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DRAFT EAST AFRICAN STANDARD

Propolis — Code of practice

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 011, *Apiary and apiary products*.

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

Propolis is a natural resinous mixture produced by honeybees from substances collected from parts of plants, buds, and exudates. It is used by honeybees as building and sealing material as well as a defensive agent coating the inner walls of the beehive. It is also used for human consumption and industrial uses as raw material.

Resins constitute about 50 % of propolis components and are composed of flavonoids and phenolic acids or their esters. Complexity of propolis varies with geographical location, climatic zone, season and floral origin.

Normally, it is dark brown in color, but it can be found in green, red, black, and white hues, depending on the plant resins sourced by the bees.

Good operating practices are essential for the consistent production of propolis that is fit for its intended purpose and that meets relevant regulatory requirements. This Code is useful for providing guidance on hygienic practices and process controls that directly or indirectly impact on the safety and suitability of propolis.

Propolis — Code of practice

1 Scope

This draft East African Standard prescribes a code of practice for harvesting, processing, packaging, storage and distribution of propolis intended for human consumption and industrial use.

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.

EAS 12, *Drinking (potable) water* — *Specification*

EAS 38, *Labelling of pre-packaged foods* — *General requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry* — *Code of practices*

EAS 990, *Bee propolis* – *Specification*

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

apiarist/ Beekeeper

person who keeps honey bees in beehives, boxes, or other receptacles

3.2

bees wax

product obtained from honeycombs of bees after the removal of honey

3.3

calibration

determination of the accuracy of an instrument, usually by measurement of its variation from a standard, to ascertain necessary correction factors

3.4.

contamination

pollution by undesirable substances

**3.5
contaminant**

Any substance not intentionally added to food, which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter.

**3.6
documentation**

the accumulation, classification and dissemination of information relating to a process or procedure usually in written or electronic form

**3.7
food safety**

assurance that food will not cause harm to the consumer when it is prepared and consumed according to its intended use

**3.8
food grade material**

material, made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product.

**3.9
foreign matter**

organic or inorganic material other than propolis.

**3.10
Hazard Analysis Critical Control Point (HACCP)**

a system which identifies, evaluates, and controls hazards which are significant for food safety.

**3.11
Hazard**

Biological, chemical or physical agent or any other property that may cause a product to be unsafe for consumption.

**3.12
non-compliance**

Control point in the checklist is not fulfilled according to the compliance criteria.

**3.13
packaging**

procedures for protecting the products by using suitable materials packages that do not compromise quality and integrity of product.

**3.14
personal protective equipment**

clothing and equipment selected or designed to protect the wearer against contamination and injury arising from bee stings.

**3.15
produce**

predominantly raw propolis.

**3.16
producer group**

a set of apiarists who have come together for purposes of marketing their produce (propolis) under a common quality management system.

3.17

propolis

propolis or bee glue is a resinous mixture that honeybees produce by mixing saliva and beeswax with exudate gathered from tree buds, sap flows, or other botanical sources.

3.18

product integrity

the product meets all legitimate safety-related expectations and complies with all relevant legal and regulatory requirements.

3.19

processing

any process that is carried out on a product leading to value addition.

3.20

traceability

the ability to follow the movement of a food through specified stage(s) of production, processing and distribution

4 Composition, collection, harvesting, processing, storage and handling of propolis

Operators shall ensure the integrity of product throughout the processes within their control including harvesting, processing, packaging, storage and distribution'

4.1 Propolis composition, quality and integrity.

Bee propolis shall:

- a) have characteristic appearance, colour, taste, odour and flavour depending on plant origin;
- b) be of characteristics as specified in and comply with requirements of EAS 990:2020 Bee propolis – Specification; and
- c) water used for operations shall be potable in accordance with EAS 12.

4.2 Collection

4.2.1 Propolis shall be that product which is collected by bees from different species of plants for use in sealing off unwanted gaps and spaces in their hives.

4.2.2 Output may be enhanced by intentionally leaving gaps in the hive for bees to seal using propolis and through the use of propolis collectors/ traps.

4.2.3 Propolis collectors shall be hygienic.

4.3 Harvesting

4.3.1 Propolis harvesting shall be done by scrapping off the excess propolis from top bars/frames, gaps intentionally left in the hive for bees to seal using propolis and from propolis collectors.

4.3.2 Harvesting personnel shall observe hygiene practices.

4.3.3 Harvesting tools shall be of food grade material, durable, convenient to use and easy to clean.

4.3.4 Propolis containers should be kept out of the sun to prevent sweating and melting of propolis chips.

4.4 Extraction and processing

General Processing is done to convert raw propolis to a form suitable for consumption or use. To prevent deterioration, propolis should be processed soon after collection. The operator shall ensure that propolis received for processing is fit for the intended purpose.

4.4.1 Receipt of propolis

The operator shall ensure that propolis received for processing is fit for intended purpose. The received propolis shall be labelled according to batches with a batch number, source and date of receipt.

4.4.2 Cleaning

Propolis shall not be contaminated with foreign matter such as dead bees, wax moths, ants, insect parts, wood dust and other debris among others. Propolis shall be cleaned with either water or 70% ethanol. Sieves can also be used to filter out unwanted materials.

4.4.3 Storage

Propolis should be stored in a cool place or in a fridge and in containers that do not allow light and evaporation.

4.4.4 Freezing / Grinding

Freezing may be done for either storage purposes or to ease grinding. In case of obtaining a powder, propolis should be frozen appropriately in order to harden. The sheet is then bent to break off the propolis, which is then collected.

5 Hygiene requirements

5.1 Hygiene of staff and environment

5.1.1 Personnel hygiene

A personal hygiene policy shall be established and implemented to ensure that propolis is not contaminated through improper handling.

The personnel shall be trained and guided so as to comply with the hygiene policy. All personnel working in the processing areas shall be conversant with the written instructions for acceptable personal hygiene which should be visibly displayed at appropriate areas and enforced.

Personnel shall wear special working clothes including head gear of washable material.

Operators shall ensure that all processing handlers are periodically examined medically (every six months) and issued with a Food Handlers Medical Certificate.

A system shall be established to monitor and assess compliance to the hygiene policy and for undertaking timely corrective actions. Shall comply with EAS 39.

5.2 Handling

5.2.1 The operator shall establish a risks management plan and may utilise the Hazard Analysis Critical Control Points (HACCP) principles to set up a system of managing product quality.

5.2.2 The operator shall determine the process flow and undertake an assessment to identify areas where risks to the quality or integrity of the product may occur and identify preventive measures.

5.2.3 These assessments shall be documented and periodically updated.

Risks management shall include implementing an effective personal hygiene policy.

- a) Written instructions for acceptable personal hygiene should be visibly displayed at appropriate areas and enforced.
- b) Visitors to manufacturing and storage areas should be sensitized on hygiene practices and wear
- c) protective clothing as appropriate.
- d) A documented and effective training program should be in place to ensure that employees,
- e) contractors and sub-contractors are competent in assigned duties, and are conversant with hygiene,
- f) accidents, and emergency procedures and any other issue critical to food safety.
- g) The firm production unit shall have a documented hygiene procedure/protocol for handling of product
- h) premised on the basis of a risk assessment and workers should be trained and evidence availed.

There shall be a regular hygiene risk assessment of harvesting operations.

- a) The containers, harvesting tools and other harvesting equipment that are continuously used should be appropriately cleaned, disinfected and maintained in line with the hygiene procedures/protocols. A planned washing program shall ensure that produce harvest containers are cleaned, and free from contamination.

Cleaning water shall be free from microbial, heavy metal or other foreign body contaminants and where possible recycled and treated before reuse. Procedures and training programs shall ensure that all workers involved in handling of produce observe high standards of personal hygiene. Personal hygiene facilities including field toilets with hand washing facilities shall be provided and kept clean.

- b) To avoid contamination of product, field supervisors shall ensure that field workers involved in handling of product are in good health and that field workers with communicable diseases are not knowingly employed in fields operations. Employees shall be instructed to report to the supervisor if they are suffering from any illness either on arrival for work or during working hours.
- c) Behavioural practices such as smoking, eating, chewing and drinking shall not be permitted in the immediate vicinity of harvesting, grading, packing, or storage operations. Signs shall be displayed to this effect.
- d) Documented and effective training program should be in place to ensure that employees are competent in the assigned duties, and are conversant with hygiene, procedures and any other issue critical to food safety.

5.3 Contaminants

5.3.1 Propolis shall not be contaminated with foreign matter and shall be free of rodent droppings and pests such as wax moths and ants.

Processors of propolis should ensure that their suppliers have an effective pest control system in place at the hive and storage facilities to minimize contamination of propolis from pests. The presence in propolis of dead bees, wax, insect parts, wood, dust and other foreign matter in pollen shall be minimized.

5.3.2 Pest control and management

5.3.2.1 Pesticides shall be handled in a manner to avoid cross contamination and shall be used as per prescription.

5.3.2.2 Pesticides and all other chemicals shall be stored in a clearly labelled well designated place and in a manner to avoid cross contamination.

6 Quality control and monitoring systems

6.1 Quality control and assurance

The operator shall establish a quality assurance system with procedures and records as required. The necessary quality control facilities, equipment shall be planned for and availed. All measuring devices shall have the necessary accuracy as required. All equipment used for weighing, sizing, temperature monitoring or any other measuring devices shall be calibrated regularly and calibration records maintained.

6.2 Traceability and inventory control

There shall be a system in place for the identification of raw materials and products, and documentation that will allow any finished product to be traced back to the supplier and the apiaries that the propolis was sourced from; and to the next person or company that the product is transferred to for further processing, packing, or storage; distributed to; or sold to.

All outgoing products shall be clearly identified and accompanied by appropriate documentation. Inventories shall be maintained for all raw materials (e.g. incoming propolis,) and finished products, including any non-compliant materials and products.

6.3 Records

Records containing the following information shall be kept:

- a) apiarist and beekeeper
- b) records of the weight, date of harvesting and delivery, location of origin, name and address of apiarist.
- c) records for identifying products and establishing traceability and seasons of harvest.
- d) records of data showing non-compliance with the quality requirements specified in the quality system shall be followed up with a written account of corrective measures taken.
- e) construction of the processing house shall be such as to prevent the entry of domestic animals, insects, birds, rodents, among others. according to clause 10 EAS 39.

7. Personal protective equipment

As appropriate, all workers should be provided with personal protective equipment as per the requirements of the relevant Occupational Safety and Health regulations and clause 4.5 of EAS 39.

8 Packaging and labelling

8.1 Packaging

Propolis should be packed in food grade material that will preserve the product integrity.

8.2 Labelling

8.2.1 Labelling of packages of propolis and propolis products shall be done in accordance with the requirements of EAS 38, EAS 990 and shall include the following

- a) name of the product;
- b) name bee species from which the propolis is derived;
- c) name, location and address of manufacturer; processor;
- d) net weight, in g or kg;
- e) date of production/packaging;
- f) expiry date;
- g) batch number;
- h) storage conditions instructions;
- i) country / geographic region of origin; and
- j) allergen information.

8.2.2 Propolis labelling shall not attribute to the product any curative or health benefit claims. Labels may however bear certified approved nutrient levels.

8.2.3 The label on a package of propolis shall meet the general labelling requirements under the relevant regulations and the food standards code.

9 Monitoring

9.1 Compliance to documented procedures shall be regularly checked by the responsible person.

9.2 Observations from monitoring and any corrective action taken (including restoration of control, product disposition and prevention of recurrence), shall be monitored for compliance.

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