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ICS 67.020

DRAFT EAST AFRICAN STANDARD

Irradiated foods — General standard

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 010, *Food hygiene and safety management*.

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Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Introduction

Food safety has a significant impact on trade and the economy. Unsafe food leads to food loss, reduces outputs and leads to loss of markets. Food is made unsafe when it contains contaminants namely; harmful bacteria, viruses, parasites or chemical substances. When food exist naturally in plants (for example, fruits and grains), animals (for example, meat and milk) or in mineral forms (for example, water and salt), it may be naturally safe.

Food irradiation is the processing of food products by ionizing radiation in order to, among other things, control foodborne pathogens, reduce microbial load and insect infestation, inhibit the germination of root crops, and extend the durable life of perishable produce. Many countries are using industrial irradiators for processing of food products for commercial purposes.

However, Irradiation is not a replacement for proper food handling practices by producers, processors, and consumers. Irradiated foods need to be stored, handled, and cooked in the same way as non-irradiated foods, because they could still become contaminated with disease-causing organisms after irradiation if the rules of basic food safety are not followed.

Irradiated food - General standard

1 Scope

This Draft East African Standard applies to the requirements of foods processed by ionizing radiation that is used in conjunction with applicable hygienic codes, food standards and transportation codes.

It does not apply to foods exposed to doses imparted by measuring instruments used for inspection purposes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CAC/RCP 19-1979, *Code of Practice for Radiation Processing of Foods*

EAS 38, Labelling of pre-packaged foods

EAS 39, *General principles of Food Hygiene*

CXC 231, General methods for the detection of irradiated food

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1

Food Irradiation
Processing of food products by ionizing radiation, specifically gamma rays, X-rays or accelerated electrons as specified in the Codex General Standard for Irradiated Foods.

3.2
Irradiated food
Food products processed by ionizing radiation in accordance with CAC/RCP 19

3.3
Dose (absorbed)
The absorbed dose, sometimes referred to simply as 'dose', is the amount of energy absorbed per unit mass of irradiated food product

4 General Requirements

4.1 Radiation Sources

The following types of ionizing radiation may be used:

a) Gamma rays from the radionuclides ^{60}Co or ^{137}Cs;

b) X-rays generated from machine sources operated at or below an energy level of 5 MeV;

c) Electrons generated from machine sources operated at or below an energy level of 10 MeV.

4.2 Absorbed Dose

For the irradiation of any food, the minimum absorbed dose should be sufficient to achieve the technological purpose and the maximum absorbed dose should be less than that which would compromise consumer safety, wholesomeness or would adversely affect structural integrity, functional properties, or sensory attributes. The maximum absorbed dose delivered to a food should not exceed 10kGyexcept when necessary to achieve a legitimate technological purpose .

4.3 Facilities and Control of the Process

a) Radiation treatment of foods should be carried out in facilities licensed and registered for this purpose by the competent authority.

b) The facilities shall be designed to meet the requirements of safety, efficacy and good hygienic practices of food processing.

c) The facilities should be staffed by adequate, trained and competent personnel.

d) Control of the process within the facility should include the keeping of adequate records including quantitative dosimetry.

e) Facilities and records should be open to inspection by appropriate authorities.

f) Control should be carried out in accordance with the Recommended International Code of Practice for Radiation Processing of Foods CAC/RCP 19-1979

5. Hygiene

The irradiated food should be prepared, processed, and transported hygienically in accordance with EAS 39.

Where appropriate, the technical requirements for the raw materials and end product should comply with applicable hygienic codes, food standards, and transportation codes

6. Technological Requirements

6.1 General Requirement

The irradiation of food is justified only when it fulfils a technological requirement and/or is beneficial for the protection of consumer health. It should not be used as a substitute for good hygienic and good manufacturing practices or good agricultural practices.

6.2 Food Quality and Packaging Requirements

The doses applied shall be commensurate with the technological and public health purposes to be achieved and shall be in accordance with good radiation processing practice. Foods to be irradiated and their packaging materials shall be of suitable quality, acceptable hygienic condition and appropriate for this purpose and shall be handled, before and after irradiation, according to good manufacturing practices taking into account the particular requirements of the technology of the process.

7. Re-Irradiation

7.1 Except for foods with low moisture content (cereals, pulses, dehydrated foods and other such commodities) irradiated for the purpose of controlling insect re-infestation, foods irradiated in accordance with clause 4 and 6 of this standard should not be re-irradiated.

7.2 For the purpose of this standard, food is not considered as having been re-irradiated when:

a) the irradiated food is prepared from materials which have been irradiated at low dose levels for purposes other than food safety, e.g. quarantine control, prevention of sprouting of roots and tubers;

b) the food, containing less than 5% of irradiated ingredient, is irradiated; or when

c) the full dose of ionizing radiation required to achieve the desired effect is applied to the food in more than one increment as part of processing for a specific technological purpose.

7.3 The cumulative maximum absorbed dose delivered to a food should not exceed 10 kGy as a result of re-irradiation except when it is necessary to achieve a legitimate technological purpose, and should not compromise consumer safety or wholesomeness of the food.

8. Post Irradiation Verification

8.1 When required and where applicable, analytical methods for the detection of irradiated foods may be used to enforce authorization and labelling requirements. The analytical methods used shall be those adopted by the Codex Commission including *CXC 231.*

9. Labelling

9.1 Inventory Control

a) For irradiated foods, whether pre-packaged or not, the relevant shipping documents shall give appropriate information to identify;the registered facility which has irradiated the food,

b) the date(s) of treatment,

c) irradiation dose and lot identification.

9.2 Pre-packaged Foods Intended for Direct Consumption

The labelling of pre-packaged irradiated foods should indicate the treatment and in all aspects should be in accordance with the relevant provisions of the EAS 38.

9.3 Foods in Bulk Containers

The declaration of the fact of irradiation should be made clear on the relevant shipping documents. In the case of products sold in bulk to the ultimate consumer, the international logo and the words “irradiated” or “treated with ionizing radiation” should appear together with the name of the product on the container in which products are placed

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Bibliography

CXC *General Standard for irradiated food*