



POPREP: a generic report for population management

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ABSTRACT. Genetic variation provides a basis upon which populations can be genetically improved. Management of animal genetic resources in order to minimize loss of genetic diversity both within and across breeds has recently received attention at different levels, e.g., breed, national and international levels. A major need for sustainable improvement and conservation programs is accurate estimates of population parameters, such as rate of inbreeding and effective population size. A software system (POPREP) is presented that automatically generates a typeset report. Key parameters for population management, such as age structure, generation interval, variance in family size, rate of inbreeding, and effective population size form the core part of this report. The report includes a default text that describes definition, computation and meaning of the various parameters. The report is summarized in two pdf files, named Population Structure and Pedigree Analysis Reports. In addition, results (e.g., individual inbreeding coefficients, rate of inbreeding and effective population size) are stored in comma-separate-values files that are available for

further processing. Pedigree data from eight livestock breeds from different species and countries were used to describe the potential of POPREP and to highlight areas for further research.

Key words: Software; Inbreeding; Effective population size; Cattle; Pigs; Sheep