

Epidemiological analysis of reproductive performances and pre-weaning mortality rates in 5415 purebred queens and 28 966 kittens in France.

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Reproduction management and performances are evaluated in the feline species only through a limited number of studies and animals (1056 dams and litters [1] in UK and 694 litters [2] in Sweden). Our objective was to provide reference figures in purebred cats, from a large scale sample. Data were collected from an online software dedicated to cattery management (Breeding Management System®, BMS, Royal Canin, Aimargues, France). Information was recorded on a voluntary basis, by French breeders between 2005 and 2014. Data were anonymously transferred to our laboratory for analysis. 9 327 estruses periods (all with contact with a male) from 5415 queens (44 breeds) were recorded from 1537 breeders. The two most represented breeds were Persian and Maine Coon (21.4% and 20.6% of estruses periods, i.e. n=1994 and n=1919, respectively). Most matings (59%) occurred during increasing day length periods (winter and spring). The mean age at mating (\pm SD) was 2.7 ± 1.6 years (from 4 months to 11.5 years) for queens and 2.9 ± 1.9 years (from 4 months to 18 years) for tomcats. Fifty three percent of matings happened during the first 3 days of heats. The majority (93.5%) of tomcats belong to the same owner than the mated female. Pregnancy rate (number of pregnant females/number of mated females) was 85.2%. The overall mean gestational length (mating-queening interval) was 64.8 ± 3.8 days, with 80% of gestations lasting between 61 and 69 days. Among pregnant queens, 8.4% failed to maintain pregnancy (1-number of queened females/number of pregnant females). Globally, 78% of the mated females gave birth to 28966 kittens within 7293 litters. Mean litter size was 4.0 ± 1.9 kittens. 58% of the queens had between 3 and 5 kittens and less than 10% delivered 7 kittens or more. Sex ratio (number of males:females) of kitten born was 1.1:1. 8.5% of all born kittens were stillborn. Neonatal and pediatric mortality rate (number of dead kittens between D1-D60/number of kittens born alive) was 8.2%. In total, 16.0% of born kittens died before weaning. The results of this study are based on the largest feline database ever analyzed. The figures collected can thus be used as reference to define average reproductive performances for cat breeders. Further analysis should also provide reference figures by breed and to identify the influence of factors such as breed, age of dam and tomcat as well as litter size on reproductive performances and early mortality in the feline species.

[1] Sparkes AH, Rogers K, Henley WE, Gunn-Moore DA, May JM, Gruffydd-Jones TJ, Bessant C. A questionnaire-based study of gestation, parturition and neonatal mortality in pedigree breeding cats in the UK. *J Feline Med Surg.* 2006. 8(3):145-57

[2] Ström Holst B, Frössling J. The Swedish breeding cat: population description, infectious diseases and reproductive performance evaluated by a questionnaire. *J Feline Med Surg.* 2009. 11(10):793-80

ABSTRACT BOOK

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