

Artificial insemination in dromedary camels.

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Artificial insemination (A.I.) is an important technique in all domestic species to ensure rapid genetic progress. The use of AI has been reported in camelids although insemination trials are rare. This could be because of the difficulties involved in collecting as well as handling of the semen due to the gelatinous nature of the seminal plasma. In addition, as all camelids are induced ovulators, the females need to be stimulated to ovulate before being inseminated.

This paper discusses the different methods for collection of camel semen and describes how the semen concentration and morphology are analyzed, as well as various mechanical and enzymatic methods used to reduce its viscosity. It also examines the use of different buffers for liquid storage of fresh and chilled semen, the ideal number of live sperm to inseminate and whether pregnancy rates are improved if the animal is inseminated at the tip of the uterine horn versus in the uterine body. Various methods to induce ovulation in the female camels are also described as well as the timing of insemination in relation to ovulation. Results show that collection of semen is best achieved using an artificial vagina, and the highest pregnancy rates are obtained if a minimum of 150×10^6 live spermatozoa diluted in Green Buffer (I.M.V., L'Aigle, France) or I.N.R.A. 96 (I.M.V.) are inseminated into the body of the uterus, either at the same time, or 24h after, the GnRH injection given to the female camel to induce ovulation.

Deep freezing of camel semen is proving to be a great challenge but the use of various freezing protocols, different diluents and different packaging methods (straws versus pellets) will be discussed. Preliminary results indicate that Green and Clear Buffer for Camel Semen (IMV) is the best diluent to use for freezing and that pellets rather than straws result in higher post thaw motility. Preservation of semen by deep-freezing is very important in camelids as it prevents the need to transport animals between farms and it extends the reproductive life span of the male, therefore further work needs to be carried out to improve the fertility of frozen/thawed camel spermatozoa.