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**International comparison of costs and returns in pig
production at the farm level**

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International comparison of costs and returns in pig production at the farm level

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Inhaltsverzeichnis	Seite
Tabellenverzeichnis	III
Abbildungsverzeichnis	V
1 Introduction	1
2 Characteristics of the pig farms considered	3
2.1 Farm structure and production process	3
2.2 Biological performance	3
3 Calculation of costs and returns	9
3.1 Costs of pig production in the enterprises	9
3.1.1 Sow enterprise	9
3.1.2 Nursery enterprise	10
3.1.3 Fattening enterprise	11
3.2 Costs and returns of the hog enterprise	12
4 Final remarks	15
5 Summary	17
References	19
Appendix	21
Questionnaire for Production Costs Comparison 2002	29

Tabellenverzeichnis	Seite
Table 2.1: General view on farm structure and production processes of the farms	4
Table 2.2: Biological performances of the enterprises	6
Table A.2.1: Biological performance of the sow enterprise	21
Table A.2.2: Biological performance of the nursery enterprise	22
Table A.2.3: Biological performance of the fattening enterprise	23
Table A.3.1: Production costs of the sow enterprise (Euro/weaned piglet)	24
Table A.3.2: Production costs of the nursery enterprise (Euro/reared piglet)	25
Table A.3.3: Production costs of the fattening enterprise (Euro/100 kg slaughter weight)	26
Table A.3.4: Costs and returns of the hog enterprise (Euro/kg slaughter weight)	27

Abbildungsverzeichnis	Seite
Figure 3.1: Production costs of the sow enterprise	9
Figure 3.2: Production costs of the nursery enterprise	10
Figure 3.3: Production costs of the fattening enterprise (Euro/100 kg slaughter weight)	11
Figure 3.4: Costs and returns of the hog enterprise (Euro/kg slaughter weight)	13

1 Introduction

With the support of the Club of the European Pig Producers (EPP), the Institute of Farm Economics and Rural Studies initiated five master's theses aiming to compute comparable values of returns and costs of selected pig farms in different European and American countries (BUSCH, 2002; GAUS, 2002; HELLBRÜGGE, 2003; KNEES, 2002; STENZEL, 2002). The theses should be considered as case studies, the results cannot be considered as representative. However, they demonstrate the utilisation of a method suitable for calculating values for international comparisons of costs and returns in pig production, and they illustrate some national differences in pig production.

Applying the scheme of the DLG for calculating costs and returns, the theses present internationally comparable values useful for evaluating the position of the selected farms in international competition. In order to limit the analysis to the complete process of pig production from piglets to fatteners, the calculations focus on one accounting year of farms producing pigs in a closed system (farrow to finish). The data required for the calculations were collected at the farms by the authors of the theses, who used a uniform questionnaire developed by themselves. The questionnaire used is attached in the appendix.

The main observations and the main results shall be reported in the following. The report presents the results of 19 pig farms, located in the northern, southern and eastern part of Germany, in Denmark, the Netherlands, France, Hungary, the USA, Canada and Brazil. First, farm structure, production process and biological performance of the pig farms are characterised. Then the results of cost calculation in the sow enterprise, the nursery enterprise and the fattening enterprise are calculated. The level of the biological performance of the animals and the level of the production costs of the enterprises can be discussed as detailed indicators of improvement possibilities for the sow, the nursery and the fattening enterprise respectively. But, there are some problems in comparing the results if they refer to farms with different lengths of suckling period, nursery period or fattening period. Therefore, the following evaluation of the international competitive position of the selected pig farms addresses the costs and returns of the whole hog enterprise.

The period of the data characterising the farms varies to a certain degree. It differs due to national bookkeeping regulations and due to varying regulations for different legal forms of enterprises. But, the time period differences cause no serious problems in evaluating the costs of production in pig farms with a closed system, because the main cost positions excepting the feed costs of these farms do not change considerably from year to year.

2 Characteristics of the pig farms considered

2.1 Farm structure and production process

A general view of farm structures and production processes is given in Table 2.1. The code presented in the headline indicates the location of the farms, the number of productive sows, and the number of places for finishing.

The farms differ in size and legal form. The pig farms analysed in Denmark, the Netherlands, the USA, Brazil and the western part of Germany are single firms. Usually, they are family farms, in the most cases smaller than the companies considered in the other countries. With the exception of the Netherlands, the pig farms have farmland and have possibilities for producing own feed and for spreading at least a part of the manure on this land. Every farm produces its own piglets for fattening. However, a third of the farms produce surpluses of piglets which have to be sold, one farm in Denmark and another one in the eastern part of Germany have surpluses of more than 90 %.

While the farms have similar processes of complete pig production from the suckling period to the fattening period, there are some differences in the rhythm of production, the weight of the piglets at weaning, the weight after rearing period and the weight of the fatteners.

2.2 Biological performance

Often, parameters characterising biological performance are viewed as an indicator of management skills in the process of pig production. Some well known biological parameters illustrating the productivity of the farms in the sow enterprise, the nursery enterprise and the fattening enterprise are presented in Table 2.2. But the use of those amounts for comparing productivity is limited because the periods of suckling, nursery and fattening are often different. However, in the following it will be discussed whether there are large deviations with impacts on the returns and the production costs. The Tables A.2.1 to A.2.3 in the appendix illustrate the degree of deviation by coefficients with amounts above or below "1." The coefficients have been computed by dividing the value of each farm by the average of all farms.

Table 2.1: General view on farm structure and production processes of the farms

Code	NI-100-520	NI-176-1300	BY-130-320	BY-153-1050	TH-1323-11500	TH-318-220	DK-205-900	DK-296-300	NL-282-1620	NL-393-2440	FR-467-3870	FR-676-5100	HU-875-4800	HU-856-5760	US-325-2000	US-900-5760	CA-1700-10300	CA-9455-62000	BR-425-2250
Land	Germany	Germany	Germany	Germany	Germany	Germany	Denmark	Denmark	Netherlands	Netherlands	France	France	Hungary	Hungary	USA	USA	Canada	Canada	Brazil
Region	Niedersachsen	Niedersachsen	Bayern	Bayern	Thüringen	Thüringen	Seeland	Nord-Jydland	Gelderland	Noord-Brabant	Bretagne	Bretagne	Jázs-Nagykun Szólnok	Baranjá	Iowa	Iowa	Alberta	Saskatchewan	Parana
Legal form	Single firm	Single firm	Single firm	Single firm	Limited partnership	Ltd.	Single firm	Single firm	Single firm	Ltd.	GAEC 1)	SCEA	Stock Company	Ltd.	Single firm	Single firm	Ltd.	Incorporated Company	Single firm
Farm land ha	58	107	60	71	-	162	50	210	1	3	-	105	45	-	283	405	-	-	-
Accounting year	01.07.2000 30.06.2001	01.07.2000 30.06.2001	01.01.2000 31.12.2000	01.01.2000 31.12.2000	01.07.2000 30.06.2001	01.07.2000 30.06.2001	01.01.2000 31.12.2000	01.01.2000 31.12.2000	01.01.2000 31.12.2000	01.01.2000 31.12.2000	01.10.1999 30.09.2000	01.01.2000 31.12.2000	01.01.2001 31.12.2001	01.01.2001 31.12.2001	01.01.2001 31.12.2001	01.01.2000 31.12.2000	01.09.2000 31.08.2001	01.01.2000 31.12.2000	01.01.2001 31.12.2001
System of pig production	Closed system	Closed system	Partially closed system	Closed system	Closed system	Partially closed system	Closed system	Partially closed system	Partially closed system	Partially closed system	Closed system	Closed system	Closed system	Closed system	Closed system	Closed system	Closed system	Closed system	Closed system
Productive sows	100	176	130	153	1323	318	205	296	282	393	467	676	873	856	325	900	1700	9455	425
Rythm of production	10,5 days	1 week	3 weeks	1 week	10,5 days	1 week									2 weeks		1 week		
Self produced gilts	No	No	Yes a	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Partially	Partially	No	No	Yes	Yes	Yes
Places for nursery	350	800	385	450	6500	1400	1000	1200	800	1440	1750	3180	2200	4000	900	2720	10000	31200	1270
Share of piglets sold	-	-	56 %	5 %	-	94 %	-	94 %	36 %	8,2 %	-	-	-	-	-	-	-	-	-
Weights of weaners	7,8 - 41 kg	7,5 - 35 kg	8,3 - 28 kg	7,4 - 27 kg	6,1 - 27 kg	5,5 - 28 kg	7,1 - 37 kg	6,4 - 35 kg	7,1 - 24 kg	7 - 25 kg	6,6 - 26 kg	6,1 - 32 kg	7,7 - 24 kg	7,3 - 44 kg	5,9 - 29 kg	5,4 - 27 kg	5,5 - 23 kg	5,0 - 24 kg	6,2 - 30 kg
Places for finishing	520	1300	320	1050	11500	220	900	300	1620	2440	3870	5100	4800	5760	2000	5720	10300	62000	2250
Weights of fatteners	41 - 119 kg	35 - 117 kg	28 - 107 kg	27 - 111 kg	27 - 118 kg	28 - 115 kg	37 - 96 kg	35 - 96 kg	24 - 112 kg	25 - 104 kg	26 - 107 kg	32 - 111 kg	24 - 102 kg	44 - 130 kg	29 - 112 kg	27 - 120 kg	23 - 113 kg	24 - 113 kg	30 - 99 kg
Final products	Pigs for slaughter	Pigs for slaughter	Weaners, Pigs for slaughter	Pigs for slaughter, Weaners	Pigs for slaughter	Weaners Pigs for slaughter	Bacon-pigs	Weaners Pigs for slaughter	Pigs for slaughter	Bacon-pigs	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter	Pigs for slaughter

1) GAEC = Groupement Agricole d'Exploitation en Commu ; 2) SCEA = Société Civile d'Exploitation Civile.
Source: Gaus 2002. Own calculation.

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The number of weaned piglets per sow and year is often presented as an overall indicator for the productivity of the **sow enterprise**. It is determined by the number of litters, the number of piglets born live per litter and the rate of mortality during the suckling period. The largest number is found in the Dutch farm NL-282-1620 with 25.7 weaned piglets per sow and year. The numbers from the other Dutch farm and the larger French farm are also significantly above the average (s. Table A.2.1). Clearly below the average are the producers US-900-5760 with 18.6 and CA-1700-10300 with 18.8 weaned piglets per sow and year. With regard to the rate of mortality during the suckler period, there is a large potential for increasing the production of piglets as well on the farms surveyed in Denmark, the Netherlands, northern Germany as well as on the farms US-900-5760 and HU-856-5760.

The productivity of the **nursery enterprise** is characterised in Table 2.2 by the length of the nursery period, the daily gain in weight, the feed turn over and the rate of mortality. Comparing the amounts of the farms presented in Table 2.2 it must be taken into account that the daily gain in weight and the feed turn over also depend on the length of nursery time. Thus, a longer period of nursery contributes to higher amounts of the daily gain in weight and the coefficient of the feed turn over. Therefore, the following discussion concentrates on numbers deviating widely from the average of the farms analysed in the case studies.

The producer NL 176-3000 realises a coefficient of feed turn over and a rate of mortality well below the average (s. Table A.2.2). The farms surveyed in Canada, southern Germany and eastern Germany also have low rates of mortality, but are not as successful in feed turn over. The Danish farms attract attention with coefficients of feed turn over well below the average despite of a long nursery period, while the Hungarian farms have coefficients of feed turn over and rates of mortality significantly above the average.

Table 2.2 describes the productivity of **the fattening enterprise** in terms of the length of the fattening period, the final weight, the daily gain in weight, the coefficient of feed turn over and the rate of mortality. There are also some problems in comparing the farms with regard to their productivity because they differ in the length of the fattening period. Usually, the final weight, the coefficient of feed turn over and the rate of mortality increase with the length of the period. The relation of the gain in weight is more complicated. At the beginning it increases with the live weight, at the end it decreases. In all, the daily gain in weight observed in the farms of the case studies has a strong negative (- 0.80) correlation with the length of the period and shall not be discussed here further (s. Table A.2.3).

Table 2.2: Biological performances of the enterprises

Farm code	Sow enterprise					Nursery enterprise				Fattening enterprise				
	Suckling period	Weaned piglets per sow annually	Live born piglets per litter	Litters per sow annually	Rate of mortality of piglets	Nursery period	Daily gain in weight	Feed consumption /gain in weight	Rate of mortality	Days for fattening	Slaughter weight	Daily gain in weight	Feed Consumption/gain in weight	Rate of mortality
	d	number	number	number	%	d	g/d	kg/kg	%	number	kg	g/d	kg/kg	%
NI-100-520	26.6	22.95	11.45	2.29	12.4	70	456.40	1.71	4.8	98	93.73	794.80	2.81	2.1
NI-176-1300	26.0	24.26	11.48	2.41	12.5	56	491.10	1.19	1.7	114	92.50	720.18	2.89	2.8
TH-318-220	18.0	23.80	10.76	2.46	10.0	50	446.90	1.57	1.7	120	91.00	725.00	2.44	1.0
TH-1323-11500	19.4	22.58	10.03	2.52	10.5	51	409.80	2.27	1.8	140	93.35	650.00	3.05	2.9
BA-130-320	25.8	20.00	10.46	2.15	10.9	51	395.70	1.94	0.8	113	91.00	699.12	3.32	3.1
BA-153-1050	28.0	21.54	10.62	2.14	5.2	42	469.90	2.04	0.9	113	89.90	746.02	2.89	1.0
DK-205-900	25.0	24.16	11.57	2.40	13.0	61	490.20	1.39	3.6	70	74.00	842.86	2.51	2.1
DK-296-300	23.0	23.60	11.65	2.30	12.1	62	461.60	1.46	3.4	79	74.60	775.95	2.76	1.2
NL-282-1620	25.5	25.70	12.21	2.41	12.6	45	379.80	1.65	2.1	121	87.00	727.27	2.85	2.5
NL-393-2440	21.0	24.82	12.28	2.38	15.0	47	392.30	1.59	1.8	94	81.30	836.17	2.62	2.2
FR-467-3870	20.6	23.31	10.93	2.26	5.5	48	408.70	1.38	3.2	112	85.00	720.38	3.20	3.7
FR-676-5100	21.9	25.25	11.87	2.35	9.3	55	464.60	1.67	2.8	94	87.80	846.07	2.81	4.3
HU 875-4800	21.0	20.25	10.58	2.10	9.0	50	314.90	1.81	5.8	140	84.10	557.86	2.41	7.9
HU-856-5760	24.0	20.88	10.19	2.36	13.0	74	500.50	2.10	6.8	150	107.00	571.00	2.39	1.6
US-325-2000	20.0	18.62	10.53	1.94	9.1	51	462.50	1.52	1.9	125	83.81	664.07	3.48	2.8
US-900-5760	18.0	22.10	10.28	2.47	13.0	53	410.80	1.58	3.0	126	88.91	738.00	3.32	3.0
CA-1700-10300	16.0	18.82	9.77	2.14	10.0	40	437.50	1.80	1.3	110	91.00	818.18	3.01	2.2
CA-9455-62000	16.5	23.12	10.98	2.36	10.6	50	382.30	1.85	1.5	105	91.00	847.62	3.34	4.2
BR-450-2250	23.0	19.02	9.33	2.24	9.1	52	457.70	1.69	1.3	110	79.00	626.36	2.67	4.5
<i>Average</i>	22.1	22.36	10.89	2.30	10.7	53	433.33	1.70	2.7	112	87.68	731.94	2.88	2.9

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

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As well the Danish and the Hungarian farms as one farm in eastern Germany have feed turn over coefficients well below the average. With the exception of the Hungarian farm HU-875-4800, they also have low rates of mortality. However, it still has to be checked if the low coefficient of the feed turn over in Hungary is compatible with the long period of fattening. The productivity level of the farms US-325-2000, US-900-5760, CA-9455-62000, FR-467-3870 and BA-130-320 appears low. Their feed turn over coefficients and their rates of mortality are well above the average. In the following it shall be discussed whether the differences between the farms with regard to the indicators of productivity are also reflected by different levels of production costs.

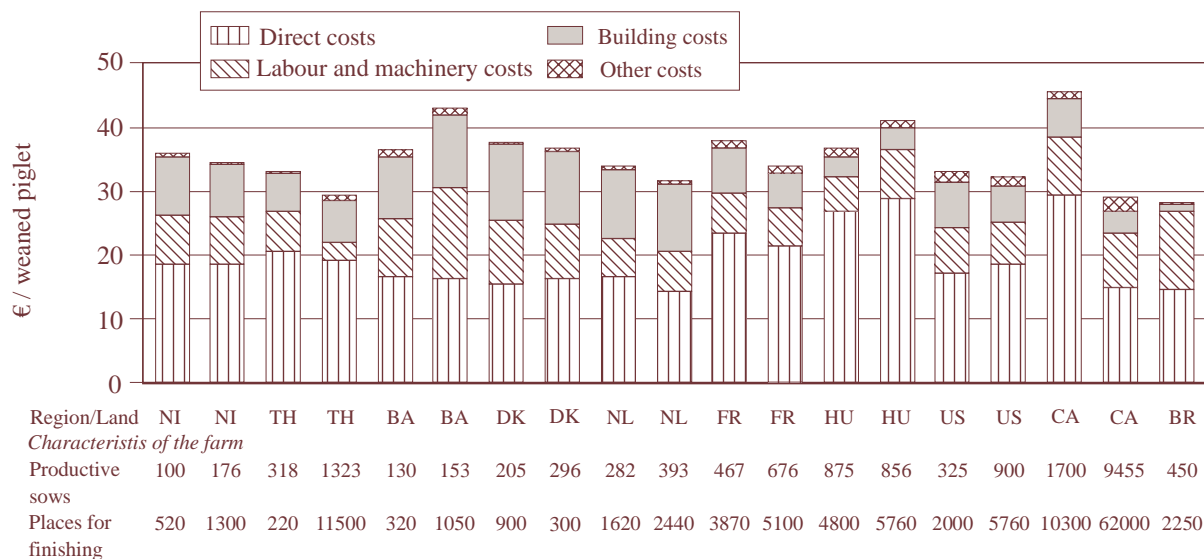
3 Calculation of costs and returns

3.1 Costs of pig production in the enterprises

3.1.1 Sow enterprise

The level of the production costs of a weaned piglet is lowest in the farms BR-450-2250, CA-9455-62000, TH-123-11500 and NL-393-2440 (s. Figure 3.1). The Brazilian farm and the Canadian farm have advantages due to low direct costs and building costs far below the average. The farm in Thüringen benefits from low labour costs. The advantage of the Dutch farm concentrates on the position of the direct costs. Its value of 14,22 Euro is the minimum of all farms considered, which may also result from the large number of piglets weaned annually per sow. But the advantage of the high productivity is partially compensated by above average building costs (s. Table A.3.1 in the appendix). The farms analysed in Denmark and in Niedersachsen also have a high productivity level and low direct costs but high building cost. The advantage of low direct costs and the disadvantage of high building costs is more pronounced in the Danish farm than in the German farms.

Figure 3.1: Production costs of the sow enterprise



Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

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Costs above the average and yields below the average have been found as well in the farm CA-1700-10300, as in the two Hungarian and the two Bavarian farms. The Bavarians have high labour, machinery and buildings costs, but low, below average, direct costs.

The Canadian farm and the Hungarian farms have direct cost disadvantages and building costs advantages.

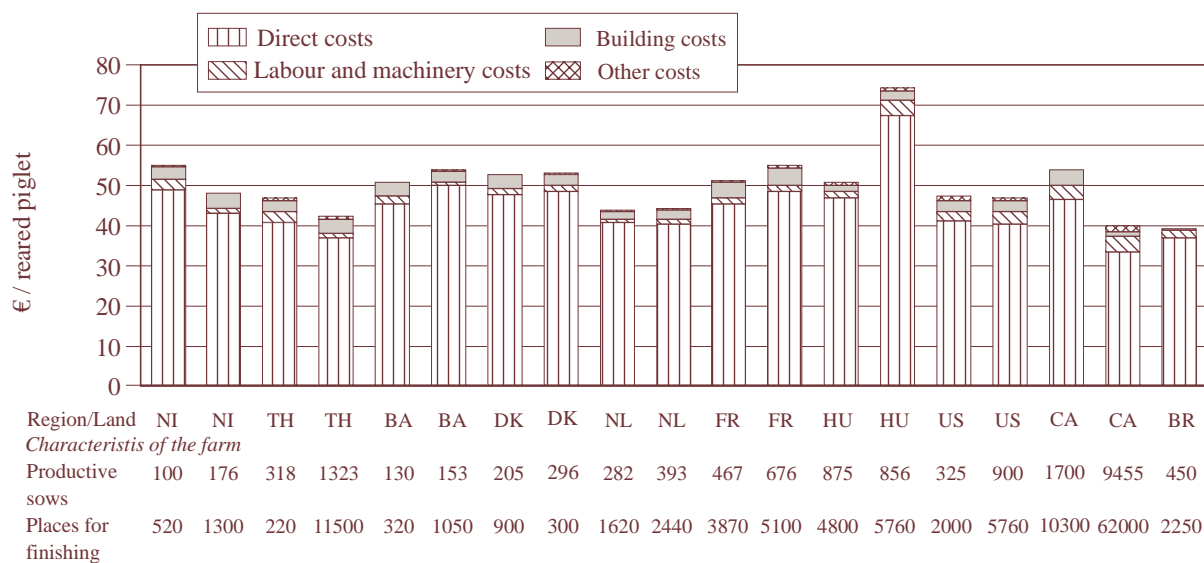
The relation between production costs and biological performance as expressed by the coefficient of correlation between the number of piglets weaned annually per sow on the one hand, and the direct costs and the total costs on the other hand as presented in Table A.3.1, indicates that many farms with a high productivity level have a low cost level. However, more sophisticated methods have to be applied to prove the contribution of a high number of piglets weaned annually per sow to a low cost level.

3.1.2 Nursery enterprise

The input of weaned piglets is the largest cost component of the nursery enterprise. Its share in total costs of nursery amounts to more than 60 percent in nearly all farms considered. Thus, it determines to a large degree the production costs of the nursery enterprise.

The farms with low weaned piglets costs like BR-450-2250, CA-9455-62000, TH-1323-11500, NL-393-2440 and NL-282-1620 also have the lowest cost per reared piglet (s. Figure 3.2). In contrast, the Hungarian and Danish farms as well as one farm in Canada and one in Niedersachsen are above the average (s. Table A.3.2).

Figure 3.2: Production costs of the nursery enterprise



Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

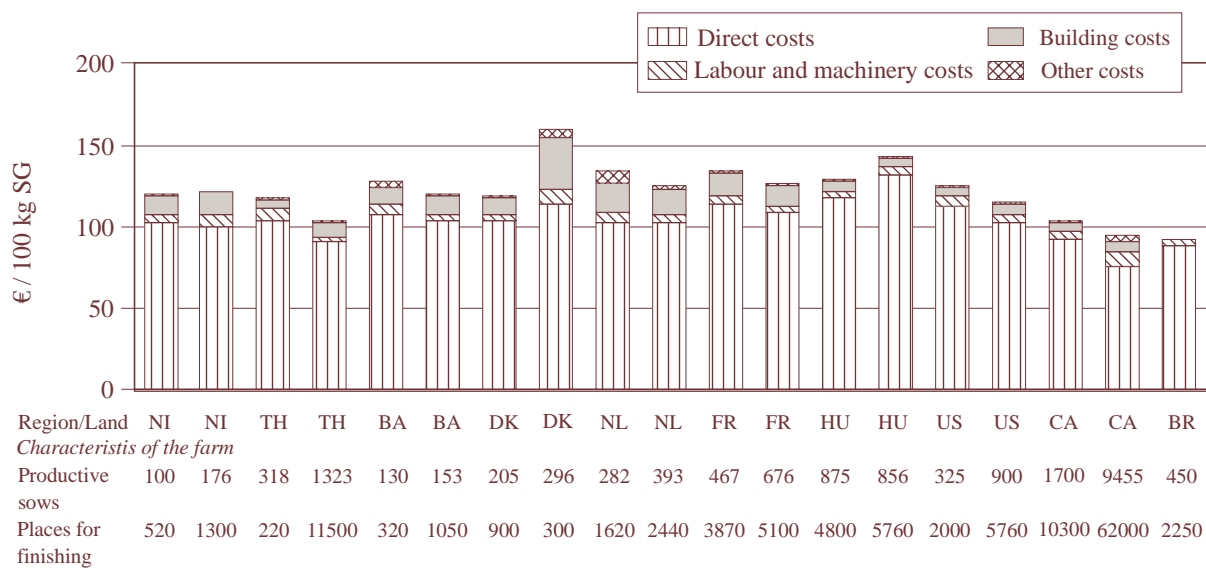
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This simple comparison does not take into account varying periods of nursery. However, this problem is less important in a closed system if the results of the nursery enterprise are discussed in context with the fattening enterprise.

3.1.3 Fattening enterprise

Considering the average of the pig farms, half the production cost of the fattening enterprise are piglets costs. Usually, piglets costs below (above) the average mean in the most cases that the production cost per fattener will also be below (above) the average (s. Table A.3.3 in the appendix). The Canadian farms CA-9455-6200 and the farm TH-1323-11500 have the lowest piglets costs and have very low total costs per fattener (s. Figure 3.3). Furthermore, the Canadian farms have minimal building costs and feed costs. However, the total costs are lowest in the Brazilian farm where the building costs are nearly zero.

Figure 3.3: Production costs of the fattening enterprise (Euro/100 kg slaughter weight)



Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

Similar to the sow enterprise, the direct costs of the fattening enterprise in the Dutch farms are below the average but the total costs are above average. Here, the high level of total costs results mainly from high building costs and from environmental regulations. The total costs of the French farms are also above the average. In this case, they result from high piglets cost. Additionally the feed costs of the farm FR-467-3870 exceed the

average. The higher level of feed costs may be caused by the poor rate of feed turnover, similar to the farm BA-130-320.

Total costs remarkably above average have also been calculated in the farm DK-296-300 and the Hungarian farms. The Hungarian have high amounts of direct costs due to high feed costs and high rates of mortality. The Danish farm is a special case because it produces mainly piglets. The fattening is confined to remainders, often characterised by low utilisation of capacity and high building, labour and machinery costs.

In comparing the costs of the fattening enterprises, it also must be taken into account that the costs also depend on the weight of the pigs at the beginning of the fattening process. This weight varies from farm to farm. Usually, low (high) weights of piglets will decrease (increase) the share of the direct costs and increase (decrease) the share of the other cost components. However, the varying weight of piglets is not a problem if the whole hog enterprise is considered.

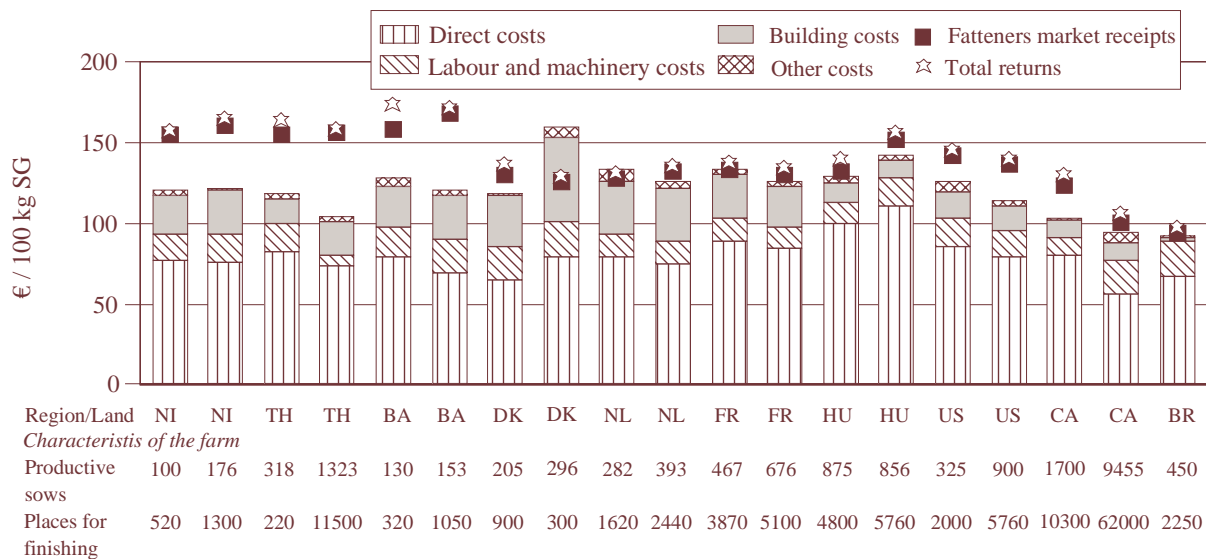
3.2 Costs and returns of the hog enterprise

The calculation of costs and returns of the hog enterprise also refer to 100 kg slaughter weight. Total costs vary from 93 Euro to 160 Euro (s. Figure 3.4). The highest value results for the Danish farm DK-296-300, the lowest for the Brazilian. However, the farm DK-296-300 will not be considered here further because its fattening of remainders has less importance than the pig fattening in the other farms.

The Canadian farms have advantages mainly through low direct costs and low building costs. However, total production costs are lowest in the Brazilian farm, mainly due to very low building costs (s. Table A.3.4 in the appendix). On the other hand, the Hungarian farms have disadvantages due to poorer biological performance. The poor rate of feed turnover and the high rates of mortality result in high direct costs. The advantage of low labour costs and low building costs in Hungary is not big enough to compensate the high direct cost.

The farm FR-467-3870 illustrates the disadvantages of the farms considered in France. They result from high building costs and above average direct costs due to the purchase of expensive gilts. A level of production costs above the average has also been calculated in the Dutch farms. Their disadvantage results from high building costs, expenditures for manure and the purchase of rights of production reflected by the high value of the component “other costs”.

Figure 3.4: Costs and returns of the hog enterprise (Euro/kg slaughter weight)



Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

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With the exception of the farm TH-1323-11500 the production costs of the remaining farms in the USA, Denmark and Germany do not deviate significantly from the average. But the cost components show more pronounced differences. The farms in the USA have advantages with low building costs. But, due to poor feed turn over they have no feed costs advantages despite low feed prices. High building costs have been calculated for the farms visited in Denmark and western Germany. But the high building costs are compensated by low direct costs, excepting the farm BA-130-320 where the sale of gilts play an important role.

The profitability of pig production depends as well on costs as on returns which include the sale of fatteners, piglets and replaced sows, further the change of livestock. The German pig producers have advantages through markedly higher prices. The producers in Bavaria get the highest prices and realise the highest returns. In the final analysis, the competitive position depends on the difference between returns and costs. This difference is largest in the farms of Thüringen followed by Bavaria. The Hungarian producers still have returns high enough to compensate their high costs. But, one Danish farm and one Dutch farm cannot compensate the production costs be returns.

4 Final remarks

The results of the master theses demonstrate possibilities for obtaining detailed insights into pig production and costs on the basis of data collected with the help of a suitable questionnaire. Due to the limited sample, the results can not yet be considered as representative. Further, the accuracy of the results depends on the willingness of the farmers to present all data required and on the exactness of the calculations done by the authors of the master theses. However, the analysis of the enterprises of pig production in detail indicates an increasing importance of the piglets costs.

5 Summary

With the intention of improving knowledge on the competitive position of pig production in different countries, the Institute of Farm Economics and Rural Studies initiated five master theses calculating costs and returns for an international comparison of pig producing farms with the support of the EPP. Comparable values of all returns and cost positions have been computed for farms in different European and American countries. The computations are based on the scheme of the DLG for calculating costs and returns of hog enterprises. The calculation concerns farms producing pigs in a closed system (farrow to finish).

Final results of the calculation are costs and returns per 100 kg slaughter weight. Total costs vary from 93 Euro in Brazil to 143 Euro in Hungary. The differences between returns and costs is largest in the German farms.

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Table A.2.1: Biological performance of the sow enterprise

Farm code	Suckling period d	Weaned piglets per sow annually number	Live born piglets per litter number	Litters per sow annually number	Rate of mortality of piglets %
NI-100-520	26.6	22.95	11.45	2.29	12.4
NI-176-1300	26.0	24.26	11.48	2.41	12.5
TH-318-220	18.0	23.80	10.76	2.46	10.0
TH-1323-11500	19.4	22.58	10.03	2.52	10.5
BA-130-320	25.8	20.00	10.46	2.15	10.9
BA-153-1050	28.0	21.54	10.62	2.14	5.2
DK-205-900	25.0	24.16	11.57	2.40	13.0
DK-296-300	23.0	23.60	11.65	2.30	12.1
NL-282-1620	25.5	25.70	12.21	2.41	12.6
NL-393-2440	21.0	24.82	12.28	2.38	15.0
FR-467-3870	20.6	23.31	10.93	2.26	5.5
FR-676-5100	21.9	25.25	11.87	2.35	9.3
HU 875-4800	21.0	20.25	10.58	2.10	9.0
HU-856-5760	24.0	20.88	10.19	2.36	13.0
US-325-2000	20.0	18.62	10.53	1.94	9.1
US-900-5760	18.0	22.10	10.28	2.47	13.0
CA-1700-10300	16.0	18.82	9.77	2.14	10.0
CA-9455-62000	16.5	23.12	10.98	2.36	10.6
BR-450-2250	23.0	19.02	9.33	2.24	9.1
<i>Average</i>	<i>22.1</i>	<i>22.40</i>	<i>10.90</i>	<i>2.30</i>	<i>10.7</i>
Average = 1					
NI-100-520	1.20	1.02	1.05	1.00	1.16
NI-176-1300	1.18	1.08	1.05	1.05	1.17
TH-318-220	0.81	1.06	0.99	1.07	0.93
TH-1323-11500	0.88	1.01	0.92	1.10	0.98
BA-130-320	1.17	0.89	0.96	0.93	1.02
BA-153-1050	1.27	0.96	0.97	0.93	0.49
DK-205-900	1.13	1.08	1.06	1.04	1.21
DK-296-300	1.04	1.05	1.07	1.00	1.13
NL-282-1620	1.15	1.15	1.12	1.05	1.18
NL-393-2440	0.95	1.11	1.13	1.03	1.40
FR-467-3870	0.93	1.04	1.00	0.98	0.51
FR-676-5100	0.99	1.13	1.09	1.02	0.87
HU 875-4800	0.95	0.90	0.97	0.91	0.84
HU-856-5760	1.09	0.93	0.93	1.03	1.22
US-325-2000	0.90	0.83	0.97	0.84	0.85
US-900-5760	0.81	0.99	0.94	1.07	1.21
CA-1700-10300	0.72	0.84	0.90	0.93	0.93
CA-9455-62000	0.75	1.03	1.01	1.03	0.99
BR-450-2250	1.04	0.85	0.86	0.97	0.85
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with the length of the suckling period	1.00	0.18	0.32	-0.08	0.05

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

Hxs_2003-12-18

Table A.2.2: Biological performance of the nursery enterprise

Farm code	Nursery period d	Daily gain in weight g/d	Feed consumption / gain in weight kg/kg	Rate of mortality %
NI-100-520	70	456.40	1.71	4.8
NI-176-1300	56	491.10	1.19	1.7
TH-318-220	50	446.90	1.57	1.7
TH-1323-11500	51	409.80	2.27	1.8
BA-130-320	51	395.70	1.94	0.8
BA-153-1050	42	469.90	2.04	0.9
DK-205-900	61	490.20	1.39	3.6
DK-296-300	62	461.60	1.46	3.4
NL-282-1620	45	379.80	1.65	2.1
NL-393-2440	47	392.30	1.59	1.8
FR-467-3870	48	408.70	1.38	3.2
FR-676-5100	55	464.60	1.67	2.8
HU 875-4800	50	314.90	1.81	5.8
HU-856-5760	74	500.50	2.10	6.8
US-325-2000	51	462.50	1.52	1.9
US-900-5760	53	410.80	1.58	3.0
CA-1700-10300	40	437.50	1.80	1.3
CA-9455-62000	50	382.30	1.85	1.5
BR-450-2250	52	457.70	1.69	1.3
<i>Average</i>	53	433.30	1.70	2.7
Average = 1				
NI-100-520	1.32	1.05	1.01	1.77
NI-176-1300	1.06	1.13	0.70	0.63
TH-318-220	0.94	1.03	0.92	0.64
TH-1323-11500	0.96	0.95	1.34	0.65
BA-130-320	0.96	0.91	1.14	0.30
BA-153-1050	0.79	1.08	1.20	0.34
DK-205-900	1.15	1.13	0.82	1.34
DK-296-300	1.17	1.07	0.86	1.26
NL-282-1620	0.85	0.88	0.97	0.78
NL-393-2440	0.89	0.91	0.94	0.67
FR-467-3870	0.91	0.94	0.81	1.20
FR-676-5100	1.04	1.07	0.98	1.02
HU 875-4800	0.94	0.73	1.06	2.13
HU-856-5760	1.40	1.16	1.24	2.53
US-325-2000	0.96	1.07	0.89	0.71
US-900-5760	1.00	0.95	0.93	1.11
CA-1700-10300	0.75	1.01	1.06	0.50
CA-9455-62000	0.94	0.88	1.09	0.56
BR-450-2250	0.98	1.06	0.99	0.50
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with the length of the nursery period	1.00	0.49	-0.02	0.72

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

Hxs_2003-12-18

Table A.2.3: Biological performance of the fattening enterprise

Farm code	Days for fattening number	Slaughter weight kg	Daily gain in weight g/d	Feed Consumption/gain in weight kg/kg	Rate of mortality %
NI-100-520	98	93.73	794.80	2.81	2.1
NI-176-1300	114	92.50	720.18	2.89	2.8
TH-318-220	120	91.00	725.00	2.44	1.0
TH-1323-11500	140	93.35	650.00	3.05	2.9
BA-130-320	113	91.00	699.12	3.32	3.1
BA-153-1050	113	89.90	746.02	2.89	1.0
DK-205-900	70	74.00	842.86	2.51	2.1
DK-296-300	79	74.60	775.95	2.76	1.2
NL-282-1620	121	87.00	727.27	2.85	2.5
NL-393-2440	94	81.30	836.17	2.62	2.2
FR-467-3870	112	85.00	720.38	3.20	3.7
FR-676-5100	94	87.80	846.07	2.81	4.3
HU 875-4800	140	84.10	557.86	2.41	7.9
HU-856-5760	150	107.00	571.00	2.39	1.6
US-325-2000	125	83.81	664.07	3.48	2.8
US-900-5760	126	88.91	738.00	3.32	3.0
CA-1700-10300	110	91.00	818.18	3.01	2.2
CA-9455-62000	105	91.00	847.62	3.34	4.2
BR-450-2250	110	79.00	626.36	2.67	4.5
<i>Average</i>	<i>112</i>	<i>87.68</i>	<i>731.94</i>	<i>2.88</i>	<i>2.9</i>
Average = 1					
NI-100-520	0.87	1.07	1.09	0.97	0.71
NI-176-1300	1.01	1.05	0.98	1.00	0.95
TH-318-220	1.07	1.04	0.99	0.85	0.34
TH-1323-11500	1.25	1.06	0.89	1.06	1.00
BA-130-320	1.01	1.04	0.96	1.15	1.07
BA-153-1050	1.01	1.03	1.02	1.00	0.34
DK-205-900	0.62	0.84	1.15	0.87	0.72
DK-296-300	0.70	0.85	1.06	0.96	0.40
NL-282-1620	1.08	0.99	0.99	0.99	0.87
NL-393-2440	0.84	0.93	1.14	0.91	0.77
FR-467-3870	1.00	0.97	0.98	1.11	1.27
FR-676-5100	0.84	1.00	1.16	0.97	1.49
HU 875-4800	1.25	0.96	0.76	0.84	2.74
HU-856-5760	1.34	1.22	0.78	0.83	0.57
US-325-2000	1.11	0.96	0.91	1.21	0.96
US-900-5760	1.12	1.01	1.01	1.15	1.03
CA-1700-10300	0.98	1.04	1.12	1.04	0.77
CA-9455-62000	0.93	1.04	1.16	1.16	1.46
BR-450-2250	0.98	0.90	0.86	0.93	1.56
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with the length of the fattening period	1.00	0.67	-0.80	0.06	0.26

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

Hxs_2003-12-18

Table A.3.1: Production costs of the sow enterprise (Euro/weaned piglet)

Farm code	Direct costs	Labour and machinery costs	Building costs	Other costs	Total costs	Weaned piglets per sow annually
NI-100-520	18.61	7.80	8.87	0.72	35.99	23.0
NI-176-1300	18.68	7.32	8.21	0.38	34.59	24.3
TH-318-220	20.61	6.27	5.91	0.42	33.21	23.8
TH-1323-11500	19.15	2.87	6.51	0.89	29.42	22.6
BA-130-320	16.59	9.22	9.68	0.95	36.44	20.0
BA-153-1050	16.47	13.99	11.52	1.01	42.98	21.5
DK-205-900	15.43	9.90	12.00	0.26	37.59	24.2
DK-296-300	16.23	8.66	11.34	0.61	36.85	23.6
NL-282-1620	16.50	6.16	10.62	0.61	33.90	25.7
NL-393-2440	14.22	6.26	10.59	0.52	31.59	24.8
FR-467-3870	23.40	6.18	7.31	0.99	37.88	23.3
FR-676-5100	21.54	5.81	5.43	1.22	34.00	25.3
HU 875-4800	26.94	5.37	3.20	1.26	36.78	20.3
HU-856-5760	28.92	7.65	3.28	1.28	41.12	20.9
US-325-2000	17.11	7.05	7.18	1.78	33.12	18.6
US-900-5760	18.61	6.63	5.52	1.57	32.34	22.1
CA-1700-10300	29.39	9.15	5.90	1.04	45.49	18.8
CA-9455-62000	14.91	8.64	3.26	2.29	29.11	23.1
BR-450-2250	14.71	12.18	1.12	0.33	28.44	19.0
<i>Average</i>	<i>19.37</i>	<i>7.74</i>	<i>7.23</i>	<i>0.95</i>	<i>35.31</i>	<i>22.4</i>
Average = 1						
NI-100-520	0.96	1.01	1.23	0.75	1.02	1.03
NI-176-1300	0.96	0.95	1.13	0.40	0.98	1.09
TH-318-220	1.06	0.81	0.82	0.44	0.94	1.06
TH-1323-11500	0.99	0.37	0.90	0.93	0.83	1.01
BA-130-320	0.86	1.19	1.34	1.00	1.03	0.89
BA-153-1050	0.85	1.81	1.59	1.06	1.22	0.96
DK-205-900	0.80	1.28	1.66	0.27	1.06	1.08
DK-296-300	0.84	1.12	1.57	0.64	1.04	1.06
NL-282-1620	0.85	0.80	1.47	0.64	0.96	1.15
NL-393-2440	0.73	0.81	1.46	0.54	0.89	1.11
FR-467-3870	1.21	0.80	1.01	1.04	1.07	1.04
FR-676-5100	1.11	0.75	0.75	1.28	0.96	1.13
HU 875-4800	1.39	0.69	0.44	1.32	1.04	0.91
HU-856-5760	1.49	0.99	0.45	1.34	1.16	0.93
US-325-2000	0.88	0.91	0.99	1.87	0.94	0.83
US-900-5760	0.96	0.86	0.76	1.65	0.92	0.99
CA-1700-10300	1.52	1.18	0.82	1.09	1.29	0.84
CA-9455-62000	0.77	1.12	0.45	2.40	0.82	1.03
BR-450-2250	0.76	1.57	0.15	0.35	0.81	0.85
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with the number of piglets per sow annually	-0.31	-0.35	0.44	-0.32	-0.24	1.00
Cost breakdown (Total costs = 100)						
NI-100-520	51.71	21.67	24.65	2.00	100	
NI-176-1300	54.00	21.16	23.74	1.10	100	
TH-318-220	62.06	18.88	17.80	1.26	100	
TH-1323-11500	65.09	9.76	22.13	3.03	100	
BA-130-320	45.53	25.30	26.56	2.61	100	
BA-153-1050	38.32	32.55	26.80	2.35	100	
DK-205-900	41.05	26.34	31.92	0.69	100	
DK-296-300	44.04	23.50	30.77	1.66	100	
NL-282-1620	48.67	18.17	31.33	1.80	100	
NL-393-2440	45.01	19.82	33.52	1.65	100	
FR-467-3870	61.77	16.31	19.30	2.61	100	
FR-676-5100	63.35	17.09	15.97	3.59	100	
HU 875-4800	73.25	14.60	8.70	3.43	100	
HU-856-5760	70.33	18.60	7.98	3.11	100	
US-325-2000	51.66	21.29	21.68	5.37	100	
US-900-5760	57.54	20.50	17.07	4.85	100	
CA-1700-10300	64.61	20.11	12.97	2.29	100	
CA-9455-62000	51.22	29.68	11.20	7.87	100	
BR-450-2250	51.72	42.83	3.94	1.16	100	
<i>Average</i>	<i>54.86</i>	<i>21.93</i>	<i>20.49</i>	<i>2.70</i>	<i>100</i>	

Table A.3.2: Production costs of the nursery enterprise (Euro/reared piglet)

Farm code	Direct costs						Total costs
	Total	Piglets	Feed	Labour and machinery costs	Building costs	Other costs	
NI-100-520	48.93	35.08	12.23	2.54	3.09	0.41	54.97
NI-176-1300	43.12	30.93	10.64	1.24	3.65	0.16	48.17
TH-318-220	40.62	26.01	9.37	2.88	2.76	0.66	46.93
TH-1323-11500	37.07	28.42	6.08	1.12	3.46	0.50	42.15
BA-130-320	45.55	34.59	9.10	1.88	3.21	0.34	50.98
BA-153-1050	49.91	40.05	8.55	0.95	2.72	0.44	54.02
DK-205-900	47.86	34.06	11.65	1.57	3.21	0.11	52.75
DK-296-300	48.40	35.71	10.93	1.47	2.89	0.44	53.21
NL-282-1620	40.78	31.63	6.81	0.95	1.81	0.25	43.80
NL-393-2440	40.43	30.22	7.55	1.30	2.32	0.27	44.33
FR-467-3870	45.39	35.61	7.90	1.71	3.60	0.55	51.25
FR-676-5100	48.57	33.84	12.10	1.55	4.37	0.53	55.02
HU 875-4800	47.01	33.60	10.98	1.67	1.41	0.68	50.77
HU-856-5760	67.60	41.13	24.21	3.62	2.31	0.70	74.23
US-325-2000	41.22	31.30	7.80	2.36	2.70	1.07	47.36
US-900-5760	40.51	30.80	7.58	3.07	2.52	0.93	47.04
CA-1700-10300	46.62	24.71	7.39	3.61	3.50	0.15	53.88
CA-9455-62000	33.28	33.49	6.88	3.86	1.37	1.42	39.93
BR-450-2250	36.94	25.55	10.98	1.98	0.33	0.09	39.34
<i>Average</i>	<i>44.73</i>	<i>32.46</i>	<i>9.93</i>	<i>2.07</i>	<i>2.70</i>	<i>0.51</i>	<i>50.01</i>
Average = 1							
NI-100-520	1.09	1.08	1.23	1.23	1.14	0.80	1.10
NI-176-1300	0.96	0.95	1.07	0.60	1.35	0.31	0.96
TH-318-220	0.91	0.80	0.94	1.39	1.02	1.29	0.94
TH-1323-11500	0.83	0.88	0.61	0.54	1.28	0.98	0.84
BA-130-320	1.02	1.07	0.92	0.91	1.19	0.67	1.02
BA-153-1050	1.12	1.23	0.86	0.46	1.01	0.86	1.08
DK-205-900	1.07	1.05	1.17	0.76	1.19	0.22	1.05
DK-296-300	1.08	1.10	1.10	0.71	1.07	0.86	1.06
NL-282-1620	0.91	0.97	0.69	0.46	0.67	0.49	0.88
NL-393-2440	0.90	0.93	0.76	0.63	0.86	0.53	0.89
FR-467-3870	1.01	1.10	0.80	0.83	1.33	1.08	1.02
FR-676-5100	1.09	1.04	1.22	0.75	1.62	1.04	1.10
HU 875-4800	1.05	1.04	1.11	0.81	0.52	1.33	1.02
HU-856-5760	1.51	1.27	2.44	1.75	0.86	1.37	1.48
US-325-2000	0.92	0.96	0.79	1.14	1.00	2.10	0.95
US-900-5760	0.91	0.95	0.76	1.48	0.93	1.82	0.94
CA-1700-10300	1.04	0.76	0.74	1.74	1.30	0.29	1.08
CA-9455-62000	0.74	1.03	0.69	1.86	0.51	2.78	0.80
BR-450-2250	0.83	0.79	1.11	0.96	0.12	0.18	0.79
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with piglets costs	0.65	1.00	0.63	-0.01	0.22	0.35	0.65
Cost breakdown (Total costs = 100)							
NI-100-520	89.01	63.82	22.25	4.62	5.62	0.75	100
NI-176-1300	89.52	64.21	22.09	2.57	7.58	0.33	100
TH-318-220	86.55	55.42	19.97	6.14	5.88	1.41	100
TH-1323-11500	87.95	67.43	14.42	2.66	8.21	1.19	100
BA-130-320	89.35	67.85	17.85	3.69	6.30	0.67	100
BA-153-1050	92.39	74.14	15.83	1.76	5.04	0.81	100
DK-205-900	90.73	64.57	22.09	2.98	6.09	0.21	100
DK-296-300	90.96	67.11	20.54	2.76	5.43	0.83	100
NL-282-1620	93.11	72.21	15.55	2.17	4.13	0.57	100
NL-393-2440	91.20	68.17	17.03	2.93	5.23	0.61	100
FR-467-3870	88.57	69.48	15.41	3.34	7.02	1.07	100
FR-676-5100	88.28	61.50	21.99	2.82	7.94	0.96	100
HU 875-4800	92.59	66.18	21.63	3.29	2.78	1.34	100
HU-856-5760	91.07	55.41	32.61	4.88	3.11	0.94	100
US-325-2000	87.04	66.09	16.47	4.98	5.70	2.26	100
US-900-5760	86.12	65.48	16.11	6.53	5.36	1.98	100
CA-1700-10300	86.53	45.86	13.72	6.70	6.50	0.28	100
CA-9455-62000	83.35	83.87	17.23	9.67	3.43	3.56	100
BR-450-2250	93.90	64.95	27.91	5.03	0.84	0.23	100
<i>Average</i>	<i>89.44</i>	<i>64.91</i>	<i>19.86</i>	<i>4.14</i>	<i>5.40</i>	<i>1.02</i>	<i>100</i>

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

Hxs_2003-12-18

Table A.3.3: Production costs of the fattening enterprise (Euro/100 kg slaughter weight)

Farm code	Direct costs						Total costs
	Total	Piglets	Feed	Labour and machinery costs	Building costs	Other costs	
NI-100-520	102.83	59.16	40.79	5.40	11.02	1.07	120.32
NI-176-1300	100.40	55.06	41.99	7.58	13.38	0.54	121.90
TH-318-220	103.94	52.08	45.02	7.63	4.89	1.81	118.28
TH-1323-11500	91.11	46.50	38.03	2.26	9.69	0.88	103.94
BA-130-320	107.98	58.00	45.57	5.92	10.84	3.19	127.93
BA-153-1050	103.32	60.78	39.13	4.80	11.32	0.78	120.22
DK-205-900	104.15	73.40	28.97	3.84	10.35	0.54	118.86
DK-296-300	114.12	72.17	34.97	8.45	31.95	5.25	159.76
NL-282-1620	103.10	51.51	44.27	6.01	17.87	6.96	133.94
NL-393-2440	102.26	55.37	39.07	4.97	15.42	3.22	125.86
FR-467-3870	114.54	63.33	46.18	4.30	13.65	1.41	133.90
FR-676-5100	108.32	65.70	38.77	4.11	12.90	0.89	126.22
HU 875-4800	118.04	64.31	46.54	3.54	6.23	1.94	129.76
HU-856-5760	132.09	80.56	42.31	4.84	4.78	1.26	142.97
US-325-2000	112.97	58.11	44.23	6.32	4.40	2.05	125.73
US-900-5760	103.10	54.53	43.26	4.50	6.49	0.65	114.74
CA-1700-10300	92.63	28.10	34.24	4.65	5.59	0.43	103.30
CA-9455-62000	76.12	38.52	30.85	9.03	6.17	3.73	95.05
BR-450-2250	89.08	51.97	36.27	2.78	0.49	0.35	92.70
<i>Average</i>	104.22	57.32	40.02	5.31	10.39	1.94	121.86
Average = 1							
NI-100-520	0.99	1.03	1.02	1.02	1.06	0.55	0.99
NI-176-1300	0.96	0.96	1.05	1.43	1.29	0.28	1.00
TH-318-220	1.00	0.91	1.12	1.44	0.47	0.93	0.97
TH-1323-11500	0.87	0.81	0.95	0.43	0.93	0.45	0.85
BA-130-320	1.04	1.01	1.14	1.11	1.04	1.64	1.05
BA-153-1050	0.99	1.06	0.98	0.90	1.09	0.40	0.99
DK-205-900	1.00	1.28	0.72	0.72	1.00	0.28	0.98
DK-296-300	1.10	1.26	0.87	1.59	3.07	2.70	1.31
NL-282-1620	0.99	0.90	1.11	1.13	1.72	3.58	1.10
NL-393-2440	0.98	0.97	0.98	0.94	1.48	1.66	1.03
FR-467-3870	1.10	1.10	1.15	0.81	1.31	0.73	1.10
FR-676-5100	1.04	1.15	0.97	0.77	1.24	0.46	1.04
HU 875-4800	1.13	1.12	1.16	0.67	0.60	1.00	1.06
HU-856-5760	1.27	1.41	1.06	0.91	0.46	0.65	1.17
US-325-2000	1.08	1.01	1.11	1.19	0.42	1.05	1.03
US-900-5760	0.99	0.95	1.08	0.85	0.62	0.33	0.94
CA-1700-10300	0.89	0.49	0.86	0.88	0.54	0.22	0.85
CA-9455-62000	0.73	0.67	0.77	1.70	0.59	1.92	0.78
BR-450-2250	0.85	0.91	0.91	0.52	0.05	0.18	0.76
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Correlation with piglets costs	0.80	1.00	0.18	-0.10	0.31	0.00	0.72
Cost breakdown (Total costs = 100)							
NI-100-520	85.46	49.17	33.90	4.49	9.16	0.89	100
NI-176-1300	82.36	45.17	34.45	6.22	10.98	0.44	100
TH-318-220	87.88	44.03	38.06	6.45	4.13	1.53	100
TH-1323-11500	87.66	44.74	36.59	2.17	9.32	0.85	100
BA-130-320	84.41	45.34	35.62	4.63	8.47	2.49	100
BA-153-1050	85.94	50.56	32.55	3.99	9.42	0.65	100
DK-205-900	87.62	61.75	24.37	3.23	8.71	0.45	100
DK-296-300	71.43	45.17	21.89	5.29	20.00	3.29	100
NL-282-1620	76.97	38.46	33.05	4.49	13.34	5.20	100
NL-393-2440	81.25	43.99	31.04	3.95	12.25	2.56	100
FR-467-3870	85.54	47.30	34.49	3.21	10.19	1.05	100
FR-676-5100	85.82	52.05	30.72	3.26	10.22	0.71	100
HU 875-4800	90.97	49.56	35.87	2.73	4.80	1.50	100
HU-856-5760	92.39	56.35	29.59	3.39	3.34	0.88	100
US-325-2000	89.85	46.22	35.18	5.03	3.50	1.63	100
US-900-5760	89.86	47.52	37.70	3.92	5.66	0.57	100
CA-1700-10300	89.67	27.20	33.15	4.50	5.41	0.42	100
CA-9455-62000	80.08	40.53	32.46	9.50	6.49	3.92	100
BR-450-2250	96.09	56.06	39.13	3.00	0.53	0.38	100
<i>Average</i>	85.52	47.04	32.84	4.36	8.53	1.60	100

Table A.3.4: Costs and returns of the hog enterprise (Euro/kg slaughter weight)

Farm code	Returns		Direct costs					Total costs	Returns - costs
	Total returns	Fatteners market receipts	Total	Feed	Labour and machinery cost	Building costs	Other costs		
NI-100-520	158.02	155.57	76.91	64.07	16.84	24.25	2.32	120.32	37.70
NI-176-1300	165.20	160.68	76.29	64.73	17.43	27.03	1.15	121.90	43.30
TH-318-220	164.64	155.47	82.52	66.63	18.01	14.73	3.02	118.28	46.36
TH-1323-11500	158.66	156.98	73.97	55.15	6.71	20.82	2.44	103.94	54.72
BA-130-320	173.84	158.82	78.79	66.83	18.75	25.71	4.68	127.93	45.91
BA-153-1050	172.27	169.11	68.95	59.22	21.56	27.30	2.41	120.22	52.05
DK-205-900	137.11	130.40	65.45	55.45	20.27	32.08	1.06	118.86	18.25
DK-296-300	129.66	126.47	78.72	61.26	22.58	51.76	6.70	159.76	-30.10
NL-282-1620	132.12	128.74	78.73	60.94	14.51	32.71	7.99	133.94	-1.82
NL-393-2440	135.99	132.70	74.82	57.58	14.73	32.08	4.23	125.86	10.13
FR-467-3870	138.36	134.26	88.90	67.95	14.26	27.39	3.35	133.90	4.46
FR-676-5100	134.56	130.70	84.40	64.54	13.53	25.18	3.11	126.22	8.34
HU 875-4800	140.58	133.07	99.90	76.78	12.97	12.38	4.51	129.76	10.82
HU-856-5760	156.57	152.38	110.42	85.98	17.85	11.18	3.53	142.97	13.60
US-290-2000	145.86	142.83	85.41	63.88	18.03	16.71	5.59	125.73	20.13
US-900-5760	140.54	137.60	79.13	60.20	15.99	16.01	3.61	114.74	25.80
CA-1700-10300	130.60	124.30	80.45	43.28	11.31	10.49	1.05	103.30	27.30
CA-9455-62000	106.52	100.90	55.76	43.49	21.24	10.70	7.36	95.06	11.46
BR-450-2250	98.35	94.03	67.56	64.53	22.01	2.23	0.91	92.71	5.64
<i>Average</i>	<i>143.13</i>	<i>138.16</i>	<i>79.32</i>	<i>62.24</i>	<i>16.77</i>	<i>22.14</i>	<i>3.63</i>	<i>121.86</i>	<i>21.27</i>
Average = 1									
NI-100-520	1.10	1.13	0.97	1.03	1.00	1.10	0.64	0.99	1.77
NI-176-1300	1.15	1.16	0.96	1.04	1.04	1.22	0.32	1.00	2.04
TH-318-220	1.15	1.13	1.04	1.07	1.07	0.67	0.83	0.97	2.18
TH-1323-11500	1.11	1.14	0.93	0.89	0.40	0.94	0.67	0.85	2.57
BA-130-320	1.21	1.15	0.99	1.07	1.12	1.16	1.29	1.05	2.16
BA-153-1050	1.20	1.22	0.87	0.95	1.29	1.23	0.66	0.99	2.45
DK-205-900	0.96	0.94	0.83	0.89	1.21	1.45	0.29	0.98	0.86
DK-296-300	0.91	0.92	0.99	0.98	1.35	2.34	1.84	1.31	-1.42
NL-282-1620	0.92	0.93	0.99	0.98	0.87	1.48	2.20	1.10	-0.09
NL-393-2440	0.95	0.96	0.94	0.93	0.88	1.45	1.16	1.03	0.48
FR-467-3870	0.97	0.97	1.12	1.09	0.85	1.24	0.92	1.10	0.21
FR-676-5100	0.94	0.95	1.06	1.04	0.81	1.14	0.86	1.04	0.39
HU 875-4800	0.98	0.96	1.26	1.23	0.77	0.56	1.24	1.06	0.51
HU-856-5760	1.09	1.10	1.39	1.38	1.06	0.50	0.97	1.17	0.64
US-290-2000	1.02	1.03	1.08	1.03	1.08	0.75	1.54	1.03	0.95
US-900-5760	0.98	1.00	1.00	0.97	0.95	0.72	0.99	0.94	1.21
CA-1700-10300	0.91	0.90	1.01	0.70	0.67	0.47	0.29	0.85	1.28
CA-9455-62000	0.74	0.73	0.70	0.70	1.27	0.48	2.03	0.78	0.54
BR-450-2250	0.69	0.68	0.85	1.04	1.31	0.10	0.25	0.76	0.27
<i>Average</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>
Cost breakdown (Total costs = 100)									
NI-100-520	131.33	129.30	63.92	53.25	14.00	20.15	1.93	100	
NI-176-1300	81.20	131.81	62.58	53.10	14.30	22.17	0.94	100	
TH-318-220	98.60	131.44	69.77	56.33	15.23	12.45	2.55	100	
TH-1323-11500	108.00	151.03	71.17	53.06	6.46	20.03	2.35	100	
BA-130-320	103.30	124.15	61.59	52.24	14.66	20.10	3.66	100	
BA-153-1050	106.60	140.67	57.35	49.26	17.93	22.71	2.00	100	
DK-205-900	116.00	109.71	55.06	46.65	17.05	26.99	0.89	100	
DK-296-300	122.50	79.16	49.27	38.35	14.13	32.40	4.19	100	
NL-282-1620	108.30	96.12	58.78	45.50	10.83	24.42	5.97	100	
NL-393-2440	109.50	105.43	59.45	45.75	11.70	25.49	3.36	100	
FR-467-3870	100.80	100.27	66.39	50.75	10.65	20.46	2.50	100	
FR-676-5100	148.00	103.55	66.87	51.13	10.72	19.95	2.46	100	
HU 875-4800	130.10	102.55	76.99	59.17	10.00	9.54	3.48	100	
HU-856-5760	131.30	106.58	77.23	60.14	12.49	7.82	2.47	100	
US-290-2000	135.50	113.60	67.93	50.81	14.34	13.29	4.45	100	
US-900-5760	139.20	119.92	68.96	52.47	13.94	13.95	3.15	100	
CA-1700-10300	152.60	120.33	77.88	41.90	10.95	10.15	1.02	100	
CA-9455-62000	135.90	106.14	58.66	45.75	22.34	11.26	7.74	100	
BR-450-2250	143.30	101.42	72.87	69.60	23.74	2.41	0.98	100	
<i>Average</i>	<i>118.60</i>	<i>113.37</i>	<i>65.09</i>	<i>51.07</i>	<i>13.76</i>	<i>18.17</i>	<i>2.98</i>	<i>100</i>	

Source: Busch 2002, Gaus 2002, Hellbrügge 2003, Knees 2002, Stenzel 2002. Own calculation.

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Questionnaire for Production Costs Comparison 2002

This questionnaire forms the basis for the development of a full costs comparison in the pig sector on international level. The structure and contents of this questionnaire and the resulting evaluations were compiled by a group of five students of the University Goettingen, who develop a methodology in the context of their master theses, which allow for a comparison of production costs and as well as production data on an international level. Thus we provide a basis for you as plant manager, scientist or policy advisor to come to better decisions against the background of the globalization of the markets in the future.

This project is supported by the European Pig Producers (EPP) and the Federal Agricultural Research Centre (FAL). Both institutions have a strong interest in futher development of this project!

The following questionnaire consists of three parts:

- **The first part** asks for general farm data, in order to get a survey of your enterprise.
- **The second part** deals with the technical data of the hog enterprise, in order to record the biological achievements of your livestock inventory and receive additional information about possible causes for different costs and receipts. More over you may detect weak points in your enterprise.
- **The third part** ask for data for the analysis of costs and receipts. We will thus be able to provide you a detailed list of your production costs and receipts, which we will later compare with other enterprises in Europe and America.

We thank you in advance for your participation and hope for a good co-operation!

1 General farm data

Allgemeine Betriebsdaten

Please consider the notes (4.1) in the appendix (4.) before you begin with filling out the questionnaire!

1.1 Name und region

Name and Region

Family name ¹ Name	Meyer	Land ² Land	Germany
Region ³ Region	Lower Saxany	Legal form ⁴ Gesellschaftsform	

1.2 Period covered by the questionnaire (Accounting year)

Der Fragebogen bezieht sich auf den Zeitraum (Wirtschaftsjahr)

The period for the questioning should amount one year and is fixed on the calendar year 2000. In countries where are deviating financial year from the calendar year, the period 07/2000 - 06/2001 is determining. If no data is present for this period, please select the respective period before.

	Month / Year Monat / Jahr		Month / Year Monat / Jahr
Start ⁵ Start	07/2000	End ⁶ Ende	06/2001

1.3 The Currency

Die Wahrung

Which is the chosen currency? ⁷ In welcher Wahrung sind die monetaren Daten angegeben?	EUR
--	-----

1.4 V.A.T. regulations

Mehrwertsteuer-Regelung

Please tick the true cell with X! Bitte kreuzen Sie die zutreffende Zelle an!	Yes Ja	No Nein
Do your values in this questionnaire include V.A.T? ⁸ Enthalten die Werte in diesem Fragebogen die MwSt.?		X

If you answered the previous question with "yes", please write down the different V.A.T.-rates !

Which V.A.T.-rates are used for which costs and receipts? ⁹ Wofur werden welche MwSt.-Satze verwendet?	V.A.T. in % MwSt. in %
	16
	7
	9

1.5 Farmland in the accounting year

Flächenausstattung des Betriebes im Wirtschaftsjahr

	ha total ha insgesamt	Amount in _____ / ha Betrag in _____ / ha
Arable Land 11 Ackerland	300	
Grasland permanent 12 Dauergrünland	20	
Rented land total 13 davon Pachtflächen gesamt	150	
Average rent for arable land in the region (new contracts) 14 Durchschnittlicher Pachtpreis für Ackerland in Ihrer Region		250

1.6 Crop mix

Anbauverzeichnis

If no data are available in hectares, please use a proportional distribution!

Crops 15 Früchte	ha ha
Wheat	40
Barley	20
Rye	10
Sugar beets	20
Set aside	10

1.8 Workers in the enterprise

Arbeitskräfte im Betrieb

We know that this question is very difficult to answer in view to the family workers. Please try to give at least rough estimates! The illustration on page 13 helps allocating the labour hours on the hog enterprise.

1.8.1 Family labour

Familienarbeitskräfte

In this table please consider only the working hours of those family members who do not receive any wage payment by the farm. If members of your family receive wages for their work on the farm (compare 3.3 Input from the profit and loss account), please add them to “Hired Labour”.

In the last column write down a wage for each family worker. This should be correspond to wages for a fully qualified worker in your region, which could perform the same work as the family member.

Persons ¹⁷ Personen	Total hours on the farm / year ¹⁸ Gesamtstunden / Jahr im Betrieb	Hours for sow enterprise ¹⁹ Stunden für die Sauenhaltung	Hours for nursery enterprise ²⁰ Stunden für die Ferkelaufzucht	Hours for fattening enterprise ²¹ Stunden für die Mastschweinehaltung	Labour costs / year ²² Lohnansatz / Jahr
Manager	2.500	1.200	200	800	60.000
Wife					
Son					
....					

1.8.2 Hired Labour

Lohnarbeitskräfte

Please enter the labour costs including the ancillary costs (wage tax, annex taxes, social insurance) in the last column. Note! All hired labour costs have to add up to labour costs from the profit and loss account under section 3.3! If you receive promotion funds for hired workers, take these off from the labour costs!

Persons ²³ Personen	Total hours on the farm / year ²⁴ Gesamtstunden / Jahr im Betrieb	Hours for sow enterprise ²⁵ Stunden für die Sauenhaltung	Hours for nursery enterprise ²⁶ Stunden für die Ferkelaufzucht	Hours for fattening enterprise ²⁷ Stunden für die Mastschweinehaltung	Labour costs / year ²⁸ Lohnkosten / Jahr
Worker	2.500	1.200	200	800	60.000
....					
....					

2 General parameters of the „Hog Enterprise“

Produktionstechnische Daten des BZ Schweinehaltung

2.1 The production of the „Hog Enterprise“

Die Schweineproduktion des Betriebes

We need some describing data from the hog enterprise for a better estimation of your operation. Some key words are given in the first column.

Please describe the production system on the farm Bitte beschreiben Sie die Schweineproduktion in Ihrem Betrieb		
Key word Stichwort		Description and explanation ³⁰ Beschreibung und Erklärung (Warum in dieser Art/Form?)
Distance to important trading partners Innere und äußere Verkehrslage		Slaughterhouse, feed
Production system Produktionssystem		All-in and all-out, closed system, semi closed system
Rhythm of production Produktionsrhythmus		One week, two weeks,...
Chosen breed Rassewahl		
Marketing Vermarktung		
Types of barn installations (housing) Aufstellungsformen	Breeding barn Deckstall	
	Dry sow barn Wartestall	
	Farrowing barn Abferkelstall	
	Nursery Ferkelaufzuchtstall	
	Finishing barn Maststall	
Use of manure and straw Gülle- und Strohwirtschaft		
....		

2.2 Barn capacities

Stallkapazitäten

		Number of places Anzahl Plätze
+	Breeding barn places ³² Deckstallplätze	52
+	Dry sow places ³³ Wartestallplätze	220
+	Farrowing places ³⁴ Abferkelplätze	48
+	Quarantine places ³⁵ Quarantäneplätze	0
+	Other places ³⁶ Sonstige Plätze	0
		0
=	Total sow places ³⁷ Sauenplätze gesamt	320
	Places for boars ³⁸ Eberplätze	1
	Places for nursery (piglet rearing) ³⁹ Aufzuchtferkelplätze	1.100
	Places for finishing ⁴⁰ Mastplätze	2.000

2.3 Livestock numbers in the accounting year

Ermittlung des Viehbestandes

Please enter the number of productive sows under "number of sows at the beginning" and "number of sows at the end". A productive sow is defined as a sow starting from the first mating (insemination) no matter if they are pregnant after the first mating or not. The "number of first mated gilts" means not the purchased sows, but the number of first matings (inseminations) in the period covered by the questionnaire. You can find further definitions to the animal categories in the appendix under section 4.3.

Sows Sauen	Num. of animals Anzahl Tiere	Boars Eber	Num. of animals Anzahl Tiere
Number of sows at the beginning ⁴¹ Anzahl Sauen zu Beginn	300	Number of boars at the beginning ⁴⁸ Anzahl Eber zu Beginn	1
- Number of sold sows ⁴² Anzahl verkaufte Sauen	100	- Number of sold boars ⁴⁹ Anzahl verkaufte Eber	0
- Number of dead sows ⁴³ Anzahl verendete Sauen	10	- Number of dead boars ⁵⁰ Anzahl verendete Eber	0
+ Number of first mated gilts ⁴⁴ Anzahl erstbelegte Jungsauen	110	+ Number of bought boars ⁵¹ Anzahl zugekaufte Eber	0
= Number of sows at the end ⁴⁵ Anzahl Sauen zum Ende	300	= Num. of boars at the end ⁵² Anzahl Eber zum Ende	1
Average num. of prod. sows Durchschnittl. Sauenbestand ⁴⁶	300	Average number of boars Durchschnittl. Eberbestand ⁵³	1
Number of purchased gilts ⁴⁷ Anzahl zugek. Zuchtläufer	115		

Weaners (reared piglets) Aufzuchtferkel		Number of animals Anzahl Tiere
	Number of nursers (reared piglets) at the beginning ⁵⁴ Anzahl Aufzuchtferkel zum Anfang	1.100
+	Number of weaned piglets / year ⁵⁵ Anzahl abgesetzte Ferkel / Jahr	6.600
+	Number of bought-in weaned piglets (ca. 7 kg) ⁵⁶ Anzahl zugekaufte Absatzferkel (Systemferkel)	n.r.
-	Number of sold weaned piglets (ca. 7 kg) ⁵⁷ Anzahl verkaufte Absatzferkel (Systemferkel)	n.r.
-	Number of lost weaners (mortality of reared piglets) ⁵⁸ Anzahl der verendeten Aufzuchtferkel	20
-	Number of sold weaners (reared piglets) ⁵⁹ Anzahl verkaufte Aufzuchtferkel	0
-	Number of weaners (reared piglets) brought into the fatterer barn ⁶⁰ Anzahl der umgestallten Aufzuchtferkel in eigene Mast	6.580
=	Number of weaners (reared piglets) at the end ⁶¹ Anzahl Aufzuchtferkel zum Ende	1.100
	Average number of weaners (reared piglets) ⁶² Durchschnittlicher Aufzuchtferkelbestand	1.100
Fatteners Mastschweine		Number of animals Anzahl Tiere
	Number of fatteners at the beginning ⁶³ Anzahl Mastschweine zu Beginn	2.000
+	Number of weaners (reared piglets) brought into the fattening barn ⁶⁴ Anzahl eingestellte Aufzuchtferkel aus eigener Erzeugung	6.580
+	Number of bought-in weaners (reared piglets) ⁶⁵ Anzahl zugekaufte Aufzuchtferkel	n.r.
-	Number of losses (mortality) ⁶⁶ Anzahl der Verluste absolut	160
	Percentage of losses ⁶⁷ Verluste in %	2,43
-	Number of sold fatteners / year ⁶⁸ Verkaufte Mastschweine / Jahr	6.420
=	Number of fatteners at the end ⁶⁹ Anzahl Mastschweine zum Ende	2.000
	Average number of fatteners ⁷⁰ Durchschnittlicher Mastschweinebestand	2.000

2.4 Other production data

Sonstige Produktionsdaten

Fatteners			
Mastschweine			
Average weight per bought weaner Zukaufgew. je Aufzuchtferkel (kg) ⁷¹	n.r.	Weight at start of finishing period Umstallgew. je eig. Aufzuchtferkel (kg) ⁷²	25
Average live ending weight (kg) ⁷³ Lebendgew. je verk. Mastschw.	118	Average slaughter weight (kg) ⁷⁴ Schlachtgew. je verk. Mastschw.	93
Total slaughter weight of all sold fatteners in kg ⁷⁵ Gesamtschlachtgewicht aller verkauften Mastschweine in kg			597.060
Total weight of fatteners at the beginning in kg ⁷⁶ Anfangsbestand Mastschweine in kg			200.000
Total weight of fatteners at the end in kg ⁷⁷ Endbestand Mastschweine in kg			220.000
Average number of days for fattening ⁷⁸ Durchschnittl. Masttage			140

Weaners (reared piglets)			
Aufzuchtferkel			
Average number of days for nursery Durchschnittl. Aufzuchtstage ⁷⁹	52	Weight at weaning in kg ⁸⁰ Absetzgewicht in kg	7
Total weight of all bought-in weaned piglets Gesamtgew. zugek. Absatzferkel (kg) ⁸¹	7	Average weight per bought-in weaned piglets Zukaufgew. je Absatzferkel (kg) ⁸²	7
Total weight of all sold weaners ⁸³ Gesamtgew. verk. Aufzuchtferkel (kg)	165.000	Average weight per sold weanser ⁸⁴ Verkaufsgew. je Aufzuchtferkel (kg)	25
Total weight of nursers at the beginning in kg ⁸⁵ Anfangsbestand Aufzuchtferkel in kg			22.000
Total weight of nursers at the end in kg ⁸⁶ Endbestand Aufzuchtferkel in kg			22.000

Sows			
Sauen			
Average live weight / culled sow ⁸⁷ Lebendgew. je Schlachtsau (kg)	250	Average slaughter weight / culled sow (kg) ⁸⁸ Schlachtgew. je Schlachtsau	150
Days between weaning and next mating ⁸⁹ Absetz-Beleg-Tage	6	Number of all litters / year ⁹⁰ Anzahl aller Würfe / Jahr	650
Losses during suckling period (%) ⁹¹ Saugferkelverluste in %	16	Average suckling period (days) ⁹² Säugezeit in Tagen	21
Rate of return (%) ⁹³ Umrauscherquote in %	17	Percentage AI ⁹⁴ Anteil KB in %	99
Average age of purchased sows ⁹⁵ Einstallalter der zugek. Zuchtläufer	192	Average age of gilt at first mating Erstbelegalter der Jungsauen ⁹⁶	232

3 Costs and returns of the „Hog Enterprise“

Produktionskosten und -erlöse im Betriebszweig Schweinehaltung

This is the most important part of the questionnaire. For an extensive evaluation it is important that you write down the data from the profit and loss account in section 3.2 and 3.3, where you only register actual, no calculatory revenues and expenditures! It is important to know which kind of revenues and expenditures are to be added to the hog enterprise. Therefore, you can find a definition of the hog enterprise under 3.1.

If an enterprise account already exists in your operation, then you can make use of it, in order to be able to better allocate the positions from the profit and loss account. You can find further aspects for distribution in the appendix to this questionnaire under section 4.2.

3.1 Definition of the “Hog enterprise” as a part of the Farm

Definition und Abgrenzung des Betriebszweig Schweinehaltung

The hog enterprise contains the sow enterprise incl. on farm replacements, nursery (piglet rearing) enterprise and fattening enterprise. Problems arise whether or not to include factors such as straw, home grown feedstuffs and manure.

Milling and mixing of fodder belong to the hog enterprise, whereas *the production of fodder components* is not a part of it. *Manure storage and non-operational manure utilization* belong to the hog enterprise only if these are actual revenues or expenditures. *Internal liquid manure utilization and spreading* remain unconsidered! As *internal straw consumption* will be calculated later. Straw harvest and storage remain unconsidered here.

Whole Operation						
Animal husbandry				Crop farming		
Other animals	HOG ENTERPRISE				Internal utilization	Market crops
	Breeding sow production	Sow enterprise	Nursery enterprise	Fattening enterprise		
Cattle, Sheeps, Horses	Consumption of straw, purchased straw (for feeding or s.h. else)				Harvest and storage of straw	
	Milling and mixing of feed, purchased feed components				Production and storage of feed components	
...	Manure storage, revenues or expenditure from non-operational manure utilization				Internal manure utilization Internal manure spreading	

3.2 Output from the profit and loss account

Erträge laut Gewinn- und Verlustrechnung

Returns Erträge	Amount in ____ / year Betrag in ____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
Receipts from selling fatteners ⁹⁷ Verkaufserlöse Mastschweine					
+ Sow market receipts ⁹⁸ Verkaufserlöse Altsauen					
+ Boars market receipts ⁹⁹ Verkaufserlöse Eber					
+ Receipts from selling weaned piglets and weaners ¹⁰⁰ Verkaufserlöse Aufzuchtferkel und Absatzferkel					
+ Net growth of animal inventory ¹⁰¹ Erhöhung oder Verminderung des Tierbestandes					
+ Receipts from manure selling ¹⁰² Erlöse aus der außerbetrieblichen Gülleverwertung					
+ VAT Balance (If in P and L account) ¹⁰³ Saldo aus MwSt. Einnahmen und Ausgaben					
+ Other returns ¹⁰⁴ Sonstiger Ertrag					
+ Extraordinary returns ¹⁰⁵ Neutraler Ertrag					
= Total farm returns ¹⁰⁶ Gesamtertrag			Total returns from the hog enterprise ¹⁰⁷ Gesamterträge aus dem Betriebszweig Schweinehaltung		

3.3 Input from the profit and loss account

Aufwand laut Gewinn- und Verlustrechnung

Input Aufwand		Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
+	Animal purchases Aufwand für Viehzukäufe	Total costs of gilts bought-in ¹⁰⁸ Aufwand für Jungsauenzukauf				
		Total costs of boars bought-in ¹⁰⁹ Aufwand für Eberzukauf				
		Total costs of weaners bought-in ¹¹⁰ Aufwand zugekaufte Aufzuchtferkel				
		Total costs of weaned piglets bought-in Aufwand für zugekaufte Absatzferkel ¹¹¹				
		Other animal purchases ¹¹² Andere Viehzukäufe				
+	Fees costs of purchased feed ¹¹³ Aufwand für Fertigfutter	Feed costs for sows only ¹¹⁴ Aufwand für Sauenfutter				
		Feed costs for weaners only ¹¹⁵ Aufwand für Aufzuchtferkelfutter				
		Feed costs for fatteners only ¹¹⁶ Aufwand für Mastschweinefutter				
		Feed costs for other feed ¹¹⁷ Aufwand für anderes Futter				
+	Feed costs of purchased feed components ¹¹⁸ Aufwand für zugekaufte Futterkomponenten					

Input Aufwand		Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
+	Costs for purchased straw ¹¹⁹ Aufwand für Strohkauf					
+	Artificial insemination ¹²⁰ Besamungsaufwand					
+	Health care ¹²¹ Tierarzt					
+	Medicine ¹²² Arzneimittel					
	Vaccine ¹²³ Impfstoffe					
	Hormone ¹²⁴ Hormone					
+	Cleaning / Disinfection ¹²⁵ Reinigung / Desinfektion					
+	Electricity ¹²⁶ Strom					
+	Heating ¹²⁷ Heizung (Gas,...)					
+	Water ¹²⁸ Wasser					
+	Fuel and lubricants ¹²⁹ Treib- und Schmierstoffe					

Input Aufwand	Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
+ Milling and mixing costs (contractor) ¹³⁰ Mahl- und Mischkosten (Lohnmischer)					
+ Costs of carcass disposal ¹³¹ Aufwand für Kadaververwertung					
+ Costs of hired labour ¹³² Aufwand für Lohn-AK (incl. Lohnnebenkosten)					
+ Invalidty insurance ¹³³ Berufsgenossenschaft					
+ Depreciation machinery ¹³⁴ Abschreibung Maschinen					
+ Depreciation buildings ¹³⁵ Abschreibung Gebäude					
+ Maintenance, repair machinery ¹³⁶ Unterhaltung Maschinen					
+ Maintenance, repair buildings ¹³⁷ Unterhaltung Gebäude					
+ Building insurances ¹³⁸ Gebäudeversicherung					
+ Animal insurances ¹³⁹ Viehversicherungen					
+ Pest insurance ¹⁴⁰ Viehseuchenbeitrag (Tierseuchenkasse)					

Input Aufwand	Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
+ Other farm insurances (animal insurances excluded) ¹⁴¹ Sonstige Betriebsversicherungen (ohne Viehvers.)					
+ Costs of marketing ¹⁴² Aufwand für Vermarktung					
+ Manure disposal ¹⁴³ Aufwand für außerbetriebliche Gülleverwertung					
+ Advisory Services / Training ¹⁴⁴ Beratungsgebühren					
+ Accountant legal fees ¹⁴⁵ Aufwand für Buchführung					
+ Office, Communication, Postage, Journals ¹⁴⁶ Büro, Telefon, Porto, Zeitschriften					
+ Farm taxes ¹⁴⁷ Betriebliche Steuern und Abgaben					
+ Rents paid for barns ¹⁴⁸ Stallmieten					
+ Intrest paid ¹⁴⁹ Gezahlte Zinsen					
+ Other farm input ¹⁵⁰ Sonstiger Aufwand					
+ Extraordinary input ¹⁵¹ Neutraler Aufwand					

Input Aufwand	Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
= Total farm input ¹⁵² Gesamtaufwand			Total input for hog enterprise ¹⁵³ Gesamtaufwand für den Betriebszweig Schweinehaltung		

3.4 Consumption and stock of bought feed

Verbrauch und Bestand an zugekauftem Futter

Feed ration Futterart	Stock at the beginning in t Anfangsbestand in t	Feed bought-in in t / year Zukauf in t / year +	Stock at the end in t Endbestand in t -	Feed intake in t / year Futtermittelverbrauch in t / Jahr =	Energy content in MJ ME Energiegehalt in MJ ME
Feed ration I for sows Sauenfutter I					
Feed ration II for sows Sauenfutter II					
Feed ration III for sows Sauenfutter III					
Total feed for sows ¹⁵⁴ Summe Sauenfutter					
Feed ration I for weaners Ferkelfutter I					
Feed ration II for weaners Ferkelfutter II					
Feed ration III for weaners Ferkelfutter III					
Total feed for weaners ¹⁵⁵ Summe Ferkelfutter					
Feed ration I for fatteners Mastfutter I					
Feed ration II for fatteners Mastfutter II					
Feed ration III for fatteners Mastfutter III					
Total feed for fatteners ¹⁵⁶ Summe Mastfutter					

If you do not use straw in your stable, please continue the questionnaire with section 3.6.

3.5 Estimate of straw consumption

Kostenkalkulation für den Strohverbrauch

	Selling price / t Verkaufspreis / t	Consumption / year Verbrauch / Jahr
Straw consumption / year ¹⁵⁷ Strohverbrauch in t / Jahr		
Selling price for self produced straw / t ¹⁵⁸ Verkaufspreis für selbsterzeugtes Stroh / t		

If you do not produce your own fodder mixtures, please continue the questioning with section 3.7.

3.6 Estimate of self mixed feed

Kostenkalkulation des selbsterzeugten Futters

For calculating costs of your self-mixtures three tables are available (for sow fodder, piglet fodder and finishing fodder) on the next pages, where you can enter three fodder rations in each case.

- First the feed components are needed. For this you record the names of the respective fodder component into the first column.
- Enter the share of the component for the respective fodder ration in tons per year in the three middle columns. If no such data are available, you can enter a proportional share.
- The sum at the end of the table should give the annual consumption in tons for each fodder ration. Therefore, please also write down for each fodder ration *stock at the beginning* and *stock at the end* (stocktaking value), in order to determine the correct annual consumption.
- In the fifth column write down the potential selling prices per ton for self produced components. These refer to dry components (e.g. 14.5 % grain) for the middle of the storage time (with grain e.g. November/December).
- In the last column write down the purchase prices per ton for the purchased components.
- In the lowest line enter the energy content of the fodder rations in MJ ME or the unit normally used in your country. Please indicate the used unit!

Feed costs of self-mixed feed for fatteners only ¹⁸⁰						
Futterkosten Eigenmischung Mastschweinefutter						
Feed components ¹⁸¹ Futterkomponenten (selbst erzeugt oder zugekauft)	Feed ration I t / year ¹⁸² Futtermenge I t / Jahr	Feed ration II t / year ¹⁸³ Futtermenge II t / Jahr	Feed ration III t / year ¹⁸⁴ Futtermenge III t / Jahr	Selling price / t Verkaufspreis / t	Purchase price / t Zukaufspreis / t	
	Wheat					
+	Barley					
+	Sojabean					
+						
+						
+						
+						
+						
+						
+						
+						
+						
+						
+						
+	Stock at the beginning Anfangsbestand in t ¹⁸⁶					
-	Stock at the end in t ¹⁸⁷ Endbestand in t					
=	Consumption in t ¹⁸⁸ Summe Futtermenge in t					
	Energy content in _____ / t Energiegehalt / t ¹⁸⁹					

If you have no data about the milling and mixing in the profit and loss account, please enter the usual milling and mixing costs of a contractor in your region into the following table:

Milling and mix costs Mahl- und Mischkosten	Amount in _____ / t Betrag in _____ / t
Average milling and mixing costs in your region of a contractor ¹⁹⁰ Durchschnittliche Mahl- und Mischkosten eines Lohnmischers in Ihrer Region	

3.8 The capital structure of the farm Die Kapitalstruktur des Betriebes

Please give the figures excluding the value of the farm house and private capital.

Value of farm assets Betriebsvermögen	Amount in _____ / year Betrag in _____ / Jahr	Hog enterprise Anteil der Schweine- haltung	Sow enterprise Anteil der Sauenhaltung	Nursery enterprise Anteil der Ferkelaufzucht	Fattening enterprise Anteil der Mastschweine- haltung
+ Value of livestock ²⁰³ Tiervermögen					
+ Value of machinery ²⁰⁴ Wert der Maschinen					
+ Value of buildings ²⁰⁵ Wert der Gebäude					
+ Circulating capital ²⁰⁶ Umlaufvermögen					
+ Other capital ²⁰⁷ Sonstiges Vermögen					
= Sum –Value of the farm assets ²⁰⁸ Gesamtwert des Betriebes (ohne Boden)					
Total liabilities at the end of the year ²⁰⁹ Verbindlichkeiten gegenüber Kreditinstituten am Jahresende					

4 Appendix

Anhang

4.1 Remarks

Anmerkungen

In order to help with the data input, the data of an example operation are inserted into the right lower corner of each cell. Please fill out all grey cells and enter

- a “number”,
- a “0” (for zero) or
- a “n.r.” (for not relevantly for your operation).
- If you do not know the answer, enter a “?” (question mark).

To the parameters are added serial numbers (e.g. name ¹), which refer to the following notes, if they are fat printed!

Number Lfd.-Nr.	Parameter Parameter	Remark Anmerkung
42 u. 98	Number of sold sows Anzahl verk. Sauen	Please consider the privat consumption at <i>Number of sold sows</i> and consider these also in <i>sow market receipts</i> (98).
68 u. 97	Number of sold fatteners Anzahl verk. Mastschweine	Please consider the privat consumption at <i>Number of sold fatteners</i> and consider these also in <i>returns from selling fatteners</i> (97).
46, 52, 62, 70	Average number of animals Durchschnittsbestand	If no data exists from the enterprise account or the sow record-keeping system, then calculate as follows: $= \frac{(\text{Livestock at the beginning} + \text{Livestock at the end})}{2}$
56, 81, 82	Number of weaned piglets bought-in Anzahl zugekaufte Absatzferkel	These parameters apply only to operations with specialized piglet rearing (without own sows).
57	Number of sold weaners Anzahl verkaufte Absatzferkel	Applies only to operations with sow husbandry and without own piglet rearing. Please enter the average sales weight under “ <i>weight at weaning</i> ” (80).
59, 83, 84	Number of sold weaners Anzahl verkaufte Aufzuchtferkel	Applies only to operations, which fatten none or only a part of the own piglets.
65, 71	Number of weaners bought-in Anzahl zugekaufte Aufzuchtferkel	Applies only to operations, which produce or rear no or not sufficient nursers.
80	Weight at weaning / piglet Absetzgewicht je Ferkel	Please estimate <i>weight at weaning</i> , if no data is present!

Number Lfd.-Nr.	Parameter Parameter	Remark Anmerkung
90	Num. of all litter / year Anzahl aller Würfe / Jahr	Note! We don't mean the litters per sow and year!
101	Net growth of animal inventory Erhöhung oder Verminderung des Tierbestandes	Positive values during inventory increase, negative during inventory decrease!
104	Other returns Sonstige Erträge	Please enter all returns not queried yet, which are not extraordinary or period strange, e.g. returns from crop enterprise, subsidies, interests, etc.
105	Extraordinary returns Neutrale Erträge	Here belong to all period-strange and extraordinary returns, e.g. profits from the sales of fixed assets, sales of partial enterprises, returns from extraordinary claims, etc.!
106	Total farm returns Gesamterträge	Make sure that the total returns in the questionnaire agree with those in the profit and loss account.
113, 118	Purchased Feed Zukauffutter	Please note that it is differentiated between purchased feed (113) and purchased feed components (118).
142	Costs of marketing Aufwand für Vermarktung	If not already consider in receipts!
147	Farm taxes Betriebliche Steuern und Abgaben	Note! Only farm taxes and not privat taxes.
150	Other input Sonstiger Aufwand	Please enter all expenditures not queried yet, which are not extraordinary or period strange, e.g. expenditures from crop enterprise, etc
151	Exordinary input Neutraler Aufwand	Here belong to all period-strange and extraordinary expenditures, e.g. losses from the sales of fixed assets, sales of partial enterprises, expenditures from extraordinary claims, etc.!
152	Total farm input Gesamtaufwand	Make sure that the total input in the questionnaire agree with those in the profit and loss account.

4.2 Basis for allocation of costs and returns

Verteilungsgrundlagen für Aufwands- und Ertragspositionen

In the following one you find some aspects for allocation of positions in section 3.2 and 3.3. If you do not have specific data concerning the sow enterprise, nursery enterprise or fattening enterprise, please keep to these one.

a. Revenue and expenditure of the non-operational manure utilization

Please divide the liquid manure accumulation according to m³. You can use the following key numbers:

- sows (included suckling piglets) 2.20 m³
- weaner 0.11 m³
- fattener 0.80 m³

b. Expenditure for electricity, water and heating

So far counters or measuring instruments are present in the according enterprise, you can use these for allocation. Beyond that only empirical values can be put at the basis.

c. Milling and mixing costs

The milling and mixing costs are assigned on the basis of their consumption.

d. Machines: maintenance, depreciation, fuel and lubricants

These costs are to be assigned to the respective enterprise according to the resulting machines hours.

e. Expenditure for animal insurance

You can divide expenditure for animal insurance on the basis of the animal asset.

f. Other farm insurance (animal insurance excluded)

fire insurance: value of buildings

motor vehicle insurance: machine hours, driven kilometers

.....

4.3 Definition of classes of animals in the hog enterprise

Definition der Tierkategorien in der Schweinehaltung

In the following table you find the definitions for the animal categories which were used in the questionnaire.

- | | |
|--|--|
| • Selected female pig
Zuchtläufer | From selection till first service (mating)
Von der Selektion bis zum ersten Belegen |
| • Gilt
Jungsau | From the first service till the first litter
Von der ersten Belegung bis zum ersten Wurf |
| • Sow
Zuchtsau | From the first litter till culling
Vom ersten Wurf bis zum Verkaufen (Schlachten) der Sau |
| • Productive sow
Produktive Sau | From the first service till culling
Von der ersten Belegung bis zum Verkauf der Sau (= Jung- + Zuchtsauen) |
| • Piglet
Saugferkel | From litter till weaning
Vom Abferkeln bis zum Absetzen |
| • Weaned piglet (ca. 7 kg)
Absatzferkel (Systemferkel) | Weaner for sale to a specialized nursery (piglet rearing) farm
Abgesetzte Ferkel, die für den Verkauf an einen spezialisierten Ferkelaufzuchtbetrieb gedacht sind |
| • Weaner (ca. 25-30 kg)
Aufzuchtferkel | From weaning till end of rearing period (25-30 kg)
Von Absetzen bis zum Ende der Ferkelaufzucht (25-30 kg) |
| • Fattener
Mastschwein | From the end of rearing period till sale
Vom Ende der Ferkelaufzucht bis zum Verkauf |