

The use of Limousin bull semen reduced the risk of abortion in *Neospora* seropositive dairy cows

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Abstract

In a recent study we found that the use of beef bull semen reduced the risk of abortion in *Neospora* seropositive dairy cows (López-Gátius et al 2005). In this study we expand the latter information. A retrospective study was performed in order to compare the effectiveness of different beef bull semen on the reduction of *Neospora* – associated abortion. The study population comprised 776 pregnancies registered in seropositive animals; 546 mature Holstein cows and 230 heifers from two well managed high producing dairy herds in north-eastern Spain over 36 months period (January 1, 2002 to December 31, 2004). The mean annual milk production for the study period was 10 850 kg per cow. Pregnancy

diagnoses were performed on day 34 postinsemination by transrectal ultrasonography or by palpation per rectum, and confirmed by palpation per rectum on days 90 and 180. Only animals proved to be positive at 90 day diagnosis were included in the study. After Day 90 of pregnancy, an optimum control was carried out to detect abortion signs.

Of the total 776 pregnancies, 434 animals became pregnant after using Holstein-Friesian semen, 83 using Belgian Blue semen, 84 using Piedmontese semen and 175 using Limousin semen. The abortion rates after insemination with semen from Holstein-Friesian, Belgian Blue, Piedmontese and Limousine bulls were 31.8%, 21.7%, 22.6% and 12.6% respectively (see Table 1).

Table 1. Frequencies and expected frequencies of abortion after insemination with semen from 4 different bulls

Abortion	Bull			
	Holstein	Belgian Blue	Piedmontese	Limousin
0				
Frequency	296	65	65	153
Expected Frequency	323.8	61.9	62.7	130.6
1				
Frequency	138	18	19	22
Abortion rates (%)	31.8	21.7%	22.6%	12.6
Expected Frequency	110.2	21.1	21.3	44.4
Total Frequency	434	83	84	175

0 – maintenance of pregnancy, 1 – abortion

As a reference figure, we recorded a 2.97% abortion rate after 90 days of gestation in 1380 *Neospora* seronegative animals. Chi square test (2x4 contingency table) indicated significant differences among the inseminating bull ($P < 0.001$). In our work conditions, the use of Holstein-Friesian semen clearly proved to be a risk factor for pregnancy loss, whereas the use of Limousin semen reduced to the utmost the abortion risk.

References

- Lopez-Gatius F., Santolaria P., Yaniz J.L., Garbayo J.M., Almeria S. 2005. The use of beef bull semen reduced the risk of abortion in *Neospora*-seropositive dairy cows. *J Vet Med B Infect Dis Vet Public Health*. 52: 88-92