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Effect of Theriogon on fertility of native bulls and buffalo-bulls

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Four native bulls and four buffalo-bulls (7-8 years of age) were used for investigating the effect of Theriogon on libido and fertilizing capacity. Serum and semen samples were collected for three weeks (twice per week) before treatment to serve as controls. A single oral dose of Theriogon (100 mg/ kg. body weight) was given to each animal and serum and semen samples were collected twice per week form all animals for three weeks post treatment. On collection, libido index and reaction time (in seconds) were measured and the collected semen samples were evaluated for: Ejaculate volume, pH, individual sperm motility, percentage of live sperm, sperm cell concentration (in millions/ml), total sperm number per ejaculate and sperm abnormalities (primary and secondary). Testosterone concentration was assessed in serum samples using RIA technique. The fertility of each bull was assessed before and after treatment. The results revealed that, a single oral dose of Theriogon leads to improvement in testosterone level, libido, semen quality and sperm fertilizing capacity in both bulls and buffalo-bulls.

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Seminal plasma heparin binding protein (HBP) in Gyr bulls and its association with andrological characteristics

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Introduction Bulls subfertility represents a negative impact in beef and milk cattle industry. Bulls with normal breeding soundness evaluation (BSE) have different fertility profiles that may be associated with differences in seminal chemical compounds, what leads to a need to look for biochemical markers to these differences. The aim of this study was to identify heparin binding proteins (HBP) of seminal plasma and their association with andrological characteristics such as scrotal circumference, motility, vigor, major and total sperm defects, and Andrological Classification by Points.
Material and Methods welve Gyr bulls were evaluated by Breeding Soundness Evaluation for Zebu (BSE-Z), according to Vale Filho (1989). A sample of 1mL of fresh semen was frozen in liquid nitrogen for purification, isolation, quantification and identification of HBP by gel filtration chromatography and chromatography affinity. The concentration was evaluated according to Lowry (1951) and HBP identification by 1-D electrophoresis, with the reader in Totallab 100 program. Statistical analyses of possible associations between BSE-Z and HBP were made by Pearson Correlation, using the SAS (2002).
Results and discussion Chromatography profile of HBP showed five heparin affinity peaks. HBP concentrations varied from 0.02096 to 0.19025mg/ml. Within the five HPB peaks were found eighteen HPB with different molecular weights. From these eighteen HBP band found in electrophoresis gel, the most concentrated HPBs were those with 13, 14, 16, 18, 20, 28, 29 and 30 KDa molecular weights. No association was found among proteins and andrological parameters.
Conclusions HBP evaluations were not a feasible method for predicting field andrological parameters. Its use alone does not allow consistent results for selecting high reproductive performance bulls.

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Casa measurements of concentration, motility and viability, compared to established procedures for bull semen analysis: accuracy, reliability and its predictive value for fertility

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Introduction The bull AI industry likes to use the most objective and standard semen analysis methods, that are also useful to predict fertility. The CASA instrument IVOS (Hamilton Thorne) was compared to our current tests, of which some are subjective visual microscopic assessments.
Materials and methods Ejaculates (n=262) of 39 HF test bulls (12-15 months old) were collected, processed and frozen (15 million total cells/dose) over a period of 3 months. Concentration and motility were determined of fresh and thawed semen. IVOS was compared to Coulter counting (CC) for concentration measurements, using Heamo cytometry (HC) as the golden reference. IVOS was also compared to our standard tests for motility and viability (both visual microscopic assessments). Viability was only determined for thawed semen, using IDENT/VIADENT stains for IVOS analysis, and Hoechst staining for our standard test. For IVOS analysis 4-chamber slides were used (LEJA). To evaluate reliability, Coefficients of Variation (CV) were determined by processing and measuring samples in duplicate. The predictive value of many sperm characteristics for fertility (NRR) was analysed with GENSTAT (v 8.1).
Results Concentrations of fresh semen correlated highly between the used methods ($R \geq 0.89$). Values obtained by IVOS and CC respectively were 1.0 ± 16.5 (n=46) and 0.2 ± 8.2% (n=49) lower than by HC (n=49). CV ± SD were 12.0 ± 10.0 (n=252) and 2.0 ± 1.8% (n=254). Using thawed semen, IVOS and CC respectively counted 2.6 ± 10.0 (n=256) more, and 2.1 ± 8.7% (n=256) less cells, compared to the expected dose. CV ± SD were 5.9 ± 5.6 (n=256) and 4.2 ± 4.2% (n=256). Motility measured by IVOS and our standard test did not correlate when fresh or thawed semen was used. The range was higher for thawed semen using IVOS: 18-69 vs 25-55% (n=256). Viability measured by IVOS and our standard test correlated moderately (R=0.76) for thawed semen, and resulted in CV ± SD of 5.6 ± 5.8 (n=255) and 2.3 ± 1.6% (n=256) respectively. The range was higher using IVOS: 19-81 vs 41-78% (n=255). A better prediction of NRR is possible using IVOS, but we were unable to quantify this, due to an insufficient number of inseminations.
Conclusions When using IVOS, CC and HC correctly, concentrations are the same. However, high reliability is easier and faster obtained by CC. IVOS and our current tests do not measure motility and viability similarly, while differences are easier detected by IVOS. More inseminations are needed to study if IVOS predicts fertility better in addition to, or instead of our current tests.

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Recrudescence of spermatogenesis following downregulation with a GnRH-implant in the dog: first morphological and hormone-analytical results

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Aberrations in semen quality causing infertility in males must still often be classified as idiopathic as no other deviations from normal, also in respect to peripheral hormone levels, have been found. Hence not an absolute deficit but rather aberrations in the local availability of hormonal control factors may be responsible for disruption of spermatogenesis. Consequently recrudescence of spermatogenesis was monitored after having achieved downregulation of testicular function with a GnRH-implant (Gonazon®, Intervet 18.5 mg Azagly-Nafarelin) in 30 Beagles. Implant removal was after 5 months (week 0) and 3-4 dogs were castrated at weeks 0, 3, 6, 9, 12, 15, 18, 21 and 24, the testes were conserved for further examination. To assess