

P-6. Reproductive performance and its heritability in Japanese Black cows (Abstracts of the International Symposium on Recent Advances in Animal Science (IS-RAAS), Joint meeting of 2<sup>nd</sup> IS-AS and 3<sup>rd</sup> IS-IFS)

著者	Uchida Hiroshi, Kobayashi Jin, Suda Yoshito, Suzuki Keiichi, Oikawa Takuro
journal or publication title	Tohoku journal of agricultural research
volume	56
number	1/2
page range	38-38
year	2005-11-25
URL	<a href="http://hdl.handle.net/10097/30087">http://hdl.handle.net/10097/30087</a>

### **P-5. Relationships between herd life and changes of body weight before calving to after calving in Holsteins**

Akiko Nishiura, H. Takeda and T. Yamazaki

National Agricultural Research Center for Hokkaido Region, Japan

Genetic and phenotypic correlations between herd life and changes of body weight one month before calving to six months after calving were estimated.

Data was consisted of 5,109 Holstein dairy cows. Two traits were defined for herd life, true herd life (THL) and functional herd life (FHL), which were adjusted for milk production. Four indices were defined for changes of body weight, (a) linear regression coefficient of body weight one month after calving to six months after calving, (b) difference in body weight one month before calving and just after calving, (c) difference in body weight one month before calving and one month after calving, and (d) difference in body weight just after calving and one month after calving.

Phenotypic correlations between (a) and herd life were -0.20 in THL model and -0.14 in FHL model. Genetic correlations between (a) and herd life were -0.11 in THL model and -0.11 in FHL model. Phenotypic correlations between (b),(c), and (d), and herd life were ranged from -0.18 to 0.17 in THL model and from -0.43 to -0.04 in FHL model. Genetic correlations between (b),(c), and (d), and herd life were ranged from -0.12 to 0.08 in THL model and from -0.25 to -0.01 in FHL model.

It was suggested that cow which shows smaller change of body weight one month before calving to six months after calving has longer herd life.

### **P-6. Reproductive performance and its heritability in Japanese Black cows**

Hiroshi Uchida<sup>1</sup>, Jin Kobayashi<sup>2</sup>, Yoshito Suda<sup>2</sup>, Keiichi Suzuki<sup>3</sup> and Takuro Oikawa<sup>4</sup>

<sup>1</sup>Miyagi Agricultural College, <sup>2</sup>Miyagi University, <sup>3</sup>Graduate School of Agricultural Science, Tohoku University, <sup>4</sup>Faculty of Agriculture, Okayama University, Japan

A set of 313,169 reproduction records of Japanese Black cows calving between 1987 and 1996 were collected widely Japan to investigate the current level of reproductive performances and the factors influencing the performances such as calving interval, first calving age, services per conception, calving difficulty, non-gestation period and gestation length. All the records of reproductive performances are outcome of artificial insemination. The means of first calving age, calving interval, non-gestation period and gestation length were 25.0 months, 395.9, 101.9 and 287.5 days, respectively. Services per conception were 1.41 and degree of calving difficulty was 1.07, which suggests most of the calving, did not need assistance. There were chronological tendencies that first calving age became younger while calving interval became longer. Differences in reproductive performance were found for seasons and calving numbers. Calving interval became shorter towards the fourth calving but became longer afterwards. The cows calving in May had the shortest calving interval followed by those in April and June and first calving age had a similar tendency. The cows with the standard body condition score showed more favorable reproductive performances compare with those rather fatty or thin body condition scores.

Heritability of calving interval and age of months at calving were estimated using data of Japanese Black cows kept in Miyagi prefecture. The former heritability is under 0.1 and the later one is above 0.1 that suggests possibility of genetic improvement. Heritability on maternal effect of this breed will be shown as well.