

2014 Ohio Farm Business Analysis

Dairy Enterprise Analysis Summary Including Benchmark Reports



**THE OHIO STATE
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COLLEGE OF FOOD, AGRICULTURAL,
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For information on participating in the Ohio Farm Business Analysis program analyzing your farm's 2015 performance, visit our web site at:

<http://farmprofitability.osu.edu/>

Our Thanks To

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2014 Ohio Farm Business Analysis

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2014 Ohio Dairy Enterprise Analysis Summary

This document contains summary information for the 38 dairy farms that participated in the 2014 Ohio Farm Business Analysis and Benchmarking Program. These farms provided detailed financial and production information in order to complete a whole farm financial analysis and enterprise analysis for their dairy and crop enterprises. Confidentiality of individual farm data is of utmost importance, so data is not shared if there are less than 4 farms in a group in the enterprise summaries.

2014 was a very good year for most Ohio dairy farmers, as it was for farmers across the country. Most Ohio dairy farmers market their milk in Federal Order 33. The Class III milk price averaged \$22.34 per hundredweight (cwt.) for the year, the highest annual average ever (Table 1). The Producer Price Differential averaged \$0.82 for the year, resulting in an average Statistical Uniform Price of \$23.16/cwt in 2014 with the only monthly price lower than \$20 coming in December, initiating a rapid decline that continued into 2015. The Statistical Uniform price represents the base price every dairyman selling Grade A milk in Federal Order 33 would receive plus or minus component, somatic cell, and/or any quality adjustments. The average milk price received by the 38 dairy farms in 2014 was \$25.64 per cwt., very close to the median price of \$25.46 ranging from \$23.40 to \$33.55 per cwt.

Table 1: 2014 Monthly and annual average per cwt. milk prices for Federal Order 33

	2014												
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Avg
Class III	21.15	23.35	23.33	24.31	22.57	21.36	21.60	22.25	24.60	23.82	21.94	17.82	22.34
PPD	0.75	0.02	0.62	0.17	1.47	1.85	1.88	1.95	0.47	-0.51	-0.74	1.92	0.82
SUP	21.90	23.37	23.95	24.48	24.04	23.21	23.48	24.20	25.07	23.31	21.20	19.74	23.16
MILC									MILC ended, MPP initiated September 1				

<i>Class III @ 3.5% BF</i>	= Class III
<i>Producer Price Differential</i>	= PPD
<i>Statistical Uniform Price</i>	= SUP
<i>Milk Income Loss Contract</i>	= MILC

High Net Returns in 2014

2014 Net Return per cow was extraordinarily high, averaging \$1,266 per cow, before a labor and management charge, for all herds. This average net return is actually higher than the previous 3 years' average returns combined (Table 2). We typically see a large range in net return per cow among the farms in the analysis with this year's being particularly wide at nearly \$4,000 (Table 3).

Table 2: Comparison of total cost of production per cwt. and net return per cow, 2011 - 2014

	2011	2012	2013	2014
Average of all herds:				
Total cost per cwt¹	\$20.23	\$18.76	\$19.21	\$20.42
Net return per cow²	\$317	\$231	\$544	\$1,266
Average of High 20%³:				
Total cost per cwt¹	\$16.88	\$15.38	\$16.04	\$18.14
Net return per cow²	\$1,290	\$1,145	\$1,501	\$1,976

¹Total cost per cwt. including revenue adjustments (income from cull cows, bull calf and other animal sales) before labor and management charge.

²Before a labor and management charge

³Farms sorted by net return per cow

Table 3: Average of all farms, range, and average of the high 20% for selected factors for 38 Ohio dairy farms, 2014

	Average of 38 farms	Range	Average of High 20% ¹
Number of Cows	285	35 – 1,000+	317
Milk sold per cow	24,217	11,776 – 29,963	27,223
Feed cost per cwt of milk²	\$13.03	\$ 9.63 – \$20.37	\$11.36
Total cost per cwt³	\$21.69	\$17.65 – \$32.77	\$19.50
Net return per cow⁴	\$1,266	(\$1,027) – \$2,798	\$1,976

¹Farms sorted by net return per cow, 8 farms.

²Includes feed costs for mature cows and raised replacements excluding custom raised heifers if feed is included in the custom raising charge. All raised feed is valued at total cost of production including a labor and management charge.

³Total cost per cwt. including revenue adjustments (income from cull cows, bull calf and other animal sales) and a labor and management charge.

⁴Before a labor and management charge.

2014 – The Year in Review

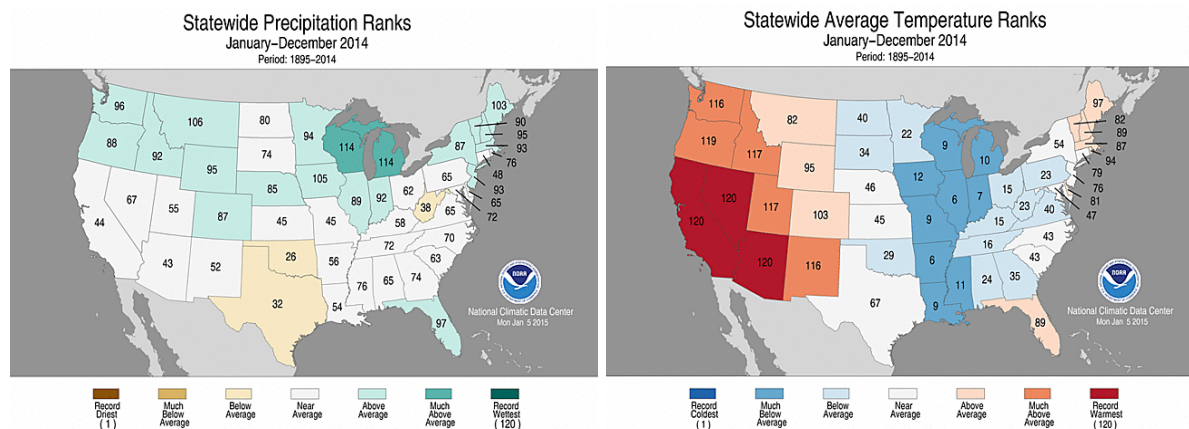
Weather - Jim Noel, NOAA/NWS/Ohio River Forecast Center

Even though 2014 had its issues, the burst of warm and drier weather in late summer helped to extend the growing season to make for fairly ideal weather conditions in the end after a challenging start.

The NOAA and the National Weather Service reported that 2014 went down in the record books as a cooler year with near-normal precipitation. Out of 120 years, it ranked as the 15th coolest year on record. Precipitation ranked right in the middle at 62nd out of 120 years. The big news was the cold and snowy winter which started 2014. After a cold start to the spring planting season in the eastern corn and soybean areas including Ohio, temperatures recovered to more normal levels by May. However, that did not last as the summer of 2014 was very cool and wet across the area. For Ohio, the summer of 2014 was the 37th coolest and 29th wettest summer on record over 120 years. While not the coldest or wettest, with soil temperatures lagging from the cold winter, it still created challenges stretching into summer.

Good news for 2014 were the very limited hot or dry periods meaning less stress on crops and livestock. Even though it was a cool summer, late warming and drying in August helped extend crop growth which was needed. The cool trend lingered through autumn 2014 with the 25th coolest autumn on record. Even though most of the corn and soybean growing areas were wet, Ohio was an exception, recording the 36th driest autumn.

Figure 1: Statewide precipitation and average temperature rankings, 2014



Source: National Climatic Data Center

Crop Yields and Prices

Table 4: Ohio Crop Yields and Marketing Year Prices as reported by the USDA National Agricultural Statistics Service in the Ohio Annual Bulletin (September 2015)

	Corn Yield bu/acre	Corn Price \$/bu ¹	Soybean Yield bu/acre	Soybean Price \$/bu ¹	Wheat Yield bu/acre	Wheat Price \$/bu ¹	Alfalfa Hay tons/ac	Alfalfa Hay \$/ton ¹
2010	160	5.45	48	11.50	61	5.21	3.3	160
2011	153	6.44	48	13.00	57	6.73	3.4	183
2012	120	7.09	45	14.60	68	7.94	2.8	231
2013	174	4.41	49.5	13.00	70	6.54	3.5	194
2014	176	3.65	52.5	10.40	74	5.55	3.5	174

¹Marketing year average price

http://www.agri.ohio.gov/divs/Communications/docs/ODA_Comm_AnnRpt_2014.pdf

Participating Farms

In 2014 all dairy farms were located in 11 northeast Ohio counties. Previous years have included farms in southern and western Ohio.

Figure 2: Locations of the 38 Ohio dairy farm businesses participating in 2014



Dairy Enterprise Analysis Reports

The Dairy Enterprise Analysis reports show the average physical production, gross margin over purchase costs, direct costs, overhead costs, and net returns on a per cow or per hundredweight (cwt) basis. Information is presented for the average of all farms and the “High 20%” sorted by net return per cow.

Gross Margin is the accrual gross value added by the enterprise. It includes income from sale of offspring and livestock products, cull income, non-cash transfers to other enterprises, and the value of production used in the home or for feed. It also includes the value of the livestock inventory change from the beginning to the end of the year. Inventory changes are calculated using the cost-basis balance sheet, and each farm’s per-head values for their breeding livestock inventories are held constant from the beginning through the end of the year. The cost of livestock purchased and the value of any animals transferred in are deducted.

Net Return is the amount contributed by a unit of the enterprise toward operator labor, management, and equity capital. Any wages and benefits paid to the operator are removed from labor costs (and added to *Labor and Management Charge*) so that all farms are on equal footing.

Net Return over Labor and Management is the return remaining after compensating the operator for unpaid labor and management. This is the per-unit return to equity capital.

Labor and Management calculation:

Management is calculated at 5% of the Value of Farm Production

Labor is valued at \$13.50 per hour for 3,000 hours annually (one operator)

Example:	Management at 5% * \$950,000 VFP	= \$47,500
	Labor of 3,000 hrs * \$13.50	= <u>\$40,500</u>
		\$88,000

Cost of Production shows the average cost per unit in each cost category. *Total direct and overhead expense per unit* is the breakeven price needed to cover cash costs and depreciation.

With Other Revenue Adjustments is the breakeven price adjusted for cull sales, other offspring sales, the cost of replacement stock, and any other miscellaneous income. This assumes that some costs can be covered by these other income sources.

With Labor and Management is the final breakeven price to provide a labor and management return for the operator(s).

Other Information contains both economic and technical efficiency measures for the enterprise.

Rounding of individual items for the report may cause minor discrepancies with the calculated total

Dairy Enterprise Analysis**Average of all Farms and High 20% Sorted by Net Return Per Cow****Dairy -- Average Per Cow**

	Avg. Of All Farms		High 20%	
Number of farms	38		8	
	Quantity	Value	Quantity	Value
Milk sold (lb.)	24,212.7	6,208.34	27,223.1	6,914.95
Dairy Calves sold (hd)	0.4	102.34	0.4	95.66
Transferred out (hd)	0.0	10.47	-	-
Cull sales (hd)	0.3	345.40	0.3	385.65
Other income		5.04		0.02
Purchased (hd)	0.0	-35.20	0.0	-13.69
Inventory change (hd)	0.1	171.07	0.1	167.41
Gross margin		6,807.54		7,550.34
Direct Expenses				
Protein Vit Minerals (lb.)	142.4	1,774.83	-	1,847.49
Complete Ration (lb.)	-	92.26	-	-
Corn (bu.)	51.8	273.42	66.7	337.82
Corn Silage (lb.)	19,825.3	441.64	19,178.1	394.37
Hay, Alfalfa (lb.)	2,649.1	152.54	5,591.0	313.46
Hay, Grass (lb.)	1,055.0	71.58	2,045.1	117.33
Haylage, Grass (lb.)	2,276.7	111.38	1,223.4	34.20
Other feed stuffs (lb)	3,374.2	237.57	1,108.8	47.64
Breeding fees		98.99		113.96
Veterinary		145.58		166.84
Supplies		218.33		147.35
Contract production exp.		48.82		52.30
Fuel & oil		102.53		125.92
Repairs		149.26		171.48
Custom hire		113.32		156.84
Hired labor		590.93		634.54
Utilities		112.06		121.06
Hauling and trucking		129.90		144.15
Marketing		71.15		72.84
Bedding		118.33		82.95
Total direct expenses		5,054.42		5,082.53
Return over direct expense		1,753.13		2,467.80
Overhead Expenses				
Interest		84.96		76.34
Mach & bldg depreciation		271.85		219.48
Miscellaneous		130.79		195.99
Total overhead expenses		487.61		491.81
Total dir & ovhd expenses		5,542.03		5,574.35
Net return		1,265.52		1,975.99
Labor & management charge		309.75		370.69
Net return over lbr & mgt		955.77		1,605.30
Cost of Production Per Cwt. Of Milk				
Total direct expense per unit		20.87		18.67
Total dir & ovhd expense per unit		22.88		20.48
With other revenue adjustments		20.42		18.14
With labor and management		21.69		19.50
Est. labor hours per unit		54.56		60.74
Other Information				
Number of cows		285.6		317.3
Milk produced per cow		24,217		27,223
Total milk sold		6,914,638		8,636,517
Lb. of milk sold per FTE		1,242,574		1,254,932
Culling percentage		28.8		30.4
Turnover rate		32.4		32.0
Cow death loss percent		3.6		1.6
Percent of barn capacity		99.7		99.1
Feed cost per day		8.64		8.47
Feed cost per cwt. of milk		13.03		11.36
Feed cost per cow		3,155.22		3,092.31
Avg. milk price per cwt.		25.64		25.40
Milk price / feed margin		12.61		14.04

2014 Ohio Dairy Farm Business Analysis

Dairy Benchmark Report; Per Cow; 38 Farms, Raised feed valued at cost of production

	Group Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Milk sales	5,903.44	38	3,950.45	4,738.40	5,295.54	5,388.94	5,537.92	6,020.03	6,367.23	6,692.42	7,277.81	7,470.50
Gross Margin	6,270.69	38	4,251.68	5,277.35	5,731.23	5,868.10	6,196.72	6,611.96	6,945.86	7,340.13	7,734.51	8,080.31
Total feed expense	2,998.06	38	4,424.27	3,886.34	3,562.87	3,187.27	3,081.75	2,939.45	2,814.78	2,753.13	2,380.36	2,071.96
Breeding Fees	81.38	37	165.34	131.55	111.45	93.93	89.39	79.36	71.68	55.53	37.83	28.73
Veterinary	129.13	38	282.77	221.11	173.84	155.83	142.20	118.46	110.32	97.66	74.48	47.89
Livestock supplies	135.17	38	376.92	240.55	195.24	169.98	151.38	124.81	117.53	102.32	86.56	55.11
Fuel & Oil	97.12	38	172.00	154.76	136.24	119.98	107.50	93.33	85.35	73.76	63.81	47.90
Marketing	63.78	37	111.82	94.71	83.08	70.32	65.10	59.33	53.07	49.52	45.10	27.66
Operating interest	7.70	29	68.37	29.04	19.12	13.88	9.51	7.14	4.45	3.36	1.54	0.22
Total direct expenses	4,915.23	38	6,161.56	5,824.93	5,314.75	5,169.53	4,998.12	4,812.44	4,576.24	4,207.50	3,893.16	3,160.19
Return over direct expenses	1,567.01	38	469.07	851.06	1,040.11	1,200.96	1,518.73	1,646.72	2,070.52	2,131.70	2,250.49	2,973.20

Hired labor	496.59	35	911.44	114.44	111.44	111.44	111.44	111.44	111.44	111.44	111.44	111.44
Livestock leases	67.60	9	98.75	37.83	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Real estate taxes	21.53	34	65.15	45.51	35.66	30.80	24.81	19.31	15.27	11.42	9.73	6.45
Farm insurance	33.59	38	73.18	59.54	48.72	42.21	35.26	31.62	27.73	23.13	19.34	8.22
Utilities	102.45	38	111.44	111.44	111.44	111.44	111.44	111.44	111.44	111.44	111.44	111.44
Interest on interm. Debt	14.27	30	113.86	29.54	24.42	19.60	15.75	12.13	10.01	8.52	7.51	3.23
Interest on long term debt	71.63	31	182.79	128.88	115.12	103.98	94.18	60.41	41.50	37.86	28.45	16.64
Machinery depreciation	44.14	38	193.59	131.41	91.42	57.18	46.31	39.21	35.48	29.12	24.13	6.50
Building depreciation	133.84	38	653.29	316.93	237.28	165.04	142.52	105.67	69.22	54.38	28.32	4.82
Total overhead expenses	427.56	38	863.35	606.73	571.01	502.25	459.12	408.30	391.40	325.91	275.98	216.67
Total dir & ovhd expense	5,248.59	38	6,664.29	6,371.84	5,836.01	5,520.44	5,390.64	5,235.12	4,998.41	4,626.32	4,271.15	3,518.75

Net return	1,102.43	38	77.13	561.82	670.51	795.67	964.14	1,357.26	1,533.30	1,632.42	1,741.18	2,756.53
Net return over lbr & mgmt	816.75	38	-166.96	175.05	283.84	394.81	599.99	875.25	1,036.78	1,328.73	1,437.42	2,036.14
Cost of production	22.55	38	31.91	26.18	25.01	23.99	23.10	22.03	21.52	19.69	19.27	17.87

Avg. number of head	224.5	38	43.0	78.0	128.5	134.5	193.5	247.5	300.0	407.5	549.0	850.0
Milk produced per head	22,862	38	14,096	16,874	19,613	21,010	21,951	24,088	24,822	26,873	28,860	29,455
Culling percentage	25.8	38	13.5	19.0	21.0	23.7	25.3	27.6	30.8	33.9	36.0	48.0
Turnover rate	29.7	38	16.2	20.9	22.8	25.0	29.1	30.3	33.9	35.8	48.5	53.8
Percent of barn capacity	105.4	38	64.3	82.7	92.1	97.2	103.1	109.3	115.5	123.7	128.6	154.3
Feed cost per cwt of milk	13.26	38	18.91	16.94	15.20	14.31	13.70	13.05	12.53	12.09	11.19	9.69
Feed cost per head	2,998.06	38	4,424.27	3,886.34	3,562.87	3,187.27	3,081.75	2,939.45	2,814.78	2,753.13	2,380.36	2,071.96
Avg. milk price per cwt.	25.46	38	23.52	24.35	24.91	25.16	25.40	25.64	25.93	26.86	28.18	32.87

How to use this chart:

Each row contains data from 38 Ohio dairy farms. The Data is grouped by percentiles. For example if we look at "Total Feed Expense" (line 3), the 3 farms with the highest feed cost per cow had a median value of \$4,424. This value is in the 10% column. The next 4 farms with the highest feed cost per cow had a median value of \$3,886 per cow which is in the 20% column. This process is continued up to the 100% column where the 3 farms with the lowest feed cost per cow had a median value of \$2,072(note: these farms probably had at least some heifers custom raised). Each row is calculated independently which is why you will see your farm's values in many different columns. Use this chart to identify strengths, areas of concern, and opportunities to improve compared to the performance of other Ohio dairy farms.

Dairy Enterprise Analysis**Average of all Farms and High 20% Sorted by Net Return Per. Cwt. of Milk****Dairy -- Average Per Cwt. Of Milk**

	Avg. Of All Farms		High 20%	
Number of farms	38		8	
	Quantity	Value	Quantity	Value
Milk sold (lb.)	99.98	25.64	100.00	25.40
Dairy Calves sold (hd)	0.00	0.42	0.00	0.35
Transferred out (hd)	0.00	0.04	-	-
Cull sales (hd)	0.00	1.43	0.00	1.42
Other income		0.02		0.00
Purchased (hd)	0.00	-0.15	0.00	-0.05
Inventory change (hd)	0.00	0.71	0.00	0.61
Gross margin		28.11		27.74
Direct Expenses				
Protein Vit Minerals (lb.)	0.59	7.33	-	6.79
Complete Ration (lb.)	-	0.38	-	-
Corn (bu.)	0.21	1.13	0.25	1.24
Corn Silage (lb.)	81.86	1.82	70.45	1.45
Hay, Alfalfa (lb.)	10.94	0.63	20.54	1.15
Hay, Grass (lb.)	4.36	0.30	7.51	0.43
Haylage, Grass (lb.)	9.40	0.46	4.49	0.13
Other feed stuffs (lb)	13.93	0.98	4.07	0.18
Breeding fees		0.41		0.42
Veterinary		0.60		0.61
Supplies		0.90		0.54
Contract production exp.		0.20		0.19
Fuel & oil		0.42		0.46
Repairs		0.62		0.63
Custom hire		0.47		0.58
Hired labor		2.44		2.33
Utilities		0.46		0.44
Hauling and trucking		0.54		0.53
Marketing		0.29		0.27
Bedding		0.49		0.30
Total direct expenses		20.87		18.67
Return over direct expense		7.24		9.07
Overhead Expenses				
Interest		0.35		0.28
Mach & bldg depreciation		1.12		0.81
Miscellaneous		0.54		0.72
Total overhead expenses		2.01		1.81
Total dir & ovhd expenses		22.88		20.48
Net return		5.23		7.26
Labor & management charge		1.28		1.36
Net return over lbr & mgt		3.95		5.90
Cost of Production Per Cwt. Of Milk				
Total direct expense per unit		20.87		18.67
Total dir & ovhd expense per unit		22.88		20.48
With other revenue adjustments		20.42		18.14
With labor and management		21.69		19.50
Est. labor hours per unit		0.23		0.22
Other Information				
Number of cows		285.6		317.3
Milk produced per cow		24,217		27,223
Total milk sold		6,914,638		8,636,517
Lb. of milk sold per FTE		1,242,574		1,254,932
Culling percentage		28.8		30.4
Turnover rate		32.4		32.0
Cow death loss percent		3.6		1.6
Percent of barn capacity		99.7		99.1
Feed cost per day		8.64		8.47
Feed cost per cwt. of milk		13.03		11.36
Feed cost per cow		3,155.22		3,092.31
Avg. milk price per cwt.		25.64		25.40
Milk price / feed margin		12.61		14.04

2014 Ohio Dairy Farm Business Analysis

Dairy Benchmark Report; Per Cwt. Of Milk; 38 Enterprises, Raised feed valued at cost of production



	Group	Median	Count	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
				Count									
Milk sales		25.46	38	23.52	24.35	24.91	25.16	25.40	25.64	25.93	26.70	28.18	32.87
Gross Margin		27.77	38	26.13	26.46	26.79	27.06	27.58	28.08	28.44	29.08	31.28	36.10
Total feed expense		13.26	38	18.91	16.94	15.20	14.31	13.70	13.05	12.53	12.09	11.19	9.69
Breeding Fees		0.35	37	0.78	0.53	0.47	0.41	0.37	0.35	0.31	0.25	0.19	0.13
Veterinary		0.51	38	1.31	0.96	0.80	0.60	0.58	0.49	0.47	0.42	0.35	0.27
Livestock supplies		0.56	38	2.27	1.20	0.86	0.72	0.61	0.53	0.48	0.44	0.41	0.31
Fuel & Oil		0.44	38	0.96	0.69	0.64	0.56	0.49	0.37	0.33	0.29	0.28	0.24
Marketing		0.26	37	0.66	0.44	0.33	0.29	0.27	0.25	0.23	0.22	0.21	0.20
Operating interest		0.03	29	0.31	0.17	0.11	0.05	0.04	0.03	0.02	0.01	0.01	0.00
Total direct expenses		22.24	38	27.73	24.25	23.24	22.52	22.28	21.05	19.95	19.17	18.20	17.22
Return over direct expenses		7.23	38	2.24	4.19	5.18	5.89	7.01	7.48	8.24	8.70	9.64	12.56
Hired labor		2.17	35	3.93	3.18	2.76	2.35	2.17	1.88	1.60	1.09	0.22	0.00
Livestock leases		0.26	9	0.54	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Real estate taxes		0.10	34	0.27	0.18	0.15	0.13	0.11	0.10	0.07	0.05	0.04	0.02
Farm insurance		0.15	38	0.34	0.31	0.21	0.17	0.16	0.14	0.12	0.11	0.07	0.04
Utilities		0.48	38	0.88	0.70	0.64	0.59	0.52	0.47	0.42	0.38	0.34	0.30
Interest on interm. Debt		0.06	30	0.40	0.17	0.12	0.09	0.07	0.05	0.04	0.04	0.03	0.01
Interest on long term debt		0.34	31	0.77	0.70	0.58	0.45	0.42	0.27	0.19	0.15	0.10	0.07
Machinery depreciation		0.18	38	0.82	0.53	0.45	0.23	0.19	0.17	0.15	0.14	0.12	0.04
Building depreciation		0.52	38	2.26	1.17	1.05	0.82	0.58	0.45	0.30	0.21	0.15	0.02
Total overhead expenses		1.90	38	3.60	2.73	2.35	2.18	2.00	1.86	1.66	1.55	1.36	0.81
Total dir & ovhd expense		23.84	38	29.56	26.35	25.16	24.88	24.27	23.59	21.88	21.06	20.04	18.35
Net return		5.34	38	0.37	2.83	3.48	3.93	4.59	5.76	6.12	6.47	7.56	10.24
Net return over lbr & mgt		3.56	38	-0.78	1.09	1.61	1.88	3.06	3.83	4.51	5.33	6.02	7.33
Cost of production		22.55	38	31.91	26.18	25.01	23.99	23.10	22.03	21.52	19.69	19.27	17.87
Avg. number of head	224.5	38	43.0	78.0	128.5	134.5	134.5	193.5	247.5	300.0	407.5	549.0	850.0
Milk produced per head	22,862	38	14,096	16,874	19,613	21,010	21,010	21,951	24,088	24,822	26,873	28,860	29,455
Culling percentage	25.8	38	13.5	19.0	21.0	23.7	23.7	25.3	27.6	30.8	33.9	36.0	48.0
Turnover rate	29.7	38	16.2	20.9	22.8	25.0	25.0	29.1	30.3	33.9	35.8	48.5	53.8
Percent of barn capacity	105.4	38	64.3	82.7	92.1	97.2	97.2	103.1	109.3	115.5	123.7	128.6	154.3
Feed cost per cwt of milk	13.26	38	18.91	16.94	15.20	14.31	14.31	13.70	13.05	12.53	12.09	11.19	9.69
Feed cost per head	2,998.06	38	4,424.27	3,886.34	3,562.87	3,187.27	3,081.75	2,939.45	2,753.13	2,814.78	2,753.13	2,380.36	2,071.96
Avg. milk price per cwt.	25.46	38	23.52	24.35	24.91	25.16	25.16	25.40	25.64	25.93	26.86	28.18	32.87

How to use this chart:

Each row contains data from 38 Ohio dairy farms. The data is grouped by percentiles. For example, if we look at "Total feed expense" (line 3), the 3 highest feed costs had a median value of \$18.91 per cwt. This value is in the 10% column. The next 4 farms with the highest feed cost had a median value feed expense of \$16.94 which is in the 20% column. This process is continued up to the 100% column where the 3 farms with the lowest feed cost per cwt. had a median value of \$9.69 (note: these farms probably had at least some heifers custom raised). Each row is calculated independently which is why you will see your farm's values in many different columns. Use this chart to identify strengths, areas of concern and opportunities to improve compared to the performance of other Ohio dairy farms.

Dairy Enterprise Analysis**Average of All Farms sorted by Profitability Group based on Net Return Per Cow****Dairy -- Average Per Cow**

	Low 20%		20 - 40%		40 - 60%		60 - 80%		High 20%	
Number of farms	7		8		7		8		8	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Milk sold (lb.)	19,629.6	5,052.50	22,689.2	5,788.21	22,438.4	5,934.84	26,092.6	6,589.00	27,223.1	6,914.95
Dairy Calves sold (hd)	0.5	132.56	0.4	112.38	0.3	68.93	0.5	120.62	0.4	95.66
Transferred out (hd)	-	-	-	-	0.1	-	0.0	41.40	-	-
Cull sales (hd)	0.3	329.46	0.3	356.52	0.3	307.33	0.3	344.10	0.3	385.65
Other income		14.72		7.17		3.98		5.12		0.02
Purchased (hd)	0.0	-113.32	-	-	0.0	-80.46	0.0	-0.75	0.0	-13.69
Inventory change (hd)	0.1	78.99	0.1	109.03	0.1	202.89	0.2	224.35	0.1	167.41
Gross margin		5,494.91		6,373.31		6,437.51		7,323.85		7,550.34
Direct Expenses										
Protein Vit Minerals (lb.)	-	1,644.47	-	1,927.73	-	1,648.59	563.3	1,785.84	-	1,847.49
Complete Ration (lb.)	-	192.79	-	-	-	-	-	280.85	-	-
Corn (bu.)	60.1	303.63	66.4	319.69	37.9	202.88	38.0	237.86	66.7	337.82
Corn Silage (lb.)	25,463.4	577.19	15,156.7	353.77	24,955.5	531.70	16,102.3	397.35	19,178.1	394.37
Hay, Alfalfa (lb.)	1,287.6	51.67	1,392.5	65.25	2,916.7	193.14	1,076.8	65.37	5,591.0	313.46
Haylage, Alfalfa (lb.)	-	-	-	13.53	-	-	3,578.0	170.83	394.0	8.39
Haylage, Grass (lb.)	8,256.4	331.82	4,259.0	301.08	267.7	14.44	1,275.4	56.53	1,223.4	34.20
Rye Silage (lb.)	418.1	40.58	237.6	13.37	2,107.4	116.44	1,968.0	135.42	433.4	13.83
Other feed stuffs (lb)	1,280.7	129.89	320.8	57.03	1,726.7	104.50	4,312.1	425.56	2,326.4	142.76
Breeding fees		73.93		118.32		107.10		75.92		113.96
Veterinary		107.95		170.61		134.44		136.79		166.84
Supplies		265.27		378.16		358.59		241.32		220.19
Contract production exp.		-		155.87		1.95		42.43		52.30
Fuel & oil		93.43		86.04		106.54		91.68		125.92
Repairs		142.89		138.25		200.02		90.37		171.48
Custom hire		79.16		100.09		121.87		88.36		156.84
Hired labor		491.01		557.35		700.94		511.30		634.54
Utilities		91.00		138.26		92.05		115.04		121.06
Hauling and trucking		136.52		121.69		116.70		131.65		144.15
Bedding		122.86		188.42		124.77		97.81		82.95
Total direct expenses		4,876.06		5,204.50		4,876.66		5,178.26		5,082.53
Return over direct expense		618.85		1,168.81		1,560.85		2,145.59		2,467.80
Overhead Expenses										
Interest		106.09		77.00		90.90		83.22		76.34
Mach & bldg depreciation		130.64		188.96		283.77		423.95		219.48
Miscellaneous		112.89		158.42		92.86		96.51		195.99
Total overhead expenses		349.63		424.38		467.52		603.68		491.81
Total dir & ovhd expenses		5,225.69		5,628.88		5,344.19		5,781.94		5,574.35
Net return		269.22		744.43		1,093.32		1,541.91		1,975.99
Labor & management charge		268.48		345.52		251.30		303.83		370.69
Net return over lbr & mgt		0.74		398.91		842.03		1,238.08		1,605.30
Cost of Production Per Cwt. Of Milk										
Total direct expense per unit		24.79		22.93		21.73		19.85		18.67
Total dir & ovhd expense per unit		26.57		24.81		23.82		22.16		20.48
With other revenue adjustments		24.37		22.23		21.58		19.34		18.14
With labor and management		25.74		23.75		22.70		20.51		19.50
Est. labor hours per unit		56.55		64.52		60.59		35.83		60.74
Other Information										
Number of cows		170.9		221.0		372.3		343.0		317.3
Milk produced per cow		19,666		22,693		22,438		26,093		27,223
Total milk sold		3,353,865		5,014,318		8,353,486		8,949,765		8,636,517
Lb. of milk sold per FTE		971,909		984,638		1,036,912		2,038,902		1,254,932
Culling percentage		27.0		31.8		25.8		28.9		30.4
Turnover rate		34.7		36.5		27.8		33.5		32.0
Cow death loss percent		7.7		4.8		2.0		4.6		1.6
Percent of barn capacity		114.2		117.9		102.0		85.2		99.1
Feed cost per day		8.96		8.36		7.70		9.74		8.47
Feed cost per cwt. of milk		16.64		13.45		12.53		13.63		11.36
Feed cost per cow		3,272.03		3,051.45		2,811.69		3,555.61		3,092.31
Avg. milk price per cwt.		25.74		25.51		26.45		25.25		25.40
Milk price / feed margin		9.10		12.06		13.92		11.63		14.04

Dairy Enterprise Analysis**Average of all Farms sorted by Profitability Group based on Net Return Per Cwt.****Dairy -- Average Per Cwt. Of Milk**

	Low 20%		20 - 40%		40 - 60%		60 - 80%		High 20%	
Number of farms	7		8		7		8		8	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Milk sold (lb.)	99.81	25.69	99.99	25.51	100.00	26.45	100.00	25.25	100.00	25.40
Dairy Calves sold (hd)	0.00	0.67	0.00	0.50	0.00	0.31	0.00	0.46	0.00	0.35
Transferred out (hd)	-	-	-	-	0.00	-	0.00	0.16	-	-
Cull sales (hd)	0.00	1.68	0.00	1.57	0.00	1.37	0.00	1.32	0.00	1.42
Other income		0.07		0.03		0.02		0.02		0.00
Purchased (hd)	0.00	-0.58	-	-	0.00	-0.36	0.00	0.00	0.00	-0.05
Inventory change (hd)	0.00	0.40	0.00	0.48	0.00	0.90	0.00	0.86	0.00	0.61
Gross margin		27.94		28.09		28.69		28.07		27.74
Direct Expenses										
Protein Vit Minerals (lb.)	-	8.36	-	8.50	-	7.35	2.16	6.84	-	6.79
Complete Ration (lb.)	-	0.98	-	-	-	-	-	1.08	-	-
Corn (bu.)	0.31	1.54	0.29	1.41	0.17	0.90	0.15	0.91	0.25	1.24
Corn Silage (lb.)	129.48	2.93	66.79	1.56	111.22	2.37	61.71	1.52	70.45	1.45
Hay, Alfalfa (lb.)	6.55	0.26	6.14	0.29	13.00	0.86	4.13	0.25	20.54	1.15
Hay, Grass (lb.)	5.52	0.55	1.10	0.08	5.67	0.34	1.68	0.17	7.51	0.43
Haylage, Alfalfa (lb.)	-	-	-	0.06	-	-	13.71	0.65	1.45	0.03
Haylage, Grass (lb.)	41.98	1.69	18.77	1.33	1.19	0.06	4.89	0.22	4.49	0.13
Other feed stuffs (lb)	3.12	0.32	1.36	0.23	11.41	0.65	22.39	1.98	2.63	0.14
Breeding fees		0.38		0.52		0.48		0.29		0.42
Veterinary		0.55		0.75		0.60		0.52		0.61
Supplies		1.35		1.67		1.60		0.92		0.81
Contract production exp.		-		0.69		0.01		0.16		0.19
Fuel & oil		0.48		0.38		0.47		0.35		0.46
Repairs		0.73		0.61		0.89		0.35		0.63
Custom hire		0.40		0.44		0.54		0.34		0.58
Hired labor		2.50		2.46		3.12		1.96		2.33
Utilities		0.46		0.61		0.41		0.44		0.44
Hauling and trucking		0.69		0.54		0.52		0.50		0.53
Bedding		0.62		0.83		0.56		0.37		0.30
Total direct expenses		24.79		22.93		21.73		19.85		18.67
Return over direct expense		3.15		5.15		6.96		8.22		9.07
Overhead Expenses										
Interest		0.54		0.34		0.41		0.32		0.28
Mach & bldg depreciation		0.66		0.83		1.26		1.62		0.81
Miscellaneous		0.57		0.70		0.41		0.37		0.72
Total overhead expenses		1.78		1.87		2.08		2.31		1.81
Total dir & ovhd expenses		26.57		24.81		23.82		22.16		20.48
Net return		1.37		3.28		4.87		5.91		7.26
Labor & management charge		1.37		1.52		1.12		1.16		1.36
Net return over lbr & mgt		0.00		1.76		3.75		4.74		5.90
Cost of Production Per Cwt. Of Milk										
Total direct expense per unit		24.79		22.93		21.73		19.85		18.67
Total dir & ovhd expense per unit		26.57		24.81		23.82		22.16		20.48
With other revenue adjustments		24.37		22.23		21.58		19.34		18.14
With labor and management		25.74		23.75		22.70		20.51		19.50
Est. labor hours per unit		0.29		0.28		0.27		0.14		0.22
Other Information										
Number of cows		170.9		221.0		372.3		343.0		317.3
Milk produced per cow		19,666		22,693		22,438		26,093		27,223
Total milk sold		3,353,865		5,014,318		8,353,486		8,949,765		8,636,517
Lb. of milk sold per FTE		971,909		984,638		1,036,912		2,038,902		1,254,932
Culling percentage		27.0		31.8		25.8		28.9		30.4
Turnover rate		34.7		36.5		27.8		33.5		32.0
Cow death loss percent		7.7		4.8		2.0		4.6		1.6
Percent of barn capacity		114.2		117.9		102.0		85.2		99.1
Feed cost per day		8.96		8.36		7.70		9.74		8.47
Feed cost per cwt. of milk		16.64		13.45		12.53		13.63		11.36
Feed cost per cow		3,272.03		3,051.45		2,811.69		3,555.61		3,092.31
Avg. milk price per cwt.		25.74		25.51		26.45		25.25		25.40
Milk price / feed margin		9.10		12.06		13.92		11.63		14.04

Dairy Enterprise Analysis
Average of all Farms and Farms Sorted by Enterprise Size

Dairy -- Average Per Cow

	Avg. Of All Farms		100 200		200 500		Over 500	
Number of farms	38		12		14		6	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Milk sold (lb.)	24,212.7	6,208.34	22,160.0	5,732.13	23,570.7	6,006.49	26,145.8	6,694.60
Dairy Calves sold (hd)	0.4	102.34	0.4	114.28	0.3	101.75	0.5	98.88
Transferred out (hd)	0.0	10.47	-	-	0.0	-	0.0	26.35
Cull sales (hd)	0.3	345.40	0.3	337.80	0.3	356.42	0.3	345.20
Other income		5.04		11.20		6.50		1.50
Purchased (hd)	0.0	-35.20	0.0	-9.73	0.0	-50.35	-	-
Inventory change (hd)	0.1	171.07	0.1	79.56	0.1	153.54	0.2	211.98
Gross margin		6,807.54		6,265.23		6,574.34		7,378.51
Direct Expenses								
Protein Vit Minerals (lb.)	142.4	1,774.83	-	1,517.47	-	1,959.63	358.6	1,730.98
Complete Ration (lb.)	-	92.26	-	135.55	-	-	-	178.76
Corn (bu.)	51.8	273.42	90.5	421.88	43.8	220.52	45.3	267.40
Corn Silage (lb.)	19,825.3	441.64	19,610.8	453.54	19,941.8	419.97	19,907.8	458.82
Hay, Alfalfa (lb.)	2,649.1	152.54	3,480.3	195.53	2,440.1	124.47	2,537.7	165.44
Hay, Grass (lb.)	1,055.0	71.58	509.9	71.27	964.3	57.92	1,293.4	79.55
Haylage, Grass (lb.)	2,276.7	111.38	3,254.7	98.98	2,644.2	150.82	778.4	34.05
Rye Silage (lb.)	1,189.9	72.09	288.1	20.92	1,147.5	49.18	1,603.4	117.86
Corn, Organic (bu.)	0.4	3.34	-	-	-	-	-	-
Other feed stuffs (lb)	2,184.0	162.14	1,685.2	123.57	768.8	31.36	3,848.9	314.84
Breeding fees		98.99		70.17		105.80		106.45
Veterinary		145.58		135.89		168.56		130.70
Supplies		340.56		276.70		405.51		301.58
Fuel & oil		102.53		117.79		95.26		103.66
Repairs		146.99		147.39		165.23		122.95
Custom hire		113.32		110.39		143.81		88.36
Hired labor		590.93		370.24		603.61		703.13
Utilities		112.06		118.22		113.57		107.50
Hauling and trucking		129.90		144.76		122.21		131.91
Bedding		118.33		85.88		138.69		114.33
Total direct expenses		5,054.42		4,616.13		5,076.11		5,258.26
Return over direct expense		1,753.13		1,649.10		1,498.23		2,120.25
Overhead Expenses								
Interest		84.96		61.72		111.73		64.79
Mach & bldg depreciation		271.85		195.38		208.67		373.04
Miscellaneous		130.79		165.12		122.95		126.13
Total overhead expenses		487.61		422.22		443.34		563.96
Total dir & ovhd expenses		5,542.03		5,038.35		5,519.45		5,822.22
Net return		1,265.52		1,226.88		1,054.89		1,556.29
Labor & management charge		309.75		411.93		286.07		272.70
Net return over lbr & mgt		955.77		814.95		768.82		1,283.59
Cost of Production Per Cwt. Of Milk								
Total direct expense per unit		20.87		20.81		21.53		20.11
Total dir & ovhd expense per unit		22.88		22.71		23.42		22.27
With other revenue adjustments		20.42		20.34		21.01		19.65
With labor and management		21.69		22.19		22.22		20.70
Est. labor hours per unit		54.56		54.55		61.62		45.88
Other Information								
Number of cows		285.6		141.8		320.6		718.5
Milk produced per cow		24,217		22,187		23,572		26,146
Total milk sold		6,914,638		3,141,173		7,556,107		18,785,772
Lb. of milk sold per FTE		1,242,574		1,137,528		1,071,041		1,595,518
Culling percentage		28.8		26.3		30.8		28.0
Turnover rate		32.4		28.2		35.4		31.1
Cow death loss percent		3.6		1.9		4.6		3.0
Percent of barn capacity		99.7		112.5		111.4		88.2
Feed cost per day		8.64		8.33		8.26		9.17
Feed cost per cwt. of milk		13.03		13.70		12.79		12.80
Feed cost per cow		3,155.22		3,038.71		3,013.87		3,347.70
Avg. milk price per cwt.		25.64		25.87		25.48		25.60
Milk price / feed margin		12.61		12.17		12.70		12.80

2014 Ohio Farm Business Summary - 38 Farms, raised feed valued at cost of production

Dairy Enterprise Analysis Average of all Farms and Farms Sorted by Enterprise Size

Dairy -- Average Per Cwt. Of Milk

	Avg. Of All Farms		100 200		200 500		Over 500	
Number of farms	38		12		14		6	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Milk sold (lb.)	99.98	25.64	99.88	25.84	99.99	25.48	100.00	25.60
Dairy Calves sold (hd)	0.00	0.42	0.00	0.52	0.00	0.43	0.00	0.38
Transferred out (hd)	0.00	0.04	-	-	0.00	-	0.00	0.10
Cull sales (hd)	0.00	1.43	0.00	1.52	0.00	1.51	0.00	1.32
Other income		0.02		0.05		0.03		0.01
Purchased (hd)	0.00	-0.15	0.00	-0.04	0.00	-0.21	-	-
Inventory change (hd)	0.00	0.71	0.00	0.36	0.00	0.65	0.00	0.81
Gross margin		28.11		28.24		27.89		28.22
Direct Expenses								
Protein Vit Minerals (lb.)	0.59	7.33	-	6.84	-	8.31	1.37	6.62
Complete Ration (lb.)	-	0.38	-	0.61	-	-	-	0.68
Corn (bu.)	0.21	1.13	0.41	1.90	0.19	0.94	0.17	1.02
Corn Silage (lb.)	81.86	1.82	88.39	2.04	84.60	1.78	76.14	1.75
Hay, Alfalfa (lb.)	10.94	0.63	15.69	0.88	10.35	0.53	9.71	0.63
Hay, Grass (lb.)	4.36	0.30	2.30	0.32	4.09	0.25	4.95	0.30
Haylage, Grass (lb.)	9.40	0.46	14.67	0.45	11.22	0.64	2.98	0.13
Soybeans (bu.)	0.00	0.03	0.02	0.15	0.00	0.01	-	-
Corn, Organic (bu.)	0.00	0.01	-	-	-	-	-	-
Other feed stuffs (lb)	13.93	0.94	8.88	0.50	8.13	0.34	20.85	1.65
Breeding fees		0.41		0.32		0.45		0.41
Veterinary		0.60		0.61		0.72		0.50
Supplies		1.41		1.25		1.72		1.15
Fuel & oil		0.42		0.53		0.40		0.40
Repairs		0.61		0.66		0.70		0.47
Custom hire		0.47		0.50		0.61		0.34
Hired labor		2.44		1.67		2.56		2.69
Utilities		0.46		0.53		0.48		0.41
Hauling and trucking		0.54		0.65		0.52		0.50
Bedding		0.49		0.39		0.59		0.44
Total direct expenses		20.87		20.81		21.53		20.11
Return over direct expense		7.24		7.43		6.36		8.11
Overhead Expenses								
Interest		0.35		0.28		0.47		0.25
Mach & bldg depreciation		1.12		0.88		0.89		1.43
Miscellaneous		0.54		0.74		0.52		0.48
Total overhead expenses		2.01		1.90		1.88		2.16
Total dir & ovhd expenses		22.88		22.71		23.42		22.27
Net return		5.23		5.53		4.48		5.95
Labor & management charge		1.28		1.86		1.21		1.04
Net return over lbr & mgt		3.95		3.67		3.26		4.91
Cost of Production Per Cwt. Of Milk								
Total direct expense per unit		20.87		20.81		21.53		20.11
Total dir & ovhd expense per unit		22.88		22.71		23.42		22.27
With other revenue adjustments		20.42		20.34		21.01		19.65
With labor and management		21.69		22.19		22.22		20.70
Est. labor hours per unit		0.23		0.25		0.26		0.18
Other Information								
Number of cows		285.6		141.8		320.6		718.5
Milk produced per cow		24,217		22,187		23,572		26,146
Total milk sold		6,914,638		3,141,173		7,556,107		18,785,772
Lb. of milk sold per FTE		1,242,574		1,137,528		1,071,041		1,595,518
Culling percentage		28.8		26.3		30.8		28.0
Turnover rate		32.4		28.2		35.4		31.1
Cow death loss percent		3.6		1.9		4.6		3.0
Percent of barn capacity		99.7		112.5		111.4		88.2
Feed cost per day		8.64		8.33		8.26		9.17
Feed cost per cwt. of milk		13.03		13.70		12.79		12.80
Feed cost per cow		3,155.22		3,038.71		3,013.87		3,347.70
Avg. milk price per cwt.		25.64		25.87		25.48		25.60
Milk price / feed margin		12.61		12.17		12.70		12.80

Appendix I

Dairy Enterprise Analysis Procedures and Measures

The Dairy Enterprise Analysis shows the profitability of each dairy enterprise including four or more farms.

Gross Margin includes product and livestock sales, cull sales, the value of offspring transferred out of the enterprise, the value of inventory change from beginning to end of year, and any other income assigned to the enterprise. Livestock purchases and the value of animals transferred in from other enterprises are subtracted.

Direct Expenses include expenses that are directly related to the specific livestock enterprise. Feed and most other direct expenses are directly assigned based on farm records. Some, such as Fuel and Oil and Repairs, which are difficult to assign directly to enterprises, are determined by allocating the total annual expense across all enterprises using allocation factors entered for each farm.

Overhead Expenses are also determined by allocating the total annual expense across all enterprises using allocation factors entered for each farm.

Net Return is the Gross Return minus Total Direct and Overhead Expenses.

Net Return over Labor and Management is calculated by allocating the farmer's charge for unpaid labor and management across all enterprises and subtracting it from Net Return.

Estimated Labor Hours is calculated by allocating the farmer's estimate of total operator and hired labor hours for the year across all enterprises.

Cost of Production is calculated by dividing the total expense for each category by Total Production. Cull sales, other offspring sales, and any other miscellaneous income are subtracted and replacement purchases and transfers in are added to arrive at the cost *with Other Revenue Adjustments*.

Cost of Production with Labor and Management is the cost with other revenue adjustments plus the producer's charge for operator's labor and management. This is the breakeven price for the primary product to provide a return for operator labor and management.

The last section of each analysis contains both economic and technical efficiency measures.

Rounding of individual items for the report may have caused minor discrepancies with the calculated totals.