

**COSTS OF PRODUCTION AND RETURNS FOR
THREE DIFFERENT SIZED DAIRY HERDS 1
COWS AND REPLACEMENTS**

2

ITEM	PRICE PER UNIT	Herd Size ²				
		Milking Cows Milking + Dry Cows	100 122	600 732	2,400 2928	
*Revenues, costs, and returns are for entire operation						
	Pounds of Milk Sold Per Cow	21,000 lbs.				
RECEIPTS ³						
Milk Sales	\$11.00 / cwt		\$281,820	\$1,690,920	\$6,763,680	
Bull Calf	80 / head		4,392	26,352	105,408	
Heifer	0 /head		0	0	0	
Cull Cow	35 /cwt		19,727	118,364	473,458	
TOTAL RECEIPTS			\$305,939	\$1,835,636	\$7,342,546	
VARIABLE COSTS						
Feed ⁴						
Hay Equiv.			77,592	465,552	1,862,208	
Corn Silage			16,592	99,552	398,208	
Corn			32,208	193,248	772,992	
Soybean Meal 48%			26,230	157,380	629,520	
Minerals, Vitamins, etc...			15,494	92,964	371,856	
TOTAL FEED COSTS			169,702	1,018,212	4,072,848	
Other Variable Costs						
Veterinary & Medicine			9,760	58,560	234,240	
Breeding, Milk Testing & Reg			4,880	29,280	117,120	
Utilities			8,052	48,312	193,248	
Bedding			3,904	23,424	93,696	
Misc. & Supplies			12,932	77,592	310,368	
Marketing & Hauling Costs	0.50 /cwt		12,810	76,860	307,440	
Posilac® (bST) ⁵	5.80 /dose		11,322	67,930	271,718	
Hired Labor (hours) ⁶	13	28	21	15,860	204,960	614,880
Int. on Oper. Capital	9 %		9,925	59,549	238,196	
TOTAL OTHER VARIABLE COSTS			89,444	646,467	2,380,906	
TOTAL VARIABLE COSTS			259,146	1,664,679	6,453,754	
FIXED COSTS						
Operator/Family Labor (hrs) ⁶	41	3	1	50,020	21,960	29,280
Interest & Insurance on Cow and Calf				2,310	13,862	55,448
Buildings and Facilities ⁷	363,986	1,441,919	5,393,675	53,506	211,962	792,870
Equipment ⁸	80,000	220,000	450,000	14,080	38,720	79,200
Management Charge	5% of total receipts			15,297	91,782	367,127
TOTAL FIXED COSTS				135,213	378,286	1,323,926
TOTAL COSTS				394,360	2,042,965	7,777,680
RETURN ABOVE VARIABLE COSTS				46,793	170,958	888,791
RETURN ABOVE TOTAL COSTS				-88,420	-207,328	-435,134

- ¹ All variable costs are based on the 2003 Ohio Dairy Enterprise Budgets. For specific prices, quantities, and explanations refer to large breed - 50% Corn Silage/ 50% Hay budget. This budget is intended to provide an example of how the size of operations can affect the costs and returns of a dairy enterprise. It is only one of many possible scenarios and is not intended to provide the user with specific revenues, costs, or returns. The 2003 Ohio Dairy Enterprise Budgets are better suited to provide actual revenues, costs, and returns per cow that can be expected from dairy enterprises in Ohio.
- ² Herd size is the number of milking cows at any one time. The 100, 600, and 2400 cow herds are made up of 122, 732, and 2928 milking cows and dry cows, respectively.
- ³ Refer to the 2003 Ohio Dairy Enterprise Budgets - "Large Breed, 50% Corn Silage-50% Hay Ration", for explanation of receipt calculations.
- ⁴ For specific quantities fed per cow, refer to the 2003 Ohio Dairy Enterprise Budgets - "Large Breed, 50% Corn Silage-50% Hay Ration". Feed costs per cow are similar among the three herd sizes; however, with the larger herds, contracting and volume discounts could help to reduce feed costs.
- ⁵ Posilac® used @ 1 dose every two weeks for 32 weeks starting at 63rd day of lactation.
- ⁶ The number of labor hours per cow are multiplied by \$10.00/hour to calculate labor costs. One worker/operator is assumed to work 2500 hours/year. Labor estimates are based on 1.67, 8, and 25.25 full time hired employees for the 100, 600, and 2400 cow herds respectively working 2500 hours per year. Additionally, one full-time manager/operator was added for each scenario. 100 cow herd assumed to have 2 full time unpaid operator/family workers, thus the higher operator/family labor charge. 600 and 2400 cow herds assumed to have one unpaid operator and all other labor is hired. Labor requirements can vary greatly depending on facilities, management, and production of the herd. Labor does not include crop production. Experiment Station and Cooperative Extension Service. MF-272. 1999. "Dairy Enterprise - 600 Lactating Cows" Kansas State University Agricultural Experiment Station and Cooperative Extension Service. MF-2441. 1999. "Dairy Enterprise - 2400 Lactating Cows" Kansas State University Agricultural Experiment Station and Cooperative Extension Service. MF-2442. 1999.
- ⁷ Fixed costs charges (depreciation, interest, insurance, taxes, and repairs) on buildings and facilities are determined by multiplying the total value times 14.7%. Detailed inventory on following page.
- ⁸ Fixed costs charges (depreciation, interest, insurance, taxes, and repairs) on equipment are determined by multiplying the total value times 17.6%.

Buildings and Equipment Inventory (\$)

		Herd Size	
	Milking Cows	100	600
	Milking + Dry Cows	122	732
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Buildings and Facilities			
Free Stall Barn	120,000	630,000	2,448,000
Hay Barn	5,280	31,680	126,720
Silage Bunker	30,791	184,748	738,990
Commodity Shed	5,876	35,258	141,032
Protein Supplement Bin	1,039	6,233	24,933
Milking Parlor	156,000	306,000	1,000,000
Manure Storage	40,000	228,000	864,000
Electrical Service and Grading	5,000	20,000	50,000
Total Buildings and Facilities	<hr/> 363,986	<hr/> 1,441,919	<hr/> 5,393,675
Equipment			
Feed Handling and Processing Equipment, Tractors, Trailer, Pickups,	80,000	220,000	450,000
TOTAL BUILDINGS AND EQUIPMENT COSTS	443,986	1,661,919	5,843,675
Buildings and Facilities per Cow	2,983	1,970	1,842
Equipment per Cow	656	301	154
Total per Cow	<hr/> 3,639	<hr/> 2,270	<hr/> 1,996

*Buildings and Equipment inventories and costs adapted from "Livestock Building and Equipment Requirements", Kansas State University Agricultural Experiment Station and Cooperative Extension Service. MF-940. 2000.

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