

Production Cost Study Highlights Jersey Advantages

For the seventh consecutive year, the differences between Jersey and Holstein profitability are revealed from an in-depth analysis by National All-Jersey Inc. of the annual cost survey from the California Department of Food & Agriculture.

For 2008, the average cost of production on a per cow basis was lower for Jerseys compared to Holsteins. Evaluating different pricing systems, Jersey enterprises were also more profitable, on the basis of both net income per hundredweight of milk shipped and net income per cow.

Documenting Costs

California is the only state in the U.S. that has an impartial agency that collects and reports comprehensive information on the production costs for milk. It has done this since 1955. By law, CDFA must take into account the information from this survey when setting minimum class prices.

For the *California Cost of Production 2008 Summary*, a seven-person Cost of Production Unit collected and summarized data from 157 Grade A dairy operations that cooperated voluntarily. These farms, with an average herd size of 1,239 cows, represent 8.5% of the state's 1,905 dairies, with just under 1.87 million total cows (958 per operation). Information on expenditures is collected on-site quarterly, from unaudited accrual basis financial statements. Jersey-only and Holstein-only herd reports are published by CDFA and were used for this analysis.

Production Per Cow

The 2008 summary includes 14 Jersey operations (average, 1,732 cows) and 118 Holstein herds (1,309 cows). Average per cow investment was similar across these dairies: \$2,914 for Jersey operations, and \$2,996 for Holsteins.

Among herds studied, Jersey production averaged 55.31 lbs. milk per day, testing 4.61% milk-fat and 3.55% true protein. This was an increase of nearly two pounds per day over the previous year.

Average production per cow in

the Holstein herds was 71.39 lbs. per day with 3.6% fat and 3.08% true protein.

The Cheddar cheese yield per hundredweight for Jerseys was 12.25 lbs. per cwt., for average yield per cow of 2,111 lbs. This compares to Holstein cheese yield per cwt. of 9.98 lbs., for total yield per cow of 2,263 lbs.

What It Cost In 2008

CDFA reports costs in five categories: (1) feed, (2) labor, (3) herd replacement, (4) operating, and (5) milk marketing costs. In addition, CDFA considers the cost

distribution of costs for Holstein herds was 59.4% feed, 9.5% labor, 10.1% replacements, 17.6% other operating costs, and 3.4% for milk marketing.

Cost per Hundredweight. For Jerseys, total cost of production was \$17.49 per cwt. Of this, \$10.30 was for feed, \$1.73 for labor, \$1.46 for replacement costs; \$3.52 in operating costs; and \$0.48 for milk marketing costs. The average cost to produce a hundredweight of Holstein milk was \$16.17, or \$1.32 less, with roughly half of the difference was accounted for by the difference in feed costs per hundredweight volume of milk produced.

Table 1 also lists the average California mailbox prices for 2008: \$19.79 per cwt. for Jersey milk, and \$16.05 per cwt. for Holstein milk. The California mailbox price dropped by less than 1% from the previous year for Jersey milk, compared to a 7.4% drop for Holstein milk. This can be attributed to production caps imposed during 2008 in the state. Cooperatives and processors eliminated volume premiums and also charged costs associated with disposing of excess milk back to producers.

Cost per Cow. On a per cow basis (Table 2), 2008 production costs for Jersey herds averaged \$3,012 versus \$3,667 per cow in Holstein herds, a difference of \$655 (21.7%). Largely because of record-high feed prices, Jersey per cow costs increased by 16% from 2007, while the per-cow Holstein costs were higher by 18.7%.

Table 2 also includes input costs averaged for 2006 through 2008: \$2,678 per cow for Jersey and \$3,159 for Holstein, a difference of \$481 or 17.9%.

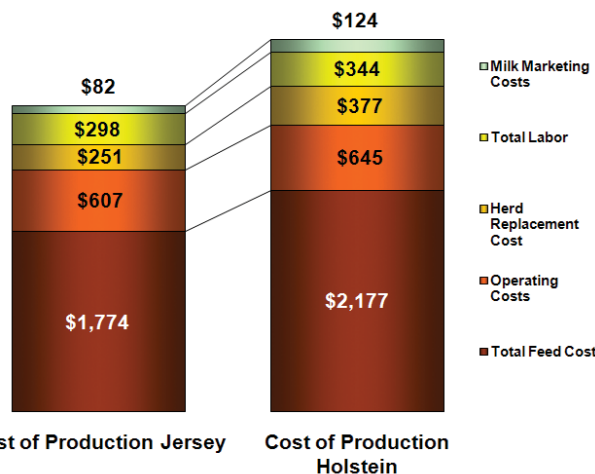


Fig. 1. Average annual production costs per cow for 2008, based on California Cost of Production Annual Summary data.

of management and a reasonable return on investment. The summary of production costs by breeds are summarized on a per hundredweight basis in Table 1 (below) and on a per cow basis in Table 2 (opposite).

As a percentage of the total, Jersey costs of production were distributed as 58.9% for feed, 9.9% for labor, 8.3% for total replacement costs, 20.1% other operating costs, and 2.7% for milk marketing. The

Table 1. 2008 average cost of production per hundredweight milk produced and average mailbox price, by breed.

Cost category	Jersey	Holstein	Diff.
Feed costs	\$10.30	\$ 9.60	\$(.70)
Labor	1.73	1.52	.21
Herd replacement	1.46	1.66	(.20)
Operating cost	3.52	2.84	.68
Milk marketing	.48	.55	-.07
Total cost per cwt.	\$17.49	\$16.17	\$ 1.32
Mailbox price per cwt.	\$19.79	\$16.05	\$3.74

Revenue and Net Income on per Cwt. Basis

Five pricing systems were examined to calculate revenue from milk production, and then estimate net income. These were Federal Order multiple component pricing (MCP); the California regulated price system; and cheese yield pricing formulas rep-

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Table 2. Annual cost of production on per cow basis for 2006, 2007 and 2008 with 3-year average.

Breed	2006			2007			2008			3-Year Average		
	Jersey	Holstein	Diff.	Jersey	Holstein	Diff.	Jersey	Holstein	Diff.	Jersey	Holstein	Diff.
Number of Herds	16	156		16	130		14	118				
Average Herd Size	1,008	1,057		1,306	1,194		1,732	1,309		1,349	1,187	
Average Yield per Cow												
Pounds Milk	16,032	21,852	(5,820)	16,464	22,392	(5,928)	16,870	21,774	(4,904)	16,455	22,006	(5,551)
Pounds Fat	752	795	(43)	769	811	(42)	778	783	(5)	766	796	(30)
Pounds True Protein	571	675	(104)	580	685	(105)	607	694	(87)	586	685	(99)
Production Costs per Cow												
Total Feed Cost	\$1,251	\$1,479	(\$228)	\$1,461	\$1,732	(\$271)	\$1,774	\$2,177	(\$403)	\$1,495	\$1,796	(\$301)
Total Labor	317	325	(8)	305	329	(24)	298	344	(46)	307	333	(26)
Total Herd Replacement Cost	242	232	10	219	302	(83)	251	377	(126)	237	304	(67)
Operating Costs	544	574	(30)	535	615	(80)	607	645	(38)	562	611	(49)
Total Milk Marketing Costs	73	110	(37)	75	113	(38)	82	124	(42)	77	116	(39)
Total Production Cost												
(\$ / cow / year)	\$2,427	\$2,720	(\$293)	\$2,595	\$3,091	(\$496)	\$3,012	\$3,667	(\$655)	\$2,678	\$3,159	(\$481)
% Change from Previous Year				7.0%	13.6%		16.0%	18.7%				

Data source: Cost of Production Summaries, California Department of Food & Agriculture (www.cdffa.ca.gov/dairy/dairycop_annual.html)

resenting different approaches to pricing milk.

Table 3 summarizes revenue on a per hundredweight basis. Price per hundredweight was highest using Federal Order MCP pricing; however, the largest differences in revenue were associated with two of the cheese yield formulas.

Subtracting the cost of production determined by CDFA from each pricing scenario (\$17.49/cwt. for Jersey, \$16.17/cwt. for Holstein), Jersey milk produced from \$0.82 to \$2.81 greater net income per hundredweight compared to Holstein milk (Table 4). The greatest advantage for Jerseys was associated with (a) Federal Order MCP, (b) the plan paying both for cheese yield and whey value of the milk, and (c) cheese yield pricing with a variable make allowance indexed to product yield per hundredweight. This last system reflects the relative manufacturing efficiency of milks with different component levels.

For every one million pounds of milk marketed, Jersey milk generated between \$8,200 and \$28,100 more net income.

Revenue and Net Income on per Cow Basis

Using the 2008 production data, gross revenue per cow for each pricing system was calculated and is summarized in Table 5.

Holstein revenue per cow ex-

Table 3. Revenue per hundredweight (cwt.) for different pricing systems by breed.

	Jersey	Holstein	Diff.
Federal Order MCP ¹	\$21.70	\$18.33	\$3.37
California regulated price ²	18.76	16.61	2.14
Cheese yield, single make-allowance ³	19.65	16.71	2.94
Cheese yield with whey value	20.45	16.64	3.82
Cheese yield, variable make allowance	20.95	16.82	4.13

¹ 2008 avg. price: \$3.8898/lb. protein \$1.5668/lb. fat, \$0.0555/lb. other solids

² 2008 avg. price: \$1.5338/lb. fat, \$1.2242/lb. overbase SNF, \$1.4190/lb. quota SNF

³ CME average block Cheddar price: \$1.8558/lb.

Table 4. Net income per hundredweight (cwt.) for different pricing systems by breed.

	Jersey	Holstein	Diff.
Federal Order MCP	\$ 4.21	\$ 2.16	\$2.05
California regulated price	1.27	0.44	0.82
Cheese yield, single make-allowance	2.16	0.54	1.62
Cheese yield with whey value	2.96	0.47	2.50
Cheese yield, variable make allowance	3.46	0.65	2.81

Table 5. Revenue per cow for pricing system by breed.

	Jersey	Holstein	Diff.
Federal Order MCP	\$3,740	\$4,157	\$(418)
California regulated price	3,232	3,768	(536)
Cheese yield, single make-allowance	3,387	3,790	(403)
Cheese yield with whey value	3,525	3,774	(249)
Cheese yield, variable make allowance	3,611	3,816	(205)

Table 6. Net income per cow for pricing system by breed.

	Jersey	Holstein	Diff.
Federal Order MCP	\$727	\$491	\$236
California regulated price	219	101	118
Cheese yield, single make-allowance	374	124	250
Cheese yield with whey value	512	107	405
Cheese yield, variable make allowance	598	149	449

ceeded that for Jerseys across all pricing scenarios, for the simple reason that they produce greater volume per cow.

Subtracting the total cost of production, however, net returns for Jerseys were greater. These ranged from \$118 per cow under the California regulated price system to over \$400 for cheese yield pricing.

Added Considerations

Across time, Jerseys consistently yield higher net income for the dairy operator. This is particularly the case when the advantages of longer productive life and reproductive efficiency are taken into account to assess lifetime milk yield and net profitability.

August 2009 data from the Animal Improvement Programs Laboratory, USDA, show that the average Productive Life for Jerseys with birth years from 1998 through 2002 is 1,026 days, 183 more days than Holstein contemporaries. Also, dairy records processing centers continually report higher conception rates, shorter calving intervals, and earlier average age at first calving for Jerseys compared to other breeds.

For more information about this analysis, contact National All-Jersey Inc. by phone, 614/861-3636, or email naj@usjersey.com.