



UNIVERSITÀ DI PAVIA

Dipartimento di
Scienze della Terra
e dell'Ambiente

Technical Report in relation at the preparation of Standard Operational Procedure (SOPs)

Spett. IPGRI operating as
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The project aimed to define and document the Standard Operational Procedures (SOPs) of the University of Pavia Germplasm Bank with the aim of harmonizing and documenting all work phases related to the treatment of conserved genetic material.

The subject matter of the SOPs was selected through a prioritization approach, starting with the fundamental procedures required to ensure the proper functioning of the Bank. These include material procurement and selection, document and information management, and organization of databases within, as well as the main operational procedures such as seed cleaning, drying, storage, and distribution. The first step ensured that all the rudimentary operations were defined well and reproducible, thus acting as a valid reference to both scientific and technical personnel.

Essential SOPs

- 01 - Selection
- 02 - Acquisition method
- 03 - Interview form compilation
- 04 - Documentation and digital information
- 05 - Database structure
- 06 - Protocol cleaning dry seed
- 07 - Protocol cleaning wet seed
- 08 - Drying room



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09 - Measurement with hygrometer

10 - Storage protocol

11 - Preparation of Agar

12 - Post-freezing viability

13 - Request and Distribution

14 - Multiplication

In a second phase, activity was directed to the development of more sophisticated protocols concerning specific crops of particular interest to the Bank's operations and to the University's research, e.g., maize. Maize is one of the most extensively introduced, regenerated, and utilized species in the University of Pavia, and thus was a paradigm model to optimize and test the procedural framework. These crop SOPs are intended to de-mystify the technical and practical processes for handling and conserving representative species and to promote both process standardization and sharing best practice.

Specific SOPs

06 - Protocol cleaning dry seed

07 - Protocol cleaning wet seed

15 – Multiplication *Zea mays* L.

The project was completed with the creation of a suite of ancillary materials, including forms, data collection templates, and workflow masks, designed to supplement the SOPs and assist with recording and managing data throughout all phases of the operations. The tools are part of the deployed portion of the work and facilitate real-world application of the protocols within the business of the Germplasm Bank.

Supporting Materials

M01 - Field collection form - Wild species.xlsx

M02 - Interview form.doc



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Mo3 - Seed cleaning form.xls

Mo4 - Conservation variety form.xls

Mo5 - Collecting mask.PNG

Mo6 - Curation mask.PNG

Mo7 - Germination mask.PNG

Pavia, 29 May 2025

Germplasm Bank of
University of Pavia
Prof. Graziano Rossi

A handwritten signature in black ink, appearing to read 'Graziano Rossi', with a stylized flourish at the end.
