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Pennsylvania Dairy Herd Improvement Association

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Factors In Dairy Farm Profitability

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NEW BLOOMFIELD (Perry Co.) — You may not have worried about profitability the last few months due to the excellent milk prices you have received. However, as the end of the year approaches, you should be analyzing your records to determine the profitability and efficiency of your operation and look toward setting new goals for the new year and decade.

But what should you use to determine efficiency? And what factors are important to profitability? And how can you compare your farm to other profitable operations?

The 1988 Dairy Farm Business Analysis, published by Penn State Cooperative Extension helps to answer the above questions. The survey gathered data from 888 Pennsylvania dairy farms.

We will focus specifically on factors related to profitability using information gained by the business survey. Look at Figure 1, which divides dairy farms into three profitability levels. Please note that farms with varying herd sizes are in each profitability group. So, herd size, by itself, does not indicate profitability.

Significant factors from this figure are lines 5,6,8,10,20,23, and 24.

Lines 5 and 6- Dairy Cows/Worker and Pounds Milk Sold/Worker

Notice that there is a 12 percent difference among profitability groups in cows managed/worker and there is a 21 percent difference in pounds of milk sold/worker. This should tell you that both are effective measures of efficiency that contributes to profitability. How does your farm compare? Be fair in your labor assessment. Include valid family labor. Also, use figures on milk sold from milk handlers slip, not your DHIA Rolling Herd Average.

Line 8- Milk Sold/Cow

A 9 percent difference exists between low and high profitability groups on pounds of milk sold/cow. So, comparing lines 5,6 and 8, you can theorize that increasing efficiency of production and shipping more product/man had a greater impact on profitability than just increasing the absolute amount of milk sold.

Line 10- Cash Cost/Cwt. Milk

The $0.92/cwt difference shown between profitability groups is an indication of greater efficiency and lower costs in other areas. (Average price of milk was $12.60/cwt when this survey was completed). What are your costs/cwt milk produced? If over 80 percent of your gross farm income comes from milk sales, then just use all your costs for the farm to figure costs/cwt. Of course, a more accurate estimate of costs to produce 100 pounds milk is possible if you do enterprise accounting.

Line 20- Total Machinery Investment Per Cow

Notice the 10 percent difference in total machinery investment dollars per cow between low and high profitability groups. You can conclude from these figures that small herds that invest sizably in equipment need to have high production levels and high labor efficiency to offset the higher equipment cost.

Line 23- Total Debt/Cow

One of the largest differences between profitability groups, a 23 percent difference in debt load/cow. Farm advisors often say dairy managers should have no more than $2000 debt/cow. But you can see the relationship between debt service and profitability. Some of you are considering buying cows to cash in on high milk prices. Be sure the increased debt you incur can be paid out of $12.50 cwt/milk. I doubt we will have $15-17/cwt milk for the life of your cow loan!

Line 24- Annual Debt Service/Cow

The survey reported a 17 percent difference in annual debt service/cow among profitability groups. Obviously, this figure is related directly to line 23; it is also related to line 26, family withdrawals. Very often, excess debt payments prevent adequate family living withdrawals from the farm business.

While many factors contribute to your dairy farm's profitability (some of which are beyond our control- e.g. the weather) the above mentioned factors have applicability on every dairy farm. Spend a few moments to determine how your farm measures up!

For more information on dairy farm business analysis factors, request from your county extension office Extension Circular 374, "1988 Pennsylvania Dairy Farm Business Analysis and/or a copy of Pennsylvania Dairy Farm Analysis Workbook.

Factors:	Low (Under $24,450)	Medium ($24,450-$33,000)	High (Over $33,000)
1. Net Farm Income	$10,958	$28,440	$61,527
2. Family Labor-Mgt. Income	661	14,646	39,569
3. Rate of Capital Turnover	1.83	1.82	1.85
4. % Return on Investment	1.35	9.96	19.36
5. Dairy Cows/Worker	32	31	35
6. Lbs. Milk Sold/Worker	480,349	517,943	605,213
7. Value Farm Prod./Worker	68,351	78,095	99,090
8. Milk Sold Per Cow	14,852	15,746	16,313
9. % Cash Income From Dairy	94	94	94
10. Cash Cost/Cwt. Milk	8.96	8.76	8.04
11. Purchased Feed Per Cow ($)	569	550	557
12. Purchased Feed/Cwt. Milk ($)	3.83	3.48	3.41
13. Purchased Feed as % Of Milk Income	32	28	28
14. Livestock Return/$100 Feed Fed	160	173	196
15. Farm Production Per Crop Acre	742	825	993
16. Forage Acres Per Cow	2.38	2.40	2.18
17. Grain Acres Per Cow	.56	.67	.69
18. Feed Grown As % Of Feed Fed	53	56	54
19. Crop Value Per Total Crop Acre	257	278	317
20. Total Mach. Invest. Per Cow	430	406	392
21. New Machinery Investment Per Cow	171	193	194
22. Mach. Operating Cost Per Cow	455	453	443
23. Total Debt Per Dairy Cow	1,707	1,534	1,331
24. Annual Debt Service Per Cow	444	398	367
25. Cow Turnover Percent	25	28	27
26. Family Withdrawals Per Family Worker	$15,893	$18,434	$23,708

From 1988 PA Dairy Farm Business Analysis. Extension Circular 374. Authors: L. Jenkins and W. McSweeney

Average Farm Feed Costs For Handy Reference

To help farmers across the state to have handy reference of commodity input costs in their feeding operations for DHIA record sheets or to develop livestock feed cost data, here's this week's average costs of various ingredients as compiled from regional reports across the state of Pennsylvania. Remember these are averages so you will need to adjust your figures up or down according to your location and the quality of your crop.

Corn, No. 2y - 2.73
Wheat, No. 2 - 3.68
Barley, No. 3 - 1.94
Oats, No. 2 - 1.56
Soybeans, No. 1 - 5.31
Old Ear Corn - 80.94
New Ear Corn - 62.92
Alfalfa Hay - 112.00
Mixed Hay - 105.00
Timothy Hay - 112.00

Wholesale Price Of Milk Set For Another Price Hike

STRONGSVILLE, Ohio — The wholesale price of milk is set for another price hike, the third in the last three months. The Dec. 1 price increase was announced by Gordon Riehl, general manager of Milk Marketing Inc. (MMI), the region's largest dairy marketing cooperative.

"Milk production is down at a time when dairy consumption is up. This is the supply/demand scenario that we've seen since late summer and it's still true," says Riehl.

The Dec. 1 price will rise 77 cents for each one hundred pounds of milk sold to processors. The wholesale cost of milk, the Minnesota-Wisconsin (M-W) price which is established in the nation's high dairy production states of Minnesota and Wisconsin, continues on its upward climb because of the nationwide decrease in milk production.

"Several components come into play here, but first is the simple fact that we have less milk today than we did a year ago. We have fewer dairy farmers and fewer cows in milk production. And of the cows in production, each of those animals are giving less milk," says Riehl.

According to Riehl, these factors exist simply because during the last seven years returns to dairy farmers have decreased, while production costs have increased. Current raw milk prices are now returning to 1981 price levels.

Currently MMI is able to pay its dairy farmer members more for their milk, but those farmers' operational costs are also climbing, according to Riehl.

"Medical insurance premiums for many of our members have continued to climb similarly, matching the national trend," he said.

And in addition, we are still facing some of the effects of last summer's drought and this spring's heavy rains. These weather conditions meant the production of low quality feeds for dairy cattle. Lacking the levels of nutrition that those cows usually receive, they produced less milk."

Milk production in most of the eight state area in which MMI markets its members' milk is down nearly 9.4 percent from the same time last year. The United States Department of Agriculture (USDA) reports that nationwide milk production for October is down two percent compared to October, 1988. During this time frame, MMI increased its average wholesale milk price more than 11 percent. Wholesale milk prices have been on a steady uphill climb since April.

"This isn't a situation that is making anyone rich," says Riehl. "Consumers want dairy products. For example, cheese sales are up six percent from last year, but the cost of milk is still out-climbing the cost of cheese.

"Off-farm employment remains lucrative in many areas. And it's tough to convince a family mem-

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BY BOB ORMSBY
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The data accompanying this article was pulled from Pennsylvania DHIA's mainframe computer and will be a weekly feature on this page. These data are valuable from a business management standpoint and deserve explanation.

First, note that the data represent only the herds processed by the Pennsylvania DHIA between 11-20-89 and 11-27-89. This one-week summary represents approximately one-fourth of the herds on test, as they are tested monthly. The 1,386 herds include 79,022 cows, for an average of 57 cows per herd.

These 79,022 cows averaged 16,528 pounds of milk during the last 365 days, with the corresponding fat and protein figures. These cows averaged 307 days in milk.

The average somatic cell score for the 1,091 herds on the program is 349,038. Remember, this data is not representing all cows on test in Pennsylvania, just the herds processed during the week reported.

The balance of the data are provided by DHIA members. These data on milk, forage and grain are collected at the farm and reported by the supervisor. Some forage and grain prices are based on cost of production, analysis results, commodity market figures, county agents and even neighbors.

Some DHIA members report the blend price for milk; others take into account deductions, bonuses, etc. Pounds of grain and forage fed is often estimated as well.

However, because these figures are averages of information from almost 1,400 herds, they are useful for comparing your operations.

DHIA Averages for all herds processed between 11/20/89 and 11/27/89	
Number of Herds Processed	1,386
Number of Cows Processed	79,022
Number of Cows Per Herd	57.0
Milk Per Cow (Lbs)	16,528
%-Fat	3.71
Fat Per Cow (Lbs)	614
%-Protein	3.20
Protein Per Cow (Lbs)	529
Average Days in Milk Per Cow	307
*Value for CWT Milk($)	13.35
*Value for CWT Grain($)	8.43
*Value for CWT Hay($)	4.18
*Value for CWT Silage($)	1.51
*Value for Pasture Per Day($)	.30
*Value for Milk Per Cow Per Year($)	2,206
*Feed Consumed Per Cow Per Year(Lbs)	
A: Grain	6,396
B: Hay	2,831
C: Silage	14,007
D: Day Pasture	64
*Feed Cost Per Cow Per Year($)	
A: Grain	539
B: Hay	118
C: Silage	212
D: Pasture	19
*Total Feed Cost Per Cow Per Year($)	890
*Income Over Feed Costs Per Year($)	1,316
*Grain to Milk Ratio	1:1.0
*Feed Cost Per CWT Milk($)	5.38
Avg Level For 1090 SCC Herds	349,038

*Member generated figures