



**Management of genetic resources through the adoption of strategies to control the rates of inbreeding in selection and conservation programs**

Loss of genetic diversity in small populations is mainly driven by genetic drift. The effects of genetic drift, whatever in the loss of genetic diversity or the rise of inbreeding, are only dependent on the effective size of the population ( $N_e$ ). Therefore, the management strategies in conservation programs should be directed to maximise this parameter. There is a well-known inverse relationship between  $N_e$  and the rate of inbreeding ( $\Delta F$ ) which provides us a powerful tool for monitoring and controlling the loss of diversity in conservation or selection programs. In the latter the problem regarding the amount of genetic variability preserved is greater, as the selection process induces a further reduction of  $N_e$  because the number of breeders actually contributing to the next generation is small.

In this talk I will summarise the procedures that can be implemented in conservation and selection programs to control the loss of genetic diversity depending on the type of information available for the population we are dealing with (demographic, genealogical, molecular,...).