NIGERIAN CODE OF PRACTICE

Code of Good Agricultural Practice For The Prevention of Mycotoxin Contamination In Melons During Planting

ICS:

STANDARDS ORGANISATION OF NIGERIA

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FOREWORD

In order to promote the sustenance of Good Agricultural Practice for planting of melons and to ensure that customers get wholesome products, the Standards Organisation of Nigeria authorized the development of this code of practice.

The expert technical committee on Mycotoxin Prevention considered the need to elaborate on this code of Good Agricultural Practice to encourage the farmers produce mycotoxin free melon seeds while ensuring consumer safety, fair trade practices and keeping pace with development in trade and commerce.

Melons (citrullus colocynthis L) or its hybrid is highly nutritious and an important leguminous plant in Nigeria. The product is an important source of protein in Nigeria and a potential foreign exchange earner but production has been largely at subsistence levels. However, in recent times there has been a rise in exportation of the packaged form of the product.

While elaborating this code, reference was made to relevant codes of practice and Nigerian Industrial Standards. Inputs provided by farmers and other stakeholders are hereby acknowledged.

1.0 SCOPE

The scope of this standard shall include prevention of mycotoxins contamination through the application of Good Manufacturing Practice in melons (citrullus colocynthis L) during preparation of planting field and planting period. This code applies to farmers.

This code of practice excludes: code of hygienic practice for harvesting, processing and packaging of melon seeds and the handling of grinded melon seeds.

2.0 NORMATIVE REFERENCE

The following references contain provisions applicable to this Nigerian Industrial Standard. At the time of publication the editions indicated were valid. These Standards and Publications are subject to revision and parties to this Standard are encouraged to investigate the possibility of applying the recent edition of the references indicated below*:*

(i) Codex Alimentarius Commission / RCP 2 Code of Practice for general principles of food hygiene.

(ii) Codex Alimentarius Commission VOL2B Maximum Limits for Pesticides residues.

3.0 TERMINOLOGY

For the purpose of this code, the following definitions and terms shall apply:

3.1.0 contaminants

Any foreign substance that constitutes impurity in products or commodities.

3.2.0 control measure

Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

3.3.0 herbicide

Biological or synthetic substances used to control or prevent the growth of herbs between the periods of cultivation and harvest.

3.4.0 insecticide

Any substance used to control, inhibit or stop the degrading activities of insects

3.5.0 monitor

The act of conducting a planned sequence of observations or measurements of control parameters to assess whether a Good Agricultural Practice is established.

3.6.0 mycotoxins

Poisonous or lethal substances produced or secreted by moulds, or fungi, that is injurious to humans when consumed. E.g Aflatoxins B_1, B_2, G_1,

3.7.0 pesticide

Any synthetic or biological substance used to inhibit or stop the activities of pests from reducing the wholesomeness of a commodity.

3.8.0 Standard Operating Procedure

A statement, pictorial representation or form that describes a particular way in which an activity shall be performed.

3.9.0 toxins

Poisonous or lethal Substances produced or secreted by biological entities.

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GENERAL REQUIREMENTS BASED ON GOOD AGRICULTURAL PRACTICES (GAP)

4.0 Planting

4.1.0 Land for planting of melon seeds shall be prepared timely in such a way that a clean level seedbed is obtained

4.1.1 The field for planting of melon seeds shall be prevented from contamination and soil-borne diseases from crops grown in the previous seasons

4.1.2 Soil for planting of melon seeds shall be free from debris of plant remains or materials that will encourage fungal growth.

4.1.3 Results of soil test shall be utilized to determine if there is need to apply fertilizer and/or soil conditioners to assure adequate soil pH and plant nutrition to avoid plant stress.

4.1.4 When obtainable, varieties of seeds developed for resistance to seed-infecting fungi and insect pests shall be used. Only seed varieties recommended for use in a particular area of the country shall be planted in that area.
Note: NIMIT has a soil mapping programme and approved crops and varieties for use in different regions of Nigeria

Clause on the quality of seed

4.1.5 An isolation distance shall be provided around melon seed field to separate it from fields of other related crop species and fields of the same variety not planted at the same time.

4.1.6 During the period of seed development and maturation, avoid overcrowding of plants by maintaining the recommended row and intra-plant spacing for the species/varieties grown.

4.1.7 Standard Operating Procedures for processes performed in the period of planting shall be developed.

4.1.8 Records of activities performed in the period of planting shall be established an maintained

4.2.0 Pre-harvest

4.2.1 Minimize insect damage and fungal infection in the vicinity of the crop by proper use of acceptable insecticides, fungicides and other appropriate practices within an integrated pest management program.

4.2.2 Weeds shall be controlled in the crop by manual/ mechanical removal or by use of appropriate (approved) herbicides or other safe and suitable weed eradication practices. [if available, get list of approved herbicides approved by EU / pesticides registration authority]

4.2.3 Mechanical damage to plants during cultivation shall be minimized to avoid contamination of plant by fungi.

4.2.4 If irrigation is used, ensure that it is applied evenly and that all plants in the field have an adequate supply of water.

Note: Irrigation is a valuable method of reducing plant stress in some growing situations.

4.1.4 Standard Operating Procedures for processes performed in the period of pre-harvest shall be developed.

4.1.5 Records of activities performed in the pre-harvest period shall be established and maintained

5.0 Good Agricultural Practice

5.1.0 Soil

5.1.1 The farmer shall maintain and improve soil fertility by minimizing losses of soil, nutrients, and agrochemicals through erosion, runoff and leaching into surface or ground water.
Note: Such losses represent inefficient and unsustainable management of these resources, in addition to the deleterious off-target effects.

5.1.2 The farmer shall enhance the biological activity of the soil and protect surrounding natural vegetation and wildlife.

5.1.3 Mechanical soil tillage shall be avoided to low reasonable practicable.

5.1.4 Soil organic matter shall be maintained or improved through the use of soil building crop rotations.

5.1.5 Soil cover shall be maintained to minimize erosion loss by wind and/or water.

5.1.6 History of the annual use, inputs and outputs of each individual land-management unit shall be recorded

5.1.7 Standard Operating Procedures for processes in the soil shall be developed.

5.1.8 Records of activities performed on soil maintenance shall be established and maintained.

5.20 Water

5.2.1 Water infiltration shall be maximized and minimize unproductive efflux of surface waters from watersheds.

5.2.2 Ground and soil water shall be managed by proper use or avoidance of drainage where required and by build-up of soil structure and soil organic matter.

5.2.3 Contamination of water resources with production inputs, waste or recycling products of organic, inorganic and synthetic nature caused directly by inadequate handling practices and technologies and indirectly by erosion and leaching should be avoided.

5.2.4 Techniques to monitor crop and soil water status and prevent soil salinization should be adopted by the farmer

5.2.5 Unproductive irrigation water losses shall be avoided while adopting water-saving measures and re-cycling where possible.

5.2.6 Increase soil organic matter levels to maximize moisture retention and root penetration. [might not be appropriate for melon ….. check]

5.2.7 Cultivars or varieties shall be selected on an understanding of their characteristics, including response to sowing or planting time, productivity, quality, market acceptability, disease and stress resistance, edaphic and climatic adaptability, and response to fertilizers and agrochemicals. Move to pre-harvest

5.2.8 Crop sequences shall be devised to optimize use of labour and equipment and maximize the biological benefits of weed control by competition, mechanical, biological and herbicide options, provision of non-host crops to minimize disease and, where appropriate, inclusion of legumes to provide a biological source of fixed nitrogen.

5.2.9 Standard Operating Procedures for processes of water management shall be developed.

5.2.10 Records of activities performed on water management shall be established.