

# PORCINE RESEARCH

International Journal of the Bioflux Society  
Research article

## Observations on uterine infection frequency, during the puerperium period, in sows

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**Abstract.** The aim of our research was to assess the evolution of the puerperium period in 2594 sows. From our data it can be noticed that 43.45% of the sows had pathological genital discharges in the puerperal period. A greater frequency of the puerperal affections has been found during the summer-autumn period (44.68 – 45.53%) and a lower frequency during winter and spring (38.88 – 38.32%). Depending on the age of the sows, after the first farrowing, a lower frequency of uterine infections (37.54%) was noticed. After the second and following farrowings this frequency increases (46.85%). Most of the puerperal infections started at 48 hours after parturition (24.17%).

**Key Words:** sows, uterine infections, puerperium period.

**Introduction.** Puerperium period is the most critical stage of the reproductive life of females, regardless of species and therefore special attention must be given to uterine diseases prevention. The female organism resistance is minimal in this period and the microbial flora which reaches in the uterus, during prolonged expulsion of fetuses, will constitute the major causes of uterine infection.

According to Boitor (1983) and Berner (1984), the main bacteria isolated from pathological uterine discharges in sows are: *Escherichia coli*, *Staphylococcus aureus* and *Streptococcus spp.*

**Materials and Methods.** The research was conducted on a population of 2594 primiparous and multiparous sows, out of which 487 Large White, 1742 crossbreed Landrace x Large White, 209 Duroc and 156 Hampshire. All sows have received similar housing and feeding conditions. To determine the frequency of puerperal diseases we monitored how puerperium period evolved in each sow. The sows that had pathological discharges, received 3-4 doses of Nitrofurantoin (introduced into the uterus), per day, per animal, until the complete disappearance of the pathological discharge.

**Results and Discussions.** The observations concerning the evolution of the puerperal period, in the investigated nucleus, are presented in Tables 1, 2, 3 and 4. By analyzing the data presented in Table 1, it can be noticed that from the total of 2594 sows observed during the puerperium period, 1127 had pathological uterine discharges, representing 43.45%.

Analyzing the frequency of pathological uterine discharges, it can be noticed that there are consistent differences between breeds. Thus, the lowest frequency of pathological discharges was recorded (39.42%) in Large White sows, followed by crossbreed Landrace x Large White (43.28%) and the Hampshire breed (48.71%). The highest frequency of pathological discharges was recorded in Duroc sows (50.23%).

Table 1

## Incidence of uterine pathological discharges in sows, during the puerperium period

Breed	N	Sows with pathological uterine discharges		Sows without pathological uterine discharges	
		n	%	n	%
Large White	487	192	39.42	295	60.58
Landrace x Large White	1742	754	43.28	988	56.72
Duroc	209	105	50.23	104	49.77
Hampshire	156	76	48.71	80	51.29
TOTAL	2594	1127	43.45	1467	56.55

The observations regarding the frequency of puerperal diseases, according to the parturition season are presented in Table 2. It can be observed that there are consistent differences from one season to another. Thus, in Large White sows, the lowest frequency was observed in sows that farrowed during winter (33.33%), reaching the maximum frequency during summer and autumn (42.71%).

Table 2

## Appearance and frequencies of puerperal diseases, according to farrowing season

Season	Large White		Landrace x Large White		Duroc and Hampshire		Total farrowing sows	Total sows with diseases	
	Farrowing sows	Sows with diseases	Farrowing sows	Sows with diseases	Farrowing sows	Sows with diseases		n	%
		n		%		n			
Spring	96	33 34.37	238	91 38.23	60	27 45.00	394	151	38.32
Summer	199	85 42.71	636	283 44.49	87	44 50.57	922	412	44.68
Autumn	144	58 40.27	724	327 45.16	140	74 52.85	1008	459	45.53
Winter	48	16 33.33	144	53 36.80	78	36 46.15	270	105	38.88

A similar situation is present in the crossbreed sows, in which the lowest frequency was observed in the winter months (36.80%), growing during the summer months (44.49%) and reaching the maximum frequency in autumn (45.16%).

In Duroc and Hampshire sows, the lowest frequency of uterine diseases was recorded in the spring (45.0%), growing during the summer (50.57%) and reaching the maximum (52.85%) in winter.

Analyzing the frequency of puerperal diseases according to the age of the sows (number of farrowings - parity), the variability between the breeds and within the breeds can be observed (Tab 3). Thus, the Large White sows at first farrowing had uterine diseases up to 33.33%; the value increases for crossbred Landrace x Large White (37.43%). Duroc and Hampshire breeds had the highest percentage (41.74%). The average number of sows showing pathological discharge after the first parturition, was 37.54%.

Table 3

Frequency of puerperal diseases, according to the age of the sows (parity)

Breed	Parity								
	I		II-IV				Over V		
	Farrowing sows	Sows with diseases		Farrowing sows	Sows with diseases		Farrowing sows	Sows with diseases	
	n	%	n	%	n	%	n	%	
Large White	93	31	33.33	285	127	44.56	109	34	31.92
Landrace x Large White	398	149	37.43	999	456	45.94	345	145	42.03
Duroc and Hampshire	103	43	41.74	225	121	53.77	37	17	45.94
TOTAL	594	223	37.54	1509	707	46.85	491	106	39.91

Among the sows that were at the II-IV farrowing, an increase to 44.56% was observed for the Large White breed. In the crossbreed Landrace x Large White sows a similar increase was also noticed, reaching 45.94%, while the Duroc and Hampshire breeds reached 53.77%. On average, for the entire batch of sows having between II and IV farrowings, the frequency of pathological discharges was 46.85%.

In sows in the V<sup>th</sup> farrowing and over, the lowest rate was recorded for the Large White, reaching 31.92%.

In crossbreed sows (Landrace x Large White) the frequency of puerperal diseases was 42.03%, and for the Duroc and Hampshire breeds, 45.94%. In average there is a frequency of 39.91%. Our results confirm the results obtained by Glock and Bilkei (2005), which obtained an increase of the uterine postpartum infections frequency starting with the second farrowing.

Data in Table 4 shows the emergence of pathological uterine discharge after parturition. Thus, in the first day, a rate of 11.29% was recorded for the Large White, 14.00% for the crossbreed Landrace x Large White and 16.98% for Duroc and Hampshire breeds. It should be noted that from the total of 2594 sows which we observed during the puerperal period, 361 (13.91%) showed pathological discharge at 10-12 hours after parturition.

In the second day from parturition 24.22% of the Large White sows recorded uterine pathological leakage, 23.65% of the crossbred Landrace x Large White and 26.57% of the Duroc and Hampshire breeds. The data reveal a doubling of the percentage recorded on the first day, all breeds reaching an average frequency of 24.17%.

Table 4

The moment of occurrence of genital pathological discharge after parturition

Breed	Farrowing sows	The moment of occurrence of genital pathological discharge					
		24 hours		48 hours		72 hours	
		n	%	n	%	n	%
Large White	487	55	11.29	118	24.22	19	3.90
Landrace x Large White	1742	244	14.00	412	23.65	98	5.62
Duroc and Hampshire	365	62	16.98	97	26.57	22	6.02
TOTAL	2594	361	13.91	627	24.17	139	5.35

In the third day following parturition, although treatments were performed on sows, both during the first and second day, the presence of puerperal affections was noticed in 139 sows, which represents 5.35% from the total number analyzed.

The data indicates that during the second day after parturition the highest percentage of pathological discharges was recorded, indicating that the morbid condition is a subclinical form from on day one. We believe that this delay of uterine discharge, the leaks occurring in greater quantity, dirty white color and smelly, was due to hypotonia, or even uterine atony. This statement is based on the fact that often it was found that the discharges were eliminated passively.

**Conclusions.** As much as 43.45% of farrowing sows presented leaking genital pathology. The highest frequency of uterine pathological leakage is recorded during summer and autumn (44.68 to 45.53%) and the lowest in winter (38%).

The most common puerperal diseases in sows that are recorded at farrowing II, III and IV (46.85%); primiparous sows recorded the lowest percentage of puerperal disorders (37.54%).

At 48 hours after farrowing the uterine pathological discharge rate had doubled (24.17%) up against the frequency recorded at 24 hours (13.91%).

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Received: 20 June 2012. Accepted: 28 June 2012. Published online: 30 June 2012.

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How to cite this article:

Păcală N., Petroman I., Petroman C., Bencsik I., Dronca D., Nistor E., Cean A., Marin D., Pandur I., 2012 Observations on uterine infection frequency, during the puerperium period, in sows. *Porc Res* 2(1):19-22.