

NATIONAL AVERAGE PRODUCTIVITY OF DANISH PIG FARMS 2017

REPORT NO. 1819

The 2017 national average productivity index reveals a 1.1 increase in pigs weaned/sow/year. Finisher productivity improved by 5.9% compared with 2016.

INSTITUTION: SEGES DANISH PIG RESEARCH CENTRE
AUTHOR: CLAUD HANSEN
PUBLISHED: 2 AUGUST 2018

Abstract

2017 productivity data was collected from Danish pig farms that use either AgroSoft or Cloudfarms. Farm owners agreed to share productivity data included in the farm productivity reports and data was submitted either directly via AgroSoft or Cloudfarms or by regional advisory centres and with help from Danish Crown. The data material includes 535 sow farms with a total of 423,000 sows/year; 532 weaner farms with a total production of 12.5 million weaned pigs; and 628 finisher farms with a total of 4.6 million finished pigs. This is slightly fewer farms and animals than in the 2016 data material.

Results are assessed as an average for each farm. Weaned pigs/sow/year averaged 33.3, which an increase of 1.1 pigs compared with 2016. Herd size averaged 792 sows/year, and total piglet mortality averaged 21.7%, which is an increase of 0.4 percentage points compared with 2016.

The production of weaned pigs averaged 23,569 weaned pigs/year. Standardized FCR averaged 1.87 Danish feed units (FU) per kg gain, which is a 0.01 improvement compared with 2016. Standardized ADG averaged 453 g, which is an increase of 7 g compared with 2016. Mortality averaged 3.1%, which is identical to the 2016 level.

Finisher producers finished averagely 7,372 pigs a year. Standardized ADG averaged 961 g, which is a 21 g increase compared with 2016. Standardized FCR averaged 2.66 FU per kg gain, which is a

0.04 improvement compared with 2016. Dead and culled averaged 3.1% of all finished pigs, which is a 0.3 percentage points improvement. The production value per pig place increased by 5.9% in 2017, which is the largest increase seen in finisher production in the ten-year period covered by this report.

Materials and method

The data used for the national average productivity index originates from Danish pig farms. Data is collected from farm productivity reports directly via AgroSoft and Cloudfarms and from the regional advisory centres to which Danish pig producers submit data. Farm owners agreed to share data with SEGES Danish Pig Research Centre for the national average productivity index either through AgroSoft and Cloudfarms or through the regional advisor who obtained their permission prior to submission of data.

Validation of data submitted automatically via AgroSoft and Cloudfarms

Data submitted automatically via AgroSoft and Cloudfarms was validated and documented by the data supplier prior to submission to SEGES Danish Pig Research Centre. Data was also analysed by SEGES Danish Pig Research Centre and data was subject to analysis for potential correlations to extreme values. The automatic submission also included information for validation of the individual KPI, which included sums to validate that data was correctly submitted. In addition, expected correlations between data relating to daily gain, feeding days, feed conversion ratio etc. were validated, also known as "cross validation of KPIs". All data (including data from sources other than AgroSoft and Cloudfarms) was also checked for extreme values (regarded as input mistakes) and for limits that separate farm types that were not suitable for inclusion in the farm categories in this report (see section on minimum and maximum limits for KPIs).

The KPI 'non-productive days' was handled differently depending on the data sources. As a result, non-productive days in the fourth quarter of a "four quarter report" were analysed differently and might thereby affect other KPIs that include non-productive days. As a precaution to avoid miscalculations, productivity reports used in the national average productivity index were assessed after completion of Q1 2018.

Cross validation of data submitted automatically via AgroSoft and Cloudfarms

For data submitted automatically it must be possible to confirm correlations between values known for certain to exist. The cross validation confirmed that the data supplier had not altered the equations behind the KPIs they submitted. These additional figures (sums) were not reported from other data suppliers, i.e. the cross validation applied only to data from AgroSoft and Cloudfarms. The validation comprised the following requirements:

Sows

- Weaned pigs/sow/year must correspond with average number of litters/sow and pigs weaned/litter.
- There must be a correlation between lactation period (days), non-productive days and litters/sow/year.

Finishers

- For calculation of carcass weight/liveweight a conversion factor of 1.31 must be applied
- There must be a correlation between weight at transfer to the finisher unit, carcass weight, total gain and number of finished pigs
- Calculation of daily gain must agree with total gain and number of feeding days.

Weaned pigs

- There must be a correlation between initial weight, final weight, total gain and sold pigs
- Calculation of daily gain must agree with total gain and number of feeding days.

Minimum and maximum limits for KPI

Input mistakes and productivity reports from farms that did not match the farm categories included in the productivity index may generate extreme values in the data material. Consequently, extreme values must be eliminated as they might impact the figures in this report. Table 1 shows the minimum and maximum limits used in this report. With the exception of anomalies in reported feed consumption, a farm was eliminated from the data material if the values were outside the minimum/maximum limits (see table 1). Farms were eliminated if their status diverged by more than 5%, regardless of animal category.

For finishers, farms were only included if the factor for loss at slaughter of 1.31 was applied (slaughter percentage 76.3), so that carcass weight is calculated with the same equation (carcass weight = 0.763 x liveweight).

Furthermore, all records from a farm were eliminated from the data material if individual KPIs were missing.

Calculation of KPI averages

KPIs were determined as simple averages, ie. herd size did not impact the average figures.

Total piglet mortality

Total piglet mortality was calculated at farm level according to the same principles as in 2011 [1], and subsequently an average for all farms was determined.

Table 1. Minimum and maximum limits for farm averages. Farms outside the limits were eliminated from the data material.

	All records ¹⁾	Records for feed consumption in particular
GENERAL		
Min number of days within the period	150	
SOWS		
Max error rate, sows + gilts, %	5	
Danish feed units per sow/year		1,000 – 2,000
WEANED PIGS		
Max error rate at status, %	5	
Initial weight, kg	5 – 15,5	
Final weight, kg	20 - 40	
Danish feed units per head		15 - 80
Danish feed units per kg gain		1.4 – 2.5
FINISHERS		
Max error rate at status, %	5	
Initial weight, kg	20 - 40	
Carcase weight, kg	>60	
Danish feed units per kg gain		2.2 – 3.9
Slaughter rate, %	76.3	

¹⁾ For WinSvin data: additional requirement to exclude the most recent quarter.

Production value

A technical production value (PV) was determined on the basis of data from all finisher and weaner farms. PV was based on average daily growth and feed conversion ratio (FCR), and for finishers also lean meat percentage. All prices were standardised to allow for comparison between farms.

PV per pig = Sales price – purchase price – feed costs – various costs

PV per pig place/year = PV per pig × (365 days/feeding days per pig) × utilization of pig house

The below prices, based on average prices in 2017, were used to determine the production value:

7 kg pigs:	DKK 236 per pig, + DKK 11.07 per kg above 7 kg, - DKK 14.07 per kg below 7 kg
30 kg pigs:	DKK 402 per pig, + DKK 5.87 per kg above 30 kg, - DKK 5.79 per kg below 30 kg
Finishers:	DKK 11.29 per kg, incl. bonus payment. Supplement/deduction of DKK 0.13 per percentage point that lean meat % varies from 61%
Feed, finishers:	DKK 1.51 per feed unit
Feed, weaned pigs:	DKK 2.02 per feed unit

Various costs: DKK 11.06 per weaned pig and DKK 28.36 per finisher
Utilization of pig house: 95%

In tables 3 and 4, 2017 prices are applied to all previous years to be able to calculate an index covering the last ten years. As a result, both index and production value for previous years were revised, and it is therefore not possible to compare them with the results in previous editions of the report.

Results and discussion

The 2017 data material includes slightly fewer farms than in 2016. This is in particular the case for finisher farms where the number dropped by 12% compared with 2016. However, due to the inclusion of farms from the Danish Crown ejerservice, the number of farms included has overall increased from 2015 onwards.

Tables 2, 3 and 4 show a ten-year average for sow farms, weaner farms and finisher farms, respectively. In tables 5, 6 and 7 farms are ranked according to efficiency: top 25%, middle 50% and the bottom 25% for sow farms, weaner farms and finisher farms, respectively.

Productivity reports, sows

Table 2 shows the productivity average of sow farms. Weaned pigs/sow/year averaged 33.3, which is an increase of 1.1 pigs/sow/year compared with 2016.

The average productivity figures are based on data from 535 sow farms with an average of 792 sows, totalling roughly 425,000 sows/year. Per cent dead and culled sows in 2017 averaged 8.9%, which corresponds to a drop of 0.1 percentage points compared with 2016, and this is the lowest sow mortality rates to date. The national average for sow mortality based on data from DAKA and Statistics Denmark reveals a sow mortality rate of 11.0% in 2017, which corresponds to a drop of 0.3 percentage points compared with 2016. The development in the national figures is based on livestock data from Statistics Denmark and on DAKA records of sows delivered for destruction [3].

Total born per litter increased from 18.0 to 18.6 as pigs born alive per litter increased by 0.6 pigs to 16.9 pigs per litter. Pre-weaning mortality rose by 0.3 percentage points to 13.6%. Stillborn/litter rose by 0.1 percentage point. Consequently, total piglet mortality increased from 21.3% in 2016 to 21.7% in 2017, corresponding to an increase of 0.4 percentage points (table 2).

Reproduction results improved in 2017 compared with 2016 as farrowing rates increased by 0.6 percentage points and non-productive days per litter dropped by 0.3 in 2017.

Table 2. Average production level per farm, productivity reports sows.

Period	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2008
	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2009
Farms	535	570	459	537	604	629	664	749	666	619
Records for feed consumption	524	543	431	480	577	607	618	694	622	585
KPI										
Sows/year, head	791	767	742	707	680	651	640	615	579	538
Feed units per sow/year	1,472	1,470	1,474	1,507	1,506	1,523	1,538	1,543	1,529	1,520
LITTER RESULTS										
1st parity litters, %	22.7	22.6	23.5	24.3	23.7	23.5	23.9	23.5	23.9	24.7
Born alive/litter, head	16.9	16.3	15.9	15.6	15.4	15.1	14.8	14.5	14.2	14.1
Stillborn/litter, head	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.9	1.8
Weaned/litter, head	14.6	14.1	13.8	13.5	13.3	13.1	12.7	12.4	12.2	12.1
Lactation period, days	31	31	30	31	31	31	31	30	31	31
Weaning weight, kg	6.5	6.6	6.8	6.9	7.0	7.0	7,1	7.2	7.4	7.4
Pre-weaning mortality, %	13.6	13.3	13.4	13.6	13.7	13.7	13.9	14.2	14.0	13.9
Total piglet mortality, % ¹	21.7	21.3	21.5	21.9	22.3	22.4	23.0	23.6	24.2	23.9
REPRODUCTION										
Non-productive days/litter	12.4	12.7	13.0	13.6	14.2	14.1	13.8	14.2	14.9	15.3
Weaning to first service, days	5.6	5.7	5.7	5.8	5.9	5.9	6.0	5.9	5.6	5.6
Return rate, %	4.8	5.2	5.3	5.9	6.5	6.1	6.1	6.4	6.6	6.9
Farrowing rate, %	89.2	88.6	88.1	87.2	86.6	87.0	87.3	86.7	86.4	86.0
Weaned pigs/sow/year, head	33.3	32.2	31.4	30.6	30.0	29.6	28.8	28.1	27.5	27.2
Litters/sow/year	2.28	2.27	2.27	2.26	2.25	2.26	2.26	2.26	2.25	2.24

¹ Total piglet mortality before 2010 is based on average figures. After 2010, total piglet mortality is based on farm figures.

In 2016, weaned pigs/sow/year increased by 0.8, while in 2017 the increase reached 1.1 pigs/sow/year. This increase is primarily attributed to a continued increase in pigs born alive per litter.

The progress of most KPIs in Danish sow production has been stable for the past ten years. Figure 1 shows the progress in weaned pigs/sow/year compared with the 2008 records (June 2008 to June 2009). The increase of 1.1 weaned pigs/sow/year in 2017 is higher than the progress of previous years, which averaged 0.5-0.8 pigs/year.

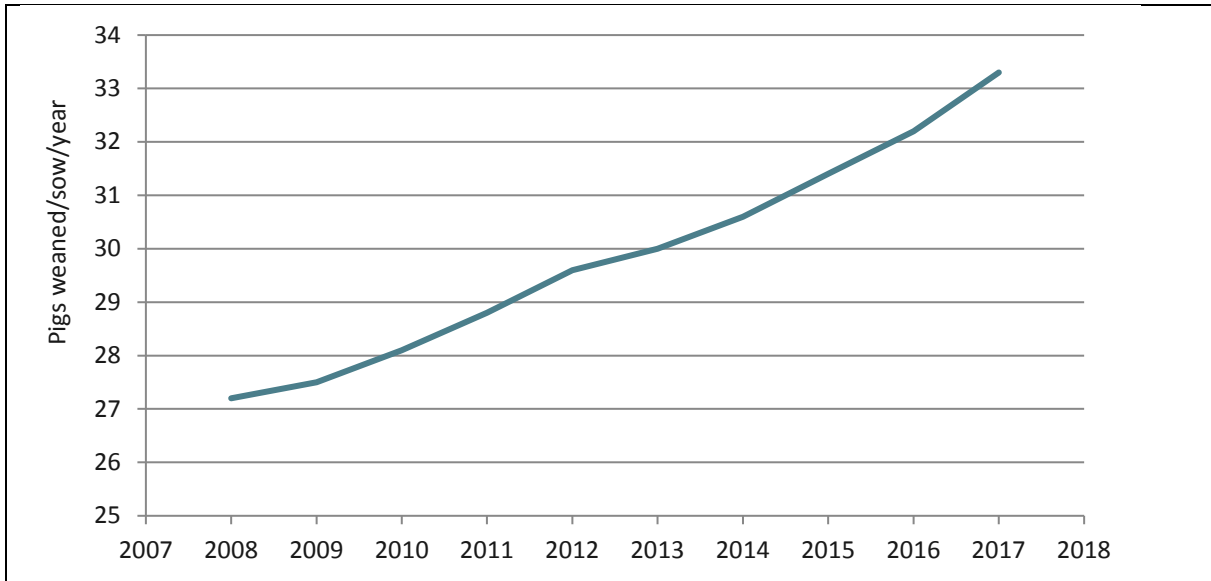


Figure 1. Efficiency progress in sow productivity expressed as weaned pigs/sow/year.

Figure 2 shows the development in total piglet mortality.

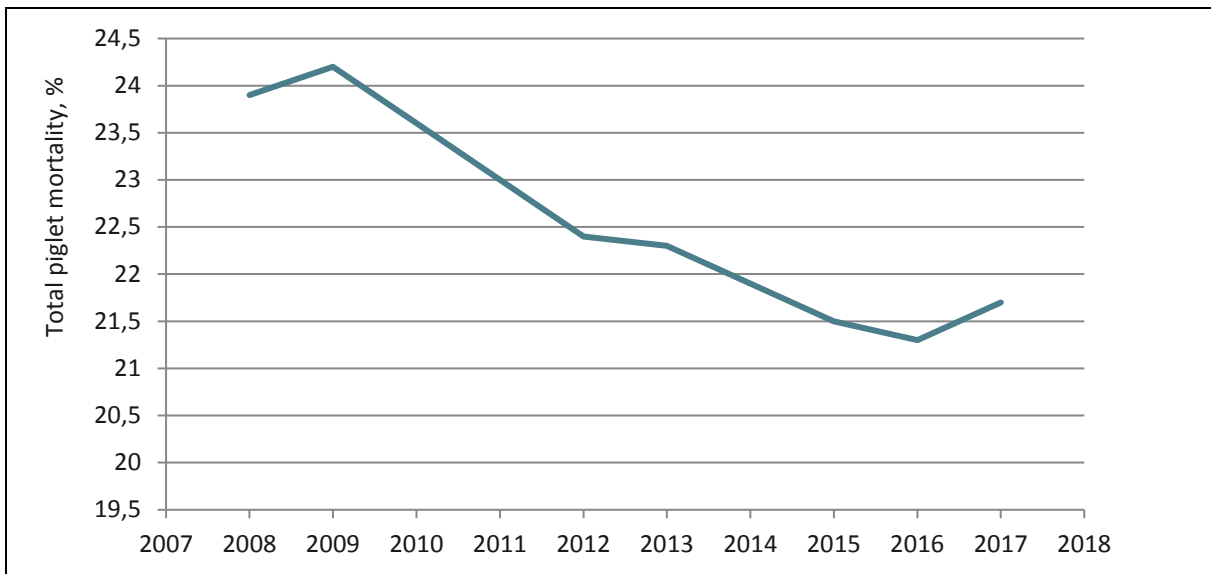


Figure 2. Development in total piglet mortality, %.

Productivity reports, weaned pigs

The average production level increased to 23,569 weaned pigs last year. Growth averaged 452 g a day, which is an 8 g increase, and FCR per kg gain dropped by 0.01 FU. Standardized ADG increased by 7 g and standardized FCR per kg gain dropped by 0.01 FU compared with 2016.

The production value per pig remained the same as in 2016, but the production value per pig place increased by DKK 13 compared with 2016 and is now at its highest level in ten years (table 3).

Table 3. Average production level per farm, productivity reports, weaned pigs.

Period	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2008
	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2009
Farms	532	541	412	325	574	565	574	637	545	576
Records for feed consumption	508	522	404	313	564	542	552	600	497	531
KPI										
Pigs produced/year, head	23,569	23,367	22,077	18,232	17,556	16,414	16,372	14,817	14,184	12,636
Daily gain, g	452	444	444	446	448	442	443	450	460	463
Standardized ADG (7-30 kg), g ¹	453	446	443	441	441	438	435	439	446	447
FCR per kg gain, FU	1.88	1.89	1.88	1.93	1.92	1.95	1.95	1.96	1.94	1.96
Standardized FCR (7-30 kg), FU per kg gain ¹	1.87	1.88	1.88	1.92	1.91	1.94	1.94	1.94	1.92	1.94
Mortality, %	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.8	2.6	2.6
OTHER INFORMATION										
Initial weight, kg	6.7	6.7	6.8	7.0	7.1	7.1	7.2	7.3	7.5	7.4
Weight per sold pig, kg	30.6	30.8	30.8	30.9	31.0	30.6	31.1	31.4	31.4	31.7
PV per pig, DKK ²	72	72	71	67	67	65	65	64	64	64
Index (PV per pig) ²	112	112	111	105	104	101	101	100	100	100
PV per pig place/year, DKK ²	472	459	457	433	436	423	418	417	427	425
Index (PV per pig place /year) ²	111	108	108	102	103	99	98	98	101	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 7-30 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

² The production values in this table are based on average productivity results. Identical price assumptions were used for all years (for more information, see 'Materials and method').

Figure 3 shows the progress in the production value per pig place/year for weaned pigs. Due to the implementation of a new reference point in 2017 the graphs in the figure change shapes and levels compared with previous editions of this report.

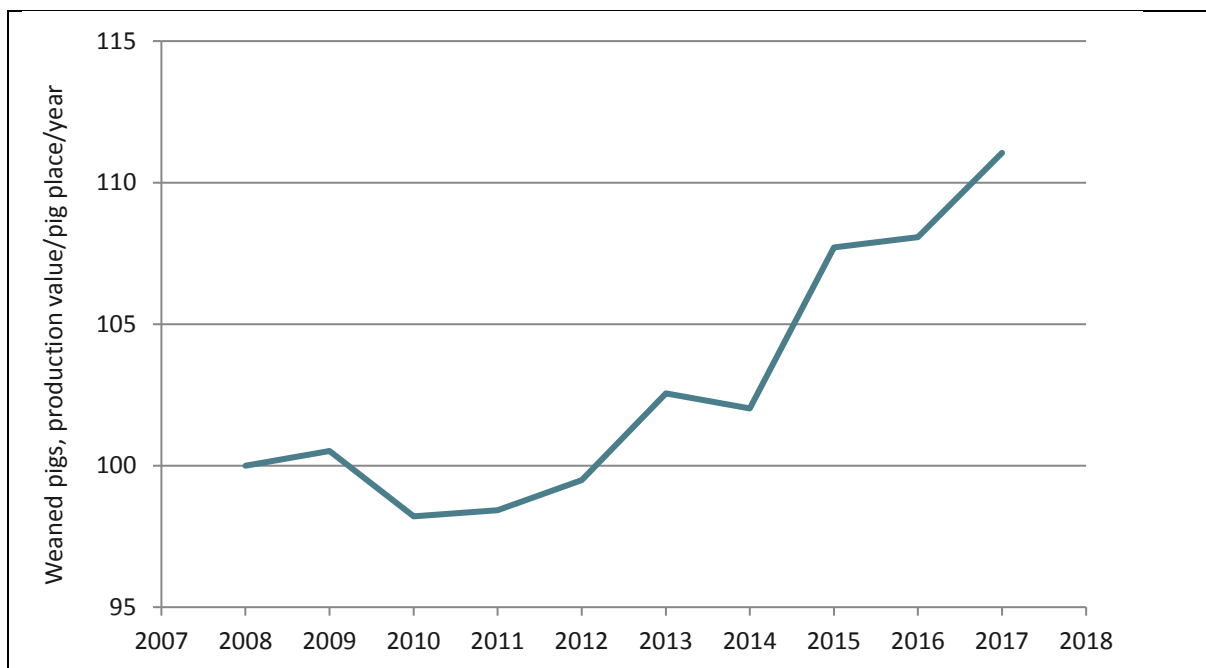


Figure 3. Efficiency progress expressed as production value index (index per pig place/year), weaned pigs

Productivity reports, finishers

Table 4 shows that herd size averaged 7,372 pigs/year in 2017, which is slightly lower than in 2016. FCR improved by 0.02 FU/kg gain, but as carcass weight increased, standardized FCR improved by 0.04 FU to 2.66 FU/kg gain, which illustrates that comparisons between years must be based on standardized FCR and ADG.

Mortality dropped by 0.3 percentage points, as was also the case in 2016. Lean meat percentage remained stable at averagely 60.6%, which is the highest level achieved.

A better FCR per pig and an improved lean meat percentage result in a DKK 12 increase in the production value per pig. Daily gain improved from 2016 to 2017, and consequently the increase in production value per pig place was higher from 2016 to 2017 than from 2015 to 2016. The production value per pig place for finishers thus increased by 5.9% in 2017, which is the largest increase seen for finishers in the ten-year period covered by this report.

Table 4. Average production level per farm in the productivity reports, finishers.

Period	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2008
	2017	2016	2015	2014	2013	2012	2011	2010	2009	June 2009
Farms	628	714	494	548	650	717	746	815	849	721
Records for feed consumption	603	693	480	535	633	713	737	808	849	709
KPI										
Finished pigs/year, head	7,372	7,792	8,008	6,863	6,785	6,902	6,537	5,847	6,385	6,178
Daily gain, g	971	950	947	931	916	905	898	895	898	893
Standardized ADG (30-100 kg), g ¹	961	940	936	922	907	897	889	885	888	883
Feed intake/pig/day, FU	2.70	2.67	2.65	2.64	2.59	2.58	2.58	2.57	2.54	2.54
FCR/kg gain, FU	2.79	2.81	2.80	2.84	2.84	2.86	2.87	2.87	2.84	2.85
Standardized FCR (30-100 kg), FU per kg gain ¹	2.66	2.70	2.70	2.74	2.75	2.78	2.79	2.79	2.77	2.78
OTHER INFORMATION										
Initial weight, kg	31.4	31.6	31.6	31.2	31.7	31.5	31.7	31.9	31.9	32.3
Carcase weight, kg (av.)	86.8	85.1	84.2	84.4	82.7	81.8	81.6	82.3	81.4	80.9
Gain/finished pig, kg	82.4	79.9	78.8	79.3	76.6	75.7	75.1	76.0	74.7	73.8
CLASSIFICATION										
Lean meat % (av)	60.6	60.6	60.4	60.2	60.2	60.4	60.4	60.2	60.2	60.3
HEALTH										
Dead and rejected, %	3.1	3.4	3.7	3.7	3.7	3.6	3.7	4.0	4.1	4.3
PRODUCTION VALUE (PV 2017 prices)										
PV per pig, DKK ²	190	178	171	167	156	151	149	150	149	145
Index (PV per pig) ²	131	123	118	115	108	105	103	104	103	100
PV per pig place/year, DKK ²	775	732	712	678	648	626	618	611	620	606
Index (PV per pig place/year) ²	128	121	117	112	107	103	102	101	102	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 30-100 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

² The production values in this table are based on average productivity results. Identical price assumptions were used for all years (for more information, see 'Materials and method').

Figure 4 shows the trend in the production value per pig place/year for finishers. This is a new reference point introduced in 2017, and as a result the graphs in the figure change shapes and levels compared with previous editions of this report.

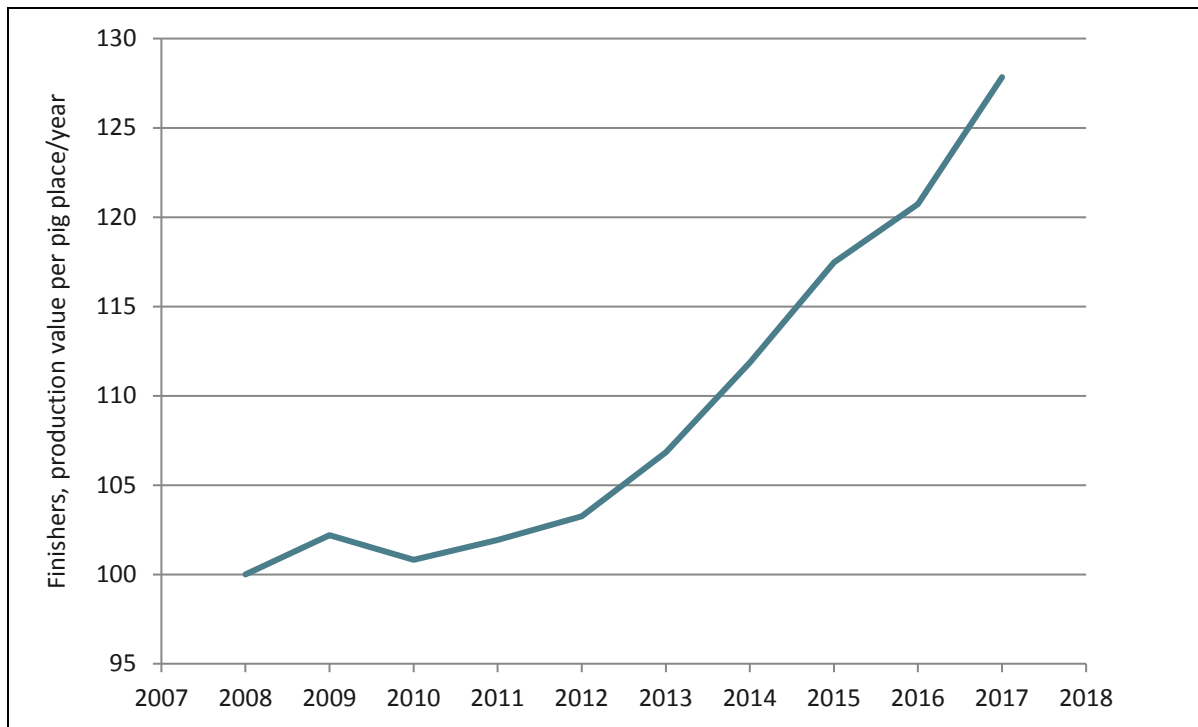


Figure 4. Efficiency progress expressed as production value index (index per pig place/year), finishers

According to efficiency level

In tables 5-7, the farms included in the national average productivity index are ranked according to efficiency. Table 5 provides KPIs for sow farms shown according to weaned pigs/sow/year. The table shows that the top 25% pig producers weaned more than 34.8 pigs/sow/year, and, in comparison, the bottom 25% weaned fewer than 31.8 pigs/sow/year. Looking at the median, the difference between the top 25% and the bottom 25% is 5.1 weaned pigs/sow/year, and this gap widened in 2017 compared with 2016.

The top 25% farms have averagely 260 more sows/year than the bottom 25%. Records show 19.5 total-born piglets/litter and a total piglet mortality of 19.8% among the top 25% vs 18.1 total-born piglets/litter and a total piglet mortality of 23.9% among the bottom 25%.

Table 5. Average production level per sow farm in the 2017 national average productivity index, according to weaned pigs/sow/year. See appendix for a version of this table presenting the calculated medians.

	Top 25%	Middle 50%	Bottom 25%	2017 av.
Weaned pigs/sow/year	> 34.8	34.8 <=> 31.8	31.8 >	
Farms	133	269	133	535
Records for feed consumption	129	265	130	524
KPI				
Sows/year, head	870	841	610	791
Danish feed units per sow/year ¹	1,480	1,463	1,481	1,472
LITTER RESULTS				
1st parity litters, %	21.4	22.9	23.2	22.7
Born alive/litter	17.7	16.9	16.3	16.9
Stillborn/litter	1.8	1.7	1.8	1.8
Weaned pigs/litter	15.6	14.6	13.7	14.6
Lactation period, days	30	31	32	31
Weaning weight, kg	6.2	6.4	6.8	6.4
Pre-weaning mortality, %	11.8	13.5	15.6	13.6
Total piglet mortality, %	19.8	21.5	23.9	21.7
REPRODUCTION				
Non-productive days/litter	9.7	12.0	15.9	12.4
Weaning to first service, days	5.3	5.7	5.9	5.6
Return rate, %	3.4	4.5	6.7	4.8
Farrowing rate, %	91.8	89.5	86.1	89.2
Weaned pigs/sow/year, head, Median	36.0	33.3	30.9	33.3
Litters/sow/year	2.33	2.28	2.21	2.28

¹ Total piglet mortality before 2010 is based on average figures. After 2010, total piglet mortality is based on farm figures.

Table 6 shows KPIs for weaner farms according to the production value per pig place/year. The top 25% generate a production value per pig place/year of more than DKK 514, and the bottom 25% generate a production value per pig place/year that is lower than DKK 416. Looking at the median, the difference between the top 25% and the bottom 25% amounted to DKK 176 a year, and this gap widened compared with previous years.

The application of 2017 prices changed the weighting of the various production parameters. It is therefore not possible to compare the production value with the values provided in previous editions of this report.

Table 6. Average production level per farm in the 2017 national average productivity index, weaned pigs, according to production value/pig place/year (only farms with reported feed consumption are included). See appendix for a version of this table presenting the calculated medians.

	Top 25%	Middle 50%	Bottom 25%	2017 av.
PV per pig place/year, DKK	> 514	514 <=> 416	416 >	
Farms	127	254	127	508
KPI				
Pigs produced/year, head	24,718	24,044	21,254	23,515
Daily gain, g	489	446	423	451
Standardized ADG (7-30 kg), g ¹	496	450	416	453
FCR/kg gain, FU	1.75	1.85	2.04	1.88
Standardized FCR (7-30 kg), FU/kg gain ¹	1.75	1.85	2.04	1.87
Mortality, %	2.6	3.1	3.7	3.1
OTHER INFORMATION				
Initial weight, kg	6.3	6.5	7.3	6.7
Weight/sold pig, kg	30.7	30.7	30.4	30.6
PRODUCTION VALUE (PV)				
PV per pig, DKK	80	73	56	71
Index (PV/pig) compared with "average", %	113	103	79	100
PV/pig place/year, DKK, Median	544	467	368	467
PV index compared with "average", %	116	100	79	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 7-30 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

Table 7 shows KPIs for finisher farms according to the production value per pig place/year. The top 25% generate a production value per pig place/year of more than DKK 852, and the bottom 25% generate a production value per pig place/year that is lower than DKK 772. Looking at the median, the difference between the top 25% and the bottom 25% amounted to DKK 249 a year, which is an increase from 2016. This difference is primarily attributed to differences in FCR per kg gain and daily gain.

The application of 2017 prices changed the weighting of the various production parameters. It is therefore not possible to compare the production value with the values provided in previous editions of this report.

Table 7. Average production level per finisher farm in the 2017 national average productivity index, according to production value per pig place/year (only farms with reported feed consumption are included). See appendix for a version of this table presenting the calculated medians.

	Top 25%	Middle 50%	Bottom 25%	2017 av.
PV per pig place/year, DKK	> 852	852 <=> 722	722 >	
Farms	150	303	150	603
KPI				
Finished pigs/year, head	7,818	8,042	5,779	7,423
Daily gain, g	1,032	975	906	972
Standardized ADG (30-100kg), g ¹	1,022	965	897	962
Feed intake per pig, daily, FU	2.73	2.71	2.66	2.70
FCR/kg gain, FU	2.65	2.78	2.94	2.79
Standardized FCR (30-100 kg), FU/kg gain ¹	2.51	2.65	2.82	2.66
OTHER INFORMATION				
Initial weight, kg	31.4	31.3	31.4	31.4
Carcase weight, kg (av.)	87.3	86.9	86.0	86.8
Gain/finished pigs, kg	83.0	82.6	81.3	82.4
CLASSIFICATION				
Lean meat % (av.)	60.8	60.6	60.3	60.6
HEALTH				
Rejected, %	0.1	0.1	0.2	0.1
Mortality, %	2.2	2.7	4.2	2.9
PRODUCTION VALUE (PV)				
PV per pig, DKK	213	193	165	191
Index (PV/pig) compared with "average", %	112	101	86	100
PV per pig place/year, DKK, Median	900	789	651	789
PV index compared with "average", %	114	100	83	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 30-100 kg, which allows for comparison between the results of individual years. See previous editions for a detailed description [2].

Performance of the best farms

To illustrate the potential in Danish sow production, table 8 shows the average productivity of five sow farms selected among the top 25% in terms of weaned pigs/sow/year.

Table 8. KPI averages, five sow farms selected among the top 25% in terms of weaned pigs/sow/year.

Average of top 5	2017	2016	2015	2014	2013
Danish feed units per sow/year	1,533	1,473	1,544	1,459	1,508
1st parity litters, %	19.4	19.6	21.8	22.1	21.6
Born alive/litter	18.6	18.1	17.2	17.2	16.8
Stillborn/litter	1.8	1.5	1.5	1.6	1.4
Weaned pigs/litter	17.0	16.5	15.7	15.4	15.1
Lactation period, days	30	32	30	31	29
Weaning weight, kg	6.4	6.4	6.4	7.5	6.9
Pre-weaning mortality, %	8.5	8.9	9.1	10.5	10.3
Total piglet mortality, %	16.7	15.9	16.3	17.8	17.3
Return rate, %	2.8	3.3	3.2	3.7	3.6
Farrowing rate, %	93.5	92.8	92.9	91.8	92.3
Weaned pigs/sow/year	39.8	38.5	36.9	36.1	35.7
Dead and destroyed sows per sow/year, %	5.9	6.4	8.1	5.8	5.7

Table 9 shows KPI averages from five weaner farms selected among the top 25% in terms of production value per pig place. The top 5 farms among weaner farms have been elected since 2012. The production value of previous years is based on 2017 prices.

Table 9. KPI averages, five weaner farms selected among the top 25% in terms of PV/pig place.

Average of top 5	2017	2016	2015	2014	2013
Daily gain, g	612	633	496	489	601
Standardized ADG (7-30 kg), g ¹	586	640	492	494	573
FCR/kg gain, FU	1.69	1.72	1.57	1.61	1.62
Standardized FCR (7-30 kg), FU/kg gain ¹	1.66	1.71	1.55	1.61	1.59
Mortality, %	1.5	1.9	2.4	2.1	1.3
Initial weight, kg	7.2	6.7	6.4	6.8	7.2
Weight/sold pig, kg	32.5	30.6	32.0	30.2	33.9
PV per pig, DKK ²	84	71	85	74	79
PV per pig place/year, DKK ²	671	657	572	539	616

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 7-30 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

² The production values in this table are based on average productivity results. Identical price assumptions were used for all years (for more information, see 'Materials and method').

Table 10 shows KPI averages from five finisher farms selected among the top 25% in terms of production value per pig place. The top 5 farms among finisher farms have been elected since 2012. The production value of previous years is based on 2017 prices.

Table 10. KPI averages, five finisher farms selected among the top 25% in terms of PV/pig place.

Average of top 5	2017	2016	2015	2014	2013
Daily gain, g	1,147	1,088	1,077	979	1,001
Standardized ADG (30-100 kg), g ¹	1,131	1,069	1,064	973	986
Feed intake per pig daily, FU	2.79	2.83	2.76	2.45	2.54
FCR/kg gain, FU	2.43	2.59	2.56	2.50	2.53
Standardized FCR (30-100 kg), FU/kg gain ¹	2.29	2.46	2.45	2.38	2.43
Initial weight, kg	32.5	31.4	34.0	31.0	33.2
Carcase weight, kg (av.)	87.3	86.6	83.7	86.0	82.9
Gain per finished pig, kg	81.8	82.1	75.6	81.6	75.4
Lean meat % (av.)	60.6	61.1	60.5	60.8	60.7
Rejected, %	0.1	0.1	0.1	0.1	0.2
Mortality, %	2.0	3.4	2.0	3.1	1.9
PV per pig, DKK ²	243	228	200	232	204
PV per pig place/year, DKK ²	1,184	1,046	988	964	935

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 30-100 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

² The production values in this table are based on average productivity results. Identical price assumptions were used for all years (for more information, see 'Materials and method').

References

- [1] Vinther, J. (2011): Landsgennemsnit for produktivitet i svineproduktionen 2010. Notat nr. 1114, Videncenter for Svineproduktion.
- [2] Sloth, N. M.; Bertelsen, E. (2007): Rapport over P-rapporternes resultater oktober 2007. Notat nr. 0745, Dansk Svineproduktion.
- [3] Vinther, J.; Jensen, T. B. (2018): Udviklingen i sodødelighed – tal fra DAKA 2017. Notat nr. 1815, SEGES Svineproduktion.

Participants

Data was submitted by Bornholms Landbrug, SvineXperten, SvineRådgivningen, VKST, Centrovic, LMO, LandboNord and Danish Crown Ejerservice, AgroSoft, Cloudfarms.

Appendix

This report provides KPI averages according to the productivity of all the farms (top 25%, middle 50%, bottom 25%). The average is calculated as a simple average for all farms within each farm category. However, when the data material includes only few farms averages may shift to quite a large degree as a consequence of extreme values for individual farms. A 'median' provides the value of a KPI when there is an equal number of values above and below, and is thereby not a calculated value, but provides 'KPIs for an average farm'. The median is not sensitive to extreme values and provides more correct KPIs of an average farm when the data material includes only few farms.

Thus, the medians shown in tables 11, 12 and 13 provide a truer image of the average farm's KPIs according to productivity. In 2017, the tables showing medians are placed in the appendix, but in future editions of this report, tables 11, 12 and 13 will replace tables 5, 6 and 7.

Table 11. Medians for production level per sow farm in the 2017 national average productivity index, according to weaned pigs/sow/year

	Top 25%	Middle 50%	Bottom 25%	2017 Av.
Weaned pigs/sow/year, head	> 34.8	34.8 <=> 31.8	31.8 >	
Farms	133	269	133	535
Records for feed consumption	129	265	130	524
KPI				
Sows/year, head (median)	747	717	510	692
Danish feed units per sow/year ¹ (median)	1,480	1,460	1,465	1,463
LITTER RESULTS				
1st parity litters, % (median)	21.0	23.0	23.0	22.0
Born alive/litter (median)	17.7	16.9	16.3	16.9
Stillborn/litter (median)	1.8	1.7	1.8	1.7
Weaned pigs/litter (median)	15.5	14.6	13.9	14.6
Lactation period, days (median)	30	31	31	30.0
Weaning weight, kg (median)	6.1	6.4	6.9	6.4
Pre-weaning mortality, % (median)	12.1	13.6	15.5	13.7
Total piglet mortality, % (median)	20.2	21.4	23.9	21.5
REPRODUCTION				
Non-productive days per litter (median)	10.0	12.0	15.0	12.0
Weaning to first service, days (median)	5.0	6.0	6.0	6.0
Return rate, % (median)	3.3	4.1	6.0	4.3
Farrowing rate, % (median)	91.7	90.0	86.4	90.0
Weaned pigs/sow/year (median)	36.0	33.3	30.9	33.3
Litters/sow/year (median)	2.33	2.28	2.22	2.28

¹ Total piglet mortality before 2010 is based on average figures. After 2010, total piglet mortality is based on farm figures.

Table 12. Medians for production level per weaner farm in the 2017 national average productivity index, according to production value per pig place/year (only farms with reported feed consumption are included).

	Top 25%	Middle 50%	Bottom 25%	2017 Av.
PV per pig place/year, DKK	> 514	514 <=> 416	416 >	
Farms	127	254	127	508
KPI				
Pigs produced/year, head (median)	21,960	20,601	15,963	20,043
Daily gain, g (median)	482	445	405	450
Standardized ADG (7-30 kg), g ¹ (median)	489	451	411	451
FCR/kg gain, FU (median)	1.76	1.87	2.02	1.86
Standardized FCR (7-30 kg), FU/kg gain ¹ (median)	1.76	1.86	2.01	1.86
Mortality rate (median)	2.3	3.0	3.5	2.9
OTHER INFORMATION				
Initial weight, kg (median)	6.2	6.4	6.8	6.4
Weight per sold pig, kg (median)	31.1	30.9	30.3	30.8
PRODUCTION VALUE (PV)				
PV/pig, DKK (median)	82	74	59	73
Index (PV/pig) relative to "average", %	112	101	81	100
PV/pig place/year, DKK (median)	544	467	368	467
PV index relative to "average", %	116	100	79	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 7-30 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].

Table 13. Medians for production level per finisher farm in the 2017 national average productivity index, according to production value per pig place/year (only farms with reported feed consumption are included).

	Top 25%	Middle 50%	Bottom 25%	2017 Av.
PV per pig place/year, DKK	> 852	852 <=> 722	722 >	
Farms included	150	303	150	603
KPI				
Pigs finished/year, head (median)	6,541	6,476	4,485	6,060
Daily gain, g (median)	1,025	975	910	972
Standardized ADG (30-100 kg), g ¹ (median)	1,014	959	897	959
Feed intake/pig/day, FU (median)	2.72	2.70	2.67	2.70
FCR/kg gain, FU (median)	2.66	2.78	2.92	2.78
Standardized FCR (30-100 kg), FU per kg gain ¹ (median)	2.53	2.65	2.80	2.65
OTHER INFORMATION				
Initial weight, kg (median)	31.4	31.5	31.7	31.5
Carcase weight, kg (av.) (median)	87.2	86.9	85.9	86.7
Gain/finished pig, kg (median)	83.2	82.5	81.1	82.3
CLASSIFICATION				
Lean meat % (av.) (median)	60.8	60.6	60.3	60.6
HEALTH				
Rejected, % (median)	0.1	0.1	0.1	0.1
Mortality (median)	2.2	2.5	3.3	2.5
PRODUCTION VALUE (PV)				
PV/pig, DKK (median)	210	191	167	191
Index (PV/pig) relative to "average", %	110	100	87	100
PV/pig place/year, DKK (median)	900	789	651	789
PV index relative to "average", %	114	100	83	100

¹ Standardized FCR and standardized ADG correct for the recorded averages to standard weight interval 30-100 kg, which allows for comparison of the results in individual years. See previous editions for a detailed description [2].



Tlf.: 33 39 45 00

svineproduktion@seges.dk

Ophavsretten tilhører SEGES. Informationerne fra denne hjemmeside må anvendes i anden sammenhæng med kildeangivelse.

Ansvar: Informationerne på denne side er af generel karakter og søger ikke at løse individuelle eller konkrete rådgivningsbehov.

SEGES er således i intet tilfælde ansvarlig for tab, direkte såvel som indirekte, som brugere måtte lide ved at anvende de indlagte informationer.