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International benchmarking of key performance indicators in pork production: 2019

Derald J. Holtkamp¹, Dermot J. Hayes², and Lee L. Schulz³

1 - Iowa State University, Department of Veterinary Diagnostic and Production Animal Medicine, Ames, Iowa, USA. 2 - Iowa State University, Department of Economics and Department of Finance, Ames, Iowa, USA. 3 - Iowa State University, Department of Economics, Ames, Iowa, USA.

Who are the world's best pork producers, and why? Data from an international benchmarking network known as InterPIG and data from experts and published sources in China and Japan were used to address that question. The data from InterPIG is assembled annually by representatives from seventeen countries in Europe, North America, and Brazil in South America. The representatives are from producer organizations, scientific or governmental institutions. The result reported here are for 2019, the most recent available from InterPIG. The data for China and Japan was obtained with help from Merck Animal Health's technical, marketing, and sales staff. If "best" is defined by the lowest cost of production on a per kg of pork basis, then producers in Brazil, The United States (USA), and Canada lead the way in 2019 (Figure 1).

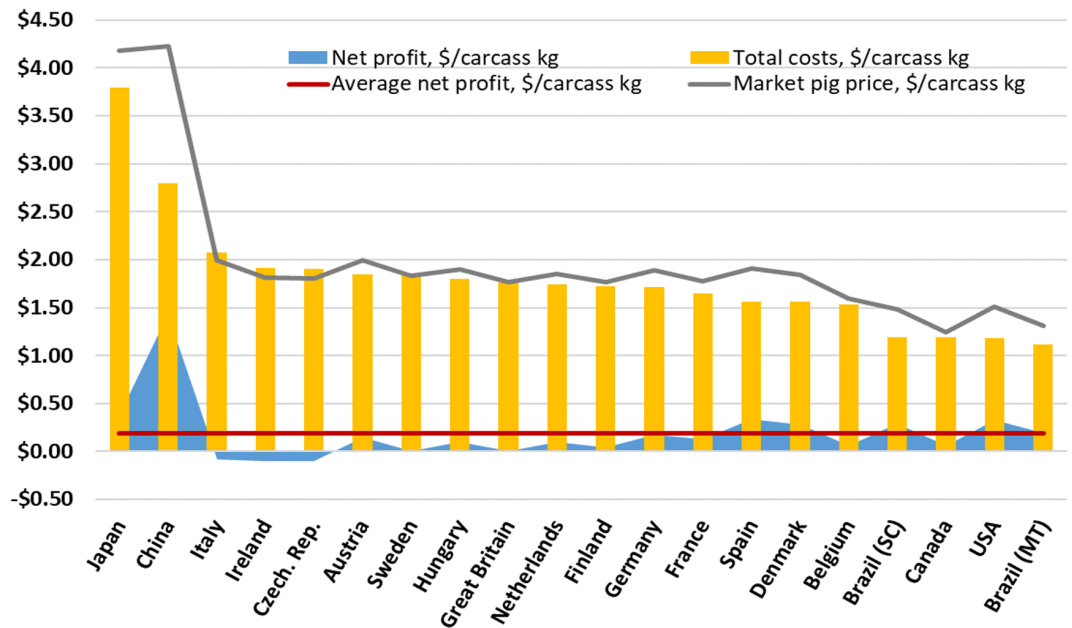


Figure 1. Revenue, cost, and profit per kg of carcass sold by country - 2019. USA: United States. SC: Santa Catarina. MT: Mato Grosso.

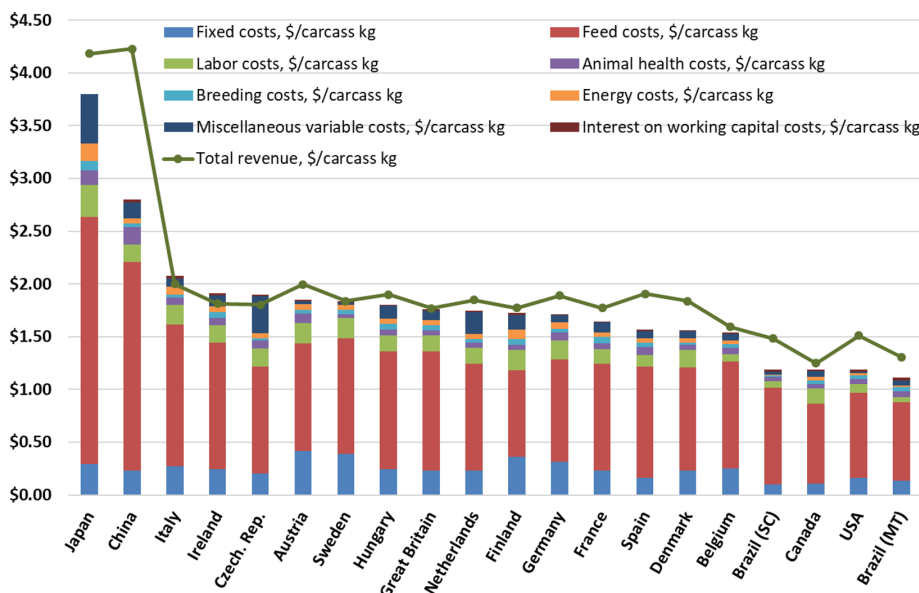


Figure 2. Detailed costs per carcass kg sold by country - 2019. USA: United States. SC: Santa Catarina. MT: Mato Grosso.

If best is defined by the most profitable, producers in China and Japan, with relatively high market pig prices, were on top. Figure 2 shows the total cost per kg of pork by category. The lowest cost producers in North America and Brazil benefited from relatively low feed costs and fixed costs. The USA and Brazil also benefited from relatively low labor costs due to a combination of high labor efficiency (measured by hours of labor required per kg of pork produced) and low wage rates. High feed costs were the primary driver of the high cost of production in China and Japan. Producers in Europe fell in the middle.



Continued: International benchmarking of key performance indicators in pork production: 2019

As measured by kg of pork produced per breeding female per year, the most productive producers were in Italy (Table 1). However, this was because Italian producers raise Italian White hogs that are marketed at very heavy weights for a premium branded ham market. After Italy, producers in the Netherlands, Denmark, Germany, and several other European countries were the most productive by marketing a relatively high number of pigs per female per year.

The correlation coefficients (CC) reported at the bottom of Table 1 measure how closely the kg of pork produced per breeding female per year was associated with each production metric and indicate their relative contribution to the productivity of sows in each country. The kg of pork produced per female is the product of the number of pigs marketed per female per year and the average market weight. Of the two, the number is pigs marketed per female per year (CC=0.65) contributes more to sow productivity than average market weight (CC=0.58). The productivity measures that contribute to the number of pigs marketed, average market weight, and overall sow productivity are also reported in Table 1. Of those, mortality from wean-to-market (CC=-0.55) and the number of pigs born alive per litter farrowed (CC=0.59) contribute the most to sow productivity. The correlation between mortality (preweaning and wean-to-market) and sow productivity was expected to be negative. However, because preweaning mortality is positively correlated with the number of pigs born alive per litter farrowed, it is also positively correlated with sow productivity. Countries with high born alive per litter tend to have higher preweaning mortality, but overall sow productivity was still relatively higher than in countries with fewer pigs born alive.

	Litters farrowed / female / year	Pigs born alive / litter farrowed	Prewean mortality (% of pigs born alive)	Mortality (% of pigs placed)	Average daily gain (kg / day)	Number of pigs marketed per year (pigs/female/year)	Average live weight at end of phase (kg / pig)	Total carcass weight of pork marketed per year (kg/female/year)
Italy	2.22	12.75	12.2%	6.6%	0.63	23.2	170.0	3,234
Netherlands	2.33	14.80	12.7%	4.7%	0.71	28.7	122.3	2,779
Denmark	2.26	17.45	14.8%	6.9%	0.78	31.3	114.8	2,741
Germany	2.30	15.50	16.0%	5.8%	0.71	28.2	122.3	2,719
Czech. Rep.	2.29	15.02	10.5%	6.5%	0.76	28.9	119.0	2,706
Belgium	2.27	14.37	11.2%	7.4%	0.61	26.8	116.1	2,638
France	2.35	14.65	14.6%	6.5%	0.69	27.5	120.8	2,603
Finland	2.25	14.80	14.5%	5.0%	0.77	27.0	122.8	2,523
Canada	2.30	13.00	15.3%	5.4%	0.74	24.0	130.1	2,476
Hungary	2.36	12.82	8.2%	4.3%	0.61	26.6	115.0	2,467
Brazil (SC)	2.32	13.14	7.9%	4.4%	0.72	26.9	120.0	2,449
USA	2.47	13.20	14.6%	8.5%	0.74	25.5	128.0	2,436
Sweden	2.23	14.80	17.7%	3.7%	0.80	26.2	122.7	2,397
Ireland	2.28	14.12	11.3%	5.5%	0.72	27.0	113.5	2,367
Austria	2.29	12.80	13.8%	4.8%	0.69	24.0	121.5	2,332
Brazil (MT)	2.41	13.15	10.6%	5.4%	0.71	26.8	110.0	2,242
Spain	2.30	13.96	13.9%	9.1%	0.63	25.1	115.0	2,211
Great Britain	2.27	13.80	12.3%	7.0%	0.71	25.5	110.5	2,196
Japan	2.38	12.23	10.5%	12.8%	0.65	22.7	115.0	1,718
China	1.91	10.64	9.1%	10.0%	0.66	16.6	115.0	1,433
Correlation (w/carcass weight marketed per year)	0.33	0.59	0.30	-0.55	0.15	0.65	0.58	

Table 1: Productivity by country — 2019.

Highlights:

- Brazil, the United States, and Canada had the lowest cost of production on a per kg of pork basis in 2019;
- Whereas China and Japan were the most profitable producers;
- Italy had the most production measured by kg of pork produced per breeding female per year;
- Netherlands, Denmark, Germany, and several other European countries were the most productive by marketing a relatively high number of pigs per female per year.

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