ABSTRACT

This study was conducted to evaluate the fertility efficiency of bovine spermatozoa after sexing by Percoll density gradient centrifugation. The fresh semen samples were collected from 2 Holstein-Friesian bulls. Semen quality were evaluated before and after sperm processing. Semen sample was overlaided discontinuous gradients of 40%, 50%, 60%, 65%, 70%, 75% and 80% Percoll® solutions. After centrifugation, X-bearing spermatozoa were floated between 65% and 70% layers. After semen analysis, pre-sexing semen showed 852x10^6 sperm cells/ml of concentration and 92.50% motility, 92.71% live sperm rate, 46.07% normal spermatozoa and 50.25% X-bearing spermatozoa whereas post-sexing semen between 65% and 70% layers showed higher (P<0.01) in quality and amount of X-bearing spermatozoa than those in other layers. The semen between 65% and 70% layers had 414 x10^6 sperm cells/ml, 95.86%, 93.57%, 39.07% and 60.75% in concentration, motility, live sperm rate, normal X-bearing spermatozoa, respectively. The separated frozen sperms were divided into 2 portions; the first portion was used for artificial insemination (AI) with 150 dairy cows and the second portion was used for in vitro fertilization (IVF). The results showed that, for AI portion, 60 cows were pregnant and 42 offsprings were gave birth with 30 of female and 12 male (71.43%;28.57%). For IVF portion, Oocyte collected from slaughter-house could develop to blastocyst 7.76% where as, oocyte from superovulation cows could develop to blastocyst 35.42%. After embryo transfering, blastocyst form superovulation cows was higher pregnancy rate (P<0.05) than those from slaughter-house cows (47.05% and 22.20%, respectively).