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2006 PIG COST OF PRODUCTION IN SELECTED COUNTRIES

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British Pig Executive

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CONTENTS

INTRODUCTION

This is the sixth in a series of annual reports that examines the relative costs of pig meat production in selected countries in 2006. In previous editions, detailed information has only been available for EU countries, but this time the analysis has been extended to Brazil, Canada and the United States. Costs of production are examined up to farmgate level, although it should be borne in mind that this is just one part of the supply chain. Overall competitiveness is a product of all the elements in the supply chain (eg abattoirs, processing and retail distribution).

The British pig sector continued to show some improvements in performance in 2006, helped in particular by further declines in mortality. Nevertheless, in many areas we still lag considerably behind our European competitors.

2007 has been a turbulent year for the pig sector. In August, the discovery of Foot and Mouth Disease on farms in Surrey led to movement restrictions and an export ban. However by far the most significant development has been the increase in feed prices to record levels. Prices began to increase in late 2006, although there was only a limited impact on average pig costs in that year. The main impact on feed costs will have been felt in 2007. In order to get an idea of the magnitude of these changes on feed costs, there is an extra chapter which looks at estimated costs using current feed prices (all other factors being held constant).

Pig input prices are largely outside of pig producers' control, although there are actions they can take to minimise the impact of feed price increases. In order to keep pig production costs down, the pig industry needs to be focusing even more on improving its average physical performance. This is becoming increasingly vital as in late 2007 pig producers throughout Europe are operating at a loss.

The physical performance improvements that are well within producers' reach can be gauged by a comparison of the GB results with other EU countries. In addition, Appendix 4 at the back of this publication contains Quarterly Key Performance Indicators which show both average and top-third results.

Regularly updated Key Performance Indicators can be found on the BPEX website at www.bpex.org.uk. The website also contains a wealth of other information which will be of use to producers operating in an increasingly difficult trading environment.

There are two other new chapters in this report:

- An examination of the impact of differences in killing out percentages. This chapter looks at what costs are in p/kg liveweight.
- The implementation of environmental legislation.

METHODOLOGY

This report is the sixth in a series that examines the relative costs of production in selected countries. This is a joint project involving the following organisations and countries, which are known collectively as InterPIG. Ten of the 13 InterPIG members are in the EU while Brazil, Canada and the United States have joined this year:

- Great Britain - British Pig Executive
- Austria - VLV Upper Austria
- Belgium - Boerenbond Belgie
- Brazil - Empresa Brasileira de Pesquisa Agropecuária (Embrapa)
- Canada - Manitoba Agriculture, Food and Rural Initiatives
- Denmark - Danske Slagterier
- France - Institute Technique du Porc
- Germany - Institut für Betriebswirtschaft (FAL), and Interessengemeinschaft der Schweinehalter (ISN)
- Ireland - Teagasc Rural Economy Research, Dublin
- Italy - Centro Ricerche Produzioni Animali
- Netherlands - Agricultural Economics Research Institute (LEI), and Productschappen Vee, Vlees en Eieren (PVE)
- Sweden - LRF Konsult
- United States - AgStar Financial Services

The cost and performance data relates to average performance data from the national recording systems operating in the participating countries. There will inevitably be some national differences in definition, but where this has occurred the data has been adjusted in the most appropriate way. There still remain discrepancies, but the results are believed to provide a clear indication of the relative average costs of production within each country and to provide an accurate comparison within 1-2p/kg deadweight.

Production systems in most of the participating EU countries are similar enough to make meaningful comparisons. The sole exception to this is Italy, where the main market for pigs is Parma ham production. Parma ham requires pigs to achieve a very high liveweight of typically 160kg, equivalent to 130kg carcase weight. Italian figures have therefore been excluded from some of the tables where inclusion would lead to spurious averages.

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KEY POINTS

- The cost of pig meat production in Great Britain production increased by four per cent in 2006, to 108.2p/kg. Feed costs were only slightly higher in the year as a whole although there were also increases in other input prices. However, the effect of these were partly offset by a small further increase in pigs finished/sow.

- Great Britain remains the highest-cost country in the EU. There was little relative change in Great Britain costs in 2006, as average EU prices, excluding Italy, increased by three per cent, to 97p/kg.

- Total costs include a significant amount for depreciation. If this item is excluded, the cash costs of production in 2006 were 89.6p, about 2.2p higher than in 2005. The GB cash costs of production were 11p higher than the EU average (excluding Italy) and 32p higher than the three non-EU countries which have been included for the first time.

- Compared with 2005 there were improvements in both litters/sow and pigs born alive/litter. However, these were offset by an increase in pre-weaning mortality. Litters/sow have increased sharply in recent years, and are now up to the EU average.

- Post-weaning mortality in Great Britain continued to decline in 2006, although it is still higher than in other EU countries. Mortality fell in both the rearing and finishing herds, although the decline has been particularly high in rearing herds - 2006 rearing herd mortality was half the 2004 level.

- More recent quarterly data from Agrosoft indicate that post-weaning mortality continued to improve into 2007. By the third quarter of 2007, average post-weaning mortality was down to 6.4 per cent and top-third results were down to 5.0 per cent.

- The numbers of pigs finished/sow in Great Britain increased by 0.3 to 19.7, with the reduction in post-weaning mortality offsetting the small decline in pigs weaned/sow. However, this is 4.6 pigs lower than in Denmark and the Netherlands.

- Average daily liveweight gain remains in the lower half of the EU league. However it increased by 16g between 2005 and 2006, which was a more marked increase than in any other country in the sample.

- Average Feed Conversion ratios were similar to 2005, despite the expected negative effect of the removal of the four remaining antibiotic growth promoters in pig feed at the beginning of 2006.

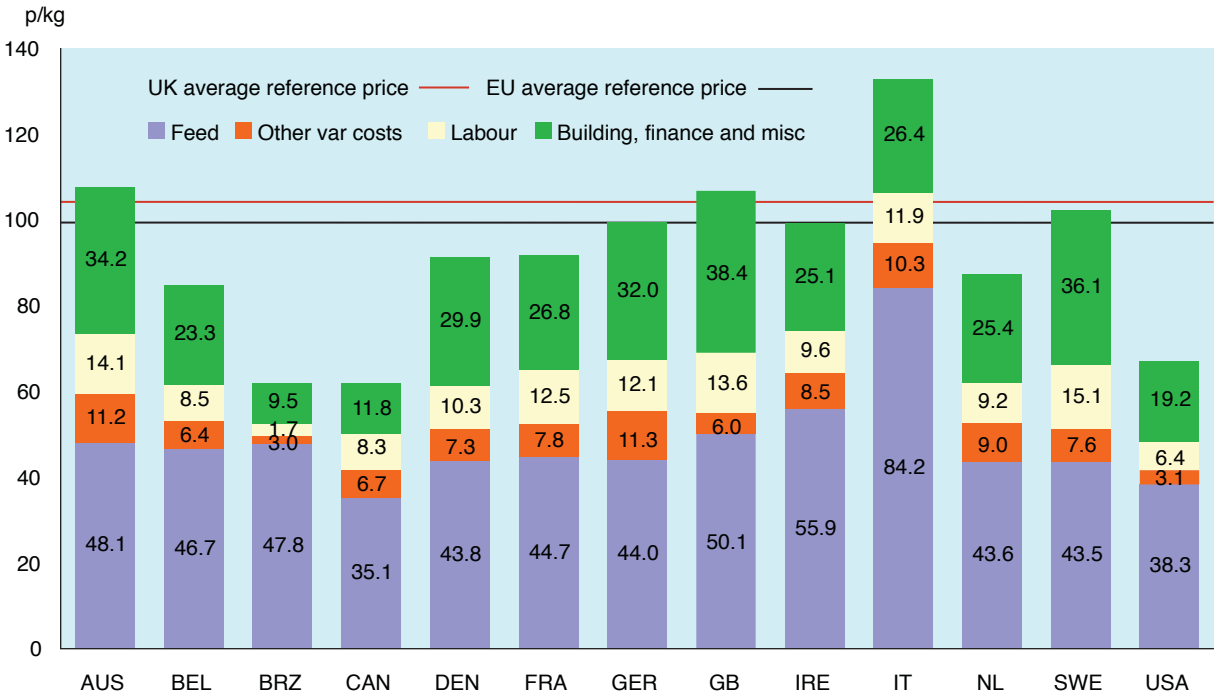
- The amount of carcase meat produced per sow in Great Britain was 1.46 tonnes in 2006, just one per cent higher than in 2005, due to higher pigs finished/sow. However, this is significantly below the EU average (excluding Italy) of 1.87 tonnes.

- Since 2006, the price of feed has continued rising to record levels. Average feed prices in all the InterPIG countries were 58 per cent higher in October/November 2007 than in 2006 as a whole. Prices in Great Britain rose by an estimated 64 per cent. Assuming all other factors remain the same as in 2006, this is equivalent to the GB cost of production rising from 108p to 142p.

Aggregate results for 2006

The production costs of pig meat in 2006 for all the countries covered in this report are shown below in Figure 1. This data includes all variable costs (other than transport of pigs to abattoirs) and fixed costs. Fixed costs include depreciation and interest costs for capital items such as buildings and equipment. Costs for regular and casual labour are included but no allowances are made for directors' salaries or partners' drawings.

Figure 1 Cost of production in selected countries, 2006



The cost of producing pig meat in the EU is considerably higher than in Brazil, Canada or the United States. In 2006 the average cost of producing pig meat in the EU-9 (ie excluding Italy) was 97p/kg dw compared with 62p in Brazil and Canada and 67p in the United States. The lower costs in these countries are not because they are technically more efficient but because the prices of the inputs are lower.

Within the EU-9, Great Britain again had the highest production costs in 2006, at 108.2p. The 2006 cost of production was about 11p higher than the EU-9 average. The lowest-cost producers were Belgium (85p), and the Netherlands (87p).

In 2005 and previous years the impact of higher production costs in Great Britain had been partly offset by producer prices being above the EU average. In 2006, however, the UK average reference price was just 2p higher than the EU average, at 102p/kg. This implies a loss of 6p on every kg of pig meat produced, if the true cost of reinvestment is accounted for.

Comparisons with previous years (in sterling terms)

Costs of production in 2006 compared with results for the four previous years are shown in Table 1.

The average cost of production in the EU-9 countries increased by three per cent in 2006 to 96.9p/kg. Although there were recorded performance improvements in 2006, most countries also saw an increase in feed costs. Costs of production in Denmark, Belgium, Germany, France and the Netherlands changed by between -1 and +2 per cent. Costs in Italy, Austria and Great Britain were up by four per cent while Ireland and Sweden saw cost increases of six per cent.

The most marked increases in 2006 were in Canada (+10%) and the United States (+12%).

Table 1 Average Costs of Production, 2002-2006 (p/kg dw)

Year	2002	2003	2004	2005	2006	2006/05 % change
Austria	na	110.8	111.5	103.3	107.7	+4
Belgium	87.8	92.5	89.2	84.9	84.9	+0
Brazil	na	na	na	na	62.0	na
Canada	62.5	67.3	60.3	56.0	61.8	+10
Denmark	97.0	97.0	96.1	91.8	91.3	-1
France	97.5	97.1	94.3	90.5	91.7	+1
Germany	95.0	99.2	105.7	99.2	99.4	+0
Great Britain	105.5	103.1	109.7	104.2	108.2	+4
Ireland	87.2	93.9	96.2	94.0	99.1	+6
Italy	117.4	129.1	132.8	127.2	132.8	+4
Netherlands	90.7	94.4	91.8	85.7	87.2	+2
Sweden	na	103.0	100.3	96.3	102.3	+6
United States	na	na	59.1	60.0	67.0	+12
EU-9*	94.4	99.0	99.4	94.4	96.9	+3
EU-10	97.3	102.0	102.8	97.7	100.5	+3
Overall average	93.4	98.8	95.6	91.1	92.0	+1

* European InterPIG members excluding Italy

Table 2 examines national cost structures in rank order and looks at how these rankings have varied over time. There was little variation in relative costs in 2005, with Great Britain and Austria continuing to have the highest costs and Belgium, the Netherlands and France seeing the lowest costs.

Table 2 Ranking of EU production costs, 2002-2006

Year	2002	2003	2004	2005	2006
Austria	9	9	9	8	8
Denmark	5	4	4	4	3
France	6	5	3	3	4
Germany	4	6	7	7	6
Great Britain	8	8	8	9	9
Ireland	1	2	5	5	5
Netherlands	3	3	2	2	2
Belgium	2	1	1	1	1
Sweden	7	7	6	6	7

Notes: (1) Italy has been excluded from the calculations.
(2) Rankings: 1 = lowest, 9 = highest

Over time there have been some more marked shifts in the rankings:

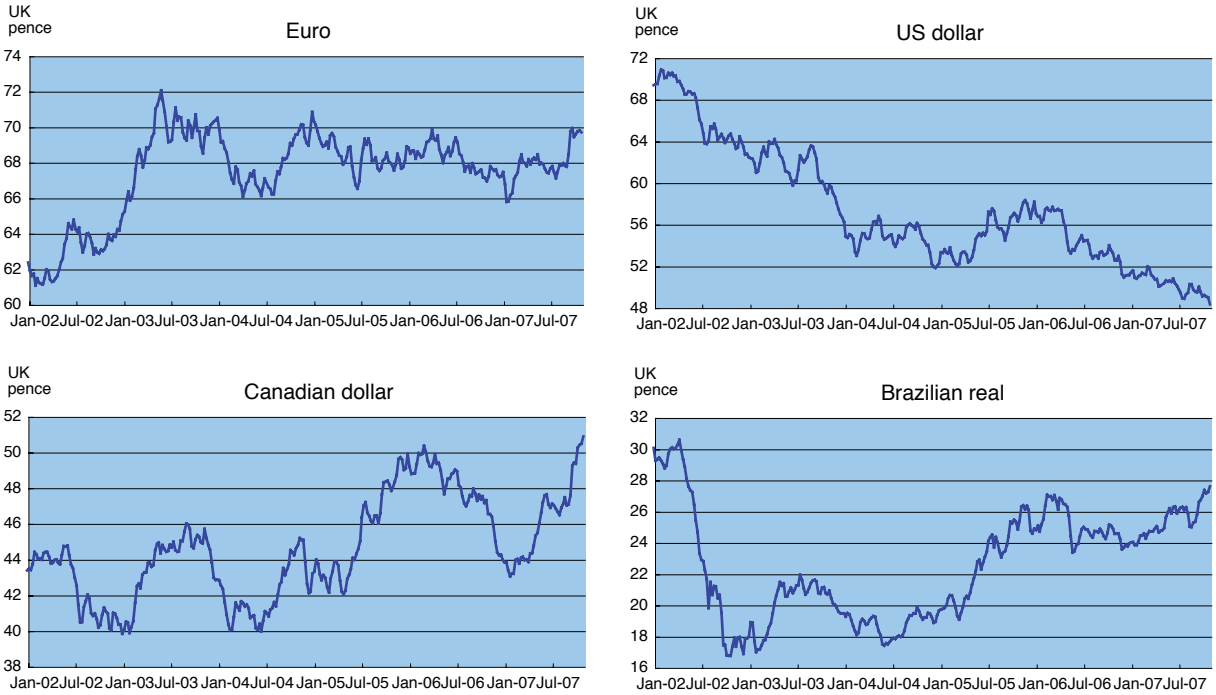
- Denmark, which had the fifth lowest costs in 2002, moved up to third lowest in 2006.
- France improved from sixth place in 2002 to third place in 2004, but fell back to fourth in 2006.
- Ireland had the lowest costs in 2002 but feel back to fifth place by 2004.

The impact of exchange rate movements

Movements in exchange rates can have a significant effect on a country's relative competitiveness from year to year. A stronger sterling will reduce the relative competitiveness of British pig production while a decline in sterling will improve competitiveness. Figure 2 and Table 3 indicate changes in exchange rates since 2002.

Seven of the 13 countries covered in this report are in the Eurozone. However, two of the other currencies - the Swedish Kroner and the Danish Kroner - track the Euro, so that there are only minor fluctuations in exchange rates between the three currencies. Since 2003, the sterling:Euro exchange rate has been relatively steady, with the Euro trading between 66p and 70p. The annual exchange rate, which is what has been used to convert Eurozone results into sterling, changed very little between 2005 and 2006 (from 68.4p to 68.2p), so this will have had virtually no impact on the relative competitiveness of British pigs in 2006.

Figure 2 Exchange Rate Movements, 2002-2007



In contrast, the US dollar has lost almost one-third of its value against sterling since the beginning of 2002, due to economic concerns and low interest rates. Sterling is currently (November 2007) at a 26-year high against the dollar. The Canadian dollar has fluctuated more against sterling over the past five years, although the trend has been upwards. In 2006 as a whole the Canadian dollar strengthened by five per cent against sterling. Since 2003 the Brazilian Real has also strengthened against sterling. This development will have increased Brazilian production costs in sterling terms.

Table 3 Annual Exchange Rates

Year	1€ =	€:£	$US:£	$C:£	Real:£
2002	62.9p	1.59	1.50	2.36	4.42
2003	69.1p	1.45	1.63	2.29	5.02
2004	67.8p	1.47	1.83	2.38	5.36
2005	68.4p	1.46	1.82	2.21	4.44
2006	68.2p	1.47	1.84	2.09	4.01

CASH COSTS OF PRODUCTION

Table 4 gives a breakdown of the costs of production in Great Britain compared with the overall (excluding Italy) results and the non-EU countries.

The production costs estimated for Great Britain and other countries include “Finance Costs”, ie the depreciation of buildings and machinery. While this is the true cost of production, it is recognised that for many purposes (cash flow analyses, business plans, etc) producers will be more interested in the cash tied up in the production process.

The overall cost of producing a kg of pig meat in Great Britain in 2006 was 108.2p. However, if the finance costs element (18.6p) are excluded from the calculations, the cash costs of production fall to 89.6p/kg. This was about 2.2p higher than in 2005. The UK cash costs of production were 11p higher than the EU-9 average (ie excluding Italy) and about 32p higher than the three non-EU countries.

Table 4 Cash costs of production in 2006

	GB		EU-9 (a)		Brazil		Canada		United States	
Variable costs	**74.56**		**65.36**		**53.51**		**46.81**		**48.86**	
Feed	50.11		46.71		47.77		35.13		38.34	
Breeding cost	1.58		2.00		0.30		2.16		0.44	
Vet and med	2.92		3.22		0.65		2.43		2.65	
Energy	1.53	Cash	3.13	Cash	0.78	Cash	2.08	Cash	0.00*	Cash
Maintenance	8.11	costs =	3.77	costs =	0.89	costs =	0.68	costs =	1.36	costs =
Levies, insurance, inspection	2.76	89.63p	1.14	78.14p	0.40	57.70p	0.05	55.92p	0.65	56.43p
Miscellaneous	7.55		5.39		2.71		4.28		5.43	
Fixed costs	**33.64**		**31.50**		**8.47**		**15.02**		**18.10**	
Labour	13.64		11.67		3.01		8.28		6.38	
Interest on working capital	1.42		1.11		1.18		0.82		1.19	
Building and finance costs	18.57		18.72		4.28		5.92		10.54	
Total costs (b)	**108.20**		**96.87**		**61.97**		**61.83**		**66.96**	

* Included in ‘miscellaneous”

In estimating the depreciation charges we have assumed that buildings are amortized over a period of 20 years and equipment over a period of 10 years. But since the late 1990s the British pig industry has been characterised by a lack of investment in buildings and equipment as a result of a long run of economic and health crises. Consequently, many producers will be in the position of using buildings/machinery that have been completely amortized. Therefore, assuming they do not intend to replace their existing assets, their total costs will be much closer to the cash costs of production. However this is not a sustainable position for those businesses in the medium term.

Producing pigs in ageing buildings is, however, also likely to mean higher maintenance costs, and this trend has been apparent in Great Britain in recent years.

FINANCIAL PERFORMANCE SUMMARY

Table 5 contains financial performance data for 2006, while Table 8 presents, where available, comparisons with 2002-2005. Among the EU-9 countries there is a range of 23p between the highest-cost producer and the lowest-cost producer, while the range within all the InterPIG member countries is even greater. The recorded differences will be due to a combination of differences in physical performance and differences in the prices of inputs (eg feed prices or wage rates). This chapter examines the cost centres of pig production to try and identify the causes of the wide range of total production costs.

Table 5 Summary of Financial Performance, 2006

	AUS	BEL	BRZ	CAN	DEN	FR	GER	GB
Feed	48.08	46.67	47.77	35.13	43.81	44.66	43.99	50.11
Other Variable Costs	11.24	6.37	1.73	6.67	7.32	7.80	11.35	6.03
Total Variable Costs	59.33	53.04	49.51	41.80	51.13	52.46	55.33	56.13
Labour	14.10	8.53	3.01	8.28	10.28	12.49	12.08	13.64
Building, finance and misc	34.24	23.28	9.46	11.76	29.87	26.80	32.01	38.42
Total fixed costs	48.34	31.81	12.47	20.04	40.15	39.28	44.10	52.07
Total	107.67	84.85	61.97	61.83	91.29	91.74	99.43	108.20

	IRE	IT	NL	SWE	USA	AVE EU-9	AVE EU-10	AVE All
Feed	55.90	84.22	43.64	43.52	38.34	46.71	50.46	45.03
Other Variable Costs	8.48	10.30	8.99	7.62	3.09	8.36	8.55	7.31
Total Variable Costs	64.37	94.52	52.63	51.15	41.43	55.06	59.01	52.34
Labour	9.63	11.88	9.22	15.05	6.38	11.67	11.69	10.30
Building, finance and misc	25.14	26.43	25.38	36.06	19.16	30.13	29.76	25.73
Total fixed costs	34.77	38.31	34.60	51.11	25.54	41.80	41.45	36.03
Total	99.14	132.82	87.22	102.26	66.96	96.87	100.46	88.37

Feed costs

Last year's results, for 2005, indicated lower feed costs for each of the participating countries, with declines ranging from two per cent to 12 per cent. The situation was different in 2006. From August onwards, cereal prices rose strongly throughout Europe. The dominating feature of the UK, world and European grain market was the tight supply and, with weather problems in Argentina and Australia, expectations of poor southern hemisphere harvests.

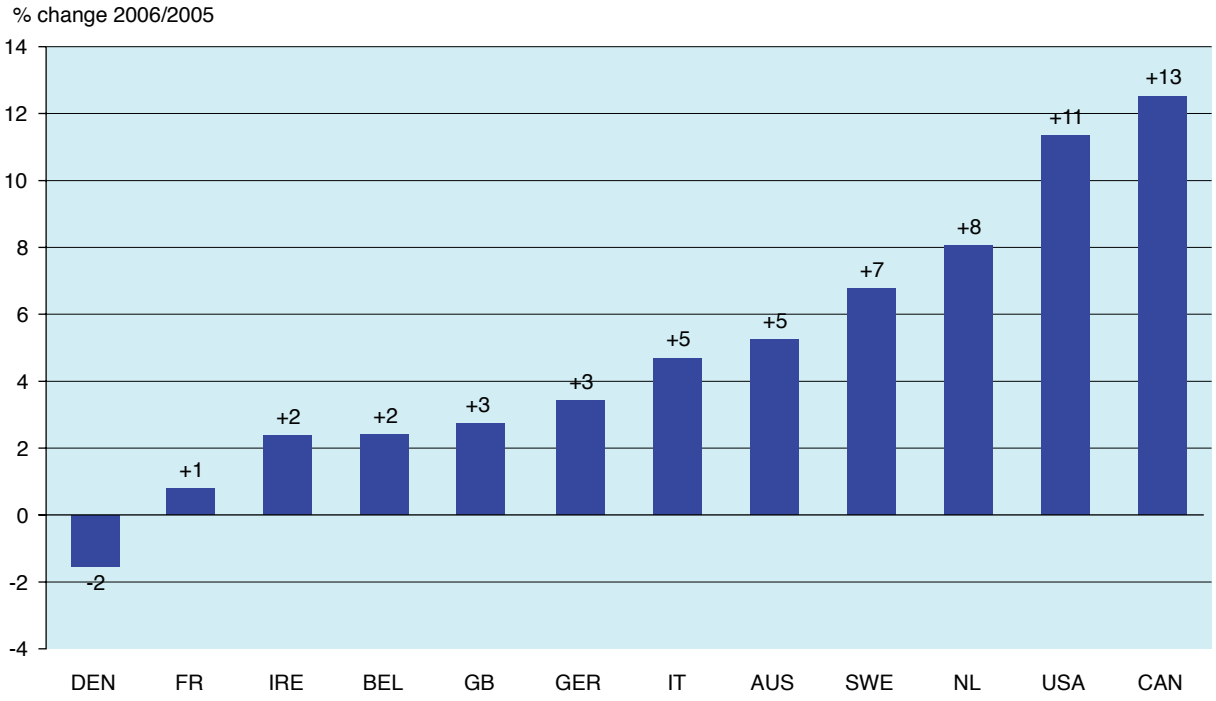
The hot weather that affected most parts of Europe in July 2006 meant cereal production in the EU-25 was about four per cent less than the previous year, when drought also affected yields - especially in South west Europe. Germany, Poland, the UK, France and Italy were the countries most affected by this year's drought.

In addition there is growing demand in other areas of the world, in particular India and China. Two other factors that pushed prices higher were historically low world stocks and the increasing importance of biofuels - which are competing for resources with feed grains.

The average increase in feed costs in 2006 in the participating countries was five per cent. Within the EU, cost changes ranged from -2% in Denmark (the only country where feed costs declined) to +8% in the Netherlands. The most significant increases were +11% in the United States and +13% in Canada. Feed costs will have shown even more significant increases in 2007 as cereal prices rose to record levels, and the effect of this is discussed in a later chapter.

All EU countries face roughly the same level of feed ingredient prices. Appendix 2 shows the similarity in trends of delivered feed wheat prices. The fact that there is quite a wide range of feed cost changes will be due to a combination of differences in pricing policies by national feed compound manufacturers and to differences in purchasing patterns by producers. Denmark, for example, has a collective bargaining process that normally takes place in August/September, although this seems to have broken down in 2007 in the face of record feed prices.

Figure 3 Changes in Feed Costs, 2006 (costs per kg of pig meat)



Feed costs averaged 50.1p/kg in Great Britain, three per cent higher than the 48.7p recorded in 2005. The range in feed costs is less than for other cost centres, but it is clear from the chart that the lower feed costs in the Netherlands, Denmark, Germany and France - all at around the 44p level - are a significant contributor to the continuing relative uncompetitiveness of British pigs.

Italy has by far the highest feed costs in the EU countries because of its heavier pigs. However, Ireland also has relatively high feed costs (56p); this is not because of production inefficiencies but because feed is more expensive in Ireland than other countries.

Although feed costs in Canada and the United States rose more in 2006 than in the other InterPIG countries, in terms of p/kg of pig meat produced costs are considerably lower than in other countries. Brazilian costs, on the other hand are at EU levels.

Figure 4 Feed Costs in 2006

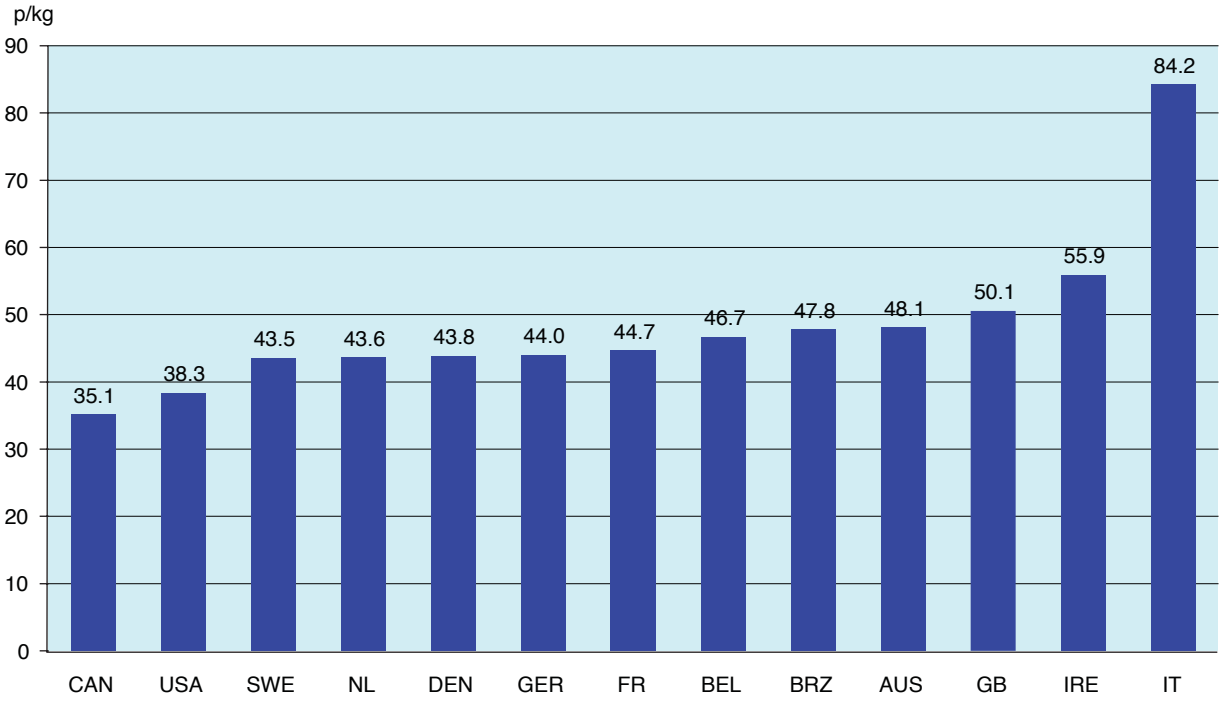


Table 6 Feed Prices and Energy Content

	AUS	BEL	BRZ	CAN	DEN	FR	GER	GB
£/tonne								
Sow	136.33	124.47	111.75	86.10	111.98	114.52	114.05	102.40
Rearer	187.46	200.07	192.18	231.13	161.58	171.10	172.94	192.04
Finisher	113.43	121.75	121.77	78.00	109.60	104.98	101.73	119.87
Average	126.39	128.55	125.24	91.65	116.75	114.96	111.55	127.60
Energy content (MJ ME/kg)								
Sow	12.20	12.30	12.22	12.95	12.86	12.80	12.80	13.02
Rearer	13.00	13.10	14.13	13.65	14.10	13.30	13.40	13.73
Finisher	12.80	12.90	14.02	12.05	13.40	12.80	13.20	12.96
Average	12.74	12.82	13.68	12.31	13.38	12.86	13.16	13.10
Cost of feed (p/kg MJ ME)								
Sow	1.12	1.01	0.91	0.66	0.87	0.89	0.89	0.79
Rearer	1.44	1.53	1.36	1.69	1.15	1.29	1.29	1.40
Finisher	0.89	0.94	0.87	0.65	0.82	0.82	0.77	0.92
Average	0.99	1.00	0.92	0.74	0.87	0.89	0.85	0.97

	IRE	IT	NL	SWE	USA	AVE EU-9	AVE EU-10	AVE All
£/tonne								
Sow	131.36	128.16	119.66	105.93	96.59	117.86	118.89	116.34
Rearer	225.54	276.67	183.55	164.97	176.35	184.36	193.59	205.41
Finisher	130.88	128.16	113.60	102.12	86.22	113.11	114.61	112.20
Average	147.86	139.38	120.84	109.90	95.11	122.71	124.38	122.62
Energy content (MJ ME/kg)								
Sow	13.30	11.90	12.90	12.40	13.80	12.73	12.65	12.86
Rearer	14.00	13.80	13.60	12.68	14.30	13.43	13.47	13.68
Finisher	13.20	12.74	13.80	12.50	14.30	13.06	13.03	13.31
Average	13.36	12.73	13.64	12.50	14.23	13.06	13.03	13.29
Cost of feed (p/kg MJ ME)								
Sow	0.99	1.08	0.93	0.85	0.70	0.93	0.94	0.91
Rearer	1.61	2.00	1.35	1.30	1.23	1.37	1.44	1.50
Finisher	0.99	1.01	0.82	0.82	0.60	0.87	0.88	0.85
Average	1.11	1.09	0.89	0.88	0.67	0.94	0.95	0.93

Table 6 indicates, that within the EU, feed prices/tonne show a considerable range. At the lower end of the range, prices in Germany, Denmark and France are between 91 and 95 per cent of the EU-9 average. At the top end of the range, Irish prices are 120 per cent of the average.

There is also a considerable variation in the relative costs of sow, rearer and finisher feed. Sow feed in Great Britain is the lowest in the EU, at 87 per cent of the EU-9 average, although rearer and finisher feed is above the average. Overall, GB feed costs/tonne are 104 per cent of the EU average. However, relatively poor FCR and DLG figures have led to a relative increase in total feed costs.

Some of the variations in feed costs will be due to national differences in the composition of pig rations. Table 6 also compares the Metabolizable Energy (ME) of pig feed with the cost of the feed. Within the EU-9 the average cost of feed per kg MJ ME, varied from 0.85p in Germany to 1.11p in Ireland, with the Great Britain figure of 0.97p roughly in the middle of this range. Costs in Canada (0.74p/kg MJ ME) and the United States (0.67p) were considerably lower.

Labour costs

There is a substantial range in each of the three elements in labour cost: the amount of labour per pig, labour cost per hour and the average carcase weight.

Labour input: EU

Labour input expressed as hours/year per finished pig can vary for a number of reasons including differences in husbandry methods, types of building and the availability of labour. Labour input will also be influenced by sow productivity, with an increase in pigs finished/sow/year leading to a decline in hours/year. This trend has, in fact, improved labour productivity in a number of countries over the past five years.

The EU-9 average figure was 0.97 hours/pig in 2006. National results ranged from 0.61 hours in the Netherlands and 0.62 hours in Denmark to 1.58 hours in Austria. Labour input in Great Britain (1.15 hours) was 19 per cent higher than the EU average, with poorer physical performance being a contributory factor; nevertheless it has improved from 1.23 hours in 2004.

Labour cost per hour: EU

The average labour cost per hour in the EU-9 was £10.77 in 2006, two per cent higher than in 2005. There was a substantial range in costs, from £7.50 in Ireland to £14.56 in Sweden. These variations not only reflect average wage rates but also national differences in social security payments made by employers as well as differences in the relative usage of unskilled labour. Cost per hour in Great Britain was £8.84.

Labour cost per kg: EU

The average labour cost per pig in the EU-9 was £9.97 in 2006. Costs ranged from £7.13 in Ireland and £7.74 in Denmark to £12.94 in Austria. Costs in Great Britain per pig were £10.14, 102 per cent of the overall average. Some countries, such as Ireland, benefit from low costs per hour while others, such as Denmark, benefit from high labour efficiency.

However, the average weight of British pigs is lower than in most other countries. When this factor is taken into account, the labour cost per kg (13.6p) rises to 117 per cent of the overall EU-9 average. British costs per kg were exceeded only by Austria and Sweden. The lowest labour costs in the EU were in Belgium (8.53p/kg).

Labour costs in non-EU countries

Labour costs/kg in the three non-EU members of InterPIG were all lower than in the EU countries, although for different reasons. Labour usage per pig in Brazil was 3.19 hours/year, over three times the EU-9 average and by far the highest of any of the participating countries. However the cost per hour of labour, 75p, was only seven per cent of the EU-9 average. As a result, labour cost/kg was just 3.01p. With wage rates so low there is clearly little long-run incentive to improve labour productivity in the Brazilian pig sector.

Labour hours/pig in Canada (1.11) are not dissimilar to EU levels but the cost per hour (£6.70) is relatively low. Why the cost/hour should be so low is unclear, but it may be that Canadian social security payments are relatively low by EU standards.

Table 7 Labour Costs in 2006 (p/kg dw)

	AUS	BEL	BRZ	CAN	DEN	FR	GER	GB
Labour per finished pig (hours/year)	1.58	0.84	3.19	1.11	0.62	0.98	1.09	1.15
Labour cost/hour (£)	8.18	9.50	0.75	6.70	13.45	11.27	10.22	8.84
Labour cost/pig (£)	12.94	7.95	2.39	7.45	8.28	11.03	11.13	10.14
Average carcase weight (cold)	91.80	93.10	79.38	90.00	80.52	88.36	92.13	74.30
Labour cost/kg (p)	14.10	8.53	3.01	8.28	10.28	12.49	12.08	13.64

	IRE	IT	NL	SWE	USA	AVE EU-9	AVE EU-10	AVE All
Labour per finished pig (hours/year)	0.95	1.69	0.61	0.89		0.97	1.04	1.22
Labour cost/hour (£)	7.50	9.02	13.43	14.56		10.77	10.60	9.45
Labour cost/pig (£)	7.13	15.24	8.15	12.99	6.38	9.97	10.50	9.32
Average carcase weight (cold)	74.00	126.30	88.40	86.30	91.85	85.43	89.52	88.96
Labour cost/kg (p)	9.63	12.07	9.22	15.05	6.95	11.67	11.71	10.41

Building, Finance and Miscellaneous (BFM)

Building, finance and miscellaneous costs include depreciation charges on buildings and machinery, maintenance charges, interest on working capital, levies, manure disposal charges and costs of disposal of dead animals. The depreciation estimates are based on replacement costs, with buildings being amortized over a period of 20 years and equipment over a period of 10 years.

BFM costs averaged 30.1p/kg dw across the EU-9 countries in 2006, 1.3p higher than in 2005. Costs ranged from 23.3p in Belgium and 25.1p in Ireland to 38.4p in Great Britain.

Both Brazil and Canada had much lower BFM costs than in the EU, at 9.5p and 11.8p respectively. This is because building costs are much lower.

Figure 5 Building, Finance and Miscellaneous Costs, 2006

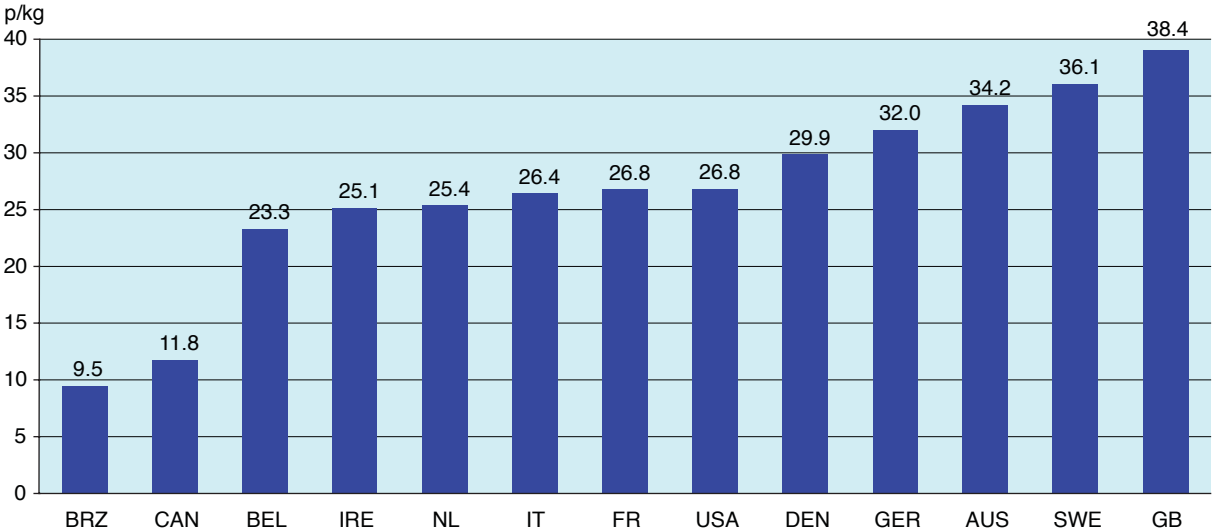


Table 8 Summary of Financial Performance 2002 - 2006

	AUS				BEL				BRZ		CAN				
	2003	2004	2005	2006	2002	2003	2004	2005	2006	2006	2002	2003	2004	2005	2006
Feed	51.38	50.45	45.69	48.08	46.96	49.43	51.84	45.57	46.67	47.77	40.17	44.34	38.34	31.22	35.13
Other Variable Costs	11.41	12.09	11.10	11.24	7.38	6.99	4.81	6.54	6.37	1.73	5.36	5.57	5.82	6.32	6.67
Total Variable Costs	62.79	62.54	56.79	59.33	54.33	56.42	56.65	52.11	53.04	49.51	45.53	49.90	44.16	37.54	41.80
Labour	15.70	16.51	14.92	14.10	9.90	10.71	10.21	10.06	8.53	3.01	6.77	6.97	6.53	7.84	8.28
Building, finance and misc	32.31	32.42	31.58	34.24	23.53	25.41	22.32	22.68	23.28	9.46	10.19	10.43	9.65	10.58	11.76
Total fixed costs	48.01	48.93	46.50	48.34	33.43	36.12	32.53	32.74	31.81	12.47	16.96	17.41	16.18	18.42	20.04
Total	110.80	111.47	103.29	107.67	87.76	92.54	89.18	84.85	84.85	61.97	62.49	67.31	60.33	55.96	61.83

	DEN				FR					GER				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Feed	48.18	45.89	46.12	44.49	43.81	50.32	47.54	49.54	44.31	44.66	46.46	46.80	47.24	42.53	43.99
Other Variable Costs	5.05	6.61	7.11	7.27	7.32	7.96	7.59	7.38	7.57	7.80	7.97	10.70	10.81	11.24	11.35
Total Variable Costs	53.23	52.49	53.22	51.77	51.13	58.28	55.13	56.92	51.87	52.46	54.43	57.50	58.05	53.77	55.33
Labour	11.60	11.49	11.16	10.03	10.28	10.89	13.15	12.01	12.63	12.49	11.40	11.42	13.54	13.34	12.08
Building, finance and misc	32.17	33.01	31.74	30.02	29.87	28.33	28.81	25.36	25.99	26.80	29.21	30.27	34.10	32.12	32.01
Total fixed costs	43.77	44.50	42.89	40.04	40.15	39.22	41.95	37.37	38.62	39.28	40.61	41.69	47.65	45.46	44.10
Total	97.00	96.99	96.12	91.81	91.29	97.50	97.08	94.29	90.49	91.74	95.04	99.18	105.69	99.23	99.43

	GB				IRE					IT				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Feed	54.57	48.71	54.77	48.74	50.11	52.13	55.65	58.77	54.60	55.90	74.89	80.14	85.29	80.44	84.22
Other Variable Costs	7.37	8.61	6.91	6.60	6.03	5.91	7.46	6.87	7.69	8.48	6.94	8.90	8.62	9.35	10.30
Total Variable Costs	61.94	57.33	61.68	55.33	56.13	58.04	63.11	65.64	62.29	64.37	81.83	89.04	93.91	89.79	94.52
Labour	12.46	12.60	13.27	13.34	13.64	9.07	9.62	9.09	9.18	9.63	10.87	12.34	11.88	12.07	11.88
Building, finance and misc	31.08	33.20	34.72	35.53	38.42	20.07	21.13	21.50	22.48	25.14	24.75	27.67	27.03	25.34	26.43
Total fixed costs	43.54	45.80	48.00	48.87	52.07	29.15	30.76	30.59	31.67	34.77	35.62	40.01	38.91	37.41	38.31
Total	105.49	103.13	109.68	104.20	108.20	87.18	93.87	96.23	93.96	99.14	117.45	129.05	132.82	127.20	132.82

	NL				SWE				USA		
	2002	2003	2004	2005	2006	2003	2004	2005	2006	2004	2005	2006
Feed	41.88	44.01	44.76	40.38	43.64	45.05	45.71	40.76	43.52	34.44	34.43	38.34
Other Variable Costs	3.82	8.25	8.55	9.04	8.99	7.89	6.38	6.88	7.62	2.35	2.25	3.09
Total Variable Costs	45.70	52.26	53.30	49.42	52.63	52.94	52.09	47.64	51.15	36.79	36.69	41.43
Labour	12.40	12.48	11.84	10.88	9.22	13.39	12.80	15.24	15.05	5.89	5.93	6.38
Building, finance and misc	32.56	29.63	26.61	25.41	25.38	36.63	35.39	33.46	36.06	16.47	17.39	19.16
Total fixed costs	44.96	42.11	38.45	36.29	34.60	50.02	48.19	48.70	51.11	22.36	23.32	25.54
Total	90.66	94.37	91.76	85.71	87.22	102.96	100.27	96.33	102.26	59.15	60.00	66.96

PHYSICAL PERFORMANCE SUMMARY

Table 9 contains physical performance data for selected EU countries in 2006, while Table 11 presents comparisons with 2002 to 2005.

Table 9 Summary of Physical Performance, 2006

	AUS	BEL	BRZ	CAN	DEN	FRA	GER	GB
Pigs Weaned Per Sow Per Year	21.60	22.01	19.98	21.78	25.86	24.53	21.79	21.36
Pigs Sold Per Sow Per year	20.30	21.45	18.52	21.90	24.03	22.91	20.31	19.66
Litters/sow/year(1)	2.23	2.30	2.01	2.20	2.23	2.26	2.27	2.26
Pigs born alive per litter	11.00	10.92	10.67	11.00	13.50	12.70	11.20	10.90
Sow mortality	1.5%	4.9%	1.7%	3.0%	14.1%	5.9%	6.0%	5.8%
Pre Weaning Mortality	12.1%	12.7%	6.9%	10.0%	14.1%	14.4%	14.3%	13.3%
Rearing Mortality	3.0%	3.9%	3.4%	2.0%	3.2%	2.3%	3.0%	2.5%
Finishing Mortality	3.0%	3.9%	4.0%	3.0%	4.0%	4.4%	3.9%	5.6%
Sow replacement rate	35.3%	42.0%	34.7%	40.0%	50.4%	42.9%	43.5%	44.6%
Transfer weight from breeding to rearing unit (kg)	7.50	7.20	7.09	5.00	7.30	7.50	7.50	7.20
Age of weaning	28	26	27	21	32	25	27	26
Transfer weight from rearing to finishing unit (kg)	31.50	23.50	22.67	23.00	30.00	32.30	29.80	35.10
Rearing Daily Liveweight Gain (g/day)	430.00	327.00	421.00	400.00	419.00	470.00	437.00	493.00
Rearing Feed Conversion Ratio	2.00	1.70	1.50	1.56	1.71	1.75	1.80	1.71
Finishing Daily Liveweight Gain (g/day)	752.00	610.00	787.60	826.00	861.00	773.00	720.00	655.00
Finishing Feed Conversion Ratio	2.95	2.98	2.54	2.96	2.65	2.90	2.95	2.75
Ave number of days in rearing unit	56	50	37	52	54	53	51	57
Ave number of days in finishing unit	115	150	110	109	89	108	124	98
Pigs per pig place per year (finishing)	2.95	2.32	3.04	3.26	3.80	3.18	2.79	3.49
Average live weight at slaughter	118.00	115.10	109.31	113.00	106.77	115.50	119.00	99.1
Carcase weighed hot or cold?	H	H	H	cold	H	C	H	H
Average carcase weight - Hot	93.7	95.0	80.9	95.0	81.5	91.4	94.0	75.8
Adjustment from hot to cold	-2.0%	2.0%	98.1%	-5.3%	-1.2%	-3.3%	-2.0%	-2.0%
Adjusted carcase weight - Cold	91.8	93.1	79.4	90.0	80.5	88.4	92.1	74.3
Killing out percentage	78.0%	80.3%	72.6%	79.6%	75.4%	76.5%	77.4%	75.0%
Carcase meat production per sow per year (kg)	1,864	1,997	1,471	1,971	1,935	2,024	1,871	1,461
Average lean meat percentage	59.2%	62.0%	57.4%	60.0%	60.3%	61.5%	56.5%	61.3%
Lean meat production per sow per year (kg)	1,103	1,238	810	1,183	1,167	1,245	1,056	895
Sow feed (kg) per sow per year	1,060	1,147	1,100	1,106	1,440	1,341	1,230	1,338
Sow ration Ave Energy Content (MJ ME/kg)	12.2	12.3	12.2	13.0	12.9	12.8	12.8	13.0
Weaner/Rearer feed (kg) per pig	45.0	27.5	23.4	28.1	38.8	43.4	39.6	47.7
Weaner/Rearer ration Ave Energy Content (MJ ME/kg)	13.0	13.1	14.1	13.7	14.1	13.3	13.4	13.7
Finishing pigs feed consumption (kg) per pig	252.0	257.0	220.1	266.4	203.4	241.3	263.1	176.0
Finisher ration Ave Energy Content (MJ ME/kg)	12.8	12.9	14.0	12.1	13.4	12.8	13.2	13.0

	IRE	IT	NL	SWE	USA	AVE EU-9	AVE EU-10	AVE All
Pigs Weaned Per Sow Per Year	23.55	20.55	25.13	22.71	22.31	23.17	22.91	22.55
Pigs Sold Per Sow Per year	22.20	19.74	23.96	21.66	20.74	21.83	21.62	21.34
Litters/sow/year(1)	2.29	2.17	2.34	2.20	2.37	2.26	2.25	2.24
Pigs born alive per litter	11.35	10.60	12.30	12.20	10.69	11.79	11.67	11.46
Sow mortality	6.5%	0.5%	5.0%	6.4%	8.9%	6.2%	5.7%	5.4%
Pre Weaning Mortality	9.5%	10.7%	12.7%	15.4%	12.0%	13.2%	12.9%	12.2%
Rearing Mortality	3.3%	3.3%	2.0%	2.7%	3.3%	2.9%	2.9%	2.9%
Finishing Mortality	2.5%	0.6%	2.7%	1.9%	3.7%	3.5%	3.3%	3.3%
Sow replacement rate	49.4%	37.0%	42.0%	51.3%	54.8%	44.6%	43.8%	43.7%
Transfer weight from breeding to rearing unit (kg)	6.90	7.60	7.75	10.00	5.00	7.65	7.65	7.20
Age of weaning	29	27	26	34	18	28	28	27
Transfer weight from rearing to finishing unit (kg)	34.80	35.00	25.40	29.60	24.04	30.22	30.70	28.98
Rearing Daily Liveweight Gain (g/day)	422.00	437.00	326.00	435.00	385.00	417.67	419.60	415.54
Rearing Feed Conversion Ratio	1.81	2.01	1.63	1.96	1.62	1.79	1.81	1.75
Finishing Daily Liveweight Gain (g/day)	738.00	625.00	772.00	873.00	755.00	750.44	737.90	749.82
Finishing Feed Conversion Ratio	2.78	4.67	2.71	2.79	2.98	2.83	3.01	2.97
Ave number of days in rearing unit	66	64	54	45	49	54	55	53
Ave number of days in finishing unit	85	208	115	99	129	109	119	118
Pigs per pig place per year (finishing)	3.98	1.70	2.99	3.46	2.77	3.22	3.06	3.06
Average live weight at slaughter	97.40	163.00	114.20	115.64	121.34	111.19	116.37	115.95
Carcase weighed hot or cold?	C	C	H	C	cold			
Average carcase weight - Hot	75.5	128.8	90.2	88.1	91.9	87.2	91.4	90.9
Adjustment from hot to cold	-2.0%	-2.2%	-2.0%	-2.0%	0.0%	-2.1%	-2.1%	-2.1%
Adjusted carcase weight - Cold	74.0	126.3	88.4	86.3	91.9	85.4	89.5	89.0
Killing out percentage	76.0%	77.5%	77.4%	74.6%	75.7%	76.7%	76.8%	76.6%
Carcase meat production per sow per year (kg)	1,643	2,493	2,118	1,869	1,905	1,865	1,927	1,894
Average lean meat percentage	58.6%	47.0%	56.4%	57.5%	57.0%	59.3%	58.0%	58.1%
Lean meat production per sow per year (kg)	963	1,172	1,194	1,075	1,086	1,104	1,111	1,091
Sow feed (kg) per sow per year	1,240	1,502	1,195	1,369	1,025	1,262	1,286	1,238
Sow ration Ave Energy Content (MJ ME/kg)	13.3	11.9	12.9	12.4	13.8	12.7	12.6	12.7
Weaner/Rearer feed (kg) per pig	49.9	55.1	28.7	38.5	30.8	39.9	41.4	38.2
Weaner/Rearer ration Ave Energy Content (MJ ME/kg)	14.0	13.8	13.6	12.7	14.3	13.4	13.5	13.6
Finishing pigs feed consumption (kg) per pig	174.0	597.8	240.6	240.1	289.9	227.5	264.5	263.2
Finisher ration Ave Energy Content (MJ ME/kg)	13.2	12.7	13.8	12.5	14.3	13.1	13.0	13.1

Pigs Weaned per Sow per Year

The overall average number of pigs weaned/sow/year in the European InterPIG countries (the EU-10) showed a further small increase in 2006, up from 22.67 in 2005 to 22.91. Sweden and Great Britain were the only countries where pigs weaned/sow declined in 2006.

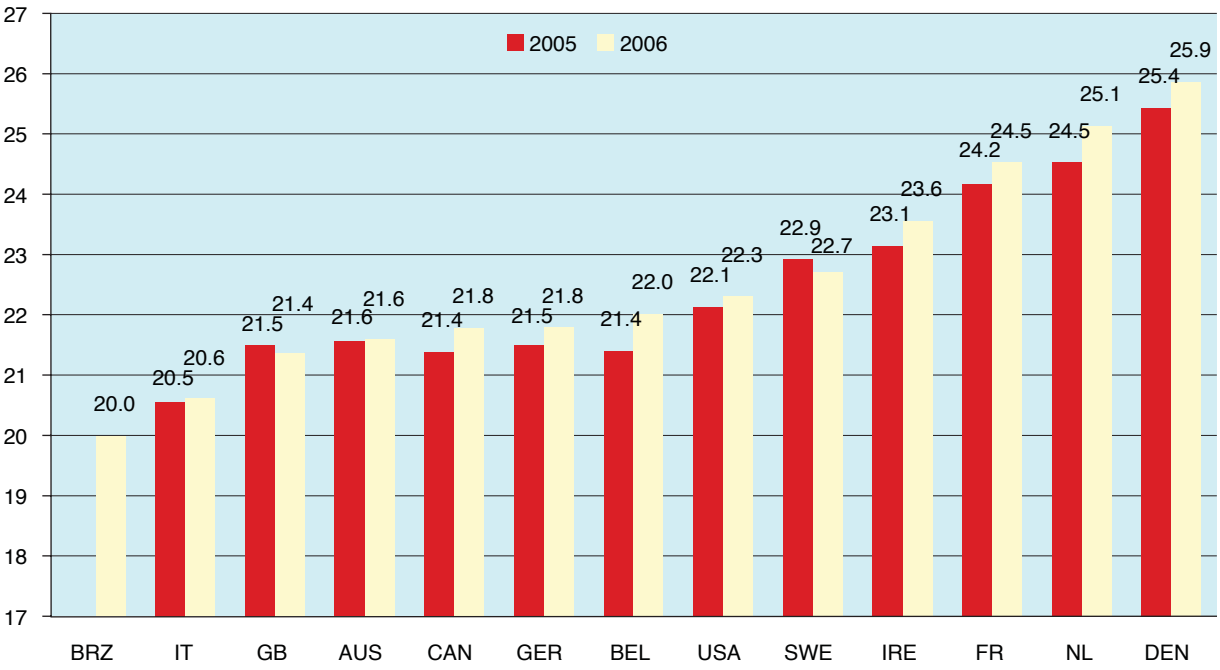
Denmark and the Netherlands continued to have the best results for pigs weaned, and these countries also showed the most marked increases in 2006. Within the EU, pigs weaned in Great Britain were the second lowest, only exceeding Italy. However, Italian pig production is different from the other countries as typically pigs are finished to much heavier weights.

Pigs weaned are made up of three different elements: pigs born alive/litter, litters/sow/year (together these give pigs born/sow/year) and pre-weaning mortality. Results for two of the three elements are similar to the EU-10 average. Litters/sow was 2.26 (EU-10 = 2.26) and pre-weaning mortality was 13.3% (12.9%), although results for pigs born/litter at 10.90 compare relatively poorly with the overall average of 11.66.

Compared with 2005 there were improvements in both litters/sow and pigs born alive/litter but these were offset by an increase in pre-weaning mortality.

In the non-EU countries, Brazil has a particularly low number of pigs weaned/sow. However, the impact of relatively poor physical performance on production costs is more than offset by low costs of some of the inputs.

Figure 6 Pigs Weaned per Sow per Year, 2005 - 2006



Post-Weaning Mortality

The number of pigs finished per sow per year is determined by pigs weaned and by post-weaning mortality. Table 9 below shows national comparisons of post-weaning mortality (rearing and finishing herd combined), and how these have changed between 2002 and 2006. There was a considerable range in mortality levels. The lowest mortality in national herds occurs in Italy (4.0%) and Sweden (4.5%), although there was an increase in both countries between 2005 and 2006.

Great Britain had the highest post-weaning mortality in 2006 (8.0%), as in previous years, but this has declined significantly since 2004 as a result of the declining incidence of PMWS. Mortality in both rearing and finishing herds continued to decline in 2006, although the fall has been particularly marked in the rearing herd; the 2006 results of 2.5 per cent were half the 2004 level. Post-weaning mortality in Great Britain is, however, still higher than in 2000, before the spread of PMWS, when it stood at 5.3 per cent, so there is clearly still considerable room for further improvement. The availability of new PCV vaccines may

help the British industry in improving this situation.

More recent quarterly data from Agrosoft (see Appendix 4) indicate that post-weaning mortality continued to improve into 2007. By the third quarter of 2007, average post-weaning mortality was down to 6.4 per cent and top-third results were down to 5.0 per cent.

Table 10 Post-weaning Mortality, 2002 - 2006

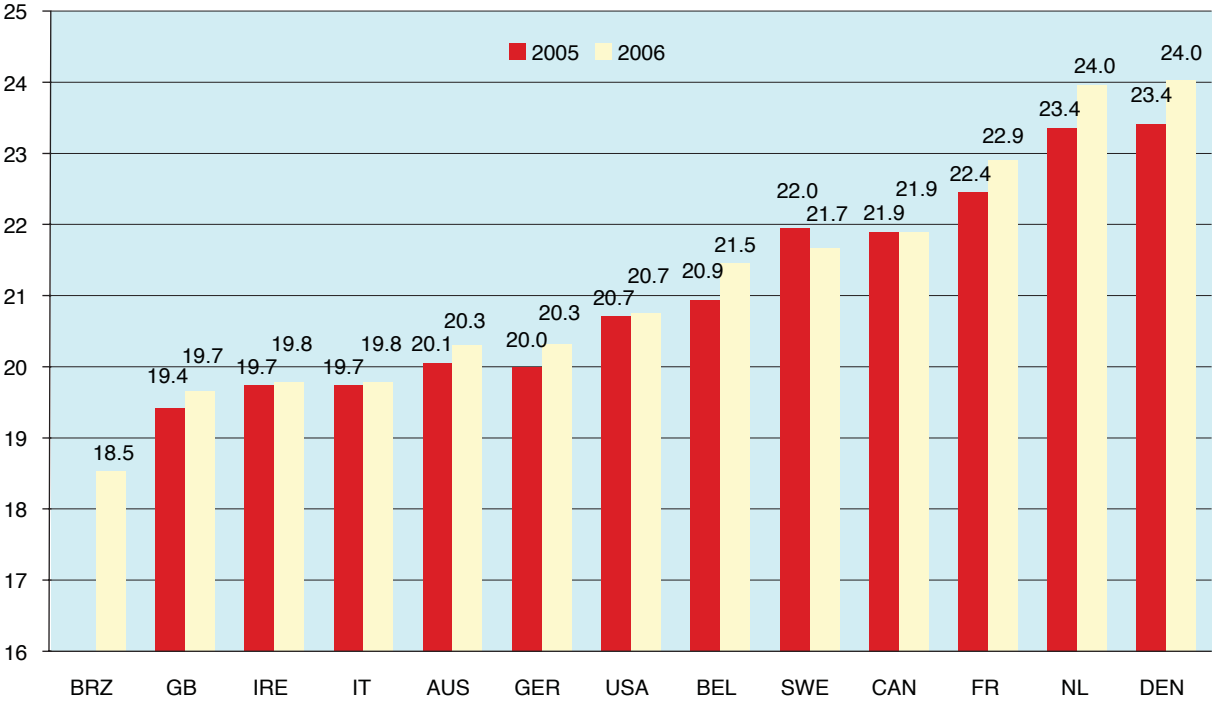
	2002	2003	2004	2005	2006
Austria	na	7.9%	5.9%	6.9%	5.9%
Belgium	8.6%	8.4%	7.4%	8.0%	7.6%
Brazil	na	na	na	na	7.3%
Canada	na	na	na	na	4.9%
Denmark	7.4%	7.3%	8.6%	7.9%	7.1%
France	7.6%	7.5%	7.4%	7.1%	6.6%
Germany	7.7%	6.4%	6.8%	7.0%	6.8%
Great Britain	10.2%	10.5%	11.4%	9.7%	8.0%
Ireland	4.4%	4.4%	5.5%	5.4%	5.7%
Italy	2.6%	3.8%	3.9%	3.9%	4.0%
Netherlands	5.6%	5.0%	4.6%	4.7%	4.6%
Sweden	na	3.8%	3.9%	4.2%	4.5%
United States	na	na	na	na	6.9%

Pigs Finished per Sow per Year

In 2006 the average number of pigs finished in the EU-10 was 21.6, 0.3 higher than in 2005. Most countries recorded an improvement. Denmark and the Netherlands had the best results, at 24.0 each, due to a high number of pigs finished/sow and also because of relatively low post-weaning mortality.

Great Britain had the poorest results in the EU. But, at 19.7 pigs, this was 0.3 pigs higher than in 2005, due with the reduction in post-weaning mortality offsetting the small decline in pigs weaned/sow.

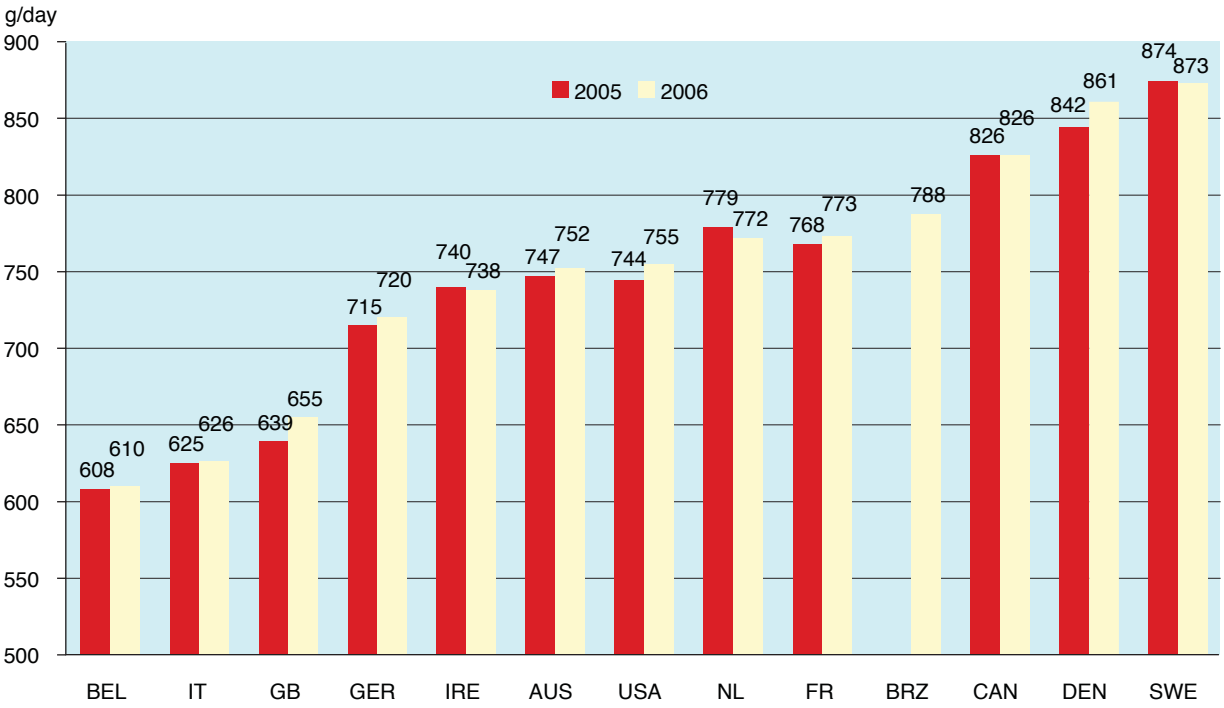
Figure 7 Pigs Finished per Sow per Year, 2005 - 2006



Daily Liveweight Gains (DLG)

The average DLG across the EU-10 countries in 2006 was 738g, just 4g higher than in 2005, with Sweden (873g) and Denmark (861g) having the best growth rates.

Figure 8 Daily Liveweight Gains (Finishing Herds) 2005 - 2006



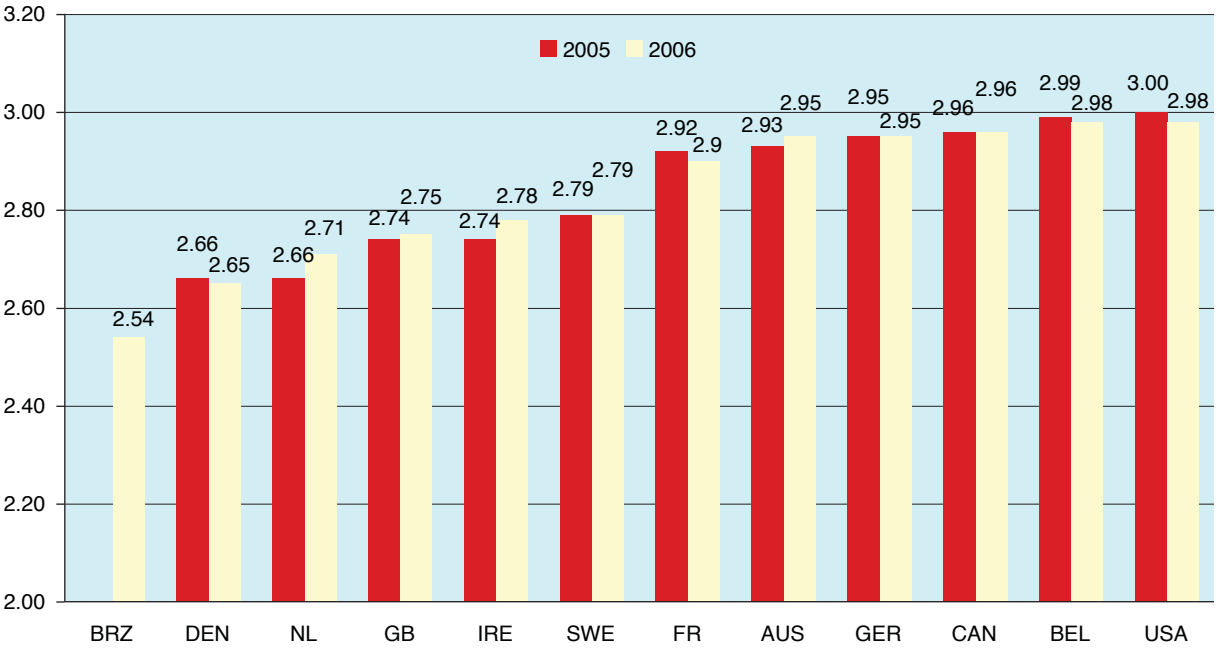
Results for Great Britain continue to be negatively affected by a lack of investment in new buildings and equipment, arising from continued poor profitability. The average DLG in Great Britain finishing herd was 655g per day in 2006 which, despite its lower carcase weights, was third lowest after Italy and Belgium. However, DLG increased by 16g between 2005 and 2006, which was a more marked increase than in any other country in the sample. Between 2003 and 2006 DLG increased by 28g, and it is now roughly back to the level of 2000 - before results began to be affected by the deteriorating health status of herds.

In 2005 there was an impressive improvement in rearing herd DLG, up from 449g/day to 509g/day. This meant that the number of days needed to get a pig from 7kg to 35kg fell from 65 days to 59 days, with obvious implications for costs of production. In 2006, rearing DLG fell slightly to 493g but it was still considerably higher than pre-2005.

Feed Conversion Ratios (FCR)

From 1 January 2006 there was a ban on the four remaining antibiotic growth promoters (AGPs) in pig feed, although some countries had already taken unilateral steps to ban all use of AGPs. One of the major consequences of the removal of the AGPs is a reduction in daily liveweight gain and increased variability in growth rates. This was therefore expected to have been a factor in the 2006 FCRs. In the event, the removal of the AGPs does not seem to have had impact on growth rates. Daily Liveweight Gain for finishing herds increased and the FCR was just .01 higher than in 2005.

Figure 9 Feed Conversion Ratios (Finishing herds), 2005 - 2006 (a)



(a) Excludes Italy: 4.67 in 2005 and 2006

Within the EU-9, Great Britain had the third lowest FCR in 2005, after the Netherlands and Denmark. However, this relatively good performance will have been due to the fact that pigs are finished to lower weights than in most other countries. Feed Conversion Ratio in the finishing herd have been little changed since 2002. There was also little change in the rearing herd FCR in 2006, at 1.71.

Carcase weight production per sow/year

The amount of carcase meat produced per sow is the product of the number of pigs finished per sow and the average carcase weight of pigs. Great Britain produces lighter pigs than elsewhere in Europe and this, together with the below-average number of pigs finished per sow, means that the amount of carcase meat produced per sow is the lowest of all the EU countries.

The amount of carcase meat produced per sow in the EU was 1.87 tonnes in 2006, two per cent more than the year before. The Netherlands and France were the most productive countries, and both these countries saw improved performance in 2006. Great Britian produced 1.46 tonnes in 2006, one per cent higher than in 2005 due to increased pigs finished/sow. The Great Britain figures have been on a longer-term upward trend, increasing from 1.35 tonnes in 2002. This was due to higher carcase weights and improvements in pigs finished per sow.

Figure 10 Carcase meat production per sow/year

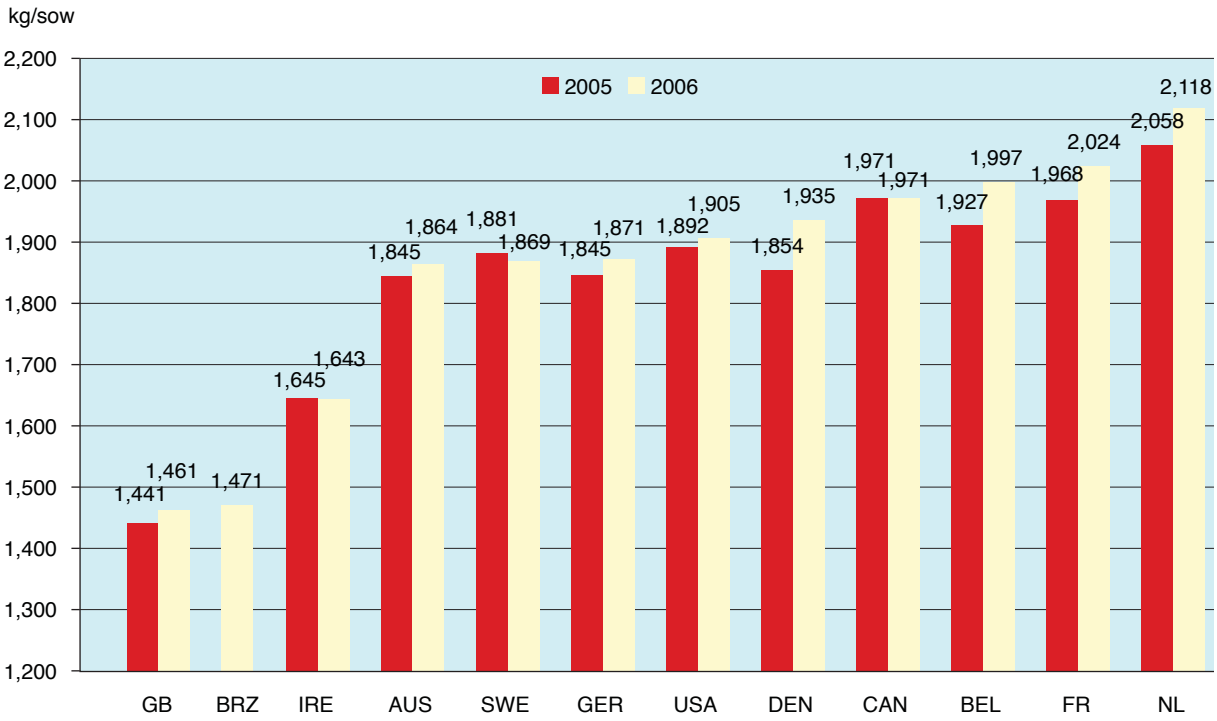


Table 11 Summary of Physical Performance 2002 - 2006

			AUS				BEL		BRZ	CAN				DEN					FR		
	2003	2004	2005	2006	2002	2003	2004	2005	2006	2006	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Pigs Weaned Per Sow Per Year	20.34	20.69	21.56	21.60	20.28	20.63	20.87	21.39	22.01	19.98	21.78	23.80	23.97	24.66	25.43	25.86	23.51	23.75	23.86	24.16	24.53
Pigs Sold Per Sow Per year	18.71	19.45	20.05	20.30	19.43	19.63	20.35	20.93	21.45	18.52	21.90	22.01	22.23	22.54	23.41	24.03	21.70	21.98	22.10	22.45	22.91
Litters/sow/year(1)	2.20	2.19	2.24	2.23	2.23	2.25	2.25	2.28	2.30	2.01	2.20	2.25	2.25	2.25	2.24	2.23	2.22	2.24	2.23	2.24	2.26
Pigs born alive per litter	10.60	10.79	10.90	11.00	10.38	10.42	10.57	10.72	10.92	10.67	11.00	12.20	12.30	12.70	13.20	13.50	12.20	12.30	12.50	12.60	12.70
Pre Weaning Mortality	12.8%	12.4%	11.7%	12.1%	12.3%	12.2%	12.3%	12.4%	12.7%	6.9%	10.0%	13.3%	13.4%	13.7%	14.0%	14.1%	13.2%	13.8%	14.2%	14.4%	14.4%
Rearing Mortality	5.0%	3.0%	4.0%	3.0%	4.4%	4.3%	3.6%	4.0%	3.9%	3.4%	2.0%	3.7%	3.6%	4.6%	3.8%	3.2%	2.6%	2.6%	2.5%	2.4%	2.3%
Finishing Mortality	3.0%	3.0%	3.0%	3.0%	4.4%	4.3%	3.9%	4.2%	3.9%	4.0%	3.0%	3.8%	3.8%	4.2%	4.3%	4.0%	5.1%	5.0%	5.0%	4.8%	4.4%
Finishing Daily Liveweight Gain (g/day)	730	740	747	752	598	590	604	608	610	788	826	827	831	835	842	861	766	766	760	768	773
Finishing Feed Conversion Ratio	3.00	2.95	2.93	2.95	2.98	3.03	2.99	2.99	2.98	2.54	2.96	2.74	2.70	2.69	2.66	2.65	0.00	2.91	2.94	2.92	2.90
Average live weight at slaughter	118.0	117.3	118.0	118.0	112.4	113.2	114.1	114.6	115.1	109.3	113.0	101.0	102.0	102.0	105.0	106.8	113.6	113.8	114.9	114.6	115.5
Adjusted carcase weight - Cold	92.1	91.6	92.0	91.8	90.3	90.9	91.7	92.1	93.1	79.4	90.0	77.0	77.1	77.1	79.2	80.5	86.9	87.1	87.9	87.7	88.4
Carcase meat production/sow/year (kg)	1723	1782	1845	1864	1754	1785	1865	1927	1997	1471	1971	1695	1714	1738	1854	1935	1886	1914	1943	1968	2024
Average lean meat percentage	60.5%	60.5%	59.2%	59.2%	60.5%	60.5%	60.5%	61.5%	62.0%	57.4%	60.0%	60.0%	60.0%	60.1%	60.2%	60.3%	60.3%	60.4%	61.1%	61.3%	61.5%
Lean meat production/sow/year (kg)	1043	1078	1092	1103	1061	1080	1129	1185	1238	810	1183	1017	1028	1044	1116	1167	1137	1156	1187	1206	1245

			GER					GB					IRE					IT			
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	
Pigs Weaned Per Sow Per Year	21.58	20.50	20.88	21.50	21.79	21.08	21.12	21.27	21.50	21.36	22.92	22.74	23.13	23.14	23.55	19.88	19.53	20.20	20.55	20.61	
Pigs Sold Per Sow Per year	19.90	19.18	19.46	20.00	20.31	18.92	18.90	18.85	19.42	19.66	21.89	21.74	21.84	21.90	22.20	19.36	18.79	19.41	19.74	19.78	
Litters/sow/year(1)	2.25	2.23	2.24	2.26	2.27	2.17	2.20	2.21	2.22	2.26	2.30	2.28	2.28	2.28	2.29	2.20	2.17	2.15	2.17	2.18	
Pigs born alive per litter	10.88	10.80	10.90	11.10	11.20	10.89	10.74	10.74	10.87	10.90	10.95	11.01	11.16	11.19	11.35	10.16	10.31	10.52	10.60	10.57	
Pre Weaning Mortality	11.8%	14.9%	14.5%	14.3%	14.3%	10.8%	10.6%	10.4%	10.9%	13.3%	9.0%	9.4%	9.1%	9.3%	9.5%	11.0%	12.7%	10.7%	10.7%	10.6%	
Rearing Mortality	4.9%	2.8%	3.0%	3.0%	3.0%	4.2%	4.3%	5.0%	3.4%	2.5%	2.5%	2.3%	3.2%	3.2%	3.3%	1.6%	3.3%	3.3%	3.3%	3.4%	
Finishing Mortality	2.9%	3.7%	3.9%	4.1%	3.9%	6.3%	6.5%	6.7%	6.5%	5.6%	2.0%	2.2%	2.4%	2.3%	2.5%	1.0%	0.5%	0.6%	0.6%	0.7%	
Finishing Daily Liveweight Gain (g/day)	740	705	708	715	720	635	627	630	639	655	749	743	738	740	738	620	620	623	625	626	
Finishing Feed Conversion Ratio	2.91	2.97	2.96	2.95	2.95	2.72	2.74	2.77	2.74	2.75	2.70	2.73	2.79	2.74	2.78	4.67	4.66	4.67	4.67	4.67	
Average live weight at slaughter	116.0	118.0	118.2	119.0	119.0	97.1	96.1	97.9	96.9	99.1	93.5	94.1	96.5	98.6	97.4	164.0	163.0	168.0	163.0	165.0	
Adjusted carcase weight - Cold	93.0	93.2	91.8	92.3	92.1	71.5	72.4	73.7	74.2	74.3	70.8	71.3	73.0	75.1	74.0	129.5	128.7	129.7	126.3	127.5	
Carcase meat production/sow/year (kg)	1851	1788	1787	1845	1871	1353	1368	1389	1441	1461	1550	1550	1594	1645	1643	2510	2418	2517	2493	2523	
Average lean meat percentage	na	56.0%	56.4%	56.5%	56.5%	61.1%	61.1%	61.3%	61.1%	61.3%	58.3%	58.0%	58.3%	58.9%	58.6%	47.3%	47.3%	47.0%	47.0%	47.0%	
Lean meat production/sow/year (kg)	na	1001	1008	1042	1056	827	836	852	880	895	904	899	929	969	963	1187	1143	1183	1172	1186	

			NL				SWE			USA			EU-10								
	2002	2003	2004	2005	2006	2003	2004	2005	2006	2006	2002	2003	2004	2005	2006						
Pigs Weaned Per Sow Per Year	23.46	23.78	24.34	24.52	25.13	21.96	22.75	22.91	22.71	22.31	22.40	21.83	22.27	22.67	22.91						
Pigs Sold Per Sow Per year	22.14	22.59	23.21	23.36	23.96	21.12	21.86	21.95	21.66	20.74	21.03	20.49	20.91	21.32	21.63						
Litters/sow/year(1)	2.31	2.31	2.33	2.33	2.34	2.19	2.21	2.22	2.20	2.37	2.25	2.23	2.23	2.25	2.26						
Pigs born alive per litter	11.50	11.70	11.90	12.00	12.30	11.70	12.10	12.10	12.20	10.69	11.27	11.19	11.39	11.53	11.66						
Pre Weaning Mortality	11.7%	12.0%	12.2%	12.3%	12.7%	14.3%	14.8%	14.7%	15.4%	12.0%	11.8%	12.6%	12.4%	12.5%	12.9%						
Rearing Mortality	2.2%	1.9%	1.8%	1.9%	2.0%	2.5%	2.5%	2.6%	2.7%	3.3%	3.1%	3.3%	3.2%	3.2%	2.9%						
Finishing Mortality	3.5%	3.2%	2.9%	2.9%	2.7%	1.3%	1.4%	1.6%	1.9%	3.7%	3.5%	3.3%	3.4%	3.4%	3.3%						
Finishing Daily Liveweight Gain (g/day)	762	762	774	779	772	877	873	874	873	755	719	725	729	734	738						
Finishing Feed Conversion Ratio	2.67	2.67	2.65	2.66	2.71	2.76	2.79	2.79	2.79	2.98	2.68	3.02	3.02	3.01	3.01						
Average live weight at slaughter	114.0	115.8	113.0	113.8	114.2	115.0	115.8	114.8	115.6	121.3	114.0	114.9	115.8	115.8	116.6						
Adjusted carcase weight - Cold	87.2	88.6	87.5	88.1	88.4	86.1	86.4	85.7	86.3	91.9	88.3	88.8	89.0	89.3	89.6						
Carcase meat production/sow/year (kg)	1929	2001	2031	2058	2118	1819	1889	1881	1869	1905	1849	1808	1854	1896	1930						
Average lean meat percentage	57.3%	56.2%	56.1%	56.2%	56.4%	57.4%	57.4%	57.5%	57.5%	57.0%	57.7%	57.7%	57.9%	57.9%	58.0%						
Lean meat production/sow/year (kg)	1105	1124	1140	1157	1194	1044	1084	1082	1075	1086	1054	1036	1063	1090	1112						

Comparison of GB results with EU average

Table 12 shows 2006 Great Britain and overall average (excluding Italy) comparisons of physical results. These indicate the areas where British performance falls short of the EU average, thus contributing to relatively high costs of production. They are therefore the potential areas that we should pay particular attention to in order to improve our relative performance. The table also shows improvement/deterioration in these performance measures compared with 2005.

Table 12 GB and EU physical results

	GB	EU-9 (a)	GB deviation (per cent) (b)	
			2006	2005
Pigs Weaned Per Sow Per Year	21.4	23.1	-8	-6
Pigs Sold Per Sow Per year	19.7	21.8	-10	-10
Litters/sow/year(1)	2.3	2.3	-0	-2
Pigs born alive per litter	10.9	11.8	-8	-7
Sow mortality	5.8%	6.2%		
Pre Weaning Mortality	13.3%	13.6%	+2	+13
Rearing Mortality	2.5%	2.8%	+12	-11
Finishing Mortality	5.6%	3.7%	-53	-75
Transfer weight from breeding to rearing unit (kg)	7.2	7.7		
Age of weaning (days)	26.0	27.9		
Transfer weight from rearing to finishing unit (kg)	35.1	29.7		
Rearing Daily Liveweight Gain (g/day)	493	417	+18	+21
Rearing Feed Conversion Ratio	1.71	1.78	+4	+5
Finishing Daily Liveweight Gain (g/day)	655	752	-13	-14
Finishing Feed Conversion Ratio	2.75	2.84	+3	+3
Ave number of days in rearing unit	56.6	52.5		
Ave number of days in finishing unit	97.7	112.1		
Pigs per pig place per year (finishing)	3.49	3.12	+12	+10
Average live weight at slaughter	99.1	112.9	+12	-12
Adjusted carcase weight - Cold	74.3	86.9	-14	-13
Killing out percentage	75.0%	76.8%	-2	-0
Carcase meat production per sow per year (kg)	1461	1892	-23	-22
Average lean meat percentage	61.3%	59.3%	+3	+3
Lean meat production per sow per year (kg)	895	1122	-20	-19
Sow feed (kg) per sow per year	1338	1265	-6	-8
Weaner/Rearer feed (kg) per pig	48	39	-23	-24
Finishing pigs feed consumption (kg) per pig	176(c)	234	+25	+26
Time usage per sow per year in hours (d)	19.20	14.68	-31	-25
Time usage per finished pig per year in hours (e)	0.17	0.28	+39	+44

(a) Excluding Italy
(b) Where the production factor makes a definite contribution to costs, a -ve implies higher costs and a +ve implies ower costs
(c) Feed consumption is lower because pigs are finished at lighter weights
(d) Breeding herd (e) Rearing/finishing herds

Impact on costs of improving performance

There are therefore a number of key areas where the performance of the British pig industry falls short of

the EU average. Improvements in these areas could therefore be expected to lead to reductions in costs of production.

The following table shows the impact on production costs of improvements in key variables where GB performance is currently below the EU average. It shows the effect on average production costs if performance improves to the EU average. Each of the variables is examined in turn, with the other variables held constant.

Table 13 Impact of changes in performance on production costs (a)

	GB	EU-9 (a)	Cost change p/kg
Born alive per litter	10.9	11.8	-2.2
Litters/sow/year	2.26	2.26	0.0
DLWG (Finishing Herds)(g)	655	752	-0.9
Post-weaning mortality (%)	8.0	6.8	-0.4
KO%	75.0	76.8	-1.9
Increase weight at slaughter (kg lw)	99.1	112.9	-2.4
Total of above			-7.8

(a) Based on improving GB performance figures to the EU average

Improvements in GB performance up to the European average in each of these variables will trim up to 24p/kg off the average cost of producing a pig. If there were a simultaneous improvement in each of the variables, the costs of production would be reduced by 8p/kg. This would reduce the cash costs of production from 90p/kg to 82p.

In practical terms there could be constraints on increasing the average weight at slaughter by 14kg lw, due to the implications for housing and contract specifications. However, offsetting this, the fact that British pigs are significantly lighter than the EU average means that producers should be aiming for a daily liveweight gain of more than the average of 752 grams.

ADJUSTMENTS TO PRICES

BPEX has for some time been concerned that the weekly reference prices reported to Brussels do not accurately reflect differences in producer returns in the individual EU member states.

Inconsistencies between countries can arise because of:

- Some reference prices exclude bonuses paid to producers.
- Some reference prices exclude deductions from prices paid to producers.
- There are differences in the E grade definitions used by member states. The definition in some member states is 55 per cent lean meat and above and in others it is 55 to 59 per cent lean meat.

As a first step to ironing out potential inconsistencies and improving market transparency we need to know more about the situation throughout the EU. The individual member states were, therefore, asked to complete a questionnaire that detailed what lean meat percentages are used and whether there are bonuses/deductions that are not reported in the weekly reference price.

These results clearly indicate some marked differences in reporting methodology between member states. It is to be hoped that, after further discussion at future pig management committee meetings, these differences will eventually be removed.

Table 14 Selected results from the questionnaire

	Grade definition used for price reporting (Lean Meat %)	Do farmers receive extra payments when selling their pigs that are not reported in your weekly reference price?	Do farmers have deductions made from the price reported in your country when selling their pigs?
Czech Republic	55+	No	No
Denmark	55-59	No	No
Spain	55+	No	No
France	55+	Yes	No
Ireland	55-60	No	Yes
Italy	55+	Yes	yes
Hungary	55-59	No	No
Netherlands	56	Yes	No
Austria	55-59	No	No
Poland	55+	No	No
Sweden	55-59	No	No
United Kingdom	55-59	Yes	Yes

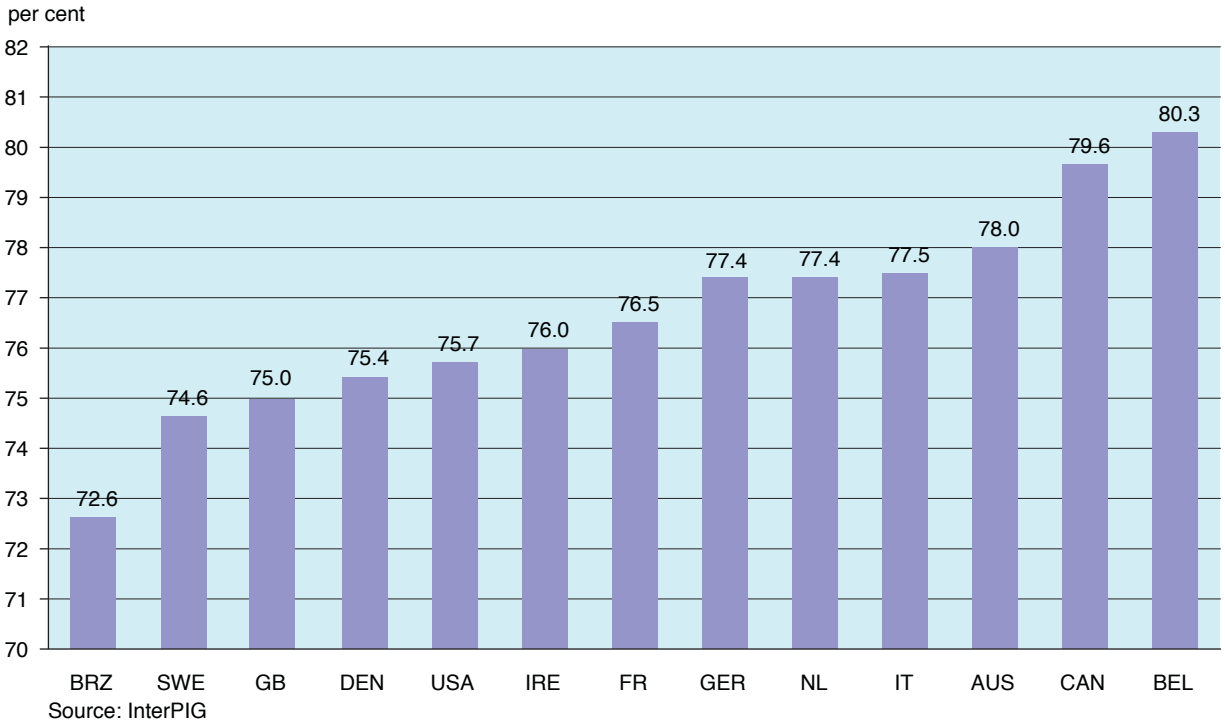
ADJUSTING FOR KILLING OUT PERCENTAGES

InterPIG results are usually expressed in terms of pence per kg deadweight (cold). While this is satisfactory for most purposes, it does mean that the results will be influenced by differences in dressing specifications and killing out percentages. In other words the results include processes that happen to the pigs after they leave the farm. If we want to analyse costs of pig production on the farm then ideally we need to discount anything that happens post-farmgate.

Variations in killing out percentages

The highest killing out percentage is seen in Belgium (80.3% in 2006) while the lowest were in Brazil (72.6%) and Sweden (74.6%). But excluding these statistical outliers the range of KO% is quite narrow, between 75% and 78%. The KO% in Great Britain is at the lower end of this range.

Figure 11 Killing out percentages, 2006

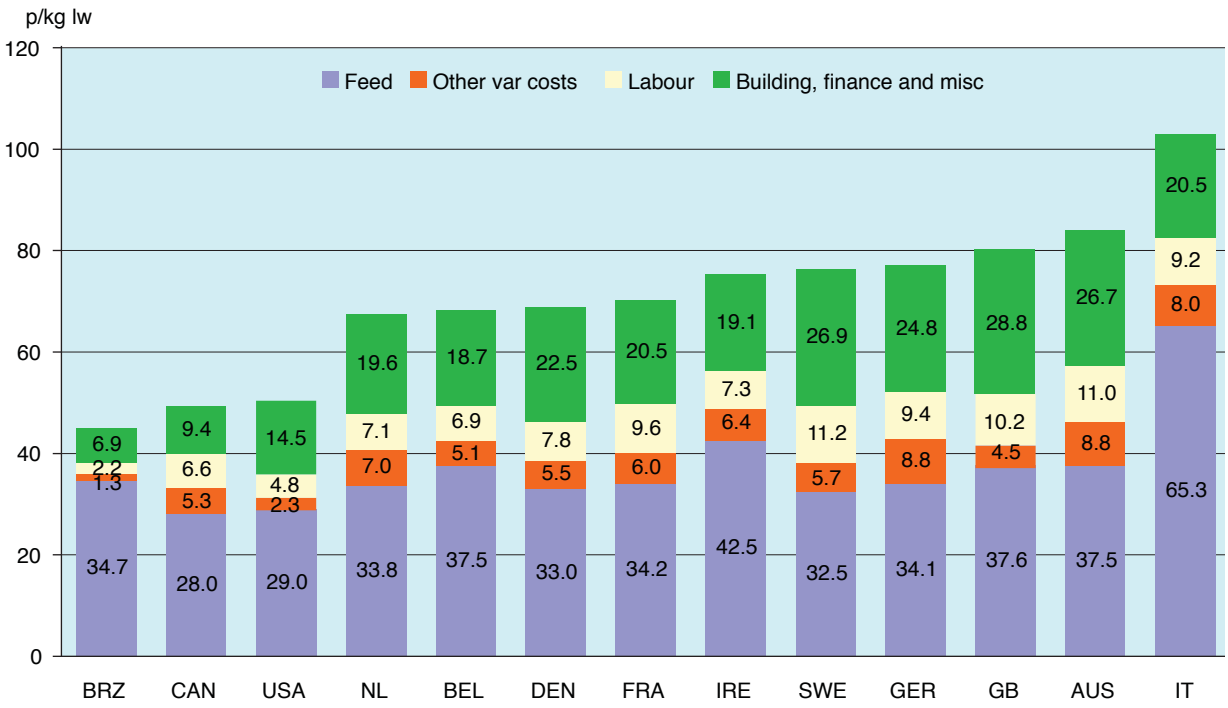


Source: InterPIG

Liveweight prices

The following chart shows comparative costs on a p/kg lw basis, ie after adjusting for variations in the killing out percentage. On a deadweight basis, the GB price of 108.2p was 12 per cent above the EU-9 average. However, on a liveweight basis, the GB price of 81.1p was only nine per cent above the EU-9 average.

Figure 12 The cost of producing a kg liveweight of pig meat



The impact on relative costs

The following table shows the ranking of relative costs on both a liveweight and a deadweight basis. Variations in killing out percentage have only a limited impact on relative costs of pig meat production.

Table 15 Ranking of costs on a deadweight and a liveweight basis

	Deadweight basis Price*	Ranking*	% of ave	Liveweight basis Price	Ranking*	% of ave
Austria	107.7	3	117	84.0	2	119
Belgium	84.9	10	92	68.1	9	96
Brazil	62.0	12	67	45.0	13	64
Canada	61.8	13	67	49.2	12	70
Denmark	91.3	8	99	68.8	8	97
France	91.7	7	100	70.2	7	99
Germany	99.4	5	108	77.0	4	109
Great Britain	108.2	2	118	81.1	3	115
Ireland	99.1	6	108	75.3	6	106
Italy	132.8	1	144	102.9	1	145
Netherlands	87.2	9	95	67.5	10	95
Sweden	102.3	4	111	76.3	5	108
United States	67.0	11	73	50.7	11	72

* 1 = the highest

THE IMPACT OF HIGHER FEED COSTS

The relative costs analysed in this report relate to 2006. However, since then the price of feed has continued rising, to record levels. These price movements are not just a British phenomenon, or even a European one, but are part of a global trend.

In order to gain an understanding of how these feed price increases are affecting relative costs of production, recent prices at the time of writing have been substituted for 2006 annual costs. Feed prices are the only factors that have been changed; all other variables have been left unchanged. For this reason, and also because the current feed costs will not have applied throughout 2007, these figures should not be considered as provisional 2007 results.

Table 16 Changes in production costs (Oct/Nov 2007 compared with 2006)

	Austria	Brazil	Canada	Denmark	France	Germany
Changes in feed prices (Oct/Nov 2007 compared with 2006):						
Sow feed	+52%	+61%	+43%	+62%	+68%	+61%
Weaner/rearer feed	+52%	+31%	+65%	+56%	+56%	+27%
Finishing feed	+52%	+54%	+69%	+68%	+72%	+68%
Overall	+52%	+53%	+65%	+65%	+69%	+60%
2006 costs of production						
Feed	48.08	47.77	35.13	43.81	44.66	43.99
Other variable costs	11.24	1.73	6.67	7.32	7.80	11.35
Labour	14.10	3.01	8.28	10.28	12.49	12.08
Building, finance & Misc	34.24	9.46	11.76	29.87	26.80	32.01
Total costs	107.67	61.97	61.83	91.29	91.74	99.43
October/November 2007 costs of production						
Feed	73.10	73.02	57.90	72.17	75.25	70.18
Other variable costs	11.56	1.78	6.85	7.53	8.02	11.66
Labour	14.49	3.09	8.51	10.57	12.84	12.42
Building, finance & Misc	35.46	10.22	12.41	31.00	27.93	33.27
Total costs	134.62	88.11	85.67	121.28	124.04	127.52
Change in production costs: cents/kg	+26.9	+26.1	+23.8	+30.0	+32.3	+28.1
Change in production costs: per cent	+25%	+42%	+39%	+33%	+35%	+28%
Feed % of total costs: 2006	+45%	+77%	+57%	+48%	+49%	+44%
Feed % of total costs: Oct/Nov2007	+54%	+83%	+68%	+60%	+61%	+55%

	GB	Ireland	Italy	Netherlands	Sweden	Average All
Changes in feed prices (Oct/Nov 2007 compared with 2006):						
Sow feed	+52%	+41%	+37%	+46%	+94%	+56%
Weaner/rearer feed	+52%	+24%	+36%	+31%	+65%	+45%
Finishing feed	+73%	+41%	+37%	+46%	+96%	+61%
Overall	+64%	+37%	+36%	+44%	+90%	+58%
2006 costs of production						
Fee	50.11	55.90	84.22	43.64	43.52	49.06
Other variable costs	6.03	8.48	10.30	8.99	7.62	7.95
Labour	13.64	9.63	11.88	9.22	15.05	10.86
Building, finance & Misc	38.42	25.14	26.43	25.38	36.06	26.81
Total costs	108.20	99.14	132.82	87.22	102.26	94.68
October/November 2007 costs of production						
Feed	82.15	76.37	114.88	62.86	82.81	76.26
Other variable costs	6.19	8.71	10.59	9.24	7.84	8.17
Labour	14.03	9.90	12.21	9.48	15.48	11.17
Building, finance & Misc	40.00	26.19	27.76	26.40	37.58	27.95
Total costs	142.37	121.18	165.44	107.98	143.71	123.55
Change in production costs: p/kg	+34.2	+22.0	+32.6	+20.8	+41.4	+28.9
Change in production costs: per cent	+32.%	+22%	+25%	+24%	+41%	+31%
Feed % of total costs: 2006	+46%	+56%	+63%	+50%	+43%	+53%
Feed % of total costs: Oct/Nov2007	+58%	+63%	+69%	+58%	+58%	+62%

Feed prices in October/November 2007 were on average (in the countries that provided data) 58 per cent higher than the 2006 year. Prices in Great Britain increased by 64 per cent. The impact on costs of production in Great Britain is a 32 per cent increase to 142p/kg dw. In the EU countries the increases in production costs ranged from 22 per cent in Ireland to 41 per cent in Sweden. On the basis of these calculations, Sweden becomes the highest-cost producer, although Great Britain remains second highest.

Some of the factors that have been responsible for higher world prices over the past year will continue, and are almost certain to increase in importance. In the biofuels sector, both the EU and the United States have legislation in place to increase biofuel production substantially over the next 10-20 years. If EU countries meet the renewable transport rule obligation, the EU will cease to be a net exporter of cereals. Import demand from industrialising countries, especially China and India, will increase as consumers switch to animal-based proteins. There will be a massive rise in the middle class outside the United States, doubling by 2020 to a billion households.

The EU's Zero-Tolerance policy towards biotech (GM) feed imports could well cause problems. The EU is becoming an oasis of non-biotech crops in a genetically modified world. As new cereal and soyabean types emerge from North and South America, they will have to pass Brussels zero tolerance. However these testing procedures can take several years. Zero Tolerance has in fact already led to a decline in maize gluten imports, which has contributed to higher EU prices.

Increasing competition for feed supplies from the biofuels sector is likely to mean that prices could be inherently more volatile, as the quantities available for animal use could fluctuate proportionately more from year to year. This problem could potentially be made worse if investment in biofuels moves in line with oil prices.

IMPLEMENTATION OF ENVIRONMENTAL LEGISLATION

A questionnaire was circulated to InterPIG members in 2007 with the aim of identifying how environmental legislation is applied in different countries. In addition to the United Kingdom, responses were received from Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, the Netherlands, and the United States. The UK response only is shown here, but the complete report is available on the BPEX website: www.bpex.org.uk

The complete list of questions is shown below:

Are Government grants or other support in place to assist farmers implement and comply with legislation or to encourage better environmental protection in relation to any of the following questions?

1 Housing and feed.
- Are there rules and measures in place controlling dietary protein of pig rations? If so how is this regulated? Is there a tax or levy applied to dietary protein?
- Housing types, are there approved designs with which all new housing must comply? If so, how long have these rules been in place?
- Do approved designs stipulate the type and form of:
  - Slurry storage?
  - Building insulation?
  - Emissions control?
  - Energy efficiency?
  - Any other criteria?

2 Is a local or national permit required for operation of a pig unit?
- If so, what are the threshold limits and what is the permit type (e.g. IPPC)?
- What is the annual charge for the permit:
- What is frequency of inspection and who carries it out?
- How much does it cost to apply for the permit and how much does it cost the farmer to collect the information and prepare the application?

3 Are there restrictions for the location of pig farms to houses, nature sites and protected habitats, rivers and water abstraction points?

4 Do farmers or farm staff have to have training or a licence covering environmental legislation before they can farm? If so how much does this cost?

5 Is there a minimum amount of slurry storage needed on a farm?
- Do slurry stores have to be covered?
- Are there times of the year when slurry or manure cannot be spread, please give details.

6 Are any grants available for slurry storage, treatment or investment in associated technology?

7 Is there any encouragement or restriction to the on-farm production of energy e.g. installation of solar panels?

8 How are carcases disposed of and what is the typical cost per pig category - piglet, finisher pig, sow or boar?

ENVIRONMENTAL LEGISLATION IN THE UNITED KINGDOM

If there are Government grants or other support in place to assist farmers implement and comply with legislation or to encourage better environmental protection in relation to any of the following questions, please include brief details with your answer.

1 Housing and feed.

- Are there rules and measures in place controlling dietary protein of pig rations? If so how is this regulated? Is there a tax or levy applied to dietary protein?

The only rules apply to those farms falling under IPPC. These farms have to demonstrate that they provide a diet which minimises the excretion of nitrogen and phosphorus. A minimum of two diets is required for sows, lactation and dry, the dry diet having a lower crude protein content. Two different diets must be fed to finishing pigs between 30 and 90kg with a change at around 65kg. If finishing pigs are taken to a weight over 115kg, a third diet must be fed. The crude protein content being reduced in the latter diets.

- Housing types, are there approved designs with which all new housing must comply? If so, how long have these rules been in place?

There are no approved designs for new housing. All housing must meet minimum standards for animal welfare. New houses on farms falling under IPPC have to adopt techniques that are approved BAT. All existing farms above the IPPC threshold number of pig places had to have applied for a permit by 31 January 2007.

Slurry pits and channels have to comply with the Silage, Slurry & Agricultural Fuel oil Regulations 1997 & as amended 1997. These stipulate design standards and minimum capacities.

- Do approved designs stipulate the type and form of:
- Slurry storage?

IPPC requires that slurry pits can be emptied frequently.

- Building insulation?

No requirements

- Emissions control?

No requirements.

- Energy efficiency?

No requirements

- Any other criteria?

Non-identified.

2. Is a local or national permit required for operation of a pig unit?

Only those farms where the number of pig places exceeds the IPPC thresholds have to have a permit. There is no other licensing system for pig farms in the UK.

- If so, what are the threshold limits and what is the permit type (e.g. IPPC)?

The IPPC threshold limits are for installations with more than 750 places for sows (includes gilts brought into the breeding herd) or 2000 production pig places above 30kg.

- What is the annual charge for the permit:

Application for a Standard Farming (Pig and Poultry Rearing) Permit	€5,047.95	£3,441
Variation of a Standard Farming Permit	€513.45	£350
Substantial Variation of a Standard Farming Permit	€513.45	£350
Surrender of a Standard Farming Permit	€513.45	£350
Subsistence charge for a Small Standard Farm	€337.50	£2,303
Subsistence charge for a Large Standard Farm	€4,233.76	£2,886

'Small' means an installation with less than or equal to 10 times the threshold number of places for any category of animals as specified in the PPC Regulations, i.e. places for no more than 7,500 sows, 20,000 production pigs or 400,000 poultry.
'Large' means an installation with greater than 10 times the threshold number of places, i.e. places for more than 7,500 sows, 20,000 production pigs or 400,000 poultry.
The IPPC fees are calculated on a full cost recovery basis by the Environment Agency who are the competent authority responsible. Annual increases are related to Agency costs and for last year were 2.5%.

- What is frequency of inspection and who carries it out?
  Inspections for IPPC are carried out at least once a year by the Environment Agency (a govern ment agency).

- How much does it cost to apply for the permit and how much does it cost the farmer to collect the information and prepare the application?

The permit application fee is €5,047.95 (£3,441). The farmer has to collect information for the application, for the existing farms that applied before 31 January 2007 the cost of this was around €146 (£100). The time taken to prepare an application is believed to be typically in the region of 200 hours.
New farms needing a permit may have to assess and model ammonia, odour and noise environmental impacts, this may cost from €7,335 (£5000) to €29,340 (£20,000). A typical amount quoted is €20,538 (£14,000).

3 Are there restrictions for the location of pig farms to houses, nature sites and protected habitats, rivers and water abstraction points?

There are no restrictions on the proximity of existing pig farms to any of these. Plans for new buildings have to be approved by the Local Authority and a public consultation takes place. Buildings may not be allowed if they will be detrimental to the local environment, for example if noise or smell may cause a nuisance to housing, public buildings or business premises.

If the new building will have a negative effect on the environment under the Habitats Directive then it may not be allowed or restrictions stipulated. In general new buildings will not be allowed within 10m of open watercourses. If there is a risk to water abstraction points, then again permission may be refused for new buildings.

There are no initiatives or plans to re-locate or close down farms located too close to sensitive receptors.

4. Do farmers or farm staff have to have training or a licence covering environmental legislation before they can farm? If so how much does this cost?

In general no. Within IPPC it is a requirement for staff to have been trained in various aspects of their work including how to respond to an accident that could cause pollution or environmental damage.There is a requirement to hold a certificate of competence before farmers or their staff are allowed to carry out certain tasks, for example the use of pesticides.

5. Is there a minimum amount of slurry storage needed on a farm?

All farms must have slurry storage capacity for a minimum of 120 days continuous production, including any rainfall that may fall during that period. If a farmer is able to demonstrate that there is not an increased risk of water pollution resulting from there being less than this amount of storage, then the Environment Agency have the discretion to allow less than 120 days capacity.

Farms falling within Nitrate Vulnerable Zones (NVZ) must have sufficient slurry storage to cover any closed periods that may apply on their land. It is expected that the NVZ rules will be revised requiring pig farms to have a minimum of 6 months slurry storage.

- Do slurry stores have to be covered?

Only on farms falling under IPPC. On these farms, all new stores must be covered. Farmers must agree with the Environment Agency a date by which existing stores will be covered.

- Are there times of the year when slurry or manure cannot be spread, please give details.

It is a requirement of Cross Compliance and a legal obligation within NVZ's, that farmers do not spread organic manures and slurries on land that is either snow covered, frozen hard or waterlogged.

Closed periods apply for spreading organic manures with a high available nitrogen content (slurries and poultry manures) within NVZ's on sandy and shallow soils. The closed period for arable land is 1 August to 1 November and for grassland and arable land with an autumn sown crop, 1 September to 1 November. The NVZ rules are expected to change on 1 January 2008, at present there are no firm proposed new rules. It is expected closed periods will apply to all soil types and that in some cases the closed period will be longer.

- Are there limits on how much for N or P can be applied from pig manure per ha each year?

There are limits for N only. Over the whole farm area the organic nitrogen loading (both applied manures and from animal grazing deposition) must not exceed 210 kg/ha for non-grassland and 250 kg/ha for grassland areas each year. The limit for applied organic manures to an individual field is 250 kg/ha each year, this excludes any grazing deposition on that field.

- Do standard values for the N and P contents of manures and slurries have to be used in calculating the amount of slurry or manure that can be applied to a field? Please provide details of these.

Farmers can use either standard reference values as published by Defra or results from analysis of the manure or slurry. The analysis may be either from a laboratory, or in the case of slurries, using portable on-farm test equipment. Before applying fertiliser, the farmer must calculate the amount of the N and P that is available to the crop so that the overall amount of nitrogen applied does not exceed crop requirement.

Typical total nutrient content of pig manures kg/t or kg/m3 (fresh weight basis)

Manure Type	Dry Matter %	Nitrogen (N)	Phosphate (P2O5)	Potash (K2O)	Sulphur (SO3)	Magnesium (MgO)
FYM	25	7.0	7.0	5.0	1.8	0.7
Slurry	2	3.0	1.0	2.0	0.5	0.3
4	4.0	2.0	2.5	0.7	0.4	
6	5.0	3.0	3.0	0.9	0.5	

Source Defra booklet RB209

Typical application rates of pig manures to supply 250kg/ha of total nitrogen.

Manure type	Dry Matter (%)	Application rate (tonnes or m3/ha fresh weight)
Pig FYM	25	36
Pig slurry	2	83
	4	63
	6	50

Source Defra booklet RB209

Percentage of total nitrogen available to the next crop following application of pig manure (percent of total N)

	DM (%)	Timing Autumn (Aug -Oct)		Winter(Nov - Jan)		Spring (Feb - Apr)	Summer (May - July)
		Sandy/ shallow	Medium/ heavy	Sandy/ shallow	Medium/ heavy	All soils	All soils
Surface Application : -							
Pig FYM - fresh	25	5	10	10	15	20	NA
Pig FYM - old	25	5	10	10	10	15	NA
Pig slurry	2	5	25	30	50	60	40
	4	5	20	25	40	50	30
	6	5	15	20	30	40	25
Soil incorporation (within 48 hours) : -							
Pig FYM - fresh	25	5	10	10	15	20	NA
Pig FYM - old	25	5	10	10	10	15	NA
Pig slurry	2	5	25	25	55	65	NA
	4	5	20	20	45	55	NA
	6	5	20	20	40	50	NA

Source Defra booklet RB209

- If the farm exceeds its allowance for N & P produced by livestock are there penalties?

If a farmer exceeds the limits for applying nitrogen to land within an NVZ then either this will be treated as a breach of the cross compliance rules and a penalty applied, or the farmer can be prosecuted.
Any farmer who has applied organic manures to land in a quantity far exceeding the recommended limit of 250 kg/ha for N or crop requirement for P may be prosecuted in a court of law under waste management legislation as this could be considered as disposal operation and not nutrient recovery by the Environment Agency.

Is there a requirement to treat manures and slurries to de water them or treat them so that N and or P is removed? if so what is the cost of treatment?
No.

6. Are any grants available for slurry storage, treatment or investment in associated technology?

Farms in specially designated water catchment areas may be eligible for grant aid at a rate of 50% to a maximum of €14670 (£10,000) per farm for certain works that may result in reducing diffuse pollution. Eligible items include covering slurry stores, improvements to remove uncontaminated surface water to reduce the volume of slurry and manure stores where manure has been stored in a field.

7. Is there any encouragement or restriction to the on-farm production of energy e.g. installation of solar panels?

No.

8. How are carcases disposed of and what is the typical cost per pig category - piglet, finisher pig, sow or boar?

Typical costs of collection of fallen stock from farm are;

Piglet	€10.71	£7.30
Rearing pig	€24.21	£16.50
Finisher pig	€45.11	£30.75

Collection charges are normally based on a call out fee for the collector to come to the farm and a disposal fee based on weight of carcase collected. Thus the cost per unit is higher for small collections of lightweight pigs. The above figures are a typical annual average, the cost over an entire herd is €1.00/kg (£0.68/kg) of pig meat produced. At the present time producers are able to join the national Fallen Stock Scheme (NFSS Ltd), where 50% of the collection charge is paid by government, although this level of support is soon to be reduced. The scheme was introduced as a transitionary measure when on-farm burial was banned.

A number of farms have incinerators rated at less than 50 kg/hour rated capacity. These typically burn between 15 and 30 litres of fuel per hour (0.3 - 0.6 litres of fuel/kg of animal incinerated), plus an amount of fuel to bring the machine up to temperature for each burn cycle. These incinerators are inspected at least annually by Government veterinary surgeons.

APPENDIX I

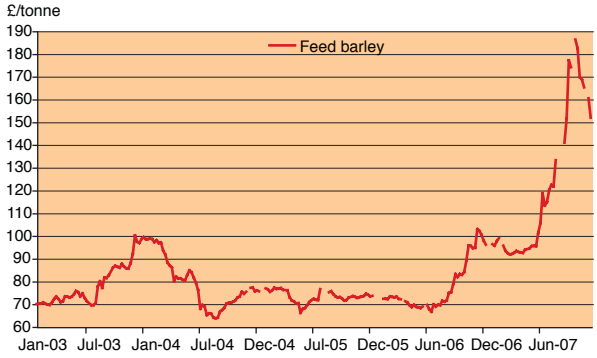
European Pig Industry Trends in 2006

	AUS	BEL	DEN	FR	UK	GER	IRE	IT	NL	POL	SP	SWE
Breeding sow numbers (000 head)	313	974	1,414	1,264	524	2,459	167	751	1,140	1,786	2,697	177
Annual pig slaughterings (000 head)	5,365	10,884	21,419	25,484	9,097	50,113	2,658	13,380	13,638	24,246	39,320	3,022
Pig meat production (000 tonnes)	505	1,016	1,749	2,263	697	4,662	209	1,556	1,230	2,068	3,230	264
Pig meat imports (000 tonnes cwe)*	140	105	130	500	817	923	53	899	227	173	90	70
Pig meat exports (000 tonnes cwe)*	180	649	1,630	620	124	1,100	129	149	797	290	700	33
Pig meat consumption (000 tonnes cwe)*	465	472	249	2,143	1,513	4,485	133	2,306	659	1,953	2,620	301
Pig meat consumption (kg/head)*	56.6	43.2	45.6	35.2	25.1	54.2	31.4	39.6	40.2	50.7	59.9	33.1

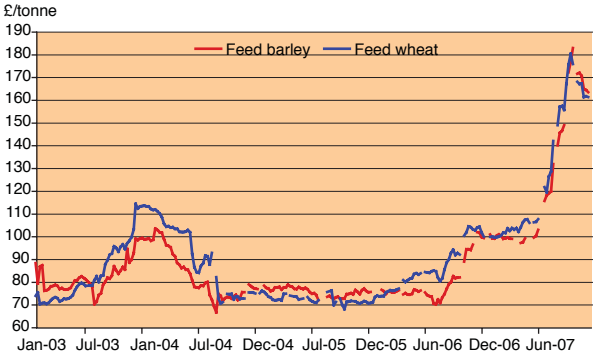
* Estimated figures for 2006
All figures are subject to revision
Source: MLC, Eurostat

European Feed Price Trends

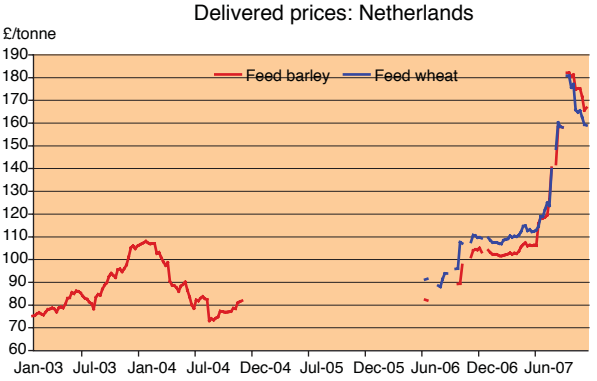
Delivered prices: France



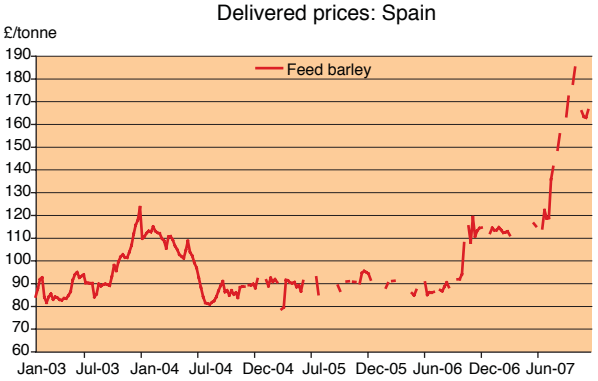
Delivered prices: Germany



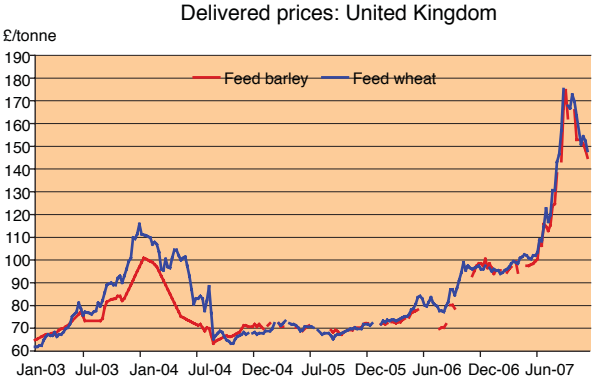
Delivered prices: Netherlands



Delivered prices: Spain



Delivered prices: United Kingdom



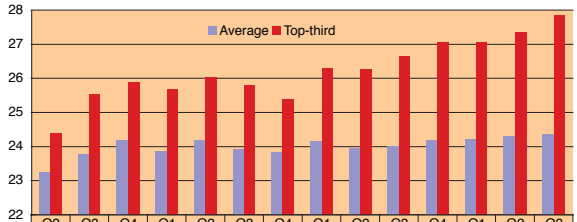
APPENDIX III

National carcase dressing specifications

country	Presentation of the carcase	payment
Denmark	with head and feet, without flare fat, kidneys and trimmings	hot
Belgium	without head and feet, without flare fat, kidneys and trimmings	hot -2%
France	with head (including eyes, ear and tongue), with hooves and tail, without kidneys, diaphragm and flare fat	cold
Netherlands	with the head and the feet (without nails), without flarefat, kidneys and trimmings	hot
UK	with head, feet and tail but without flare fat, kidneys and diaphragm	cold
Czech Republic	with the head, flare fat, skin,without brain, kidneys and organs in breast, abdomen and pelvic cavity	hot
Germany	without reproductive organs, tongue, spinal cord, lard, kidneys, diaphragm, brain, and the organs of thoracic cavity and abdominal cavity	hot
Sweden	with the head, feet and tail. No intestines of any kind. No flare fat.	cold
Ireland	REMOVED : Oesophagus,stomach, intestines,spleen,bladder,heart, liver, lungs,testicles,hair,neck glands,fatty tissue, blood, flare fat,kidneys and diaphragm	cold
Austria	without reproductive organs, tongue, spinal cord, lard, kidneys, diaphragm, brain, and the organs of thoracic cavity and abdominal cavity,with the head and the feet (without nails)	hot

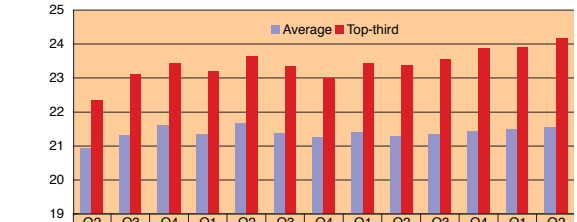
Quarterly Key Performance Indicators

Key Performance Indicators: pigs born/ sow



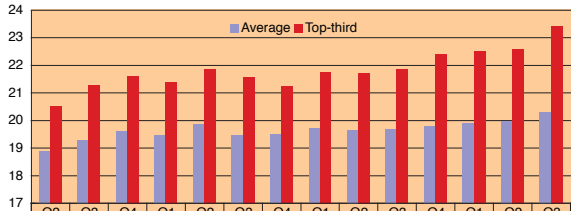
	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007
Average	23.26	23.77	24.18	23.86	24.19	23.92	23.83	24.15	23.94	24.02	24.19	24.22	24.30	24.35
Top-third	24.38	25.52	25.88	25.68	26.03	25.79	25.40	26.30	26.26	26.66	27.05	27.04	27.34	27.86

Key Performance Indicators: pigs weaned/ sow



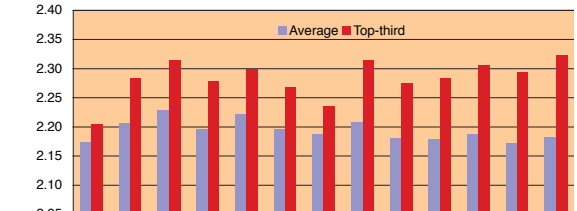
	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007
Average	20.93	21.31	21.61	21.35	21.66	21.36	21.25	21.41	21.27	21.33	21.44	21.47	21.54
Top-third	22.34	23.12	23.43	23.19	23.64	23.33	22.98	23.44	23.38	23.54	23.86	23.91	24.17

Key Performance Indicators: pigs finished/ sow



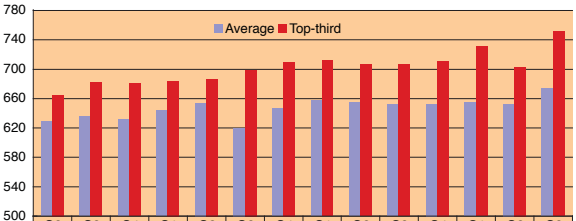
	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007
Average	18.88	19.29	19.61	19.49	19.86	19.48	19.50	19.71	19.66	19.70	19.79	19.89	19.97	20.31
Top-third	20.54	21.28	21.61	21.41	21.88	21.59	21.24	21.76	21.72	21.85	22.40	22.52	22.60	23.43

Key Performance Indicators: litters/ sow



	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007
Average	2.17	2.21	2.23	2.20	2.22	2.20	2.19	2.21	2.18	2.18	2.19	2.17	2.18
Top-third	2.20	2.28	2.31	2.28	2.30	2.27	2.24	2.32	2.28	2.28	2.31	2.29	2.32

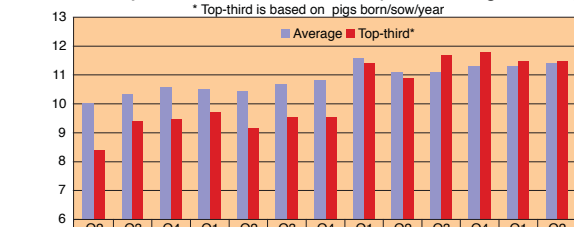
Key Performance Indicators: daily liveweight gain



	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007
Average	629	635	632	644	654	620	646	657	655	652	653	655	653	674
Top-third	665	682	680	684	687	699	710	712	706	707	711	731	703	752

Key Performance Indicators: pre-weaning mortalit

* Top-third is based on pigs born/sow/year

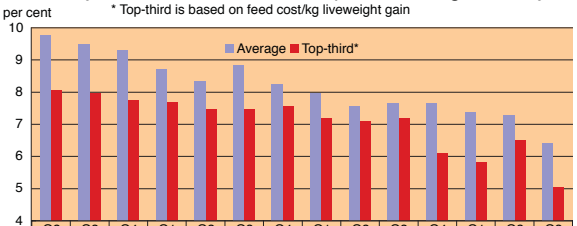


	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007
Average	10.0	10.3	10.6	10.5	10.5	10.7	10.8	11.6	11.1	11.1	11.3	11.3	11.4
Top-third*	8.4	9.4	9.5	9.7	9.2	9.6	9.5	11.4	10.9	11.7	11.8	11.5	11.5

Key Performance Indicators: post-weaning mortality

per cent

* Top-third is based on feed cost/kg liveweight gain



	Q2 2004	Q3 2004	Q4 2004	Q1 2005	Q2 2005	Q3 2005	Q4 2005	Q1 2006	Q2 2006	Q3 2006	Q4 2006	Q1 2007	Q2 2007	Q3 2007
Average	9.8	9.5	9.3	8.7	8.3	8.8	8.2	7.9	7.6	7.7	7.7	7.4	7.3	6.4
Top-third*	8.1	8.0	7.8	7.7	7.5	7.5	7.6	7.2	7.1	7.2	6.1	5.8	6.5	5.0

LOOK FOR THE MARK OF DISTINCTION

All pork, bacon, ham and sausages that carry the Quality Standard Mark come from farmers and processors committed to high standards of animal welfare, quality control and traceability. The production chain is independently audited to ensure compliance with these standards.

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