

## How Did Organic Dairies Perform in 2014?

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The 2014 organic dairy data, with a few exceptions, shows profits. Profits earned have been deemed to be very competitive with the best of other dairy systems as well. Profitable organic dairying depends on many factors such as productive labor, land and cows, but labor efficiency may be most important.

Iowa State University Extension and Outreach teamed up with CROPP Cooperative/Organic Valley to analyze the profits on 31 organic dairy farms broken into three groups from Eastern Iowa, Southwest Wisconsin, and a combination of North Carolina, Virginia, and West Virginia. The individual region data is included at the end of this article.

The Iowa and Wisconsin groups are broken down by average, higher profit, medium profit and low profit. The NC, VA and WV group is broken down as an average, higher profit and lower profit.

In all three regions, data shows organic dairying can be fairly profitable. But, as the lower profit group shows in all three regions, net income per cwt. equivalent may be negative meaning that opportunity costs for unpaid labor and equity may not be fully covered.

Profitability was determined based on a combination of the following measures:

- 1) Rate of Return on Assets
- 2) Cost of milk production per cwt. equivalent
- 3) Return to Unpaid Labor per hour

## Iowa Profit Highlights (15 farms)

The Iowa data set defies traditional milk production logic with the highest profit group having the lowest milk production per cow but there was only a 7.5% difference among the three groups. The major point causing this inverse relationship is that two farms who have reduced grain feeding to near zero made their way into the most profitable farms with herd averages in the 6,000 – 7,000 pounds of milk range. The more profitable Iowa herds benefited from labor efficiency relative to the medium and low profit farms. The high profit farms had significantly more cows per FTE (43 vs. 33 and 33); more cwts. of milk sold per FTE (4,566 vs 3,897 and 3,664); and less labor cost per cow (\$807 vs. \$1,093 and \$1,361) relative to medium and low profit farms.

The medium profit organic farm group has a varied personality and gives confidence to the viability of the small organic, low-input dairy. Although it is the opinion of this author that “no grain” and “low grain” feeding are not the most profitable option, producer data is proving that it can be viable, even if not the most profitable. High Profit farms in Iowa again had higher fertilizer and seed cost per acre similar to 2013 data. Higher crop inputs seemingly translate into higher feed production per acre and less purchased feed costs per cow.

## Wisconsin Profit Highlights (9 farms)

Wisconsin performed quite similar to Iowa in many aspects, including the inverse relationship of milk production per cow and profit. The highest producing herd, with good labor efficiency, just barely made its way into the low profit group as shortage of acres caused high purchased feed costs. In a small data set, one farm can skew results dramatically as is the case here.

Wisconsin, like Iowa, showed a very high correlation with profits and labor efficiency. The high profit farms in both states tended to milk in a TRANS Iowa Low Cost Parlor or similar type with one of the producers handling 72 cows per FTE (Full-Time Equivalent) Laborer. Like Iowa, the High Profit farms had significantly more cows per FTE (42 vs. 25 and 28); more cwts. of milk sold per FTE (4,913 vs 3,302 and 4,304); and more net return per FTE (\$68,053 vs. \$38,575 and \$19,178) relative to the medium and low profit farms.

The data set on the medium profit farms teaches well that high net farm income, even after being inventory adjusted, does not show the full picture of profitability or production costs. This is the reason why opportunity costs of both unpaid labor and equity need to be accounted for in order to fairly compare one farm to another. The opportunity cost is what the unpaid labor and equity could have earned being employed elsewhere. This data set may also teach the balance between acres managed and cows milked, as high or low acres per cow lessened profit, but again, tough to infer with limited data.

## NC, VA and WV Profit Highlights (7 farms)

Even with the smallest data set, this “SE USA” data set had both the highest and lowest profit farms. Thus, the profitability of the farms in this data set was extremely variable, especially in comparing the two most profitable farms versus the lowest profit farm with differences in production costs (>100%), return on assets (>25%) and returns to unpaid labor (>\$100/hour). Even within both the higher and lower profit groups, there was a wide range of profitability.

The milking system often has a major impact on labor efficiency. All farms in this group had milking parlors with efficiency potential, but efficiency differed more due to parlor management and design. Labor efficiency is a great strength of the Higher Profit versus Lower Profit farms with significantly more cows per FTE (61 vs. 37); more cwts. of milk sold per FTE (6,350 vs 3,277); less labor cost per cow (\$633 vs. \$884); less labor cost per cwt. eq. (\$5.76 vs. \$10.05) and less labor as a percent of total costs (18.12% vs. 23.17%).

In regards to capital efficiency, please note that there is an intensity of resource use and efficiency that shows. The Higher Profit farms purchased 56% less feed per cow (\$680 vs. \$1,066) than the lower profit farms while they only employed 2.1% more acres per cow than the Lower Profit farms (1.98 vs. 1.94).

Thus, land productivity, cow productivity and labor productivity were all important factors. Unlike the other regions, this data set showed a positive relationship with milk production per cow and profit like common sense says it should.

## Summary

The main findings of all the data is that labor efficiency is a main driver of profitability, more so than production per cow. Capital efficiency, especially productivity of land, is pretty important, too. When operated well, organic dairies can compete with the best of dairy systems in terms of profit.

The table shows a comparison of the three regions analyzed. However, because the data sets are small, it is difficult to conclude one region is more or less profitable than another.

But, it does show that good profits are possible in all the regions studied and that, just because a farm is organic, that profits are not guaranteed. It also show a range of possible profits.

| Organic Dairy Farms 2014<br>Regional Comparison | Average of All Herds in: |                 |                 | Higher Profit Herds in: |                 |                | Lower Profit Herds in: |                 |                 |
|---|--------------------------|-----------------|-----------------|-------------------------|-----------------|----------------|------------------------|-----------------|-----------------|
|   | E IA                     | SW WI           | SE USA          | E IA                    | SW WI           | SE USA         | E IA                   | SW WI           | SE USA          |
| Productive Crop Acres Operated                  | 266                      | 288             | 225             | 431                     | 312             | 267            | 129                    | 137             | 170             |
| Average Number of Cows                          | 73                       | 65              | 104             | 108                     | 74              | 121            | 38                     | 58              | 83              |
| <b>Milk Price</b>                               | <b>\$31.57</b>           | <b>\$31.28</b>  | <b>\$35.02</b>  | <b>\$31.47</b>          | <b>\$31.41</b>  | <b>\$35.14</b> | <b>\$30.13</b>         | <b>\$31.12</b>  | <b>\$34.86</b>  |
| Milk Sales per Cow                              | \$3,661                  | \$4,192         | \$3,631         | \$3,435                 | \$3,849         | \$3,929        | \$3,277                | \$4,778         | \$3,050         |
| <b>Total Cash Income per Cow</b>                | <b>\$4,447</b>           | <b>\$5,278</b>  | <b>\$4,056</b>  | <b>\$4,289</b>          | <b>\$4,589</b>  | <b>\$4,394</b> | <b>\$3,877</b>         | <b>\$5,274</b>  | <b>\$3,400</b>  |
| Feed Purchased per Cow                          | \$730                    | \$1,080         | \$811           | \$390                   | \$593           | \$680          | \$992                  | \$2,271         | \$1,066         |
| Total Cash Expense per Cow                      | \$2,902                  | \$3,664         | \$2,495         | \$2,457                 | \$2,839         | \$2,502        | \$2,626                | \$4,431         | \$2,481         |
| <b>Net Cash Income per Cow</b>                  | <b>\$1,545</b>           | <b>\$1,614</b>  | <b>\$1,561</b>  | <b>\$1,832</b>          | <b>\$1,749</b>  | <b>\$1,892</b> | <b>\$1,250</b>         | <b>\$843</b>    | <b>\$919</b>    |
| Inventory Change per Cow                        | \$102                    | \$495           | -\$8            | \$177                   | \$495           | \$6            | \$111                  | \$472           | -\$35           |
| <b>Net Farm Income per Cow</b>                  | <b>\$1,647</b>           | <b>\$2,108</b>  | <b>\$1,553</b>  | <b>\$2,009</b>          | <b>\$2,244</b>  | <b>\$1,898</b> | <b>\$1,361</b>         | <b>\$1,315</b>  | <b>\$884</b>    |
| Equity Charge @ 4% per Cow                      | \$646                    | \$982           | \$540           | \$719                   | \$825           | \$416          | \$702                  | \$807           | \$779           |
| <b>Return to Labor per Cow</b>                  | <b>\$1,001</b>           | <b>\$1,126</b>  | <b>\$1,014</b>  | <b>\$1,290</b>          | <b>\$1,419</b>  | <b>\$1,481</b> | <b>\$660</b>           | <b>\$508</b>    | <b>\$105</b>    |
| <b>Total Farm Assets per Cow</b>                | <b>\$16,349</b>          | <b>\$25,089</b> | <b>\$12,802</b> | <b>\$18,259</b>         | <b>\$21,062</b> | <b>\$9,370</b> | <b>\$17,667</b>        | <b>\$20,554</b> | <b>\$19,474</b> |
| Labor Full Time Equivalents                     | 1.98                     | 2.26            | 2.12            | 2.55                    | 2.28            | 2.00           | 1.19                   | 1.99            | 2.28            |
| <b>Labor Earnings Per Hour</b>                  | <b>\$19.49</b>           | <b>\$16.29</b>  | <b>\$29.81</b>  | <b>\$38.78</b>          | <b>\$27.71</b>  | <b>\$52.67</b> | <b>\$7.28</b>          | <b>\$6.46</b>   | <b>-\$0.66</b>  |
| Gross Income per Cwt. Eq.                       | \$31.57                  | \$31.28         | \$35.02         | \$31.47                 | \$31.41         | \$35.14        | \$30.13                | \$31.12         | \$34.86         |
| Gross Expense per Cwt. Eq.                      | \$30.94                  | \$30.11         | \$33.32         | \$26.76                 | \$26.97         | \$28.23        | \$33.09                | \$33.33         | \$40.12         |
| <b>Net Income per Cwt. Eq.</b>                  | <b>\$0.63</b>            | <b>\$1.17</b>   | <b>\$1.70</b>   | <b>\$4.71</b>           | <b>\$4.44</b>   | <b>\$6.91</b>  | <b>-\$2.97</b>         | <b>-\$2.22</b>  | <b>-\$5.26</b>  |
| Adj. Gross Return per FTE Labor.....            | \$161,706                | \$176,291       | \$206,961       | \$190,791               | \$199,210       | \$262,269      | \$140,014              | \$166,859       | \$133,217       |
| Return to All Labor per FTE Labor.....          | \$40,237                 | \$41,935        | \$63,453        | \$62,684                | \$68,053        | \$95,974       | \$22,251               | \$19,178        | \$20,091        |
| Number of Cows per FTE Labor.....               | 36                       | 32              | 51              | 43                      | 42              | 61             | 33                     | 28              | 37              |
| Cwts. of Milk Sold per FTE Labor....            | 4,042                    | 4,173           | 5,033           | 4,566                   | 4,913           | 6,350          | 3,664                  | 4,304           | 3,277           |
| Pounds of Milk Sold per Cow.....                | 11,658                   | 13,582          | 10,044          | 11,169                  | 12,508          | 10,985         | 11,952                 | 14,855          | 8,791           |
| Productive Crop Acres per Cow.....              | 3.9                      | 4.1             | 2.0             | 4.01                    | 3.96            | 1.98           | 4.37                   | 2.27            | 1.94            |
| Capital Cost per Cow.....                       | \$862                    | \$1,306         | \$834           | \$929                   | \$1,048         | \$799          | \$1,058                | \$1,164         | \$880           |
| <b>All Labor Costs per Cow.....</b>             | <b>\$1,087</b>           | <b>\$1,198</b>  | <b>\$741</b>    | <b>\$807</b>            | <b>\$1,175</b>  | <b>\$633</b>   | <b>\$1,361</b>         | <b>\$1,124</b>  | <b>\$884</b>    |
| Fixed Cost per Cow (DIRTI)                      | \$1,208                  | \$1,782         | \$1,004         | \$1,292                 | \$1,378         | \$1,008        | \$1,343                | \$1,585         | \$998           |
| Capital Invested per Cow.....                   | \$15,656                 | \$23,791        | \$15,151        | \$16,652                | \$19,876        | \$12,763       | \$19,599               | \$18,806        | \$18,335        |
| Net Farm Income per Crop Acre.....              | \$451                    | \$683           | \$911           | \$496                   | \$841           | \$1,078        | \$425                  | \$688           | \$689           |
| Lbs. Milk Produced per Crop Acre.....           | 3,262                    | 4,539           | 6,053           | 2,766                   | 4,252           | 6,160          | 3,413                  | 6,826           | 5,911           |
| Fert/Chem/Seed Cost/Crop Acre.....              | \$82                     | \$98            | \$200           | \$91                    | \$82            | \$175          | \$71                   | \$153           | \$233           |
| Livestock over Total Investment %               | 17%                      | 13%             | 22%             | 14.24%                  | 13.74%          | 26.78%         | 12.44%                 | 14.91%          | 15.45%          |
| Cash Exp./Cash Inc.w/o Labor&Int.....           | 60%                      | 63%             | 55%             | 49.88%                  | 49.52%          | 50.66%         | 67.11%                 | 80.95%          | 60.62%          |
| <b>All Labor as Percent of Total Costs....</b>  | <b>23%</b>               | <b>21%</b>      | <b>20%</b>      | <b>21.20%</b>           | <b>25.34%</b>   | <b>18.12%</b>  | <b>23.90%</b>          | <b>17.47%</b>   | <b>23.17%</b>   |
| Fixed Cost as Percent of Total Cost.....        | 27%                      | 31%             | 27%             | 34.83%                  | 31.85%          | 27.20%         | 25.66%                 | 24.31%          | 25.97%          |
| **Net Farm Income From Operations               | \$120,332                | \$137,046       | \$162,006       | \$216,989               | \$165,331       | \$228,686      | \$52,280               | \$75,822        | \$73,098        |
| **Rate of Return on Assets.....                 | 4.70%                    | 4.85%           | 10.28%          | 7.94%                   | 7.74%           | 15.87%         | 1.81%                  | 1.95%           | 2.83%           |
| **Operating Profit Margin.....                  | 17.01%                   | 20.97%          | 22.44%          | 32.39%                  | 31.09%          | 32.43%         | 7.18%                  | 6.66%           | 9.13%           |
| **Asset Turnover Ratio.....                     | 34.04%                   | 24.83%          | 35.76%          | 27.37%                  | 26.07%          | 46.29%         | 23.95%                 | 28.73%          | 21.71%          |
| Dairy TRANS Profit Status is.....               | Ave                      | Ave             | Grt/Good        | Grt/Good                | Grt/Good        | Super/Grt      | Fair/Poor              | Fair/Poor       | Ave/Poor        |
| <b>Dairy TRANS Performance Rating</b>           | <b>50.27%</b>            | <b>52.44%</b>   | <b>72.57%</b>   | <b>71.80%</b>           | <b>70.67%</b>   | <b>101.75%</b> | <b>31.40%</b>          | <b>33.33%</b>   | <b>33.67%</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.

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For more information visit the ISU Dairy Team at: [www.extension.iastate.edu/dairyteam](http://www.extension.iastate.edu/dairyteam) or [www.extension.iastate.edu/dubuque/dairy](http://www.extension.iastate.edu/dubuque/dairy)

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