## Representative Economic Budget for Southern Nebraska Panhandle - 75 Head Cow Herd

Updated Dec. 2021

## Background

In the Nebraska Panhandle, two representative size cow herds were identified by producers from their respective areas. In the southern panhandle area, a typical cow herd size is 75 head of cows. In the northern panhandle, 400 head of cows is the norm for a herd size. The 75-cow herd enterprise in the southern panhandle area, would provide a small portion of a farm's overall revenue. Fifty to sixty percent of farms in this area are diversified with enterprises including hay, dry edible beans, corn, and sugar beets. Many producers also count on off-farm jobs for income.

This budget should only be used as a guide. Individual producers can utilize the cow calf budget Excel template and enter information that reflects their operation.

It is important to note that feed and hay costs on owned ground, along with pasture and stalk rent expenses are considered separate enterprises. Therefore in this representative budget, feed, hay, pasture, and stalks are included cash feed expenses, valued at current market value. Individual producers may enter an opportunity cost for their land use for the cow calf enterprise in lieu of cash rental expenses in their budgets.

## Livestock Management Practices

Typical calving time for the 75 cow herd in the southern panhandle area is in March. Weaning rates range from 80 to $85 \%$ per exposed cow with $15 \%$ of cows culled each year. Producers reported a mix of practices in the area, either keeping their own heifers as replacements or buying bred heifers for replacements. The 75 cow herd budget representative of this size operation in the panhandle, figures raising replacements versus buying.

Chart 1: Cow-calf production flowchart provides production numbers.

Weaning weights for calves range from 550 to 600\#.
Approximately 75\% of calves are sold mid-October to mid-November right after weaning. The other 25\% of calves are backgrounded for 60 days in a dry lot while being fed hay, silage, corn, and sugar beet pulp. During this time, the calves will gain 100 to 150 pounds before they are sold.

In this area of the state, approximately $50 \%$ of pasture utilized is on owned ground and the other 50\% of pasture utilized is rented. The representative budget includes a market rate for pasture and stalks as a cash feed expense. Cattle are on pasture from mid-May to the end of October. Current pasture rental rates in the area are $\$ 40$ to $\$ 45$ per pair per month. Fifteen to twenty acres per cow calf is needed for the 5 months they are on pasture. Four acres of corn stalks per cow for the winter is a general rule of thumb for around sixty cents per head per day. Cattle are typically on crop residue or stalk ground from November to January, with hay primarily fed the other three months. Bulls follow a similar feed program to that of the cows, however they are kept separate for part of the year. Raised feed and hay are included in the representative budget as cash feed expenses, valued at a current market rate since hay and crop production are thought of as separate enterprises from the livestock operation.

Machinery, Equipment and Facilities Basic equipment utilized for the cow-calf enterprise in the southern panhandle would typically include an ATV, pickup, tractor, stock trailer, feed wagon, portable chute, and panels. Facilities often include a barn and corrals.

The value of the machinery and equipment that pertains to use in the cow calf operation is shown in this budget. For example if the ATV is used for other enterprises on the ranch, with $40 \%$ use for the cow calf operation, $40 \%$ of its current and future value should be entered in to the budget program. If the stock trailer is used $100 \%$ of the time in the livestock
enterprise, $100 \%$ of its current and future value should be included in machinery and equipment or on a separate line for livestock equipment. Annual repair expenses for fixed assets are shown in the budget as fixed cash costs. Depreciation and opportunity costs of ownership are noted in the budget as non-cash costs.

## Non-Feed Input Costs

Non-feed input costs can be entered into the budget on a "per animal" or a whole herd basis. In this representative budget, these costs were entered on a per animal basis and include labor, fuel, veterinary and medical cost, and marketing costs. Labor, fuel, and veterinary and medical costs are allocated to each animal category based on net increase in value during the production year. Marketing costs are broken down by each animal category of the herd and allocated accordingly. For example, cull bull marketing of \$35 per animal is included on the bull budget page and the system budget which is a summary of all projected revenue and expenses at the end of the budget report. The cost of direct marketing and the costs per head to sell thru a nearby sale barn can vary tremendously. Marketing expense includes the sales commission, transportation and other costs to market. In this budget, both a commission and charge for hauling the cattle to sale are figured into marketing expense.

## Other Depreciation, Interest and Overhead Costs

Depreciation for bulls is figured in the difference of cost of purchased bulls to their sale value when sold. These figures are included in the bull budget page and are carried over into the total cow calf system budget page as income when sold and expense when purchased. Depreciation expense for tax purposes would be handled differently and in consultation with a tax accountant. There is no depreciation expense shown for the cows as they are typically replaced by raised heifers.

Opportunity interest of 3\% is figured on the value of investment total in the livestock herd. This is an economic cost reflecting what rate of return could be earned if the herd was sold and the money invested in its most profitable alternative use.

Overhead expenses entered into the budget the cow calf enterprise portion of the farm's annual insurance premium and professional fees. Real estate value and taxes are left blank in this example because, as stated previously, rental costs are paid for all hay, stalks and pasture. Therefore, this budget is making the assumption that no ground utilized for the cow calf operation is owned by the cow calf enterprise. An annual management charge and other expenses that pertain to the cow calf herd may be entered but are left blank in this representative budget.

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Chart 1: Cow-calf production flowchart, 75 cow herd - Nebraska Panhandle (South)


75 Head Cow Herd Livestock Budget Worksheet pages attached include:
Budget Input sheets
Bull budget
Replacement budget
Breeding herd cash budget
Backgrounded calf budgets (shows backgrounding cattle revenue and costs)
Cow-calf System Budget report (summarizes all budget information)

# Cow Herd System Budget 

Glennis McClure, Extension Educator - Farm \& Ranch Management Analyst

This budgeting workbook is designed for the medium and small sized operator. It includes spreadsheets for analyzing the components of a beef production system separately but provides a combined analysis as well. This template provides an example of a 75 cow herd based in the southern part of the Nebraska panhandle.

Budget template designed by Roger Wilson, retired Farm \& Ranch Management Analyst.

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## Breeding Herd



## Backgrounded Calf

|  | Days Fed |  | days |
| :---: | :---: | :---: | :---: |
|  | Death Loss | (0-100) | percent |
| ¢ <br> $\stackrel{y}{*}$ <br> $\stackrel{ \pm}{\circ}$ | Retained after Weaning | (<=34) | head |
|  | End Weight |  | pounds |
|  | Market Price | (>=10) | \$ per cwt |
|  | Retained after Weaning | (<=20) | head |
|  | End Weight |  | pounds |
|  | Market Price | (>=10) | \$ per cwt |

Stocker

|  | Days Fed |  | days |
| :---: | :---: | :---: | :---: |
|  | Death Loss | (0-100) | percent |
|  | Retained for Grazing | (<=0) | head |
|  | End Weight |  | pounds |
|  | Market Price | (>=10) | \$ per cwt |
|  | Retained for Grazing | (<=0) | head |
|  | End Weight |  | pounds |
|  | Market Price | (>=10) | \$ per cwt |

## Feedlot

|  | Days Fed |  | days |
| :---: | :---: | :---: | :---: |
|  | Death Loss | (0-100) | percent |
| ¢ | Placed on Feed End Weight Market Price | $\begin{gathered} (<=0) \\ (>=10) \end{gathered}$ | head pounds \$ per cwt |
|  |  |  |  |
|  |  |  |  |
|  | Placed on Feed End Weight Market Price | (<=0) | head pounds \$ per cwt |
|  |  |  |  |
|  |  | (>=10) |  |

## Fed Cull Cow

Days Fed days


## Interest

| Operations Interest Rate | $6 \%$ |
| :--- | :--- |
| Opportunity Rate | $3 \%$ |


| Overhead Costs |  |  | Allocation Percentage |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount |  | Breeding Herd (Optional) | Weaned Calf Wintering (Optional) | Stocker (Optional) | Feedlot (Optional) | Fed Cull Cow (Optional) |
| Real Estate Value* <br> Real Estate Tax <br> Annual Insurance Premium <br> Professional Fees <br> Annual Management Charge Other | 300 | per year per year per year per year per year |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 1,500 |  |  |  |  |  |  |
|  | 750 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | 1,500 |  |  |  |  |  |  |
| * If cattle are grazed on own costs are not double counte estate should be included a | of the land a d to calcula ving shed is | nd assoc e costs an exam | taxes or the and is own non-grazin | razing fees for only the cost real estate. | hat land sh and taxes | ould be includ on non-graz | uded so zing real |


| Income |  |  |  |  |  | Herd Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount | Weight |  |  | Price | Total |
| Cull Bull Sales | 1.00 head @ | \$ | 1,700.00 | \$ | 90.00 | 1,530 |
|  |  |  |  |  | Gros | 1,530 |




| Replacement Budget 14 Head* |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Feed Costs |  |  |  |  | Herd Total |
|  | Amount per Year |  | Per Animal or Total | Price |  |
| Summer Pasture | 150 | day <br> day <br> lbs <br> lbs <br> ounce | per animal | @ 1.50 per day | 3,150 |
| Corn Stalks/Winter Range-Pastu | 135 |  | per animal | @ 0.85 per day | 1,607 |
| Hay | 1400 |  | per animal | @ 0.08 per lbs | 1,470 |
| DDG Cubes | 350 |  | per animal | @ 0.18 per lbs | 858 |
| salt and mineral | 1095 |  | per animal | @ 0.03 per ounce | 460 |
|  |  |  |  |  |  |
|  |  |  |  | Total Feed Costs | 7,544 |

Breeding Herd Cash Budget
(75 Cows)



Backgrounded Calf Budget




System Budget



