



**Relative Profitability of Hog  
Production in Western Canada and  
the US Midwest  
Executive Summary**

Prepared By  
Larry Martin, Kevin Grier,  
Al Mussell, and Kate Stiefelmeyer



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“*Canada’s Independent Agri-Food Think Tank*”  
#102-150 Research Lane  
Guelph, ON N1G 4T2  
Tel: (519) 822-3929  
Fax: (519) 837-8721  
Email: [info@georgemorris.org](mailto:info@georgemorris.org)  
Website: [www.georgemorris.org](http://www.georgemorris.org)

# **Relative Profitability of Hog Production in Western Canada and the US Midwest**

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## **EXECUTIVE SUMMARY**

Studies of international competitiveness in hog production completed by the George Morris Centre in 1994 and 1999 found that Western Canada had the lowest overall cost of the regions evaluated. To determine whether this remains the case, the model used in the previous studies was updated with monthly data from 1999-May 2001 representing the Western Canadian Prairies (Eastern Alberta), the Eastern Canadian Prairies (Southwestern Manitoba), and Southern Minnesota. The model was used to evaluate competitiveness in hog production on the basis of variable production costs, gross margins, and net profit for a 1200 sow farrow to finish operation and for a 1200 sow farrowing unit.

Based on changes that have occurred in Western Canada and in US farm policy, the conclusions of this study differ from its predecessors. The significant competitiveness criteria are the relative variable costs, gross margins, and net profit. The results showed that, among the 3 regions:

- \* Southern Minnesota had the lowest feed costs given the assumed rations
- \* Southern Minnesota had the lowest variable costs for farrow to finish, farrowing, and finishing
- \* Southern Minnesota had the highest hog prices, although Eastern Prairie hog prices are converging toward Southern Minnesota prices
- \* The Western Prairies had the lowest fixed costs
- \* Southern Minnesota had the highest net profit in the farrow-to-finish enterprise
- \* The Eastern Prairies had the largest net profit in farrowing
- \* Finishing weanlings from the Eastern Prairies in Southern Minnesota is more profitable than farrow-to-finish in Southern Minnesota, or farrow-to-finish in the Eastern Prairies

The most significant fact influencing relative competitiveness are feed costs and hog prices. US farm policy has fostered a decrease in corn prices, and barley prices in Western Canada have simultaneously increased due to drought and problems associated with vomitoxin. Western Canadian processors are closing the gap with Southern Minnesota hog prices, but still appear lower than their Midwest US counterparts.

## Herd Assumptions

| HERD ASSUMPTIONS                 |               | Per Litter | Per Year | Per Month |
|----------------------------------|---------------|------------|----------|-----------|
| Number of Sows                   | 1200          |            |          |           |
| Litters / Sow / yr               |               |            | 2.35     |           |
| Total Litters                    |               |            | 2820     | 235       |
| <b>Weaner Operation</b>          |               |            |          |           |
| Pigs born                        |               | 10.9       |          |           |
| Mortality Rate (pre-weaning)     | 12%           |            |          |           |
| Pigs Died (pre-weaning)          |               | 1.31       | 3694     | 308       |
| Pigs Weaned                      |               | 9.59       | 27044    | 2254      |
| Mortality Rate (post weaning)    | 3%            |            |          |           |
| Pigs Died (post weaning)         | per litter    | 0.29       | 818      | 68        |
| Weaner Pigs Transferred          | per litter    | 8.95       | 25239    | 2103      |
| Average Weaning Age              | 18 days       |            |          |           |
| Post-Weaning Days (nursery)      | 50 days       |            |          |           |
| <b>Grower-Finisher Operation</b> |               |            |          |           |
| Mortality Rate                   | 3%            |            |          |           |
| Pigs Marketed                    | 21.21 per sow | 9.03       | 25451    | 2121      |
| Market Dressed Weight            | 88 kg         |            |          |           |
| Days on Feed                     | 122 days      |            |          |           |
| Total Days to Market             | 194 days      |            |          |           |

### Southern Minnesota Farrow to Finish Ration

|                | Starter | Grower | Finisher | Lactation | Gestation | Per Litter | Ration % |
|----------------|---------|--------|----------|-----------|-----------|------------|----------|
| Corn           | 18.0    | 65.6   | 106.4    | 224.2     | 457.1     | 2062.43    | 72.44    |
| Soymeal        | 9.9     | 30.2   | 21.4     | 118.6     | 81.4      | 660.05     | 23.18    |
| Tallow         | 0.8     | 0.0    | 0.0      | 3.6       | 0.0       | 8.73       | 0.31     |
| Premix         | 1.3     | 4.2    | 5.2      | 14.1      | 23.0      | 115.74     | 4.07     |
| Total/Pig (kg) | 30      | 100    | 133      | 360.4     | 561.6     | 2846.94    |          |

### Western Canadian Farrow to Finish Ration

|                | Starter | Grower | Finisher | Lactation | Gestation | Total Per Litter | Ration % |
|----------------|---------|--------|----------|-----------|-----------|------------------|----------|
| Wheat          | 18.21   | 48.5   | 13.3     | 116.4     | 157.8     | 866.08           | 30.08    |
| Barley         | 0       | 22.8   | 95.5     | 109.6     | 402.3     | 1317.93          | 45.8     |
| Soymeal        | 9.24    | 23.7   | 16.4     | 104.9     | 43.3      | 524.2            | 18.2     |
| Tallow         | 1.35    | 2      | 3.3      | 16.2      | 6.4       | 72.08            | 2.5      |
| Premix         | 1.2     | 3      | 4.5      | 13.3      | 26.7      | 98.5             | 3.4      |
| Total/Pig (kg) | 30      | 100    | 133      | 360.4     | 636.5     | 2878.8           |          |

Monthly prices of the feed ingredients for the period 1999-May 2001 at locations in each region are used to calculate and update the monthly cost of the ration. For the Eastern Prairies, feed costs are based on:

- \* Winnipeg barley price (Agriculture and Agrifood Canada)
- \* Winnipeg feed wheat price (Agriculture and Agrifood Canada)
- \* Winnipeg 48% soymeal price (Agriculture and Agrifood Canada)
- \* Vomitoxin adjustment of \$13.50/tonne (additional freight) on barley and wheat

For the Western Prairies, feed costs are based on:

- \* Calgary barley price (Agriculture and Agrifood Canada)
- \* Calgary feed wheat price (Agriculture and Agrifood Canada)
- \* Calgary 48% soymeal price (Agriculture and Agrifood Canada)

For Southern Minnesota, feed costs are based on:

- \* Minnesota corn price (USDA National Agricultural Statistics Service)
- \* Decatur 48% soymeal price (USDA Agricultural Marketing Service)

In all cases, other feeds and tallow priced at \$700/tonne.

### Labour Costs

|                             | <b>Manitoba<br/>(\$Can/<br/>year/employee)</b> | <b>Alberta<br/>(\$Can<br/>/year/employee)</b> | <b>Southern Minnesota<br/>(\$US/ year/employee)</b> |
|-----------------------------|--|---|---|
| Manager (1)                 | 53,820   | 65,122  | 50,800  |
| Assistant Manager (1)       | 32,292   | 39,043  | 30,400  |
| Production Assistant I (3)  | 27,986   | 33,864  | 26,416  |
| Production Assistant II (4) | 21,528   | 23,681  | 20,320  |
| <b>Total Annual Cost</b>    | <b>256,183</b>                                 | <b>300,509</b>                                | <b>241,80</b>                                       |

| <b>Other Operating Costs</b>    |             |           |
|---------------------------------|-------------|-----------|
| Veterinary, Medicine & Supplies | \$/sow/year | \$ 48.00  |
| Maintenance & Repairs           | \$/sow/year | \$ 80.00  |
| Hydro                           | \$/sow/year | \$ 100.00 |
| Insurance                       | \$/sow/year | \$ 25.00  |
| Manure Haulage                  | \$/sow/year | \$ 70.00  |
| Office Supplies                 | \$/sow/year | \$ 5.00   |
| Marketing & Transportation      | \$/sow/year | \$ 135.00 |
| Property Tax                    | \$/sow/year | \$ 25.00  |
| Subtotal Operating Costs        | \$/sow/year | \$ 488.00 |

### Feed Prices, 1999-May 2001

|  | <b>Eastern Prairies<br/>Mean Price<br/>(\$Can/tonne)</b> | <b>Western Prairies<br/>Mean Price<br/>(\$Can/tonne)</b> | <b>Southern Minnesota<br/>Mean Price<br/>(\$Can/tonne)</b> |
|--|--|--|--|
| <b>Corn</b>                                  | -  | -  | 100.50   |
| <b>Barley</b>                                | 97.94  | 113.37   | -  |
| <b>Wheat</b>                                 | 110.25   | 121.28   | -  |
| <b>Soymeal</b>                               | 265.68   | 289.40   | 256.89   |
| <b>Average Total Feed<br/>Cost (\$/Head)</b> | <b>56.84<sup>1</sup></b>                                 | <b>58.26</b>   | <b>51.44</b>   |

### Total Variable Costs of Production

|                           | <b>Eastern Prairies<br/>Total Variable Cost<br/>(\$Can/hog)</b> | <b>Western Prairies<br/>Total Variable Cost<br/>(\$Can/hog)</b> | <b>Southern Minnesota<br/>Total Variable Cost<br/>(\$Can/hog)</b> |
|---------------------------|---|---|---|
| <b>1999</b>               | 96.91   | 99.96   | 95.37   |
| <b>2000</b>               | 101.67  | 104.18  | 101.77  |
| <b>Jan-May 2001</b>       | 104.48  | 106.66  | 104.10  |
| <b>Average</b>            | <b>100.18</b>   | <b>102.86</b>   | <b>99.95</b>  |
| <b>Standard Deviation</b> | <b>3.64</b>   | <b>3.26</b>   | <b>4.52</b>   |

<sup>1</sup> Total feed cost/hog includes the vomitoxin adjustment for the Eastern Prairies, Eastern Prairies feed prices do not

### Hog Prices

|                           | Manitoba Hog Price (\$Can/ckg) | Alberta Hog Price (\$Can/ckg) | Iowa-Southern Minnesota Hog Price (\$Can/ckg) <sup>2</sup> | Minnesota Hog Price (\$Can/ckg) |
|---------------------------|--------------------------------|-------------------------------|--|---------------------------------|
| <b>1999</b>               | 134.73                         | 125.06                        | 137.69   | 132.99                          |
| <b>2000</b>               | 180.40                         | 167.82                        | 182.07   | 183.55                          |
| <b>Jan-May 2001</b>       | 184.23                         | 177.81                        | -  | <b>191.77</b>                   |
| <b>Average</b>            | <b>162.16</b>                  | <b>151.85</b>                 | <b>159.88</b>  | <b>164.05</b>                   |
| <b>Standard Deviation</b> | <b>28.85</b>                   | <b>28.31</b>                  | <b>28.33</b>   | <b>36.65</b>                    |

### Farrow to Finish Gross Margins

|                           | Eastern Prairies Gross Margin (\$Can/hog) | Western Prairies Gross Margin (\$Can/hog) | Southern Minnesota Gross Margin (\$Can/hog), Based on IA/Southern MN Price | Southern Minnesota Gross Margin (\$Can/hog), Based on MN Price |
|---------------------------|---|---|--|--|
| <b>1999</b>               | 21.65                                     | 10.09                                     | 25.79  | 21.66  |
| <b>2000</b>               | 57.08                                     | 43.50                                     | 58.45  | 59.75  |
| <b>Jan-May 2001</b>       | 57.65                                     | 49.81                                     | -  | 65.34  |
| <b>Average</b>            | <b>42.52</b>                              | <b>30.76</b>                              | <b>34.47</b>   | <b>44.95</b>   |
| <b>Standard Deviation</b> | <b>22.95</b>                              | <b>22.74</b>                              | <b>41.09</b>   | <b>26.16</b>   |

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<sup>2</sup>The Iowa-Southern Minnesota price series was changed in 2001 to a basis that is not directly comparable with the other prices