

# NC STATE UNIVERSITY

**BEEF FINISHING ON PASTURE:** Estimated revenue, operating expenses, prorated fixed costs and returns to land, overhead & management for 75 head of cattle finished on 75 acres of temporary and permanent pastures, with a starting weight of 575 lb. gaining 1.5 lb/day for 350 days

Budget 21-8  
Jul-08

Category	Description	Unit	Price	Quantity	Value	Your Farm
<b>OPERATING INPUTS</b>						
Feeder Calves, steers	75 head at 575 lb.	Cwt.	\$103.00	431.3	\$44,419	_____
Feeder Calves, heifers		Cwt.	\$0.00	0.0	\$0	_____
Perennial Pasture <sup>a</sup>	0.75 acre/head	Acre	\$109.95	50.0	\$5,498	_____
Perennial Pasture		Acre		0.0	\$0	_____
Summer annual pasture <sup>a</sup>	0.25 acre/head	Acre	\$242.47	25.0	\$6,062	_____
Winter temporary pasture <sup>a</sup>	0.25 acre/head	Acre	\$265.10	25.0	\$6,628	_____
Supplementary feed	Hay	Head	\$50.00	73.5	\$3,675	_____
Minerals		Lb.	\$0.30	3,638	\$1,091	_____
Vet and medicine		Head	\$10.00	73.5	\$735	_____
Fence, water repair	% of initial investment	%	8.0%	32,790	\$2,623	_____
Facilities Repair	% of initial investment	%	1.0%	1,980	\$20	_____
Equipment operating	From Table 2				\$911	_____
Sales Com. & transport		Head	\$25.00	73.5	\$1,838	_____
Annual operating capital <sup>b</sup>	Interest rate, annual	%	7.50%	48,946	\$3,319	_____
<b>TOTAL OPERATING COSTS</b>					<b>\$76,817</b>	_____
<b>PRO-RATED FIXED COSTS<sup>c</sup></b>						
Fence and facilities, from Table 1					\$3,577	_____
Machine & equipment, livestock, from Table 1					\$990	_____
Mach. & equip., summer annual pastures <sup>a</sup>		Acre	\$9.98	25.0	\$250	_____
Mach. & equip., winter annual pastures <sup>a</sup>		Acre	\$9.95	25.0	\$249	_____
Perennial pasture establishment, from Table 1 <sup>a</sup>					\$2,987	_____
<b>TOTAL OWNERSHIP COSTS</b>					<b>\$8,053</b>	_____
<b>LABOR COSTS</b>						
Machinery operator labor, From Table 2					\$616	_____
Livestock labor	Work, check cattle	\$/hr.	\$9.00	40	\$360	_____
<b>TOTAL LABOR COST</b>					<b>\$976</b>	_____
<b>TOTAL COST</b>					<b>\$85,846</b>	_____
<b>GROSS REVENUE<sup>d</sup></b>						
Feeder cattle, Steers	73.5 head at 1078 lb <sup>e</sup>	Cwt.	\$95.00	792.33	\$75,271	_____
Feeder cattle, Heifers		Cwt.			\$0	_____
<b>TOTAL REVENUE</b>					<b>\$75,271</b>	_____
<b>RETURNS OVER OPERATING EXPENSES</b>					<b>-\$1,546</b>	_____
<b>RETURNS TO LAND, OVERHEAD, LABOR, AND MANAGEMENT</b>					<b>-\$9,599</b>	_____
<b>RETURNS TO LAND, OVERHEAD AND MANAGEMENT</b>					<b>-\$10,574</b>	_____
<b>COST SUMMARY</b>						
Average sales price required to recover operating costs, \$/cwt. of pay weight					\$96.95	_____
Average sales price required to recover total cost, \$/cwt. of pay weight					\$108.35	_____
Cost per pound of gain, \$/cwt. sold					\$1.15	_____

<sup>a</sup> Pasture costs are taken from budgets, 87-2, 88-8 and 88-9. Annual pastures are double cropped.

<sup>b</sup> Interest calculated on full cattle purchase cost and 1/2 of other costs, except sales expense.

<sup>c</sup> Assumes the annual cost of the facilities is shared and pro-rated to this enterprise.

<sup>d</sup> Cattle prices vary and are affected by the cattle cycle, time of year, weight, frame, fleshiness, breed and market.

<sup>e</sup> 2% death loss. Sale weight is 1100 lbs. less 2% shrink = 1078 lbs/head.

**BEEF FINISHING ON PASTURE**

Budget 21-8  
Jul-08

**Investment in specialized facilities & equipment and pro-rated share of annual ownership expenses**

Category	Life	Initial Cost	Salvage Value	Depreciation <sup>a</sup>	Interest <sup>b</sup>	Tax & Ins. <sup>c</sup>	Total	Share to Enterprise	Share to Enterprise
	Years	\$	\$	\$	\$	\$	\$	%	\$
Interest & Tax Rates ==>					7.5%	1.40%			
Facilities									
Perimeter Fence	25	18,360	0	734	661	257	1,652	100.0%	1,652
Perm. Internal Fence	25	9,180	0	367	330	129	826	100.0%	826
Temp. Electric Fence	3	200	0	67	5	3	74	100.0%	74
Water Supply	10	5,250	0	525	197	74	795	100.0%	795
Corral & Chute	15	6,000	0	400	210	84	694	33.0%	229
Feed Bunks	5	0	0	0	0	0	0	0.0%	0
Other	1	0	0	0	0	0	0	0.0%	0
Cattle Feeding									
Tractor	15	20,500	4,100	1,093	728	287	2,108	10.0%	211
+ equipment	15	500	100	27	18	7	51	50.0%	26
Pasture and Cattle Mangement									
Tractor	15	20,500	4,100	1,093	728	287	2,108	10.0%	211
+ bushhog	15	2,175	435	116	77	30	224	50.0%	112
1/2 T Pickup or 4-Whee	10	17,400	4,350	1,305	604	244	2,152	20.0%	430
Other	1	0	0	0	0	0	0	0.0%	0
Pasture establishment <sup>d</sup>	7	15,371	0	2,196	576	215	2,987	100.0%	2,987
Pasture establishment	7	0	0	0	0	0	0	100.0%	0
<b>TOTAL</b>									<b>7,554</b>

<sup>a</sup> Depreciation = (Initial cost - Salvage value) / years of life

<sup>b</sup> Interest on average investment = ((Initial cost + Salvage value) / 2) X interest rate specified

<sup>c</sup> Property taxes and insurance on facilities and equipment = Initial investment X tax + insurance rates specified.

<sup>d</sup> Pasture establishment costs are from Budget 87-1, NCSU Forage Enterprise Budgets

**Table 2. Operating expense for machinery and equipment**

Operation and Item	Horse Power	Repairs & Maint. <sup>a</sup>	Repairs & Maint.	Share to Enterprise	Est. Fuel Use	Fuel Cost	Fuel & Lube <sup>b</sup>	Hours of Use/Year	Total Op. Cost/Year	Labor Cost <sup>c</sup>	Total Expense
		%	\$/Year	\$	Gals/hr	\$	\$/Hour	Hours	\$	\$	\$
Fuel cost per gallon & Labor cost per hour ==>>>										9.40	
Tractor	55	2%	410.00	41.00	2.42	9.68	11.13	10.0	152.32	94.00	246
+ equipment		1%	5.00	2.50	0	0.00	0.00	10.0	2.50		3
Tractor	55	2%	410.00	41.00	2.42	9.68	11.13	10.0	152.32	94.00	246
+ bushhog		1%	21.75	10.88	0	0.00	0.00	10.0	10.88		11
1/2 T Pickup or 4-Wheeler		2%	348.00	69.60	2.5	10.00	11.50	45.5	592.85	427.70	1,021
Other	0	1%	0.00	0.00	0	0.00	0.00	0.0	0.00	0.00	0
<b>TOTAL</b>									911	616	1,527

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

<sup>b</sup> Fuel cost is based on engine horsepower plus lube costs estimated as 15% of the fuel cost.

<sup>c</sup> 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, moving fence, checking cattle.

**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 basic budget. Similarly, the table also shows the effects of total costs that are 10 percent higher and lower.

**RETURNS TO LAND, OVERHEAD AND MANAGEMENT:**

		REVENUE		
		-10%	Base	10%
		Lower	Budget	Higher
COST	-10%	-\$9,517	-\$1,990	\$5,537
	Base	-\$18,101	-\$10,574	-\$3,047
	+ 10%	-\$26,686	-\$19,159	-\$11,632

