



BSI Standards Publication

Biobanking — Germplasm

Part 1: Agricultural animal species

National foreword

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Part 1:
Agricultural animal species**

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Partie 1: Espèces animales agricoles

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Foreword

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Introduction

The protection of the genetic biodiversity of all living species is globally important. Although there is considerable social, economic and scientific guidance at the national and international levels, including protocols and treaties regulating the movement and development of species, these do not provide practical documents for individuals and organizations to ensure the stability of the future of genetic resource management. Biobanking germplasm is a major component of conserving animal genetic resources. [1] Effectively constructing such biobanks requires the ability to conserve various germplasms through cryopreservation, a robust information technology infrastructure and an understanding of how to evaluate genetic resources to facilitate use of the collection. [2]

A variety of animal genetic resource collections exist worldwide, as can be seen in the Domestic Animal Diversity Information System (DAD-IS) from the Food and Agriculture Organization (FAO) of the United Nations, performing a wide range of biobank activities for the short- and long-term needs of research communities and industry. [3] Animal biobanking is a comprehensive and dynamic process that can span decades of continued sample curation and evaluation of the collection, while projecting future needs [4]. The goal of a germplasm biobank is to provide society with a broad range of genetic options for different types of future use. Within the agricultural sector, the maintenance of sufficient genetic diversity of animal germplasm for future use faces challenges (e.g. low number of national and regional biobanks, animal health restrictions, lack of technology for wild species). [5] [6] Therefore, stakeholder engagement can help to determine the scope of biobank activities and associated strategies to support food security. [7]

This document provides guidance for animal germplasm biobanks that can be used for the conservation of animal genetic resources for food and agriculture, and harmonization of strategy to capture the existing genetic diversity for future use. [6] [8]