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Enterprise Budget for a Stocker Operation, Northwestern Wyoming

Spring-purchased, 700-pound Steers

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INTRODUCTION

Research has been conducted in several states on the profitability of stocker operation management strategies. Examples include Oklahoma (Johnson, 2006), California (Nader et al., 2010), and southeastern states (McKissick and Ikerd, 1996). These studies often focus on grazing stockers on wheat stubble or other crop-aftermath (DeVuyst et al., 2010; Langemeier and Ohlenbusch, 1996), which is not relevant to northwestern Wyoming. This bulletin describes costs and revenues for a 'typical' stocker steer operation in northwestern Wyoming, acknowledging that no operation is typical. It is targeted to producers, lenders, and educators who require a baseline budget from which they can explore potential effects on costs and revenues of a proposed change in a stocker operation. It also provides information for producers who are considering a switch to a stocker operation (from a cow/calf/yearling operation) to mitigate brucellosis risk or to reduce winter feeding costs.

The budget below (Tables 1-4) is based on 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. 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 our typical operation are described in Table 1. The production calendar begins November 15 and ends November 14 of the following year. However, the stocker operation is relatively idle between November 15 and April 30, aside from fixing fences in the spring. Major activities begin May 1 with the purchase of stocker calves from the market and end September 10 with the marketing of yearlings.

Table 1. Activities calendar for a stocker operation in northwestern Wyoming

Calendar Date	Stocker Activities
Nov 15-Apr 30	Idle; fix fences
May 1	Receive stocker calves; work calves
May 1-15	Trail to deeded land
May 15	Truck to BLM; graze BLM
May 15-Jul 1	Graze BLM
Jul 1	Truck to Forest Service
Jul 1-Sept 1	Graze Forest
Sept 1-10	Truck home; feed for 10 days; market yearlings on Sept 10
Sept 10-Nov 14	Idle

HERD ASSUMPTIONS

On May 1, 867 steers that weigh 700 pounds each are purchased and then trucked 100 miles from the point of purchase to the home operation (Table 2). After receiving and working the steers, they are trailed to deeded land to begin summer grazing. Over the summer, we assume 2 pounds of average daily gain and 2 percent death loss. Therefore, 850 steers return home from grazing on September 1 weighing 946 pounds. They are fed native hay for 10 days before being marketed on September 10.

Table 2. Herd assumptions for a 700-pound stocker operation in northwestern Wyoming

Herd Characteristics	Number
Number of steers purchased (on May 1 at 700 lbs ea.)	867
Percent death loss during summer	2%
Number of steers sold (on Sept 10 at 946 lbs ea.)	850
Feed and Pasture Sources	**Number of Days**
Salt/mineral	133
Deeded land	15
BLM	46
USFS	62
Native hay (before shipping)	10

(Table 2 continued)

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 SOURCES

Steers 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 land are $7.27 and $9.93 per AUM, respectively, adjusted to 2010 dollars (Van Tassell et al., 1997). Non-fee costs include association fees, water maintenance, improvement maintenance, depreciation, labor, mileage, and other.

Fencing activities across all grazing pastures consist of repairing 15.6 miles and replacing 1.5 miles. This is based on our assumption that a stocker operation requires 50 percent more fence work than a cow/calf/yearling operation (Hewlett, 1993; Northwestern Wyoming Cattle Producers, 2013; Roberts, 2011).

After returning home in the fall, stockers are fed native hay for 10 days before being marketed to reduce shrink. 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.

Salt and mineral are provided to steers throughout their 133 days in the operation. They are given 0.53 ounces of salt per head per day and 2 ounces of mineral per head per day (Ward & Lardy, 2005).

VETERINARY COSTS

Veterinary costs include vaccines, medications, veterinary services, implants, and insecticide (Table 3). Steers are given a round of vaccinations once they are received into the operation.

TRANSPORTATION

Transportation costs involve a flat-rate fee of $3.20 per loaded mile (Iowa State University, 2010). A trucking company is hired to transport all steers from a sale barn 100 miles away to the home operation. Each truck can hold a maximum of 42,000 lbs. (Wyoming State Government, 2010). Steers are then trailed from the home operation to deeded land but are later trucked to BLM and U.S. Forest Service allotments. They are also trucked from USFS allotments back to the home operation and eventually to the sale barn.

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 $1.00 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 stockers at the sale barn (Hewlett, 1993).

LABOR

To complete most activities on the ranch, we assume a total of 10 workers are required, which is double what we assume for a cow/calf/yearling operation (Northwestern Wyoming Producers, 2013). Workers include the owner, one hired-hand, and eight 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 a 'fixed cost' to the operation – the total cost of using the equipment does not change as the number of cows in the operation changes. Capital equipment costs are depreciated using a 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

Major cost categories for the stocker steer operation include the following: purchasing calves, trailing and trucking stockers to pasture, grazing-related expenses, and marketing-related expenses (Table 4). A few additional cost categories are listed in Table 4 to highlight their relative importance in the yearling enterprise compared to a cow/calf enterprise (described in a separate bulletin, MP-120.1). These cost categories comprise $894,166 in expenses for the enterprise, which is 99 percent of the enterprise's total costs.

Purchasing calves is the largest cost category, accounting for 84 percent of its total cash-costs, or $759,171. All 867 steers are purchased outside of the operation. Grazing-related expenses are the second-largest cost category within the stocker enterprise, accounting for 7 percent of total cash costs, or $64,720. This includes both grazing fees and non-fee costs for deeded, BLM, and USFS pastures ($33,432), as well as trailing and trucking stockers between pastures ($22,873), and fence repair and replacement ($8,415). Marketing is the third-largest cost category, accounting for 5 percent of total cash costs, or $42,516. This includes shrink, commission, brand inspection, and related expenses, as well as transportation of stockers from and to the sale barn.

CATTLE PRICES

Steer 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). Steers are purchased May 1 at 700 pounds, which falls between two different price series: '600-700 lb steers' and '700-800 lb steers.' We average these two price series to determine steer purchase-price. Steers are sold on September 10 at 946 pounds, which falls within a single price series, '900-1000 lb steers'. See Table 3 for average prices assumed in the analysis.

REVENUE AND NET REVENUE

The 700-pound stocker operation generates $919,890 in total revenue and $904,131 in cash-costs. Net revenue, after paying cash-costs, is $15,759. This 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 $75,573. This figure includes $63,289 for operating loan interest (assuming a 7 percent interest rate), $7,794 for equipment depreciation, and $4,490 for owner labor. Estimated profit before taxes is negative: -$59,814.

Table 3. Enterprise budget for a 700-pound stocker operation in northwestern Wyoming

	Price [US$2010]	Unit	Weight (lbs)	# Head	Total	Per Unit[a/]
Revenues						
Steers	$1.14	per lb	946	850	$919,890	$1,082
Total Rev					***$919,890***	***$1,082***
Cash Costs						
Purchase steers (May 1)	$1.25	per lb	700	867	$759,171	$893

Cash Costs Cont'd	**Price**	**Unit**	**Quantity**	**Unit**	**Total**	**Per Unit[a/]**
Truck steers in	$3.20	per mile	1500	miles	$4,800	$6
Work steers (supplies)	--	--	--	--	$11,011	13
Fencing costs						
Repair	60.35	per mile	15.6	miles	941	1
Replace	3,681	per mile	1.5	miles	5,521	6
Mineral	0.13	per lb	14,414	lbs	1,874	2
Salt	0.34	per lb	3,820	lbs	1,299	2
Private pasture	15.72	per AUM	380	AUMs	5,972	7
BLM grazing fees	1.35	per HM	1,300	HMs	1,756	2
BLM non-fee costs	7.27	per AUM	1,139	AUMs	8,282	10
USFS grazing fees	1.35	per HM	1,734	HMs	2,341	3
USFS non-fee costs	9.93	per AUM	1,519	AUMs	15,084	18
Trucking btwn pastures	3.20	per mile	2,750	miles	8,800	10
Doctoring supplies					1,063	1
Feed before shipping	102.29	per ton	42.5	tons	4,347	5
Marketing	--	--	--	--	31,316	37
Trucking to sale barn	3.20	per mile	2000	miles	6,400	8
Horse-related costs	--	--	--	--	6,758	8
Fuel						
Pickup	3.09	per gallon	1,858	gallons	5,741	7
Tractor	2.94	per gallon	378	gallons	1,112	1
Hired labor	13.85	per hour	1,656	hours	21,993	26
Miscellaneous meals					200	1
Total Cash Costs					***$904,131***	***$1,064***
TOTALS						
Revenue Over Cash Costs					**$15,759**	**19**
Ownership Costs[b/]						
Interest on operating loans	7	percent	904,131	dollars	63,289	74
Depreciation of equipment[c/]		--	--	--	7,794	8
Owner labor	$13.85	per hour	324	hours	4,490	5

(Table 3 continued)

Total Ownership Costs	***$75,573***	***$89***
TOTAL COST	***$979,704***	***$1,153***
Revenue Over Total Costs	**-$59,814**	**-$70**

[a/] Per Unit = Total ÷ 850 steers that return from summer grazing.

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

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

Note: per-unit costs are rounded to whole numbers and may not sum exactly to reported totals.

Table 4. Major cost categories for a 700-pound stocker operation in northwestern Wyoming

Activity	Value (US$2010)
Purchasing calves (867 steers, 700 lbs ea.)	$759,171
Grazing fees & non-fee costs	33,432
Marketing costs (excluding trucking)	31,316
Trailing and trucking during grazing season	22,873
Receiving & working calves before grazing season	12,655
Trucking from and to sale barn	11,200
Fence repair/replacement	8,415
Fuel	6,852
Feeding before marketing	4,680
Salt and minerals	3,572
Total major cash costs	$894,166
Total enterprise cash costs	$904,131
Percentage of total enterprise cash-costs	99%

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