

## Iowa Organic Dairy Performance, 2018

By Dr. Larry Tranel, Dairy Specialist

Iowa State University Extension and Outreach, NE/SE Iowa

In 2018, eleven organic dairies were studied in NE/SE Iowa. Six dairies were basic Organic dairies (**ORG**) and five dairies were Grass Milk (**GM**) dairies. Dairies selected were 1) considered to be good examples of organic dairies in their region and 2) willing to complete the financial analysis and share information for others to learn. This analysis provides results of the organic dairies with results broken into four categories: 1) Higher Profit Organic (**HP ORG**); Lower Profit Organic (**LP ORG**); Higher Profit Grass Milk (**HP GM**); and Lower Profit Grass Milk (**LP GM**). In previous years, these studies have proven that both ORG and GM dairies can be competitive and even more profitable than other Conventional and/or Hybrid Grazing dairies, depending on management and the comparative milk prices. Please be cautious interpreting results as this is a small data set.

The HP ORG dairy averaged 61 cows per farm and 186 acres or 3.04 acres per cow. The HP GM dairies averaged 83 cows per farm and 287 acres or 3.45 acres per cow. The LP ORG dairies averaged 137 cows per farm and 594 acres or 4.35 acres per cow. The LP GM dairies averaged 76 cows per farm and 227 acres or 2.98 acres per cow. In the ORG group, the HP dairies had only 44% of the herd size as the LP dairies, proving again bigger isn't always more profitable.

### Comparison with Previous IA Organic Data

In 2017, IA ORG dairies received an average milk price of \$31.11 per hundredweight equivalent (cwt.eq.). The average GM dairy received \$38.45 per cwt.eq. In 2018, the HP ORG and LP ORG dairies received \$26.66 and \$36.36 per cwt.eq., respectively, a \$9.70 per cwt.eq. difference. The LP ORG and LP GM dairies received an average milk price of \$29.20 and \$35.08 per cwt.eq., respectively—a \$5.88 difference. These milk prices included government and marketing programs enhancing milk price. Both the HP and LP ORG farms used Holsteins as the main breed so the large difference in milk price for the HP and LP ORG dairies is quite surprising. Bottom line is that ORG milk base prices were down \$3-\$4 per cwt.eq. in 2018 from previous year. This follows a drop of \$3.82/cwt in the IA ORG dairies and \$2.79 on IA GM dairies, from 2016 to 2017. Thus, in a three year time frame, Organic dairies have lost \$5-\$7 per cwt.eq. on their milk price. Yet, the HP dairies are still competitive.

Costs continued to increase in 2018, as it had in 2017 from the previous year. ORG dairy profits are being squeezed from both the price and cost sides. In 2018, the HP ORG dairies had total cost of production (including 4% equity charge and unpaid labor charge) of \$24.15 per cwt.eq. giving a \$2.51 profit margin per cwt.eq. The HP GM dairies had a total cost of production of \$30.32 per cwt.eq. giving a \$6.04 profit margin per cwt.eq. The LP ORG dairies had a total cost of production of \$31.95 per cwt.eq. giving a -\$2.75 per cwt.eq. profit margin. The LP GM dairies had a total cost of \$40.72 per cwt.eq. giving a profit margin of -\$5.64 per cwt.eq.

## Learning from the Results

ORG and GM dairy producers can recognize that the playing field has changed. Profits in producing both ORG and GM are still being realized, despite lower pay prices and higher costs. However, there is a stark contrast in profit margins from the HP and LP groups in either system. Total cash incomes per cow are very similar within the same system (\$5,164 vs \$5,095 for the ORG dairies and \$3,170 vs \$3,181 for the GM dairies). Total cash expenses, without interest, showed a \$310 per cow increase from the HP to LP ORG dairies (\$2,929 vs \$3,239) and a very significant \$927 per cow increase from the HP to LP GM dairies. The HP dairies did have slightly higher feed costs per cow but seemed pretty relative to the lower acres operated per cow.

After inventory changes, the Net Farm Income per cow for both the HP ORG and GM farms is almost double that of the LP ORG and GM farms (\$2,404 vs \$1,269 and \$1,914 vs \$1,068). With owner' equity charges that do not vary more than 20% with the ORG or GM systems, Return to Labor per cow (unpaid) for the HP ORG dairies is \$1,581 versus \$1,200 for the HP GM dairies; \$188 for the LP ORG dairies and \$282 for the LP GM dairies. These labor returns, when divided by the unpaid labor hours in each system, gives a Labor Earnings per Hour of \$20.53 for the HP ORG dairies; \$32.85 for the HP GM dairies; \$3.73 for the LP ORG dairies; and \$4.59 for the LP GM dairies. Overall, the HP dairies adapted to the reduced milk price with respectable labor returns, while the LP dairies struggled with profit margins.

### Comparison of Organic and Organic Grass Milk Dairies

When comparing dairy farm systems, the HP dairies are targeted to help producers aspire to be the best. Note again the small data set and the \$9.70 per cwt.eq. difference between the HP ORG and the HP GM dairies when typically that difference would be more in the \$5 range. The HP ORG farms are Holstein dominate while the HP GM farms are Jersey and Crossbred dominate--earning a much higher price per cwt.eq. Given this difference, milk sales were \$5,164 per cow for the HP ORG herds and \$3,170 for the HP GM herds, or \$1,994 lower. The HP GM herds had \$251 more in cull cow sales than the HP ORG herds due to the GM herds being in a downsizing mode.

Annual milk sold was 16,624 lbs per cow for the HP ORG dairies and 7,405 lbs. per cow for the HP GM dairy, or less than half, realizing breed differences. Milk sold per FTE Laborer (3,000 hours annually) was 6,425 cwt. for the HP ORG dairies and 4,571 cwt. for the HP GM dairies, a 40% reduction. Feed costs for the HP ORG dairies averaged \$831 per cow with 3 acres per cow versus \$166 for the HP GM dairies with 3.35 acres per cow. Both capital costs and labor costs were substantially lower per cow for the HP GM dairies.

Bottom line is the HP ORG dairies earned a 7.81% return to assets from a 27.15% operating profit margin and a 32.38% asset turnover ratio. The HP GM dairies earned a 6.91% return to assets with a 38.19% operating profit margin and a 20.34% asset turnover ratio. The HP dairies fared well in the dairy downturn, the LP did not cover full costs of production.

Iowa Organic Model Farms 2018	Average -- Higher Profit ORGANIC /Cow (3)			Average -- Higher Profit GRASS /Cow (2)			Average - Lower Profit ORGANIC /Cow (3)			Average - Lower Profit GRASS /Cow (3)		
	Productive Crop Acres Operated	186	3.04		287	3.45		594	4.35		227	2.98
Average Number of Cows	61			83			137			76		
<b>Total Assets on Farm</b>	<b>\$1,267,405</b>	<b>\$20,777</b>		<b>\$1,476,284</b>	<b>\$17,787</b>		<b>\$3,681,698</b>	<b>\$26,939</b>		<b>\$1,494,263</b>	<b>\$19,618</b>	
<b>Milk Price</b>	<b>\$26.66</b>			<b>\$36.36</b>			<b>\$29.20</b>			<b>\$35.08</b>		
Milk Hundred weight Equiv.	12,632	207		7,311	88		22,853	167		7,041	92	
<b>Milk Hundredweights</b>	<b>10,638</b>	<b>174</b>		<b>6,229</b>	<b>75</b>		<b>20,144</b>	<b>147</b>		<b>5,897</b>	<b>77</b>	
Milk Sales	<b>\$285,043</b>	<b>\$4,673</b>		<b>\$220,249</b>	<b>\$2,654</b>		<b>\$592,491</b>	<b>\$4,335</b>		<b>\$205,618</b>	<b>\$2,700</b>	
Cull Cow Sales	\$8,935	\$146		\$29,983	\$361		\$25,307	\$185		\$7,662	\$101	
Calf Sales	\$5,653	\$93		\$4,835	\$58		\$4,444	\$33		\$2,136	\$28	
Crop Sales	\$8,589	\$141		\$0	\$0		\$46,355	\$339		\$19,483	\$256	
Other Income	\$6,787	\$111		\$8,011	\$97		\$27,719	\$203		\$7,387	\$97	
<b>Total Cash Income</b>	<b>\$315,008</b>	<b>\$5,164</b>	<b>/Cwt.Eq.</b>	<b>\$263,078</b>	<b>\$3,170</b>	<b>/Cwt.Eq.</b>	<b>\$696,315</b>	<b>\$5,095</b>	<b>/Cwt.Eq.</b>	<b>\$242,286</b>	<b>\$3,181</b>	<b>/Cwt.Eq.</b>
Veterinary, Medicine	\$2,496	\$41	\$0.20	\$1,293	\$16	\$0.18	\$8,637	\$63	\$0.38	\$1,021	\$13	\$0.15
Dairy Supplies	\$11,405	\$187	\$0.90	\$9,339	\$113	\$1.28	\$35,639	\$261	\$1.56	\$15,975	\$210	\$2.27
Breeding Fees	\$2,148	\$35	\$0.17	\$3,742	\$45	\$0.51	\$3,199	\$23	\$0.14	\$1,201	\$16	\$0.17
Feed Purchased	\$50,720	\$831	\$4.02	\$13,783	\$166	\$1.89	\$70,836	\$518	\$3.10	\$27,353	\$359	\$3.88
Repairs	\$14,525	\$238	\$1.15	\$6,274	\$76	\$0.86	\$47,532	\$348	\$2.08	\$29,380	\$386	\$4.17
Seed, Chem, Fert	\$16,413	\$269	\$1.30	\$11,358	\$137	\$1.55	\$62,259	\$456	\$2.72	\$12,682	\$166	\$1.80
Fuel, Gas, and Oil	\$12,862	\$211	\$1.02	\$5,355	\$65	\$0.73	\$31,694	\$232	\$1.39	\$15,534	\$204	\$2.21
Utilities	\$6,700	\$110	\$0.53	\$5,774	\$70	\$0.79	\$14,368	\$105	\$0.63	\$4,678	\$61	\$0.66
Interest Paid -- not included	\$0			\$0		\$0.00	\$0		\$0.00	\$0		\$0.00
Labor Hired	\$2,974	\$49	\$0.24	\$8,006	\$96	\$1.09	\$34,481	\$252	\$1.51	\$0	\$0	\$0.00
Rent, Lease and Hire	\$35,854	\$588	\$2.84	\$4,150	\$50	\$0.57	\$85,812	\$628	\$3.75	\$21,561	\$283	\$3.06
Property Taxes	\$5,351	\$88	\$0.42	\$6,187	\$75	\$0.85	\$14,660	\$107	\$0.64	\$6,675	\$88	\$0.95
Farm Insurance	\$2,340	\$38	\$0.19	\$4,024	\$48	\$0.55	\$13,467	\$99	\$0.59	\$5,005	\$66	\$0.71
Other Cash Expense	\$14,858	\$244	\$1.18	\$14,667	\$177	\$2.01	\$20,015	\$146	\$0.88	\$15,733	\$207	\$2.23
<b>Total Cash Expense</b>	<b>\$178,645</b>	<b>\$2,929</b>	<b>\$14.14</b>	<b>\$93,949</b>	<b>\$1,132</b>	<b>\$12.85</b>	<b>\$442,601</b>	<b>\$3,239</b>	<b>\$19.37</b>	<b>\$156,799</b>	<b>\$2,059</b>	<b>\$22.27</b>
<b>Net Cash Income</b>	<b>\$136,363</b>	<b>\$2,235</b>	<b>\$10.79</b>	<b>\$169,129</b>	<b>\$2,038</b>	<b>\$23.13</b>	<b>\$253,714</b>	<b>\$1,856</b>	<b>\$11.10</b>	<b>\$85,487</b>	<b>\$1,122</b>	<b>\$12.14</b>
Inventory Change	\$10,285	\$169	\$0.81	-\$10,277	-\$124	-\$1.41	-\$80,338	-\$588	-\$3.52	-\$4,158	-\$55	-\$0.59
<b>Net Farm Income</b>	<b>\$146,648</b>	<b>\$2,404</b>	<b>\$11.61</b>	<b>\$158,852</b>	<b>\$1,914</b>	<b>\$21.73</b>	<b>\$173,376</b>	<b>\$1,269</b>	<b>\$7.59</b>	<b>\$81,328</b>	<b>\$1,068</b>	<b>\$11.55</b>
Equity@	\$50,198	\$823	\$3.97	\$59,212	\$713	\$8.10	\$147,678	\$1,081	\$6.46	\$59,836	\$786	\$8.50
Return to Labor	\$96,449	\$1,581	\$7.64	\$99,640	\$1,200	\$13.63	\$25,699	\$188	\$1.12	\$21,493	\$282	\$3.05
<b>Labor Earnings Per Hour</b>	<b>\$20.53</b>			<b>\$32.85</b>			<b>\$3.73</b>			<b>\$4.59</b>		
Gross Income per Cwt. Eq.	\$26.66			\$36.36			\$29.20			\$35.08		
Gross Expense per Cwt. Eq.	\$24.15			\$30.32			\$31.95			\$40.72		
Net Income per cwt.	\$2.51			\$6.04			-\$2.75			-\$5.64		
Adj. Gross Return per FTE Labor.....	\$206,678			\$190,668			\$227,665			\$156,026		
Return to All Labor per FTE Labor.....	\$60,113			\$77,875			\$21,422			\$13,763		
Number of Cows per FTE Labor.....	38			61			47			50		
Cwts. of Milk Sold per FTE Labor.....	6,425			4,571			6,694			3,823		
Pounds of Milk Sold per Cow.....	16,624			7,405			14,537			7,663		
Productive Crop Acres per Cow.....	3.00			3.35			4.43			2.68		
Capital Cost per Cow.....	\$1,140			\$723			\$1,499			\$942		
All Labor Costs per Cow.....	\$1,019			\$682			\$943			\$762		
Fixed Cost per Cow (DIRTI)	\$1,522			\$925			\$2,024			\$1,464		
Capital Invested per Cow.....	\$20,764			\$15,718			\$24,139			\$17,814		
Net Farm Income per Crop Acre.....	\$822			\$532			\$293			\$467		
Lbs. Milk Produced per Crop Acre.....	5,526			2219			3295			3,723		
**Net Farm Income From Operations	\$146,648			\$158,852			\$173,376			\$81,328		
**Rate of Return on Assets.....	<b>7.81%</b>			<b>6.91%</b>			<b>2.27%</b>			<b>1.42%</b>		
**Rate of Return on Equity.....	7.81%			6.91%			2.27%			1.42%		
**Operating Profit Margin.....	<b>27.15%</b>			<b>38.19%</b>			<b>11.85%</b>			<b>8.31%</b>		
**Asset Turnover Ratio.....	<b>32.38%</b>			<b>20.34%</b>			<b>19.61%</b>			<b>16.82%</b>		

**\*Note:** The "average" is calculated as the sum of the individual farms for each item, not a previous item's sum divided by another item's sum, which yields slightly different results. For more information visit the ISU Dairy Team at: [www.extension.iastate.edu/dairyteam](http://www.extension.iastate.edu/dairyteam)

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.