

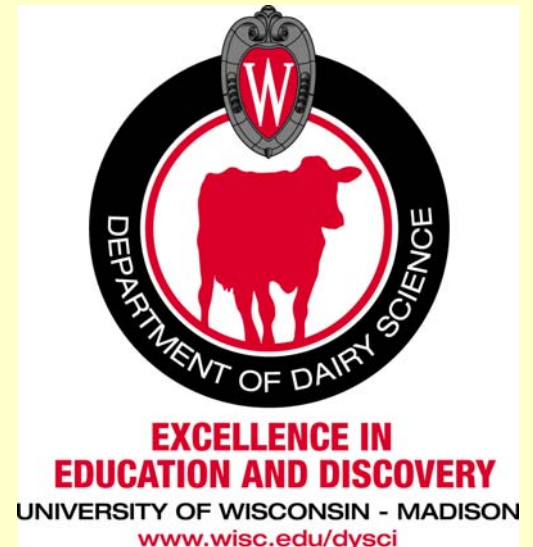
# Performance of Jersey/Jersey-Holstein Crossbred Pen on a Wisconsin dairy

Tom Anderson<sup>1</sup>, Randy Shaver<sup>2</sup>, Pieter Bosma<sup>3</sup>, and Vronie De Boer<sup>3</sup>

<sup>1</sup>Shawano County Extension

<sup>2</sup>Dairy Science Department, UW Madison

<sup>3</sup>Wageningen University, The Netherlands



# Pen Composition

51 weeks of data collection	<b>HOL</b>	<b>JHJC</b>
<b>Cows in pen</b>	<b>139 ± 7</b>	<b>137 ± 8</b>
<b>DIM</b>	<b>188 ± 15</b>	<b>182 ± 16</b>
<b>1<sup>st</sup> Lactation</b>	<b>34%</b>	<b>32%</b>
<b>2<sup>nd</sup> Lactation</b>	<b>38%</b>	<b>40%</b>
<b>≥ 3<sup>rd</sup> Lactation</b>	<b>28%</b>	<b>28%</b>
<b>Breed</b>	<b>--</b>	<b>67% J: 33% H</b>



**62% half-Jersey cows and 30% full-Jersey cows**

# Pen Performance

51 weeks of data collection	<b>HOL</b>	<b>JHJC</b>
<b>Milk, lb/cow/d</b>	<b>81.8 ± 3.9</b>	<b>69.8 ± 4.2</b>
<b>Milk Fat %</b>	<b>3.65 ± 0.13</b>	<b>4.26 ± 0.20</b>
<b>Milk Protein %</b>	<b>2.86 ± 0.09</b>	<b>3.05 ± 0.10</b>
<b>4% FCM, lb/cow/d</b>	<b>77.5 ± 3.7</b>	<b>72.5 ± 4.4</b>
<b>SCM, lb/cow/d</b>	<b>74.9 ± 3.1</b>	<b>70.0 ± 3.9</b>
<b>ECM, lb/cow/d</b>	<b>81.4 ± 3.4</b>	<b>75.9 ± 4.2</b>
<b>Cheese Yield, lb/cow/d</b>	<b>8.1 ± 0.3</b>	<b>7.3 ± 0.3</b>

# Pen Performance

51 weeks of data collection	<b>HOL</b>	<b>JHJC</b>
<b>DMI, lb/cow/d</b>	<b>50.8 ± 2.1</b>	<b>46.0 ± 2.2</b>
<b>DMI, % of BW</b>	<b>3.96 ± 0.21</b>	<b>4.26 ± 0.18</b>
<b>FCM/DMI</b>	<b>1.53 ± 0.10</b>	<b>1.58 ± 0.12</b>
<b>SCM/DMI</b>	<b>1.48 ± 0.09</b>	<b>1.53 ± 0.11</b>
<b>ECM/DMI</b>	<b>1.61 ± 0.10</b>	<b>1.65 ± 0.12</b>
<b>Body Weight, lb</b>	<b>1291 ± 34</b>	<b>1087 ± 26</b>
<b>BCS</b>	<b>2.90 ± 0.05</b>	<b>2.86 ± 0.06</b>

# Pen Performance

	<b>HOL</b>	<b>JHJC</b>
51 weeks of data collection		
<b>Using actual monthly farm pay prices<sup>1,2</sup></b>		
<b>Gross Milk Income, \$/cow/d</b>	<b>10.73 ± 0.52</b>	<b>9.97 ± 0.56</b>
<b>Income Minus Feed Cost, \$/cow/d<sup>3</sup></b>	<b>7.17 ± 0.61</b>	<b>6.75 ± 0.65</b>
<b>Farms add-on premiums placed on components<sup>2</sup></b>		
<b>Gross Milk Income, \$/cow/d</b>	<b>10.54 ± 0.55</b>	<b>9.95 ± 0.58</b>
<b>Income Minus Feed Cost, \$/cow/d<sup>3</sup></b>	<b>6.99 ± 0.64</b>	<b>6.73 ± 0.66</b>

<sup>1</sup>Fat = \$1.32 ± 0.08/lb; TP = \$2.13 ± 0.19/lb; OS = \$0.19 ± 0.04/lb

<sup>2</sup>Add-On Premiums = \$1.39 ± 0.14/cwt.

<sup>3</sup>Constant TMR price of \$0.07/lb DM used for all calculations

# Reproductive Performance

	<b>HOL</b>	<b>JHJC</b>
<b>Days to 1st breeding</b>	<b>60</b>	<b>59</b>
<b>Services per conception</b>	<b>3.5</b>	<b>2.7</b>
<b>Days Open</b>	<b>145</b>	<b>123</b>
<b>21-d Pregnancy risk</b>	<b>20%</b>	<b>26%</b>
<b>RP</b>	<b>3.7%</b>	<b>4.3%</b>
<b>Metritis</b>	<b>12.4%</b>	<b>10.9%</b>
<b>DNB</b>	<b>4.0%</b>	<b>6.6%</b>

# Health Performance

<b>% of cows on lists (Lactation)</b>	<b>HOL</b>	<b>JHJC</b>
<b>Milk Fever</b>	<b>0.4%</b>	<b>3.8%</b>
<b>Ketosis</b>	<b>5.1%</b>	<b>12.3%</b>
<b>LDA</b>	<b>5.1%</b>	<b>6.2%</b>
<b>Lameness</b>	<b>28.9%</b>	<b>15.9%</b>

# Health Performance

<b>% of cows on lists (Lactation)</b>	<b>HOL</b>	<b>JHJC</b>
<b>Mastitis</b>	<b>25.9%</b>	<b>22.7%</b>
<b>Cows Culled/Sold</b> non dairy	<b>12.8%</b>	<b>7.7%</b>
<b>Cows Died</b>	<b>1.9%</b>	<b>1.9%</b>
<b>Calves Born Dead</b>	<b>6.1%</b>	<b>6.5%</b>

# Overall Economic Analysis<sup>1,2</sup>

<b>\$/cow/day</b>	<b>Actual Farm Milk Pricing</b>	<b>Adjusted Milk Pricing</b>
	<b>HOL - JHJC</b>	
<b>IOFC</b>	<b>0.42</b>	<b>0.26</b>
<b>Days Open Adjusted</b>	<b>0.11</b>	<b>-0.05</b>
<b>Adjusted for Days Open, All Health Disorders, &amp; Culling</b>	<b>-0.05</b>	<b>-0.21</b>

<sup>1</sup>DO = \$4.50/d; Cull = \$900 per cow

<sup>2</sup>Cost of health disorders calculated Using "Costs of Common Diseases" spreadsheet, 1998, Chuck Guard, Cornell Univ.

# Overall Economic Analysis<sup>1,2</sup>

<b>\$/100 cows/year</b>	<b>Actual Farm Milk Pricing</b>	<b>Adjusted Milk Pricing</b>
	<b>HOL - JHJC</b>	
<b>IOFC</b>	<b>15,330</b>	<b>9,490</b>
<b>Adjusted for Days Open</b>	<b>4,015</b>	<b>-1,825</b>
<b>Adjusted for Days Open, All Health Disorders, &amp; Culling</b>	<b>-1,825</b>	<b>-7,665</b>

<sup>1</sup>DO = \$4.50/d; Cull = \$900 per cow

<sup>2</sup>Cost of health disorders calculated Using "Costs of Common Diseases" spreadsheet, 1998, Chuck Guard, Cornell Univ.

# Conclusions

- The JX pen showed benefits over the H pen for milk composition, reproductive performance, some health disorders and cull rate, which offset the observed milk yield reduction for the JX pen when the overall economic performance of the pens was calculated.
- The economic performance of the JX pen was even more favorable relative to the H pen when milk price was tied directly to component yields.

# Acknowledgements

- American Jersey Cattle Association
  - ❖ *Partial financial support*
- Tauchen Harmony Valley
  - ❖ *Protocol implementation, sampling, and data collection*
- Mark Metzler, Seymour Flour Mill
  - ❖ *Diet formulation, TMR sampling, and condition scoring*

# Visit UW-Madison Dairy Science Department's Website

<http://www.wisc.edu/dysci/>



**EXCELLENCE IN  
EDUCATION AND DISCOVERY**

UNIVERSITY OF WISCONSIN - MADISON

[www.wisc.edu/dysci](http://www.wisc.edu/dysci)



THE UNIVERSITY  
*of*  
**WISCONSIN**  
MADISON