Researches Regarding the Influence of Season on the Raw and Processed Semen Production

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Abstract

The objective of this study was to present productivity performances regarding semen production of eight Fleckvieh bulls maintained in S.C. Semtest Targu-Mures center and the manner in which the season acts on semen production and implicitly on the quality of semen material. In this way there were made researches on the quality of semen material after collection and dilution, on a number of 1946 ejaculates, which were analyzed and evaluated depending on season and per calendar year. Thus, were determined the following parameters: the volume of ejaculate, sperm concentration, sperm mobility in raw semen material, sperm mobility in defrosted semen material, obtained and admitted doses. Following the researches it was established that the semen material volume is influenced by the conditions of the collection year, the environment being a strong influence on the studied character; the mobility and the sperm concentration are not influenced by the season in which collection was done, and regarding the average number of obtained and admitted dosages per ejaculate, it was the highest in autumn season, when were obtained 485 doses, respectively 441 doses, and the most reduced values were obtained in the winter season 434 doses respectively 374 admitted doses.

Keywords: *bulls, spermatoc production, season influence*

Introduction. The semen production is influenced by a very large number of factors, both internal and external. Generally, this is characterized by a medium ejaculate volume of 3-5 ml, with variations between 1 and 18 ml, density 0.8-1.3 billions sperms/ml (Velea, 2012) and with a medium mobility of 78% (Bogdan *et al.*, 1984). The sperm production indices are in direct correlation with the fertility indices (Dumitrescu *et al.*, 1976), thereby semen examination represents a very important stage, because of that it can be done an anticipated evaluation of fecundity capacity on bulls.

Aims and objectives. The objective of present study is to bring out the influence of season on sperm production and thus on semen quality on bulls.

Materials and Methods. In order to accomplish the researches on evaluating the spermograms, there were taken in study a number of 8

Fleckvieh bulls, which were collected between the years 2000 and 2006 in Semtest BVN Targu-Mures bulls' center. The semen material, collected from these bulls, totalizing a number of 1946 ejaculates, was analyzed and evaluated depending on the season. By this way, were determined the following parameters: the volume of ejaculate, sperm concentration per ejaculate, sperm mobility in raw seminal material, sperm mobility in defrosted semen material, obtained doses and accepted doses.

Results and Discussion. Following the conducted researches regarding the influence of season on raw sperm production it was confirmed that the volume of semen material is influenced by the conditions of year in which it was collected, environment factors having a strong influence upon this studied character; and regarding the mobility and the concentration in sperm, there

Tab.1. Season influence over brut spermatic production

Season	Ejaculated no	Statistics	Volume (ml)	Mobility (%)	Concentration ($\times 10^9$ / ml)	Concentration/ejaculated ($\times 10^9$)
Spring	654	X	8.53	73.88	1.42	11.97
		s_x	0.11	0.26	0.02	0.21
Summer	471	X	8.75	74.59	1.32	11.49
		s_x	0.12	0.34	0.02	0.24
Autumn	485	X	9.22	74.78	1.33	12.01
		s_x	0.12	0.20	0.02	0.21
Winter	336	X	8.22	73.39	1.45	11.65
		s_x	0.16	0.30	0.03	0.27

Tab.2. Season influence over the results of spermatic production processing

Season	Ejaculated no	Statistics	Doses obtained	Mobility 2 (%)	Mobility 3 (%)	Admitted doses
Spring	654	X	463.80	37.59	37.65	411.69
		s_x	9.63	0.24	0.25	10.22
Summer	471	X	435.80	36.51	36.54	378.12
		s_x	9.87	0.28	0.28	11.26
Autumn	485	X	485.31	37.30	37.31	441.76
		s_x	10.90	0.25	0.25	12.00
Winter	336	X	434.56	36.73	36.77	374.12
		s_x	13.77	0.43	0.43	15.27

are not influenced by the season in which the collection was done.

Regarding the processed semen material it was shown that the sperm mobility after defrost is higher in spring and autumn seasons, and in summer and winter seasons the registered values were slightly reduced, and the average number of obtained and admitted dosages per ejaculate was the highest in autumn season, when were obtained 485 doses, respectively 441 doses, and the most reduced values were obtained in winter season were obtained 434 doses respectively 374 admitted doses.

Conclusion. Researches confirm that only extreme conditions can significantly influence the qualities of crude and processed seminal material.

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