University of Wyoming Extension

MP-126.1
August 2014

Enterprise Budget for a Cow-Calf-Yearling Operation, Northwestern Wyoming

Shane P. Ruff ~ Dannele E. Peck ~ Christopher T. Bastian ~ Walt E. Cook

Enterprise Budget for a Cow-Calf-Yearling Operation, Northwestern Wyoming

Authors:

Shane P. Ruff, *Farm Management Specialist, Kansas Farm Management Association, and former Graduate Research Assistant, UW*

Dannele E. Peck, *Associate Professor, Department of Agricultural and Applied Economics, University of Wyoming*

Christopher T. Bastian, *Associate Professor, Department of Agricultural and Applied Economics, University of Wyoming*

Walt E. Cook, *Clinical Associate Professor, Department of Veterinary Pathobiology, Texas A&M University*

Acknowledgements: The Wyoming Livestock Board provided primary funding for this research, with additional funding from the Lowham Research Fund. The authors wish to thank agricultural producers and professionals in the study region who participated in a focus group in Worland. We also thank members of the Brucellosis Coordination Team for their helpful insights and suggestions.

University of Wyoming Extension

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, Director, Cooperative Extension Service, University of Wyoming, Laramie, Wyoming 82071.

INTRODUCTION

This bulletin describes costs and revenues for a 'typical' cow/calf/yearling operation in northwestern Wyoming, acknowledging that no operation is typical. It is targeted to producers, lenders, and educators who require a baseline budget as a reference point from which they can explore potential effects on costs and revenues of a proposed change in an operation. Much of the information is based on a whole-farm budget by Hewlett (1993) and Roberts (2011). Hewlett (1993) relied on information from a focus group with producers in the west-central region of Wyoming. Roberts (2011) then updated costs and revenues for a typical cow/calf/yearling operation in Sublette County or areas with similar characteristics in northwest Wyoming.

The budget below (Tables 1-4) incorporates additional feedback from a focus group with producers and industry professionals in Worland on March 7, 2013. Reported costs and revenues reflect a specific set of production practices. This is not an endorsement of these practices, and it does not preclude the possibility of other practices. Readers who wish to explore other practices may adjust the budget to reflect changes in input-use, outputs, or prices.

Note that all prices in the budget are reported in US$2010. This was necessary to maintain consistency between related budgets for this region, developed by Wilson (2011), Roberts (2011), and Boroff (2013). If a reader wishes to substitute current prices, they should first deflate them to the year 2010 using a Producer Price Index. If current prices are substituted into the budget without deflating them, they will be artificially high compared to all other prices in the budget.

ANNUAL ACTIVITIES

Annual activities for the operation are described in Table 1 and Figure 1. The production calendar begins November 15 and ends November 14 of the following year. For the cow/calf enterprise, the calendar begins with winter feeding on November 15 and ends with the marketing of calves to the yearling enterprise and the marketing of cull animals around November 14 of the following year. For the yearling enterprise, the calendar begins with the purchase of calves from the cow/calf enterprise on November 15 and ends with the marketing of yearlings around September 10 of the following year.

HERD ASSUMPTIONS

At the start of the production calendar (November 15), the cattle herd consists of 400 cows and 280 yearlings (i.e., calves just transferred into the yearling enterprise) (Table 2). There are 20 cows to each bull for a total of 23 bulls. After calving in the spring, the cattle herd expands by 368 head (184 steer calves, 184 heifer calves). In early fall, the yearling herd returns from summer grazing and is fed for 10 days before being marketed. They consist of

177 yearling steers (weighing 977 pounds) and 97 yearling heifers (weighing 927 pounds). Yearlings are assumed to gain an average of 2 pounds per day during summer grazing, and 1 pound per day during the previous winter.

The cow/calf herd returns to the base or home operation from summer grazing later in the fall. Of the 360 surviving calves, 80 heifer calves are retained as replacements in the cow/calf enterprise; the remaining 100 heifer calves (weighing 550 pounds) and 180 steer calves (weighing 500 pounds) are sold to the yearling enterprise (on November 14). Our analysis records the transfer of calves to the yearling enterprise as sales revenue for the cow-calf enterprise on November 14 (the end of the production year). However, the yearling enterprise records this purchase as a cost on November 15 (the start of the next production year). Both enterprises then begin winter feeding on November 15, and the production calendar is repeated.

Table 1. Activities calendar for a cow/calf/yearling operation in northwestern Wyoming

Calendar Date	Cow/Calf Activities	Yearling Activities
Nov 15	Begin winter feeding	Purchase calves from cow/calf enterprise; work calves
Nov 15-Apr 15	Feeding	Feeding
Feb 15-Apr 15	Feeding; calving	Feeding
Apr 15-May 15	Trail to deeded; graze deeded	Trail to deeded; graze deeded
May 15	Branding; market open-animals; work replacement heifers	Truck to BLM; graze BLM
May 15-Jul 1	Trail to BLM; graze BLM	Graze BLM
Jul 1-Sept 1	Trail to Forest Service; graze Forest	Graze BLM
Sept 1-10	Graze Forest	Truck home; feed for 10 days; market yearlings on Sept 10
Sept 10-Oct 1	Graze Forest	Idle
Oct 1-Nov 14	Trail to deeded; graze deeded; wean calves	Idle
Nov 14	Trail to base or home operation; work cows; market culls; sell calves to yearling enterprise	Prepare to receive calves on first day of next production year (Nov 15).

Figure 1. Annual production cycle for (1) cow/calf enterprise (left), and (2) yearling enterprise (right)

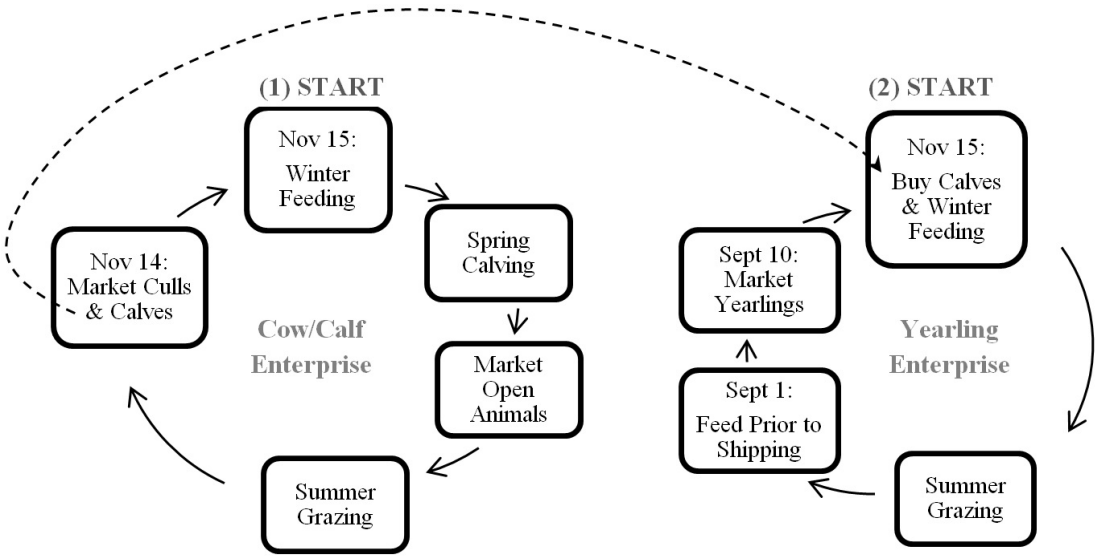

Table 2. Herd assumptions for a cow/calf/yearling operation in northwestern Wyoming

Herd Characteristics	Winter Feeding	After Calving	After Grazing
Number of cows (bred heifers and older)	400	368	365
Number of replacement heifers	80	80	80
Number of calves	0	368	360
Number of bulls	23	23	23
Number of yearlings (steers; heifers)	180; 100	180; 100	177; 97
Percent of cows weaning calves			90%
Percent death loss for calves & yearlings			2%
Percent of cows open & culled in spring			7%
Percent of cows culled in fall			9%
Feed and Pasture Sources			**Number of Days**
Cow/calf herd			
Native hay			151
Salt/mineral			365
15-20% protein cake (2 yrs+ and replc)			64
Deeded land (in spring)			30
BLM			46
USFS			92
Deeded land			45
Yearling herd			
Native hay (in winter)			151
Salt/mineral			299
Deeded land (in fall)			30
BLM			108
USFS			0
Native hay (before shipping)			10
Capital Equipment			**Number Owned**
Pickup			1
Stock trailer			1
Tractor			1
Pole barn			1
Hay wagon			1
Squeeze chute			1
Panels (# sets)			1
Loading chute			1

FEED AND PASTURE RESOURCES

All cattle are fed native hay throughout the winter months for a total of 151 days. Native hay is also fed for an additional 10 days to yearlings before they are marketed to reduce shrink from gathering and trucking off BLM pasture. Native hay price is based on monthly reports of the national average native hay price between 1985 and 2013 (LMIC, 2013). This price series is adjusted to 2010 dollars and then averaged.

During winter feeding, cows are fed 15-percent protein cake, and replacement heifers are fed 20-percent protein cake (Table 3). Yearlings and bulls are not fed protein cake. Salt and mineral are provided to the cow/calf herd throughout the year (365 days), and to the yearling herd for 299 days. Livestock are provided 0.53 ounces of salt per head per day, and 2 ounces of mineral per head per day (Ward & Lardy, 2005).

Cattle graze deeded, BLM, and U.S. Forest Service (USFS) pastures throughout the summer (Table 2). Grazing costs include both grazing fees and non-fee costs. The grazing fee for BLM and USFS land is $1.35 per head-month (HM) (United States Department of Interior, 2010). Non-fee costs for grazing BLM and USFS are from Van Tassell et al. (1997), adjusted to 2010 dollars. Non-fee costs include association fees, water maintenance, improvement maintenance, depreciation, miscellaneous labor and mileage, and other. The non-fee cost is $7.27 and $9.93 per AUM for BLM and USFS, respectively. During certain portions of the grazing season, the two herds are grazed in separate pastures. Fencing activities across all grazing pastures consist of repairing an average 10.4 miles and replacing 1.0 miles annually (Hewlett, 1993; Roberts, 2011).

VETERINARY COSTS

Veterinary costs include vaccines, medications, veterinary services, implants, insecticide, pregnancy testing, and trichomoniasis testing for bulls (Table 3). All replacement heifers and heifer calves transferred into the yearling enterprise are Bangs vaccinated to protect against brucellosis. This vaccine costs $3 per dose (Erikson, 2010; Millard, 2010).

MARKETING

Marketing costs include brand inspection, health inspection, Beef Check-off, predator tax, sales commission, and shrink. Brand inspection costs $1.50 per head (Wyoming Livestock Board, 2010). Health inspection costs $0.16 per head (Alpine Veterinary Clinic, 2010). Beef Check-off is $1 per head (Wyoming Beef Council, 2010). Predator tax is $0.10 per head (Wyoming Animal Damage Management Board, 2010). Sales commission is $10.50 per head (Riverton Livestock Auction, 2010). We also assume 2 percent shrink on yearlings at the sale barn (Hewlett, 1993).

TRANSPORTATION

Transportation costs involve a flat-rate fee of $3.20 per loaded mile (Iowa State University, 2010) for a trucking company to transport all cattle sold to a sale barn 100 miles away. Each truck can hold a maximum of 42,000 pounds. (Wyoming State Government, 2010). Yearlings are trucked to and from BLM pasture. In contrast, cows are trailed to and from all pastures.

LABOR

To complete most activities on the ranch, we assume five workers are required: the owner, one hired hand, and three additional part-time workers. Some activities require only owner labor, or owner and hired labor.

CAPITAL EQUIPMENT

Capital equipment (Table 2) includes a ranch pickup, stock trailer, pole barn, 50-hp tractor, hay wagon, squeeze chute, panels, and a loading chute (Roberts, 2011). Capital equipment represents fixed costs to the operation – the total cost of using the equipment does not change with the number of cows in the operation. Capital equipment costs are depreciated using the straight-line depreciation method. This requires information about purchase price, salvage value, and useful life, which are obtained from Kelley Blue Book (2010), Truck Paper Online (2010), National Barn Company (2010), steelonthenet.com (2010), and Seavert et al. (1992).

SUMMARY OF MAJOR COST CATEGORIES

Table 4 presents major costs categories for the cow/calf/yearling operation. For the cow/calf enterprise, major costs include winter feeding, spring calving, grazing expenses, gathering/trailing/sorting, fuel, replacement bulls, and horse-related costs (Table 4). These costs comprise $222,459 in expenses for the enterprise, which is 94 percent of the enterprise's total costs.

Winter feeding is the largest cost category for the cow/calf enterprise, accounting for 53 percent of its total cash costs, or $126,575. This includes the cost of native hay, protein supplement, and hired labor. An additional $8,947 is spent on providing salt year-round to the herd. Grazing expenses are the second-largest cost category within the cow/calf enterprise. This category includes both grazing fees and non-fee costs for deeded, BLM, and USFS land, which represent $46,047 in cost, or 19 percent of the enterprise's total costs. An additional $6,537 is spent gathering, trailing, and sorting cattle.

The yearling enterprise incurs four major cost categories: purchasing calves, winter feeding, grazing fees and non-fee costs, and marketing costs (Table 4). These account for $247,900 in cash costs for the enterprise, which is 90 percent of the enterprise's total cash costs. A few additional cost categories are listed in Table 4 to highlight their relative importance in the yearling enterprise compared to the cow/calf enterprise.

Purchasing calves is the largest cost category, representing $193,654 in costs for the enterprise, or 71 percent of total cash costs. Calves are actually transferred into the yearling enterprise from the cow/calf enterprise. During this transaction, the producer is assumed to transfer funds from the yearling enterprise to the cow/calf enterprise to reflect the opportunity cost of selling the calves to themselves rather than marketing them to an external business.

CATTLE PRICES

Calf prices are based on monthly reports from auctions in Wyoming between 1999 and 2010 (LMIC, 2013). Prices from a three-month window around the actual month of purchase or sale are selected. These prices are then adjusted to 2010 dollars using the Producer Price Index and averaged (Bureau of Labor Statistics, 2013). Cull cattle prices are provided by Winter Livestock of La Junta, Colorado, for the year 2010 only (CattleUSA, 2010). Open-cow prices are from the United States Department of Agriculture's Agricultural Marketing Service, again for the year 2010 only (USDA AMS, 2010). Bred cow prices are based on Torrington Livestock Markets' prices between 2002 and 2010 (as used in Wilson, 2011). See Table 3 for average prices assumed in the analysis.

REVENUE AND NET REVENUE

The cow/calf enterprise generates $251,987 in total revenue and $237,125 in cash costs. Net revenue, after paying cash costs, is $14,862. The yearling enterprise generates $300,941 in total revenue and $274,062 in cash costs. Net revenue over cash costs is $26,879.

Combining the two enterprises, the operation as a whole generates $552,928 in revenue and $511,187 in cash costs for a net revenue of $41,741. This combined net revenue represents the amount of revenue remaining, after paying cash costs, for the owner to use toward interest on operating loans, equipment depreciation, and compensation for their own labor. These additional cost categories, which may be non-cash costs for some producers, sum to $63,065. This figure includes $35,783 for operating loan interest (assuming a 7 percent interest rate), $7,794 for equipment depreciation, and $19,488 for owner labor. Estimated profit before taxes is negative: -$21,324.

Table 3. Enterprise budget for a cow/calf/yearling operation in northwestern Wyoming

	Price (US$2010)	Unit	Weight (lbs)	# Head	Total	Per Unit[a/]
Revenues (Cow/Calf)						
Cull cows (3 yrs+)	$0.57	per lb	1200	19	$41,040	$92
Cull 2-yr-olds	$0.61	per lb	1000	8	4,880	11
Cull replacement heifers	$1.08	per lb	900	9	8,748	20
Cull bulls	$0.70	per lb	1650	3	3,465	8
Cull horse	$0.20	per lb	1000	1	200	0.5
Steer calves	$1.35	per lb	550	180	133,234	299
Heifer calves	$1.26	per lb	500	100	60,420	136
Total Rev (Cow/Calf)					***$251,987***	***$566***
Cash Costs (Cow/Calf)	**Price**	**Unit**	**Quantity**	**Unit**	**Total**	**Per Unit[a/]**
Winter feed (native hay)	$102.29	per ton	1,064	tons	$108,879	$245
Protein cake						
15% Protein	430.00	per ton	26	tons	11,008	25
20% Protein	285.00	per ton	5	tons	1,459	3
Salt	0.13	per lb	6,082	lbs	791	2
Mineral	0.34	per lb	22,949	lbs	7,803	18
Fencing costs						
Repair	60.35	per mile	5.2	miles	314	1
Replace	3,681	per mile	0.5	miles	1,840	4
Private pasture	15.72	per AUM	1,440	AUMs	22,638	51
BLM grazing fees	1.35	per HM	584	HMs	789	2
BLM non-fee costs	7.27	per AUM	665	AUMs	4,833	11
USFS grazing fees	1.35	per HM	1,444	HMs	1,950	4
USFS non-fee costs	9.93	per AUM	1,595	AUMs	15,838	36
Veterinary costs					12,529	28
Marketing & trucking					2,128	5
Replacement bulls	3,000	per bull	3	bulls	9,000	20
Replacement horse	2,500	per horse	1	horse	2,500	6
Fuel						
Pickup	3.09	per gallon	2,203	gallons	6,807	15
Tractor	2.94	per gallon	1,200	gallons	3,529	8
Hired labor	13.85	per hour	1,548	hours	21,436	48
Miscellaneous					350	1
Total Cash Costs (Cow/Calf)					***$237,125***	***$533***
Revenues (Yearling)	**Price**	**Unit**	**Weight (lbs)**	**# Head**	**Total**	**Per Unit[b/]**
Yearling steers	$1.14	per lb	977	177	$197,831	$722
Yearling heifers	1.15	per lb	927	97	103,110	376
Total Rev (Yearling)					***$300,941***	***$1,098***
Cash Costs (Yearling)						
Purchase steer calves	$1.35	per lb	550	180	$133,234	$486
Purchase heifer calves	$1.21	per lb	500	100	60,420	221

(Table 3 continued)

Cash Costs (Yearling)	Price	Unit	Quantity	Unit	Total	Per Unit[b/]
Feed (native hay)	$102.29	per ton	323	Tons	$22,229	$81
Salt	0.13	per lb	2,773	lbs	361	1
Mineral	0.34	per lb	10,465	lbs	3,558	13
Fencing costs						
Repair	60.35	per mile	5.2	miles	314	1
Replace	3,681	per mile	0.5	miles	1,840	4
Private pasture	15.72	per AUM	240	AUMs	3,770	14
BLM grazing fees	1.35	per HM	993	HMs	1,340	5
BLM non-fee costs	7.27	per AUM	850	AUMs	6,182	23
Trucking	$3.20	per mile	1000	miles	3,200	12
Veterinary costs					4,147	15
Marketing					9,652	35
Fuel						
Pickup	3.09	per gallon	1,200	gallons	3,708	14
Tractor	2.94	per gallon	388	gallons	1,140	4
Hired labor	13.85	per hour	527	hours	7,302	27
Miscellaneous					150	1
Total Cash Costs (Yearling)					***$274,062***	***$1,000***
TOTALS						
Total Revenue (Cow/Calf/Yearling)					***$552,928***	***$769[c/]***
Total Cash Costs (Cow/Calf/Yearling)					***511,187***	***711***
Revenue Over Cash Costs (Cow/Calf/Yearling)					**41,741**	**58**
Ownership Costs[d/]						
Interest on operating loans	7	percent	511,187	dollars	35,783	50
Depreciation of equipment[e/]					7,794	11
Owner labor	$13.85	per hour	1,407	hours	19,488	27
Total Ownership Costs (Cow/Calf/Yearling)					***$63,065***	***$88***
TOTAL COST					***$574,252***	***$799***
Revenue Over Total Cost (Cow/Calf/Yearling)					**-$21,324**	**-$30**

[a/] Per Unit = Total ÷ 445 cows that return from summer grazing (but prior to fall culling).

[b/] Per Unit = Total ÷ 274 yearlings that return from summer grazing.

[c/] Per Unit = Total ÷ (445+274) cows and yearlings that return from summer grazing.

[d/] These may be non-cash costs for some producers, and cash-costs for other producers.

[e/] Depreciation is calculated using straight-line depreciation and assumed to be fixed each year regardless of the number of hours equipment is actually used.

Table 4. Major cost categories for cow/calf/yearling operation in northwestern Wyoming

Activity	Value (US$2010)
Cow/calf enterprise	
Winter feeding	$126,575
Grazing fees & non-fee costs	46,047
Fuel	10,336
Replacement bulls	9,000
Salt and minerals	8,947
Spring calving	8,259
Horses (feed, vet, shoes, replacements)	6,758
Gather, trail, sort cattle	6,537
Total major cash-costs	**$222,459**
Total enterprise cash-costs	**$237,125**
Percentage of total cow/calf enterprise cash costs	**94%**
Percentage of total cow/calf/yearling operation cash costs	**44%**
Yearling enterprise	
Purchase calves	$193,654
Winter feeding	33,252
Grazing fees & non-fee costs	11,292
Marketing costs (excluding trucking)	9,702
Fuel	4,848
Salt and minerals for yearlings	4,195
Trucking during grazing and marketing	3,865
Fence repair/replacement	3,510
Gather, trail, sort	2,438
Total major cash costs	**$266,756**
Total enterprise cash costs	**$274,062**
Percentage of total cow/calf enterprise cash costs	**97%**
Percentage of total cow/calf/yearling operation cash costs	**52%**

Note: This table aggregates major cost categories described in Table 3 to make it easier to compare their relative size, both within and across the cow/calf and yearling enterprises.

REFERENCES

Alpine Animal Hospital. 2010. Phone conversation between Alpine Animal Hospital representative and graduate student Bryan Wilson regarding veterinary fees. Laramie, WY. August, 2010.

Boroff, K. L. 2013. Cost-Benefit Analysis of Elk Brucellosis Prevalence Reduction in the Southern Greater Yellowstone Ecosystem. Master's thesis, Department of Agricultural and Applied Economics, University of Wyoming, Laramie, WY.

Bureau of Labor Statistics (BLS). 2013. Producer Price Index. Available at: ftp://ftp.bls.gov/pub/time.series/pc/pc.data.4.Food. Accessed February 10, 2013.

CattleUSA. 2010. Winter livestock market report, LaJunta, CO. July 27, 2010. Online resource. Available at: http://www.cattleusa.com/marketReport_popUp.php?reportID=1780. Accessed August 6, 2010.

Erikson, Dan. DVM. 2010. Personal communication conducted by Trent Roberts with Dan Erikson, DVM, and practitioner at Erikson Veterinary Service in Afton, WY, regarding adult booster vaccination costs. Feb 22, 2010.

Hewlett, J. 1993. Wyoming western mountain region ranch budget. Department of Agricultural and Applied Economics, University of Wyoming. Unpublished Data.

Iowa State University 2010. 2010 Iowa farm custom rate survey. File A3-10 Available at: http://www. extension.iastate.edu/publications/ FM1698.pdf. Accessed May 17, 2010.

Kelley Blue Book. 2010. 2010 Chevrolet Silverado 2500 HD regular cab 2-door work truck pickup. Online data. Available at: http://www.kbb.com/new-cars/chevrolet/silverado-2500-hd-regular-cab/2010/price-with-options?id=262057&category=pickup. Accessed July 21, 2010.

Livestock Marketing Information Center (LMIC). 2013. Livestock Marketing Reports. Available at: http://www.lmic.info. Accessed Feb 22, 2013.

Millard, Glenn DVM. 2010. Personal communication via phone conducted by Trent Roberts with Glenn Millard DVM and practitioner at Millard Glenn R DVM in Daniel, WY, regarding RB51 adult booster vaccination. February 22, 2010.

National Barn Company. 2010. Barn prices. Mountain Division. Online data. Available at: http://www.nationalbarn.com/mountain-division.html. Accessed February 15, 2011.

Northwestern Wyoming Cattle Producers. 2013. Producer focus group meeting hosted by Shane Ruff, graduate student at the University of Wyoming, in Worland, WY. March 7, 2013.

Riverton Livestock Auction. 2010. Phone conversation conducted by Trent Roberts with a representative from Riverton Livestock Auction of Riverton, WY, regarding sale commission charges. September, 2010.

Roberts, T.W. 2011. Costs and Expected Benefits to Cattle Producers of Brucellosis Management Strategies in the Greater Yellowstone Area of Wyoming. Master's thesis, Department of Agricultural and Applied Economics, University of Wyoming, Laramie, WY.

Seavert, C.F., Macnab, S., Tuck, B., & Nesse, P. 1992. Enterprise Budget: Cow Calf, North Central Region. EM 8529. October 1992. Oregon State University Extension Service. Available at: http://arec.oregonstate.edu/oaeb/files/pdf/EM8529.pdf. Accessed May 18, 2010.

Steelonthenet.com. 2010. Steelmaking Commodity Prices. Online data. Available at: http://www.steelonthenet.com/commodity_prices.html. Accessed February 15, 2011.

Truck Paper. 2010. Livestock trailers for sale: 2010 S & S DURA-LINE 6.8 x 20 gooseneck stock trailer. Online data. Available at: http://www.truckpaper.com. Accessed July 21, 2010.

United States Department of Agriculture Agricultural Marketing Service Market News (USDA-AMS). 2010c. Feeder Cattle Weighted Average Report for July 30, 2010. Cull cattle sale prices. Online resource. Available at: http://search.ams.usda.gov/mndms/2010/07/TO_ LS14020100730 .TXT. Accessed May 16, 2011.

United States Department of Interior (US-DOI). 2010. BLM and Forest Service announce 2010 grazing fee. Available at: http://www.blm.gov/wo/st/en/info/newsroom/ 2010/january/NR_01_29_2009.html. Accessed May 11, 2010.

Van Tassell, L.W., Torell, L.A., Rimbey, N.R., & Tom, B.E. 1997. Comparison of forage value on private and public leases. Journal of Range Management. 50(3):300-306.

Ward, M., Lardy, G. 2005. Beef cattle mineral nutrition.AS-1287. June 2005. North Dakota State University, Agriculture and University Extension. Available at: http://www.ag.ndsu.edu/pubs/ansci/beef/as1287w.htm. Accessed August 16, 2010.

Wilson, B.A. 2011. Economic Impacts of Brucellosis Outbreaks in Wyoming Cattle Herds under Alternative Federal Policies. Master's thesis, Department of Agricultural and Applied Economics, University of Wyoming, Laramie, WY.

Wyoming Animal Damage Management Board (WADMA). 2010. ADMB revenue. Online resource. Available at: http://www.wyadmb.com/revenue.htm. Accessed July 18, 2010.

Wyoming Beef Council (WBC). 2010. Wyoming Beef Council strategic plan. Available at: http://www.wybeef.com/CMDocs/Wyoming/WBC_StrategicplanII.pdf. Accessed July 18, 2010.

Wyoming Livestock Board (WLSB). 2010. Change in brand inspection fees. Available at http://wlsb.state.wy.us/brands.htm. Accessed July 15, 2010.

Wyoming State Government (WSG). 2010. Statutory size and weight limits. Online resource. Available at: http://www.whp.dot.state.wy.us/wydot/owl/overweight_width_faq / legal_size_weight. Accessed May 17, 2010.