

Monthly Returns from Finishing Yearlings

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Iowa Estimated Returns is a series of estimated monthly profits or losses to cattle and swine feeders. Returns are calculated using assumed feed rations, production methods and costs which reflect the Iowa production environment. Market prices for inputs and animals sold fluctuate with the current market conditions.

The Estimated Monthly Returns from Finishing Yearlings is the estimated profit or loss associated with feeding 750 pound feeder steers, under normal Iowa open feedlot conditions, to a market weight of 1,250 pounds. The following assumptions, market information sources, and methodology are used to calculate the estimated returns.

Feedlot and feeding period

The assumed feedlot is an open lot design with its cattle inventory turning about 2.2 times a year. Feeding yearlings from a start weight of 750 pounds to a finished weight of 1,250 pounds requires 159 days of feeding when the animals have an average daily gain of 3.15 pounds per day.

Yearling rations and feed costs

Feed rations for finishing yearlings are assumed to consist of 47.7 bushels of corn, 426 pounds of hay, 1,812 pounds of modified distiller's grain consisting of fifty percent dry matter, and 97 pounds of mineral and feed supplement. This ration follows the feed requirements outline in the *Beef Feedlot Systems Manual*, ISU Extension publication number PM 1867, published December 2006.

Corn and hay costs are the product of the average of mid-month price during the finishing period and total consumption during the finishing period. Mid-month corn and hay prices are reported monthly in the USDA report *Agricultural Prices*.

Corn distiller co-products are becoming a common ingredient in feedlot rations. Starting in fall of 2006 USDA report NW_GR111 reports the daily distiller's grains from around the state of Iowa. Based on this report, the monthly distiller's co-product price used in the estimated returns comes from the average midpoint of the price range paid for modified distiller's grain in the northwest part region of the state at the first, middle and end of each month.

The supplement in the assumed ration is a mineral based "gluten balancer" routinely used by finishing operations when distiller's co-products are being utilized. The cost of the supplement is assumed to be constant at \$0.13 per pound.

Operating and overhead cost

Operating costs include the cost to transport cattle to and from the feedlot, labor costs, interest charges, veterinary costs, manure handling and other miscellaneous costs. Overhead costs include the amortized depreciation of the facilities and equipment.

Transportation costs include the expense of trucking calves 200 miles to arrive at the feedlot site, and trucking finished cattle 100 miles to a packing facility. Trucking costs are calculated from a base per mile trucking fee of \$2.50 per loaded mile and an addition fuel surcharge when the price of road diesel fuel exceeds a threshold of \$1.20 per gallon. Fuel surcharges per mile are 20% of the cost of a gallon of diesel above the \$1.20 threshold price. The price of Midwest No. 2 over-the-road diesel is obtained from historic price database on the U.S. Department of Energy website. Transportation costs per head are determined under the assumption that a truck is filled to roughly 20 tons of capacity by either 53 yearlings or 32 finished steers. The cost of delivering feeder cattle is also assessed a finance charge included in the interest expense. At a minimum, transportation will cost \$17.24 per yearling finished.

Some of the production costs detailed in the *Beef Feedlot Systems Manual* have little to no fluctuation and remain constant in the estimated returns to cattle finishing. Labor cost is assumed to be \$30.98 per animal finished based on an hourly rate of \$22. The following table contains the non-feed operating costs derived from the feedlot manual. Annual costs are converted to a cost per yearling finished based on 2.2 animals being finished per space per year.

	Annual cost per space	Cost per yearling finished
Labor	68.15	30.98
Machinery & equipment	11.00	5.00
Marketing & misc.	14.00	6.36
Manure handling	4.50	2.05

Veterinary, health and implant costs are \$11.38 per head, based on the following health program for calves:

Pour on-\$2.02	8 way-\$2.84	8 way booster-\$0.53
5 way-\$1.05	5 way booster-\$0.44	First implant-\$2.00
Second implant-\$2.00	Miscellaneous costs-\$0.50	

Feedlot facility cost are based on the estimate construction costs outlined in the *Beef Feedlot Systems Manual*. Based on the annual ownership costs of 750 and 1,500 head feedlots the average annual fixed costs are \$34.19 per head of capacity. This includes depreciation and annual repair costs for pens, fences, windbreaks, bunks, sheds and equipment. This amount is divided by 2.2 animals fed per space per year for an estimated \$15.54 per animal finished.

Interest expenses include the finance cost of purchasing feeder cattle, feedstuffs, cattle delivery and other variable inputs. The finance charge for the cost of purchasing feeder cattle is charged at a feeder cattle loan rate for the duration of the feeding period. Costs of feed and other operating costs are financed at an operating loan rate for half of the

feeding period. The loan rates for feeder cattle purchase and operating are reported quarterly by the Chicago Federal Reserve Bank.

Purchase price, 750 pound feeder steer

Feeder cattle purchase price is the Missouri combined auction monthly average price of 700-750 and 750-800 pound animals in the purchase month. Missouri combined auction prices are reported in USDA report JC_LS795. The purchase price, reported as dollars per hundred pounds of weight, is multiplied by 7.5 to determine the total cost of a 750 pound animal.

Sale price, 1,250 pound fed steer

The price for finished cattle is determined from the average monthly Iowa, Southern Minnesota live cattle price reported by Ag Market News. The live cattle price reported as dollars per hundred weight, is multiplied by 12.5 to determine the per head value of a finished 1,250 pound animal.