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Dairy guidelines

EXTENSION DIVISION

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Estimating The Cost Of Producing Grade-A Milk

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Net incomes vary widely among farms with equal value resources. The ability to control costs is a major factor causing this variation. It is not unusual to find differences of up to \$4.00 per cwt. in the cost of producing milk between farms with similar resources. The first step in controlling costs is to recognize, in fair detail, what costs are.

There are two ways milk production costs may be calculated. One method is to consider the milking herd as a separate enterprise (Table 1), and the second method is to charge the milking herd for all crop and heifer inputs at cost, Table 2. The latter method would not show a profit or loss on feed items or on the heifer herd.

First, let's look at the milking herd as a separate enterprise. Using this method it will be necessary to know the amount and value of each feed item going into the cow herd for the year.

A typical situation is used as an illustration of arriving at feed cost per cow.

Feed	Annual Amount	Your Farm	Unit Price	Your Farm	Annual Cost Per Cow	Your Farm
Silage, lbs.	15,000	_____	\$ 8.00 T	_____	\$ 60	_____
Hay, lbs.	1,800	_____	\$ 36.00 T	_____	32	_____
Grain, Lbs.	5,000	_____	\$3.20 cwt.	_____	160	_____
Pasture, days	60	_____	20¢	_____	12	_____
Total yearly feed cost/cow					\$264 <u>1/</u>	\$

1/ through 7/ are carried to Table 1.

By multiplying the cost per cow of the various feed inputs by the number of cows, you can arrive at a total cost figure to budget to various crops.

(\$60 silage/cow x 50 cows = \$3,000 to produce the 400 T crop of silage.)

(\$12 pasture cost per cow x 50 cows give \$600 to budget to cow pasture.)

Cow Depreciation

By placing a value on the average cow when she enters the milking herd and by subtracting the value of salvage as she leaves the herd, adjusted for death loss risk, you can estimate annual cow depreciation.

Example:

		<u>Your Farm</u>
Value of average cow bought or transferred in	\$400 <u>2/</u>	_____
Less salvage 1,200 lbs. x 15¢ = \$180 x 92%		
(2% death loss @ for 4 yrs.)	<u>166 3/</u>	_____
Total depreciation on average cow in herd	\$234	\$ _____

\$234 ÷ 4 yrs. in herd = \$58 4/ annual depreciation per cow.

Annual Building and Equipment Cost Estimate Guide

	<u>Annual Cost as Percent of New Cost</u>		
	<u>Milking Equipment & Tank</u>	<u>Silos & Buildings</u>	<u>Unloader and Feeder</u>
Depreciation 15 yrs. life	6.67%	25 yrs. 4.0%	10 yrs. 10.0%
Interest (approx.) 7% avg. invest.	3.5	3.5	3.5
Insurance, taxes	1.5	1.0	1.5
Repair, and service labor	<u>3.33</u>	<u>1.5</u>	<u>5.0</u>
	15.0%	10.0%	20.0%

Illustration of a 50 Cow Herd

	<u>New Cost</u>	<u>Rate</u>	<u>Annual Cost</u>	<u>No. Cows</u>	<u>Per Cow Cost</u>
Milking equipment	\$10,000	15%	\$1,500	50	\$30 <u>5/</u>
Dairy buildings <u>6/</u>	20,000	10%	2,000	50	40 <u>6/</u>
Unloader, etc.	4,000	20%	800	50	16 <u>7/</u>

Table 1. Illustration of a Top Managed Dairy Enterprise with a 50 Cow Herd Selling 13,550 Lbs. Milk per Cow

(To be used as a guide.)

	<u>Cost, per Cow</u>	<u>Your Farm</u>	<u>Herd of 50 Cows 8/</u>	<u>Your Farm</u>
Feed <u>1/</u>	\$264	_____	\$13,200	_____
Cow depreciation <u>4/</u>	58	_____	2,900	_____
Dairy equipment <u>5/</u>	30	_____	1,500	_____
Dairy buildings <u>6/</u>	40	_____	2,000	_____
Dairy feeding equipment <u>7/</u>	16	_____	800	_____
Labor and management to handle cows	105	_____	5,250	_____
Breeding fees	7	_____	350	_____
Tractor & equipment to feed & clean up	3	_____	150	_____
Taxes & interest on cow $\frac{\$400 \text{ 2/} + \$166 \text{ 3/}}{2} \times 7\%$	20	_____	1,000	_____
Electricity & fuel - farm share	5	_____	250	_____
DHIA, vet, medicine & supplies	15	_____	750	_____
General office and overhead	10	_____	500	_____
Hauling <u>13,550 lbs. x \$.30 cwt.</u>	<u>41</u>	_____	<u>2,050</u>	_____
Total cost	\$614	_____	\$30,700	_____
Calf credit yearly	<u>20</u>	_____	<u>1,000</u>	_____
Net cost of milk	\$594	\$ _____	\$29,700	_____

$\$594 \div 135.5 \text{ cwt.} = \underline{\$4.38}$ cost per cwt. milk sold.

Returns per cow 13,550 lbs. x \$6.50 cwt. = \$881.

Net income per cow \$881 - \$594 = \$287 net profit per cow.

\$287 x 50 cows = \$14,350 net profit for the year.

6/ Except operator's dwelling.

8/ The average number cows on test can be used if available.

The second method of calculating cost of producing milk where no profit or loss is shown on other than milk cow enterprises on the farm is as follows:

Total receipts other than milk, including inventory increase are subtracted from total expenses including inventory decrease, if any, value of operator's time, value of unpaid family labor and interest on the investment. The remaining figure is the net cost of producing milk. This is a fairly valid figure for specialized dairy farms.

The following illustration is the average of 100 Grade-A dairy farms in Virginia for 1967: 9/

Table 2. 52 Cows Average

Total cash farm receipts	\$43,779	
Milk receipts	<u>36,594</u>	
Cash receipts other than milk	7,185	
Inventory increase if any	<u>1,907</u>	(Livestock & Feed & Supply)
Total receipts other than milk	\$ 9,092 *	
Total cash expenses <u>10/</u>		\$32,281
Inventory decrease if any (lvstck. & feed & supply)		-----
Value of operator's mgt. & labor		3,353
Value of unpaid family labor		988
Interest on Avg. investment <u>\$70,700</u> x <u>6%</u> rate		<u>4,242</u>
Total Cost		\$40,864
Total receipts other than milk		<u>9,092 *</u>
Net cost of producing milk		\$31,772
Lbs. milk sold		586,714
Cost per cwt. milk sold		\$5.42

9/ Taken from analysis of Virginia Farm Records for 1967.

10/ Includes machinery, building, and equipment depreciation but does not include the cost of capital items purchased during the year or interest paid on loans.