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Poster Abstracts
Résumés des affiches

617 (3465)
Endocrinology of subfertile Holstein cows in a pastoral dairying system

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In the seasonal-calving, pastoral dairying systems in New Zealand (NZ), cows with high proportions of overseas Holstein (mainly US) genetics (OSH) have lower 1st service conception rates (CR1), conceive later and are more likely to be non-pregnant (NP) at the end of a 12 week breeding season than local Holstein-Friesian cows (NZF). The hypothesis that differences in the activity of the endocrine system during the post-calving and peri-conceptual periods might underlie differences in reproductive outcomes was investigated.

Endogenous patterns of luteinizing hormone (LH) and follicle stimulating hormone secretion, and the ability of the pituitary to secrete LH in response to buserelin (10mcg i/v) were similar in cows (n=8/group) containing high (>70%; H) or low (<25%; L) proportions of OSH genetics, over the periods between 7 and 28, or 21 and 42, days post partum (dpp). Administration of 1 mg oestradiol benzoate to L and H cows (n=12/group) between 7 and 35 dpp or to OSH or NZF cows on 17/18 dpp resulted in similar patterns of LH secretion between strains. Thus, pituitary LH secretion and responsiveness to endocrine stimuli did not differ between strains of cows during the post-partum period.

It was postulated that postpartum anovulatory periods would be longer in OSH/H cows than NZF/L cows, but in fact they were shorter in the OSH and H cows. The first dominant follicle also emerged 5 days earlier in the post partum period in H than L cows. Oestradiol (OE) concentrations were significantly lower during the 24 h before ovulation in spontaneously cycling OSH than NZF cows and there was a longer interval between the decline in plasma progesterone (P4) concentrations and the LH surge in OSH than NZF cows. This was associated with a significantly earlier decline in milk and plasma P4 at the end of the luteal phase in cyclic OSH and H cows than in NZF or L cows. More importantly, milk P4 also declined significantly earlier in H and OSH cows which were NP after 1st insemination, than in L and NZF cows; reaching base-line values on, or before Day 18 post-insemination. It was concluded that there is little difference in the activity of the gonadotrophic axis between strains of Holstein cows during the post-partum period, but the responses of the ovary to those gonadotrophins may differ. The premature decline of P4, before the time of the maternal recognition of pregnancy, in OSH and H cows may contribute to lower conception rates of those animals.

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618 (1579)
Viability and motility of water buffalo epididymal sperm in caffeine and glucose supplemented media

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Recently many laboratories have focussed on in vitro maturation and in vitro fertilization (IVF) of water buffalo. Studying the epididymal sperm would provide a costless reservoir of sperm cells used for IVF. On the other hands epididymal sperm has been proven to be of beneficial in insemination program for men and animals. The present experiment was carried out to study the effects of 4 different media for incubation of water buffalo epididymal sperm recovered and transported to the laboratory. The basic medium used for the collection and transportation of spermatozoa was the modified BO medium used in our previous experiments (Tajik and Niwa; Theriogenology, 49: 771-777) which consisted of 103.0 mM NaCl, 4.02 mM KCl, 2.25 mM CaCl₂, 0.83 mM NaH₂PO₄, 0.52 mM MgCl₂, 46.0 mM NaHCO₃, and 1.25 mM sodium pyruvate. This control medium (S) was supplemented either by glucose and/or caffeine and provided 4 media as follows: adding glucose (G), adding caffeine (C) or adding both glu-

cose and caffeine (GC). Sperm cells collected from caudal epididymis of water buffalo slaughtered at a local abattoir put into the different media containing glucose, caffeine, glucose + caffeine or a medium without them and transported to the lab. Then the sperm cells were incubated in those media in a 5% CO₂ incubator in humid air. The viability and motility of sperm cells were assessed every hour up to 7h post-incubation. The viability rate drastically decreased in the medium S (5% after 7 h incubation). However, no significant difference was seen between G and S supplemented media in which 70% viability were seen after 7 h sperm incubation. The results of sperm motility showed that almost no (2%) motility was seen in the medium S four hours post incubation and it was significantly lower (P<0.001) than the sperm motility in the other media (50-95%). After 7 h incubation, the highest motility rate (90%) was maintained in the medium GS, which was significantly different (P<0.01) from the motility rates in the other media (2-60%). The results of the present study shows that epididymal sperm obtained from water buffalo cauda epididymis can successfully be kept in a medium containing 10-mM caffeine and 13.9 mM glucose. The future use of the sperm is under examination.

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619 (1598)
Effect of different factors in dystocia due to fetal disposition

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Presentation, position and posture are used to indicate the condition of calving. In a normal calving, the presentation position and posture are: anterior-longitudinal, dorso-sacral and extended posture, respectively. The purpose of this study was the effect of factors contributing to dystocia due to fetal Malpresentation, malposition and malposture such as the age and the number of parturition of dam, season of parturition and weight of calves in Holstein dairy cattle.

During a 4 years survey, records on 2140 single calving were used to analyze above factors at dystocia. Differences were assessed using X2 for continuity.

There were 108 (5.04%) faulty presentation, position and posture out of 2140 single calvings. The incidence of malpresentation, malposition and malposture were 3.27%, 1.09% and 1.68%, respectively. Two years old dams had the highest faulty disposition (31.48%), whereas the 6 years old dams had the lowest (5.5%) incidence. The highest fetal disposition was observed in the first calving cows (31.42%) and the lowest was in the 5th parturition. The most abnormal conditions were in winter (26.7%) and the lowest (25.92%) were in autumn. The average weight of calves with normal condition for male and female calves were 41.52 and 39.22 kg, respectively. But, calves with malpresentation, malposition and malposture were 40.92, 50.3 and 53.3 kg for male calves whereas 39.39, 31.29 and 35.36 kg for female calves, respectively.

There were no significant differences between fetal disposition and age of the dam, calving number of the dam, the season of calving and the weight of the calves (P>0.05).

620 (5052)
Effect of hormonal lactation induction on milk yield and some reproductive parameters in Holstein Friesian cows

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Despite the fact that treatments for induction of lactation have been used for more than thirty years, results are still controversial. Sixty eighth cows with infertility problems (abortion, follicular persistence and repeat breeding) were treated with a hormonal treatment, which included bovine recombinant somatotropin (bST), to induce lactation. Days in milk, daily milk production and total milk yield were evaluated along with days to

