

	Acquisition of genetic resources at the National Centre for Genetic Resources and Biotechnology (NACGRAB)		
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1. Introduction & Purpose

NACGRAB is a centre that is committed to the conservation of the rich genetic resources of the nation. NACGRAB received collections from national and international research institutes working in Africa. This collection of genetic resources was entrusted to NACGRAB and maintained in trust for humanity through an agreement with the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), under the auspices of the Food and Agriculture Organization of the United Nations (FAO).

Since 1987, it has continued to receive materials from various collaborators and has also organized its own missions to collect landraces from all ecologies in Nigeria.

At the entry point of any new germplasm in the institute, NACGRAB's Genetic Resources Unit (GRU) has the mandate to collect genetic resources for conservation and make them available for immediate use and posterity. In light of its role in genetic improvement in the nation, GRU initiates the acquisition of materials from collection locally and internationally, and also provides assistance to scientists from within the institute in acquiring genetic materials for their activities, in accordance to the ITPGRFA, acquisition, maintenance, utilization, exchange and dissemination of information on genetic materials of plants.

The purpose of this SOP is to ensure consistency in the acquisition of genetic resources and compliance with national and international treaties and conventions.

2. Scope

This SOP applies to the acquisition of genetic resources such as seeds. It is used as a guide for acquisition activities undertaken by NACGRAB staff in the headquarter and outstation.

The following acquisition activities are described in this SOP:

- Acquisition initiation and review
- Preparation of acquisition information and documentation
- Preparation of the consignment by the provider
- Processing incoming seed
- Decisions for the conservation of newly acquired materials
- Data management

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3. *Definitions & Abbreviations*

The following definitions and key terms are pertinent to this SOP:

Accession	A district uniquely identifiable sample representing a cultivar, breeding line or a population, which is maintained in storage for conservation and use.
Active collection	Active collection is composed of accessions which are immediately available for multiplication and distribution for use. It is conserved at 2-5°C and 15% RH.
NACGRAB	National Center for Genetic Resources and biotechnology.
NQS	NACGRAB Quarantine Service
ARGIS	NACGRAB Genebank Information System
Breeder's line	Materials developed and fixed by a breeding method
Drying and packaging room	An air-conditioned room at 15°C and 15% RH equipped with a dehumidifier and utilized for seed drying and packaging.
Genebank material	Imported materials by genebank and to be introduced into the active collection for use and conservation
GRU	Genetic Resources Unit of National centre for genetic resources and biotechnology.
H&S	Health and Safety: the right of every employee to carry out his daily work in a safe environment
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
Long Term Storage (LTS)	A cold room at -18°C for the conservation of the base collection
Medium-term Storage (MTS)	A cold room at 2-5°C for the conservation of the active collection
NARS	National Agricultural Research System
SMTA	Standard Material Transfer Agreement
Seed file	A small sample of original seed, set aside when a seed sample first arrives at the genebank, to serve as the definitive reference sample. Other seed samples of the same accession (e.g from new harvest) should be visually cross-checked with the seed file.
Second drying room	A Drying room for drying and conservation of breeder's lines at 15°C and 15% RH

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4. Procedure

Acquisition initiation and review

4.1 **The acquisition procedure** is the process of collecting, requesting or receiving donations of genetic resources for inclusion in the genebank or for immediate use in research activities. There are four ways to initiate the acquisition procedure:

4.1.1 NACGRAB scientist or a partner from NARS requests importation of germplasm from an external genebank/seed store of another institute for their use in research activities. The request of importation is submitted to GRU via email to the Head of GRU. An acknowledgment of receipt is sent to the recipient.

4.1.2 The head of GRU sends a written request to a genebank/seed store from another institute (Genebank of an international research institute or a seed store from NARS) for introduction into NACGRAB's genebank.

4.1.3 An individual, NARS, genebank or organization wishes to make a donation of germplasm. GRU is usually contacted via email by the provider who expresses interest in sending materials for inclusion into NACGRAB's genebank.

4.1.4 GRU organizes a collecting mission in farmer's field or natural habitats in Africa, in collaboration with national or international institutes. Collected cultivars or wild species are introduced into the genebank.

4.2 **The acquisition review** is a crucial step for the importation of any new material at NACGRAB. The head of GRU, the Program 1 Leader and the Legal Officer are involved in the review process. The request for importation of materials is submitted and reviewed in accordance with the acquisition principles (Annex 1) at NACGRAB. The following key aspects are considered during the review process:

4.2.1 The biological status of the materials belong to the following groups: i) traditional materials, ii) breeder's lines, iii) materials under development, iv) advanced cultivars, v) African wild relatives and vi) hybrid lines, recently added to the list of materials to be imported for the use in the NACGRAB's hybrid program.

4.2.2 The material to be imported is of high value for conservation and use. Materials with high value are those used by the breeding program (such as promising lines for yield increase), through the GRiSP partnership and the Genetic Diversity and Improvement Program (Program 1 of NACGRAB), wild relatives originated in Africa, landraces from African countries or germplasm with high tolerance to biotic or abiotic stress.

4.2.3 Materials Transfer Agreement is a legal tool for germplasm exchange of the crop's collections. NACGRAB has signed an Agreement with ITPGRFA. Hence, acquisition of

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germplasm is subject to the acceptance of the terms and conditions of the Standard Materials Agreement. Other Materials Transfer Agreement (MTA) from the provider should be carefully reviewed by GRU, Program 1 Leader and the Legal Officer. Any statement in the MTA which is not in the light of the acquisition principles should be rejected.

4.2.4 Phytosanitary issues are considered. All phytosanitary and seed health testing requirements should be strictly applied to avoid any dispatching of pathogens. The seed flow regulations of the host country should be respected and quarantine measures of NACGRAB should be applied to any incoming materials.

4.2.5 The cost-efficiency of germplasm conservation in genebank is considered. Importation of any germplasm previously introduced in the genebank should be avoided.

4.3 In reviewing acquisitions at GRU:

4.3.1 If GRU welcomes the new materials, the final list and the amount of seeds to be imported are sent by the provider and the importation procedure continues.

4.3.2 If GRU does not accept the new materials, the provider is informed and the procedure is cancelled and filed.

Preparation of acquisition information and documentation

4.4 When the above issues have been reviewed and approved; the research assistant proceeds with the acquisition by checking the following:

- The list of materials to be imported
- The purpose of importation
- The name, complete address including institute name and phone number of the provider and recipient within NACGRAB or collaborating institutes.

4.4.1 If the information above is complete, the process of importation proceeds.

4.4.2 If the information above is not complete, the research assistant reports to the head of GRU and the recipient is asked to provide the missing information. When the information is complete, the recipient re-submits the request to GRU.

4.5. When all requirements are met, the request information and date is registered in the acquisition book. The request is entered in the computer by GRU staff in an Excel file following the acquisition template.

4.6 **A formal request** for seed importation is sent to the provider via email by the head of GRU, with the list of requested materials and purpose.

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4.7 The availability of the requested materials is checked by the provider and the GRU head is informed via email.

4.7.1 If all materials are available, the final list of materials and the amount of seed to be imported are sent by the provider to GRU and the importation procedure continues.

4.7.2 If some materials are temporarily unavailable, GRU is informed and the expected date of availability of these materials is requested from the provider. A second request for the temporarily unavailable material is sent when the materials become available.

4.7.3 If any requested material is unavailable, the expected date of their availability is requested from the provider. The request is canceled and re-filed depending on the date of availability of materials.

4.8 **The SMTA/MTA** is discussed with the provider via email and a copy of the SMTA/MTA is sent to GRU.

4.8.1 If an SMTA is received from the provider, GRU replies to the provider via email and indicates that [Center] accepts the terms and conditions of SMTA; the importation procedure is continued.

4.8.2 If an MTA is received from the provider; it is reviewed by GRU. Approval by the Program 1 Leader or the Legal Officer is requested.

4.8.2.1 If the MTA is approved by Program 1 Leader or the Legal Officer, GRU replies to the provider and sends a scanned copy of the signed MTA. The acquisition procedure is continued.

4.8.2.2 If the MTA is not approved by the Program 1 Leader or the Legal Officer, GRU informs the provider via email that [Center] rejects the terms and conditions of the MTA. The revised terms and conditions are negotiated with the provider.

4.8.2.2.1 If the revised MTA is accepted by the provider; it is signed by the head of GRU and a signed copy is sent to the provider. The acquisition procedure is continued.

4.8.2.2.2 If the provider does not agree with the revised MTA, the acquisition process is cancelled and filed.

4.9 **Import permits** in Nigeria are issued by Nigeria Quarantine Services NAQS based in Ibadan. The two request forms are filled by GRU staff and send to the secretary of the Executive Director for signature. When the request forms are signed by the ED, the scanned copies are sent to a staff in charge of the establishment of import permit and phytosanitary certificate. This staff goes

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to NAQS submit the forms. One week later, he returns to NAQS. When the permit is ready, He obtains the import permit from NAQS, scans it and sends it to GRU staff via email.

4.9.1. If the original copy is required, it is sent to the provider along with the list of requested material using the fastest way possible, usually via international courier. An acknowledgement is requested from the provider.

4.9.2 If the original copy is not required, a scanned copy (Fig. 1) is sent by GRU to the provider via e-mail along with the list of requested materials.

Preparation of the Consignment by the Provider

4.10 The provider is advised on the seed packaging procedure and the documents to be sent with the shipment. The consignment requirements are as follows:

4.10.1 Copies of the following documents are to be placed inside the box:

- Nigeria import permit
- Phytosanitary certificate of the providing country
- List of materials

4.10.2 The following documents and information are to be placed in an envelope and pasted on the outside of the box:

- Nigeria import permit
- Phytosanitary certificate (original copy)
- List of materials
- Name, address and phone number of the recipient in NACGRAB
- Airway bill.

4.11 The provider ships the materials to NACGRAB and informs GRU staff of the tracking number and the expected date of the consignment.

Processing incoming seed

4.12 All steps of the acquisition procedure mentioned above are carried out prior to the arrival of new materials in the genebank facility. The following steps describe the procedure upon arrival of the consignment:

4.12.1 **Receipt and registration of acquired germplasm:** upon arrival, the consignment is opened by the GRU staff who is assigned to the acquisition task

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Important notice: *Following international phytosanitary standards, the box is opened and maintained in an isolated room to prevent contamination prior to phytosanitary health tests.*

4.12.2 Seed samples are checked against the list of materials to detect inconsistencies.

4.12.2.1 If inconsistencies are detected, the provider is asked to clarify. The provider's response is required before continuing the procedure.

4.12.2.2 If no inconsistencies are observed, the procedure is continued.

4.12.3 The list of imported materials is manually registered in the acquisition book with the name of the provider and the providing country.

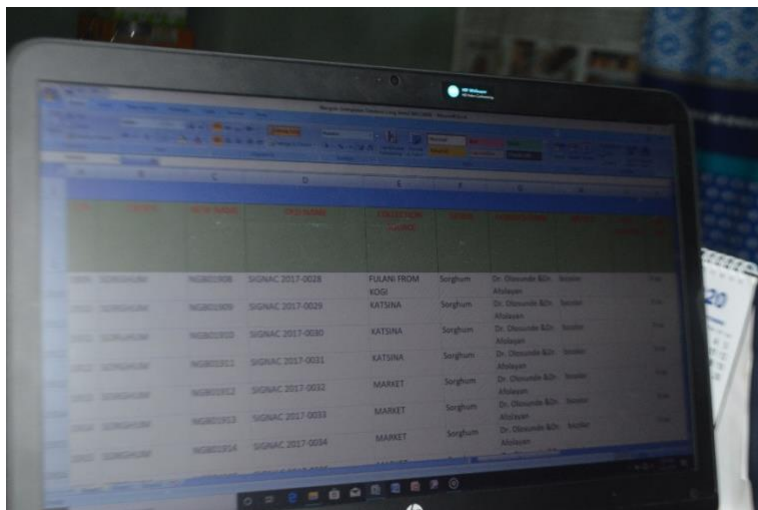
4.12.4 An acquisition batch ID is assigned by GRU staff and recorded in the acquisition book. The batch numbering system is as follows: Year (yyyy)-number (nnn) (ex: 2018-001).

4.12.5 The accompanying documents such as import permit, phytosanitary certificate, and list of materials are checked by GRU staff and scanned. The electronic copies of the documents are archived and the hard copies are filed in the acquisition folder.

4.12.6 The following information is entered in an excel database by GRU staff (Figs. 3 and 4):

- Batch ID
- Number of materials received
- List of materials received
- Ecology of each material
- Amount of seed per material (g)
- Name of the provider
- providing institute
- providing country
- Full address of providing institute
- Date of acquisition (MM-DD-YYYY)

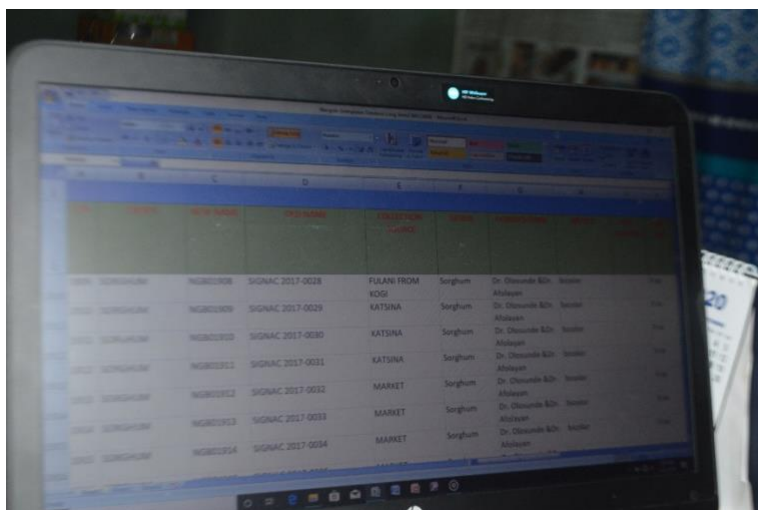
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ID	SIGNAC	PROVENANCE	LOCATION	Other
NGR000008	SIGNAC 2017-0028	FULANI FROM KOSO	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000009	SIGNAC 2017-0029	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000010	SIGNAC 2017-0030	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000011	SIGNAC 2017-0031	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000012	SIGNAC 2017-0032	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000013	SIGNAC 2017-0033	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000014	SIGNAC 2017-0034	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke

Fig. 1. Fields entered in GRU acquisition database.

4.12.7 On a weekly basis, the scanned copies of the accompanying documents (import permit, phytosanitary certificate and list of materials) and the Excel database are sent to the database manager who uploads them to NACGRAB Genebank Information System (ARGIS) database (Fig. 5).



ID	SIGNAC	PROVENANCE	LOCATION	Other
NGR000008	SIGNAC 2017-0028	FULANI FROM KOSO	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000009	SIGNAC 2017-0029	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000010	SIGNAC 2017-0030	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000011	SIGNAC 2017-0031	KATSINA	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000012	SIGNAC 2017-0032	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000013	SIGNAC 2017-0033	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke
NGR000014	SIGNAC 2017-0034	MARKET	Sorghum	Dr. Olosunde & Dr. Adegoke

Fig 2. Acquisition database into ARGIS

4.13 Visual assessment of seed quality: the seed samples are opened and visually assessed to check the quality of the seed lot. Seed handling is dependent on whether the seed sample is fresh or dry and whether the sample is free of pathogens and pests.

4.13.1 If the materials are dry, the seed sample is cleaned as described below in 4.13.3.

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4.13.2 If the materials are freshly harvested and in panicles, they are threshed and the grains are poured in a net bag and transferred in the drying and packaging room (15°C and 15% RH) for 2 weeks and cleaned as described in 4.13.3.

4.13.2.1 If materials appear to be infected by a pathogen or pest, the seed samples are immediately transferred to NQS for health testing. NQS conducts tests and informs GRU of the presence or absence of pathogens or pests and proceeds to clean or destroy the sample if infected with a quarantine pathogen. The protocols on phytosanitary treatments are described in phytosanitary unit's procedures. Please see Annex 3.

4.13.2.2 If the physical quality of new materials is visually acceptable (seed lot is dry, clean and no pathogen or pest presence), the procedure is continued.

4.13.3 **Seed cleaning:** the aim of seed cleaning is to improve the physical quality of the seed lot. It is completed manually in the seed cleaning room (25°C and 50-70% RH) by trained casual labor under the supervision of GRU staff in charge of the seed cleaning activity. Three main tasks are conducted during the seed cleaning process:

4.13.3.1 Threshing of harvested material in panicles: the seeds are removed manually from the axis of the panicle. The remaining parts of panicle are thrown away. This task is done near the building, in the hangar of post-harvest in a space allocated for threshing activities.

4.13.3.2 Seed winnowing consists of separating inert materials and light and unfilled grains from the heavy grains (Fig. 6). It is done manually with a plastic fan.



Fig. 3. Manual seed lot winnowing

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4.13.3.3 Seed sorting is completed manually by well-trained casual labor in the processing room. Weed seeds, inert matter and discolored, deformed, infected, soiled, immature or damaged seeds are removed (Fig. 7).



Fig. 4. Seed sorting in seed cleaning room.

4.13.4 **Seed testing:** the initial quality of the imported seed is tested for two criteria:

4.13.4.1 Seed health: a sub sample, maximum 5 g per material, is prepared by the GRU staff and registered in the seed health testing book. A request for seed health testing is sent to the head of NQS via email. This request includes the list of materials to be tested with a budget code. Once the reply is received from the head of NQS, seed samples are sent for testing. The detailed protocol of seed testing is available at NQS.

4.13.4.2 Seed viability: A sub sample of 100 grains of seeds is prepared for germination testing by GRU staff. The procedure is described in the SOP for conservation (SOP NACGRAB-CONS-001-1.0).

4.13.5 **Seed quantity:** the quantity of each material is determined seed genebank staff using an analytical weighing balance. The amount of seed (in grams) is reported on the list of materials and entered into the computer in the Excel acquisition database.

4.13.6 **First drying:** As the materials await test results, the samples are transferred to net or tissue bags and placed in the drying and packaging room (15°C and 15% RH) for two weeks. These samples are placed on isolated shelves inside the drying room in order to avoid any contamination during the drying process.

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Decisions for the conservation of newly acquired materials

4.14 Decisions based on seed health testing: results of seed health testing are the first to be analyzed. GRU is informed on health tests by NQS and is advised if there is an urgent action to be taken.

4.14.1 If a major pest or quarantine pathogen is detected and treatment is not available, all remaining seeds are immediately sent to NQS and destroyed.

4.14.2 If the seeds are not contaminated by any major pest or quarantine pathogens, the result of viability and quantity tests are analyzed by the research assistant at GRU; a decision is made regarding the type of storage of the new material depending on the type of materials.

4.15 Decisions based on seed requestor: the following activities are carried out depending on the seed requestor:

4.15.1 If GRU is the recipient of the imported materials:

4.15.1.1 The materials imported by GRU for introduction into the collection are checked for probable duplication based on name and visual comparison of grain size with the seed files of similar accessions. A sample is considered as a duplicate if it has the same grain size and name as the one already in the genebank.

4.15.1.1.1 If materials are not duplicated in the genebank:

- Accessions with insufficient amount of seeds (< 100 g) and/or low viability rate (< 85%) are placed in the temporary storage and added to the list of materials to be regenerated.
- Those with sufficient amount of seeds (> 100 g) and high viability rate (>85%) are processed for introduction into the genebank.

4.15.1.1.2 If materials are identified as probable duplicates, they are discarded.

4.15.1.1.3 If a decision regarding duplication cannot be taken based on visual comparison, the imported material and the similar accessions are added to the list of germplasm to be regenerated.

4.15.1.1.3.1 A temporary ID is attributed to the new material by the unit database manager.

4.15.1.1.3.2 During the regeneration process, the new materials and the similar accessions are planted side by side. Observations of the entire plant at all growth stages are done by the staffs in charge of regeneration and acquisition in the field.

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4.15.1.1.3.3 After harvest, during the cleaning process, the grains of the imported materials and similar accessions are compared. The informations collected during the regeneration process are analyzed and a decision is taken to know if the new acquired material is a duplicate or not.

4.15.1.1.3.4 If the new materials are identified as probable duplicates, they are discarded as described in the section 4.15.1.1.2

4.15.1.1.3.5 If the new materials are not duplicates, they are added to the list of new materials to be introduced into the active collection as described in the section 4.16.

4.15.2 If the recipient is a scientist from NACGRAB or a NARS partner

4.15.2.1 When the recipient is one of NACGRAB's scientist or a NARS partner, GRU informs the recipient of the arrival of the materials and any issues related to the results of the initial tests. The new materials are placed in the temporary store awaiting the distribution process described in the distribution SOP (SOP [NACGRAB]-DIS-001-1.0). The decision to check these materials for probable duplication in the genebank's active collection depends on its biological status.

4.15.2.1.1 If the received materials are breeder's lines under development, they are not checked for probable duplication. They are repacked and processed for shipment to the recipient according to the distribution SOP (SOP NACGRAB-DIS-001-1.0).

4.15.2.1.2 If the received materials are fixed, advanced breeder's lines or landraces, they are checked for probable duplication.

4.15.2.1.2.1 If the materials are not in the genebank collection, a sample amount of seeds is withdrawn, packed in envelopes and added to the list of materials to be regenerated. The remaining amount of seed is repacked and processed for shipment to the recipient, according to the distribution SOP (SOP NACGRAB-DIS-001-1.0).

4.15.2.1.2.2 If the materials are identified as probable duplicates, they are repacked and processed for shipment to the recipient according to the distribution SOP (SOP NACGRAB-DIS-001-1.0).

4.16 The list of materials to be introduced into the active collection is generated by the research technician or assistant in an Excel file and sent to the database manager.

4.17 Assignment of accession numbers and position codes in genebank: accession numbers and position codes are attributed by the database manager to each material to be entered into the active collection. New numbers and codes are sent to the research technician/assistant.

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4.18 **Final drying process:** materials to be introduced into the active collection are transferred to the drying room in net and tissue bags by GRU staff. The original labels are put inside the tissue bags (Fig. 6). The materials remain in the drying room for two weeks. During the drying, the moisture content of the samples is checked with a moisture tester until the desired level of 6% MC is reached.



Fig. 5. Drying newly acquired materials in the drying room

4.19. **Seed file preparation:** For any new material, a sample of 50 well-developed seeds is prepared and conserved as seed file. In addition, an electronic seed file is also prepared and used as reference to check newly harvested seed lots of the same material after regeneration (details are described in the SOP for regeneration of cultivated species (SOP NACGRAB-REGEN-1.0-1.1). Ten (10 grains) and 5 hulled grains are scanned and labelled with accession number and QR code. This electronic seed file book is saved in the database.

4.20 **Labelling of materials for temporary storage in the second drying room, MTS and LTS**

4.20.1 Materials to be temporary stored in the second drying room are packed in paper bags. Different sizes are used depending on the amount of seeds. The Labelling consists of 2 printed paper labels (not barcoded); one is placed inside the paper bag and the second is pasted with glue outside the bag.

4.20.2 Newly acquired materials to be stored in MTS and LTS are stored in large (210x 300 mm) and small aluminum pouches (130x172 mm) respectively. The accessions of MTS and LTS are identified by two labels on which there are barcode, QR code, DOI and a unique position code. One label is placed inside the aluminum pouches while the second is pasted outside the aluminum pouches with new accession numbers.

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4.21 **Packing and storage.** After the final drying process, materials with temporary ID are packed in paper envelope and conserved in the second drying room. Materials with accession numbers and low moisture content (6% MC) are packed in the aluminum pouches and arranged in the Medium-Term Store (MTS) while the samples of 100 g of seeds of these materials are also packed in aluminum pouches and stored in LTS.

Data management

4.22 The following passport data and initial test results are recorded in the genebanks database ARGIS by the database manager (to correspond with FAO reporting):

- Date of acquisition (MM-DD-YYYY)
- Final Recipient name, country, institute, email, phone number and address, GPS
- Provider name, country, institute, email, phone number and address
- Import permit
- Phytosanitary certificate
- List of materials imported with their available passport data
- Scanned copies of accompanying documents (import permit, phytosanitary certificate, SMTA if available, list of materials)

4.23 **The acquisition procedure is completed and finalized** when: 1) newly acquired materials are assigned temporary or accession numbers and conserved in the second drying room or medium term storage and 2) all passport data and tests results are entered into the genebank database.

5. *Staff Training and Competency*

Training and competency requirements to perform this SOP have been met by the following staff:

- Adam Olosunde, Assistant Director Seed Genebank and Head seed Genebank unit.
Contact: olosundam@yahoo.com
- Olutoye Fashola, Oversight /Monitoring of genebank
Contact: sholapearl@yahoo.com
- Mary Adiat-Adegoke, Agric superintendent, oversight of the Seed Acquisition procedure. Contact : maryadiat18@gmail.com
- Adetoro Babatunde, Agric supritendent, oversight of the seed testing and packaging, contact : adetorob27 @gmail.com

Genebank staff undergo yearly training and periodic competency testing.

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6. References

FAO. 2014. Genebank Standards for Plant Genetic Resources for Food and Agriculture. Rev. ed. Rome

FAO. 2022. Practical guide for the application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Conservation in field genebanks. Commission on Genetic Resources for Food and Agriculture. Rome.

7. Revision History

Effective Date of the SOP	Version #	Description	Reviewed By
02/03/2022	1.0	Original SOP	Adam Olosunde
10/08/2022	1.1	Audited SOP	Janny van Beem
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Revision frequency: the review of this SOP is done on a yearly basis and is part of the staff's work plan and performance evaluation process.

8. Citation, Copyright, Access agreement

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Annex 1. Acquisition Principles at [National centre for genetic resources and biotechnology).

Use the guidelines below to write your acquisition policies

Points to consider before initiating the acquisition procedure:

- 1) Genebank's mandate – all incoming material must be in line regarding:
 - a. Taxonomy (Genus/species)
 - b. Biological Status
 - i. Wild
 - ii. Weedy
 - iii. Traditional cultivar/landrace
 - iv. Breeding lines/research material
 - v. Advanced or improved cultivars
- 2) Value to the Collection, Users and Human Heritage— must clearly be demonstrated; Incoming material may be valuable in that it:
 - a. fills a conservation gap (geographical, taxonomic, allelic)
 - b. has breeding potential
 - c. is rare or threatened
 - d. is of value for agricultural production
 - e. has specific traits that could contribute to specific targets
- 3) Legal considerations
 - a. SMTA/MTA or mutually agreed legal terms are acceptable
 - b. In line with the ITPGRFA (to conserve, use and distribute for breeding, research and training)
 - c. Intellectual Property Rights (IPR) – must be in line with the genebanks mandate
 - d. Collected material abides by national, regional and international legislation
- 4) Biosafety considerations
 - a. Phytosanitary status—incoming materials must be accompanied by phytosanitary certificate
 - b. GMO? Genebank acquire material that is genetically modified or contains derivatives of GMOs
 - c. Invasive weed? Genebank accept material that could potentially be an invasive weed and they are assigned to distinct shelves for proper monitoring and handling.
- 5) Management and Economics
 - a. Capacity of the genebank (staff, storage, land) must be considered
 - b. Cost efficiency of conservation must be justified, for example in:

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- i. Regeneration –i.e. , physiological requirements of incoming material allow it to be regenerated and managed at the center or in outreach offices
 - ii. Duplication – incoming material may not be a duplicate of conserved material
 - c. Storage type: incoming material may require temporary, medium or long term storage
- 6) Passport Data – minimum data must be provided (centers to specify what the minimum data is)
- a. Provider Name
 - b. Provider Country
 - c. Country of Origin of the material
 - d. Name or ID of the material
 - e. GPs
 - f. Local name of crop
- 7) Shipping requirements – provider must be able to comply with the minimum shipping requirements (centers to specify the minimum shipping requirements)
- a. Import/Export permit
 - b. Etc.
- 8) Partnerships: the genebank makes every effort to support partners, indigenous groups or farmers in their endeavor to conserve their genetic resources