2.6

Storage Areas and Warehouses

Storage areas (for raw materials, ingredients, packages and products) should be protected/segregated/isolated from:

- Dust
- Condensation
- Fumes
- Odors
- Waste
- Pests
- Cross contamination
- Storage of cleaning materials, lubricants, pesticides, water treatment chemicals, and other hazardous substances
- Non-conforming product (quarantined)
- If stored outside facility, protected from contamination and deterioration

Warehouse premises should be:

- Environments that minimize spoilage of food
- Dry
- Well-ventilated
- Designed and organized to segregate raw, semi-finished and finished products
- Designed for technical maintenance, cleaning, preventing contamination, and minimizing deterioration

Ikiganiro nabahugurwa uko ubuhunikiro bigomba kuba bimeze

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2.1.3

Bulk Storage Containers

Bulk Storage Containers

- Dedicated to food use only
- Suitably designed for food storage
- Made from food grade material
- Clearly labelled with contents and relevant information (storage conditions, production and expiration dates)
- Should not be from unknown origin
- Emptied and cleaned at defined intervals (silos)
- Subject to regular inspection

Urugero: ubuhunikiro bunini

2.1.2

Stock Control

Stock control and records are critical for:

- Total supply safety, quality and waste control
- Effective traceability system
- Ensuring freshness
- Controlling waste in supply chain

FIFO

First In, First Out
- Use raw materials, ingredients and all inputs in sequence

FEFO

First Expired, First Out
- Use earliest expiration date first

Uburyo bwo kwinjiza no gusohora ibiribwa mu bubiko

IFC Food Safety Check list for Grain Aggregators: Requirements

2.1	**Receipt of goods and storage requirements**
2.1.1	Procedures for the receipt of goods shall be established, effectively implemented and communicated to all relevant personnel.
2.1.2	A system should be in place that effectively controls stock and may include methods such as, First In – First Out (FIFO) or First Expired – First Out (FEFO) and shall meet customer requirements.
2.1.3	Outdoor storage shall be kept to a minimum. Where goods are stored outside, should be ensured that there is no risk of contamination or adverse effect on quality and product safety.
2.1.4	Pallets shall be used, these shall be inspected to ensure they are in good condition and shall not compromise product safety.

2.1. Kwakira ibiribwa no kubihunika
2.1.1 Uburyo bw'okwakira umusaruro bugomba gushirwaho,bukubahirizwa kandi bukamenyeshwa abakozi bose bireba.
2.1.2 Gushiraho Gahunda igenzura ibiri mu bubiko kandi hagakurikizwa ingamba zikurikira; ibyinjiye mbere nibyo bisohoka mbere-
2.1.3 Ububiko b'wohanze bukwiye kuba bucye bishoboka, mu gihe bibaye ngomwa ko umusaruro ubikwa hanze, hagomba kuba hizewe kuburyo hatakwanduza cg hagatuma umusaruro utakaza ubwiza n'ubuziranenge bwawo.
2.1.4 Umusaruro ugomba kubikwa uteretse kuri Palete, kandi zigasuzumwa kugirango ubuziranenge budahungabana

IFC Food Safety Check list for Grain Aggregators: Requirements

2.6	**General requirements for storage and transport**
2.6.1	The company shall have a procedure to avoid any contamination (also cross-contamination caused by incompatible products in the same transport unit or storage room). A contamination by emissions, exhaust fumes, smell, foreign bodies, packaging material and any other contaminants shall be avoided.
2.6.2	Storage of incompatible products in same store shall be avoided.
2.6.3	The company shall ensure neat and stable stacks allowing adequate gangways to allow free flow of air
2.6.4	The company shall ensure appropriate aeration practices (door opening, aeration vents, using forced ventilation, etc)
2.6.5	The company shall define storage duration and regular sampling during storage
2.6.6	The company shall maintain stock records and management of deductions: - Moisture loss calculations - Rubbish deductions
2.6.7	The company shall conduct physical stock counts and stock reconcilliation and maintaine records
2.6.8	The company shall establish a system for monitoring, controlling and recording the relevant conditions (ex.temperature, humidity etc.) on each storage area.

2.6 AMABWIRIZA RUSANGE YO GUHUNIKA NO GUTWARA IMBINYAMPEKE

The most important factors affecting the storage of grain are:

a) initial grain temperature and moisture content;

b) condition of the ambient air (with daily and seasonal variations in relative humidity and temperature);

c) attack by pests (birds, rodents, insects and mites);

d) attack by microorganisms (mainly moulds);

e) condition of the storage building and the means and methods of handling.

In general, the condition of grain changes slowly while in storage; the extent of any change depends on ambient conditions at harvest. Changes in moisture content and temperature are limited to the periphery of a bulk or to the outer bags of a stack, unless the storage period is prolonged or the grain is ventilated. Heavy infestations of insects, however, may cause a rise in temperature in the grain mass, possibly due to the development of fungi. The temperature gradients produced may cause sufficient migration of moisture to cause damage; i.e. sprouting and damage by enzymatic and chemical actions.

It is therefore important that sound, dry, clean grain, free from infestation, is stored in sound, clean storage containers free from infestation and that subsequent deterioration is prevented by keeping the grain as cool and as dry as possible.

Grain may be stored either in the open, or in a specially constructed store or other container. The choice of the method of storage is often dictated by different criteria: the state of the grain at harvest; transport, labour and materials costs; duration of storage; and other technical and economic factors.

A distinction should be made between grain stored in sacks and grain stored in bulk. Furthermore, for bulk grain there is a difference between grain stored in heaps in buildings (flat bottom storage) where it has a larger surface area exposed in relation to its volume, and grain stored in silos (vertical storage), where it has a smaller area exposed in relation to its volume.