## Representative Economic Budget for Southeast Nebraska - 120 Head Cow Herd

## Background

For many southeast Nebraska farms, owning a cow herd with about 120 cows and six bulls is typical given that many farmers in the area have pasture ground and row crops that can be utilized for a cowcalf operation of this size. In southeast Nebraska, a 120-cow herd would provide a portion of a farm's revenue as most farms in this area are diversified with row crops, cover crops, and livestock.

Seventy-five percent of cattle producers in this area of the state utilize their own pasture with additional pasture ground rented as needed. Stalk or crop residue ground is generally owned and/or leased, with cover crops utilized in many cases, which can supply additional forage in the winter or early spring months of the year for a cow-calf operation.

Feed and hay costs along with pasture and stalk rent expenses are included in this representative budget as cash expenses, even though a producer may own their own pasture and crop ground where the feed and forages for their cow-calf operation are raised. Individual producers can indicate an opportunity cost for their land use for the cow-calf enterprise in lieu of cash rental expenses in their budgets. All costs are negotiable based on what both parties bring to an agreement.

## Livestock Management Practices

Cow-calf producers in this part of Nebraska generally calve in the February to April timeframe. Weaned calves are sold after weaning at about 205 days of age. Weaning rate per exposed cow is figured at 90 to $92 \%$. The cull rate for cows is from 15-20\% each year, while the bulls are culled and replaced one each year. Southeast Nebraska producers that
assisted with this representative budget noted that the typical practice on most farms is to
utilize some raised heifers and buy some bred heifers to replace culled cows. The budget example and cow-calf production flowchart (Chart 1) for this size operation reflects a 50/50 split on keeping and purchasing replacements.

Weaned steers generally average 550 pounds while the heifers are slightly smaller weighing 525 pounds on average at weaning. Cow-calf pairs are typically on pasture for 5 months of the year (May to September) and utilize stalks or crop residue as feed after the pasture season until early March. Time varies on corn stalk grazing rotations based on usage, quality, and time of year. In some cases, cover crops can be utilized for grazing from October to May. With distiller's grain plentiful in southeast Nebraska, feeding often includes dried distiller's grain, silage, brome, or alfalfa hay in the 60-to-90day period before and during the calving timeframe.

## Machinery, Equipment and Facilities

Basic equipment owned and utilized for this enterprise are an ATV, $3 / 4$ ton pickup, a tractor, stock trailer, feed wagon, and portable chute and fence panels. Facilities often include an older wooden barn, and approximately 4-5 miles of permanent fence plus temporary fencing as needed, and at least one corral. The value of the machinery, equipment and facilities that pertain to use in the cow-calf operation is shown in this budget. For example, if an ATV is used for other enterprises on the farm, and only $40 \%$ for the cow-calf operation, $40 \%$ of its current and future value should be entered into the budget program. And if the stock trailer is used $100 \%$ of the time in the livestock enterprise, $100 \%$ of its current and future value should be included on the machinery and equipment line.

Haying equipment is an expense in a separate hay enterprise on the farm. Hay feed value noted in this budget is at market rate. All pasture utilized is priced in the budget at a current rental rate even though only $25 \%$ of the pasture is generally rented and the rest is owned.

## 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/medical costs are allocated to each animal category based on net increase in value during the production year. Part of the veterinary expenses should include breeding soundness exams on the bulls each 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 expenses include 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 cows and bulls is figured in this budget as the difference of cost of purchased bulls to their sale value when sold. These figures are included in the system budget page. Depreciation expense for tax purposes would be handled differently, in consultation with a tax accountant.

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 were sold and the money invested in its most profitable alternative use.

Overhead expenses entered into the budget include 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 for all hay, stalks, and pasture (even if owned) are cash expenses in this budget. An annual management charge and other expenses that pertain to the cowcalf herd may be entered but are left blank in this representative budget.

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120 Head Cow Herd Livestock Budget Worksheet pages attached include:
Budget Input sheets
Bull budget
Breeding herd cash budget
Cow-calf System Budget report (summarizes all budget information)

# Cow Herd System Budget 

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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 $\mathbf{1 2 0}$ head cow herd representative of southeast Nebraska. It may be modified for various herd sizes, management practices, and locations.

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## Budget Inputs

Breeding Herd

|  | Herd size It is assumed that herd size remains stationary so <br> Average Cow Value replacements will equal cow culls and cow deaths. If too <br> Cows Culled per Year few replacements are purchased, the worksheet <br> Cow Deaths per year automatically retains heifers. |  |  | 120 | Cows |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 1,400 | \$ / head |
|  |  |  |  | 20 | Cows |
|  |  |  |  | 1 | head |
|  | Number of Replacements Needed |  |  | 21 |  |
|  | Estimated Weaning Rate |  |  | 90 | percent |
|  | Extra Heifers Retained for Breeding that Will Not Be Used as Replacements Culled Replacement Heifer Weight When Sold |  |  | 0 | head |
|  |  |  |  |  | pounds |
|  | Culled Replacement Heifer Selling Price |  |  |  | \$/ cwt |
|  | Cost of Marketing Culled Replacement Heifers |  |  |  | \$/ head |
|  | Replacement Females Purchased (<=21) |  |  | 10 | head |
|  | Replacement Female Cost (if applicable) |  |  | 2,000 | \$ / head |
|  | Cow Cull Weight <br> Non-Fed Cull Cow Price |  |  | 1,300 | pounds |
|  |  |  |  | 62 | \$ / cwt |
| 年 | Bulls Needed <br> Bull Purchase Price <br> Bull use (years) <br> Bull Death Loss Rate <br> Cull Bull Price <br> Cull Bull Weight |  |  | 6 | Bull(s) |
|  |  |  |  | 3,000 | \$/ head |
|  |  |  |  | 6 | years |
|  |  |  |  | 0\% |  |
|  |  |  |  | 82 | \$ / cwt |
|  |  |  |  | 1,700 | pounds |
|  | Calves Weaned $(<=108)$ <br> Steer Weaning Weight  <br> Heifer Weaning Weight $(>=10)$ <br> Weaned Steer Price $(>=10)$ <br> Weaned Heifer Price  |  |  | 108 | head/year |
|  |  |  |  | 550 |  |
|  |  |  |  | 525 | pounds |
|  |  |  |  | 155 | \$ / cwt |
|  |  |  |  | 140 | \$/ cwt |

## Wintered Calf

|  | Days Fed |  | days |
| :---: | :---: | :---: | :---: |
|  | Death Loss | (0-100) | percent |
| ¢¢¢0 | Retained after Weaning End Weight Market Price | (<=54) | head pounds \$ per cwt |
|  |  |  |  |
|  |  | (>=10) |  |
|  | Retained after Weaning End Weight Market Price | (<=43) | head pounds \$ per cwt |
|  |  |  |  |
|  |  | (>=10) |  |

Stocker

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


| Feedlot |  |  |
| :---: | :---: | :---: |
| Days Fed |  | days |
| Death Loss | (0-100) | percent |



| Fed Cull Cow |  |  |  |
| :---: | :---: | :---: | :---: |
| Days Fed |  |  | days |
| Death Loss | (0-100) | 0 | percent |
| Placed on Feed | (<=20) |  | head |
| End Weight |  |  | pounds |
| Market Price | (>=10) |  | \$ per cwt |


| Feed |  |  |  |  |  |
| :--- | ---: | :---: | :---: | ---: | ---: |
| Fame | Price per Unit <br> Purchased | Priced Unit <br> (tons, lbs. etc) | Fed Unit <br> (tons, lbs. <br> etc) | Fed Unit per <br> Priced Unit | As Fed Price |
| Creep Feed | 350.00 | ton | lbs |  |  |
| Pasture | 240.00 | 5 months | day | 150 | 1.60 |
| Grass Hay | 95.00 | ton | lbs | 2000 | 0.05 |
| Alfalfa | 100.00 | ton | lbs | 2000 | 0.05 |
| DDG Cubes | 240.00 | ton | lbs | 2000 | 0.12 |
| Salt and Mineral | 1400.00 | ton | ounce | 32000 | 0.04 |
| Modified Distiller's Grain | 100.00 | ton | lbs | 2000 | 0.05 |
| Corn | 6.50 | bu | lbs | 0.12 |  |
| Wet Distiller's Grain | 100.00 | ton | lbs | 56 | 2000 |
| Corn Stalks | 0.40 | day | day | 0.05 |  |

## Non-Feed Input Costs

Name

| Name | Cost per Year |
| :--- | :--- |
| n |  |


| Labor |
| :--- |
| Fuel / transportation |

Veterinary and Medical
Cull Cow Marketing
Cull Bull Marketing
Cull Replacement Marketing Weaned Calf Marketing Wintered Calf Marketing Stocker Marketing Feedlot MarketingCost per Year
10.00
20.00
35.00
35.00
25.00
25.00
25.00
$\square$Is This Cost
Per Animal orPer Animal or for All Animals?

|  | - | per animal |  |
| :--- | :--- | :--- | :--- |
|  | - | per animal |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |


| Allocation Percentage |  |  |  |  |
| :---: | ---: | ---: | ---: | :---: |
| Breeding <br> Herd | Wintered Calf <br> (Optional) | Stocker <br> (Optional) | Feedlot <br> (Optional) |  |
|  |  |  |  |  |
|  |  |  |  |  |
| $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
| $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
| $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
| $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
| $0 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
| $0 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |  |
|  | $0 \%$ | $0 \%$ | $0 \%$ |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Depreciable Input Costs

| Name | Current Value | Future Value | Future Value Horizon | Annual <br> Repairs | Breeding Herd (Optional) | Weaned Calf Wintering (Optional) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fencing | 50,000 | 10,000 | 20 | 1,000 | 100\% |  |
| Machinery | 75,000 | 25,000 | 10 | 2,000 | 100\% |  |
| Vehicles | 30,000 | 10,000 | 7 | 1,000 | 100\% |  |
| Barn | 30,000 | 10,000 | 20 | 500 | 100\% |  |
| Livestock Equipment | 30,000 | 10,000 | 15 | 1,000 | 100\% |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

## Interest

Operations Interest Rate
Opportunity Rate
3\%

| Overhead Costs |  |  | Allocation Percentas |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount |  | Breeding Herd (Optional) | Weaned Calf Wintering (Optional) | Stocker (Optional) |
| Real Estate Value* <br> Real Estate Tax <br> Annual Insurance Premium Professional Fees Annual Management Charge Other |  | per year per year per year per year per year |  |  |  |
|  |  |  |  |  |  |
|  | 1,500 |  |  |  |  |
|  | 750 |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |



| Replacement Budget | 11 Head* |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Feed Costs |  |  |  |  | Herd Total |
|  | Amount per Year | daydaylbs | Per Animal or Total | Price <br> @ 1.60 per day <br> @ 0.40 per day <br> @ 0.05 per lbs | 2,640 |
| Pasture | 150 |  | per animal |  |  |
| Corn Stalks | 150 |  | per animal |  | 660 |
| Grass Hay | 1200 |  | per animal |  | 627 |
| salt and mineral | 1460 | ounce | per animal | @ 0.04 per ounce | 703 |
| Wet Distiller's Grain | 1460 | Ibs | per animal | @ 0.05 per lbs | 803 |
|  |  |  |  | Total Feed Costs | 5,433 |

Breeding Herd Cash Budget
(120 Cows)


| Total Cash and Non-Cash |  |  | Herd Total | Per Cow | Per Calf |
| :--- | :--- | :--- | ---: | ---: | :---: |
|  |  | Total Costs | 144,767 | $1,206.39$ | $1,495.60$ |

Total Net Income $\quad(51,007) \quad(425.06) \mid \quad(529.00)$

System Budget



