

## Fertility and fertility problems in the Chow-chow, mainly an autumn breeder

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### Objective of the work

The Chow-chow has been considered to have fertility problems and the objective of this study was to do an in-depth analysis of the reproductive functions of this breed in Sweden.

### Materials & Methods

The study is based on information obtained from the Swedish Kennel Club registry and the Chow-chow Ring, as well as on two enquiries to the breeders, one from the breed club and one from us, the latter focusing on bitches with known fertility problems. The results were analysed using Chi-2 test.

### Results

The majority of the bitches had their first estrus at between 6 and 8 months of age, but some already at 4 or 5 months. The vast majority, 86%, had 2 estrus periods per year, and 41% were in estrus at regular intervals whereas 56% had intervals that varied by 3 months or more. Whelping rate by natural mating was in the former group 37% and in the latter 51%. In the breed club data 53% of the matings resulted in a litter. Five of 39 bitches in our enquiry had a split estrus, or were suspected to have anovulatory cycles. Of the 39 bitches 10% always refused to mate with the male. Strong mating preferences were observed. 26% of the mated bitches never conceived. Duration of pregnancy varied between 54 and 68 days, averaging  $61 \pm 1$  day. 18% of bitches had a Caesarian section. Average litter size was 4.1 pups born (range 1-8), and 3.5 live pups at the time of registration. The largest litters were born in December (4.7/4.1) and the smallest in March (2.9/2.3). Sex ratio among registered pups was 50.4% males and 49.6% females. Neonatal pup death rate varied between 6 and 18% over the years 1996-2003, being highest in litters born in March (20%) and April (18%) and lowest in July (0%). According to the Kennel Club data from 1996-2003 60.4% of Chow-chow pups are born in October - December (48.9% in October /November). In the majority of other breeds in Sweden most litters are born during spring. An exception is the Basenji which is more strictly seasonal with usually only one estrus cycle per year and 84% of pups born in November - January (53% in December). Fertility by natural mating was lowest in matings in February, and highest in June/July, but most matings were done in August. Four males were tested over one year for semen quality and it varied markedly but not by season.

**Conclusions:** The Chow-chow is in contrast to most other breeds mainly an autumn breeder. It has a low fertility (53%). Various reproductive disturbances were observed. Mating during the most fertile period, in autumn, may possibly improve results.

