NC STATE UNIVERSITY

**BEEF FINISHING:** Estimated revenue, operating expenses, prorated ownership expenses and breakeven values for 80 head of 800 lb feeder steers finished on a high energy ration, on feed 160 days with a daily gain of 2.5 lb.

Budget 21-6
Dec 2013

| Category | Description | Unit | Price | Quantity | Value | Comments |
|---|---|---|---|---|---|---|
| OPERATING INPUTS | | | | | | |
| Feeder Cattle, steers | 80 head at 800 lbs. | Cwt. | $159.00 | 640.0 | $101,760 | |
| Feeder Cattle, heifers | | Cwt. | | 0.0 | $0 | |
| Pasture[a] | | Acre | | 0.0 | $0 | |
| Concentrate/supplement | 20 lbs./hd/day | Ton | $235.00 | 125.4 | $29,478 | |
| Concentrate/supplement | | Ton | $0.00 | 0.0 | $0 | |
| Implant, deworm, fly control | | Hd. | $10.00 | 78.4 | $784 | |
| Facilities Repair | % of initial investment | % | 1.0% | 50,250 | $251 | |
| Equipment operating[b] | From Table 2 | | | | $1,221 | |
| Sales Com. & transport | | Hd. | $30.00 | 78.4 | $2,352 | |
| Annual operating capital[c] | Interest rate, annual | % | 5.50% | 117,627 | $2,836 | |
| TOTAL OPERATING COSTS | | | | | $138,682 | |
| PRORATED FIXED COSTS[d] | | | | | | |
| Facilities, From Table 1 | | | | | $2,253 | |
| Machinery & equipment, From Table 1 | | | | | $2,058 | |
| Pasture establishment, From Table 1[a] | | Acre | $0.00 | 0 | $0 | |
| TOTAL OWNERSHIP COSTS | | | | | $4,312 | |
| LABOR COSTS | | | | | | |
| Machinery operator labor | From Table 2 | | | | $840 | |
| Livestock labor | Work, check cattle, etc. | $/hr. | $12.00 | 20 | $240 | |
| TOTAL LABOR COST | | | | | $1,080 | |
| TOTAL COST | | | | | $144,074 | |
| GROSS REVENUE[d] | | | | | | |
| Fed Cattle, Steers | 78.4 head at 1,176 lb[e] | Cwt. | $135.00 | 922.0 | $124,468 | |
| Fed Cattle, Heifers | | Cwt. | $0.00 | 0.0 | $0 | |
| TOTAL REVENUE | | | | | $124,468 | |
| RETURNS OVER OPERATING EXPENSES | | | | | -$14,214 | |
| RETURNS TO LAND, OVERHEAD, LABOR, AND MANAGEMENT | | | | | -$18,526 | |
| RETURNS TO LAND, OVERHEAD AND MANAGEMENT | | | | | -$19,606 | |
| COST SUMMARY | | | | | | |
| Average sales pricerequired to recover operating costs, $/cwt. based on pay weight | | | | | $150.42 | |
| Average sales price required to recover total cost, $/cwt. based on pay weight | | | | | $156.27 | |
| Cost per pound of gain, $/cwt. based on pay weight | | | | | $150.06 | |

[a] Feeding on pasture may substitute for a covered feeding facility. Use NCSU forage budgets to develop costs.
[b] Fuel, lube, repairs, etc.
[c] Interest calculated on full cattle purchase cost and 1/2 of other costs except sales expense.
[c] The prorated share of the annual cost of the facilities is applied to each batch of cattle finished.
[d] Cattle prices vary and are affected by the cattle cycle, time of year, weight, frame, fleshiness, breed, and market.
[e] 2% death loss. Sale weight is 1200 lb. less 2% shrink = 1,176 lbs/head.

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## BEEF FINISHING

**Table 1. Initial investment in specialized equipment, annual ownership expenses and ownership expenses per batch of feeder cattle finished.**

NUMBER OF BATCHES OF CATTLE FINISHED PER YEAR = 2.0

| Category | Life | Initial Cost | Salvage Value | Deprec-iation[a] | Interest[b] | Tax & Ins.[c] | Annual Total | Share to Enterprise | Share to Enterprise | Cost per Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| | Years | $ | $ | $ | $ | $ | $ | % | $ | $ |
| Interest and tax rates==> | | | | | 5.5% | 1.4% | | | | |
| Facilities: | | | | | | | | | | |
| Covered Facility | 30 | 40,000 | 3,200 | 1,227 | 1,188 | 560 | 2,975 | 100% | 2,975 | 1,487 |
| Feed Bunks[d] | 3 | 2,250 | 120 | 710 | 65 | 32 | 807 | 100% | 807 | 403 |
| Corral & Chute | 20 | 8,000 | 300 | 385 | 228 | 112 | 725 | 100% | 725 | 363 |
| Other facilities | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 100% | 0 | 0 |
| Feeding cattle: | | | | | | | | | | |
| Tractor | 15 | 23,150 | 6,019 | 1,142 | 802 | 324 | 2,268 | 100% | 2,268 | 1,134 |
| + Feeding Equipment | 15 | 15,000 | 3,750 | 750 | 516 | 210 | 1,476 | 100% | 1,476 | 738 |
| Other cattle operations | | | | | | | | | | |
| Tractor/ATV/Pickup | 10 | 30,225 | 7,556 | 2,267 | 1,039 | 423 | 3,729 | 10% | 373 | 186 |
| + Other equipment | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 |
| TOTAL | | | | | | | | | | 4,312 |

[a] Depreciation = (Initial cost - Salvage value) / years of life

[b] Interest on average value of investment = ((Initial cost + Salvage value) / 2) X interest rate specified

[c] Property taxes and insurance on facilities and equipment = Initial cost X specified property tax plus insurance rate

[d] 12 bunks @ $150.00 each

**Table 2. Operating expense for machinery and equipment per batch of cattle finished**

| Operation and Item | Horse Power | Repairs & Maint.[a] | Repairs & Maint. | Share to Batch | Est. Fuel Use | Fuel Cost | Fuel & Lube[b] | Hours of Use/Batch | Total Op. Cost/Batch | Labor Cost[c] | Total Expense |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | % | $/Year | $ | Gals/hr | $ | $/Hour | Hours | $/Batch | $/Batch | $/Batch |
| Fuel cost per gallon & Labor cost per hour ====> | | | | | | 3.75 | | | | 12.00 | |
| Tractor | 55 | 2% | 463 | 231.50 | 2.42 | 9.08 | 10.44 | 60.0 | 857.68 | 720.00 | 1,578 |
| + Feeding Equipment | | 3% | 450 | 225.00 | 0 | 0.00 | 0.00 | 60.0 | 225.00 | | 225 |
| Tractor/ATV/Pickup | 0 | 2% | 605 | 30.23 | 2.5 | 9.38 | 10.78 | 10.0 | 138.04 | 120.00 | 258 |
| + Other equipment | 0 | 2% | 0 | 0.00 | 0 | 0.00 | 0.00 | 10.0 | 0.00 | | 0 |
| TOTAL | | | | | | | | | 1,221 | 840 | 2,061 |

[a] Repairs and maintenance costs are calculated as a % of the initial cost in Table 1. Percentages are higher for equipment that is bought used.

[b] Fuel cost is based on engine horsepower plus lube costs estimated as 15% of the fuel cost.

[c] Labor cost or charge includes an additional 15% allowance for inspection, equipment adjustments, cleaning up, travel. etc. Include labor that does not require equipment as "Livestock labor" directly in the budget, e..g, working cattle, checking cattle.

Table 3. SENSITIVITY ANALYSIS

This table shows the returns to land, overhead and management (a measure of profit) under various assumptions about costs and returns. Specifically, the cost and returns shown in the enterprise budget on the first page are believed to be fairly representative of conditions in North Carolina. However, there is a wide variation in farm performance from one farm to another and costs and cattle prices can change rapidly from year-to-year. The table shows the effects of returns that are 10 percent higher and lower than for the base budget. Similarly, the table also shows shows the effects of total costs that are 10 percent higher and lower than in the base budget.

RETURNS TO LAND, OVERHEAD AND MANAGEMENT:

| | | REVENUE | | |
|---|---|---|---|---|
| | | -10% Lower | Base Budget | 10% Higher |
| | -10% | -$17,646 | -$5,199 | $7,248 |
| **COST** | Base | -$32,053 | -$19,606 | -$7,159 |
| | 10% | -$46,460 | -$34,014 | -$21,567 |