

# ANALYSIS OF PRODUCTIVITY ON SELECTED DANBRED FARMS 2021

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## Main conclusion

In 2021, productivity on DanBred weaner and finisher farms improved and remained status quo for sow farms compared with 2020. The top 5 sow farms weaned 41.2 pigs/sow/year in 2021.

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## Abstract

This analysis confirmed that productivity on DanBred farms was level with the National Average Productivity Index [1]. However, due to the low number of farms represented in the analysis, the estimates for KPIs for weaners and finishers have a degree of uncertainty. Nevertheless, analyses revealed very high levels of productivity among the top 5 farms. The top 5 sow farms weaned averagely 41.2 pigs/sow/year and had an average farrowing rate of 91.0. An average DanBred finisher farm achieved a daily gain of 1,000 g. Compared with the last four years (appendix), productivity progress is seen for all categories.

## Background

The data material used for this analysis is identical to the data material used for the National Average Productivity Index in 2021 [1]. It includes a large amount of anonymous data and non-DanBred farms; consequently, some DanBred customers are not represented in this analysis as they could not be identified as DanBred farms. The report therefore outlines the general level of productivity and the level for the best sow farms, weaner farms and finisher farms that were positively identified as DanBred farms. The aim was to present status and trends for productivity on DanBred farms in 2021.

## Materials and methods

The data material used for this analysis is based on the data material used for the 2021 National Average Productivity Index [1] and on lists of DanBred farms supplied by DanBred P/S. The data material is based on a subset of the farms identified as DanBred customers in 2021. Some of the farms included in the original data material were anonymized and could therefore not be confirmed as DanBred farms.

The top 5 sow farms were selected according to pigs weaned/sow/year and the top 5 weaner farms and top 5 finisher farms were selected according to daily gain.

Data validation and calculation of KPIs are based on the method used in the National Average Productivity of Danish Pig Farms 2021 [1]. Medians are the best method for describing average productivity KPIs in case of only few random samples whereby very high or very low KPIs on individual farms may heavily impact the average KPIs. Consequently, KPIs are determined as medians when fewer than 150 farms are represented and as weighted average according to herd size when more than 150 farms are represented in the data material. As the number of farms varies from previous years, some KPIs are based on a different method than previously. Appendix provides an outline of KPIs comparable with previous editions of the analysis. Average KPIs for top 5 farms are calculated as simple average with no weighting to herd size or production scope.

## Results and discussion

The National Average Productivity Index 2021 [1] comprised data from 862 sow farms, 582 weaner farms, and 985 finisher farms, and of these 321 sow farms (37%), 163 weaner farms (28%) and 73 finisher farms (7%) were confirmed DanBred farms.

The data material comprised very few weaner farms and finisher farms and a fairly low number of sow farms compared with the estimated DanBred market share. This is attributed partly to the fact that the data material included anonymized farms and partly to the fact that it is far more difficult to establish the genetics used on an annual basis in weaner farms and finisher farms.

### Productivity - sows

Table 1 shows the productivity of sow farms as weighted average for all sow farms as well as the top 5 of selected sow farms. Results show that the top 5 farms weaned 6.6 more pigs per sow/year than the average. KPI for pigs weaned/sow/year was level with the 2020 KPI [2], and 0.3 higher for the top 5 farms in 2021 compared with 2020. Note that more than 300 sow farms are represented in this analysis in both 2020 and 2021, which increases the accuracy of the KPI estimates compared with previous years [3].

**Table 1.** Production level, all DanBred sow farms included in the data material and average of 5 sow farms selected according to pigs weaned/sow/year.

	All farms (weighted average)	Top 5 Average
Farms included	321	5
Farms with feed records	286	5
<b>KPI</b>		
Sows/year, head	871	937
Feed units, sow/year	1,514	1,564
<b>Litter results</b>		
First parity litters, %	24.3	21.0
Liveborn/litter, head	18.0	19.5
Stillborn/litter, head	1.9	2.2
Weaned/litter, head	15.3	17.6
Lactation period, days	31	29
Weaning weight, kg	6.3	6.3
Pre-weaning mortality, %	15.3	9.6
Total piglet mortality, %	23.1	19.0
<b>Reproduction</b>		
Non-productive days/litter	14.5	9.7
Weaning to first service, days	6.0	5.3
Return rate, %	5.6	4.19
Farrowing rate	87.4	91.0
Pigs weaned/sow/year, head	34.4	41.2
Litters/sow/year	2.25	2.34

## Productivity – weaned pigs

Daily gain for DanBred weaner farms is comparable to that of the entire Danish pig industry [1].

Productivity for selected top 5 farms (with the highest daily gain) was 105 g higher than the average of all farms (table 2). Reference-daily gain and reference-FCR in 2021 improved slightly compared with 2020, but making definite conclusions on minor rises/drops in KPIs would require more comprehensive data material.

**Table 2.** Production level, all DanBred weaner farms included in the data material and average of 5 farms selected according to a high daily gain.

	All farms (weighted average)	Top 5 Average
Farms included (total in data material)	163	5
Farms with feed records	153	5
<b>KPI</b>		
Pigs produced/year, head	25,616	26,435
Daily gain, g	464	575
Reference-daily gain (7-30 kg), g <sup>1</sup>	470	555
Feed conversion ratio/kg gain, feed units	1.80	1.64
Reference-FCR (7-30 kg), feed units/kg gain <sup>1</sup>	1.79	1.62
Mortality, %	4.0	2.6
<b>Other information</b>		
Start weight, kg	6.3	6.9
Weight/sold pig, kg	30.9	33.2

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

## Productivity - finishers

Analysis of productivity on finisher farms revealed a daily gain of 1,021 g determined as median of all farms, which is in an increase of 14 g compared with 2020. Productivity among selected top 5 farms (with the highest daily gain) averaged 1,130 g daily gain and reference-FCR was 2.43 feed units per kg gain, which is level with or even slightly better than top 5 in 2020 [2]. Note that KPI estimates for previous years have a degree of uncertainty due to the low number of farms included.

**Table 3.** Production level, all DanBred finisher farms included in the data material and average of 5 farms selected according to a high daily gain.

	All farms Median	Top 5 Average
Farms included	73	5
Farms with feed records	62	5
<b>KPI</b>		
Pig produced/year, head	7,994	11,936
Daily gain, g	1,021	1,130
Reference-daily gain (30-115 kg), g <sup>1</sup>	1,012	1,128
Daily feed intake/pig, feed units	2.77	2.83
Feed conversion ratio/kg gain, feed units	2.71	2.50
Reference-FCR (30-115 kg), feed units/kg gain <sup>1</sup>	2.68	2.43
<b>Other information</b>		
Start weight, kg	31.8	32.0
Carcass weight, kg (average)	89.7	93.0
Gain/produced pig, kg	86.4	89.8
Lean meat percentage (average)	62.0	62.5
Rejected, %	0.2	0.2
Mortality, %	3.8	3.3

<sup>1</sup> Reference-FCR and reference-daily gain 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

This report presented the estimates of productivity on sow, weaner and finisher farms identified as DanBred farms. Compared with 2020, weaner and finisher productivity improved, but – as shown in the National Average Productivity Index 2021 [1] – analyses showed no progress for sow farms.

The average top 5 sow farms weaned 41.2 pigs/sow/year, the top 5 weaner farms achieved an average reference-daily gain of 555 g and finisher farms achieved an average reference-daily gain of 1,128 g. Reference-FCR for top 5 DanBred finisher farms was 2.43 feed units per kg in the 30-115 kg period vs 2.68 feed units/kg for the average farm – a difference of 0.25 feed units/kg gain.

KPIs for weaners and finishers have a degree of uncertainty due to the low number of farms confirmed as DanBred farms in the analysis.

## References

- [1] Hansen, C. (2022): Landsgennemsnit for produktivitet i produktionen af grise i 2021. Notat nr. 2204, SEGES Innovation.
- [2] Hansen, C. (2021): Brancheanalyse for produktivitet i udsnit af DanBred-besætninger 2020. Notat nr. 2136, SEGES Svineproduktion.
- [3] Hansen, C. (2021): Brancheanalyse for produktivitet i udsnit af DanBred-besætninger 2019. Notat nr. 2105, SEGES Svineproduktion.
- [4] Sloth, N. M. & Bertelsen, E. (2007): Rapport over P-rapporternes resultater oktober 2007. Notat nr. 0745, Dansk Svineproduktion.

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## Appendix

Appendix presents KPIs (all medians) for the period 2018-2021 calculated according to the same method thereby allowing for inter-year comparison. Tables 4, 5 and 6 show the development for sows, weaned pigs and finishers, respectively.

**Table 4.** Production level, DanBred sow farms, 2018-2021 [2]. All KPI calculated as medians.

	2021	2020	2019	2018
Farms	321	304	221	152
Farms with feed records	286	277	203	142
<b>KPI</b>				
Sows/year, head	718	720	762	747
Feed units/sow/year	1,516	1,527	1,509	1,524
<b>Litter results</b>				
First parity litters, %	22.7	21.9	21.6	22.6
Liveborn/litter, head	18.0	18.0	17.7	17.4
Stillborn/litter, head	1.9	1.9	2.0	1.8
Weaned/litter, head	15.3	15.2	15.0	15.0
Lactation period, days	31	31	30	31
Weaning weight, kg	6.1	6.2	6.2	6.4
Pre-weaning mortality, %	15.6	15.3	14.9	14.1
Total piglet mortality, %	23.5	23.2	23.5	22.4
<b>Reproduction</b>				
Non-productive days/litter	14.2	13.4	13.0	12.8
Weaning to first service, days	5.8	5.7	5.7	5.6
Return rate, %	5.2	5.4	5.0	4.8
Farrowing rate, %	87.9	87.8	89.1	89.2
Pigs weaned/sow/year, head	34.3	34.2	33.9	33.8
Litters/sow/year	2.24	2.25	2.27	2.27

**Table 5.** Production level, DanBred weaner farms, 2018-2021 [2]. All KPI calculated as medians.

	2021	2020	2019	2018
Farms (total in data material)	163	160	112	88
Farms with feed records	153	144	97	82
<b>KPI</b>				
Pigs produced/year, head	20,402	19,567	19,529	18,807
Daily gain, g	458	454	449	451
Reference-daily gain (7-30 kg), g <sup>1</sup>	469	460	460	460
Feed conversion ratio/kg gain, feed units	1.80	1.80	1.83	1.87
Reference-FCR (7-30 kg), feed units/kg gain <sup>1</sup>	1.80	1.79	1.84	1.86
Mortality, %	3.6	3.5	3.2	3.1
<b>Other information</b>				
Start weight, kg	6.0	6.2	6.3	6.4
Weight/pig sold, kg	31.4	30.8	30.7	30.9

<sup>1</sup> Reference-FCR and reference-daily gain 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 6.** Production level, DanBred finisher farms, 2018-2021 [2]. All KPI calculated as medians.

	2021	2020	2019	2018
Farms	73	62	61	35
Farms with feed records	62	48	53	28
<b>KPI</b>				
Pigs produced/year, head	7,994	6,461	9,091	8,292
Daily gain, g	1,021	1,007	974	945
Reference-daily gain (30-115 kg), g <sup>1</sup>	1,012	1,012	966	934
Daily feed intake/pig, feed units	2.77	2.75	2.66	2.62
Feed conversion ratio/kg gain, feed units	2.71	2.67	2.72	2.73
Reference-FCR (30-115 kg), feed units/kg gain <sup>1</sup>	2.68	2.63	2.71	2.73
<b>Other information</b>				
Start weight, kg	31.8	32.6	31.8	31.0
Carcass weight, kg (average)	89.7	90.1	86.9	85.6
Gain/pig produced, kg	86.4	87.0	82.2	79.3
Lean meat percentage (average)	62.0	61.6	61.4	61.1
Rejected, %	0.2	0.1	0.1	0.2
Mortality, %	3.8	3.6	3.7	3.4

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

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