

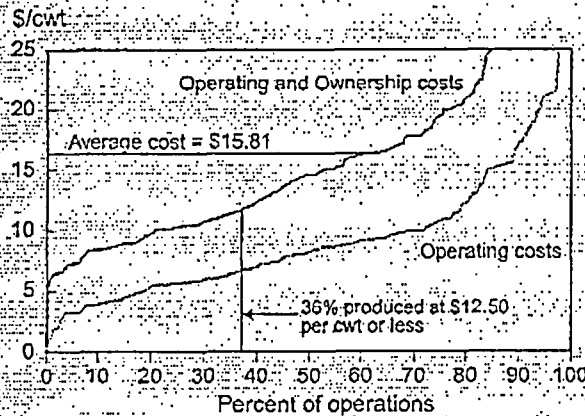
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Spotlight Commodity: Milk

Between 1995 and 2001 the number of small dairy operations (less than 50 cows) declined nearly 40 percent from about 80,000 to less than 50,000. During this time the number of large and industrial-scale operations (200 cows or more) increased by about 15 percent from 7,000 to nearly 8,000. This presentation plots the cumulative distribution of unit

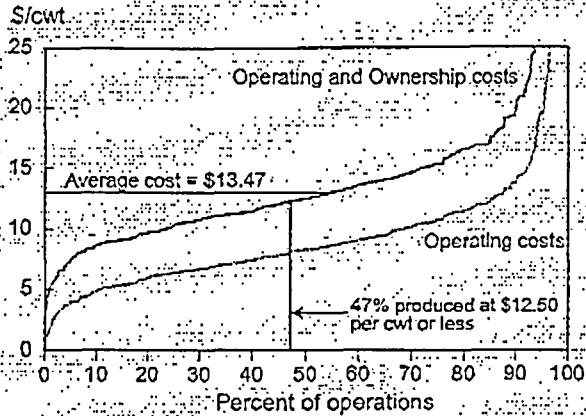
production costs by size groups in order to examine the relationship between milk costs-of-production and size of operation. Operating and ownership costs (capital recovery plus taxes and insurance) indicate costs that must be paid to justify investing in milk production facilities and remaining in business over their useful life (10-20 years).

Figure 24
Small dairy operations (less than 50 cows)



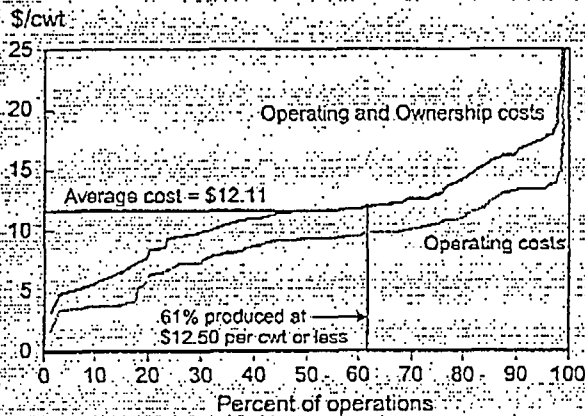
Source: 2000 dairy ARMS survey.

Figure 25
Medium dairy operations (50-199 cows)



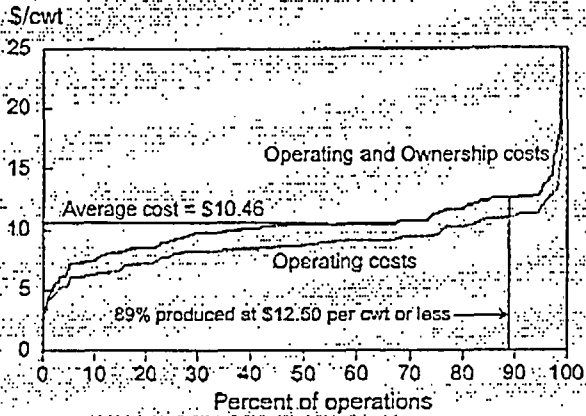
Source: 2000 dairy ARMS survey.

Figure 26
Large dairy operations (200-499 cows)



Source: 2000 dairy ARMS survey.

Figure 27
Industrial-scale dairy operations (500 cows or more)



Source: 2000 dairy ARMS survey.

- Average cost declined across the size groups from \$15.81 per hundredweight among small operations to \$10.46 per hundredweight among industrial-scale operations.
- Ownership costs comprised a much larger share of total costs on smaller operations than on larger operations because large operations are able to spread fixed costs over more units of production.
- At a milk price of \$12.50 per hundredweight, only about a third of small operations are able to cover costs whereas nearly 90 percent of industrial-scale operations cover costs.
- Financial difficulties associated with low milk prices are not confined to small operations, but their sheer numbers and greater variation in costs mean that as a group they are much more severely affected when milk prices fall.

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Appendix table 20--Milk production costs and returns, per cwt sold, 2000-2001

Item	United States		Heartland		Northern Crescent		Prairie Gateway		Eastern Uplands		Southern Seaboard		Fruitful Rim	
	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001
	Dollars per cwt													
Gross value of production:														
Milk	12.63	15.36	12.36	15.31	12.90	15.78	13.12	15.54	13.83	16.45	14.07	16.70	11.98	14.55
Cattle	1.05	1.12	1.42	1.54	1.17	1.24	0.84	0.91	1.32	1.42	1.40	1.52	0.71	0.76
Other income ^{1/}	0.57	0.74	0.79	1.05	0.63	0.81	0.33	0.40	0.49	0.62	1.16	1.47	0.42	0.56
Total, gross value of production	14.25	17.22	14.57	17.90	14.70	17.83	14.29	16.85	15.64	18.49	16.63	19.69	13.11	15.87
Operating costs:														
Feed—														
Feed grains	1.22	1.27	1.83	1.99	1.15	1.22	1.43	1.45	1.23	1.24	0.74	0.78	1.11	1.12
Hay and straw	1.51	1.67	2.29	2.37	1.07	1.13	1.54	1.54	1.75	1.67	0.92	0.93	1.78	2.20
Complete feed mixes	1.43	1.50	0.87	0.94	1.09	1.14	1.47	1.50	2.86	2.97	2.95	3.05	1.63	1.73
Liquid whey and milk replacer	0.08	0.05	0.11	0.07	0.10	0.07	0.07	0.05	0.13	0.09	0.04	0.02	0.04	0.03
Silage	1.09	1.06	0.86	0.82	1.26	1.25	2.08	2.16	0.74	0.79	0.95	0.94	0.80	0.70
Grazed pasture and cropland	0.08	0.08	0.13	0.13	0.07	0.07	0.03	0.03	0.26	0.27	0.11	0.11	0.03	0.03
Other feed items ^{2/}	1.08	1.12	1.55	1.58	1.05	1.07	0.90	1.00	2.37	2.70	1.18	1.20	0.81	0.82
Total, feed costs	6.49	6.75	7.64	7.90	5.79	5.95	7.52	7.73	9.34	9.73	6.89	7.03	6.20	6.63
Veterinary and medicine	0.65	0.66	0.75	0.77	0.77	0.79	0.55	0.55	0.55	0.57	0.57	0.59	0.50	0.51
Bedding and litter	0.16	0.16	0.23	0.23	0.23	0.24	0.02	0.02	0.10	0.10	0.10	0.11	0.07	0.07
Marketing	0.27	0.27	0.22	0.22	0.31	0.31	0.26	0.26	0.36	0.37	0.40	0.40	0.22	0.22
Custom services	0.53	0.54	0.53	0.54	0.47	0.48	0.93	0.95	0.82	0.85	0.90	0.92	0.42	0.43
Fuel, lube, and electricity	0.48	0.47	0.56	0.52	0.56	0.54	0.35	0.37	0.56	0.55	0.51	0.51	0.37	0.39
Repairs	0.53	0.56	0.59	0.59	0.60	0.61	0.39	0.41	0.66	0.68	0.58	0.62	0.43	0.50
Other operating costs ^{3/}	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.02
Interest on operating capital	0.28	0.16	0.30	0.18	0.25	0.15	0.29	0.17	0.38	0.22	0.29	0.17	0.24	0.15
Total, operating cost	9.38	9.58	10.82	10.95	8.98	9.07	10.33	10.48	12.75	13.07	10.24	10.35	8.47	8.91
Allocated overhead:														
Hired labor	1.14	1.19	0.73	0.79	1.17	1.21	1.22	1.28	0.96	1.05	1.60	1.71	1.19	1.24
Opportunity cost of unpaid labor	3.54	3.58	5.64	5.68	5.15	5.15	0.57	0.53	6.35	6.47	2.49	2.54	0.97	1.01
Capital recovery of machinery and equipment ^{4/}	3.23	3.41	4.66	4.67	4.11	4.22	1.07	1.12	4.31	4.36	2.74	2.98	1.93	2.29
Opportunity cost of land (rental rate)	0.06	0.06	0.09	0.09	0.09	0.09	0.08	0.01	0.02	0.20	0.06	0.07	0.02	0.02
Taxes and insurance	0.18	0.18	0.19	0.20	0.22	0.22	0.09	0.09	0.19	0.20	0.14	0.15	0.14	0.14
General farm overhead	0.49	0.50	0.58	0.58	0.61	0.63	0.35	0.36	0.51	0.53	0.52	0.54	0.32	0.33
Total, allocated overhead	8.64	8.92	11.87	12.01	11.35	11.51	3.31	3.40	12.52	12.81	7.55	7.99	4.57	5.03
Total costs listed	18.02	18.50	22.69	22.96	20.33	20.58	13.64	13.88	25.27	25.88	17.79	18.34	13.04	13.94
Value of production less total costs listed	-3.77	-1.28	-8.12	-5.06	-5.63	-2.75	0.65	2.97	-9.63	-7.39	1.16	1.35	0.07	1.93
Value of production less operating costs	4.87	7.64	3.75	6.95	5.72	8.76	3.96	6.37	2.89	5.42	6.39	9.34	4.64	6.96
Supporting information:														
Milk cows (head per farm)	93	95	57	59	66	68	474	521	53	53	133	133	399	403
Output per cow (pounds)	19,974	20,003	18,567	18,541	19,721	19,806	21,940	22,028	16,942	17,024	19,079	19,097	21,352	21,319
Milking frequency greater than twice per day (percent of farms)	3.38	3.50	1.62	1.77	2.84	2.98	31.61	34.02	0.40	0.46	7.32	7.15	11.99	12.10
Homegrown feed cost (percent of total feed cost)	34	34	60	60	50	49	5	4	34	34	23	23	13	13
Milk cows injected with bST (head per farm)	17	17	10	10	13	14	86	94	3	3	26	25	80	80

^{1/} Income from renting or leasing dairy stock to other operations; renting space to other dairy operations; co-op patronage dividends associated with the dairy; assessment rebates, refunds, and other dairy-related resources; and manure production. ^{2/} Cotton seed meal, protein supplements, protein byproducts, vitamin or mineral supplements, nonprotein byproducts, alfalfa cubes or pellets, green chop, corn stalks, and antibiotics and other medicated additives. ^{3/} Manure handling. ^{4/} Machinery and equipment, and housing, manure handling, and feed storage structures, and dairy breeding herd.

Source: 2000 Agricultural Resource Management Survey, USDA.