Farm Management Guide MF-581

# Flood-Irrigated Corn Silage Cost-Return Budget in Western Kansas

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This budget provides cost and return estimates for flood-irrigated corn silage in western Kansas. Confinement livestock operations use most of the corn silage produced in the area. Production practices and input requirements for flood-irrigated corn silage are nearly identical to those of corn for grain.

## Income Per Acre

Crop production costs per unit and net returns are highly dependent on yields. The following estimated budgets include three different yield levels, which are intended to represent expected yields for land of varying quality for a given level of management. Producers can compare the profitability of crop enterprises on farmland tracts with varying yield potential by considering alternative expected yield scenarios. Land values and government payments have been adjusted for alternative yield levels in this budget. In customizing a budget to your farm, attention should be given to using land values representative of your farm's productive capacity and local farmland market conditions.

Price per ton represents an expected harvest price in Scott City, Kan., accounting for government marketing loan price support levels. Corn silage producers in other regions of western Kansas should use an expected price that is representative for their location.

Crop insurance was not included as an input expense in this budget because yields reflect an average of all years (good and bad). If crop insurance is included as an input

**Table 1.** *Production Inputs — Flood-Irrigated Corn Silage*

| | Yield Level (ton) | | | |
|---|---|---|---|---|
| Item | 21.6 | 25.7 | 29.7 | |
| Seed, 1,000/a | 28.0 | 32.0 | 36.0 | $1.22/1,000 |
| Fertilizer: | | | | |
| N (anhydrous) | 216 | 257 | 297 | $0.21/lb |
| N | 0 | 0 | 0 | $0.30/lb |
| P | 69 | 82 | 94 | $0.24/lb |
| K | 0 | 0 | 0 | $0.16/lb |
| Lime | 0 | 0 | 0 | $0.01/lb |
| Herbicide | | | | |
| Bicep II Magnum | 2.0 | 2.0 | 2.0 | $9.21/qt |
| Insecticide / Fungicide | | | | |
| Force 3G | 5.4 | 5.4 | 5.4 | $4.38/lb |
| Irrigation water, in | 16 | 20 | 24 | $3.52/in |

**Table 2.** *Machinery and Land Resources — Flood-Irrigated Corn Silage*

| | Yield Level (ton) | | | Custom | Farm |
|---|---|---|---|---|---|
| Item | 21.6 | 25.7 | 29.7 | Rate | Rate* |
| Tillage/Planting/Chemical Applications: | | | | | |
| Chisel/disk | 2 | 2 | 2 | $6.42 | $8.11/a |
| Field cultivate | 1 | 1 | 1 | $6.18 | $7.81/a |
| Bed/furrow | 1 | 1 | 1 | $7.02 | $8.87/a |
| Plant | 1 | 1 | 1 | $8.95 | $11.30/a |
| Anhydrous application | 1 | 1 | 1 | $6.18 | $7.81/a |
| Fertilizer application | 0 | 0 | 0 | $3.68 | $4.65/a |
| Herbicide application | 1 | 1 | 1 | $3.85 | $4.86/a |
| Insecticide / fungicide application | 0 | 0 | 0 | $3.92 | $4.95/a |
| Harvest | | | | | |
| Base charge | 1 | 1 | 1 | $0.00 | $0.00/a |
| Extra charge for yields exceeding | 0 | 0 | 0 | $5.400 | $6.820/ton |
| Hauling | 21.6 | 25.7 | 29.7 | $0.000 | $0.000/ton |
| Non-machinery labor | 2.31 | 2.62 | 2.93 | | $10.00/hr |
| Irrigation labor | 1.00 | 1.00 | 1.00 | | $10.00/hr |
| Land value/acre | $604 | $755 | $906 | | |
| Interest on capital | | | | | 7.0% |

| Irrigation Equipment | Investment, $/ac | Years | Salvage value |
|---|---|---|---|
| Well, pump and gearhead value | $309.00 | 25 | 0% |
| Power unit and meter | $76.00 | 7 | 0% |
| Irrigation system | $33.00 | 20 | 0% |

* *Farm Rate equals Custom Rate x 126.3%*

expense, then an expected value for indemnity payments should be included in the returns section. Historically, crop insurance indemnity payments have exceeded premiums due to government subsidies.

## Costs Per Acre

Production costs at the three production levels are shown on lines 1 through 13. Kansas Custom Rates for specific field operations are used to represent fuel and labor costs as well as machinery repair, depreciation, and interest expenses in these budgets. Table 1 identifies the typical seed, fertilizer, herbicide, insecticide, and irrigation water requirements (rate and cost/unit) for flood-irrigated corn silage. Herbicide

**COST-RETURN PROJECTION — FLOOD-IRRIGATED CORN SILAGE**

| | Yield Level (ton) | | | Your |
|---|---|---|---|---|
| | **21.6** | **25.7** | **29.7** | **Farm** |
| INCOME PER ACRE | | | | |
| A. Yield per acre | 21.6 | 25.7 | 29.7 | |
| B. Price per ton | $ 20.48 | $ 20.48 | $ 20.48 | |
| C. Net government payment | $ 29.92 | $ 32.53 | $ 35.13 | |
| D. Indemnity payments | $ | $ | $ | |
| E. Miscellaneous income | $ | $ | $ | |
| F. Returns/acre ((A × B) + C + D + E) | $ 472.29 | $ 558.86 | $ 643.38 | |
| COSTS PER ACRE | | | | |
| 1. Seed | $ 34.16 | $ 39.04 | $ 43.92 | |
| 2. Herbicide | 18.42 | 18.42 | 18.42 | |
| 3. Insecticide / Fungicide | 23.65 | 23.65 | 23.65 | |
| 4. Fertilizer and Lime | 61.92 | 73.65 | 84.93 | |
| 5. Crop Consulting | 6.50 | 6.50 | 6.50 | |
| 6. Crop Insurance | | | | |
| 7. Drying | | | | |
| 8. Miscellaneous | 10.00 | 10.00 | 10.00 | |
| 9. Custom Hire / Machinery Expense | 204.18 | 232.14 | 259.42 | |
| 10. Non-machinery Labor | 23.07 | 26.23 | 29.31 | |
| 11. Irrigation | | | | |
| a. Labor | 10.00 | 10.00 | 10.00 | |
| b. Fuel and Oil | 56.32 | 70.40 | 84.48 | |
| c. Repairs and Maintenance | 3.36 | 4.20 | 5.04 | |
| d. Depreciation on Equipment and Well | 24.87 | 24.87 | 24.87 | |
| e. Interest on Equipment | 14.63 | 14.63 | 14.63 | |
| 12. Land Charge / Rent | 34.73 | 43.41 | 52.10 | |
| G. SUB TOTAL | $ 525.81 | $ 597.14 | $ 667.27 | |
| 13. Interest on ½ Nonland Costs | 15.81 | 18.00 | 20.15 | |
| H. TOTAL COSTS | $ 541.61 | $ 615.14 | $ 687.42 | |
| I. RETURNS OVER COSTS (F - H) | $ -69.32 | $ -56.28 | $ -44.03 | |
| J. TOTAL COSTS/TON (H ÷ A) | $ 25.07 | $ 23.94 | $ 23.15 | |
| K. RETURN TO ANNUAL COST (I + 13) ÷ G | -10.18% | -6.41% | -3.58% | |

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