

## **THE BEHAVIOURAL OBSERVATIONS OF DIFFERENT BREEDS OF LAMBS IN POST-NATAL PERIOD**

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### **Introduction**

The activity of newborns in the first hours of their life could indicate neonatal protection's direction in period of adaptation as well as prognosticate the success in raising (Levy et al.1995). It depends on individual genetically determined behavioural features of every lamb as well as correct maternal behaviour (Porter et al. 1994). The lamb's behaviour consists of following elements: behaviour causing protection, demanding the protection, alimentary behaviour and behaviour signaling every discomfort and threats.

The aim of investigations was to observe lambs' of different races postnatal behaviour and to define the connection between different behavioural features.

### **Material and methods**

The behavioural observations of lambs of wrzosowka, polish mountain sheep, zelaznenska, corridale and crossbreds polish mountain sheep with friesland sheep were conducted in RZD Zelazna, RZD Puczniw and the Experimental Station in Bielanka. The investigations were done during 2 first hours after delivery. 135 lambs were studied. First stages of behavioural ontogenesis – time and method of standing up, motorial activity, time and number of attempts to find teats, time of starting of effective suckling, total time of suckling, newborn's position in relation to its mother during the suckling and vocalization – were observed.

The results were statistically analyzed based on one factor variance analysis. The correlation between all elements of behaviour was also estimated.

### **Results and discussion**

Newborn lambs are fully developed both physically and behaviorally. When they are active in the repose they try to stand up. They do it both from back (82,1%) and all body (17,9%). Before they keep the balance they will undertake from 3,31 o 6,46 attempts to stand up. The number of this attempts as well as time after which newborn stand surely depended on breed (tab.1). The lambs belonging to ennoblement breeds are reacting slower and they have some

problems with standing. As a result of more unsuccessful attempts to stand up was tiredness manifesting as declining of activity – newborn stood shorter in the first hour of life (they laid longer) and they found the teat later (tab.2). Cloete (1993) maintained that lambs which stood up later and start suckling later have less chances to survive.

Newborn of ennoblement breeds as well as polish mountain sheep rested after parturition from 9,41 to 15,69 minutes (tab.1). Young wrzosowka were getting active the fastest. The strongest lambs lost less energy on trying to stand up and they initiated the suckling later, they do it in the first hour of life for longer and more often. In the second hour of life they had appeased their hunger so they could lay and rest (tab.2).

The lambs begun suckling after 4-6 attempts. They usually stand in position helping mother in licking and remembering the odor of their lambs (93,4%). The most important in neonatal period activity – feeding – lambs of ennoblement breeds begun after 57-59,45 minutes. On the other hand impulse of looking for teat in lambs of primitive breeds is occurring earlier (tab.1). It proves that the breed has the influence on this feature. The breed is also influencing the length and frequency of suckling. (tab. 1) At the beginning lambs are suckling for keeping alive. Later using their experience they are suckling because they want to eat their fills (stronger lambs) or appeases their hunger (weaker lambs) (Nowak 1991).

## Conclusion

Obtained results show that in neonatal behaviour of lambs there are some differences connected with breed. The most vivacious and the most independent were lambs of primitive breed-wrzosowka. The newborn of ennoblement breeds such as zelaznenskie and corriedale became active slower. It was proved that the quick undertaking of the motorial lamb's activity, its vigor and energy are the condition giving the newborn of all breeds the bestings. Any abnormalities in neonatal behaviour in examined lambs were recorded.

## References

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Tab. 1 The observed lambs' behaviour

Name of trait	BREED									
	wrzosowka n=35 LSM Se		polish mountain n=11 LSM Se		polish x friesland mountain n=27 LSM Se		zelaznienska n=37 LSM Se		corridale n=25 LSM Se	
number of attempts to stand up	dE	0,23	de	0,72	DE	0,19	abC	0,36	AbC	0,84
4,01		4,64		3,31		5,62		6,46		
time from birth to the 1st attempt to stand up	DE	0,86		1,11		9,41	0,91	A	A	1,87
7,23		11,36		9,41		15,69		1,45		13,71
time from the 1st attempt to the effective standing		1,13		2,23		5,65	0,86	10,53	1,26	11,91
8,05		15,82		5,65		10,53		1,26		11,91
total time of standing during the 1st hour of life		1,51		2,87		39,65	2,25	33,08	2,43	31,77
38,64		20,68		39,65		2,25		33,08		2,43
total time of standing during the 2nd hour of life	de	3,02		2,87		40,9	2,39	a	a	3,98
36,73		41,09		40,9		2,39		49,54		51,11
frequency of standing in the 1st hour of life		0,18		0,85		2,52	0,36	2,59	0,61	1,98
1,87		2,27		2,52		0,36		2,59		0,61
frequency of standing in the 2nd hour of life		0,22		0,35		2,15	0,24	2,14	0,27	1,91
1,97		2,45		2,15		0,24		2,14		0,27
total time of laying in the 1st hour of life		1,59		2,37		20,35	2,73	25,71	2,57	28,23
19,31		29,31		20,35		2,73		25,71		2,57
total time of laying in the 2nd hour of life	CDE	1,31	E	2,79	A	10,7	1,36	A	1,29	AB
21,21		18,91		10,7		1,36		10,11		8,88
frequency of laying in the 1st hour of life		0,4		1,31		1,59	0,21	1,82	0,31	2,11
2,52		1,73		1,59		0,21		1,82		0,31
frequency of laying in the 2nd hour of life		0,29		0,4		1,37	1,16	1,65	0,24	1,43
3,13		2		1,37		1,16		1,65		0,24
number of suckling Attempts		0,46		0,82		5,41	0,48	4,56	0,22	6,43
4,27		4,64		5,41		0,48		4,56		0,22
time from birth to the 1st attempt of suckling	bDE	2,12	a	2,61		16,19	1,69	A	A	2,16
16		30,45		16,19		1,69		41,43		2,39
time from the 1st attempt to the 1 <sup>st</sup> effective suckling	BCDE	1,31	a	2,27	a	15,05	2,32	A	A	2,37
9,75		14,94		15,05		2,32		15,61		1,75
total time of suckling at the 1 <sup>st</sup> hour of life	cDE	1,91		0,53	a	4,36	0,48	A		A
7,01		6,32		4,36		0,48		3,89		0,92
total time of suckling at the 2 <sup>nd</sup> hour of life		0,72		0,38		4,28	0,73	5,01	0,78	6,97
6,55		4,78		4,28		0,73		5,01		0,78
frequency of suckling in the 1st hour of life	BCdE	0,39	aE	0,38	A	2,32	0,41	AE		ABD
7,28		3,91		2,32		0,41		4,76		0,89
frequency of suckling in the 2nd hour of life		0,42		0,86		4,74	0,93	3,57	0,69	4,2
5,68		6,06		4,74		0,93		3,57		0,69
number of sounds uttered by lamb		5,11		9,81		39,56	8,17	44,93	7,49	62,34
56,75		48,73		39,56		8,17		44,93		7,49

ABCD differences significant at P≤0,01

abcd differences significant at P≤0,05

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Tab.2 The correlation between observed behavioural features

Name of trait	BREED									
	wrzosowka		polish mountain		polish x friesland mountain		zelaznienska		corridale	
	P	S	P	S	P	S	P	S	P	S
number of attempts to stand up	NS	0,49**	NS	0,48*	NS	0,53**	NS	0,64**	NS	0,59**
total time of standing during the 1st hour of life	-0,62**	-0,70**	NS	NS	NS	NS	-0,56**	NS	-0,71**	NS
total time of laying in the 1st hour of life	NS	0,69**	NS	NS	NS	NS	NS	NS	-0,53**	NS
total time of laying in the 2 <sup>nd</sup> hour of life	NS	-0,44*	NS	NS	NS	NS	NS	NS	NS	NS
number of suckling Attempts	NS	0,60**	NS	NS	NS	NS	NS	NS	NS	NS
time from birth to the 1st attempt of suckling	NS	0,83**	NS	0,54**	NS	NS	0,72**	NS	NS	NS
time from the 1st attempt to the 1st effective suckling	NS	NS	NS	NS	NS	NS	0,57**	NS	0,58**	NS
total time of suckling at the 1st hour of life	NS	0,68**	NS	NS	NS	NS	NS	NS	NS	NS
frequency of suckling in the 1st hour of life	NS	-0,55**	NS	NS	NS	NS	NS	NS	NS	NS

NS – correlation non significant  
\*\* differences significant at  $P \leq 0,01$   
\* differences significant at  $P \geq 0,05$

P- time from birth to the 1st attempt to stand up (min.)  
S - time from the 1st attempt to the effective standing