SEGES INNOVATION

NOTAT

No. 2204

3 June 2022

NATIONAL AVERAGE PRODUCTIVITY OF DANISH PIG FARMS 2021

Claus Hansen

[a] *SEGES Innovation P/S*

SUPPORTED BY

Danish Pig Levy Fund

Main conclusion

In 2021, productivity for weaned pigs improved; sow productivity improved marginally and finisher production remained at 2020 levels. All categories experienced an increase in mortality rates.

Abstract

Analyses revealed improvement in productivity for weaned pigs, a marginal improvement in sow productivity and no improvement in finisher production. Mortality rates increased for all categories. Sows weaned averagely 34.0 pigs/sow/year, despite a slight drop in KPIs for reproduction and mortality. Average herd size was largely identical with the last 2 years and total piglet mortality was 23.4%, which is a 0.3 percentage point increase compared with 2020.

Production of weaned pigs averaged 24,896 pigs per farm per year. Reference-feed conversion ratio (7-30 kg) was 1.81 feed units per kg gain, which is an improvement of 0.01 feed units/kg gain compared with 2020. Reference-daily gain was 464 g, which is a 3 g increase compared with 2020. Analyses revealed an increase in production value compared with 2020.

Production of finishers averaged 8,858 pigs per farm per year. Reference-daily gain (30-115 kg) was 1,028 g, which is a 2 g increase compared with 2020. Reference-feed conversion ratio was 2.66 feed units per kg, which is 0.01 higher than in 2020. Dead and discarded at slaughter constituted 3.6% of all pigs produced, which is a 0.2 pig increase compared with 2020.

The 2021 data material included 862 sow farms with approx. 701,000 sows/year; 582 weaner farms with a total production of roughly 14.5 million weaned pigs; and 985 finisher farms producing approx. 8.7 million finishers. Thereby the 2021 data material includes more farms, more sows/year and more pigs produced than previous years.

For the 2021 national average, productivity data was collected from Danish farms using management software from Agrovision or Cloudfarms ApS. Data was collected from farms where productivity reports were submitted directly to Agrovision or Cloudfarms. The entire data material in this publication is based on the 2021 data and on data used in previous years' editions of the national average productivity index [1].

Background

The national average for productivity provides a summary of productivity in Danish pig production. Published annually, the index is based on the most recent data collected from Danish pig farms and comprises several years of data, thereby making it the most comprehensive analysis of productivity on Danish pig farms. It forms the basis of national figures for productivity and KPIs for sow farms, weaner farms and finisher farms.

Materials and methods

The national average productivity index is based on 2021 data from Danish pig farms and on data from previous years' editions of The National Average Productivity index published by SEGES [1].

For use in the 2021 analyses, data was collected via farm productivity reports submitted directly to Agrovision and Cloudfarms ApS. This method, introduced in 2018, replaced the old method (pre-2018) in which the regional advisory centres picked which farms to include and handled collection and validation of the data that was submitted. Consequently, the data material and the population of farms represented may differ from previous years, and this may in some cases affect the KPIs shown.

The periods included in the farm productivity reports may differ between farms, but were selected and aggregated using an algorithm for automatic selection and partly automatic data validation.

Automated selected and data validation

The data material consists of productivity reports submitted by the owner, user or farm advisor. Data was submitted automatically via Agrovision or Cloudfarms and was validated and documented by the data supplier prior to submission to SEGES Innovation. 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, a process also known as 'cross-validation of KPI'. Data was checked for extreme values and excluded if the values were outside the minimum and maximum limits for KPI (table 1). Extreme values may occur if, for instance, the owner has changed management programmes or if some of the KPIs in the productivity reports are not being used by the pig producer and are therefore not correctly submitted. Farms were divided into sow farms, weaner farms and finisher farms, and farms that did not fit into any of these categories were excluded (for more information, see section on minimum and maximum limits for KPI in table 1).

Finisher producers are able to record and submit data to SEGES Innovation via the management programmes that covers multiple herd numbers in one entry, provided it is clear that data originates from multiple sites. Farm structure was analysed manually for finisher farms > 20,000 finishers/year. If data in the central herd register and/or the data structure confirmed that data concerned multiple herd numbers, data from each site was distributed among the correct number of sites. It is also possible to submit pooled records for multiple farms, and these recordings were eliminated if the manual analysis confirmed that a report contained pooled values from multiple sites/farms.

As a precaution against miscalculations of the KPI 'non-productive days' between farms using Agrovision or Cloudfarms, respectively, and to ensure that potential adjustments were implemented for all farms, productivity reports used in the 2021 national average productivity index were collected after April 20, 2022, to ensure that all non-productive days for inseminations made in 2021 were determined correctly.

Farm productivity reports were selected on the basis of pig farmers' own calculations. It is possible to generate productivity reports for the same periods/year with different time intervals, ie. one production year may be presented in monthly reports, quarterly reports and an annual report.

Farm productivity reports used in the national average productivity index were selected according to the criteria stated below in hierarchical order (applies to all farm types):

1) Identical start dates +/- 5 days, the most recent productivity report was used.
2) Periods starting at calendar quarters with periods of 75-120 days (approx. January 1, April 1, July 1 and October 1), followed by selection according to length (regardless of starting point):
    a. 75-120 days
    b. 20-40 days
    c. 40-75 days
    d. 120-220 days
    e. 220-390 days

Periods of < 20 days and > 390 were not included. Farm productivity reports with date overlaps were excluded.

Cross-validation of data submitted automatically via Agrovision and Cloudfarms

For each productivity report, data was checked for correlations between KPIs and it was thereby validated that the data supplier had not altered the equations behind the KPIs.

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, gestation period (days) and litters/sow/year.

Weaned pigs

- There must be a correlation between start weight, final weight, total gain and pigs produced.
- Calculation of daily gain must correspond with total gain and number of feeding days.

Finishers

- For calculation of carcass weight/liveweight a conversion factor of 1.31 must be applied (slaughter percentage 76.3), so that carcass weight is determined using the same equation for all farms (slaughter weight= 0.763 × liveweight).
- 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 correspond with total gain and number of feeding days.

Minimum and maximum limits for KPI

The KPIs calculated by the farm owner, user or advisor are assumed to be correct. However, there are situations where the KPIs presented seem inaccurate. For instance, where data is converted between Agrovision and Cloudfarms programmes or where certain components of the programme were not in use. In such cases, it is necessary to apply exclusion criteria for farms and/or individual KPIs.

Table 1 shows the minimum and maximum limits used in this report. With the exception of anomalies in feed records, sow mortality and weaning weight, all data from a farm was excluded from the data

material if values were outside the minimum and maximum limits presented in table 1. Farms were excluded if their status (status count of pigs) diverged by more than 5%, regardless of animal type.

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

Calculation of KPI averages

KPIs (except sows/year and pigs produced/farm) were determined as an average value weighted according to herd size as this provides the best expression of the average animal.

Total piglet mortality

Total piglet mortality was calculated at farm level as the difference between total born piglets and pigs weaned within the specific period. Subsequently, the national average was determined on the basis of a weighted average across all farms.

Table 1. Exclusion criteria (minimum and maximum limits) for farm average. Farms outside the limits were excluded from the data analysis.

	All farm KPIs are excluded	Only the specific KPI is excluded
General		
Minimum number of days in calendar year	<150	
Sows		
Total number of feed units per sow/year		<1,000; >2,000
Percentage of dead and killed sows[1]		>40%
Weaned pigs		
Start weight, kg	<4.0; >15.5	
Final weight, kg	<20; >40	
Daily gain, g	>900	
Status difference (%)	<-5; >5	
Feed units per kg gain[2]		1.4 – 2.5
Finishers		
Start weight, kg	<20; >40	
Carcass weight, kg	<60	
Feed units per kg gain[2]		2.2 – 3.9
Percentage of dead and killed (%)	<25	
Status difference (%)	<-5; >5	
Slaughter percentage	<>76.3	
Average daily gain, g	<400; >1,600	

[1] On some farms, a slaughtered sow is recorded as dead/killed; this leads to an unrealistically high percentage of dead sows on some farms, which is why this limit was introduced.

[2] If this is excluded, it is not possible to determine the reference-feed conversion ratio or the production value for the farm in question.

Production value

A “technical production value” (PV) was determined on the basis of data from all finisher and weaner farms. PV was based on daily gain, feed conversion ratio (FCR) and mortality, and for finishers also lean meat percentage. All prices were standardized (average price September 2016 - September 2021) to allow for comparison between farms (table 3).

Table 2. Equations used for calculating the production value of weaned pigs and finishers.

Equation
PV per pig (identical for weaned pigs and finishers) = Sales price – purchase price – feed costs – various costs
PV per pig place/year (identical for weaned pigs and finishers) = PV per pig × (365 days/feeding days per pig) × utilization of housing capacity
Sales price (finishers) = (slaughter weight * Pig price finishers) + (carcass weight * value of lean meat % per kg)
Sales price (weaned pigs) = price per 30 kg pig + (final weight * correction for excess weight or under weight)
Purchase price (finishers) = (price per 30 kg pig + (start weight - 30) * correction for excess weight or under weight) / (1- % dead and discarded).
Purchase price (weaned pigs) = (price per 7 kg pig + (start weight - 7) * correction for excess weight or under weight) / (1-% dead and discarded / 2)
Feed costs (finishers) = ((carcass weight * 1.31) – start weight) * feed units per kg gain * price of finisher feed) / (1-% dead and discarded / 2)
Feed costs (weaned pigs) = ((final weight – start weight) * feed units per kg gain * price of weaner feed diet 2 + (price weaner diet 2 - prices weaner diet 1) * 6 feed units) / 1 – % dead and discarded / 2)
Feeding days (finishers) = ((carcass weight*1.31) – start weight) / (g daily gain /1000) / (1 – % dead and discarded / 2)
Feeding days (weaned pigs) = (final weight – start weight) / (g daily gain /1000) / (1 – % dead and discarded / 2)
Value of lean meat % per kg = (-0.8149 * (lean meat %)^2 + 111.58 * lean meat % - 3776.9) / 100 (source: [2])

Table 3. Price assumptions applied in the calculation of production value figures (PV).

Factor used for PV calculation	Price assumptions
Price of a 7 kg pig:	DKK 236 per pig, + DKK 11.40 per kg above 7 kg, - DKK 14.40 per kg below 7 kg
Price of a 30 kg pig:	DKK 406 per pig, + DKK 5.82 per kg above 30 kg, - DKK 5.86 per kg below 30 kg
Price of a finisher:	DKK 11.39 per kg, incl. bonus payment
Feed, finishers:	DKK 1.60 per feed unit (FUgp)
Feed weaned pigs, diet 1:	DKK 3.53 per feed unit (Fugp) (assuming this constitutes six feed units)
Feed, weaned pigs, diet 2:	DKK 1.89 per feed unit (FUgp)
Various costs:	DKK 13.49 per weaned pig and DKK 19.66 per finisher (excl. transport costs)
Utilization of housing capacity:	95%

In this report, the same prices were applied to the production value for all previous years, to be able to generate an index of the last ten years. As a result, both index and production value of the previous years were revised and therefore cannot be compared with previous editions of the report.

Results and discussion

The 2021 national average comprised more finisher farms than in 2020, while the number of sow farms and weaner farms was the same.

Tables 4, 5 and 6 show a ten-year average for sow farms, weaner farms and finisher farms, respectively. In tables 7, 8 and 9 farms are ranked according to efficiency: top 25%, middle 50% and bottom 25% for sow farms, weaner farms and finisher farms, respectively.

Productivity - sows

Table 4 shows the productivity average for sow farms. Weaned pigs/sow/year averaged 34.0 which is a 0.1 increase compared with 2020. It must be noted that though only two decimals are shown in the tables, calculation of each KPI included all decimals. Consequently, readers will not be able to accurately determine derived KPIs on the basis of KPIs provided in the tables.

The data material comprises 862 sow farms with an average of 813 sows/year, totalling 700,806 sows /year. This is slightly more than in 2020 which saw the largest number of sows/years represented in the national average productivity index.

Dead and killed sows in 2021 averaged 14.0%, which is a 1.1 percentage point increase compared with 2020. This increase was also seen in sow mortality reports based on data from DAKA and Statistics Denmark showing a sow mortality of 16.1% in 2021, which is an increase of 1.0 percentage points [3]. The DAKA sow mortality national records also include dead gilts, young females and finishers above 120 kg thus contributing to sow mortality from farms without sows. In 2019, it was decided to exclude mortality rates above 40% from the national average productivity index as some farms erroneously apply the codes for dead/killed sows when shipping sows to slaughter.

Total born per litter increased from 19.6 to 19.8 and pre-weaning mortality increased by 0.3 percentage points to 15.2%. Stillborn/litter remained unchanged compared with 2020 resulting in a 0.3 percentage point increase in overall piglet mortality from 23.1% in 2020 to 23.4% in 2021 (table 4). 4).

Reproduction results deteriorated slightly compared with previous years due to a decline in farrowing rate to 87.3% which is a 0.3 percentage point drop compared with 2020. Days from weaning to first service increased by 0.1 to 6.0. Non-productive days increased to 15.0 days per litter, which is an increase of 0.6 days/litter compared with 2020. Return rates remained at 5.5%.

Table 4. Weighted (according to herd size) average production level per farm, sows.

Period	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Farms	862	821	815	710	535	570	459	537	604	629
Farms with feed records	703	678	669	652	524	543	431	480	577	607
KPI										
Sows/year, head [1]	813	802	812	769	791	767	742	707	680	651
Feed units, sow/year	1,514	1,516	1,501	1,500	1,465	1,464	1,469	1,502	1,488	1,522
Litter results										
First parity litters, %	24.5	23.7	23.6	23.9	22.7	22.8	23.8	24.3	23.9	24.0
Liveborn/litter, head	17.9	17.7	17.5	17.3	17.0	16.4	16.0	15.7	15.4	15.2
Stillborn/litter, head	1.9	1.9	1.9	1.8	1.7	1.6	1.6	1.7	1.7	1.7
Weaned/litter, head	15.1	15.1	14.9	14.9	14.7	14.2	13.9	13.6	13.4	13.2
Lactation period, days	31	31	31	31	30	30	30	30	30	30
Weaning weight, kg	6.4	6.4	6.5	6.6	6.4	6.5	6.6	6.8	6.8	6.9
Pre-weaning mortality, %	15.2	14.9	14.8	14.2	13.4	13.0	13.2	13.3	13.3	13.3
Total piglet mortality, %	23.4	23.1	23.2	22.0	21.4	20.9	21.2	21.6	21.8	22.0
Reproduction										
Non-productive days/litter	15.0	14.4	13.8	13.9	12.1	12.5	12.7	13.3	13.7	13.7
Weaning to first service, days	6.0	5.9	5.9	5.8	5.6	5.7	5.7	5.7	5.8	5.9
Return rate, %	5.5	5.5	5.3	5.3	4.5	4.8	4.9	5.6	6.1	5.8
Farrowing rate	87.3	87.6	88.1	88.3	89.6	89.0	88.5	87.6	87.0	87.4
Weaned pigs/sow/year, head	34.0	33.9	33.6	33.6	33.6	32.5	31.7	30.8	30.3	29.9
Litters/sow/year	2.24	2.25	2.26	2.26	2.29	2.28	2.28	2.27	2.27	2.27

[1] KPI 'sows/year, head' is calculated as simple average.

Overall, results reveal stable progress in the last ten years with the exception of a few short periods of stagnation. In spite of the decrease in reproduction KPIs and mortality, sow productivity levels generally improved slightly.

Productivity – weaned pigs

Average production increased to 24,896 a year, and this trend from 2020 to 2021 follows the expected structural development. Reference-daily gain increased by 3 g to 464 g/day and reference-FCR per kg gain dropped by 0.01 feed units per kg gain to 1.81 feed units/kg gain. Mortality increased by 0.3 percentage points to 3.9%, which is the highest level in the last ten years.

In 2021, the production value per pig and per pig place reached all-time highs corresponding to index 119 compared with the 2012 figures (table 5).

Table 5. Weighted (according to herd size) average production level per farm, weaned pigs.

Period	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Farms	582	550	586	568	532	541	412	325	574	565
Farms with feed records	528	499	511	505	508	522	404	313	564	542
KPI										
Pigs produced / year, head[1]	24,896	23,789	22,649	22,298	23,569	23,367	22,077	18,232	17,556	16,414
Daily gain, g	463	461	448	456	446	441	439	440	446	440
Reference-ADG (7-30 kg), g [2]	464	461	451	460	451	446	442	440	443	439
Feed conversion ratio (FCR) per kg gain, FUgp	1.81	1.83	1.84	1.84	1.87	1.87	1.87	1.92	1.90	1.94
Reference-FCR (7-30 kg), FUgp per kg gain [2]	1.81	1.82	1.84	1.84	1.87	1.87	1.87	1.92	1.89	1.93
Mortality, %	3.9	3.6	3.6	3.2	3.1	3.2	3.1	2.8	2.8	2.8
Other information										
Start weight, kg	6.6	6.8	6.8	6.6	6.6	6.5	6.7	6.8	6.9	6.9
Weight per sold pig, kg	31.0	30.9	30.2	30.5	30.3	30.6	30.4	30.6	30.8	30.2
PV/pig, DKK [3]	68	65	63	64	64	64	64	60	60	58
Index (PV/pig) [3]	119	114	110	112	112	112	111	104	104	100
PV/pig place/year, DKK [3]	441	426	413	419	416	405	403	381	382	370
Index (PV/pig place/year) [3]	119	115	112	113	113	110	109	103	103	100

[1] KPI 'pigs produced/year, head' is calculated as simple average.

[2] Reference-FCR and reference-ADG adjust the averages shown to standard weight interval 7-30 kg, thereby allowing for comparison between years. For more information, see previous publications [4].

[3] Production value figures in this table are based on average production results. Identical price assumptions used for all years (see section on materials and methods).

Productivity – finishers

Table 6 reveals an average herd size in 2021 of 8,858 finished pigs/year - which is an increase compared with previous years - most likely attributed to structural developments. The drop seen from 2019 to 2020 can be explained by the manual review of herd data introduced from 2020 of large farms and the subsequent division of these farms into correct sites. This was done in cases where it was acknowledged that the herd in fact represented productivity reports from more than one herd. Feed intake increased by 0.02 feed units/day and reference-FCR deteriorated by 0.01 feed unit per kg gain to 2.71 feed units/kg gain. Previous editions also identified marginal deterioration in feed conversion ratio: in 2016 FCR deteriorated by 0.01 feed unit/kg gain compared with 2015. Carcass weight remained at 90.6 kg and lean meat percentage increased by 0.4 percentage points to 62.0 %, which is

the highest level seen in ten years. Mortality averaged 3.6% which is a 0.2 percentage point increase. Production value per pig increased by DKK 1 and per pig place by DKK 6 from 2020 to 2021. This increase should be seen in the light of the fact that the increase witnessed from 2019 to 2020 was the largest in ten years.

Table 6. Weighted (according to herd size) average production level per farm, finishers.

Period	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Farms	985	859	802	819	628	714	494	548	650	717
Farms with feed records	870	746	684	702	603	693	480	535	633	713
KPI										
Pigs produced/year head, [1]	8,858	8,330	8,790	8,528	7,372	7,792	8,008	6,863	6,785	6,902
Daily gain, g	1,032	1,030	991	975	972	953	944	932	916	909
Reference-ADG (30-115 kg), g [1]	1,028	1,026	990	972	969	950	941	931	913	908
Daily feed intake/pig, feed units	2.79	2.77	2.70	2.66	2.68	2.66	2.63	2.62	2.57	2.57
FCR/kg gain, feed units	2.71	2.70	2.73	2.73	2.77	2.80	2.79	2.81	2.82	2.83
Reference-FCR (30-115 kg), feed units/kg gain [2]	2.66	2.65	2.73	2.74	2.77	2.82	2.82	2.84	2.86	2.88
Other information										
Start weight, kg	31.6	31.6	30.9	31.2	31.2	31.4	31.4	31.0	31.4	31.3
Carcass weight, kg (avg.)	90.6	90.6	87.6	86.2	86.9	84.9	84.1	84.3	82.6	81.7
Gain/produced pig, kg	87.2	87.1	83.8	81.8	82.6	79.8	78.8	79.4	76.8	75.8
Lean meat % (avg)	62.0	61.6	61.4	61.1	60.7	60.7	60.5	60.3	60.3	60.4
Dead and discarded, %	3.6	3.4	3.5	3.3	2.9	3.3	3.6	3.4	3.3	3.3
PV/pig, DKK [3]	205	204	181	165	161	148	140	135	125	121
Index (PV/pig) [3]	170	169	150	137	134	122	116	112	104	100
PV/place unit/year, DKK [3]	829	823	730	669	648	598	571	538	509	491
Index (PV/place unit/year) [3]	169	168	149	136	132	122	116	110	104	100

[1] KPI 'pigs produced/year, head' is calculated as simple average between farms.

[2] Reference-FCR and reference-ADG adjust the averages shown to standard weight interval 30-100 kg, thereby allowing for comparison between years. For more information, see previous publications [4].

[3] Production value figures in this table are based on average production results. Identical price assumptions used for all years (see section on materials and methods).

Ranked according to efficiency

Table 7 presents KPIs for sow farms ranked according to pigs weaned/sows/year. The top 25% weaned more than 35.6 pigs/sow/year; in comparison the bottom 25% weaned fewer than 31.9 pig/sow/year, which is a difference of 6.6 pigs weaned/sow /year when comparing with the median.

An average top 25-sow farm had 257 more sows/year than the bottom 25%. The top 25% had 20.5 total born piglets/litter and a total piglet mortality of 20.8% which is a 0.5 percentage point increase for the top 25% compared with 2020 [1]. The bottom 25% had 18.9 total born piglets per litter, which is a 0.2 improvement compared with 2020 and a total piglet mortality of 26.6%, which is a 1.0 percentage point increase compared with 2020.

Table 7. Production level national average 2021, sow farms, median values shown according to weaned pigs/sow/year.

	Top 25%	Middle 50%	Bottom 25%	All farms
Weaned pigs/sow/year, head	35.6	<=>	31.9	
Farms	215	432	215	862
Farms with feed records	193	373	137	703
KPI				
Sows/year, head	794	722	537	694
Feed units, sow/year	1,510	1,514	1,517	1,513
Litter results				
First parity litters, %	21.8	22.7	25.0	22.8
Liveborn/litter, head	18.6	17.9	16.9	17.9
Stillborn/litter, head	1.9	2.0	2.0	2.0
Weaned/litter, head	16.2	15.2	13.9	15.2
Lactation period, days	30	31	32	31
Weaning weight, kg	6.0	6.1	6.8	6.2
Pre-weaning mortality, %	12.7	15.5	18.1	15.3
Total piglet mortality, %	20.8	23.9	26.6	23.7
Reproduction				
Non-productive days/litter	11.4	14.5	19.0	14.4
Weaning to first service, days	5.4	5.8	6.2	5.8
Return rate, %	3.7	5.2	7.2	5.1
Farrowing rate, %	90.6	87.6	84.1	87.8
Weaned pigs/sow/year, head	36.8	33.9	30.1	33.9
Litters/sow/year	2.30	2.24	2.15	2.24

Table 8 shows KPIs for weaner farms according to production value per pig place/year. The top 25% of the farms achieved a production value/pig place higher than DKK 494/year; in comparison, the production value of the bottom 25% was lower than DKK 374/year. This is a difference of DKK 207/year when looking at the median. The gap in production value/pig place between the top 25% farms and the bottom 25% farms narrowed from 2020 to 2021. The introduction of a new price set in 2021 affected the weighting of the production parametres, and it is therefore not possible to compare the 2021 production value with that of previous years.

Table 8. Production level national average 2021, weaned pigs, according to production value/pig place/year (only farms with reported feed consumption are included).

	Top 25%	Middle 50%	Bottom 25%	All farms
PV/pig place/year, DKK	> 494	<=>	< 374	
Farms	132	264	132	528
KPI				
Pigs produced/year, head	23,569	20,227	17,736	20,294
Daily gain, g	501	461	424	463
Reference-ADG (7-30 kg), g [1]	511	469	418	469
Feed conversion ratio/kg gain, feed units	1.71	1.82	1.96	1.82
Reference-FCR (7-30 kg), feed units/kg gain [1]	1.70	1.81	1.96	1.81
Mortality, %	2.9	3.6	4.5	3.5
Other information				
Start weight, kg	6.0	6.2	6.6	6.2
Weight/sold pig, kg	31.9	31.4	31.3	31.5
Production value (PV)				
PV/pig, DKK	82	71	57	71
Index (PV/pig) compared with 'median for all', %	115	100	80	100
PV/pig place/year, DKK	535	437	328	437
PV index compared with 'median for all', %	122	100	75	100

[1] Reference-FCR and reference-ADG adjust the averages shown to standard weight interval 7-30 kg, thereby allowing for comparison between years. For more information, see previous publications [4].

Table 9 shows KPIs for finisher farms according to production value per pig place/year. The top 25% generated a production value of more than DKK 885 per pig place/year. In comparison, the bottom 25% generated a production value of less than DKK 720 per pig place/year. Looking at the median, this is a gap of DKK 365/year, which is a widening of the gap from 2020. The introduction of a new price set in 2021 affected the weighting of the production parametres, and it is therefore not possible to compare the 2021 production value with that of previous years.

Table 9. Production level national average 2021, finisher farms, median values shown according to production value/pig place/year (including only farms with feed records).

	Top 25%	Middle 50%	Bottom 25%	All farms
PV/pig place/year, DKK	> 885	<=>	< 720	
Farms	217	436	217	870
KPI				
Pigs produced/year, head	7,553	7,004	5,914	6,823
Daily gain, g	1,098	1,038	955	1,037
Reference-ADG (30-115kg), g [1]	1,090	1,037	955	1,037
Daily feed intake/pig, feed units	2.83	2.82	2.75	2.81
Feed conversion ratio/kg gain, feed units	2.58	2.71	2.88	2.71
Reference-FCR (30-115 kg), feed units/kg gain [1]	2.53	2.67	2.84	2.66
Other information				
Start weight, kg	31.9	31.6	32.5	31.9
Carcass weight, kg (avg.)	91.3	90.2	89.0	90.3
Gain/produced pig, kg	87.9	86.7	84.7	86.8
Lean meat % (avg.)	61.9	62.0	61.7	61.9
Discarded, %	0.1	0.2	0.2	0.2
Dead, %	2.4	3.1	4.5	3.1
Production value (PV)				
PV/pig, DKK	233	203	157	203
Index (PV/pig) compared with 'average', %	115	100	77	100
PV/pig place/year, DKK	987	832	622	832
PV index compared with 'average', %	119	100	75	100

[1] Reference-FCR and reference-ADG adjust the averages shown to standard weight interval 30-115 kg, thereby allowing for comparison between years. For more information, see previous publications [4]

Conclusion

Annual progress in productivity for pig farms was generally lower from 2020 to 2021 compared with previous years. The number of pigs weaned/sow/year improved slightly mainly because of progress in total born piglets/litter. Rounding off KPIs did not reveal an increase in pigs weaned/litter, and yet this KPI increased by 0.1 pigs weaned/sow/year. Mortality increased for both piglets, weaned pigs, sows and finishers. Sow farmers experienced a slight drop in several reproduction KPIs compared with 2020. For weaners, FCR per kg gain improved compared with 2020. Production value per pig and per pig place both improved compared with 2020 resulting in an overall improvement in productivity for weaned pigs. For finishers, productivity remained largely unchanged compared with 2020. The marginal productivity increase for some KPIs should be seen in the light of the fact that the increase witnessed from 2019 to 2020 was the largest in ten years.

References

[1] Hansen, C. (2021): Landsgennemsnit for produktivitet i produktion af grise i 2020, Notat nr. 2115, SEGES Svineproduktion.

[2] Christiansen, M. G. (2018): Økonomiske konsekvensberegninger – december 2018, notat 1842, SEGES Svineproduktion.

[3] Jensen, T. B. (2022): Udviklingen i sodødelighed – tal fra DAKA 2021. Notat nr. 2203, SEGES Innovation.

[4] Sloth, N. M. & Bertelsen, E. (2007): Rapport over P-rapporternes resultater oktober 2007. Notat nr. 0745, Dansk Svineproduktion.

2021 data was supplied by Agrovision and Cloudfarms ApS.

//JVI//

SEGES INNOVATION

Tlf.: 87 40 50 00

info@seges.dk