

Preliminary insemination trial to determine the fertility of stallion sperm stored for 3 and 7 days at 17°C in a long term liquid storage medium

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A synthetic medium has been developed which allows stallion sperm to be stored at 17°C for up to 7 days;¹ our objective was to determine fertility of sperm stored in this medium. An ejaculate from 2 pony stallions was collected and stored for 3 and 7 days duration prior to insemination. Two thoroughbred, 1 quarter horse and 1 Standardbred mare from 5 - 8 years of age were used. Mares were examined using transrectal ultrasonography and ovulation induced by giving 1.25 mg of Biorelease Deslorelin™ when a follicle > 35 mm and Grade 3 uterine edema was identified. A fixed time artificial insemination protocol was used, with mares bred 24 hours after ovulation induction with a minimum of 500 x 10⁶ progressively motile sperm deposited into the uterine body. Ovulation was detected the following day in 3 mares, whereas the fourth mare ovulated 48 hours after insemination following semen storage for 8 days (10 days after semen collection). A uterine lavage (1 liter of 0.9 % sterile saline) was done on all mares 12 hours after insemination and 10 IU of oxytocin given. Mares were examined 14 days after ovulation for the presence of embryo. All mares conceived on the first cycle, with twins identified in 2 mares. One mare was allowed to maintain her pregnancy to term and delivered a healthy filly at 332 days pregnancy. Liquid storage in this synthetic medium for up to 7 days at 17°C did not affect fertility of stallion sperm. Future use of this medium will greatly simplify sperm transport logistics and artificial insemination regimens for equine veterinarians.

Keywords: Stallion, storage, insemination, pregnancy, sperm

References

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