

Production Costs in International Pig Production

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Preface

The competitively strong countries currently experience a great expansion in pig production. This development is brought about by the liberalisation of the global trade of pig meat and by the low costs in the primary production.

Hence, the costs in the pig industry were studied in a number of the countries that Danish pig production is often compared with.

This paper primarily deals with the most important element of competitiveness: the costs of pig production.

Results of study

The results of the production cost study are calculated per kg carcass, this provides a coherent figure that is compatible across countries.

Figure 1 shows the total production costs per kg carcass in DKK currency.

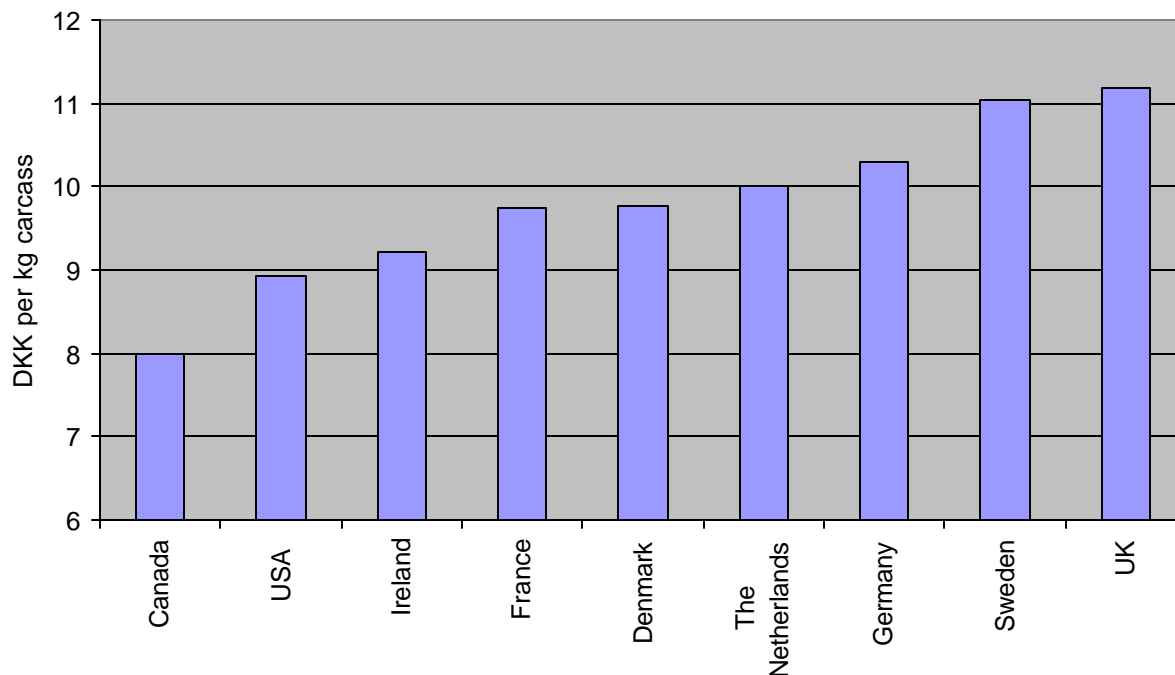


Figure 1. Production costs in 2000 in selected countries.

The countries have been arranged according to their level of costs starting with the lowest costs.

Canada has the lowest production costs corresponding to approx. DKK8 per kg carcass, while the costs in the USA and Ireland are approx. DKK1 higher per kg. France, Denmark and the Netherlands belong to the group of countries with medium-sized costs, while Germany and in particular Sweden and the UK have very high costs.

From 1999 to 2000 dramatic changes took place in the costs in Germany and the Netherlands. The Dutch level of costs has increased and the country is approaching the countries with high costs. Germany, however, tends to approach the countries with medium-sized costs.

Cost categories

Feed

Below the most important cost categories will be dealt with. The efficiency in production will be dealt with in the categories where it is of great relevance. An outline of the feed costs in the individual countries is shown in Figure 2.

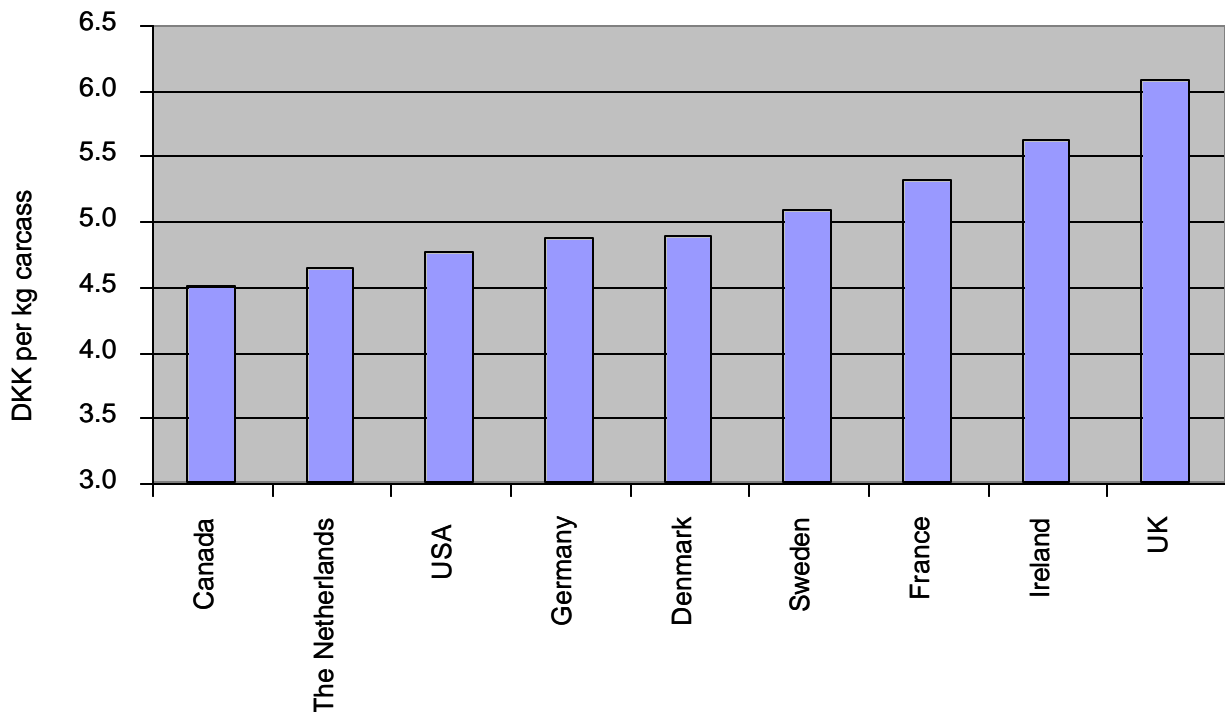


Figure 2. Feed costs per kg carcass.

The feed costs are one of the most important cost categories, as it normally constitutes more than 50% of the overall costs. The overall feed costs are feed for sows, weaners and finishers. The feed costs are affected by feed consumption, feed prices, slaughter weight and number of produced pigs. The most important period with respect to feed consumption is the growth period.

As can be seen from Figure 2, Canada has the lowest overall feed costs, closely followed by the Netherlands and the USA.

In Canada and the USA the feed costs are low, which affects the overall feed costs dramatically. In the Netherlands, the efficiency in pig production greatly contributes to the low feed costs per kg carcass. In particular the number of pigs produced is very high and there is a sound feed conversion in the finisher period.

Germany has relatively low feed costs as the German feed prices have not increased as much as in other countries in the last years. Furthermore, the feed efficiency in the finisher period improved drastically from 1999 to 2000. The feed costs are furthermore affected by a very high slaughter weight. This means that the feed consumption can be split onto more kilos of carcass and thereby the cost per kg carcass drops.

Denmark also has a relatively low level of feed costs, which is primarily due to a good feed efficiency in the finisher unit.

Sweden has slightly higher costs than Denmark caused primarily by a high feed consumption in the sow unit.

The UK and Ireland have high feed costs. This is due to the fact that both countries slaughter the animals at a low weight and feed the pigs a very high content of protein. The high con-

tent of protein contributes to increase the feed price in both the UK and Ireland. The British argue that this is because they import most of the protein. Other matters related to the feed-stuff industry also contribute to high feed prices. This will be described in details later.

Feed efficiency

Factors that affect the feed costs will be dealt with in this section. Figure 3 shows the feed conversion in the individual countries.

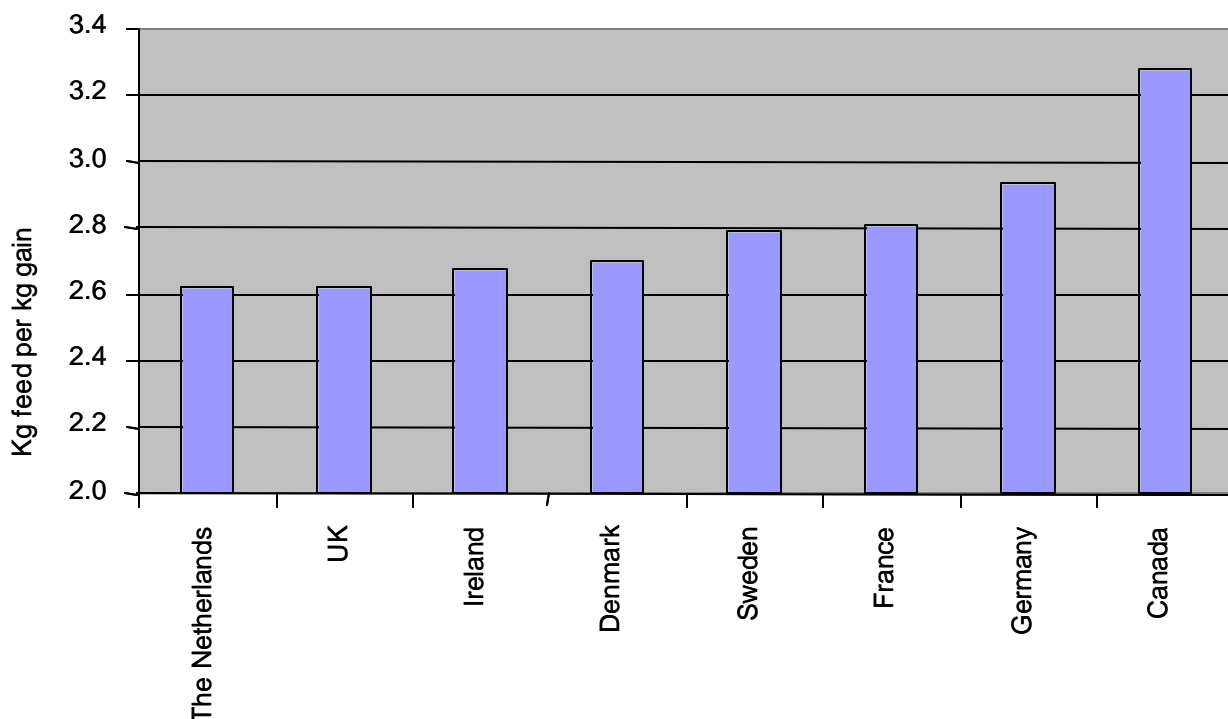


Figure 3. Feed conversion in the finisher period, kg feed per kg gain.

The feed efficiency of the individual countries cannot directly be compared due to differences in the content of the feed and in start and finish weight. It does, nevertheless, give some idea of the level of the feed efficiency.

As seen in Figure 3, the Netherlands has the best feed conversion with a slaughter weight of 87 kg. As mentioned previously, the efficiency is characterised by cessation arrangements where the most inefficient pig producers have resigned.

The UK and Ireland have a low feed conversion, which is connected to a low slaughter weight. Denmark has a relatively good feed conversion, but to reach the top level, improvement is needed.

Canada and Germany differ from the rest of the countries by having a distinctly poorer feed conversion. Even though feed is fairly cheap in Canada, the feed efficiency is of great importance to the costs.

It has not been possible to obtain reliable figures for the efficiency of the feed conversion in the USA. It is, however, expected to be at the same level as or poorer than Canada.

Feed prices

Figure 4 shows the prices of finisher feed in selected countries.

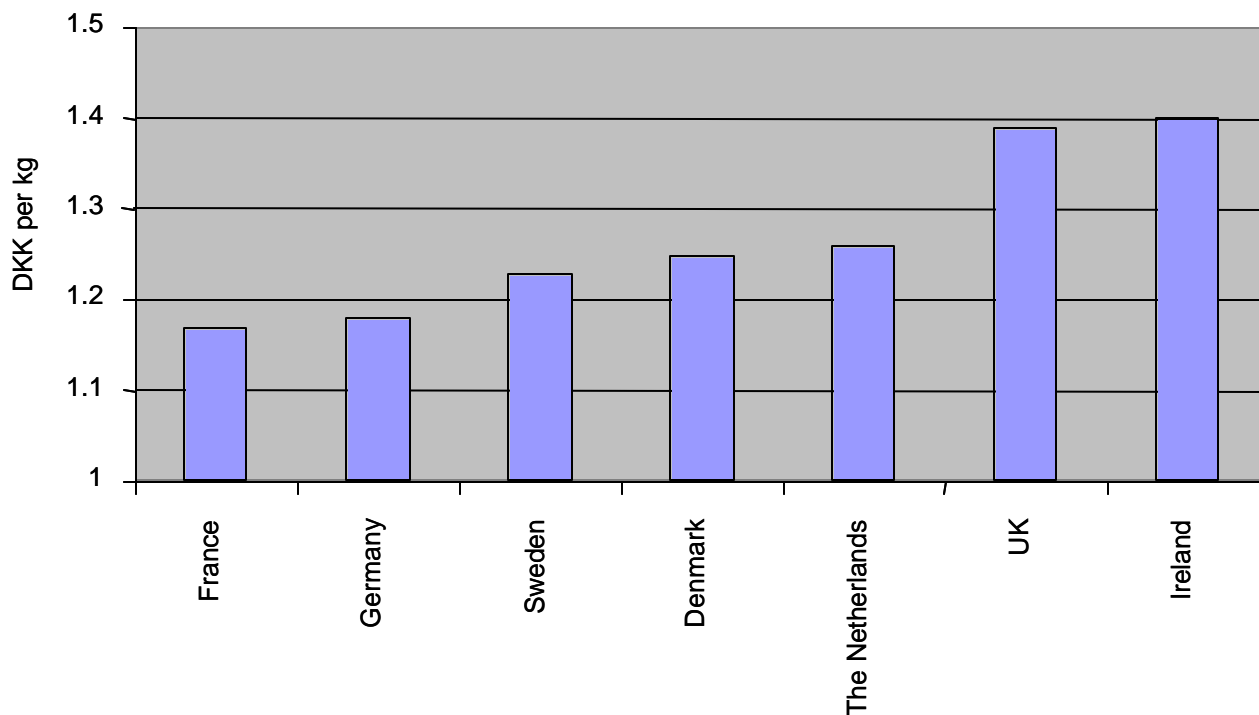


Figure 4. Prices of finisher feed.

During the last years the feed prices in Germany have not increased as much as in the surrounding countries, e.g. Denmark. This means that the production costs of the German pig producers have increased less compared to other countries.

Figure 4 shows that the price level of finisher feed is significantly higher in Ireland and the UK. According to Irish¹ and British agricultural economists² this is a result of the fact that basically all feed is imported. A report on Irish feedstuff industry made by the Teagasc organisation points to several factors that put a strain on the feed prices¹. Transshipment charges in Irish port are higher than in many other European ports. Furthermore, it is pointed out that the Irish processing industry has located the processing in the middle of the country resulting in transport of the ingredients across large distances before they reach the feedstuff plant. This is opposite to the strategies of Danish and Dutch feedstuff companies, where processing is primarily placed close to the ports. Simultaneously with transporting the ingredients several kilometres in Ireland, the report also points to the fact that the transport costs per tonne is twice those of the Netherlands. According to the report, the processing costs are at the same level per tonne for the same size of feedstuff plant. However, the report's comparison of the size of the plant units showed that the Irish and the British feedstuff plants were considerably smaller than the Dutch ones. Thereby the processing costs landed at a significantly higher level. The conclusion of the report is that high costs in the feedstuff industry equal increased feed prices.

¹ Lara Antoinetta, Teagasc, Ireland

² Andrew Knowles, MLC (Meat and Livestock Commission), the UK

France and Germany have the lowest prices of finisher feed among the European countries in the report. It was not possible to obtain comparable prices of finisher feed from Canada and the USA.

Slaughter weight

The average slaughter weight varies considerably between the countries as illustrated in Figure 5.

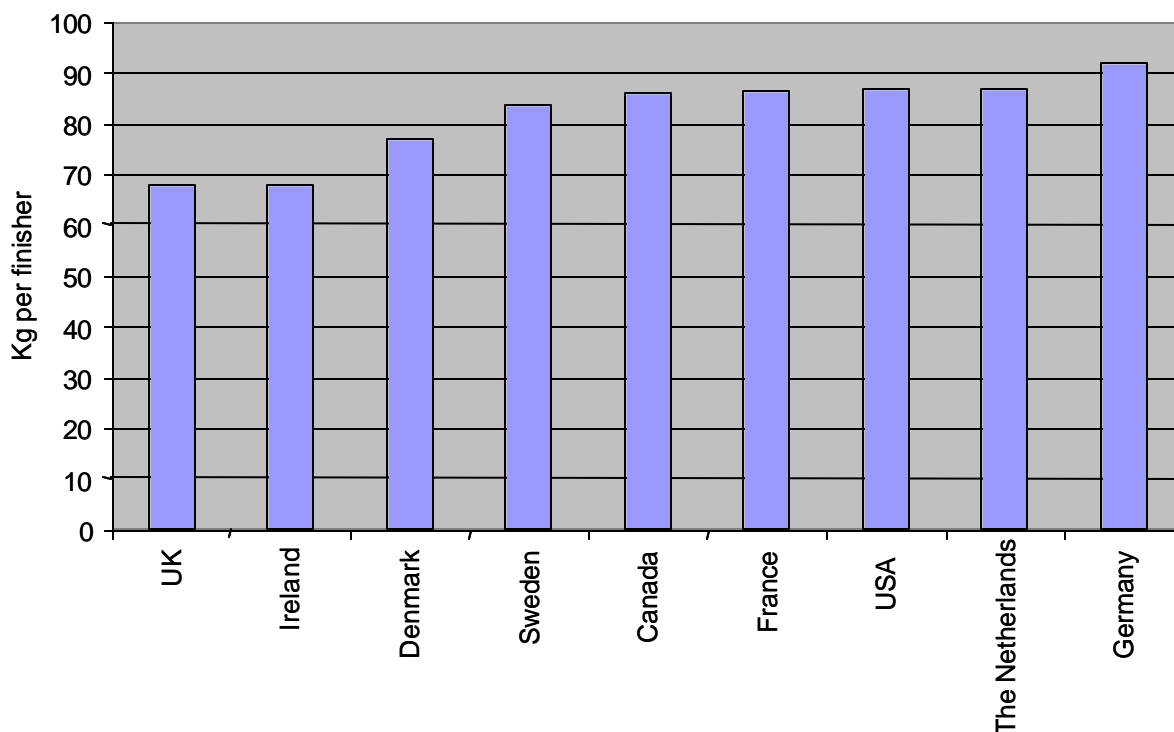


Figure 5. Slaughter weight in selected countries.

Figure 5 shows among others that the highest slaughter weight is found in Germany, and the lowest in the UK and Ireland.

Denmark is placed between the UK, Ireland, and the rest of the countries with a low to medium slaughter weight. The slaughter weight in Denmark is among others conditional upon the large export of bacon to the British market.

A low slaughter weight limits the utilisation of the pig carcass and thereby of the production economy. A high slaughter weight reduces the costs per kg carcass as fixed costs are connected to producing “the life” (the weaner).

Labour costs

Labour costs are also an important category of costs and typically constitutes approx. 15% of the total costs of producing 1 kg pork. It is one of the costs that can be optimised greatly, and thereby help keeping the level of costs down (Figures 6 and 7).

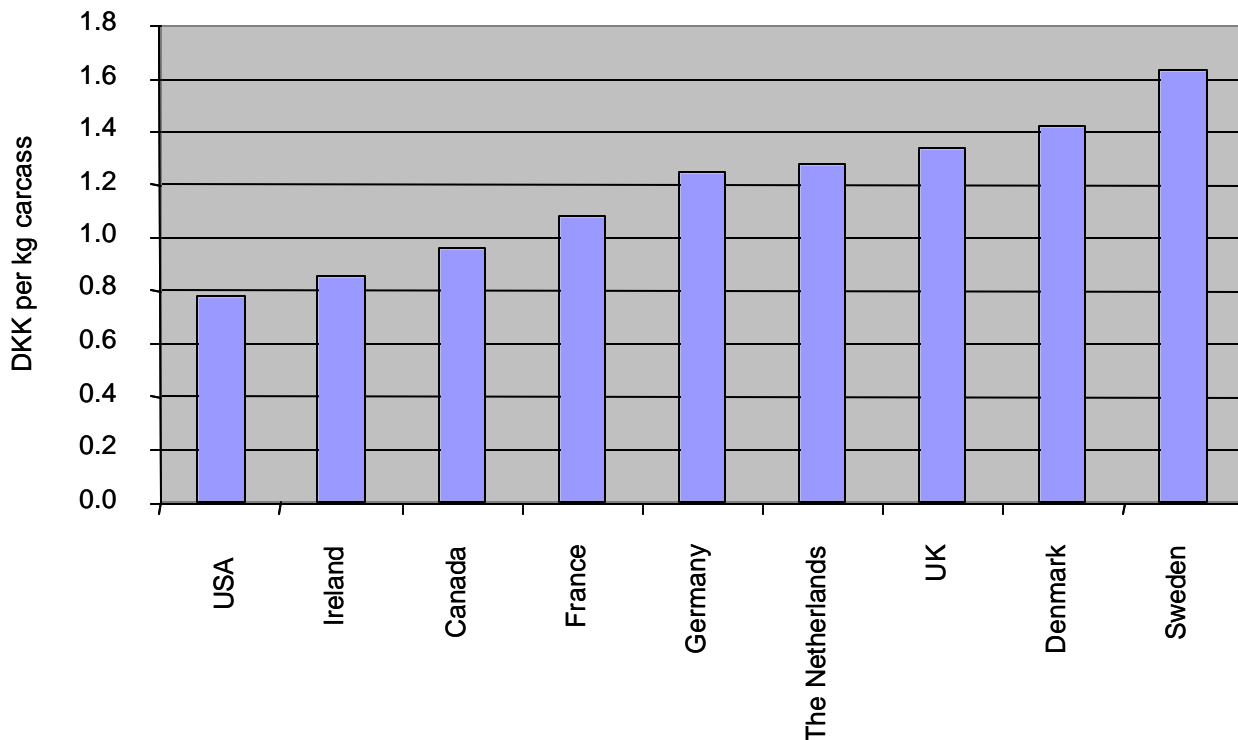


Figure 6. Labour costs per kg carcass.

Factors affecting the labour costs are time consumption and wages.

Labour costs are an area in which the American, the Irish and the Canadian pig producers have a great advantage, as the wage levels there are low. Labour is often well qualified in Ireland as opposed to the USA and Canada where the labour force is often poorly educated.

The UK, the Netherlands and Germany are placed at the same medium level, but the reasons differ. The Netherlands has high hourly wages, while in Germany and the UK the time consumption is high.

The UK has a high time consumption, which the MLC (Meat and Livestock Commission) attributes to the poor standard of the production system. For years, there has been no money for maintenance and new investments.

Denmark and Sweden have the highest labour costs and the labour force is usually well educated. In these countries there is also great competition for the labour. This puts an upward pressure on the wage costs.

Sweden has the highest labour costs among the studied countries. Compared with the Danish costs, primarily the time consumption differs. If the slaughter weight is taken into account,

the time consumption in Sweden is the same as in Denmark from weaning to finish. Thus considerably more time is spent in the pre-weaning period. A possible explanation could be group-housed sows during the entire production course.

In the Swedish pig industry, considerably more straw is used than in Denmark, which results in more manual work and higher time consumption than in the countries with which Sweden is compared.

Wage costs

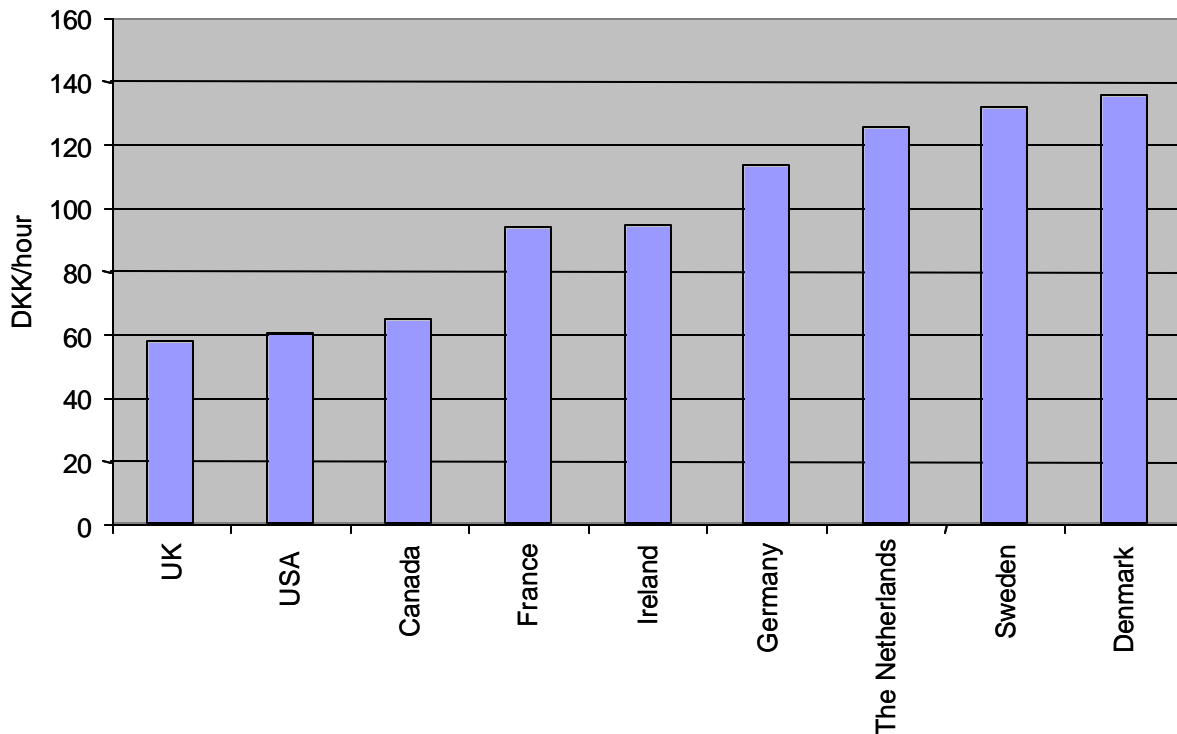


Figure 7. Wage costs per hour.

As illustrated in Figure 7, the UK, the USA and Canada have low wage costs. In the opposite end we find Sweden and Denmark with very high labour costs.

The cost for one working hour in the French pig industry is significantly below the Danish level, which, compared with Denmark, is probably their greatest competitive advantage.

Interest and Depreciation

Interest and depreciation is an important cost category, as it is the largest of the fixed costs. Interest and depreciation lay down the outer frames for the pig production for many years to come. If the costs for financing the production system are high, it will hamper the possibilities for development of the pig production (Figure 8).

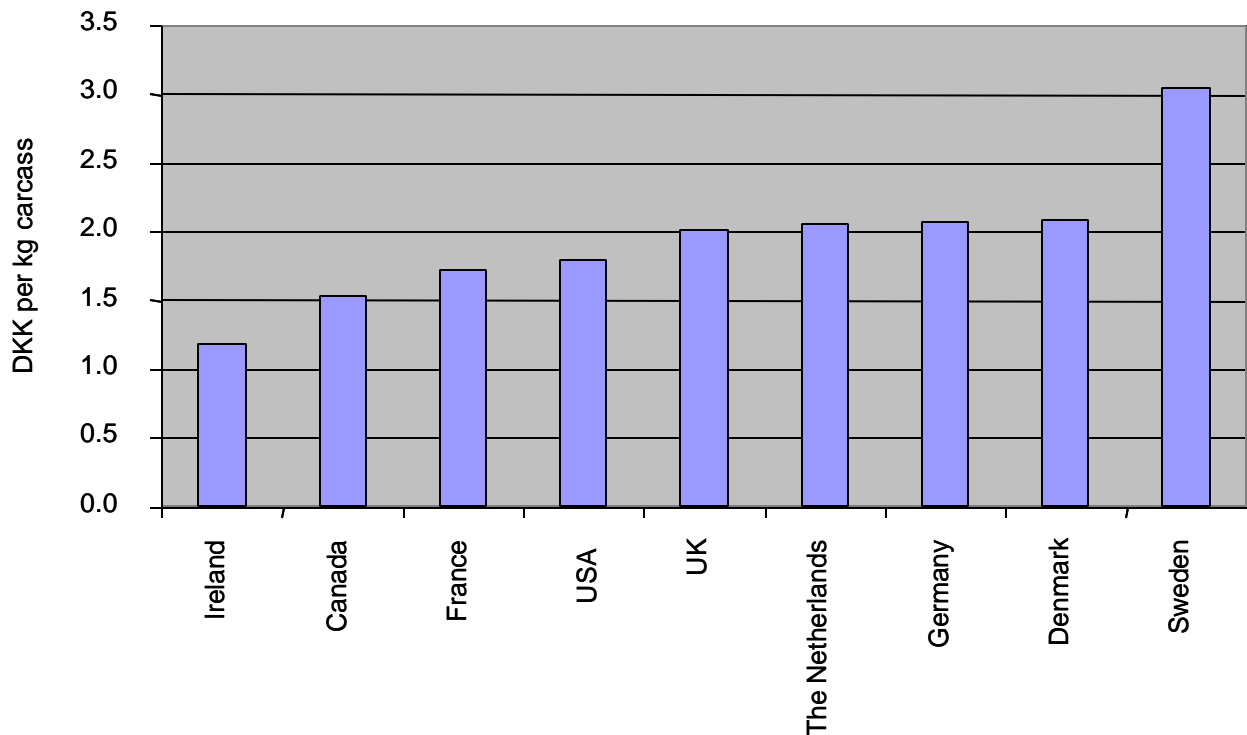


Figure 8. Interest and depreciation

Factors that affect interest rates and depreciation are the price of housing, the level of interest rates, and the number of pigs produced in the system including daily gain and slaughter weight.

Ireland has a low level of interest rates and depreciation, which is due to liberal, national legislation and cheap construction combined with a high efficiency. The dominant explanation given by foreign and Irish experts of the cheap construction is that the standard of the buildings is poor.

The Canadian construction costs are significantly lower than in e.g. Denmark, and interest rates are lower as well.

The American and the French costs of interest and depreciation per kg carcass are also low. The costs of building housing units are higher in France, while a low efficiency in the USA contributes to a poor utilisation of the production system.

Denmark is level with Germany, the Netherlands and the UK. Despite increased legislative tightening, the Netherlands has a very sound level of costs per kg carcass. The costs are kept down by a high efficiency.

Construction of housing units in the Netherlands is governed by regulations on emission of ammonia. These regulations require the pig producer to build environmentally correct, “green” housing units, which are obviously somewhat more costly than corresponding “non-green” housing units. Therefore, high construction costs are regarded as one of the weaknesses of Dutch pig production.

Swedish interest rates and depreciation per kg carcass are the absolute highest among the countries studied, which is primarily due to legislation that orders more space for finishers and group-housed sows.

Below, factors concerning the production efficiency that affect interest rates and depreciation will be dealt with.

Live born piglets

One of the most important figures of efficiency is the number of live born piglets per litter, which explains something about the utilisation of the investment. Many live born piglets means that the fixed costs connected to housing can be split onto many produced pigs. This means lower fixed costs per pig. Figure 9 shows the number of live born piglets.

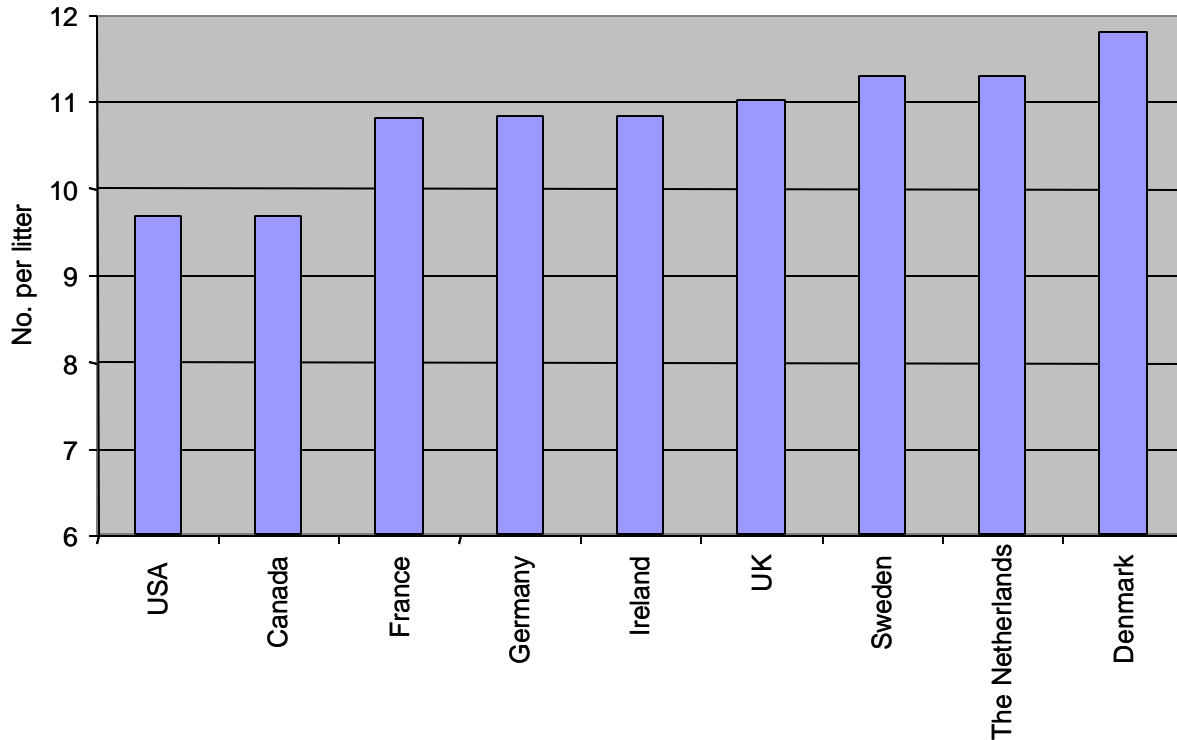


Figure 9. Number of live born piglets per litter.

Figure 9 shows that Denmark is at the top in terms of live born piglets per litter. The Netherlands and Sweden are right behind, and the USA and Canada stand out from the rest of the countries by being at a low level.

The number of live born piglets in France, Germany and Ireland is at medium level and is almost one piglet lower per litter than in Denmark.

The greatest weakness in terms of efficiency of the American pig producers is the number of live born piglets even though the level has improved dramatically after severe problems with PRRS.

Produced finishers per sow per year

It is necessary to keep the weaners alive in order to get the full profit from good reproduction efficiency (Figure 10).

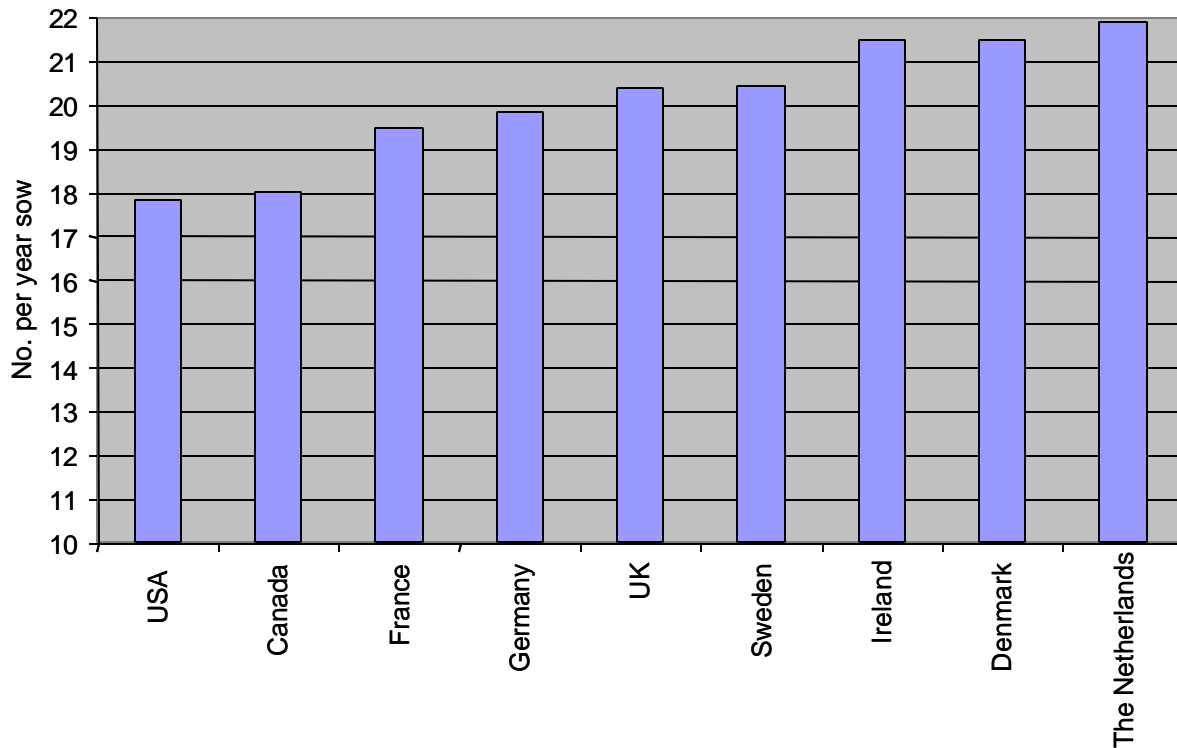


Figure 10. Produced finishers per sow per year .

Denmark, Ireland and the Netherlands stand out from the rest of the countries by being at a high level. France is placed at a low level, primarily due to a high mortality in particular in the finisher unit. The USA and Canada are at the lowest level, due to few live born piglets per litter, cf. Figure 10.

Daily gain in the finisher period

The daily gain in the finisher period is also an expression of the utilisation of the investment and thereby the production economy (Figure 11).

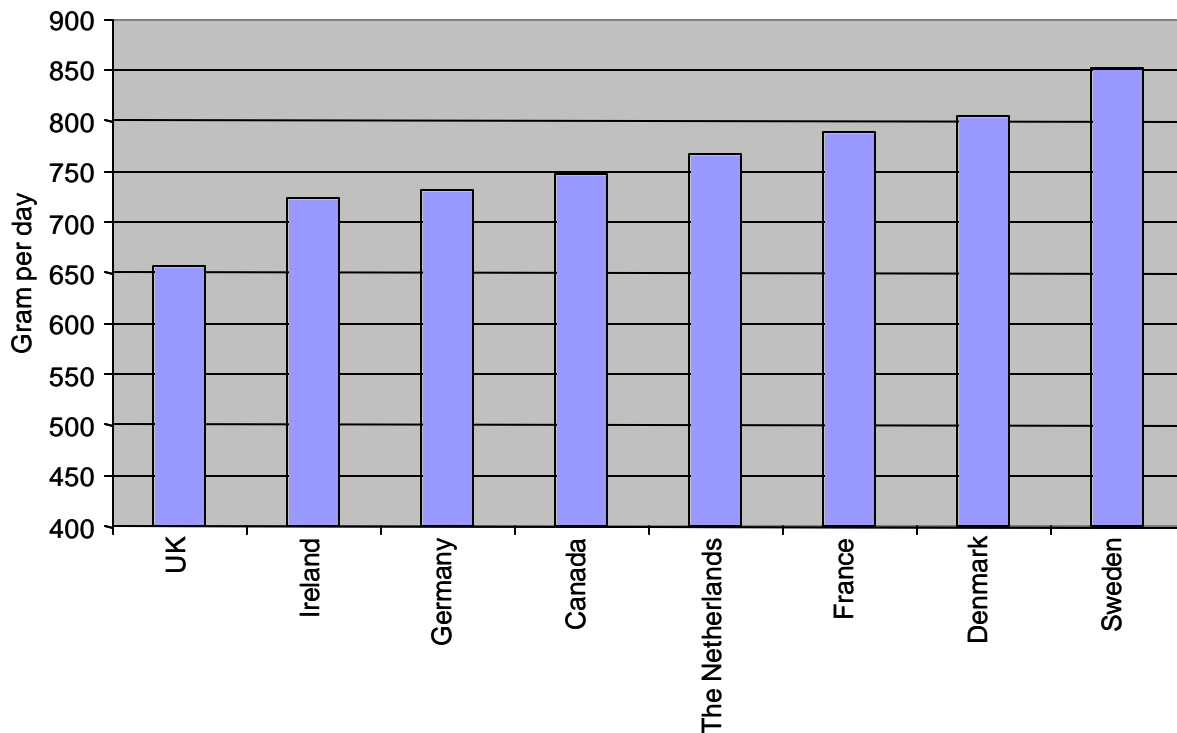


Figure 11. Daily gain in the finisher period.

If the slaughter weight is taken into consideration, the Danish level must be considered as being very satisfactory. The UK and Ireland have the lowest slaughter weight and are therefore naturally placed at the bottom.

In Sweden both daily gain and slaughter weight are high, which is the reason why Sweden is at the top in this category.

Speaker comment

The presentation, at the Manitoba Swine Seminar 2004, will be based on new 2002 figures. Furthermore, the speaker will group the countries in cost categories and look at the development in the pig production across the world. Do low cost countries increase production? Or do factors not connected to the productions cost influence more?