

ABSTRACT

The Effect of Straw Space with Liquid Nitrogen on Pre freezing Process to the Frozen Semen Quality of Limousin Cows

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This study aimed to determine the effect of straw space with liquid nitrogen on pre freezing process and the best straw space to the quality of frozen semen of Limousin Cows so that they are appropriate for Artificial Insemination process. This study was conducted in Regional Technical Service Unit-Regional Artificial Insemination Office Lampung, Terbanggi Besar District, Central Lampung Regency, Lampung Province on 7th—13th April 2014. The Completely Randomized Design (CRD) was used in these research with five treatments of straw spaces, 2 cm, 4 cm, 6 cm, 8 cm, and 10 cm, with 4 replications. The data obtained was analyzed by using variance analysis and continued by Polynomial Ortogonal test.

The result of this study showed that the straw space was significantly ($P < 0,01$) to the motility and live spermatozoa after thawing. However it was not significantly ($P > 0,05$) to the motility and live spermatozoa after pre freezing. Polynomial Ortogonal test, obtained that the straw space was significantly ($P < 0,01$) to the motility and live spermatozoa after thawing, had quadratic pattern with equation of $Y = - 6,50 + 12,09x - 0,89x^2$; $R^2 = 41,3\%$, with the best effect on the straw space of 6 cm, that is 34%. Besides, the straw space was also different ($P < 0,01$) to percentage of live spermatozoa after thawing, had quadratic pattern with equation of $Y = 8,97 + 8,81x - 0,64x^2$; $R^2 = 41,3\%$, with the best effect on the straw space of 6 cm, that is 38,79%.

Keywords: semen quality, limousin cows, straw space