



GUIDELINES
FOR
REGISTRATION AND RELEASE OF NEW CROP
VARIETIES IN NIGERIA

NATIONAL CENTRE FOR GENETIC RESOURCES AND BIOTECHNOLOGY (NACGRAB)

FOREWARD

The Federal government of Nigeria is committed to regulatory standard that will keep food safe for human and animals, protect genetic resources base and the entire environment. Consequent of this, Decree No. 33 of 1987 was promulgated to establish the National Crop Varieties and Livestock Breeds Registration and Release Committee (NVRC). The activities of this Committee and its Sub- technical committees are to be co-ordinated by the National Centre for Genetic Resources and Biotechnology (NACGRAB), a parastatal in the Federal Ministry of Science and Technology. The Decree spelt out the responsibilities and functions of the Committee. Primarily, to register and release superior crop varieties, livestock breeds and fish strains to farmers and industries.

Since inauguration in 1989, the National Committee has held 24 meetings. These meetings as at date have resulted into registration and release of 600 varieties from 38 crop species. Likewise, 166 varieties from 10 crops have been entered into ECOWAS regional catalogue.

However, during some of the Technical Sub-Committee (TSC) meetings, few applications were turned down for re- presentation or rejected outright, not because the varieties are not novel, but most times, the applicant did not follow the expected guidelines. It is against this backdrop that this document on guidelines for registration and release of new crop varieties in Nigeria is produced to enhance the process. It describes the composition and functions of the committees, the requirement and how to nominate a new crop variety for registration and release. Some of the requirements are from decisions reached in the past by the Committee. This guideline is in harmony with the International standard and requirements at the ECOWAS sub-regional level.

Meanwhile, this edition is not conclusive in content. Work is in progress to incorporate the distinctness, uniformity and stability (DUS) protocol for all cultivated crops, the possibility of application fee, legislation on intellectual property rights (IPR) and process for registration of Genetically Modified (GM) crop varieties. All these will be added in the next edition.

I hereby acknowledge the supports and contributions of the Chairman NVRC, Chief O. Awoyemi; the Chairman, TSC (crops) Prof. O.O. Olufajo and members, as well as NACGRAB technical staff towards the production of this maiden edition.

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SECTION A

1.0 Establishment of National Crop Varieties and Livestock Breeds Registration and Release Committee

In the past, there was no national institution mandated to validate claims by any individual or organisation on the development of new crop varieties or livestock breeds. Against this backdrop, the Federal Government of Nigeria promulgated Decree No. 33 of 1987 that established the National Crop Varieties and Livestock Breeds' Registration and Release Committee. For the purpose of this Decree, a Registrar is appointed for the enforcement of this Decree. The Registrar shall be the Head of the Genetic Resources Unit (now Director/CEO, National Centre for Genetic Resources and Biotechnology (NACGRAB)) in the Federal Ministry of Science and Technology.

2.0 Responsibilities of the Registrar

The Registrar who shall be the Director/CEO of National Centre for Genetic Resources and Biotechnology (NACGRAB) shall be responsible to:

- i. Enforce the provisions of Decree No. 33, 1987 for National Crop Varieties and Livestock Breeds Registration and Release.
- ii. Convey and organise the National and Technical meetings for Crop Varieties, Livestock Breeds and Fish Strains Registration and Release.
- iii. Receive and verify application forms for Release and Registration.
- iv. Request additional information to regularize missing information.
- v. Verify that the new variety fulfils the Distinctiveness, Uniformity and Stability (DUS) and Value for Cultivation and Use (VCU) requirements.
- vi. Notify the applicant of rejection or acceptance of the application(s).
- vii. Publish the registration in the official national Catalogue.
- viii. Notify the applicant of the approval of the new variety through a memo.
- ix. Appoint members of his staff to assist in running the secretariat of National Crop Varieties, Livestock Breeds and Fish Strains Registration and Release Committee.
- x. Recommend to the Minister of Science and Technology for the approval of members of Technical Sub-Committee or any other professional or organization(s) that are supposed to be part of the crop varieties registration meeting.

3.0 **Composition and Functions of the National Committee**

The National Committee shall comprise of the following members:

- a) A Chairman who shall not be a person employed in the public service of the Federation or of a State to be appointed by the President;
- b) The Director, Federal Department of Agriculture;
- c) The Director of Agricultural Sciences (now Director, Bio-resources technology) Federal Ministry of Science and Technology;
- d) The Head of Genetic Resources Unit, (now Director/CEO, National Centre for Genetic Resources and Biotechnology (NACGRAB)) Federal Ministry of Science and Technology;
- e) The Director, National Seed Service (now Director-General, National Agricultural Seed Council (NASC));
- f) The Chairman, Committee of Deans of Faculties of Agriculture in Nigerian Universities;
- g) The President, Genetic Society of Nigeria (GSN);
- h) Two experienced breeders appointed on their personal merit by the Minister;
- i) One large-scale crop farmer appointed on his personal merit by the Minister;
- j) Two General Managers representing two River Basin Development Authorities from different ecological areas in rotation appointed by the Minister.
- k) The Executive Secretary; Agricultural Research Council of Nigeria (ARCN). (Included later).
- l) The Director – General; National Biotechnology Development Agency (NABDA). (Included later).

The Committee shall have power to regulate its own proceedings. The validity of the proceedings of the Committee shall not be affected by reason of-

- (a) Any vacancy in the membership of the Committee;
- (b) Any defect in the appointment of one or more members of the Committee; or
- (c) A person not entitled to do so taking part in its proceedings.

Functions of the National Committee:

- (a) Receive and process applications for the registration, naming and release of old and new crop varieties, livestock breeds and fish strains;
- (b) Officially release the list of superior crop varieties, livestock breeds and fish strains recommended by any Sub-Committee established for that purpose;
- (c) Approve names for new crop varieties and breeds of livestock certified as new or distinct such that uniformity in nomenclature is ensured;
- (d) Render essential information on the released varieties of crops, livestock breeds and fish strains, their outstanding characteristics, areas of adaptation and the location of foundation seeds or stocks of the released varieties and breeds;

- (e) Ensure the maintenance of the National Register for all crop varieties, livestock breeds and fish strains;
- (f) Interact with National Organisations and Institutions concerned with large-scale seed, livestock and fish production;
- (g) Organise, in collaboration with the Genetic Resources Unit (now NACGRAB) of the Ministry of Science and Technology, the maintenance and storage for posterity the germplasm of the registered crop varieties, livestock breeds and fish strains;
- (h) Ensure that any imported crop variety or livestock breed into Nigeria which are required for general distribution and use shall pass through the same process as seeds of new crop varieties and livestock breeds developed by breeders in Nigeria; and
- (i) Formulate policies on matters concerning the validation, registration, naming and release of new crop varieties and livestock breeds which are either introduced or developed in Nigeria.

The National Committee is empowered to appoint such number of Technical Sub-Committees as it thinks fit to consider and report on any matter with which the Committee is concerned.

4.0 Composition and functions of the Technical Sub-Committee on Crops

The Technical Sub-Committee on crops shall have as members:

- a) all co-ordinators of National Co-ordinated Research Projects one of whom shall be appointed by the Minister as chairman for a period of four years;
- b) the Head, Genetics Resources Unit (now Director/CEO, NACGRAB) of the Federal Ministry of Science and Technology;
- c) co-ordinators of National Accelerated Food Production Projects and Research Institute;
- d) Two experience breeders appointed on their personal merit by the Minister for a period of four years.

The Technical Sub-Committee shall be charged with the general function of-

- a) providing guidelines for the determination of superiority, homogeneity, distinctiveness and stability of material to be released;
- b) determining guidelines for the testing of new crop varieties and for describing them;
- c) evolving a variety naming system and recommending names for new varieties to the National Crop Varieties and Livestock Breeds Registration and Release Committee;
- d) recommending new varieties for release by the National Crop Varieties and Livestock Breeds Registration and Release Committee for general cultivation in the country; and
- e) Nominating varieties into the National Accelerated Food Production Project and Research Institute for field testing in order to develop production package for the variety.

5.0 **Purpose of Registration and release of new crop varieties**

The purpose of registration and release of new crop varieties is to ensure that credible and best cultivars are introduced to the public for general cultivation in the region in which they are adapted. It is also to ensure that crops that are introduced to farmers have no harmful effects on the consumer and the environment at large. This enables the farmers to choose varieties of interest for cultivation in the regions in which they are suitable. The process also helps to know the number of crop varieties available to farmers in a particular region and at a given period of time. Lastly, the process helps to identify the gaps and areas of need among breeders, farmers and consumers/industries. Generally, the broad goal of registration and release of new crop varieties is to maximize public benefit.

6.0 **Reasons for breeding new crop varieties**

Plant breeding aims to improve the characteristics of plants so that they become more desirable agronomically and economically. Generally, a successful variety is one with total balance of traits that makes it more profitable for the growers and acceptable to the consumers than any other one they might choose. Some of the reasons for breeding a new crop variety may be as follows:

- 1) Higher yields
- 2) Improved quality: like baking in wheat, cooking in rice, malting in sorghum, vitamin fortified in cassava, quality protein in maize. etc.
- 3) Resistance/tolerance to pests
- 4) Resistance/tolerance to diseases
- 5) Tolerance to abiotic stress like drought, flood, salt and iron toxicity.
- 6) Early maturity
- 7) Good agronomic characteristics like dwarfness in cereals
- 8) Photo- insensitivity
- 9) Elimination of anti-nutritional factors
- 10) Good storability

For the purpose of registration and release; if a crop variety is bred for other characteristic apart from yield, in such case(s), it must be of economic importance and also, the yield factor must not be compromised.

SECTION B

1.0 Requirements for Registration and Release of Crop Varieties

For a crop to be registered and released as a new variety in Nigeria it must have passed the test for Distinctiveness, Uniformity and Stability (DUS) and as well as for Value for Cultivation and Use (VCU).

1. The Distinctiveness, Uniformity and Stability (DUS) is an acronym for:
 - Distinctiveness: new variety should be clearly distinguishable from any other existing varieties in Nigeria
 - Uniformity: individual plant of new variety should be sufficiently uniform at the same growth stages in the expression of their characteristic.
 - Stability: the genetic traits of the new variety should be stable through generations

The DUS test is an internationally recognised procedure standardized mainly for plant variety protection. The test is used to assess novelty of new varieties and also used to gather information regarding the botanical description of new varieties. In DUS test plots, candidate varieties are compared with similar existing varieties (check varieties) where agronomic characteristics (like yield, maturity date, height), morphological characteristics (like colour, shape, and size), physio-genetical characteristics (like tolerance to pest and disease) and general tolerance to biotic and abiotic stresses are evaluated following the International Union for the Protection of New Varieties of Plants (UPOV) guidelines. The DUS test is to be carried out at the On-station or at any designated DUS testing sites for at least 2 years/ two different giving seasons.

2. Value for Cultivation and Use (VCU): implies that for a crop to be registered as new variety, it must be beneficial to farming and industrial communities. The objective of VCU test for a candidate variety to be registered are to know:
 - the adaptation and stability across varied environments,
 - agronomic performance,
 - reaction to pests and diseases,
 - resistant/tolerant to abiotic stresses, when compared with existing varieties.

The VCU test is to be carried out during the multi-locational trial for two years in different environments.

3. The variety must have superior/trait performance over the existing ones with the farmers or currently registered variety in Nigeria.
4. The variety or its progeny is not detrimental to human or animal health and safety of the environment when grown and used as intended.

5. The variety name is not likely to be confused with the name of a variety that had previously been or currently being registered.
6. The variety name is not likely to offend the public.
7. The variety meets the standard for variety purity established by the International Seed Testing Association (ISTA) for a variety of that specie.
8. The variety was monitored by representatives of the Registrar and Technical Sub-Committee on crops during the on-farm trial.
9. The variety is officially nominated to the Technical Sub-Committee (Crops) for registration and release and defended by the developing scientist.
10. No false statement or misleading information is submitted in support of the nomination for variety registration and release.

To ascertain that a crop variety meet the DUS and VCU tests, the following trials must be conducted:

- a) **On-Station Trial:** The On-station trial is conducted by the breeder responsible for the development of the candidate variety within the premises of the research institute/institution. In the On-station trial, the preliminary yield trial is carried out on the candidate's varieties along with the existing ones. Simultaneously, these lines are given to entomologist/pathologist to study the reaction to pests and diseases of economic importance. The food quality and post-harvest traits are also evaluated at this stage. The principal breeder should also carry out the DUS test at this stage according to UPOV guidelines. Only lines that qualify from DUS test, yield, pests and diseases, quality and any other novel traits of interest point of view are recommended for multi-locational trial. On-station trial can take more than a year.
- b) **Multi-Locational Trials:** These trials are carried out for at least two years across different agro-ecological zones in Nigeria or at several appropriate locations in case the variety is bred for a particular agro-ecology. During the multi-locational trial, the VCU test is examined. These include adaptability, stability, agronomic performance, resistance/tolerant to biotic and abiotic stresses. It must be carried out in not less than 10 testing sites per year for comparison.
- c) **On-Farm Trial:** The On-farm trials are used to test a new technology on farmer's field. The purpose is to validate the perception of farmers about the candidate variety whether it will be accepted or not, whether it is better than what they have or not and whether it can be adaptable or not. This trial is carried out on farmer's field for a year/a growing season. The trial is to be supervised by appropriate government extension organisation for the crop and farmer's varieties are compared with the candidate varieties in the process. A year data from at least 10 farmer's field across different agro-ecology is required.

EXCEPTIONAL CASE IN PERENIAL CROP SPECIES

In the case of perennial/long gestation crop species (for example cocoa, oil- palm, rubber, mango, citrus etc.), it is recommended that the multi-locational and on-farm trials should be combined through a farmer's participatory varietal selection. Minimum of two years production data in addition to on- station data should be presented for registration and release of the proposed varieties.

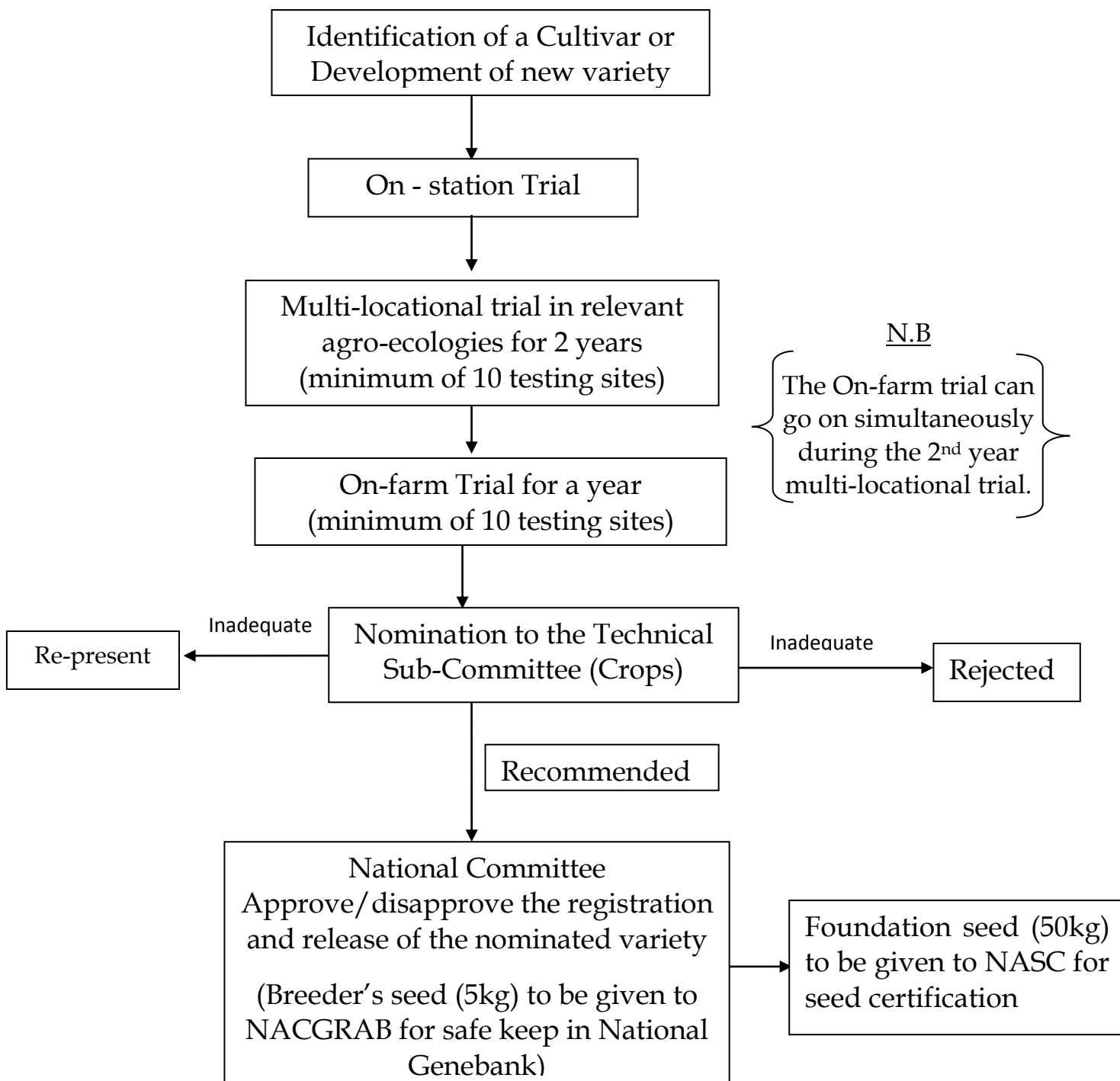
Note: All data from these trials should be analysed and presented inform of tables and figures in order of execution along with other relevant documents to the technical committee for registration and release.

2.0 How to nominate a new crop variety for registration and release

- A. Application and supporting documents must be in English, Nigeria official language.
- B. The guidelines stated below should be followed:
 - i. The document should be typed in double-space leaving a margin of 1-1.5cm on left hand side and 1.5cm on the right side on an A4 sized paper. Upper and lower margins should be 1.5cm
 - ii. Font type should be Times New Roman, size 12.
 - iii. Total length of the document excluding Tables, Figures and Pictures should not exceed five pages.
 - iv. Title of the document should be in CAPS and centralized. This should be followed by Author(s) name(s) (surname first) and affiliations. Authors' titles should not be included.
 - v. Scientific names should be italicized.
 - vi. Oxford English spelling should be used and consistency of spellings should be maintained throughout the manuscript.
 - vii. The content of document should be structured as follows:
 - a. Introduction: This should deal with brief background information and objectives
 - b. Brief methodology for On-Station, Multi-Locational and On-Farm trials.
 - c. Justification for the nomination
 - d. Recommendations
 - e. References: Relevant both in text and references section.
 - f. Tables: It should be clear and simple (e.g. Author may present yearly multi-location trials separately). Current standards should be followed. Names and statistics on variety of reference should be highlighted or made bold.
 - g. Figures: Where necessary, all figures should be clearly presented.
 - h. Pictures: These should elucidate the characteristics of the variety.

- viii. Approved General and Specific descriptors should be attached for each variety.
- C. Applicant must submit 40 printed copies of the documents **at least two weeks before the date of the meeting** to:
- The Registrar,
National Crop Varieties and Livestock Breeds Registration and Release Committee
%o National Centre for Genetic Resources and Biotechnology (NACGRAB)
Moor Plantation, P.M.B 5382, Ibadan
Nigeria.
Tel: +2348034221101 or +2348065152346
E-mail: varietyreleasenigeria@gmail.com**
- D. The crop variety registration and release committee meeting usually holds once a year, (around November/December). But with funding supports, it can hold twice in a year. The Registrar would have sent the date/period of the meeting six weeks earlier. **Note that any nomination later than two weeks before the date of the meeting will not be entertained but deferred till another meeting.**
- E. The representative of the nominating/developing institution will make a power point presentation on the nomination at the Technical Sub-Committee meeting. Thereafter, the committee will deliberate upon the nomination, whether it should be accepted or rejected. The Technical Sub-Committee will recommend only the varieties that meet the requirements stated above to the National Committee meeting for final deliberation and approval. When a variety is registered, the Registrar issues a certificate of registration and release to the applicant. Only one certificate is granted per variety.

DIAGRAMMATIC REPRESENTATION OF THE PROCEDURE FOR REGISTRATION OF CROP VARIETY IN NIGERIA



3.0 Crop descriptor

There are two crop descriptors to be completed by the applicant. One is General and the other is Specific. The General descriptor outline is the same for all crops while the Specific descriptor as the name implies is specific for the crop nominated for registration and release. A format for the General descriptor is as follows:

General Descriptor format

S/N	Old	New
1	Specie :	Common and Botanical name of crop:
2	Name of variety :	Name of variety: (i) New Name: (ii) Old Name:
3	Old name of variety :	Genetic origin/source:
4	Origin/ source :	Type of variety:
5	Type of variety :	Pedigree of variety:
6	Pedigree :	Breeding Technique:
7	Name and address of developing and releasing organization :	Name of developing organization(s) :
8	Morphological characteristics :	Name of releasing organization/ Maintainer :
9	Adaptation :	Name of developing scientists :
10		Name of collaborating scientists:
11	Days to maturity :	Adapted agro-ecology :
12	Potential yield :	Days to maturity :
13	Pest and disease tolerance :	Potential yield(t/ha) :
14	Outstanding characteristics :	Actual yield(t/ha) :
15	Nutrient content :	Reaction to pests and diseases:
16	Year of release :	Outstanding characteristics:
17		Nutrient content :
18		Year of nomination for release :

4.0 Who can develop a new crop variety for registration and release?

The bottleneck on who can develop new crop varieties in Nigeria has been removed. The door is now open to only registered organisations in the country under the following categories:

- i) National Agricultural Research Institutes (NARI's) in Nigeria,

- ii) Universities in Nigeria,
- iii) Consultative Group on International Agricultural Research (CGIAR) Centres,
- iv) Private Seed Companies and
- v) Non-Governmental Organisations (NGOs).

All crops cultivated in Nigeria have their co-ordinating research institutes (see Appendix I), where there is a national crop co-ordinator. If a new variety is developed by any other organisation apart from the co-ordinating institute, such organisation should work harmoniously with the co-ordinating research Institute to evaluate the varieties. Therefore, every nomination to the Registrar should be routed through the coordinating research Institute.

5.0 Rejection of a variety nominated for registration

A variety nominated for registration and release will be rejected if it is found not to meet any of the requirements for registration and release. However, it is at the discretion of the National and Technical Sub-Committees to decide whether such variety can be represented in another meeting provided expected requirement(s) have been met.

6.0 De-registration of an already registered and released variety

An already registered and released variety can be deregistered if the Committee discovers that:

- (a) The variety has an adverse effect on Nigerian agricultural and food system.
- (b) The variety or its progeny may be detrimental to human or animal health and safety, or the environment.
- (c) False or misleading information was submitted as part of the application.
- (d) The variety has been found to be indistinguishable from another variety already registered or known to exist.

In any of these cases, NACGRAB and NASC will lawfully mandate the organisation that developed the variety to withdraw it from the public.

APPENDIX I

NATIONAL AGRICULTURAL RESEARCH INSTITUTES THEIR MANDATE CROPS

No	INSTITUTE	MANDATE CROPS
1	Cocoa Research Institute of Nigeria (CRIN), P.M.B. 5244, Idi-Ayunre, Ibadan	Research into the genetic improvement and production of cocoa, cashew, kola, tea and coffee.
2	Institute for Agricultural Research (IAR). P.M.B 1044, Zaria	Research into the genetic improvement and production of groundnut, cowpea, sorghum, maize, cotton, sunflower and jatropha.
3	Institute of Agricultural Research and Training (IAR&T), P.M.B 5029, Moor plantation, Ibadan.	Research into the genetic improvement of maize, kenaf, and jute.
4	Lake Chad Research Institute (LCRI), P.M.B 1293, Gamboru-Ngala Road, Maiduguri.	Research into the improvement of millet, wheat and barley.
5	National Cereals Research Institute (NCRI), P.M.B. 8, Bida, Badeggi, Niger state.	Research into the genetic improvement of rice, soyabean, benniseed and sugarcane.
6	National Institute for Horticultural Research (NIHORT), P.M.B 5432, Idi-Shin, Ibadan.	Research into the genetic improvement and production of fruits and vegetable, as well as ornamental plants.
7	National Root Crops Research Institute (NRCRI) Umudike.	Research into the genetic improvement and production of cassava, yam, cocoyam, potato, ginger and sweet potato.
8	Nigerian Institute for Oil-Palm Research (NIFOR), P.M.B 1030 Benin City.	Research into the genetic improvement, production and processing of oil palm, raphia date, coconut and ornamental palms.
9	Rubber Research Institute of Nigeria (RRIN), 3-5, Osazuwa Avenue, Benin City.	Research into the genetic improvement, production and processing of rubber and other latex producing plants.