

September 2017



pigChamp[®]
pro europa

REPRODUCTIVE REPORT ANALYSIS

FARM DEMO

- **Introduction**
- **Productivity tree**
- **Farm census and replacement rate**
- **Gestation**
- **Maternity**
- **Non-productive days**
- **Other analysis**
- **Summary and conclusions**

➤ Introduction

This report analyzes the reproductive data analysis of Farm Demo. This analysis has been performed using PigCHAMP Pro Europa tools for data analysis, including:

- One-Click Farm, a report developed by PigCHAMP Pro Europa for fast and focused reproduction analysis. It has two versions, pdf report and web-based tool.
- PigCHAMP Care 3000 software, powerful software for detailed reproductive farm data analysis.

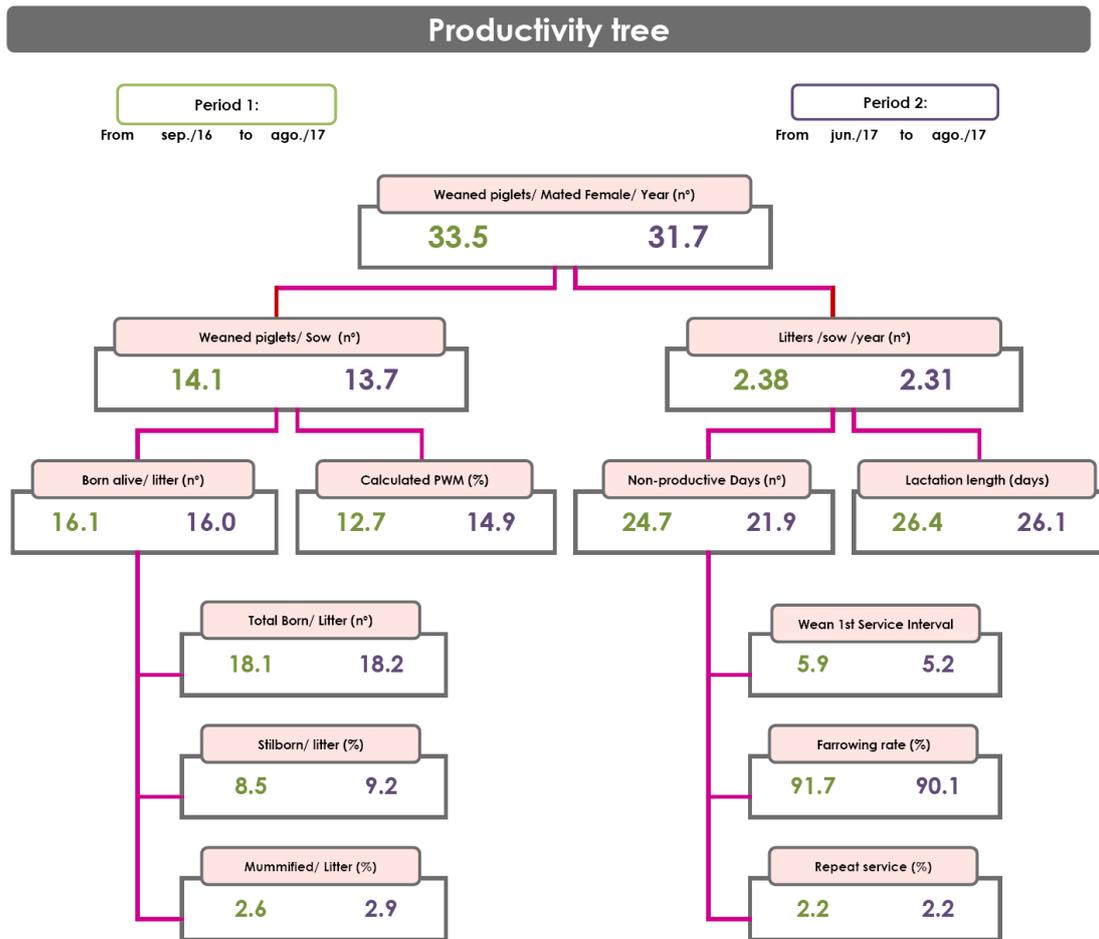
Data has been imported from .xml files extracted from source software. The only not imported data has been abortions (not registered) and pre-weaning mortality (with no individual information at the source files). Data are updated until 13th September 2017, thus, the analysis includes data from December 2009, start of the farm, until August 2017, last month with complete data. Since the previous report included data until December 2016, this report will be focused on this last year 2017, and the comparison with previous.

Based on this, a comprehensive data analysis has been performed, from a general overview to an in-depth analysis.

Productivity tree

To provide a general reproductive performance overview of the farm, first it's presented the productivity tree for the indicator *weaned piglets / mated female / year*, which shows the main factors explaining it; in this tree, there is a time comparison of the last quarter with complete data vs the last 12 months.

Chart 1- Productivity tree, periods September 16-August 17, June-August 17



The farm maintains a very high level of efficiency, with more than 33 piglets weaned per sow and year within the last 12 months. But, in the other side, *efficiency has decreased the last quarter*, due to a lower performance at weaning, and to a decrease of litters/sow/year. This last item has decreased not due to lower performance (main indicators in gestation hasn't had important variations), but to the variation of productive rhythm. The next chart shows the number of sows weaned and the average inventory of the farm by quarter.

Chart 2-Sows weaned and average inventory by 91 days' periods, 2nd September 16- 31st August 17

	02-Sep-16 to 01-Dec-16	02-Dec-16 to 02-Mar-17	03-Mar-17 to 01-Jun-17	02-Jun-17 to 31-Aug-17	Total	Average
Sows Complete Weaned <i>(as % of overall)</i>	1336 25.1%	1410 26.5%	1280 24.0%	1301 24.4%	5327	1332
Female Inventory						
Av.Female Inventory	2317	2251	2161	2234		2241
Av.Sow Inventory	2317	2251	2161	2234		2241

The last quarter, the number of sows weaned has been lower than the total average, while the sow inventory has been almost the same than the total average.

Thus, *the only variation of efficiency this last quarter has been an increase of pre-weaning mortality that has involved a lower performance at weaning.*

To analyze variations-trends, the next chart shows data of the last 6 periods of 244 days. These periods are more or less 8 months, thus in this way current period of 2017 is compared with similar previous periods.

Chart 3- Performance trend analysis by 244 days' periods, 28th April 12-31st August 17

	28-Apr-12 to 27-Dec-12	28-Dec-12 to 28-Aug-13	29-Aug-13 to 29-Apr-14	30-Apr-14 to 29-Dec-14	30-Dec-14 to 30-Aug-15	31-Aug-15 to 30-Apr-16	01-May-16 to 30-Dec-16	31-Dec-16 to 31-Aug-17	Total	Average
Total Services <i>(as % of overall)</i>	1826 6.4%	3041 10.7%	3908 13.7%	4016 14.1%	3988 14.0%	3994 14.0%	3891 13.7%	3841 13.5%	28505	3563
Repeat Services	55	150	187	147	154	148	79	99	1019	127
Repeat Rate	3.0%	4.9%	4.8%	3.7%	3.9%	3.7%	2.0%	2.6%		3.6%
Farrowings (Litters) <i>(as % of overall)</i>	1675 6.8%	2035 8.2%	3213 13.0%	3526 14.3%	3554 14.4%	3536 14.3%	3692 14.9%	3493 14.1%	24724	3090
Total Born	27887	33644	52362	60537	61447	63685	66012	63963	429537	53692
Total Born/Litter	16.6	16.5	16.3	17.2	17.3	18.0	17.9	18.3		17.4
Liveborn	24639	29045	47665	54690	50816	56313	58602	56644	378414	47302
Liveborn/Litter	14.7	14.3	14.8	15.5	14.3	15.9	15.9	16.2		15.3
Stillborn <i>(% of Total Born)</i>	3017 10.8%	3923 11.7%	3752 7.2%	4727 7.8%	7376 12.0%	5848 9.2%	5809 8.8%	5547 8.7%	39999 9.3%	5000 2.6%
Mummified <i>(% of Total Born)</i>	231 0.8%	676 2.0%	945 1.8%	1120 1.9%	3255 5.3%	1524 2.4%	1601 2.4%	1772 2.8%	11124 2.6%	1390
Farrowing Rate	89.9%	89.3%	88.1%	88.8%	88.4%	88.8%	92.1%	92.2%		89.7%
Sows Complete Weaned <i>(as % of overall)</i>	1649 6.7%	1898 7.7%	3199 13.0%	3503 14.3%	3516 14.3%	3516 14.3%	3671 15.0%	3571 14.6%	24523	3065
Piglets Weaned	21597	23910	43173	48115	41451	46215	51413	49861	325735	40717
Pre-Weaning Mortality	10.3%	12.2%	8.1%	11.4%	17.4%	17.3%	11.7%	13.9%		13.1%
Av.Piglets Weaned/Sow	13.1	12.6	13.5	13.7	11.8	13.1	14.0	14.0		13.3
Lactation Length	26.8	26.2	28.0	28.0	26.3	25.7	26.3	26.3		26.7
Piglets Weaned/Sow/Year	30.7	24.5	30.0	31.3	26.9	30.6	33.2	33.9		30.4
Female Inventory										
Av.Female Inventory	1055	1459	2155	2300	2309	2264	2318	2205		2008
Av.Gilt Inventory	0	0	0	0	0	0	0	0		0
Av.Sow Inventory	1055	1459	2155	2300	2309	2264	2318	2205		2008
Av.Female Age (Parity)	3.2	2.3	1.6	2.0	2.4	2.8	3.2	3.6		2.6
Sows Added/Gilts Entered	385	1400	915	844	742	657	531	717	6191	774
Replacement Rate	54.6%	143.6%	63.6%	54.9%	48.1%	43.4%	34.3%	48.7%		57.7%
Females Died	74	118	130	202	296	152	162	180	1314	164
% Female Deaths/Year	10.5%	12.1%	9.0%	13.1%	19.2%	10.0%	10.5%	12.2%		12.2%
Females Culled or Sold	272	400	481	566	557	392	425	599	3692	462
% Females Sold/Year	38.6%	41.0%	33.4%	36.8%	36.1%	25.9%	27.4%	40.7%		34.4%

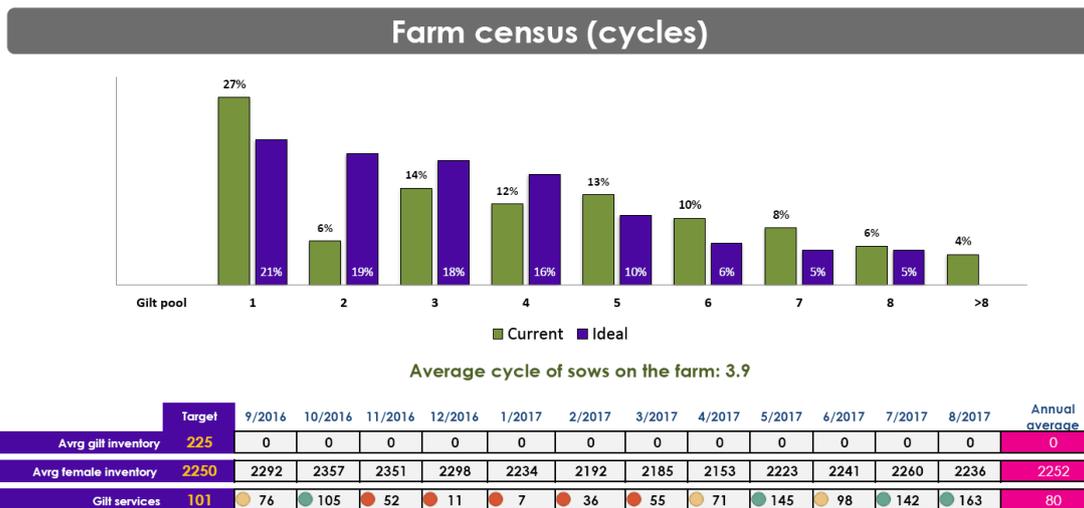
Performance of the last two periods is quite similar (more than 33 piglets weaned/sow/year), and higher than that of the previous periods. The only difference is that *this last period the average age has been higher, and the replacement rhythm has increased*: since previous period the replacement rate were low, the average age has increased, thus this period the farm has had to increase replacement rate.

Next, each department of the farm goes to be deeply analyzed, starting with farm census and replacement.

➤ Farm census and replacement rate

The next chart shows the sow herd structure at the end of August 2017, and the replacement rate within the last 12 months:

Chart 4- Sow herd structure and replacement rate, September 16-August 17



Both the graph and the table show the changes of replacement and its effect on sow herd structure. First of all, the average replacement rate within this period has been 43%, lower than the theoretically ideal for a farm with 2.36 litters per sow and year, which would be 54%. But, if we check the average within the period, we see the same age at the start and at the end of the period, thus this replacement rate of 43% is enough for the farm.

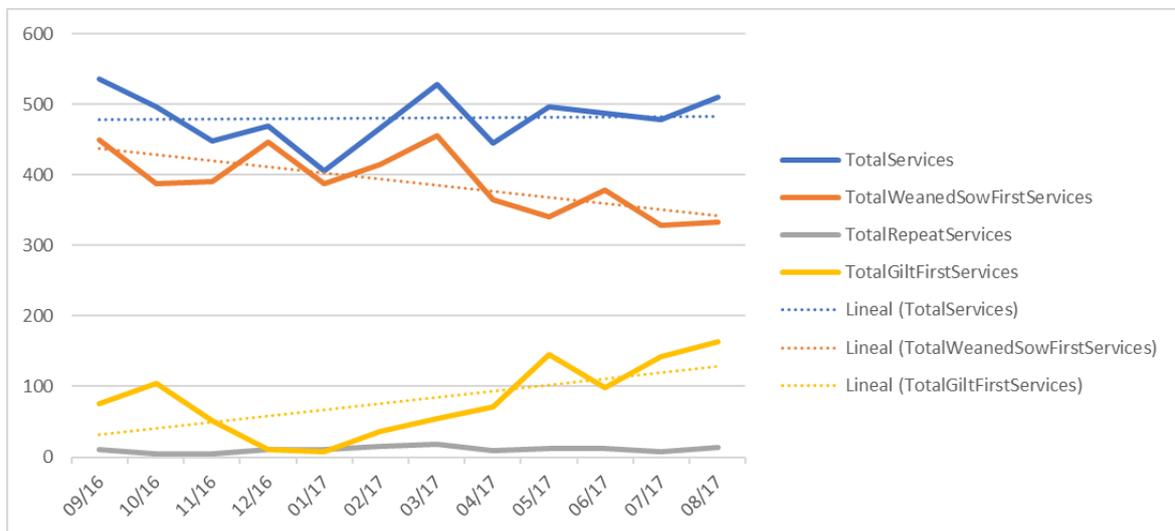
Chart 5- Average inventory and age by month, September 16-August 17

	Breeder Herd Inventory													Total	Average
	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	Jun 17	Jul 17	Aug 17			
Female Inventory	2281	2323	2345	2308	2250	2198	2176	2145	2162	2234	2237	2231		2241	
Av. Female Inventory	0	0	0	0	0	0	0	0	0	0	0	0		0	
Av. Gilt Inventory	2281	2323	2345	2308	2250	2198	2176	2145	2162	2234	2237	2231		2241	
Av. Sow Inventory	3.3	3.3	3.3	3.4	3.5	3.7	3.7	3.7	3.6	3.5	3.4	3.3		3.5	

The two previous charts show the effect of an irregular replacement rate: during the period December-April, the farm added only 180 new sows (36 per month), thus size of the farm decreased in 180 sows, and average age increased from parity 3.3 to 3.7. To compensate, the last 4 months the farm has added 137 new sows per month, so the size increased until 2236, and the age decreased to 3.3 again. The effect on sow herd structure is clear: there is a deficit of sows at cycles 3 and specially 2, partially compensated with an excess of sows at first cycle.

These variations have had effect too on productive rhythm (number of services per month), although in this case cushioned, since the farm has adapted the number of services of weaned sows to try to reach the objective.

Chart 6-Number of services by month, September 16-August 17



The logical recommendation is to maintain a replacement as stable as possible within the time, to avoid changes of productive rhythm and variations in sow herd structure.

Next, performance of gilts goes to be analyzed. The next chart shows the distribution of gilts first served during the 4 quarters until March 17 (services with farrow and weaning information).

Chart 7-Gilt first services performance by quarter, services period April 16-March 17

	2nd Qtr, 16	3rd Qtr, 16	4th Qtr, 16	1st Qtr, 17	Total	Average
Total Services	217	252	172	102	743	186
Conception Rate (over 125 days)	88.0%	92.1%	95.3%	91.2%		91.5%
Farrowings (Litters)	191	232	164	93	680	170
Total Born	3078	3803	2770	1539	11190	2798
Total Born/Litter	16.1	16.4	16.9	16.5		16.5
Liveborn	2910	3570	2538	1443	10461	2615
Liveborn/Litter	15.2	15.4	15.5	15.5		15.4
Stillborn	123	191	185	74	573	143
Mummified (% of Total Born)	4.0%	5.0%	6.7%	4.8%	5.1%	
Mummified (% of Total Born)	1.5%	1.1%	1.7%	1.4%	1.4%	39
Gestation Length	116.9	116.8	116.9	116.7		116.8
Piglet Losses (% of Liveborn)	0	0	0	0	0	0
Sows Complete Weaned	191	232	164	93	680	170
Litters Weaned	188	226	161	89	664	166
Piglets Weaned	2744	3425	2332	1273	9774	2444
Av.Piglets Weaned/Litter	14.6	15.2	14.5	14.3		14.7

There are neither big differences nor trends, the only change is a slight decrease of farrowing rate the last quarter compared with the previous. And all the gilts served within this period had genetics LY.

The last comment about replacement is related with removals. Logically, the farm has tried to change the number of sales according with the gilt first services, to reduce the impact on farm size and productive rhythm of variations of these gilt first services. The next chart shows these variations.

Chart 8-Inventory information by month, September 16-August 17

Breeder Herd Inventory														Total	Average
	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	Jun 17	Jul 17	Aug 17			
Female Inventory	2281	2323	2345	2308	2250	2198	2176	2145	2162	2234	2237	2231		2241	
Av.Female Inventory	3.3	3.3	3.3	3.4	3.5	3.7	3.7	3.7	3.6	3.5	3.4	3.3		3.5	
Av.Female Age (Parity)															
Sows Added/Gilts Entered	76	105	52	11	7	36	55	71	145	98	142	163	961	80	
Replacement Rate	40.6%	53.3%	27.0%	5.6%	3.7%	21.4%	29.8%	40.3%	79.0%	63.4%	74.8%	86.1%		42.9%	
Females Died	21	11	7	13	17	22	13	20	15	26	25	42	232	19	
% Female Deaths/Year	11.2%	5.6%	3.6%	6.6%	8.9%	13.1%	7.0%	11.4%	8.2%	14.2%	13.2%	22.2%		10.4%	
Females Culled or Sold	85	29	51	51	54	56	49	83	60	54	98	145	815	68	
% Females Sold/Year	45.4%	14.7%	26.5%	26.0%	28.3%	33.2%	26.5%	47.1%	32.7%	39.4%	51.6%	76.6%		36.4%	

In the blue rectangle (the last quarter), is striking the important increase of females died, especially on August. If we split this period by weeks, we find the next.

Chart 9-Females dead by week, 13th May-1st September 17

Breeder Herd Inventory																
	13-May-17 to 19-May-17	20-May-17 to 26-May-17	27-May-17 to 02-Jun-17	03-Jun-17 to 09-Jun-17	10-Jun-17 to 16-Jun-17	17-Jun-17 to 23-Jun-17	24-Jun-17 to 30-Jun-17	01-Jul-17 to 07-Jul-17	08-Jul-17 to 14-Jul-17	15-Jul-17 to 21-Jul-17	22-Jul-17 to 28-Jul-17	29-Jul-17 to 04-Aug-17	05-Aug-17 to 11-Aug-17	12-Aug-17 to 18-Aug-17	19-Aug-17 to 25-Aug-17	26-Aug-17 to 01-Sep-17
Female Inventory																
Females Died	2	0	6	1	7	4	12	5	4	5	5	16	25	5	1	1

This increase takes place during the first days of August, especially from 5th to 11th August. Analyzing these deaths, we find the next.

Chart 10-Females death analysis, 1st-11th August

		Parity										
		Weaned not Served		Aborted		Tested N.I.P.		In-Pig		Maiden Gilt		
		No.	No.	%	No.	%	No.	%	No.	%	No.	%
0	4	0			0		0		4	100.0%	0	
1	6	1	16.7%		0		0		5	83.3%	0	
2	4	0			0		0		4	100.0%	0	
3	4	1	25.0%		0		0		3	75.0%	0	
4	4	0			0		0		4	100.0%	0	
5	4	0			0		0		4	100.0%	0	
6	6	0			0		0		6	100.0%	0	
7	2	2	100.0%		0		0		0		0	
8	1	0			0		0		1	100.0%	0	
Total		35	4	11.4%	0		0		31	88.6%	0	

		Loss Reason										
		Weaned not Served		Aborted		Tested N.I.P.		In-Pig		Maiden Gilt		
		No.	No.	%	No.	%	No.	%	No.	%	No.	%
B (b.nul s)	1	0			0		0		1	100.0%	0	
H? (h?stressz)	34	4	11.8%		0		0		30	88.2%	0	
Total		35	4	11.4%	0		0		31	88.6%	0	

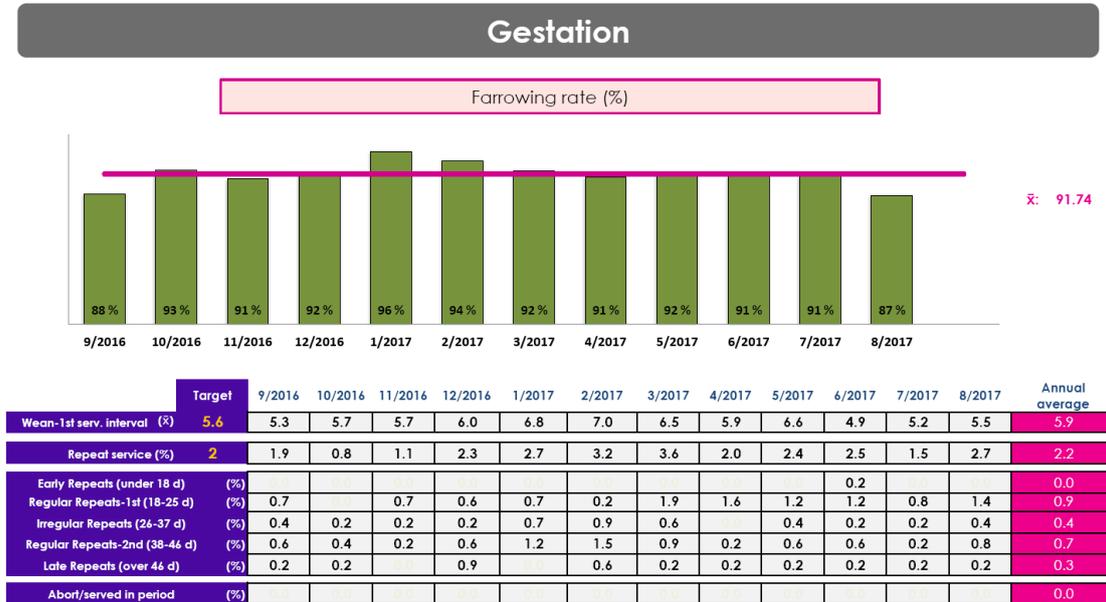
		Non-Productive days (Since last Productive Event)	
		Total	Average
Maiden Gilts	0	0	
In-Pig Gilts	4	451	112.8
In-Pig Sows	27	2859	105.9
Dry Sows	4	9	2.3
Total Sows	35	3319	94.8
Total Females	35	3319	94.8

There were deaths at all the parities, with reason “stress”, especially at sows in-pig, and with an average on NPDs high, thus at the end of gestation. This distribution is typical of *episodes of very high temperatures*. If this is the case, the general recommendation is, when expected a heat wave, to implement some changes of handheld at the end of gestation: to move the sows very early in the morning, to refresh the sows spraying or even watering them.

The main conclusion of replacement analysis is that the entry of new sows has had big changes that have affected both the sow herd structure and the productive rhythms. Regarding performance of gilts, continue being high. Finally, this last summer data point to an effect of high temperatures on survival of sows at the end of gestation.

Gestation

Chart 11.- Farrowing rate time course and repeats split by type, period September 16-August 17



Although performance in gestation continues being high, in August farrowing rate has decreased under 90%. Other items, has wean to first service interval or the % of repeats, have no important variations. And most reproductive losses continue being not repeats, but other: if repeat rate is 2.2%, and farrowing rate is 91.7%, the rest (6.1%) is due to other kind of losses (abortions or removals). The farm has a high performance in gestation, with a wean to first service interval under 6 days and an average farrowing rate of 92%. Only September had a rate under 90%, the farm is very stable, and it doesn't seem to have any seasonal effect or distribution.

The first point analyzed is the drop of farrowing rate within the last month. Next, the reproductive losses of service periods 9th April-8th May (115 days before August) and 1st January-8th April (the previous services of the year) are compared.

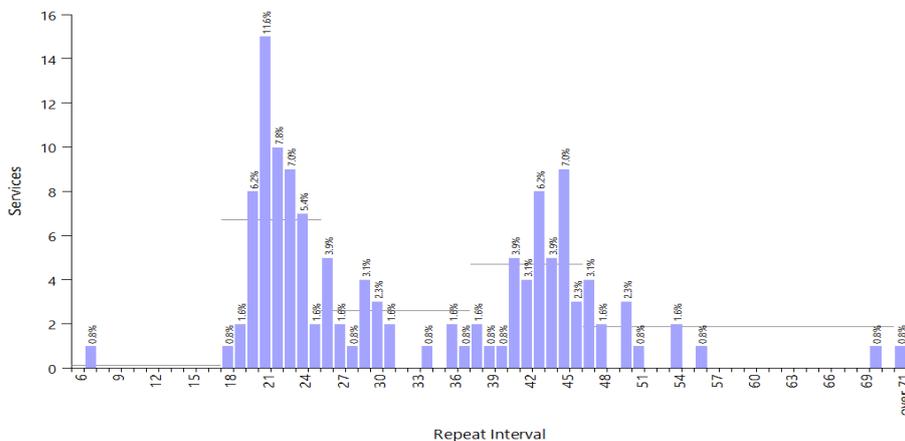
Chart 12-Reproductive losses report, services period 1st January-8th May 2017

	Farrows August	Farrows 26 th April- July
First Services	422	1480
Percent Served	100%	100%
Wean to First Service Interval	6.2	6.7
Returned to Service	11	47
as % of All Dropouts	22.0%	39.2%
Early Return	0	0
Irregular Return	2	9
Late Return	1	4
Regular Return	8	34
First Heat Regular Returns	75.0%	58.8%
Repeat Rate	2.6%	3.2%
Av.Repeat Interval	29.5	32.0
Av.Non-Productive days	33.1	35.7
Died	27	43
as % of All Dropouts	54.0%	35.8%
as % of First Services	6.4%	2.9%
Av.Non-Productive days	107.9	96.1
Culled or Sold	12	30
as % of All Dropouts	24.0%	25.0%
as % of First Services	2.8%	2.0%
Av.Non-Productive days	75.3	68.7
All Dropouts	50	120
as % of First Services	11.8%	8.1%
Av.Non-Productive days	83.6	65.6
Overdue	0	0
Av.Non-Productive days		
Farrowed	372	1360
Late Farrowed	0	0
Farrowing Rate	88.2%	91.9%
(over 125 days)	100.0%	100.0%
Av.Liveborn	15.9	16.1
Av.Stillborn	1.7	1.6

The only difference is the increase of % of deaths in August. Thus, *the deaths at the end of gestation by probably high temperatures is the reason of the decrease of farrowing rate in August.*

Next item analyzed is repeats. As commented, the % of repeats is very low, only 2.2% within the last 12 months. The distribution of repeats by interval and parity is the next.

Chart 13- Repeat service analysis, September 16-August 17 (129 repeats, av. Repeat interval 32.9 days)



Parity	0	1	2	3	4	5	6	7	8	over 8	Total
Repeat Services	35 27.1%	18 14.0%	21 16.3%	10 7.8%	15 11.6%	12 9.3%	8 6.2%	9 7.0%	1 0.8%	0 0.0%	129
Repeat Interval (days)											
Less than 18 (Early)	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 6.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 0.8%
18-25 (Regular-1st)	23 65.7%	6 33.3%	4 19.0%	4 40.0%	7 46.7%	3 25.0%	4 50.0%	3 33.3%	0 0.0%	0 0.0%	54 41.9%
26-37 (Irregular)	4 11.4%	4 22.2%	4 19.0%	0 0.0%	0 0.0%	4 33.3%	2 25.0%	3 33.3%	0 0.0%	0 0.0%	21 16.3%
38-46 (Regular-2nd)	6 17.1%	6 33.3%	8 38.1%	5 50.0%	6 40.0%	4 33.3%	1 12.5%	2 22.2%	0 0.0%	0 0.0%	38 29.5%
Over 46 (Late)	2 5.7%	2 11.1%	5 23.8%	1 10.0%	1 6.7%	1 8.3%	1 12.5%	1 11.1%	1 100.0%	0 0.0%	15 11.6%
Average (days)	28.9	33.3	39.2	35.0	31.5	33.7	29.6	32.6	54.0		32.9
Ratios											
Regular to Irregular	7.25	3.00	3.00			1.75	2.50	1.67			4.38
Regular-1st to Regular-2nd	3.83	1.00	0.50	0.80	1.17	0.75	4.00	1.50			1.42

Same than at the previous report, the only point with possible room for improvement about repeats is the low ratio Regular 1st to Regular 2nd, *some sows are being detected not at their first heat but at their second*. If the farm reaches to detect these sows at their first cycle, it would save around 21 non-productive days per service early detected.

Next, removal of sows will be analyzed. As previously commented, the removal of sows is the main type of reproductive loss in gestation. At the previous report, with data until December 2016, a deep analysis of this item was carried out, thus at this report the data within 2017 are analyzed.

Chart 14.- Female removal by parity and loss reason, status in-pig at removal, January-August 17

Parity		Loss Reason	
	No.		No.
0	33	B (b,nul s)	29
1	26	Bcs (b,lcsavar)	5
2	17	Bv (bels? V,rz,s)	12
3	32	Gf (gennyes Kifoly s)	19
4	26	H? (h?stressz)	42
5	30	L (l b - Özlet)	1
6	36	M solt	28
7	16	RI (rossz L b)	8
8	12	š (šres)	52
9	4	Sz (szjv)	23
		™reg	13
Total	232	Total	232

There are removals at all the parities, and with different reasons. If we get only the sales (removals decided by the farmer), we find the next.

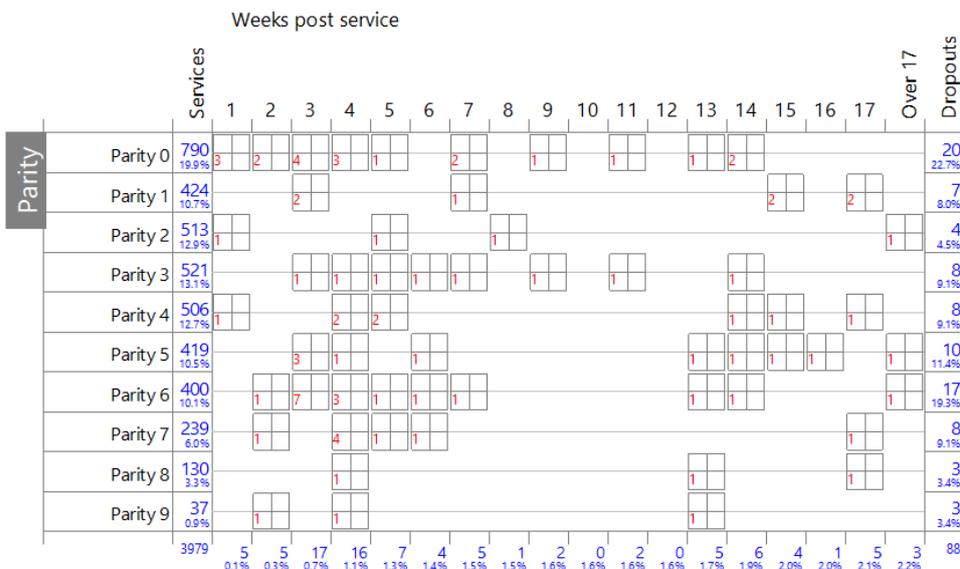
Chart 15.- Female removal by parity and loss reason, status in-pig at removal, January-August 17

Parity		Loss Reason	
	No.		No.
0	23		
1	13		
2	6		
3	12		
4	10		
5	18	Gf (gennyes Kifoly s)	19
6	19	M solt	28
7	10	RI (rossz L b)	8
8	6	š (šres)	52
9	3	™reg	13
Total	120	Total	120

Logically, there are more sales of old sows (parity 4-5 onwards), although *the number of sows sold with parity 0 sold is slightly high*. Each removal within the first cycle supposes an important overrun for the farm (the farm does an investment with this animal and doesn't obtain any return of this investment), thus these sales should be checked.

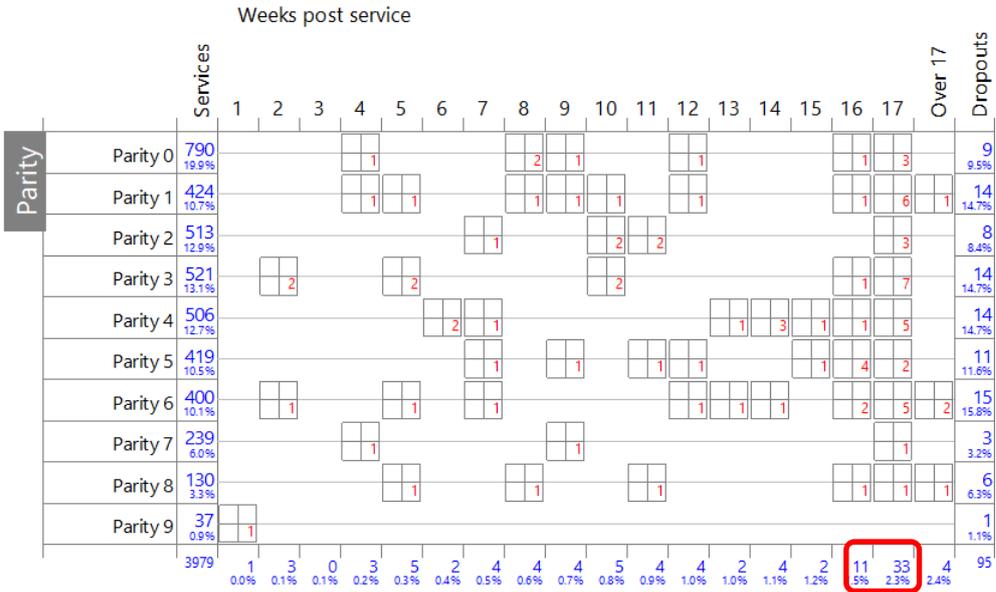
Finally, the last report showed an important number of sales at the end of gestation, with an important number of non-productive days per sow. The next chart shows that, at least with sales, these sales at the end of gestation have decreased.

Chart 16-Sales by gestation week and parity, services period January-August 17



In the other (and negative) side, specially regarding NPDs, as previously detected most deaths take place at the end of gestation, particularly in summer.

Chart 17-Deaths by gestation week and parity, services period January-August 17



Continuing with the analysis, next performance of services during November 16-April 17 (services with farrow results), split by various concepts, and including all the reproductive losses, goes to be analyzed.

Chart 18-Reproductive loss report by parity, services period November 16-April 17

	Parity								Total	Percent
	0	1	2	3	4	5	6	7+		
First Services	232	405	370	420	324	339	271	331	2692	
Percent Served	8.6%	15.0%	13.7%	15.6%	12.0%	12.6%	10.1%	12.3%	100%	
Wean to First Service Interval		7.3	6.2	6.3	6.5	6.2	6.4	5.0	6.3	
Returned to Service	5	9	12	5	8	8	2	6	55	
as % of All Dropouts	26.3%	28.1%	52.2%	16.7%	26.7%	25.0%	6.9%	20.7%	24.6%	
Early Return	0	0	0	0	0	0	0	0	0	
Irregular Return	1	3	2	0	0	2	0	1	9	
Late Return	0	1	2	1	1	1	0	2	8	
Regular Return	4	5	8	4	7	5	2	3	38	
First Heat Regular Returns	100.0%	40.0%	37.5%	25.0%	57.1%	40.0%	50.0%	33.3%	47.4%	
Repeat Rate	2.2%	2.2%	3.2%	1.2%	2.5%	2.4%	0.7%	1.8%	2.0%	
Av.Repeat Interval	24.6	34.0	35.9	40.2	32.9	34.8	32.5	41.0	34.8	
Av.Non-Productive days	25	41	42	46	36	38	35	45	39.2	12.9%
Died	5	12	8	17	15	11	15	8	91	
as % of All Dropouts	26.3%	37.5%	34.8%	56.7%	50.0%	34.4%	51.7%	27.6%	40.6%	
as % of First Services	2.2%	3.0%	2.2%	4.0%	4.6%	3.2%	5.5%	2.4%	3.4%	
Av.Non-Productive days	105	99	98	92	97	99	109	94	98.8	53.6%
Culled or Sold	9	11	3	8	7	13	12	15	78	
as % of All Dropouts	47.4%	34.4%	13.0%	26.7%	23.3%	40.6%	41.4%	51.7%	34.8%	
as % of First Services	3.9%	2.7%	0.8%	1.9%	2.2%	3.8%	4.4%	4.5%	2.9%	
Av.Non-Productive days	59	97	63	74	78	81	62	60	72.0	33.5%
All Dropouts	19	32	23	30	30	32	29	29	224	
as % of First Services	8.2%	7.9%	6.2%	7.1%	9.3%	9.4%	10.7%	8.8%	8.3%	
Av.Non-Productive days	62	82	64	80	76	77	84	66	74.8	100.0%
Overdue	0	0	0	0	0	0	0	0	0	
Av.Non-Productive days										
Farrowed	213	373	347	390	294	307	242	302	2468	
Late Farrowed	0	0	0	0	0	0	0	0	0	
Farrowing Rate	91.8%	92.1%	93.8%	92.9%	90.7%	90.6%	89.3%	91.2%	91.7%	
(over 125 days)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Av.Liveborn	15.3	17.4	17.3	17.1	16.7	15.7	14.6	14.0	16.2	
Av.Stillborn	1.0	1.0	1.2	1.6	1.5	2.0	2.2	2.2	1.6	

Farrowing rate is quite similar at all the parities. The only point to remark is that deaths of sows supposes 40% of total reproductive losses and 54% of total non-productive days of reproductive failures. Again, a reduction of deaths in gestation would involve an important saving for the farm.

Chart 19-Reproductive loss report by previous lactation length, services period November 16-April 17

	Previous Lactation Length					Total	Percent
	-21	22-25	26-30	31-35	36+		
First Services	67	583	1341	279	190	2460	
Percent Served	2.7%	23.7%	54.5%	11.3%	7.7%	100%	
Wean to First Service Interval	6.9	6.4	5.9	7.1	7.2	6.3	
Returned to Service	8	8	23	7	4	50	
as % of All Dropouts	53.3%	13.3%	24.0%	36.8%	26.7%	24.4%	
Early Return	0	0	0	0	0	0	
Irregular Return	2	0	2	4	0	8	
Late Return	0	3	4	0	1	8	
Regular Return	6	5	17	3	3	34	
First Heat Regular Returns	50.0%	20.0%	47.1%		66.7%	41.2%	
Repeat Rate	11.9%	1.4%	1.7%	2.5%	2.1%	2.0%	
Av.Repeat Interval	31.5	43.6	35.3	34.6	33.8	35.8	
Av.Non-Productive days	34	48	41	39	39	40.6	13.0%
Died	4	30	39	8	5	86	
as % of All Dropouts	26.7%	50.0%	40.6%	42.1%	33.3%	42.0%	
as % of First Services	6.0%	5.1%	2.9%	2.9%	2.6%	3.5%	
Av.Non-Productive days	107	101	95	96	108	98.5	54.3%
Culled or Sold	3	22	34	4	6	69	
as % of All Dropouts	20.0%	36.7%	35.4%	21.1%	40.0%	33.7%	
as % of First Services	4.5%	3.8%	2.5%	1.4%	3.2%	2.8%	
Av.Non-Productive days	93	62	73	97	95	73.7	32.6%
All Dropouts	15	60	96	19	15	205	
as % of First Services	22.4%	10.3%	7.2%	6.8%	7.9%	8.3%	
Av.Non-Productive days	65	80	74	75	84	76.0	100.0%
Overdue	0	0	0	0	0	0	
Av.Non-Productive days							
Farrowed	52	523	1245	260	175	2255	
Late Farrowed	0	0	0	0	0	0	
Farrowing Rate	77.6%	89.7%	92.8%	93.2%	92.1%	91.7%	
(over 125 days)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Av.Liveborn	14.8	15.8	16.1	17.5	17.4	16.3	
Av.Stillborn	1.4	1.9	1.8	1.0	1.0	1.6	

In general, sows with low lactation length have lower performance, thus the farm should try to reduce these sows. In the other side, there is a clear difference of lactation length by parity:

Chart 20-Lactation length distribution by parity, November 16-April 17

Parity 1

	-21	22-25	26-30	31-35	36+
First Services	2	10	15	194	184
Percent Served	0.5%	2.5%	3.7%	47.9%	45.4%
Wean to First Service Interval	18.5	4.7	6.8	7.6	7.0

Parity >1

	-21	22-25	26-30	31-35	36+
First Services	65	573	1326	85	6
Percent Served	3.2%	27.9%	64.5%	4.1%	0.3%
Wean to First Service Interval	6.6	6.4	5.9	6.0	12.7

Most sows during their first lactation has a length over 31 days. A hypothesis is that young sows are being used as nurse sows, later this distribution will be deeply analyzed.

Chart 21-Reproductive loss report by wean to first interval, services period November 16-April 17

	Wean to First Service Interval									Total	Percent
	0-3	4	5	6	7	8-14	15-21	22-28	29+		
First Services	222	1267	569	39	59	73	108	90	33	2460	
Percent Served	9.0%	51.5%	23.1%	1.6%	2.4%	3.0%	4.4%	3.7%	1.3%	100%	
Wean to First Service Interval	2.0	4.0	5.0	6.0	7.0	11.6	17.9	25.8	42.9	6.3	
Returned to Service	17	15	9	5	0	0	2	2	0	50	
as % of All Dropouts	44.7%	15.2%	27.3%	55.6%			33.3%	25.0%		24.4%	
Early Return	0	0	0	0	0	0	0	0	0	0	
Irregular Return	1	4	0	2	0	0	0	1	0	8	
Late Return	1	3	3	1	0	0	0	0	0	8	
Regular Return	15	8	6	2	0	0	2	1	0	34	
First Heat Regular Returns	53.3%	37.5%	16.7%	50.0%			50.0%			41.2%	
Repeat Rate	7.7%	1.2%	1.6%	12.8%	0.0%	0.0%	1.9%	2.2%	0.0%	2.0%	
Av.Repeat Interval	32.3	35.7	44.0	34.2			33.5	35.5		35.8	
Av.Non-Productive days	33	40	49	40			51	63		40.6	13.0%
Died	9	51	12	1	0	4	3	5	1	86	
as % of All Dropouts	23.7%	51.5%	36.4%	11.1%		100.0%	50.0%	62.5%	33.3%	42.0%	
as % of First Services	4.1%	4.0%	2.1%	2.6%		5.3%	2.8%	5.6%	3.0%	3.5%	
Av.Non-Productive days	91	94	103	122		108	122	118	129	98.5	54.3%
Culled or Sold	12	33	12	3	5	0	1	1	2	69	
as % of All Dropouts	31.6%	33.3%	36.4%	33.3%	100.0%		16.7%	12.5%	66.7%	33.7%	
as % of First Services	5.4%	2.6%	2.1%	7.7%	8.5%		0.9%	1.1%	6.1%	2.8%	
Av.Non-Productive days	64	70	77	88	96		61	49	114	73.7	32.6%
All Dropouts	38	99	33	9	5	4	6	8	3	205	
as % of First Services	17.1%	7.8%	5.8%	23.1%	8.5%	5.5%	5.6%	8.9%	9.1%	8.3%	
Av.Non-Productive days	57	78	78	65	96	108	88	96	119	76.0	100.0%
Overdue	0	0	0	0	0	0	0	0	0	0	
Av.Non-Productive days											
Farrowed	184	1168	536	30	54	69	102	82	30	2255	
Late Farrowed	0	0	0	0	0	0	0	0	0	0	
Farrowing Rate	82.9%	92.2%	94.2%	76.9%	91.5%	94.5%	94.4%	91.1%	90.9%	91.7%	
(over 125 days)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Av.Liveborn	15.3	16.3	16.5	16.6	16.5	17.1	16.1	16.6	14.8	16.3	
Av.Stillborn	1.9	1.6	1.5	1.8	1.3	1.5	1.9	1.9	2.6	1.6	

There is a 10% of sows served 0 to 3 days after weaning, and these sows have the worst performance. Thus, at farm should be checked if these sows with a very low wean to first service interval are being correctly detected as in heat and served.

Continuing with the gestation analysis, the farm has recorded the semen ID at mating, but most matings have as ID MIX or a combination of some different IDs. Thus, the number of services with a unique ID is low to have reliable results. Next, a image with some data is shown.

	SOLO Boar/Semen Batch Services continued										
	Total Services	Matings per Service	Repeat Rate	Average Sow Age (Parity)	Farrowing Rate	Conception Rate	Average Liveborn	Average Stillborn	Average Total Born	Average Weaned	Percent over 125 days
2388-2393-2394	30	1.7	3.3%	3.2	90.0%	90.0%	17.1	1.9	19.3	13.1	100.0%
2389-2398-2392	31	1.6	6.5%	4.3	90.3%	90.3%	16.8	1.4	18.9	13.4	100.0%
2389-2398-2399	49	1.8	2.0%	4.4	85.7%	85.7%	15.9	2.5	18.8	13.6	100.0%
2390-2391-2398	22	1.8	0.0%	2.7	100.0%	100.0%	16.9	1.5	19.0	15.1	100.0%
2391-2387-2386	18	1.9	11.1%	2.1	77.8%	77.8%	14.6	2.3	18.2	14.0	100.0%
2391-2395-2396	30	1.8	3.3%	2.0	76.7%	76.7%	15.0	0.8	16.0	11.6	100.0%
2392	24	1.8	0.0%	3.5	83.3%	83.3%	16.5	1.8	18.8	13.5	100.0%
2392-2393-2390	19	1.7	0.0%	3.7	73.7%	73.7%	14.1	2.9	17.3	13.6	100.0%
2392-2394-2391	22	1.5	4.5%	4.1	86.4%	86.4%	16.3	2.0	18.9	14.1	100.0%
2392-2396-2394	42	1.9	7.1%	3.9	90.5%	90.5%	16.3	1.7	18.4	13.7	100.0%
2392-2396-2395	20	1.7	0.0%	3.0	65.0%	65.0%	16.9	0.9	18.2	14.1	100.0%
2393-2388-2387	28	1.7	0.0%	3.0	85.7%	85.7%	16.0	1.3	17.8	12.9	100.0%
2393-2389-2390	21	1.7	9.5%	3.7	85.7%	85.7%	16.3	1.7	18.6	12.7	100.0%
2393-2389-2399	41	1.9	0.0%	3.1	97.6%	97.6%	14.9	1.7	17.1	14.5	100.0%
2393-2390-2395	17	1.6	5.9%	3.9	88.2%	88.2%	14.7	2.0	17.1	14.7	100.0%
2393-2395-2398	60	2.0	0.0%	4.0	95.0%	95.0%	16.2	1.4	18.3	13.8	100.0%
2394-2389-2398	20	1.8	0.0%	1.8	70.0%	70.0%	15.1	1.9	17.9	13.6	100.0%
2395	16	1.8	12.5%	1.4	87.5%	87.5%	15.9	1.7	18.2	15.0	100.0%
2395-2398-2399	64	1.9	4.7%	3.9	95.3%	95.3%	16.6	1.1	18.1	14.0	100.0%

To finish with the gestation analysis, the next chart shows performance of services by day of the week.

Chart 22-Service performance summary by day of the week, service period November 16-April 17

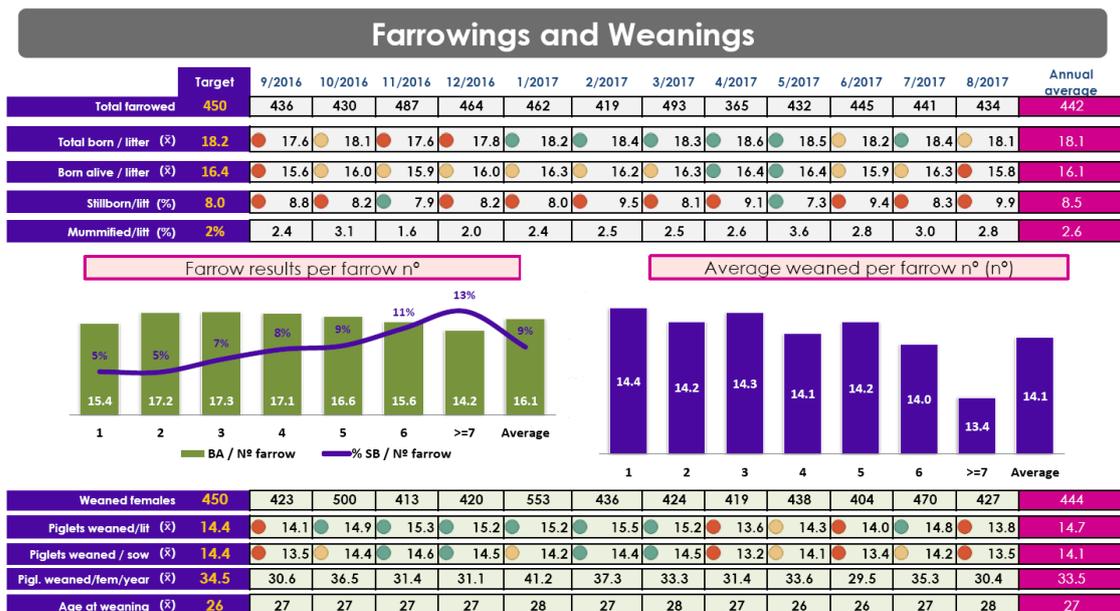
	Day of Week										
	Total Services	Matings per Service	Repeat Rate	Average Sow Age (Parity)	Farrowing Rate	Conception Rate	Average Liveborn	Average Stillborn	Average Total Born	Average Weaned	Percent over 125 days
Sunday	108	1.6	7.4%	2.8	87.0%	87.0%	16.2	1.6	18.3	13.7	100.0%
Monday	202	1.8	7.4%	2.9	82.2%	82.2%	16.2	1.7	18.3	13.4	100.0%
Tuesday	90	1.9	2.2%	2.9	92.2%	92.2%	15.5	1.9	18.0	13.5	100.0%
Wednesday	152	1.9	3.9%	2.4	88.8%	88.8%	15.5	1.6	17.6	13.4	100.0%
Thursday	179	1.8	3.4%	3.5	88.3%	88.3%	15.4	1.7	17.8	13.1	100.0%
Friday	1367	2.0	1.8%	3.9	91.8%	91.8%	16.3	1.6	18.4	13.8	100.0%
Saturday	664	1.8	2.1%	3.4	94.0%	94.0%	16.4	1.5	18.5	13.8	100.0%
Total	2762	1.9	2.7%	3.5	91.1%	91.1%	16.2	1.6	18.3	13.7	100.0%
Standard deviation		0.30		2.31			3.48	1.79	3.37	2.67	

The only appreciable difference is a farrowing rate lower of sows served on Monday: a hypothesis would be that these sows come into heat on weekend, and are detected on Monday.

To summarize, the performance in gestation continues being in general high, although it has dropped in August due to the increase of deaths at the end of gestation. In fact, the reduction of these deaths, not only although especially in summer, is one of the ways to increase efficiency and reduce NPDs. Other ways to improve are the increase of ratio Repeat regular 1st/Repeat regular 2nd, to reduce the sales of sows during their first gestation, or to check the services with wean to first service period of 0-3 days

Maternity

Chart 23.- Farrowing results by month, September 16-August 17

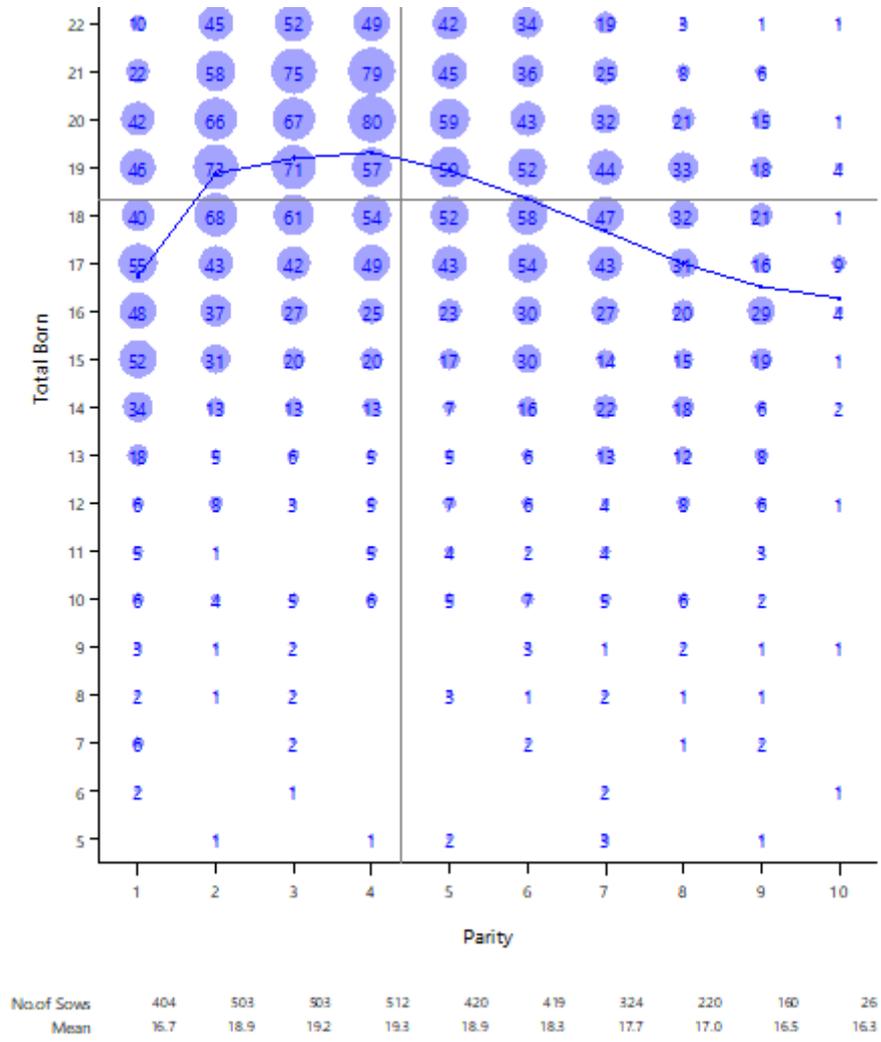


Within this period, the farm has had some variations of efficiency in maternity: in general performance (prolificacy, performance at weaning) were slightly higher during the first months

of 2017, and it has slightly decreased during the last months. As commented at the previous report, at this farm, as common in farm with hyper-prolific sows, is the important % of piglet losses in maternity: from 18.1 total born to 14.1 weaned, the farm losses 22% of piglets. Thus, the challenge of the farm is to transfer the high prolificacy as maximum possible until the weaning.

The analysis in maternity starts with prolificacy. This item is one of the strengths of the farm, with more than 18 total born, thus, is not going to be deeply analyzed, only the next shows distribution of total born by parity within 2017.

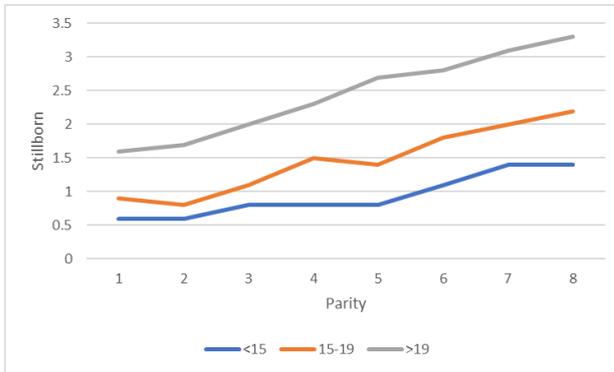
Chart 24.- Total born by parity, January-August 17 (3941 farrows, av. Parity 4.4, av. Total born 18.3)



Distribution is quite standard, increasing during the first farrows, and decreasing afterwards.

Next, results at farrow will be analyzed. The % of stillborn within the last 12 months has been 8.5%, and it's common a high % of still born at hyper-prolific sows. In fact, next a chart already exposed at the previous report, but very interesting, that related prolificacy with stillborn, is shown.

Chart 25-Stillborn by parity and total born, 2016



	Nº farrows	Av. Age	Av. Stillborn
<15	762	4	0.9
15-19	2813	3.9	1.4
>19	1933	3.9	2.3

The prolificacy has a clear influence on stillborn: hyper-prolific sows have more than double stillborn than hypo-prolific. Thus, part of the genetic improvement obtained at prolificacy is lost at the farrow.

In the other side, *a low % of sows continue being responsible of a high % of stillborn*:

Chart 26-Number of farrows by number of stillborn, January-August 2017

0	972
1	908
2	581
3	305
4	112
5	63
6	29
7	14
8	9
9	1
10	4
11	1
14	1
15	1
16	1
Total	3002

Same than similar chart at the previous report:

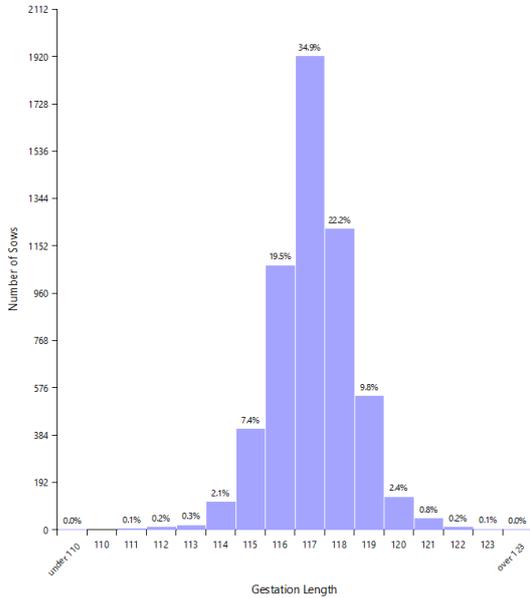
- Only 32% of farrows had no stillborn, it's a low percentage.
- The group marked in orange represents only 18% of total farrows, but 51% of total stillborn: as in most farms.

Resume and recommendation about farrowing is the same than at the previous report, the way to reduce stillborn is maximizing the farrow attention, focusing attention in sows with higher risk of stillborn: old sows, hyper-prolific sows, sows with historic of stillborn, and acting as soon as possible in the case of problems, to reduce the % of sows with a high number of stillborn.

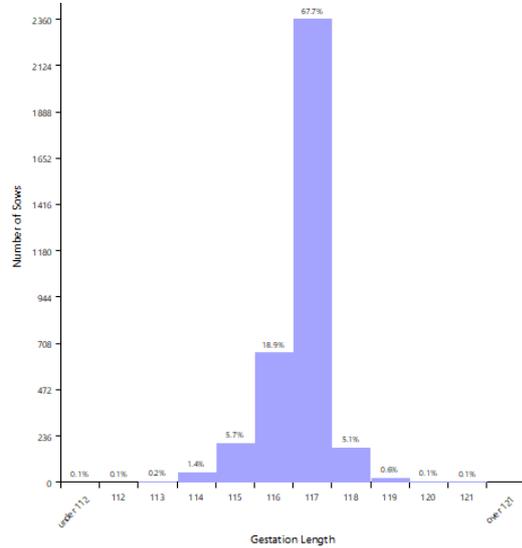
The next chart compares the distribution of gestation length in the last two years.

Chart 27-Gestation length histogram

2016, av 117.1 days



JanuaryAugust 2017, av. 116.7 days



The average has slightly decreased, but the distribution has clearly changed, and *distribution during 2017 would point to some kind of farrow scheduling. If the farm is really scheduling farrows, it is not having effect on reduction of losses during the farrow.*

The next item analyzed is pre-weaning mortality, one of the items with room for improvement of the farm. Unfortunately, this item hasn't been imported, hence will be indirectly analyzed, through the analysis of calculated pre-weaning mortality, which is the difference between born alive and weaned for a sow or group of sows.

The next chart shows that PWM by months within the last 12 months.

Chart 28.- Weaning results by month, September 16-August 17

Weaning Information														Total	Average
	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	Jun 17	Jul 17	Aug 17			
Sows Complete Weaned	423	500	413	420	553	436	424	419	438	404	470	427	5327	444	
(as % of overall)	7.9%	9.4%	7.8%	7.9%	10.4%	8.2%	8.0%	7.9%	8.2%	7.6%	8.8%	8.0%	223	19	
Sows Weaned with no Litter	17	18	17	19	36	30	21	11	7	18	18	11	223	19	
Litters Weaned	406	482	396	401	517	406	403	408	431	386	452	416	5104	425	
Piglets Weaned	5728	7202	6047	6082	7865	6287	6141	5534	6170	5420	6694	5750	74920	6243	
Pre-Weaning Mortality	14.8%	8.8%	7.3%	9.9%	12.0%	11.4%	10.3%	19.0%	14.3%	17.8%	11.3%	15.8%		12.7%	
Av.Piglets Weaned/Litter	14.1	14.9	15.3	15.2	15.2	15.5	15.2	13.6	14.3	14.0	14.8	13.8		14.7	
Av.Piglets Weaned/Sow	13.5	14.4	14.6	14.5	14.2	14.4	14.5	13.2	14.1	13.4	14.2	13.5		14.1	
Lactation Length	26.0	26.6	26.4	26.8	26.8	26.1	27.1	26.6	25.5	24.9	26.2	27.2		26.4	
Av.Age at Weaning (Parity)	3.9	3.8	4.4	4.4	4.0	4.1	3.9	4.5	4.7	4.8	4.4	4.3		4.3	

The months marked in orange have the highest pre-weaning mortality, and the lowest average of piglets weaned per sow. Thus, obviously, there is a direct effect of PWM at performance at weaning, and point to this item as the critical point of the department. Being the distribution of these months irregular, **the last months the farms shows an increase of pre-weaning mortality.**

Next, pre-weaning mortality by parity is analyzed.

Chart 29-Weaning results by parity, September 16-August 17

	Weaning Information								Overall	Average
	Parity 0	Parity 1	Parity 2	Parity 3	Parity 4	Parity 5	Parity 6	Over Parity 6		
Sows Complete Weaned <i>(as % of overall)</i>	0	671	824	783	737	680	605	1027	5327	666
Sows Weaned with no Litter	0	16	20	26	27	21	30	83	223	28
Litters Weaned	0	655	804	757	710	659	575	944	5104	638
Piglets Weaned	0	9653	11734	11211	10398	9682	8467	13775	74920	9365
Pre-Weaning Mortality		6.3%	16.6%	16.7%	17.1%	13.8%	11.0%	5.9%		12.7%
Av.Piglets Weaned/Litter		14.7	14.6	14.8	14.6	14.7	14.7	14.6		14.7
Av.Piglets Weaned/Sow		14.4	14.2	14.3	14.1	14.2	14.0	13.4		14.1
Av.Piglets Age		33.6	26.8	26.0	25.9	25.7	25.8	25.6		27.0
Lactation Length		33.0	26.4	25.5	25.4	25.3	25.2	24.7		26.4

PWM is lower at parity 0 and at old sows, but this information is not fully reliable, since the movements of piglets among lactating sows haven't been recorded.

Obviously, a deep analysis of pre-weaning mortality, including analysis by reason and age, would be very useful, Unfortunately, due to the lack of data, hasn't been carried out.

The consequence of all the previous is the performance at weaning. The next chart shows performance at weaning by month during the last 12 months, same chart than 28, although focused on weaning.

Chart 30-Weaning results by month, September 16-August 17

	Weaning Information												Total	Average
	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	Jun 17	Jul 17	Aug 17		
Sows Complete Weaned <i>(as % of overall)</i>	423	500	413	420	553	436	424	419	438	404	470	427	5327	444
Sows Weaned with no Litter	17	18	17	19	36	30	21	11	7	18	18	11	223	19
Litters Weaned	406	482	396	401	517	406	403	408	431	386	452	416	5104	425
Piglets Weaned	5728	7202	6047	6082	7865	6287	6141	5534	6170	5420	6694	5750	74920	6243
Pre-Weaning Mortality	14.8%	8.8%	7.3%	9.9%	12.0%	11.4%	10.3%	19.0%	14.3%	17.8%	11.3%	15.8%		12.7%
Av.Piglets Weaned/Litter	14.1	14.9	15.3	15.2	15.2	15.5	15.2	13.6	14.3	14.0	14.8	13.8		14.7
Av.Piglets Weaned/Sow	13.5	14.4	14.6	14.5	14.2	14.4	14.5	13.2	14.1	13.4	14.2	13.5		14.1
Lactation Length	26.0	26.6	26.4	26.8	26.8	26.1	27.1	26.6	25.5	24.9	26.2	27.2		26.4
Av.Age at Weaning (Parity)	3.9	3.8	4.4	4.4	4.0	4.1	3.9	4.5	4.7	4.8	4.4	4.3		4.3

These last months, as commented, performance at weaning has slightly decreased, due mainly to the increase of PWM. There is a difference of 0.6 piglets between piglets weaned/litter and piglets weaned/sow. This difference is due to the sows weaned with no litter, a total of 223 within period, which supposes a 4.2% of total sows weaned. At the previous report, this % was 3.5%, so it has increased. The main reason is *the increase of sows weaned with no litter in the first months of 2017*. Whatever the reason for this increase, didn't affect other aspects of the department. Analyzing this period, we see that these weanings took spread over time, as the next chart shows.

Chart 31-Weaning information by week, 26 December 16-26 February 17

Weaning Information											
	26-Dec-16 to 01-Jan-17	02-Jan-17 to 08-Jan-17	09-Jan-17 to 15-Jan-17	16-Jan-17 to 22-Jan-17	23-Jan-17 to 29-Jan-17	30-Jan-17 to 06-Feb-17	06-Feb-17 to 12-Feb-17	13-Feb-17 to 19-Feb-17	20-Feb-17 to 26-Feb-17	Total	Average
Sows Complete Weaned <i>(as % of overall)</i>	105 10.6%	114 11.6%	108 10.9%	104 10.5%	111 11.2%	116 11.8%	100 10.1%	111 11.2%	118 12.0%	987	110
Sows Weaned with no Litter	7	7	12	5	2	10	4	0	13	60	7
Litters Weaned	98	107	96	99	109	106	96	111	105	927	103

If we analyze weanings of this period by parity, we find the next.

Chart 32-Weaning information by parity, January-February 17

weaning information											
	Parity 0	Parity 1	Parity 2	Parity 3	Parity 4	Parity 5	Parity 6	Over Parity 6	Overall	Average	
Sows Complete Weaned <i>(as % of overall)</i>	0 0.0%	177 17.9%	128 12.9%	152 15.4%	108 10.9%	136 13.8%	121 12.2%	167 16.9%	989	124	
Sows Weaned with no Litter	0	7	6	4	8	7	6	28	66	8	
Litters Weaned	0	170	122	148	100	129	115	139	923	115	

Almost half sows weaned with no litter were old sows, in fact 17% of sows with parity over 6 weaned with no litter at that period. Thus, *is not clear the reason of the increase of sows weaned with no litter the first two months of 2017, although it affected mainly to old sows.*

Next, performance within the last 12 months at weaning by parity is analyzed.

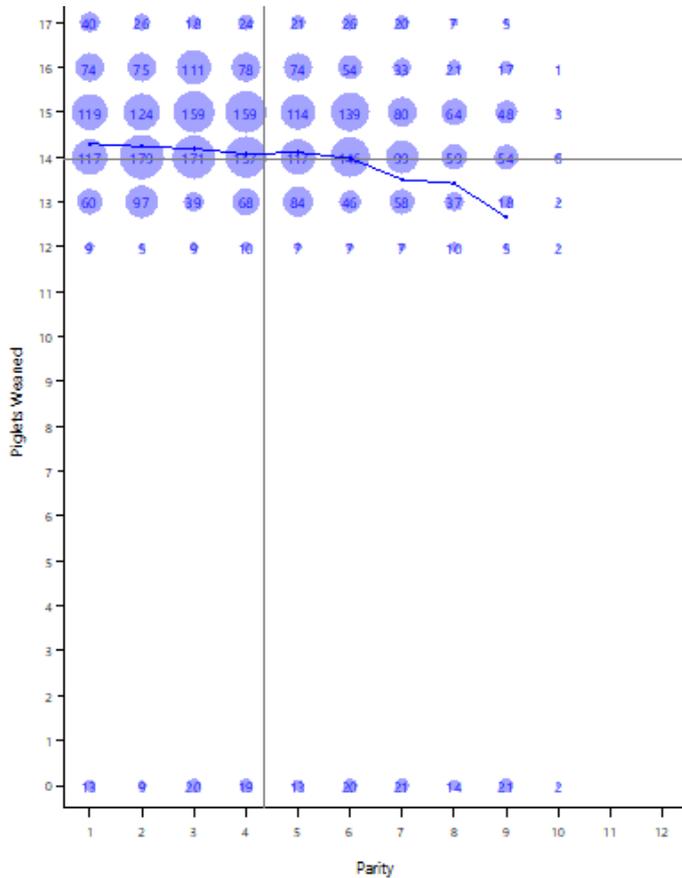
Chart 33-Weaning results by parity, September 16-August 17

Weaning Information											
	Parity 0	Parity 1	Parity 2	Parity 3	Parity 4	Parity 5	Parity 6	Over Parity 6	Overall	Average	
Sows Complete Weaned <i>(as % of overall)</i>	0 0.0%	671 12.6%	824 15.5%	783 14.7%	737 13.8%	680 12.8%	605 11.4%	1027 19.3%	5327	666	
Sows Weaned with no Litter	0	16	20	26	27	21	30	83	223	28	
Litters Weaned	0	655	804	757	710	659	575	944	5104	638	
Piglets Weaned	0	9653	11734	11211	10398	9682	8467	13775	74920	9365	
Pre-Weaning Mortality		6.3%	16.6%	16.7%	17.1%	13.8%	11.0%	5.9%		12.7%	
Av.Piglets Weaned/Litter		14.7	14.6	14.8	14.6	14.7	14.7	14.6		14.7	
Av.Piglets Weaned/Sow		14.4	14.2	14.3	14.1	14.2	14.0	13.4		14.1	
Av.Piglets Age		33.6	26.8	26.0	25.9	25.7	25.8	25.6		27.0	
Lactation Length		33.0	26.4	25.5	25.4	25.3	25.2	24.7		26.4	

The distribution is quite similar to that of the previous report:

- Performance at weaning it's quite similar at all the parities, moves from 13.4 to 14.4 piglets weaned per sow.
- The % of sows weaned with no litter is double at old sows. The general % is lower than that of the two first months of 2017, although is still high, 8.1%.
- As previously commented, *average lactation length is much higher at parity 0 than at the rest.* But, same than at the previous report, the distribution of weanings by number of piglets weaned doesn't confirm this hypothesis.

Chart 34-Piglets weaned per sow by parity, September 16-August 17



It continues having only sows with 0 piglets weaned, and sows with 12 to 17 piglets weaned, no sows with less than 12 or more than 17 piglets weaned. The conclusion is the same than at the previous report: it seems that, at the recording of the weanings, the farmer is “sharing” the total number of piglets weaned amongst the total number of sows weaned. Maybe the farm is really sharing lactations, removing the divisions between pens, but, if possible, *it would be strongly recommended to record the real number of piglets weaned per each individual sow*, that information would be very useful (detection of sows with low performance at weaning, real average performance at weaning by parity...).

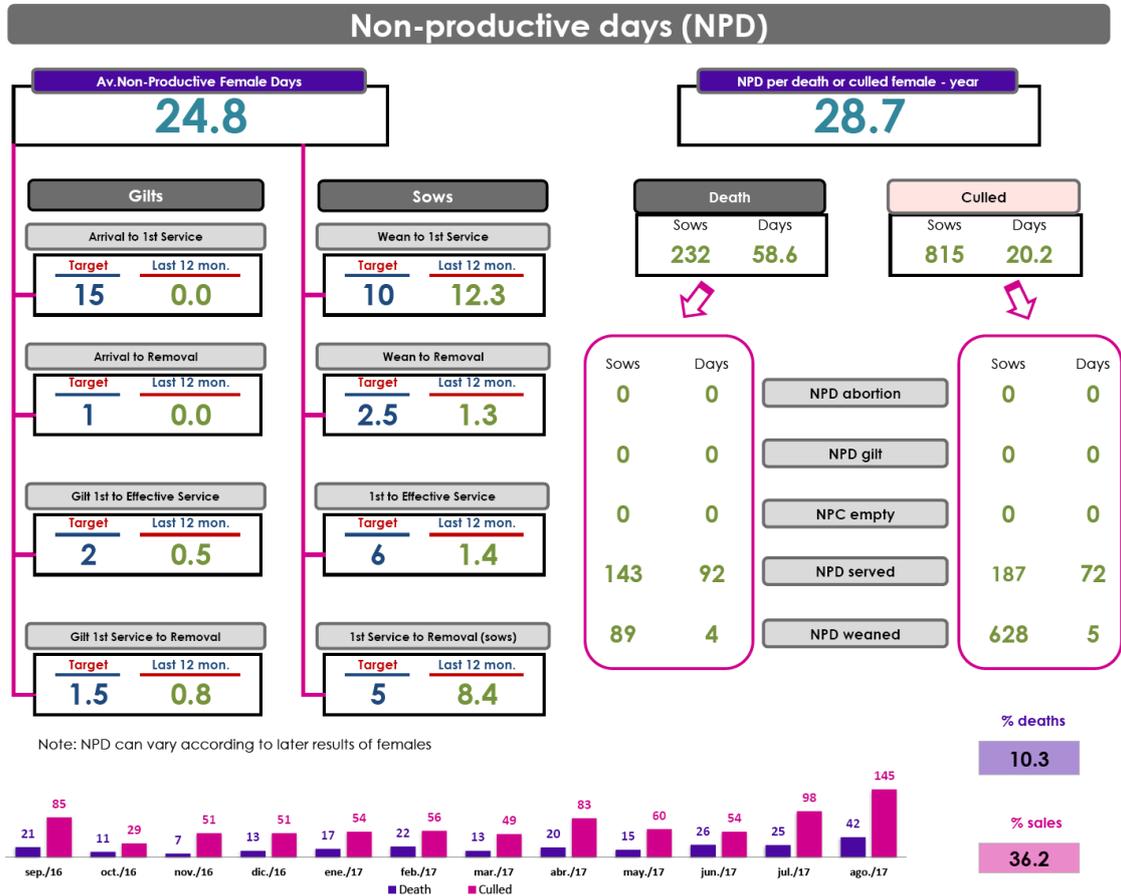
To summarize the analysis of maternity, *these last months the farm has reduced its performance at weaning, due to an increase of pre-weaning mortality, the critical point of the department. At farrow, it seems that the farm is carrying out any kind of farrow scheduling, although with no positive effects on stillborn. And it seems that the farm continues using sows during their first lactation as nurse sows to increase the number of productive tits. Maybe the farm can raise the option of increase the use of nurse sows to other parities, for example, old sows to get the maximum from them before removing them.*

Finally, there are some general and temporal problems with old sows weaned with no litter.

• **Non-Productive Days**

The next chart shows the distribution of Non-Productive Days (NPD) within the last 12 months.

Chart 35- Distribution of NPD, September 16-August 17



There are only two items with an average of NPDs over the target:

- Wean to first service interval, in this case slightly higher.
- 1st service to removal of multiparous. As previously detected, there is an important % of deaths (as the chart shows, an average of 10.3% within the period), especially in August, and especially in gestating sows at the end of their gestation, which involves a high number of NPDs per death. If the farm reaches a reduction of these deaths, the saving of NPDs would be important.

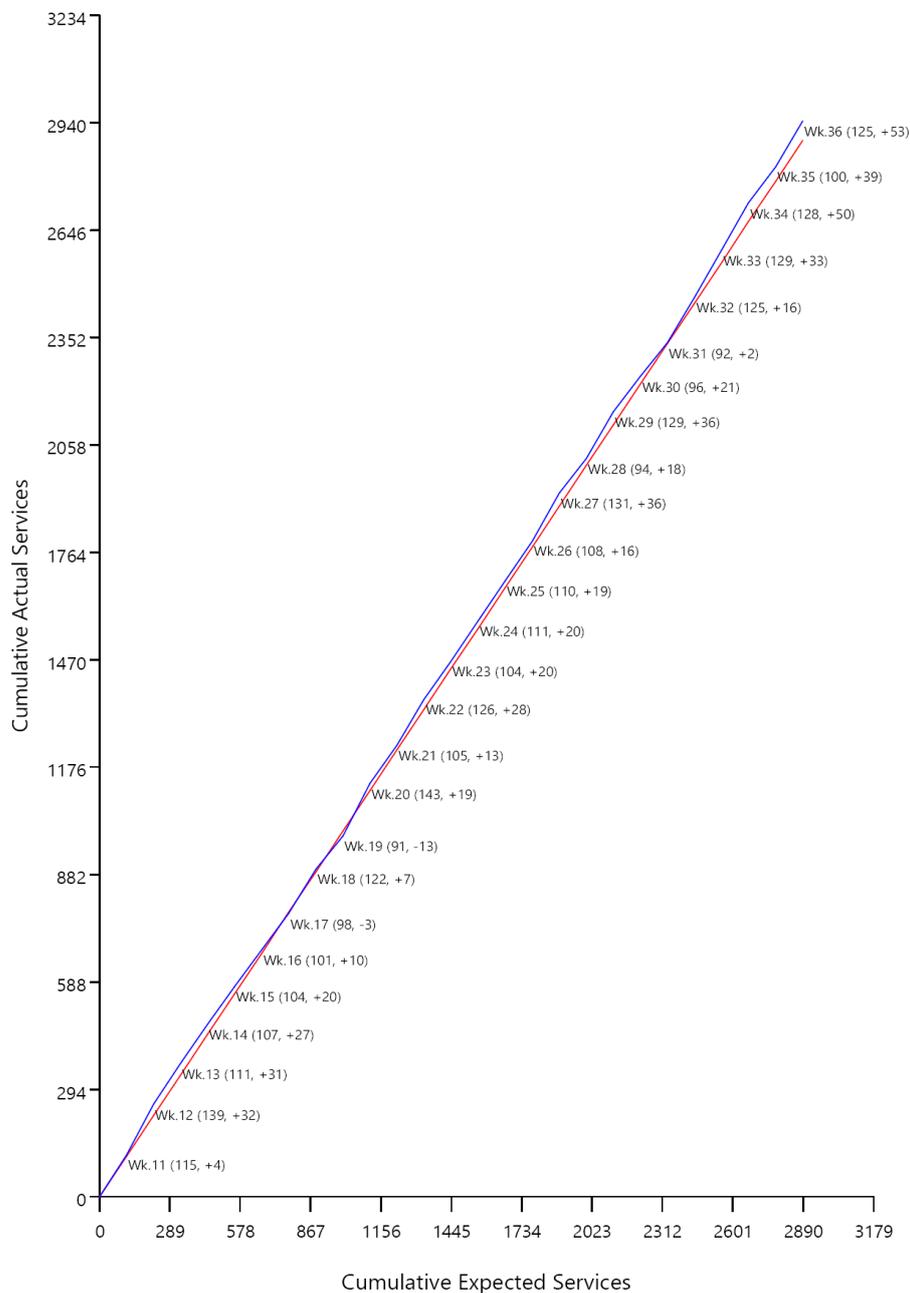
If we sum the total NPDs, excluding those of gilts still not served (the farm records the arrival the same day than the first service), the farm has had an average of total 24.7 NPDs per sow and year, while the target is 27 NPDs. Thus, although with some aspects to improve, the high performance in gestation involves a low number of NPDs.

Other analysis

The next chart shows that, although the farm has some variations at the number of services by week, in general maintains a line close to the target. Thus, *the farm is able to maintain a productive rhythm quite constant although the variations in the number of gilts first served.*

Chart 36-Service cusum, 11th March-8th September 17

2944 services between 11-Mar-17 and 08-Sep-17 (Target Services per week 111)
Assuming a 2200 Sow herd size, 2.40 Farrowing index and 91.0% Farrowing Rate



➤ Summary and conclusions

The farm continues having a very high performance, with more than 22 piglets weaned per sow and year within the last 12 months. But during the last months, this performance has slightly decreased, due to:

- In one side, to the increase of deaths of sows, especially at the end of their gestation, with probable reason high temperature. This has decreased farrowing rate, and increase NPDs and the need of new sows to replace these animals.
- In the other side, to a reduction in the performance at weaning, consequence of an increase of pre-weaning mortality, without a clear reason detected with data (no piglet losses information), that should be checked at farm.

Apart of these temporal changes, other aspects detected at this analysis, some of them coincides with conclusions of the previous report, with data until the end of 2016, are:

- Replacement has not been constant, with important temporal variations. This has produced a current sow herd structure destabilized at the two first cycles and, lesser extent, variations in the productive rhythm (number of services per period). The logical recommendation is to try a replacement as constant as possible. Regarding performance of gilts, is being correct.
- In gestation, the main problem, especially in August but not only in this month, is the death of sows at the end of gestation. The checking and change of possible not correct handhelds during this period (temperature, movements, others) would be a way to reduce this problem. Apart of this issue, other ways to increase efficiency are:
 - To increase the ratio CR1/CR2, now some sows are being detected not at their first repeat but at their second.
 - To check heat detection and mating pattern from 0 to 3 days after weaning, since these sows are having worse performance than the rest.
 - To reduce the number of sows sold at their first gestation. Although its number is not high, each removal during the first gestation supposes an important overrun for the farm. Thus, the checking of reasons of these removals, even posing the option of “giving other opportunity” to these sows before removing them, would be a way to reduction.
- In maternity, the challenge is to reduce the difference total born-weaned. Since a deep analysis has not been possible, general recommendations are:
 - Maximizing farrow attention, focusing it in old sows, hyper-prolific sows and sows with a history of stillborn. The data point to some kind of farrow scheduling, but with no positive effects on the reduction of losses at farrow.
 - Regarding pre-weaning mortality, it seems that the farm uses the sows during their first lactation as nurse sows. If this is the case, a way to “create” new productive tits would be by increasing the use of nurse sows. An option could be to use as nurse sows old sows before remove them.

X

Miguel Angel de Andrés
Data Management Dpt.

X

María Aparicio
Head of Data Management Dpt.

X

Carlos Piñeiro
Director