NATIONAL BIOSAFETY AUTHORITY

SAMPLING GUIDELINES FOR THE TESTING OF GENETICALLY MODIFIED ORGANISMS AND DERIVED PRODUCTS IN KENYA

APRIL 2023

FOREWORD

The National Biosafety Authority (NBA) is a state corporation mandated (under the Biosafety Act, 2009) to exercise general supervision and control over the transfer, handling and use of Genetically Modified Organisms (GMOs), with a view to ensuring safety of human and animal health and provision of adequate protection to the environment. As part of its mandate, the Authority conducts scheduled and impromptu monitoring, market surveillance, inspection and clearance of consignments at key entry points to ensure that no unauthorized GMOs are imported into the or placed in the market.

The Authority is committed to ensuring that samples collected during market surveillance and from consignments at entry and exit points are representative of the entire consignment. This is critical as results obtained from the sample should warrant a generalization of the entire consignment. To fulfill these commitments, the NBA will comply with all statutory rules and accepted codes and practices relating to sample collection and processing of samples for laboratory analysis.

In line to this, the NBA has developed sampling guidelines that will guide Biosafety Inspectors during monitoring, surveillance, inspection and clearance of consignments at points of entry and exit, as well as during laboratory analysis of the collected samples. These guidelines provide procedures for setting up valid sampling strategies for products and analysis of the samples for possible GMOs detection. The guidelines are compliant with the Kenya Bureau of Standards guidelines and other internationally accepted Codes of Practice.

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CHIEF EXECUTIVE OFFICER

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ACRONYMS

BCH : Biosafety Clearing House

CBD : Convention on Biological Diversity

DNA : Deoxyribonucleic acid

GMO : Genetically Modified Organism

ISO : International Organization for Standardization

ISTA : International Seed Testing Association

NBA : National Biosafety Authority

TSD : Technical Services Directorate

DEFINITION OF TERMS

The following terms and definitions apply for the purpose of this guideline;

Consignment: quantity of some commodity delivered/dispatched at one time and covered by one set of documents. The consignment may consist of one or more lots or part(s) of lots

Genetically modified organism: means an organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology techniques;
'Modern Biotechnology' includes the application of-

a) in-vitro nucleic acid techniques including the use of recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles; or
b) fusion of cells beyond the taxonomic family, that overcome natural physiological, reproductive and recombinant barriers and which are not techniques used in traditional breeding and selection.

Lot: An identifiable quantity of a commodity delivered/dispatched at one time and determined by the official to have common characteristics, such as origin, variety, type of packing, packer, consignor or markings.

Sample: One or more sampling units selected from a population according to some specified procedure

Sampling action: The removal from a given lot of material (food, feed, seed, plants, propagating material samples) a portion that is representative of the whole yet of convenient size for analysis with the intention of laboratory testing and inspection for genetic modification.

Increment/primary sample: A quantity of material taken from a single place in the lot or small equal quantity of grain taken from each individual sampling point in the lot, throughout the full depth of the lot.

Bulk/composite sample: Quantity of product obtained by combining and mixing the increments taken from a specific lot.

Laboratory/submitted sample: Quantity of product taken from the bulk sample intended for laboratory inspection and testing.

Analytical/working sample: Homogenized laboratory sample, consisting either of the whole laboratory sample or a representative portion thereof.

File increment sample: A sample retained for a specific period of time for enforcement or referee purposes.

CHAPTER ONE

1.0 NATIONAL BIOSAFETY AUTHORITY

1.1 Background information

The National Biosafety Authority (NBA) is a state corporation in Kenya mandated to ensure safety of human and animal health and provide adequate protection of the environment from harmful effects that may result from genetically modified organisms (GMOs).

The Authority was established pursuant to the provisions of the Biosafety Act, 2009 to regulate all activities involving GMOs in food, feed, research, industry, trade and environmental release and it fulfills its mandate by ensuring and assuring safe development, transfer, handling and use of GMOs in Kenya.

NBA has made great strides in establishing strong Biosafety framework in Kenya by developing and publishing the implementing Biosafety Regulations. These regulations laid down a clear procedure on handling GMOs whether plants, animals or microorganisms. NBA is the National Focal Point for the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (CBD) and is mandated to implement the provisions of the Cartagena Protocol on all Biosafety matters pertaining to GMOs.

1.2 Vision Statement

A World-class Biosafety Agency

1.3 Mission Statement

To ensure and assure safe development, transfer, handling and use of genetically modified organisms (GMOs) in Kenya.

1.4 Our Core Values

a) Good governance & Integrity,
b) Professionalism,
c) Customer Focus
d) Inclusiveness.

1.5 Our Objectives

a) To facilitate responsible research and minimize risks that may be posed by genetically modified organisms;
b) To ensure adequate level of protection in the development, transfer, handling and use of genetically modified organisms that may have an adverse effect on the health of the people and the environment; and

c) To establish a transparent, science-based and predictable process for reviewing and making decisions on the development, transfer, handling and use of genetically modified organisms and related activities.

1.6 Our Core Functions

The Biosafety Act no.2 of 2009 lists the functions of NBA as follows:

a) Consider and determine applications for approval for the development, transfer, handling and use of genetically modified organisms, and related activities in accordance with the provisions of the Biosafety Act;
b) Co-ordinate, monitor and assess activities relating to the safe development, transfer, handling and use of genetically modified organisms in order to ensure that such activities do not have adverse effect on human health and the environment.
c) Co-ordinate research and surveys in matters relating to the safe development, transfer, handling and use of genetically modified organisms, and to collect, collate and disseminate information about the findings of such research, investigation or survey;
d) Identify national requirements for manpower development and capacity building in biosafety;
e) Advise the Government on legislative and other measures relating to the safe development, transfer, handling and use of genetically modified organisms;
f) Promote awareness and education among the general public in matters relating to biosafety; and
g) Establish and maintain a Biosafety clearing house (BCH) to serve as a means through which information is made available to facilitate exchange of scientific, technical, environmental and legal information on, and experience with, living modified organisms;
h) To exercise and perform all other functions and powers conferred on by the Act.

CHAPTER TWO

2.0 INTRODUCTION

Sampling procedure from a consignment for analysis is the most crucial step in the analytical chain that includes sampling, sample preparation and analysis. It is imperative that sampling is performed as accurately as possible so that the sample collected is as representative of the consignment or batch under investigation, and to get the most accurate results. Without the implementation of a good sampling plan, misrepresentation of the consignment could occur with significant legal and reputational risks to the Authority.

When deciding which products to sample, for the presence of GM material, consideration should be made on the likelihood that the product may contain ingredients from GMO and therefore reference should be made to the list of globally authorized GMOs. Consideration should also be made on whether the material will contain sufficient intact DNA to allow identification of GM material (Table 2).

2.1 Scope

This guideline provides sampling procedures for the purpose of detection of genetic modification in commodities of interest. It applies to raw fresh materials, grains, seeds, primary ingredients, processed and final food/feed products.

2.2 Objectives

The main purpose of this guideline is to guide the Authority in the collection of samples during monitoring, market surveillance and cargo clearance. The specific objectives are:

i. To provide strategies for collection of representative samples for detection of genetic modification in the commodities of interest;

ii. To obtain maximum information about a consignment without examining each and every unit of the population.

2.3 Principle of sampling

- Samples shall be representative of the lots from which they are taken as the sample is only part of the population but not the whole population itself.
- The greater the sample size, the more accurate the sample will be of entire population.
- The greater the diversity in the population, the greater the variability in the sample collected.
- Sampling shall be carried out in such a manner as to protect the samples, sampling instruments, and the containers in which the samples are placed, from contaminants.
- For reference purposes and unforeseen uncertainty, file increment or reference samples should be kept for further analysis.

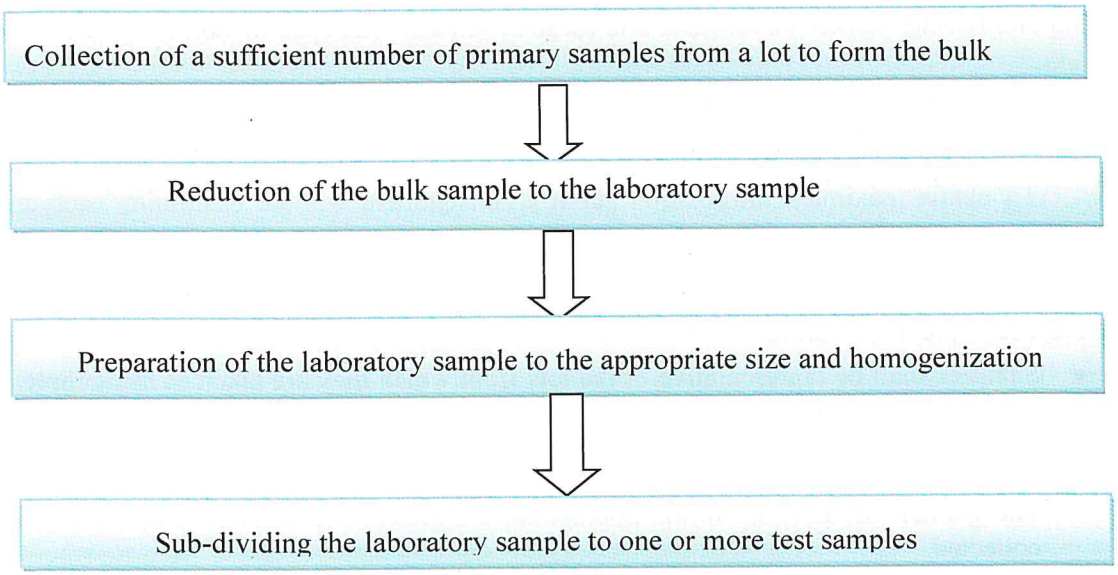
2.4. Sample and Sampling integrity

Primary samples collected at border/entry points, go-downs, warehouses, stores and/or client's premises should be taken jointly by NBA Officers and the representatives of the client. The bulk sample once homogenized should be divided into laboratory and file increment or duplicate sample. The duplicate sample shall be sealed and stored in a secure cabinet/store for one month if results are not disputed; and for 6 months in case there is a dispute. In case of loss of integrity in the laboratory sample; or there is a dispute on test results, the duplicate sample shall constitute the laboratory sample for confirmatory testing.

The sample dispatch form (Annex 3) on samples collected at border/entry points, go-downs, warehouses, stores and/or client's premises shall be signed by the Biosafety Inspector and counter-signed by a representative of the client.

2.5. Sampling Procedure

For the purpose of this guideline, sampling steps are as outlined in the flow chart below;



Schematic flow for sampling, sample preparation is further explained in Annex 4.

2.6 Apparatus and equipment

Equipment for sampling should be chosen as appropriate. Examples of sampling instruments are given in KS ISO 13690 and KS ISO 6644 (Table 1, Figure 1 and 2). Special care is necessary to ensure that all sampling apparatus are clean to avoid contamination of the material under investigation.

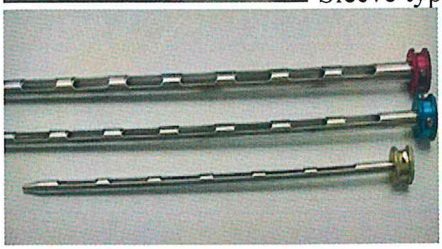
Sampling shall be carried out in such a manner as to protect the samples, the sampling instruments and the container in which the samples are placed, from adventitious contamination. Special attention shall be paid to avoid cross-contamination during the sampling procedure between different lots. Material adhering to the outside of the sampling instrument shall be removed before the contents are discharged.

Table 1: Sampling equipment

Type of Equipment	Equipment	Used for:
Trier/Probes	Partitioned sleeve type trier	Horizontal or vertical probing
	Non-partitioned sleeve type trier	Horizontal probing only
	Nobbe trier	Horizontal probing only
Automatic sampling devices	Automatic sampling probe Automatic grain samplers Diverted-type mechanical samplers	Automatic stream sampling
Containers	Buckets Collecting Pan Pail Primary bucket Clean paper Composite bucket Khaki packaging bags	Collection of primary samples
	Sample container/bag	Submitting samples to laboratory
Dividers	Boerner type divider Riffle soil divider Centrifugal divider Rotary divider	Divide primary samples to submitted sample size
Sealing equipment	Adhesive stickers Snap-on metal clip Plastic zip ties	Seal lot and samples
Cleaning equipment	Brushes compressed air blower vacuum cleaner ultra sound bath	Cleaning sampling tools

Sleeve type trier

Nobbe trier



Partitioned sleeve trier

Figure 1: Types of triers

2.7 Methods of sampling

Methods of sampling are classified into three namely; stream, static and sampling by hand.

2.7.1 Stream sampling

Stream sampling refers to sampling of free-flowing product; it can be done manually or automatically.

(a) Automatic stream sampling

Automatic stream sampling employs automatic stream sampling devices which draw a sample automatically by removing a portion of the product from the flow at regular intervals. Automatic streaming takes the most representative sample from the lot because it is free from human bias. Manual stream sampling refers to filling an appropriate sampling device such as a hand scoop by hand.

General procedure for manual stream sampling:

i). Select the appropriate location to take the stream sample. Sampling at the last step after conditioning and just before the product enters the container to be sealed is highly recommended.

ii). The sampling frequency must be at least one increment sample selection at appropriate intervals taken systematically throughout the entire transfer.

iii). Ensure that the equipment does not select or separate the seed or grain during sampling due to size, buoyancy or chaffiness.
iv). The entire cross-section of the stream must be sampled. Each pass of the sampling tool through the stream is defined as one sampling action to obtain one primary sample.
v). Sampling should be at regular intervals and should reflect the entire lot from the beginning of the lot to the end.
vi). Examine the increment samples for uniformity while sampling.
vii). Combine the increment samples in a sample container to form a bulk sample.
viii). Reduce the bulk sample to the appropriate size using a sample divider

(b) Manual Stream sampling using a hand scoop

On commencement, insert the hand scoop (Figure 2) into the grain stream at alternating points across the stream (left, middle, right). The scoop should be placed into the grain flow "upstream" and overturned. While moving "downstream", the scoop is turned to fill grain. Moving the scoop with the grain flow allows sampling of the appropriate location in the grain stream without splashing grain or overflowing the scoop.

When manual stream sampling free-flowing product, the scoop should be placed into the flow of product upside down, then rotated 180 degrees to fill, and then pulled out of the product flow.

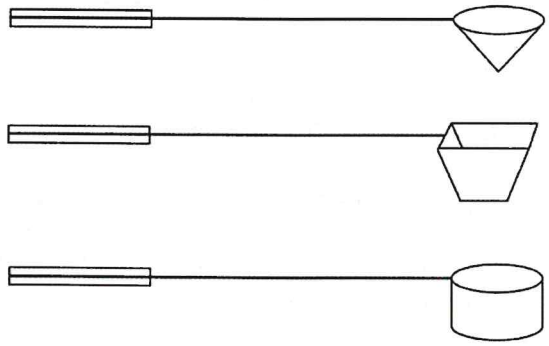


Figure 2: Types of hand scoops

2.7.2 Static sampling

Static sampling is the sampling of products that are not free-flowing contained in a truck, storage bin, tote (containers over 100 kg), tin, sack or any other suitable storage container.

General Procedures for sampling a static lot;

i). Select the appropriate method for sampling based on the kind of product, the packaging of the product, and where necessary, the importing country's requirements.

ii). Determine the sampling intensity as specified and the required size of each primary, composite and submitted sample

iii). Sample using the appropriate technique for the selected method or trier as described below;

iv). For stacked bags:

a) Randomly select the bags for sampling in a well distributed pattern.
b) Start sampling at the bottom of the stack of bags and work upwards to prevent cross-contamination of the primary samples from seed/grain spilling from above
c) The lower stacked bags can be struck with the large end of the trier to relieve the pressure on the bag and prevent it from bursting
d) The sampling pattern should be varied from bottom, middle and top bags on the pallet, and between pallets
e) Ensure that the bags selected for sampling and those above or adjacent to the bag being sampled are clean and free from debris to prevent contamination of the sample
f) Any extraneous material should be brushed or swept from the bags and the area before inserting the trier
g) Do not insert triers through labels or printed labeling on bags.
h) A hole in jute or poly bags made by the trier must be closed by running the point of the trier across the hole a few times in opposite directions to pull the threads together. A hole in a paper bag must be sealed by a suitable adhesive patching tape or label.

v). When sampling containers over 100 kg (totes), draw the samples from different locations or angles in each container. When sampling vertically, the sampling tool should reach the bottom of the tote.

vi). Prior to drawing each primary sample, completely empty the container where the individual sample is to be placed when checking for homogeneity.

vii). If samples are uniform, collect them in a second emptied container to obtain the composite/bulk sample. If the samples are not uniform, discontinue sampling and take corrective action.

Static sampling is done by either the sleeve trier or noble trier which are either partitioned or single hole. Sampling could be done horizontally or vertically as described below;

Procedure for sampling horizontally using the sleeve trier

i). Carefully insert the trier diagonally on the horizontal plane into the container in the closed position until it reaches the opposite corner of the container. The outer tube opening must be facing upward. Care should be taken not to push the trier through the opposite corner of the container.

ii). Open the trier until the inner and outer openings are aligned, then agitate it slightly to allow the openings to fill.

iii). Close the trier gently (to the point of resistance) and then withdraw.

iv). Place each increment sample into a suitable clean container(s) (pan/pail) to allow for checking for uniformity.

v). If necessary, reduce the sample to the appropriate size using a sample divider.

Procedure for sampling vertically using partitioned sleeve trier

i). Insert the closed trier through the top of the container on an angle until it reaches the bottom of the container.
ii). Turn the inner sleeve until the inner and outer openings align and agitate the trier slightly to allow the openings to fill.
iii). Gently close the trier and withdraw.
iv). Collect the sample on a clean, long piece of paper or into a clean container that is the same length as the trier. (When sampled using partitions <100 kg bags)
v). Collect the sample in a clean container. (When sampled without using partitions > 100 kg bags)
vi). Check for uniformity with the primary samples already drawn before adding to the composite sample.
vii). If necessary, reduce the sample to the appropriate size using a sample divider

Procedure for sampling using the Nobbe trier

i). Insert the trier gently into the centre of the bag with the trier opening facing downward and the trier tilted upwards at an angle of approximately 30 degrees to the horizontal.
ii). When sampling from the end of a bag, the opening of the trier must reach the centre of the bag. Insert the trier as close to the bottom edge of the bag as possible (i.e. below stitching)
iii). When sampling from the side, the opening of the trier must reach the opposite side of the bag. Insert the trier at the bottom edge of the bag such that the 30-degree angle is achieved.
iv). Rotate the trier through 180 degrees, bringing the slot to face upwards.
v). Withdraw the trier with gentle agitation to help maintain an even flow of product into the collecting pail/bag.
vi). The trier must not be agitated without withdrawing.
vii). When sampling from the end, withdraw with decreasing speed so that the quantity of product obtained from successive locations increases progressively from the centre of the bag.
viii). When sampling from the side, withdraw with a constant rate of speed.
ix). Each primary sample must be placed into a suitable clean container/pan/pail/clear bag to allow for checking for uniformity.

2.7.3 Hand sampling

In cases where it has been determined that seed damage would occur when using triers, sampling by hand is the recommended method of sampling. All positions inside the container must be accessible. Where it may be impossible to obtain samples from the lower parts of bags or containers, the containers must be partially or completely emptied to allow access to all positions of the container. The sampler must be able to reach the bottom of the container.

Procedure for hand sampling

i) Insert your open hand through the top of the container with fingers held tightly together, until the desired depth is reached.

ii) close your hand with the fingers held tightly together to ensure that few, if any, particles escape, and slowly withdraw your hand.

Repeat this process in different parts of the lot and at different depths, to obtain the required number of primary samples

2.8. Sample sub-division

When sampling, primary samples are composited to form bulk sample. In most cases, the bulk sample is more than what the laboratory requires. As such, sample dividers are used to uniformly reduce the sample to the required laboratory sample. Dividers are also used to get two equal samples namely, laboratory sample used for the test and file increment/duplicate used as a reference (Annex 4). Some of the sample dividers are illustrated in figure 3 below;

a) Boerner divider

b) Riffle divider

d) Rotary divider

e) Rotary divider

CHAPTER THREE

3.0 SAMPLING PROTOCOLS

3.1 Sampling non-packaged products

Sampling procedures for non-packaged products are meant to provide a quality and representative sample for the detection of genetic modification. Because of a reduction in sensitivity of GM detection methods in processed ingredients (due to degradation of the target DNA or removal during processing), it is recommended that sampling of food and feed is done as early as possible in the manufacturing process. Therefore, it is more effective to sample raw ingredients at the point of import or at manufacturing premises before they are processed into finished products or retail products.

For reliability and preference of sample choice during routine surveillance, sampling prioritization should be done as illustrated on Table 2.

Table 2: Sample preference for viable assays

Very Reliable	Reliable	Less Reliable	Very difficult/ Impossible
• Fresh Corn • Fresh papaya • Corn meal • Corn bread mix • Soy flour	• Puffed corn snacks • Tortilla chips • Soy-based protein drinks/powders	• Popcorn • Fried corn snacks	• Oil • Salad dressing • Cereals (cornflakes) • Wheat flour

Source: Bio-rad Testing protocol

Number and mass of increments

The number and the mass of the increments are given in tables 3.0 and 3.1 below. All the increments taken together constitute the aggregate sample which shall be homogenized and divided to form the laboratory sample. The recommended mass of a laboratory sample is determined by the type and the requirements of the tests that are to be carried out.

Table 3.0: Sampling of static bulk grain in trailers or Lorries, wagons, ships or bulk tankers, silos or warehouses (KS ISO 24333:2009).

Size of lot (m)	Minimum number of increments	Minimum mass of laboratory sample for contaminants	Minimum mass of laboratory sample for other analyses
m ≤15 t	3 sampling points	1 kg to 3 kg	1 kg to 3 kg according to the analytical requirements
15< m ≤ 30 t	8 sampling points		
30< m ≤ 45 t	11 sampling points		
45< m ≤ 100 t	15 sampling points		
100< m ≤ 300 t	18 sampling points		
300< m ≤ 500 t	20 sampling points		
500< m ≤ 1500 t	25 sampling points		
Per lot or sub-lot of 1 500 t	25 sampling points		

Table 3.1: Sampling of flowing milled and other cereal products by automatic or manual means (KS ISO 24333:2009).

Method	Minimum number of increments	Minimum mass of laboratory sample for contaminants	Minimum mass of laboratory sample for other analyses
Automatic/Mechanical sampling	15 per lot or sub-lot of 100 tonnes (frequency according to flow)	For powdery products: 1 kg For agglomerated products, (for example, pellets): 3 kg	1 kg to 3 kg according to analytical requirements
Manual sampling	15 per lot or sub-lot of 100 tonnes, that is, for a flow • ≤20 t/h, minimum of 3 per hour • >20 t/h minimum of 3 per 20 t		

The bulk sample shall be formed by combining and mixing the increment samples thoroughly. If it is deemed necessary to calculate the sampling uncertainty on an individual lot basis, an estimation of the sampling uncertainty may be carried out as described in section 4.3. Sampling of materials larger than grains (e.g. fruits, rhizomes, potatoes) should be carried out as described in section 3.2.

3.1.2 Sampling from rail, road wagons, lorries, ships or aircraft cargo

Sampling shall be according to the general requirements described in KS ISO 24333:2009 which entails the following stages:

a) Taking a defined number of increments to constitute an aggregate sample;
b) Homogenization of the aggregate sample; and
c) Reduction of the aggregate sample into laboratory sample(s).

Increments should be taken throughout the whole depth of the lot. An appropriate instrument/equipment should be used to achieve this. The number of increments to be taken is described in section 3.1.1.

3.1.3 Sampling from silos, bins or warehouses

The lot should be sampled throughout its whole depth and using a grid system, like that used for wagons, barges, ships or aircraft cargo according to KS ISO 13690 and/or ISTA guidelines. A suitable instrument shall be used to achieve this requirement. The number of increments to be taken is described in section 3.1.1.

3.1.4 Sampling of moving goods

Whenever possible, sampling should be carried out when the products are flowing (e.g. during loading or unloading) so that all the constituent parts of the lot have the same probability of being sampled. When mechanical means are not available, implement a manual sampling plan. Since the characteristics and make-up of the lot can vary, the increments shall be taken from the whole lot, i.e. as long as the material is flowing. The number of increments to be taken is described in section 3.1.1.

3.2 Sampling of pre-packed units

This section is relevant for pre-packed units of up to 50 kg. Pre-packed units are usually transported in outer cases or cartons or container containing a convenient number of units.

The criteria for describing the number of outer containers in the consignment to be selected for sampling is illustrated in Table 4.

Table 4: Number of pre-packaged units to be sampled (KS ISO 13690)

Number of pre-packed units in consignment	**Number of pre-packed units to be sampled**
Up to 10 units	Sample from each pre-packed unit
10≥100 units	Take 10 samples at random
More than 100 units	Square root (rounded down) of total number, taken according to a suitable sampling scheme

Pre-packed units should be taken in a random manner from the entire case, carton or container.

3.3 Sample Coding, Labeling, delivery bags

For identity of samples, details to be included in the sample package shall include; the date of collection, the sample reference number unique to the sample, identity of the consignment and a duly signed sample form (Annex 3).

Samples shall be transported in secure sealed bags to ensure sample's integrity before delivery to the analytical laboratory.

3.4 Review of the guidelines

These guidelines will be reviewed every three years or as need arises.

ANNEXES

ANNEX 1: Laboratory sample sizes of different grains/seeds

Recommended sizes of laboratory samples of different grains, seeds and their derivatives are given in the table below. The calculation of the sample size is based on the grain/seed weight and a grain/seed number of 10,000 per sample (KS ISO 24333:2009).

Plant	Recommended minimal sample size (g)
Barley, Millet, Oat, Rice, Rye, Wheat	400
Maize	3,000
Soybean	2,000
Rape seed	40

ANNEX 2: Sampling scheme for consignments of more than 100 bags according to KS ISO 13690

The consignment is divided into (n - 1) groups containing n or (n - 1) bags; the remaining bags constitute a group.

Where n = square root of the total number bags in the consignment
(n – 1) = rounded down square root of the consignment bags

Example 1: Consignment of 200 bags
The square root of 200 = 14.14 therefore ($n - 1$) = 14:

- Make up 14 groups of 14 bags (i.e. Total of 196 bags);
- Choose one number from 1 to 14, e.g. 7;
- Sample the 7th bag from each group of 14 bags;
- The remaining group consists of 4 bags, sample one bag from this group at random.

A total of 15 bags have therefore been selected for sampling.

Example 2: Consignment of 2,000 bags
The square root of 2,000 = 44.72 therefore ($n - 1$) = 44:

- Make up 44 groups of 45 bags (i.e. Total of 1,980 bags);
- Choose one number from 1 to 45, e.g. 20;
- Sample the 20th bag from each group of 45 bags:
- The remaining group consists of 20 bags, sample one bag from this group at random.

A total of 45 bags have therefore been selected for sampling

ANNEX 3: Sample Submission Form

NATIONAL BIOSAFETY AUTHORITY

Department: ..... Form No: .....

Form Title: The Sample Submission Form Date:.....

Name of Client: ..... Address: .....

Name of Clearing / Facilitating Agent: ..... Address: .....

Type of sampling Import ☐ Export ☐ Transit ☐

Inland surveillance ☐

Type of Commodity / Product .....

Status of Commodity (e.g. milled, grain or seed) .....

Lot Quantity (Kg): ..... Sample Amount (Kg): .....

Lot Number: ..... Sample Reference No : .....

Test(s) Required: .....

Point of Entry ..... Vessel/Vehicle Registration No: .....

Country of Origin ..... Place of Destination: .....

Point of Exit (where applicable) .....

Name of Biosafety Inspector ..... Station: .....

Signature ..... Date: .....

Representative of Client

Name..... **Sign**..... **Date**.....

Summary details of the sample(s)

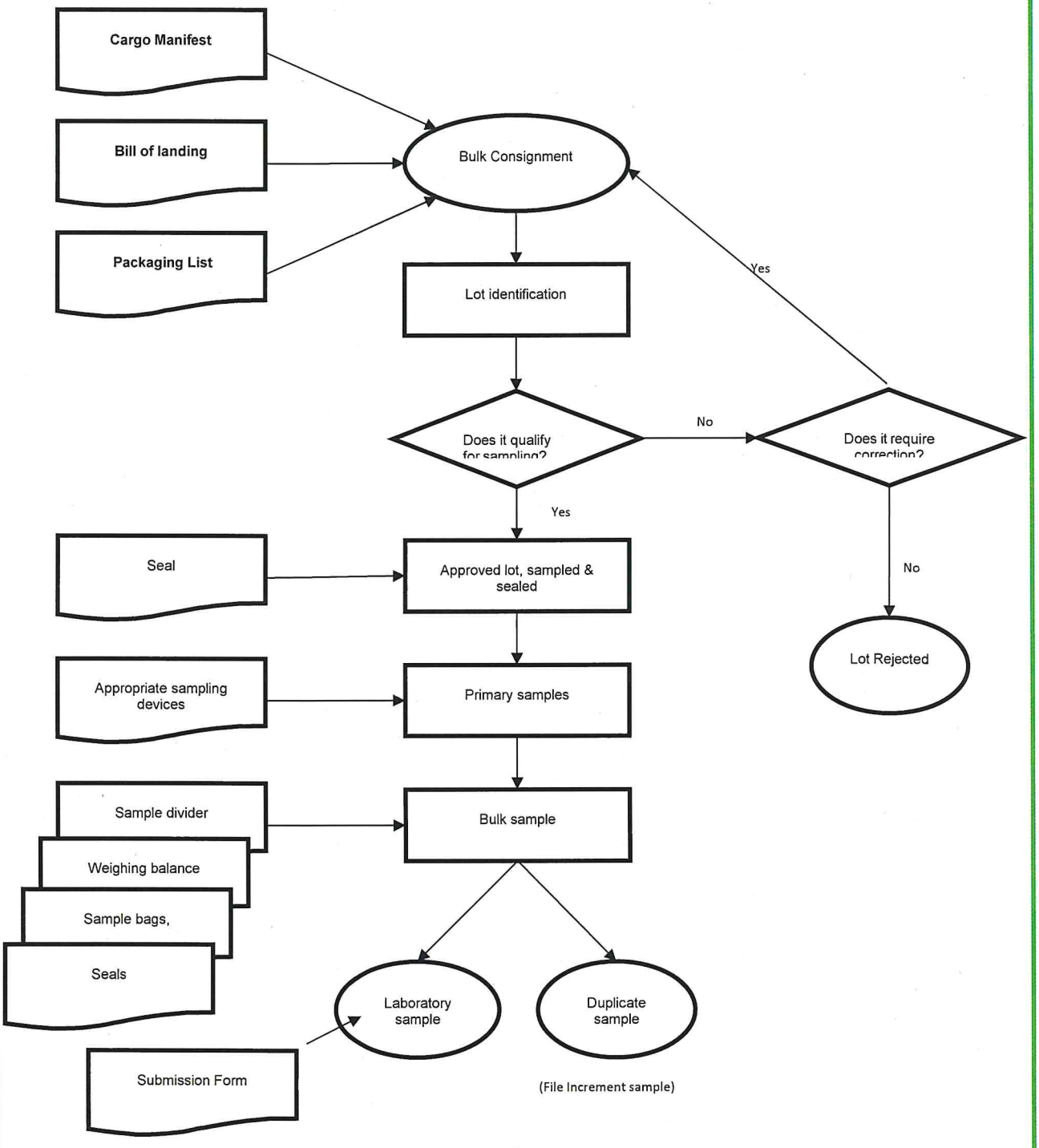
S/No	Sample Code	Quantity Submitted to NBA Lab	Quantity of duplicate/reference sample	Point of sample collection	Tests Required
1.					
2.					
3.					
4.					
5.					

NB:

i. *Samples submitted by external clients should be coded as PVT/date/month/year of submission /serial number in three digits; e.g.* ***PVT/25/12/2022/001*** *meaning the sample was submitted to NBA by a private client on 25th December 2022, sample code 001.*

ii. *Surveillance samples to be coded as: County/Town/ date/month/year of sampling /serial number in three digits e.g.* ***NRB/CBD/25/12/2022/001*** *meaning the sampling was done in Nairobi County, CBD on 25th December 2022, sample code 001.*

ANNEX 4: Sampling flowchart for cargo clearance



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