ETHIOPIAN STANDARDS

PRODUCT CERTIFICATION SCHEME

EDIBLE OIL

In accordance with CES edible oil-Specifications

Certification scheme for edible oil – Specifications

Introduction

This product certification scheme for edible oil based on CES 13,14,15,16,17,18,19, and 20 was developed by ESA is therefore deemed the scheme owner in terms of ISO/IEC 17067 "Conformity assessment – Fundamentals of product certification and guidelines for product certification schemes".

This product certification scheme was prepared by Technical Committee and reflects a type 5 product certification scheme as described in ISO/IEC 17067. It includes the following functions, activities and elements.

a) Selection including:

1) specified requirements for the products covered by the scope of the scheme,

2) Elements of the production process to be assessed and of the management system to be audited,

3) Determination activities, and the basis on which those activities be undertaken

4) Sampling methods and frequency

5) Requirements which the applicant/licensee has to fulfill in order to gain and maintain certification of the product and

6) Any other certification requirements.

b) Determination: this certification scheme includes:

1) Evaluation of the product,

2) Assessment of the production process and audit of other elements of the client's management system critical to managing product conformity through document review and onsite assessment;

c) Review of the evaluation results, decision on certification and attestation of conformity

d) Licensing and control of the mark including:

1) National quality of conformity,
2) Publicity to applicants/licensees,
3) misuse of certification and marks of conformity;

e) Surveillance: this certification scheme includes:

1) Testing and inspection of product samples,
2) Assessment of the production process and audit of the management system;

f) Suspending and withdrawing a certification and license ; and

g) Managing changes affecting certification

1. Scope

This product certification scheme covers edible oil for human consumption in accordance with Ethiopian standards CES 13,14,15,16,17,18,19, and 20 that includes: Pre-Requirements; Application, Testing or inspection of samples of the product from the production facility or dispatching centers; Assessment of the production processes; tasks of the certification body and other stakeholders, audit of the management system supporting the production processes; and Surveillance procedures. It also provides rules/procedures for actions to be followed in the case of non-conformity, the procedure for the certification of conformity and requirements for dispatching centers.

2. Normative references

The following Ethiopian Standard contains provisions, which, through reference to this text, constitute provisions of this specific certification scheme. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agree based on these Ethiopian Standards are encouraged to investigate the possibility of applying the most recent editions of the Ethiopian Standards indicated below. Registers of currently valid standards are maintained in the Ethiopian Standards Agency.

CES 13 Rapeseed oil– Specification

CES 14 Maize oil– Specification

CES 15 Sesameseed oil– Specification

CES 16 Groundnut (peanut) oil– Specification

CES 17 Sunflower oil– Specification

CES 18 Linseed oil– Specification

CES 19 Cottonseed oil– Specification

CES 20 Nigerseed oil– Specification

ES ISO /IEC 17067, Conformity assessment — Fundamentals of product certification and guidelines for product certification schemes

ESA/PCSM/001, Product certification scheme policy manual

ES ISO 9001:2015, Quality management system

ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories. Directive for the ES Mark Licensing

3. Terms and definitions

For the purposes of this document, the terms and definitions given in ES ISO 17000, CES 13,14,15,16,17,18,19, and 20 and the followings shall apply:

3.1. Crude seed oil

Any product obtained from the seeds of rape (Brassica tournefortii Gwan), maize germ (the embryos of Zeammays L.), sesame (Sesamum indicum L.), groundnut (Arches hypoge L.), sunflower (helianthus annuus L.), flax (Linum usitatissimum L.), cotton (Gossypium L.), and nigerseed (Guizotia abyssinica) by hot or cold expression and/or solvent extraction which must be subjected to further processing in order to make it suitable for human consumption.

Note:-Filtration is considered as part of expression and/or extraction.

3.2. Edible refined oil

Any of the above products obtained by hot or cold expression and/or solvent extraction and which has been degummed, neutralized with alkali, bleached with bleaching earth and/or activated carbon and deodorized by steam distillation or any other acceptable commercial process.

3.3. Edible semi-refined oil

Any of the above products obtained by hot or cold expression which has been degummed and neutralized with alkali.

4. GENERAL REQUIREMENTS:

4.1. Registration

An organization that intends to be certified on edible oil (one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20) certification scheme shall have completed the registration process with the BPCU according to the general requirement stated in ESA/PCSM/001 general requirement.

4.2. Verification

BPCU reserves the right to verify the authenticity of any documents of certification submitted by an applicant according to ESA/PCSM/001 general requirement.

4.3. Conformance/Compliance

Before making application, and on an ongoing basis, the organization shall ensure that it meets the requirements of this product certification scheme according to ESA/PCSM/001 general requirement.

4.4. Application

BPCU shall provide the applicant with all information necessary to understand and follow the rules for this certification scheme according to ESA/PCSM/001 general requirement.

4.5. Application Review

Once the application is received from the applicant, BPCU shall confirm that the information provided by the applicant is clear and sufficient and, if not, shall request the applicant client for the necessary clarification or additional information. If this has been satisfactorily achieved, the applicant shall be subject to the BPCU certification processes which involve evaluation of the product and auditing of the quality and production system of the applicant. In the event that BPCU

has rejected the client application, the product certification manager shall formally write to the client stating the reasons according to ESA/PCSM/001 general requirement.

4.6. Management systems

4.6.1. Quality manual

The manufacturer's documentation system and documents of procedures with respect to factory quality production control shall be described in detail in the quality product manual. The quality production manual shall adequately describe, among others,

The quality aims (objectives) and the organizational structure, responsibilities and authorities of the management with regard to product quality and the means to monitor the achievement of the required product quality and the effective operation of the internal quality control.

The manufacturing and quality control techniques, processes and systematic actions that will be used.

The inspections and tests that will be carried out before, during and post manufacturing (storage and distribution) and the frequency of inspection and testing activities. The quality manual prepared by each manufacturer shall include an adequate system of documentation.

The quality manual shall address and document the procedures operated to ensure that the manufactured wheat flour conforms to the technical specifications. The manual may refer to associated documents which provide further details of the internal quality control system. The quality manual shall be considered to include these associated documents for the purpose of product certification scheme.

4.6.2. Quality policy statement

Top management shall establish, implement and maintain a quality policy that:

a) is appropriate to the purpose and context of the organization and supports its strategic direction;
b) provides a framework for setting quality objectives;
c) includes a commitment to satisfy applicable requirements;
d) includes a commitment to continual improvement of the quality management system.
e) The quality manual s hall include a statement developed by management defining its quality policy, objectives and commitments to the attainment of product quality, handling of non-conforming product, record and document control system.
f) The organization shall determine external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended result(s) of its quality management system.

4.6.3. Internal audits and management review

In order to ensure the continuing suitability and effectiveness of the quality manual and the requirements of this certification scheme, the manufacturer shall perform internal audit and management review at least once a year.

a) The Internal audit shall cover the scope of clause 4 of this certification scheme.
b) A management review of the factory production control shall take into account the records of the internal audits.

4.7. Training

The quality manual shall describe the measures to be taken to ensure that all the personnel involved in operations that can affect internal quality control and product quality have appropriate relevant educational level and field, experience and trainings. Moreover, relevant records with respect to the competency of the experts shall be retained.

4.8. Quality records

The manufacturer shall retain records of factory production control for at least the period required to comply with all relevant legislation.

4.9. Documents for quality control

The manufacturer shall establish documented procedures and appropriate test methods to ensure that the produced edible oil meet the requirements of product specification (one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20) and establish suitable critical control points to ensure effective and sustainable process control measure.

The quality manual shall describe the methods used by the manufacturer to ensure that edible oil produced conforms to the product specification, including appropriate test methods.

4.10. Internal quality control

4.10.1. General

The Quality Manual documentation shall describe:

a) Parameters for production process;
b) Validated procedures for testing other than test methods specified in one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 (if any);
c) Verification methods;
d) Inspection procedures;
e) Corrective action procedures;
f) The methods used by the manufacturer to ensure that edible oil produced conforms to one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20.
g) Needs procedure to ensure that non-conforming product is adequately managed,

h) Dispatch with the associate records.

5. Specific requirement

5.1. Ingredient

The manufacturer shall establish and document procedures and appropriate test methods to ensure that the constituents of the edible oil meet the requirements of one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 as stated in each standard under clause 4.

The quality manual shall describe the methods used by the manufacturer to ensure that the composition of the mango juice produced and ingredient conforms to the relevant product specification standard, including appropriate test methods.

5.2. Handling, storage, packaging

The quality manual shall describe the precautions taken for the protection of the quality of the edible oil while under the responsibility of the manufacturer. It shall include a description of the procedures used at finished product warehouse. Delivery documentation shall allow traceability to the products.

Handling storage and packaging of edible oil shall be done in accordance with CES 21 and CES 73.

6. Criteria for the assessment of laboratories

The laboratory responsible for carrying out testing shall have at least the equipment needed to carry out tests for the properties listed in one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 using the test methods specified in the standard.

The laboratories shall demonstrate the ability to provide results within a time and in a manner suitable for the manufacturer’s factory production control.

7. Tasks for certification body

The certification body has responsibility for three separate functions; certification, inspection and testing. These three functions may be carried out by one body or by more than one body. The inspection function may be carried out by an inspection body and the testing function by a testing body. The certification body shall comply with clauses ISO/IEC 17065, and ISO 17025 which are relevant with this scheme for the evaluation of conformity.

7.1. Initial inspection of the factory and the factory production control

7.1.1. Inspection of a new factory

In the case of a new factory, an initial inspection of the factory and the factory production control shall be made, based on information on the factory production control and the equipment to be used to produce the edible oil.

The inspection shall, among other things:

a) Verify that the quality manual complies with the requirements of quality management.

b) Verify that the equipment used to produce and test mango juice meets the criteria in this document.

7.1.2. Inspection an existing factory

In case of existing factory, information on any significant changes concerning the factory production control and the equipment shall be considered. Any major change in the quality manual shall be inspected to verify that it meets the relevant criteria quality management standard.

7.2. Criteria for the assessment of the production equipment

The inspection shall assess the suitability of the production equipment in relation to the quality manual and in relation to providing the ability to meet the requirements of one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20. The following criteria shall be considered:

a) The constituent as described in one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 shall be protected against contamination within the factory.
b) All Equipment shall be suitable for continuous mass production of edible oil.
c) Measures shall be taken to prevent the mixing of different ingredients.
d) The finished product shall be stored in one or more separate warehouse, protected to prevent contamination and deterioration. Warehouses or stores / discharge points shall be clearly marked, and the finished product is labeled with an indication of batch number and any additional identification required.
e) Points where edible oil product is released from the factory and/or depot shall allow samples to be taken in accordance with the methods in ES ISO 5555.

7.3. Inspection, measuring and testing

The equipment used for measuring and testing shall be regularly checked and calibrated in accordance with the procedures and frequencies laid down in the operational manual. These procedures may include comparison of test results with other laboratories (external quality assurance). The test shall be conducted according to the test method specified in ES ISO 5555.

8. Surveillance, assessment and acceptance of the factory production

8.1. Inspection tasks

The inspection tasks include surveillance, assessment and acceptance of the factory production control operated by the manufacturer. Inspection shall include checking that any major change in the quality manual which is relevant to the factory production control of edible oil has been reported to the certification body by the producer within one month of its implementation.

8.2. Frequency of inspections

The inspections shall normally be carried out in every quarter of the year and the certification body may or may not inform in advance when inspection is to be conducted.

8.3. Reports

Following each inspection, a confidential report shall be prepared and sent to the manufacturer. The certification body shall consult, if appropriate; the manufacturer before corrective action is taken. The certification body and the manufacturer shall have consultation before decision is made by either of them. The certification body shall then make a decision on its final assessment.

8.4. Evaluation

8.4.1. Evaluation tasks

Surveillance, assessment and acceptance or deny of the factory production control mechanisms includes evaluation of the test results of the manufacturer's test results to check conformity with the statistical conformity criteria and single result limit values in the relevant product specification standard.

8.4.2. Frequency and time of evaluations

The frequency of evaluations shall be at least twice a year. The time of evaluation shall be decided, as appropriate, by the certification body.

8.4.3. Control period

The length of the control period for evaluation of the test results shall be decided in advance by the manufacturer and Conformity Assessment Body through consultation and by CB as required.

8.4.4. Evaluation of test results

Each evaluation shall be based on the test results obtained on samples of a given certified edible oil, sampled according to ES ISO 5555 during the control period.

8.5. Surveillances

BPCU shall conduct factory Surveillance audit in accordance with its surveillance audit procedure and shall be conducted every quarter and renew the certificate every year. The surveillance shall include market surveillance. The representative sample shall be taken in each surveillance period.

9. Control of non-conforming products

The quality manual shall contain non-conforming product handling procedures or any means that shows how to manage non-conforming product(s).

9.1. Corrective action

The quality manual shall include procedures for the review and adjustment of the factory production control in case of non-conformity. The actions which are taken in the case of non-conformity shall be recorded in a (report subject to inspection during the management review). In the case of test results

which show not conforming to the single result limit value conformity criteria specified in one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 product specification, the manufacturer or supplier shall immediately determine the affected quantity, take appropriate action to prevent the dispatch of this quantity and inform the affected customer if such product has been released. In addition, the manufacturer shall immediately determine.

10. Re-certification audit

CB shall conduct re-certification audit every 3 years. A re-certification audit takes place prior to end of a certification period. The audit shall be planned in due time, in order to avoid expiration of the certificate.

Note:

- A failure to perform the r e-certification audit before the expiration of the certificate results in the interruption of the certification cycle. In this case, the wording "certified since" cannot be included on the certificate.
- If a re-certification is conducted after the expiry of a certificate, Initial Audit shall be carried out.

11. Reports

Following each evaluation a confidential report shall be prepared and sent a copy to the manufacturer.

12. Sampling and Testing

12.1. Sampling

Samples shall be taken under the responsibility of the certification body at the point(s) of release of the flour and/or flour warehouses of the factory.

12.2. Number of samples

The number of samples taken shall be done according to ES ISO 5555– Animal and vegetable fats and oils- sampling. The first sample of edible oil to be certified is used for initial type testing. The number of samples to be taken during the initial period shall be at least 2 per month.

12.3. Properties and test methods

The properties specified for testing in the clause entitled "Conformity criteria" in the relevant product specification standard shall be determined according to the test methods indicated in one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20.

The source of all the testing standards of edible oil to be used for testing shall be as agreed between the producer and the certification body.

13. Testing

The methods used to take and prepare samples shall be in accordance with each standard of test methods. One sub-sample shall be retained by the producer for testing and one shall be packed, sealed, clearly labeled and forwarded to the testing laboratory. The third sub- sample shall be sealed and retained by the producer for a minimum period of three months. It is intended for use if:

a) One of the first two sub-samples is lost, deteriorates or becomes contaminated;
b) Further testing is needed in the event of a dispute.

The first two sub -samples shall be tested, one by the manufacturer and one by the testing laboratory, for the required properties as listed in the relevant product specification standard, using the test methods indicated in that standard.

14. Evaluation of test results

The results obtained shall be evaluated by the certification body.

15. Proficiency testing

The testing laboratory shall carry out regular inter comparison or proficiency testing involving comparison of test results with other testing laboratories for the sake of external quality assurance.

16. Reports

Following any initial inspection, a confidential report shall be prepared and a copy sent to the producer.

17. Declaration of conformity

The declaration of conformity of edible oil product is made by the manufacturer following the certification of the factory production control by the certification body. The declaration of conformity shall include:

a) The name and address of the manufacturer and of the factory;
b) The name and address of the certification body which certifies the factory production control.
c) The standard designation of the edible oil according to one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20 (Labeling and marking shall be as specified in the product specification).
d) Statements edible oil conforms to requirement of one of the following: CES 13 or CES 14 or CES 15 or CES 16 or CES 17 or CES 18 or CES 19 or CES 20.
e) The evaluation of conformities described in this and other relevant certification scheme.
f) The date of issue of the declaration and the certificate of factory production control.

18. conformity mark

The declaration of conformity entitles the manufacturer to use the conformity mark on packaging and documentation used for the declared edible oil (where it is required).

19. Actions to be taken by the manufacturer in the case of non-conformity

The control of non-conforming edible oil product the corrective actions to be taken shall be full responsibility of the manufacturer which he /she shall document in accordance of the procedure in the quality manual.

20. Sample Testing Frequency

The manufacturer shall determine its sampling and inspection points, and conduct testing as specified in Table 1 and 2 below.

Table 1: Physical and chemical characteristics

	Characteristic	Requirement					Test method	Frequency of test	No. of sample
		Crude	Semi-refined	Refined	High oleic acid	Mid oleic acid			
A	Colour in a 2.54 cm cell in the Lovibond colour scale expressed as Y+5R	Characteristic colour of the product	Characteristic colour of the product	5	5	5	ES ISO 15303		
B	Relative density at 20 ^{0}C	0.918-0.923	0.918-0.923	0.918-0.923	0.909-0.915 x=25^{0}C	0.914-0.916 x=20^{0}C	ES 56		
C	Refractive index at 20 ^{0}C, 40 ^{0}C	1.461-1.468	1.461-1.468	1.461-1.468	1.467-1.471 at 20^0 C	1.461-1.471 at 20^{0}C	ES ISO 6320		
D	Acid Value and acidity, mgKOH/g oil,max.	4	0.6	0.6	0.6	0.6	ES ISO 660		
E	Saponification value, mgKOH/g oil	188-194	188-194	188-194	182-194	190-191	ES ISO 3657		
F	Iodine value (Wijs) g/100g	110-143	110-143	118-141	78-90 9	4-122	ES ISO 3961		
G	Unsaponifiable matter, % (m/m) max	1.5 expressed; 2.0 solvent extracted	1.5	1.5	$\leq$ 1.5	$\leq$ 1.5	ES ISO 3596		
H	Peroxide value milli equivalents	-	10	10	10	10	ES ISO		

	peroxide oxygen/KG. oil max.						3960		
I	Moisture and volatile matter at 105 ^{0}C, % (m/m).	0.25	0.2	0.2	0.2	0.2	ES ISO 662		
J	Insoluble impurities, % (m/m), max.	1.0	0.05	0.05	0.05	0.05	ES ISO 663		
K	Soap content, % (m/m), max.	-	0.005	0.005	0.005	0.005	ES 65		
L	Iron (Fe), mg/kg.max.	5	1.5	1.0	1.0	1.0	ES 66		
M	Copper (Cu) mg/kg, max.	0.4	0.1	0.1	0.1	0.1	ES 67		
N	Cholesterol	0.1-0.5	0.1-0.5	0.1-0.5	*ND-0.5	0.1-0.2	ES ISO 12228		

Table 2: Limit for Heavy Metals

S.N.	Parameters	Maximum level	Method of Test	Frequency of Test	Frequency of sampling and number of samples
1.	Arsenic mg/kg	0.1	AOAC 952.13		
2.	Lead mg/kg	0.1	ES ISO 12193		

Product certification department will planed 5 different bottled water send to foreign country for testing that are not tested by Bless laboratory service. The cost of one product birr 230 Euro for 5 products totally 1150Euro, so the department needs the specified amount for 2021/2022.