THE DEVELOPMENT OF A FELINE BIO-BANK TO PROVIDE NEW INSIGHTS INTO THE CONTROL OF GENETIC DISEASES AND POPULATION GENETIC VARIABILITY

Stefano P. Marelli[0], Jacopo Riva[0], Michele Polli[0], Maria Longeri[0],

[0]Corresponding Author Maria Longeri Dip. Scienze Animali, Faculty Veterinary Medicine, University of Milan

The aim of the present work is to describe the development of a feline Bio-Bank to provide samples, genealogy and clinical descriptions of cat (Felis catus) specimens from different breeds to supply useful and effective support in the study of the genetic diseases and the population structure of the domestic cat. The Bio-Bank collects from the Faculty of Veterinary Medicine (Milan), from the "Osservatorio Veterinario Italiano Cardiopatie del cane e del gatto" and from VETOgene. Data were analysed using the PROC FREQ (SAS® statistic package) for the calculation of frequencies. 2394 cats have been collected since 2003. The most represented sample type is blood (95%) followed by buccal cotton (2.51%) and brush swab (1.75%). 25 pure breeds are collected in the Bio-Bank, the highest number of samples are from Maine Coons (981;40.98%), Persians (458;19.13%), Ragdolls (237;9.90%), Exotic Shorthairs (180;7.52%) and Siberians (109;4.55%). 64 samples are from housecat subjects , the 97.33% have a recognised pedigree (FIFe, WCF, TICA). All the 4 categories of the FIFe classification are present in the Bio-Bank: CategoryII Semi-long hair is the most represented (60%), the least represented category is the Oriental breed one (0.75%). Sex ratio is 0.66:1 M:F. 20.18% of the collected cats are Ultrasound analysed for HCM (according to the guidelines of the Osservatorio); 25.89% are Maine Coons; >50% of Bengals, Housecats, Norwegian Forest cats and Siberians have also Ultrasound analysis. A clear positive trend in the number of samples stored/year has been recorded with a linear angular coefficient 85.1 and a determination coefficient $R^2=0.89$. A precise biological sample collection completed with a regular population data record (pedigree data, microchip) and clinical reliable description of the subjects samples collected is a successful way to create a bio bank able to supply effective tools in the study of genetic disorders and population genetic variability