

Analysis of productivity on selected DanBred farms 2023

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Main conclusion

Productivity on sow farms using DanBred genetics improved from 34.6 to 35.4 pigs weaned/sow/year from 2022 to 2023 according to the weighted average. This is an increase of 0.6 pigs weaned/sow/year compared with 34.8 pigs weaned/sow/year as found in the 2023 National Average Productivity Index. Productivity KPIs for weaner and finisher farms are roughly identical with the National Average Productivity Index. Piglet mortality dropped by 0.9 percentage points; mortality rates among weaned pigs dropped by 0.5 percentage points; and finisher mortality rates remained largely unchanged.

Abstract

This analysis revealed progress in productivity on DanBred sow farms as pigs weaned/sow/year increased from 34.6 in 2022 to 35.4 in 2023 [1] according to the weighted average. This is 0.6 weaned pigs/sow/year more than 34.8 pigs weaned/sow/year as found in the National Average Productivity Index [1]. For finisher farms, the median for reference-daily gain increased by 13 g to 1,037 g compared to 2022 [2]. Productivity figures for weaner and finisher farms were roughly identical with those of the farms included in the National Average Productivity Index [1]. Piglet mortality dropped by 0.9 percentage points; weaner mortality dropped by 0.5 percentage points; and finisher mortality remained at approximately the same level as in 2022.

The average of top 5 sow farms using DanBred genetics weaned 42.1 pigs/sow/year; the top 5 weaner and finisher farms had a reference-daily gain of 580 g and 1,159 g, respectively. Reference-feed conversion for the top 5 finisher farms was 2.54 FUgp/kg gain. However, due to the low number of weaner and finisher farms included, KPI estimates are subject to some uncertainty. Nevertheless, analyses revealed very high levels of productivity among the top 5 farms.

Background

The data material used for this analysis is identical to the data material used for the 2023 National Average Productivity Index [1]. It includes a comprehensive amount of anonymous data and non-DanBred farms; consequently, some DanBred farms are not represented in this analysis as they could not be positively identified as DanBred farms. The report therefore outlines the overall productivity level

and the production level of sow farms, weaner farms and finisher farms that were confirmed as DanBred genetics farms. The aim is to present status and trends of DanBred farms in 2023.

Materials and methods

The data material used is based on the data used in the 2023 National Average Productivity Index [1] and on lists of DanBred farms supplied by DanBred P/S. Data is based on that subset of the farms that were positively identified as DanBred farms in 2023. 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. Furthermore, to be included among the top 5 farms, values must be available for all variables.

Data validation and calculation of KPI are based on the method used in the National Average Productivity Index 2023 [1]. Medians are the best method for describing average productivity KPIs in cases where only few farms are represented as very high or very low KPIs on individual farms may heavily impact the average KPIs. Consequently, KPIs are shown 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 included varies from previous years, some KPIs are determined using different methods than previously. Appendix provides an outline of KPIs that can be compared with previous editions of the analysis. Average KPIs for the 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 2023 [1] comprised data from 666 sow farms, 388 weaner farms and 1,155 finisher farms, and of these 269 sow farms (40%), 130 weaner farms (33.5%) and 86 finisher farms (7.4%) were confirmed DanBred farms. This is largely identical to the 2022 analysis.

The data material thus 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 also included anonymized farms and partly to the fact that it is far more difficult to establish the genetics used on an annual basis on 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 6.7 more pigs per sow/year than the average.

Pigs weaned/sow/year increased by 0.8 compared to 2022 [2] when looking at the weighted average, which leads to an increase of 0.6 pigs weaned/sow/year compared with 34.8 as found in the National Average Productivity Index [1]. However, on the top 5 sow farms, pigs weaned/sow/year increased by only 0.1 pig from 2022 to 2023. The considerable progress for all farms is primarily attributed to improved litter results generated by an increase in liveborn and a drop in piglet mortality. A comparison of the top 5 farms with the weighted average shows that piglet mortality is 3.7 percentage points lower on the top 5 farms. Nevertheless, piglet mortality rates on the top 5 farms increased by 0.1 from 2022 to 2023. It should be noted that in 2022 data comprised 278 sow farms compared with 269 in 2023.

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

	All farms (weighted average)	Top 5 Average
General data		
Farms included	269	5
Farms with feed records	241	5
KPI		
Sows/year, head ¹	922	765
Feed units, sow/year ²	1,519	1,534
Litter results		
First parity litters, %	23.7	20.9
Liveborn/litter, head	18.5	19.7
Stillborn/litter, head	1.8	2.2
Weaned/litter, head	15.8	17.9
Lactation period, days	31	28
Weaning weight, kg	6.2	6.0
Pre-weaning mortality, %	14.6	9.7
Total piglet mortality, %	22.3	18.6
Reproduction		
Non-productive days/litter	14.2	9.2
Weaning to first service, days	6.0	5.2
Return rate, %	5.1	3.7
Farrowing rate	87.6	91.5
Pigs weaned/sow/year, head	35.4	42.1
Litters/sow/year	2.24	2.34

¹ Simple average.

² Only including farms in the interval 1,000-2,000 feed units.

Productivity – weaned pigs

Daily gain, feed conversion and mortality for DanBred weaner farms were marginally lower than the comparable KPI for the entire Danish pig industry [1]. Due to the low number of farms included in the data material, it is not possible to make definite conclusions on small increases/drops in KPI. Daily gain for selected top 5 farms was 163 g higher than the average of all farms (table 2).

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

	All farms Medians	Top 5 Average
General data		
Farms included	130	5
Farms with feed records	119	5
KPI		
Pigs produced/year, head	23,784	23,674
Daily gain, g	453	616
Reference-daily gain (7-30 kg), g ¹	460	580
Feed conversion ratio/kg gain, feed units	1.75	1.66
Reference-FCR (7-30 kg), feed units/kg gain ¹	1.76	1.64
Mortality, %	3.5	2.8
Other data		
Start weight, kg	6.0	7.7
Weight/sold pig, kg	30.3	32.2

¹ 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 editions [4].

Productivity - finishers

Analyses of productivity on DanBred finisher farms revealed a reference-daily gain of 1,037 g as median of all farms, which is a 13 g increase compared to 2022 [2]. Overall, productivity on DanBred finisher farms was comparable with the National Average Productivity Index [1] for feed intake and reference-FCR. Productivity among selected top 5 farms (with the highest daily gain) averaged 1,165 g with a reference-FCR of 2.54 feed units per kg gain. Note that KPI estimates for previous years are subject to some 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 top 5 farms selected according to daily gain.

	All farms Medians	Top 5 Average
General data		
Farms included	86	5
Farms with feed records	64	5
KPI		
Pigs produced/year, head	5,706	6,207
Daily gain, g	1,033	1,165
Reference-daily gain (30-115 kg), g ¹	1,037	1,159
Daily feed intake/pig, feed units	2.74	2.99
Feed conversion ratio/kg gain, feed units	2.65	2.57
Reference-FCR (30-115 kg), feed units/kg gain ¹	2.65	2.54
Other data		
Start weight, kg	31.3	32.4
Carcass weight, kg (average)	88.3	88.3
Gain/produced pig, kg	84.6	83.2
Lean meat % (average)	60.5	59.6
Adjusted lean meat % ²	62.2	61.4
Rejected, %	0.2	0.1
Mortality, %	3.5	2.5

¹ 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 editions [4].

² An adjustment has been made to the lean meat equation, therefore lean meat % 2023 is corrected. For further details, see the publication (in Danish) regarding the national average for productivity in Danish pig production.

Conclusion

This report presents the estimates of productivity on sow, weaner and finisher farms identified as DanBred farms.

In the weighted average, DanBred sow farms produced 35.4 pigs/sow/year which is 0.6 more than 34.8 as found in the National Average Productivity Index 2023 [1].

Productivity on weaner farms and finisher farms using DanBred genetics is roughly identical to the level found in the National Average Productivity Index 2023 [1]. However, KPIs are subject to some uncertainty due to the low number of farms confirmed as DanBred farms in the analysis.

The average of top 5 sow farms weaned 42.1 pigs/sow/year, the top 5 weaner farms achieved a reference-daily gain of 580 g and the top 5 finisher farms achieved a reference-daily gain of 1,159 g. Reference-FCR for the top 5 DanBred finisher farms was 2.54 feed units/kg gain in the 30-115 kg period vs 2.65 feed units/kg gain for the median – a difference of 0.11 feed units/kg gain.

References

- [1] Lund Hyttel H. (2024): Lands gennemsnit for produktivitet i produktionen af grise i 2023. Notat nr. 2408, SEGES Innovation.
- [2] Vinther, J. (2023): Brancheanalyse for produktivitet i udsnit af DanBred-besætninger 2022. Notat nr. 2322, SEGES Innovation.
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- [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 represents KPIs (all medians) for the period 2018-2023 calculated according to the same method for each year 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, 2018-2023 [2]. All KPIs are calculated as medians.

Year	2023	2022	2021	2020	2019	2018
Farms included	269	278	321	304	221	152
Farms with feed records	241	242	286	277	203	142
KPI						
Sows/year, head ¹	773	731	718	720	762	747
Feed units/sow/year ²	1,525	1,511	1,516	1,527	1,509	1,524
Litter results						
First parity litters, %	22.8	22.4	22.7	21.9	21.6	22.6
Liveborn/litter, head	18.5	18.3	18.0	18.0	17.7	17.4
Stillborn/litter, head	1.9	1.9	1.9	1.9	2.0	1.8
Weaned/litter, head	15.8	15.4	15.3	15.2	15.0	15.0
Lactation period, days	31	31	31	31	30	31
Weaning weight, kg	6.0	6.1	6.1	6.2	6.2	6.4
Pre-weaning mortality, %	14.5	15.5	15.6	15.3	14.9	14.1
Total piglet mortality, %	22.5	23.5	23.5	23.2	23.5	22.4
Reproduction						
Non-productive days/litter	13.8	14.4	14.2	13.4	13.0	12.8
Weaning to first service, days	5.9	5.8	5.8	5.7	5.7	5.6
Return rate, %	5.0	5.1	5.2	5.4	5.0	4.8
Farrowing rate, %	87.8	87.8	87.9	87.8	89.1	89.2
Weaned/sow/year, head	35.3	34.3	34.3	34.2	33.9	33.8
Litters/sow/year	2.24	2.23	2.24	2.25	2.27	2.27

¹ Simple average.

² Only including farms in the interval 1,000-2,000 feed units.

Table 5. Production level, DanBred weaner farms, 2018-2023 [2]. All KPIs are calculated as medians.

Year	2023	2022	2021	2020	2019	2018
Farms included	130	134	163	160	112	88
Farms with feed records	119	118	153	144	97	82
KPI						
Pigs produced/year, head	23,784	23,432	20,402	19,567	19,529	18,807
Daily gain, g	453	451	458	454	449	451
Reference-daily gain (7-30 kg), g ¹	460	460	469	460	460	460
Feed conversion ratio/kg gain, feed units	1.75	1.79	1.80	1.80	1.83	1.87
Reference-FCR (7-30 kg), feed units/kg gain ¹	1.76	1.78	1.80	1.79	1.84	1.86
Mortality, %	3.5	4.0	3.6	3.5	3.2	3.1
Other data						
Start weight, kg	6.0	6.0	6.0	6.2	6.3	6.4
Weight/sold pig, kg	30.3	31.0	31.4	30.8	30.7	30.9

¹ 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 editions [4].

Table 6. Production level, DanBred finisher farms, 2018-2023 [2]. All KPI are calculated as medians.

Year	2023	2022	2021	2020	2019	2018
Farms included	86	84	73	62	61	35
Farms with feed records	64	66	62	48	53	28
KPI						
Pigs produced/year, head	5,706	6,891	7,994	6,461	9,091	8,292
Daily gain, g	1,033	1,038	1,021	1,007	974	945
Reference-daily gain (30-115 kg), g ¹	1,037	1,024	1,012	1,012	966	934
Daily feed intake/pig, feed units	2.74	2.75	2.77	2.75	2.66	2.62
Feed conversion ratio/kg gain, feed units	2.65	2.69	2.71	2.67	2.72	2.73
Reference-FCR (30-115 kg), feed units/kg gain ¹	2.65	2.66	2.68	2.63	2.71	2.73
Other data						
Start weight, kg	31.3	31.3	31.8	32.6	31.8	31.0
Carcass weight, kg (average)	88.3	87.9	89.7	90.1	86.9	85.6
Gain/pig produced, kg	84.6	84.3	86.4	87.0	82.2	79.3
Lean meat % (average)	60.5	62.4	62.0	61.6	61.4	61.1
Rejected, %	0.2	0.2	0.2	0.1	0.1	0.2
Mortality, %	3.5	3.4	3.8	3.6	3.7	3.4

¹ 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 editions [4].