Agriculture and Food Development Authority

National Pig Herd Performance Report 2021

Teagasc Pig Development Department

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Department Staff

Head of Pig Development Department

Dr. Edgar Garcia Manzanilla,
Teagasc, Fermoy, Co. Cork
Tel: 025 42299 | Mob: 087 9614454
Email: edgar.garciamanzanilla@teagasc.ie

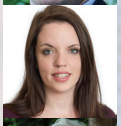
Head of Pig Development Department Knowledge Transfer

Ciarán Carroll,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42388 | Mob: 087 2462925
Email: ciaran.carroll@teagasc.ie

Knowledge Transfer Personnel

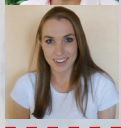
Gerard McCutcheon,
Teagasc, Oak Park, Carlow
Tel: 059 9183503 | Mob: 087 8303969
Email: gerard.mccutcheon@teagasc.ie

Michael McKeon,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42259 | Mob: 087 6739178
Email: michael.mckeon@teagasc.ie



Dr. Amy Quinn,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42723 | Mob: 087 3779015
Email: amy.quinn@teagasc.ie

Emer McCrum,
Teagasc, Ballyhaise, Co. Cavan
Tel: 049 4338640 | Mob: 087 7940974
Email: emer.mccrum@teagasc.ie



Dr. Louise Clarke,
Teagasc, Ballyhaise, Co. Cavan,
Tel: 049 4338634 | Mob: 087 6177268
Email: louise.clarke@teagasc.ie

Researchers

Dr. Peadar Lawlor,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42217 | Mob: 086 8214671
Email: peadar.lawlor@teagasc.ie

Dr. Laura Boyle,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42389 | Mob: 087 9295364
Email: laura.boyle@teagasc.ie

Dr. Keelin O'Driscoll,
Teagasc, Moorepark, Fermoy, Co. Cork
Tel: 025 42289
Email: keelin.odriscoll@teagasc.ie

Introduction

This report is the detailed analysis of the performance of the pig farms that participated in the Teagasc Profit Monitor (PM) recording system in 2021.

The data available and included in this analysis is from a total of 79 herds representing over 62,000 sows or 43% of the total Irish sow herd. The average herd size included in this database is 790 sows and ranged from less than 100 sows to over 2,500 sows.

The performance parameters in this report are the weighted average (*weighted by the herd size*) of the participating herds. This weighting is done to make allowance for the large range in herd size of the participating herds.

Herds participating in the PM recording system and engaging with the advisory support of the staff of the Teagasc Pig Development Department continue to demonstrate improvements in technical performance each year.

The report also includes some analysis of production costs in a number of the participating herds. An increase in participation in this aspect of the system may well provide a more accurate picture of the actual costs across the sector. There are indications that those herds that routinely record the full costs of production are the herds with the highest levels of technical efficiency. This would suggest that these herds have lower costs of production than herds which do not check their costs of production routinely.

The Teagasc Pig Development Department always welcome more herds to participate in benchmarking using the PM. Any new herds that wish to participate should contact any of the Knowledge Transfer personnel listed on the inside cover of this booklet.

Technical Performance

Table 1: Sow Productivity	2019	2020	2021
Number of Herds	94	88	79
Average Herd Size	831	799	790
Average Maiden Gilts (%)	12.2	12.6	11.8
Litters per Sow per Year	2.28	2.31	2.27
Average Weaning Age Days	31	30	30
Empty Days per Litter	15	15	16
Number Born Alive per Litter	14.12	14.26	14.69
Number Born dead per Litter	1.06	1.06	1.12
Piglet Mortality (%)	11.3	11.1	11.1
Weaner Mortality (%)	2.89	2.76	2.72
Finisher Mortality (%)	2.67	2.67	2.60
Number of pigs produced per sow per year	26.8	27.5	28.1
Sow culling rate per annum (%)	48.3	50.2	51.0
Sow mortality per annum (%)	6.7	7.2	7.6
Feed per sow per year (tonnes)	1.35	1.34	1.34

Commentary

The number of pigs born alive per litter rose again this year. A major Key Performance Indicator (*KPI*) to measure sow performance is the number of pigs produced per sow per year. This is the number of pigs born alive minus all deaths in a year divided by the average number of sows in the herd. The calculation is adjusted to allow for an annual output if the time period is not a year.

The rise to 14.69 pigs born alive per litter even though there was a decrease in litters per sow per year (*2.27 in 2021 compared to 2.31 in 2020*) increased the number of pigs produced per sow per year to 28.1 in 2021.

The output of pig meat per sow per year increased also from 2,426 kg to 2,549kg, as a result of the increased sow production and the increased live weight and dead weight of the pigs sold in 2021.

Table 2: Growing Pig Performance	2019	2020	2021
Number of Herds	90	88	71
Average Weaning Weight (kg)	7.0	7.0	7.1
Average Live Weight at Sale (kg)	113.5	115.3	118.4
Average Dead Weight at Sale (kg)	86.7	88.2	90.7
Kill Out (%)	76.4	76.5	76.6
Daily Feed Intake (g)	1,767	1,764	1,791
Average Daily Gain (g)	724	735	750
Feed Conversion	2.44	2.40	2.39

Commentary

The average dead weight in recorded herds increased in 2021 to 90.7 kg. There was an increase in growth rate from weaning to sale (*735 to 750 g/day*), and there was a decrease of 0.01 in the Feed Conversion from weaning to sale compared to 2020.

The average output of pig meat per sow per year was 2,549 kg in 2021. This amount of pig meat was produced using 8,815 kg of feed. This means it took 3.46 kg of feed to produce one kg of pig meat. The figure 3.46 kg of feed to produce one kg of pig meat is impressive when you consider that it ranged between 3.66 and 3.79 in the ten years from 2001 to 2010.

Benchmarking performance against the top performing herds helps identify areas that may require improvement on your farm.

Table 3: Weaner Performance	2019	2020	2021
Average Weaning Weight (kg)	7.0	7.0	7.1
Average Transfer/Sale Weight (kg)	37.9	39.2	39.4
Creep Feed per Weaner (kg)	3.7	3.7	3.5
Link Feed per Weaner (kg)	7.4	9.2	9.5
Weaner Feed per Weaner (kg)	45.9	46.5	45.1
Total Feed per Weaner (kg)	57.0	59.4	58.1
Average Daily Feed Intake (g)	879	913	892
Average Daily Gain (g)	481	497	501
Feed Conversion	1.84	1.85	1.78

Commentary

On most farms in the records the weight of weaners transferred to finishing accommodation is an estimated weight rather than actual weights at transfer. For this reason there may be a certain level of inaccuracy in the weaner and finisher performance figures. The true performance is in the weaning to sale figures but the breakdown in the weaner and finisher section is useful information.

There has been a slight decrease in the total weaner feed fed to weaners compared to 2020 (*59.4 kg in 2020 and 58.1kg per weaner in 2021*). The transfer weight has also increased slightly to 39.4 kg.

The Feed Conversion slightly decreased to 1.78 from 1.85 in 2020. The increased transfer weight to the finisher section continues to rise as it has done over the past twenty years.

Table 4: Finisher Performance	2019	2020	2021
Average Weaner Transfer Weight (kg)	37.9	39.2	39.4
Average Live Weight at Sale (kg)	113.5	115.3	118.4
Average Dead Weight at Sale (kg)	86.7	88.2	90.7
Kill Out (%)	76.4	76.5	76.6
Average Daily Feed Intake (g)	2,422	2,391	2,443
Average Daily Gain (g)	904	921	930
Feed Conversion	2.68	2.60	2.63

The same qualification applies to finisher performance data as weaner transfer weights are usually estimated on most Irish pig farms. Finisher growth rates increased from 921 to 930 g/day from 2020 to 2021. There was an increase in Feed Conversion from 2.60 to 2.63 in 2021.

Pig slaughter weights increased by 3.1 kg live weight and 2.5 kg dead weight compared to 2020. This may reflect some of the problems associated with Covid 19 throughout the year.

The feed fed per pig from weaning to sale in 2021 was as follows:

	2019	2020	2021
Creep	3.7	3.7	3.5
Link	7.4	9.2	9.5
Weaner	45.9	46.5	45.1
Finisher	202.8	198.9	207.4

Production Costs 2020

Table 5: Feed and Non-Feed Costs			
	Cost per kg dead weight (c)		
	2019	2020	2021
Feed	107.5	105.4	112.3
Non-feed Costs excluding Building and Financial Costs			
Healthcare	6.2	6.6	5.9
Heat, Power, Light	3.8	4.3	7.1
Transport	1.9	1.6	1.0
Artificial Insemination	1.9	1.9	1.7
Manure	1.8	1.8	1.6
Labour / Management	15.1	15.9	13.0
Repairs	2.7	3.2	3.3
Administration	1.2	1.4	0.9
Environment	0.5	0.4	0.4
Insurance	1.3	1.5	1.4
House Rental	1.7	1.7	2.5
Contract Finishing Costs	2.3	2.5	2.3
Water	0.5	0.5	0.5
Dead Pig Disposal	0.7	0.8	0.9
Stock Depreciation	2.1	2.3	2.5
Miscellaneous	1.2	1.3	1.3
Total Non-feed Costs excluding Building and Financial Costs	44.9	43.5	41.5

Commentary

Most of the costs are quite similar to 2020. The labour / management cost dropped which may reflect more farms not including the home labour costs for their farms. Costs such as house rental and contract finishing costs are costs that may not occur on all farms and are excluded from the "total" figure of 41.5 cent per kg deadweight shown above.

Every farm should know their own production costs and identify if there are areas that need to be improved.

Table 6: Building and Financial Costs			
	Cost per kg dead weight (c)		
	2019	2020	2021
Building Depreciation	4.3	4.7	4.7
Interest	1.4	1.3	1.2
Building and Financial	5.7	6.0	5.9

Commentary

Too few farms include data on their interest payments and building depreciation to obtain a reliable indication of these costs. Each farm should know their building depreciation and interest costs from their annual financial accounts. These are a real cost and more farms should include them in their input data if they are serious about knowing their total production cost.

The building depreciation cost is quite low based on the cost of new pig buildings. The low building depreciation may reflect a lack of capital investment in many pig farms over the last decade.

Table 7: Total Cost of Production			
	Cost per kg dead weight (c)		
	2019	2020	2021
Feed	107.5	105.4	112.3
Non-feed Costs excluding Building and Financial Costs	44.9	43.5	41.5
Building and Financial Costs	5.7	6.0	5.9
Total	158.1	154.9	159.7

Commentary

The average price paid per kg was 161.1 c/kg deadweight. Therefore in 2021 the price paid covered the production cost. This highlights the need to monitor and manage the costs of production on every unit. Production costs need to be unit specific to be useful for comparison with these "average" figures.

Top 25% of Herds

Table 8: Top 25% of herds selected on the basis of the Number of Pigs produced per sow per year		
	Top 25% 2021	Average 2021
Number of Herds	20	79
Average Herd Size	717	790
No. pigs produced per sow per year	31.1	28.1
Litters per sow per year	2.33	2.27
Average weaning age (days)	27	30
Empty days per litter	14	16
No. born alive per litter	15.31	14.69
No. born dead per litter	1.03	1.12
Piglet Mortality (%)	8.7	11.1
Weaner Mortality (%)	2.21	2.72
Finisher Mortality (%)	2.02	2.60
Sow Culling Rate (%)	49.3	51.0
Sow Mortality (%)	6.4	7.6
Feed per sow per year (tonnes)	1.38	1.34

Commentary

The herds in the top quartile of herds selected on the number of pigs produced per sow per year produced 2.96 more pigs per sow per year than the average herds. This greatly increases the profitability of these farms if they can manage their costs of production well.

The extra pigs produced on these Top 25% of herds is achieved by a higher born alive per litter, a higher number of litters per sow per year and a lower mortality percentage at all stages of production. This may suggest better management of pig health on these farms.

Table 9: Top 25% of herds selected on Feed Conversion Weaning to Sale		
	Top 25% 2021	Average 2021
Number of Herds	19	71
Average Herd Size	671	763
Average weaning weight (kg)	7.3	7.1
Average live weight at sale (kg)	113.0	118.4
Average dead weight at sale (kg)	86.2	90.7
Kill out (%)	76.3	76.6
Average daily feed intake (g)	1,765	1,791
Average daily gain (g)	782	750
Feed conversion	2.25	2.39
Feed per pig weaning to sale (*kg*)		
Creep	3.0	3.5
Link	8.3	9.5
Weaner	38.5	45.1
Finisher	188.5	207.4
Total	238.3	265.5

Commentary

The figures above show that the Top 25% of herds selected on the basis of Feed Conversion from weaning to sale used 27.2 kg of feed per pig less than the feed used on the average herds.

The sale weight of pigs on the Top 25% performing herds was 5.4 kg live weight and 4.5 kg dead weight lighter than the weights achieved on the average herds. By using less feed the Top 25% saved €8.43 per pig sold (*based on a finisher feed cost of €310/ tonne and a calculation of 27.2 kg by 31 c/kg*) . Their pig had a 4.5 kg lighter carcase weight so their pigs were valued at €7.42 less than the average finishers sold at 90.7 kg dead weight (*based on 4.5 by €1.65/ kg*). Therefore the net benefit for the Top 25% is €1.01 per pig sold in feed savings which is a reduced feed cost of just over one cent per kg.

Top 10% of Herds

Table 10: Top 10% of herds selected on the basis of the Number of Pigs produced per sow per year		
	Top 10% 2021	Average 2021
Number of Herds	10	79
Average Herd Size	747	790
No. pigs produced per sow per year	32.5	28.1
Litters per sow per year	2.38	2.27
Average weaning age (days)	27	30
Empty days per litter	14	16
No. born live per litter	15.46	14.69
No. born dead per litter	1	1.12
Piglet Mortality (%)	8.1	11.1
Weaner Mortality (%)	1.87	2.72
Finisher Mortality (%)	1.68	2.6
Sow Culling Rate (%)	47.3	51
Sow Mortality (%)	6	7.6
Feed per sow per year (tonnes)	1.33	1.34

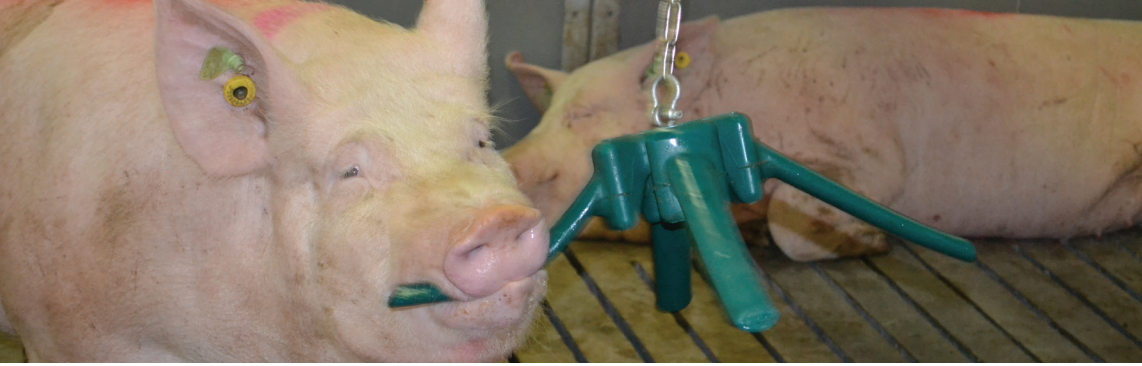
Commentary

The Top 10% of recorded herds selected on the basis of Number of Pigs Produced per sow per year produced 3.4pigs more than the average for all recorded herds.

These top performing herds had:

- A higher number of litters per sow per year
- Higher number of pigs born alive per litter: 0.77
- Lower mortality levels in piglets, weaners and finishers: 4.77 %

Table 11: Top 10% of herds selected on the basis of Feed Conversion Weaning to Sale		
	Top 10% 2021	Average 2021
Number of Herds	10	71
Average Herd Size	534	763
Average weaning weight (kg)	7.4	7.1
Average live weight at sale (kg)	111.7	118.4
Average dead weight at sale (kg)	85.1	90.7
Kill out (%)	76.2	76.6
Average daily feed intake (g)	1735	1791
Average daily gain (g)	782	750
Feed Conversion	2.22	2.39
Feed per pig weaning to sale (*kg*)		
Creep	3.6	3.5
Link	7.4	9.5
Weaner	47	45.1
Finisher	173.4	207.4
Total	231.4	265.5



Commentary

The Top 10 % of recorded herds selected on the basis of Feed Conversion from weaning to sale had slaughter weights that were 6.7 kg lighter than the average sale weights for all herds. This gave the Top 10% of herds a 5.6 kg lighter carcase weight. The Top 10% achieved a much better Feed Conversion from weaning to sale – better by 0.17 (*i.e. 2.39 minus 2.22*).

The Top 10% of farms used 34.1 kg of feed less than the amount of feed required per pig on the average farms. If we allow a feed cost of €310/tonne (*assuming the saving was made in the finisher feed*) – this equates to a saving on feed of €10.57. The value of the lower dead weight is €9.24 (*5.6 kg by €1.65 per kg*). The net saving is €1.33 per pig sold for the Top 10%. These farms showed a better growth rate than the average herds also of 32 gram per day from weaning to sale.

Trends in Pig Herd Performance

Table 12: Pig Meat Produced per Sow per Year						
	2016	2017	2018	2019	2020	2021
No. pigs produced per sow per year	26.25	27.01	26.9	26.8	27.5	28.1
Average slaughter weight (kg)	83.0	84.6	86.2	86.7	88.2	90.7
Pig meat produced per sow per year (kg)	2,179	2,285	2,319	2,324	2,426	2,549

Commentary

The quantity of pig meat produced per sow per year has increased by 17% since 2016 due to a combination of increased number of pigs produced per sow per year and increased carcase weights.

Table 13: Growing Pig Performance						
	2016	2017	2018	2019	2020	2021
Average Daily Gain (g)	697	708	717	724	735	750
Feed Conversion	2.42	2.44	2.43	2.44	2.40	2.39
Live weight at sale (kg)	108.6	110.8	112.6	113.5	115.3	118.4

Commentary

Since 2016 growth rates from weaning to sale have increased by over 7%. The Feed Conversion has remained quite constant even though the live weight at sale increased by 9%. There still is room for further improvement in these figures.

Bench marking performance

Feed normally represents about 70% of production costs as reported in the Teagasc PM recorded herds. Feed costs per tonne fluctuate in line with feed ingredients which will affect the feed cost per kg from year to year. The feed costs each year are monitored separately in the Teagasc Monthly Feed and Pig Price Monitor. This helps validate the feed cost figures in the Profit Monitor (PM) on an on-going basis.

It is critical that each farm monitors its own production costs. These costs are essential to the overall management of any pig farm business. Every farm can and should benchmark their herd performance and production costs on the PM system. This allows each farm compare their performance figures with the figures shown in this booklet.

Talk to your Teagasc Advisor today on accessing the PM to view and benchmark your own records.

Teagasc,
Head Office,
Oak Park,
Carlow

Tel : 353 (0)59 9170200
Email: info@teagasc.ie

www.teagasc.ie/animals/pigs

Agriculture and Food Development Authority

Fermoy Print & Design 025-31355