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ANNUAL CYCLES OF FECAL PROGESTERONE CONCENTRATIONS IN EZO SIKA DOES (*Cervus nippon yesoensis* HEUDE)

Kiyoe JIMMA

Laboratory of Theriogenology,
Department of Veterinary Clinical Sciences,
School of Veterinary Medicine,
Hokkaido University, Sapporo 060, Japan

The aim of the present study was to determine the feasibility of fecal progesterone concentration analysis as a non-invasive method for monitoring the reproductive status of female Ezo Sika deer. The fecal progesterone concentration was assessed by radioimmunoassay in five does penned at the Haiji farm in Hokkaido from August 1994 to August 1995, and twenty-four wild does captured at the Akan National Park, Nakanoshima island in Lake Toya and Ashoro in Hokkaido, Japan from March 1993 to August 1995.

Fecal and plasma progesterone concentrations in the annual cycle of five domesticated does had a correlation of $y=0.00033x^{2.67}$ ($r=0.63$, $p<0.01$, $n=45$).

In domesticated does, fecal progesterone levels shifted similarly to plasma progesterone levels in annual cycles. The range of the fecal progesterone concentration was 4.7–10.8 ng/g in September. In four pregnant does, the fecal progesterone concentration increased after estrus (October to December) and reached a high level of 8.0–52.4 ng/g in mid-February to early April. The fecal progesterone levels remained high and decreased rapidly before parturition (early June to early August). One doe that had not given birth had fecal and plasma progestrone concentrations that did not increase like those of the pregnant does.

In the wild does, fecal progesterone levels were higher than those in all domesticated does. In August and September, 1994, levels over 100 ng/g were seen, especially in wild does captured at Nakanoshima island.

These results suggest that analysis of the fecal progesterone concentration can be used for monitoring the reproductive status of Ezo Sika does, especially for the detection of late pregnancy.