After weaning, but before feedlot entry (backgrounding) EW-corn grazing has the greatest profitability potential. However, when early weaned steers were retained through finishing, placing the steers directly into the feedlot had the greatest potential for profitability, which was directly related to lower steer placement cost. Post-weaning non-confinement eliminated calf illness, daily feeding and checking, and manure accumulation.

Introduction

Although beef cattle producers realized an average net return of \$109.34 per cow in 2010, the 10 year average has ranged from \$0 -\$212/cow (ND Farm & Ranch Business Management Program Annual Report, 2010). Since profit swings can

fluctuate from a negative return to above average returns through the different phases of the cattle cycle, ever increasing production costs, price volatility, unprecedented corn and energy prices, and drought combine to challenge profitability.

In a previous investigation (Landblom et al., 2006), forage utilization among early (August: **EW**) and normal (November: **NW**) weaned beef cows, and the effect of weaning date on cow and calf performance was determined. Weaning calves sooner than normal had a positive impact on growth and efficiency during the backgrounding phase, improved cow body condition score entering the wintering period, reduced range forage utilization, and shortened the lifetime feeding period of steers held for retained ownership. Retained ownership analysis concluded that weaning early improved feedlot production efficiency by increasing feed efficiency and reducing the cost per pound gained in the feedlot relative to the normal weaning (Fausti et al., 2007). However, early weaned steers were marketed at a lighter weight, resulting in lower revenue per head relative to normal weaned steers. The net outcome for an early weaning effect on profitability was not statistically significant. And subsequently, Landblom et al. (2008) documented that significantly altering weaning date can have a positive impact on business profitability in the beef cattle enterprise.

In the third-phase in this long-term evaluation, the research was conducted cooperatively between scientists from the South Dakota State University's West River Agricultural Center, Rapid City, South Dakota, and North Dakota State University's Dickinson Research Extension Center, Dickinson, North Dakota. The research goal was to determine the value of an alternative post-weaning management procedure in which normal and early weaned steer calves either grazed unharvested forage-type corn (90-95 day varieties) or were sent directly to the feedlot. Using a leader-follower protocol, calves grazed the higher quality plant parts and cows followed grazing the corn stalk residue. We hypothesized that greater reliance on direct grazing would reduce steer backgrounding input costs, yield a higher return per acre than grain corn, and corn residue grazing would reduce cow winter feed cost. In addition, we hypothesized that disbursal of calves grazing unharvested corn would reduce common health problems and manure accumulation associated with confinement.

Materials and Methods

All procedures used in this investigation were approved by each state's Institutional Animal Care and Use Committee.

Spring calving cows originating at the South Dakota State University Antelope Station (ANT), Buffalo, SD, and the North Dakota State University Dickinson Research Extension Center (DREC) ranch headquarters, Manning, ND are being used in a 2 x 2 factorial arrangement comparing the effect of weaning date (August vs. November) and winter feeding method (hay vs. extensive grazing of stockpiled range or corn stalks). Post-weaning calf management is also being evaluated in a 2 x 2 factorial treatment arrangement comparing delivering calves directly to the feedlot as calf-feds with calves that graze unharvested corn before delivery to the feedlot.

Each year of the study, EW steers were weaned mid-August and NW steers were weaned the 1st week of November. At each weaning date, steers from the ANT and DREC research facilities were randomly assigned to either feedlot or corn grazing backgrounding treatments. For the feedlot treatment, steers were weaned and shipped directly to the University of Nebraska Panhandle Research Extension Center feedlot, Scottsbluff, Nebraska where they were backgrounded and subsequently finished. At weaning, steers assigned to the corn grazing treatment were held in feedlot pens for 10.5 days for weaning recovery. EW and NW steers were transferred to the corn fields the last week of August and the 3rd week of November, respectively. When most of the leaves, husks, and ears had been grazed off, the steers were shipped to the UNL Panhandle Feedlot for growing and finishing. Steer weight, frame size, and backfat depth of 0.50 inch are being used to determine final harvest endpoint. Measurement for backfat depth was conducted 30 – 45 days before final harvest using a SonoVet ultrasound machine and 3.5 MHz probe. Growth performance, health events, and closeout values were recorded.

Tracking calf health is an important component of this beef systems investigation. Calves involved in the investigation from the ANT and DREC research facilities received initial immunization before spring turnout on native pasture and then were re-vaccinated 3-4 weeks before each weaning date and again at weaning with modified live vaccine preparations that included IBR, BVD types I and II, PI_3, BRSV plus Mannhiema haemolytica, and a 7-way Clostridial vaccine that included H. somunus. In addition, the calves were poured with a parasiticide. After weaning, the calves were observed closely for the onset of health problems and treatment prescribed by the attending veterinarian at each facility was followed. The following health information is being recorded: body temperature, number of pulls, product used for

treatment and cost, percent death loss, and system cost due to death loss.

Cows from the ANT and DREC research facilities were assigned in a 2 x 2 factorial arrangement to two weaning date groups, i.e. early (150 days of age) and normal (225 days of age) weaning grazing groups, and after normal weaning in November, one-half of the cows from each weaning group were randomly assigned to one of two winter management groups: High Input (HI: Hay) or Low Input (LI: Winter grazing of stockpiled native range or corn stalks). The LI group is being wintered on stockpiled winter range in South Dakota and the LI group in North Dakota is being wintered grazing corn stalks after calves have sufficiently grazed out the unharvested corn in a "Leader-follower" program. All cows are switched to hay prior to calving and hay feeding continued until the cows and calves were turned out on spring pasture. Metabolizable protein intake was maintained with distiller's grain supplementation.

The cow wintering results are being summarized in a separate research report except for the corn residue grazing after calves were removed is being reported in this report and in the separate cow report.

Results and Discussion

This 2-year alternative beef systems investigation seeks to measure the effect of greater direct animal harvesting as a replacement for mechanically harvested feeds. Intuitively, one would expect direct animal harvesting would reduce input cost associated with producing backgrounded calves. Weaning spring-born calves in August as compared to weaning at a more typical date in November has result in an energy allocation shift. During a typical 7-month lactation period in the northern Great Plains, nutritional value of native range declines over time until the cow's nutrient requirements for maintenance and lactation cannot be met, and body reserves are drawn down. Terminating lactation after a shortened 5-month nursing period has been beneficial for both cows in the investigation and the range resource (Landblom et al. 2008).

In an economic analysis of our previous research with EW and NW, Fausti et al. (2007), analyzed post-weaning performance and identified that EW steers arrived at the feedlot approximately 80 days younger and 170 pounds lighter than their NW counterparts. The EW steers spent an average 31 days longer in the feedlot, but were 50 days younger and 92 pounds lighter at final harvest (live weight basis). Early weaned steers gained more weight in the feedlot, but ADG was not affected by weaning treatment. There was no statistical evidence that weaning treatment affected carcass YG, fat depth, or dressing percent. However, NW dressed carcasses were an average 53 pounds heavier. This HCW advantage explains a majority of the $55 dressed carcass revenue differential advantage NW steers had relative to EW steers. Regression analysis was used to evaluate the effect of early weaning on total slaughter steer revenue. The analysis indicated that early weaning does have a positive effect on carcass revenue once other influences are accounted for. This finding is consistent with the LS means result that normal weaned steers had a higher level of per head carcass revenue than early weaned steers once you consider that carcass weight explains 82% of the variability in the regression equation. The results suggested that early weaning will have a positive effect on carcass revenue if early weaned steers are sold at heavier weights.

Considering the results of Fausti et al. (2007) in the previous study, the present investigation was conducted to compare calf growing methods for EW and NW calves after weaning that included either direct shipment to the feedlot or extensively fall grazing unharvested corn before shipment to the feedlot and then finishing the steers based on a high quality carcass merit grid. Standing corn forage nutrient quality was measured over time and the results are shown in Table 1. During the period from mid-September, when peak corn production was measured, to mid-January, crude protein declined 52.4%, invitro dry matter digestibility declined 42.3%, neutral detergent fiber content increase 30.8%, and acid detergent fiber increased 67.7%.

Dry matter unharvested corn utilization for steer calves is shown in Table 2 and residual corn stalk utilization for dry gestating cows is shown in Table 3. Peak dry matter corn production among EW steers averaged 3.18 tons/acre and peak corn production for the NW group was 2.76 tons/acre. Early weaned steers utilized an average 2.14 tons/acre over an average 81 day grazing period and cows utilized an average 0.51 tons/acre of corn stalk residue. Field losses in the unharvested corn, which was set aside for grazing after the NW steers were weaned in November, was high averaging 1.25 tons/acre. The average number of grazing days was 38.5 in the NW treatment group. The large field loss and lower peak corn production observed resulted in a 52.5% reduction in grazing days in the NW treatment.

Grazing requirement for EW-corn steers was calculated to be 0.21 acres/steer/month and for NW-corn steers the acreage requirement was 0.44 acres/steer/month. Residual corn residue provided 28 days of grazing for a 1,200 lb cow.

In the systems comparison, control steers grazed native range until the 1st week of November, when they were weaned and shipped directly to the feedlot for growing and finishing. Systems animal performance and economics are shown in Tables 4 and 5. Average daily gain was 1.99, 2.21, 2.21, and 2.07 lb/head/day for the NW-control, NW-corn, EW-corn, and EW-feedlot, respectively. The total number of pounds gained was significantly greater for the EW-corn treatment ($P = 0.052$). Treatment cost per hundredweight of gain was $60.43, $109.00, $51.53, and $69.74 for the NW-control, NW-corn, EW–corn, EW-feedlot, respectively.

The effect of alternative weaning date and management systems on calf illness has been summarized in Table 7. Due to differences in each system's protocol, the EW-feedlot steers arrived at the feedlot in mid-August whereas the NW-corn steers didn't arrive at the feedlot until the 1st week of January. Overall, the later arriving steers experienced less feedlot illness (bloat and Bovine Respiratory Disease). None of the steers that grazed either native pasture or unharvested corn needed to be treated for any kind of illness; however, during the same time period, a significant number of steers in the EW-feedlot group needed multiple treatments. The percentage of steers needing to be treated once, twice, and three times was 17.5, 8.77, and 3.51%, respectively. The treatment cost averaged $9.92/steer. Once in the feedlot, treatment frequency for the other treatment groups did not differ and treatment cost was low. These illness and treatment data do not agree with our own data and the data of others that has shown EW calves to experience less BRD problems.

Whole plant grazing value for calves and residue for cows, when converted to beef, has much higher value. In order to compare the corn grazing value, steer beef gain and hay savings resulting from residue grazing has been converted to corn grain equivalents (Table 6). Using corn priced at $6.50/bu. and hay priced at $45/T the value of beef and winter hay savings amounted to a combined corn equivalent of 110.2 bu./Ac. By comparison, corn grain yield reported for Region 4 in the 2010 North Dakota Farm and Ranch Business Management Education Annual Report was 70.9 bu/ac. The 110.2 bu/ac beef corn equivalent was 35.6% greater than corn grain production. One of the contributing factors to higher returns from corn grazing is that animal harvesting eliminates combining, reducing corn production cost by $20.00/ac or more. Twenty dollars per acre was used for combining in the analysis.

The effect of weaning treatment on retained ownership through to finish is shown in Table 8 and the carcass closeout measurements are shown in Table 9. Due to the systems comparison, starting weight differed significantly ($P < 0.01$) ranging from 422 lb in the EW-feedlot group to 715 lb in the NW-corn group. Since ultrasound was used to determine slaughter end point (Minimum Fat Depth of 0.50 inch), slaughter weight did not differ ($P > 0.10$). The number of days on feed was greatest for EW-feedlot steers (291d) and least for the NW-corn steers (177d) ($P < 0.01$). The age at slaughter was least for the NW-control (399d) and greatest for the NW-corn (451d) ($P < 0.01$). For the NW-control, NW-corn, EW-corn, and EW-feedlot, gain, ADG, feed:gain, and feed cost/lb of gain differed significantly and were 666, 3.16, 6.04, and $0.63; 588, 3.41, 6.75, and $0.70; 625, 3.39, 6.38, and $0.63; 843, 3.03, 5.51, and $0.53, respectively. Carcass closeout measurements did not differ ($P > 0.10$) for hot carcass weight, dressing percent, ribeye area, fat depth, yield grade, and the percent of carcasses grading Choice quality grade or higher. Marbling score was greater for the EW-feedlot steers fed concentrate diets for the longest period of time (291d) compared to the other treatment groups ($P < 0.01$).

The effect of alternative methods and retained ownership on finishing economics is shown in Table 10. Steer price used in the analysis was based on price at the time of feedlot entry and had the greatest influence on profitability differences between management methods. All of the treatment groups were profitable; however, the EW-corn steers entered the feedlot at the lightest weigh and had the lowest placement cost of $506.00/head whereas the NW-corn steers were the heaviest when they entered the feedlot ($P < 0.01$) and cost $684.97 to place; $178.97 more/head. Net return from retained ownership was greatest among EW steers. EW-feedlot steers had the highest net return of $173.60/head followed by the EW-corn steers that returned $109.97/head. Net return to retained ownership was lowest for the NW steers. The NW-control steers returned $91.87/head and the NW-corn returned $67.12/head.

Implications

This evaluation of beef systems indicates that EW positively influences profitability. EW-corn grazing has the greatest profitability potential prior to feedlot entry and EW-feedlot steers have the greatest potential for profitability when ownership is retained until final harvest as finished steers. Feedlot calf placement cost had the greatest influence on retained ownership profitability. Regardless of weaning date, non-confinement virtually eliminated post-weaning

illness, eliminated daily feeding, and disbursed waste across the landscape.

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Table 1. September – January Corn Nutrient Quality Change

	C- Prot	*NDF*	*ADF*	*IVDMD%*	*IVOMD*	*Ca*	*P*
	%	%	%	%	%	%	%
Whole Plant/Stalks:							
Sept.	9.16	61.0	30.0	75.2	74.8	0.20	0.16
Nov.	8.66	70.2	40.5	59.0	57.0	0.23	0.12
Jan.	4.36	79.8	50.3	43.5	40.9	0.32	0.05
Corn Grain:							
Sept.	14.1	12.2	3.10	90.8	90.4	0.03	0.37
Cobs:							
Sept.	4.33	81.5	39.2	64.1	63.1	0.01	0.12
Litter (trash on ground):							
Jan.	9.57	72.1	36.7	64.7	64.8	0.31	0.11

Table 2. Corn Utilization - Steers (DM Tons/Acre)

	EW Start Grazing/ Peak Corn Production Sept	***NW Start Grazing Nov***	***Field Loss***	***End Graze***	***Calf Utilization***	***Stalk Residue***
	T/Ac	T/Ac	T/Ac	T/Ac	T/Ac	T/Ac
Early Wean Steers	3.18	-	-	0.87	2.14	0.87
Normal Wean Steers	2.76	1.51	1.25	0.54	0.97	0.54

Table3. Corn Residue Utilization – Non-Lactating Pregnant Cows (DM Tons/Acre)

	Start Corn Stalk residue Grazing	***End Corn Stalk Residue Grazing***	***Cow Stalk Residue Utilization***	***Residue Grazing days for a 1,200 lb Cow, Days[a]***
	T/Ac	T/Ac	T/Ac	
Early Wean Steers	0.87	0.36	0.51	28
Normal Wean Steers	0.54	0.27	0.27	15

[a] Calculation based on 36 lb. DM/day

Table 4. Alternative Beef Systems Performance

	NW- Control Pasture	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot	SE	P-Value
Weaning Date	Nov 2&7	Nov 2&7	Aug 15&18	Aug 15&18		
No. Steers	78	48	48	78		
Pre-Unhvsted Corn Grazing (Drylot):						
Days in Drylot[a]	----	10.5	10.5	----		
Drylot St. Wt.(Aug 15, Nov 7), lb	----	620	456	----		
Drylot End Wt., lb	----	618	466	----		
Drylot Gain, lb	----	-2.0	10.0	----	2.34	0.006
Drylot ADG (Drylot), lb	----	-0.19	0.95	----	0.256	0.008
Alternative Systems:						
System Days	81[b]	38.5[a]	81[b]	81[b]	0.67	0.0001
System Start Wt., lb	438	618	466	434	22.42	0.0001
System End Wt., lb	599	703	645	602	22.51	0.0087
Gain, lb	161[c]	85[d]	179[a]	168[b]	6.64	0.0001
ADG, lb	1.99[b]	2.21[a]	2.21[a]	2.07[ab]	0.094	0.0517

[a]Weaned steers were held in drylot for an average 10.5 days for weaning recovery.

Table 5. Alternative Beef System Unharvested Corn, Pasture, and Feedlot Economics

	NW- Ctrl Pasture/ Feedlot	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot
No. Steers	81	48	48	81
Total Gain, lb	13,041	4,080	8,592	13,608
Gain Value [a,b,c,d]	$14,605.92	$4,447.20	$9,365.28	$15,240.96
Input Cost:				
Pasture (Rent @$14.00/ac)[e]	$7,881.30			
Corn Input Cost ($164/ac)[f]		$4,428	$4,428	
Feedlot Cost[g]				$9,490.08
Backgrounding Net Return	$6,724.62	19.20	$4,937.28	$5,750.88
Backgrounding Net Return/Head	$83.02	$0.40	$102.86	$70.99
Cost/Lb. Gain	$0.6043	$1.09	$0.5153	$0.6974

[a]NW Control Gain Value (13,041 lb @ $112/cwt)
[b]NW Corn Grazing Gain Value (4,080 lb @ $109/cwt)
[c]EW Gain Value (8,592 lb @ $109/cwt)
[d]EW Feedlot Gain Value (13,608 lb @ $112/cwt)
[e]Pasture Rent Calculation: 2.78 months, 2.5 AUM; = 6.95 Ac/AUM @ $14/Ac; = $97.30 x81 = $7,881.30
[f]Corn Input Cost $184/ac less combining @ $20/ac; $164/ac
[g]University of Nebraska feedlot cost

Table 6. Corn Grazing Grain Equivalent, Bu/Acre

	Corn Price/ Bu	Early Wean –Grain Yield Equivalent Bu/Ac	Normal Wean –Grain Yield Equivalent Bu/Ac
Steer Grazing Gain Value/Ac:			
EW (Mid-August) Steers = $693.72/Ac	6.50	106.7 Bu	
NW (1st Week of Nov) Steers = $329.42			50.7 Bu
Corn Stalk Residue Grazing Value:			
EW System Cows = 1,200 # Cow, Residue Replaced 36# DM/Day[a]	6.50	3.5 Bu	
NW System Cows = 1,200# Cow, Residue Replaced 36# DM/Day[b]	6.50		1.9 Bu
Combined Steer Gain and Residue Corn Equivalent Value/Ac		110.2 Bu	52.6 Bu

[a, b] Residue in the EW treatment replaced 28 days of hay (1,020# x $0.0225/#) and in the NW treatment 15 days of hay (1,080# x $0.0225) was replaced ($45/Ton).

Table 7. Alternative Production Effect on Health Pulls and Treatment Costs

	NW- Control Pasture/Feedlot	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot
Treatments During Grazing	0.0%	0.0%	0.0%	
Treatments in the Feedlot:				
No. Pulls for Treatment: 1	3.7%	3.75%	0.0%	17.5%
2				8.77%
3				3.51%
Avg. Treatment Cost/Head	$1.72	$3.87	$0.0	$9.92

Table 8. Effect of Alternative Weaning Date and Corn Grazing on Steer Finishing Performance

	NW- Control Pasture/F-lot	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot	P-Value
Start Wt., lb	587[c]	715[a]	653[b]	422[d]	0.0001
Shrunk Finished End Wt., lb[a]	1254	1301	1276	1263	0.2921
Days on Feed	213[b]	177[d]	189[c]	291[a]	0.0001
Kill Age, Days	399[b]	451[c]	423[a]	423[a]	0.0001
Gain, lb	666[b]	588[d]	625[c]	843[a]	0.0001
ADG, lb	3.16[c]	3.41[a]	3.39[a]	3.03[b]	0.0001
Fd/Head/Day (As Fed), lb	30.01[c]	33.79[a]	31.84[b]	27.96[d]	0.0001
Fd/Head/Day (Dry Matter), lb	19.95[c]	22.71[a]	21.30[b]	17.89[d]	0.0001
DM Feed:Gain, lb	6.04[a]	6.75[a]	6.38[a]	5.51[b]	0.0066
Fd & Yard Cost/Day, $	1.96[c]	2.35[a]	2.13[b]	1.60[d]	0.0001
Fd & Yard Cost/Lb of Gain, $	0.63[a]	0.70[c]	0.63[a]	0.53[b]	0.0001

[a] 4% Shrink

Table 9. 2 Year Effect of Alternative Weaning Date and Corn Grazing on Carcass Measurements

	NW – Control Pasture/F-Lot	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot	SE	P-Value
Hot Carcass Wt., lb	779.1	799.9	783.2	777.7	12.17	0.55
Carc. Dressing Percent, %	62.0	61.2	61.2	60.7	0.545	0.33
Ribeye Area, sq. in.	12.08	12.56	12.29	112.15	0.146	0.17
Fat Depth, in.	0.544	0.528	0.544	0.581	0.0264	0.25
Yield Grade[a]	3.35	3.24	3.31	3.42	0.075	0.27
Marbling Score	459[a]	453[a]	474[a]	515[b]	11.99	0.005
% Choice Carcasses	83.7	70.8	83.8	86.2	4.84	0.19

[a]Yield Grade correlation to percentage of boneless, closely trimmed retail cuts: 1 = 54.6%, 2 = 52.3%, 3 = 5.0%, 4 = 47.7%, and 5 = 45.4%

Table 10. Effect of Alternative Weaning Date and Corn Grazing on Finishing Economics

	NW – Control Pasture/ F-lot	NW – Corn Grazing	EW – Corn Grazing	EW – Feedlot
Expenses:				
Calf Value	$616.35	$684.97	$630.15	$506.00
Feed and Yardage	$419.58	$411.60	$393.75	$446.79
Treatment Cost	$1.72	$3.87	$0.0	$9.92
Freight ($4.5/mile; 425 miles)	$23.90	$29.88	$27.71	$16.20
Interest @ 6.0%	$34.18	$27.55	$30.90	$49.00
Total Expense	$1,095.73	$1,157.87	$1,082.51	$1,027.91
Carcass Value	$1,187.60	$1,224.99	$1,192.48	$1,201.51
Net Return - Profit (Loss)	$91.87	$67.12	$109.97	$173.60

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