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JOINT FAO/WHO FOOD STANDARDS PROGRAMME
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REPORT OF THE SIXTH SESSION OF THE
COORDINATING COMMITTEE FOR EUROPE
Vienna, 4-8 November 1968

INTRODUCTION

1. The Sixth Session of the Coordinating Committee for Europe was held in Vienna by courtesy of the Government of Austria. The meeting was opened by Dr. R. Wildner, Coordinator for Europe, and the participants were welcomed by the Bundesminister für Handel, Gewerbe und Industrie, Kom. Rat Otto Mitterer, in the presence of Staatssekretär Hans Bürkle of the Bundesministerium für Soziale Verwaltung, Dr. H. Redl of the Bundesministerium für Land- und Forstwirtschaft, and Stadtrat R. Suttner, representing the Bürgermeister of Vienna. The meeting was attended by delegates from the following countries of the European Region: Austria, Denmark, France, Germany F.R., Italy, Luxembourg, Netherlands, Poland, Sweden, Switzerland, Turkey, United Kingdom and Yugoslavia, and observers from the following non-European countries: Argentina, Australia, Canada, Cuba, Japan, New Zealand and United States of America. Dr. Wildner presided as Chairman of the session. Officers of FAO and WHO were the Joint Secretaries of the meeting. The list of participants is attached as Appendix I.

2. The provisional agenda was adopted by the Committee after some re-arrangement of the order of items of business.

DRAFT PROVISIONAL STANDARD FOR HONEY

3. As requested by the Executive Committee of the Codex Alimentarius Commission, the Coordinating Committee for Europe carried out a detailed examination of the Draft Provisional Standard for Honey. The Committee had before it document EXEC/68.2/2, March 1968, and examined the standard section by section in the light of Government comments. The text of the standard as revised by the Committee is contained in Appendix II to this report.

4. In addition to the changes agreed upon as contained in the revised text of the standard, the Committee took note of the following matters:

- (a) That "creamed" or "whipped" honey was a fine crystallized honey which contained no additives and which would comply with all the provisions of the standard. It was agreed that provision should be made in the labelling section of the standard to allow the use of these designations.
- (b) It was agreed that in sections 2.1.1, 2.1.3 and 2.1.5 of the standard, the limits prescribed for "Honeydew Honey" should also apply to blends of Honeydew Honey and Blossom Honey.
- (c) That the revised limits for apparent reducing sugar content calculated as invert sugar were acceptable to the European and non-European participants. The Committee noted the observation of the Canadian representative that gas liquid chromatography indicated that what was measured by the classical methods was not only the components of invert sugar but also other reducing sugars naturally present in honey.
- (d) There appeared to be two main alternative methods to deal with the comments received from countries on the provisions for apparent sucrose content. There was the possibility of establishing a single limit for all types of honey of not more than 8% or alternatively the possibility of retaining the limit in the standard of not more than 5% and listing a number of exceptions which could contain up to 10%. The Committee agreed upon the latter approach. The Canadian delegation pointed out that the list of exceptions shown in the standard might not be complete and that there should be the possibility of adding further exceptions to this list as the data became available. The Committee further agreed that while the existing methods proposed for the determination of apparent sucrose content would detect gross adulteration, it would be desirable, when agreement had been reached on precise methods for the measurement of true sucrose content to insert values for true sucrose in the standard.
- (e) The delegations of Australia and New Zealand indicated that the limit of 0.4% in respect of ash content, as proposed in the standard, would have the effect of excluding a significant amount of honey produced in their countries from being exported to countries accepting the standard. The delegations of Australia and New Zealand stated that a limit of 0.6% would probably be acceptable. In the absence of information as to the methods used in Australia and New Zealand to determine the ash content of honey, the Committee decided to retain, at this stage, the limit of 0.4%. The delegations of Australia and New Zealand were requested to supply details of the types of honey and methods used for determining ash content for the Sixth Session of the Codex Alimentarius Commission.

- (f) The Committee examined comments which had been submitted by some non-European countries questioning whether provisions relating to diastase activity and hydroxymethylfurfural (HMF) content should be retained in the standard. Further comments suggested that the values for diastase might be reduced, and that the limit for HMF might be raised. The reasons underlying these proposals were (i) that these values were not in themselves necessarily an incontestable indication of the over-heating of honey during processing, (ii) that some honeys, including a number that could not readily be identified as to a specific source, had a low natural enzyme content, (iii) that climatic conditions in some non-European countries created difficulties during collection and storage. The representatives of the European countries, while accepting that there might be honeys other than Citrus honey which would have a low natural enzyme content and for which a maximum HMF figure of 15 mg/kg might be appropriate, considered that honey in general should be processed and stored in such a way as to enable it to meet the requirements of the standard regarding diastase activity and HMF. The non-European representatives stated that the only provision which now appeared to give rise to disagreement between European and non-European countries represented at the meeting were diastase activity and HMF content. The representatives of the European countries pointed out that significant changes had already been made in other provisions of the standard to accommodate non-European honeys. The Committee decided to retain the provisions for diastase activity and HMF content unchanged. It was pointed out that there would be an opportunity, when the standard was being considered by the Commission at its Sixth session, for further honeys with low natural enzyme content to be listed in the provision relating to Citrus honey, and it was agreed that provision should be made to include other such honeys as these became known. To the extent that this information is now available the representatives of the non-European countries undertook to supply information on honeys with low natural enzyme content before the next session of the Commission.
- (g) As regards the section of the standard, entitled "Specific prohibitions", the Committee amended section 2.2.2 and agreed that section 2.2.4 referring to mould and foreign matter should be transferred to the hygiene section of the standard.
- (h) The Committee agreed to include a new section "Contaminants" in the standard which would contain provisions requiring honey to be free from pesticide residues and other contaminants within the limits of the sensitivity of the analytical methods to be laid down by the Codex Committees on Pesticide Residues and Food Additives.
- (i) The Committee noted the comments of the Codex Committee on Food Labelling, and agreed, in the light of these comments, to include in full the relevant sections of the General Standard for the Labelling of Prepackaged Foods, to delete the reference to "over-heated honey" and to include a section permitting designations, such as "whipped" or "creamed" to describe the physical characteristics of certain honeys.

- (j) Concerning the methods of analysis and sampling for honey, the Committee took note of the editorial re-draft of section 6.1, submitted by the United Kingdom, and agreed that this should be referred to the Codex Committee on Methods of Analysis and Sampling. The Committee agreed that in the light of the present results of methods of analysis for pollen, it would be premature at this stage to include such provisions in the standard.

5. The Committee agreed to re-submit the revised standard for honey to the Codex Alimentarius Commission at Step 8 for adoption as a standard for the European region. The delegation of the Netherlands reserved the position of its Government concerning the maximum moisture limit for Heather honey.

PROPOSED DRAFT PROVISIONAL STANDARD FOR NATURAL MINERAL WATERS

6. The Coordinating Committee for Europe had before it for consideration at Step 4 the text of the above standard as attached to the Report of the Third Session of the Codex Committee on Natural Mineral Waters (CODEX/MIN/III, May 1968). The Committee agreed to make a number of changes to the standard, and requested the FAO/WHO Secretariat to prepare a revised text of the standard (Please see Appendix III), taking into account the following agreed changes:

(a) Definition

- i) The first line should read as follows: "Natural mineral water is bacteriologically sound water from a natural or drilled source".
- ii) In the last sentence of the Definition, insert the words "in accordance with the above criteria" between the words "natural mineral water" and "is a matter for".

(b) Hygiene Requirements and Production (Exploitation)

- i) In 3(c) change the word "incursion" to read "introduction".
- ii) Revised version of 3(e) to read as follows:
"The transport of natural mineral waters in mobile tankers for bottling or for any other process before bottling is prohibited".
- iii) The reference in IV.1 to mineral waters being bottled in sealed containers to prevent contamination should be transferred to the hygiene section of the standard, and the reference to falsification should form a separate section of the standard, headed "containers".
- iv) The following provision should be added to the hygiene section: the bacteriological properties of natural mineral water shall be at least those recommended in the WHO "International Standards for Drinking Water", Second Edition, 1963.

- v) In 3(g) of the standard, the following words should be added to the sentence "in accordance with the requirements of the country of origin".

(c) Labelling (guarantees of genuineness)

- i) No reference should be made in the standard to the section of the General Standard for the Labelling of Prepackaged Foods dealing with claims in respect of foods for special dietary uses.
- ii) The references to the General Standard for the Labelling of Prepackaged Foods should be mandatory and set out in full in the standard for natural mineral waters.
- iii) The French text of Section 4 to be brought into conformity with the English text.
- iv) The FAO/WHO Secretariat was instructed to edit the labelling section of the standard, as indicated above, and to eliminate repetition.

(d) Methods of Analysis and Sampling

Section V.2 should read as follows: "The methods of analysis for the bacteriological requirements and toxic substances contained in the WHO "International Standards for Drinking Water" shall apply unless more sensitive analytical methods have been developed".

7. The Committee took note of the view of the Codex Committee on Food Labelling that any claims made should be justified. Several delegations, including the WHO official, stated that any claims regarding properties favourable to health would have to be judged on the basis of objective criteria and substantiated by scientific evidence. A number of delegations informed the Committee that in their countries the competent national authorities had verified and sanctioned such claims. Some delegations requested that information be supplied to the Committee as to the basis on which such claims had been verified and sanctioned. The delegations of Canada and the United Kingdom, as well as the WHO official pointed out that while such claims might be justified in the country of origin, this would not necessarily be the case in other countries importing such waters. The particular conditions prevailing in the importing country might be quite different and not necessarily known by the authorities in the exporting country.

8. The delegation of France informed the Committee that in France the use of natural mineral waters was not permitted in the manufacture of soft drinks. The Committee noted that the intention of section VI.2 was to safeguard the use of only genuine natural mineral water in the manufacture of soft drinks.

9. The Committee agreed that the standard for natural mineral waters should be submitted to the Codex Alimentarius Commission at Step 5.

PROPOSED DRAFT PROVISIONAL STANDARDS FOR EDIBLE FUNGI

10. The Committee had before it for consideration at Step 4 of the Procedure the latest texts of the following standards for edible fungi prepared by the delegations of Poland and Japan:

- i) Proposed Draft Provisional General Standard for Edible Fungi and Fungus Products (Poland);
- ii) Proposed Draft Provisional Standard for Dried Edible Fungi (Poland);
- iii) Proposed Draft Provisional Standard for Dried Edible Fungi (Shii-ta-ke) (Japan);
- iv) Proposed Draft Provisional Standard for Fresh Fungus Chanterelle (Poland).

Proposed Draft Provisional General Standard for Edible Fungi and Fungus Products

11. In addition to minor editorial changes, the following were the changes of substance:

(a) Definition of Products

- i) A new section to be introduced covering fungi in olive oil and other vegetable oils on the basis of information to be supplied by the delegation of Italy to the Polish rapporteur.
- ii) Section 1.6 to include freeze dried fungi.
- iii) Section 1.8. Read "sieve of 200 microns mesh".
- iv) Section 1.9. Replace "acetic acid" with "vinegar".
- v) Section 1.10. Replace "salt solution" with "brine".
- vi) Section 1.11 to read as follows: "Fermented fungi means fresh edible fungi only of one species preserved by salt and lactic acid fermentation".
- vii) Section 1.12 to read as follows: "Quick frozen fungi means fresh edible fungi of one species, which have been quick-frozen after cleaning, washing and bleaching and are kept at -18°C ".
- viii) Sections 1.13 and 1.14. The word "condensed" to be replaced by "concentrated".
- ix) Section 1.16. The word "sterilized" in the third line only to be replaced by "heat treated" and the following words to be added at the end "... product to microbiological spoilage".

(b) Definitions of Defects

- i) Section 2.2 to read as follows: "Crushed fungi means parts of mushrooms passing through a 15 x 15 mm mesh sized sieve for fresh fungi and through a 5 x 5 mm mesh sized sieve for dried fungi".

- ii) Section 2.4. The word "fungi with maggots" to read "maggot damaged fungi" throughout the standards for edible fungi.
- iii) Section 2.6 to read as follows: "Mineral impurities are substances, the ashes of which are insoluble in hydrochloric acid."

(c) Main Species

This section to read as follows: "All edible fungi permitted for consumption by the competent authorities in the consuming countries".

(d) Minimum Quality Requirements

- i) 5.4 to read as follows: "Packaging. The packaging used for fresh fungi shall be perforated to allow the free passage of air, if needed".
- ii) First sentence of 6.1 to read as follows: "Raw material. Only fresh edible fungi which have been treated or processed immediately after they have been picked before deterioration sets in may be used in manufacture". At the end of this section, after the second sentence, add the following: "If fungi other than fresh fungi are used, then this must be mentioned on the label".
- iii) Title of 6.2 to read "Additives and Ingredients" and "acetic acid" to read "vinegar".
- iv) In 6.3 replace "i.e." by "e.g."
- v) 7.1(d) to read as follows: "Content of maggot damaged fungi - max.20%."
The Netherlands delegation drew attention to the absence of figures for maggot damage in cultivated fungi used in fungus products other than pickled fungi.

(e) Labelling

- i) The provisions of the labelling section should permit the use of appropriate synonyms for fungus and fungi.
- ii) 8.3 to read as follows:
"In the case of fresh, dried, salted, quick frozen, fermented, pickled and canned fungi, the common name fungi. The Latin name of the species shall be stated."
- iii) 8.4. Delete the words following "..... stated on the label" and add the following new sentence: "Processed Fungus products made from other than fresh fungi should have a designation on the label indicating the nature of the previous process."
- iv) 8.6. Delete "or net volume".

12. The Committee had the following general comments on the standard considered above. The Committee noted that the standard as drafted covered fresh cultivated fungi of the genus Agaricus (Psalliota) for which a European Standard was being developed by the UNECE and canned cultivated mushroom of the genus Agaricus (Psalliota) for which a standard was being developed by the Codex Committee on Processed Fruit and Vegetables. Because of this, a number of delegations considered that these two products should be excluded from the scope of the general standard. Other delegations took the view that the general standard should cover all types of edible fungi. The Committee agreed that the provisions of the general standard, so far as they related to these two products, should not be in conflict with the provisions of the standards being elaborated by the UNECE and the Codex Committee on Processed Fruit and Vegetables.

13. It was agreed to request the Codex Committee on Methods of Analysis and Sampling to recommend a general method of analysis for mineral impurities.

14. As regards the limits for mineral impurities in fresh wild fungi (section 5.3.1 of the standard), the delegations of Denmark and the Federal Republic of Germany reserved their positions, as they considered that the limits should be 2% and 0.5%, respectively.

15. The Committee agreed that percentage limits meant by weight.

16. As regards section 7.4 of the standard, the delegation of the Federal Republic of Germany considered that where the salt content in salted fungi was less than 15%, the consumer should be informed that the product would have a limited shelf life.

17. The Committee agreed that the general standard should contain a provision on minimum fill for fungi packed in liquid media.

18. It was agreed that the relevant provisions of the General Standard for the Labelling of Prepackaged Foods should be set out in full in the labelling section of the standard.

19. The Committee agreed to submit the General Standard to the Commission at Step 5 (Please see Appendix IV).

Proposed Draft Provisional Standard for Dried Edible Fungi

20. The Committee examined the above standard which had been prepared by the Polish delegation together with the standard for Shii-ta-ke, which had been prepared by the Japanese delegation, and agreed that these should be one general standard for dried edible fungi, which would include Shii-ta-ke.

21. The Committee made the following amendments to the Polish text for Dried Fungi to take account of the requirements for Shii-ta-ke and the provisions of the General Standard for Edible Fungi:

(a) Definition of Defects

Add a section 2.4 as follows: "Fungi with maggot damage are specimens showing holes eaten by maggots where four or more holes appear."

(b) Main Species

Text to read as in General Standard.

(c) Minimum requirements for the end products

Amended as follows:

- practically free of maggot damage and damages caused by insects.
- 12% to read 13% max. water content.

(d) Quality tolerances

Amended as follows:

- mineral and organic impurities of vegetable origin 2.2% max.
- maggot damaged fungi, cultivated species 3% max., wild species 20% max.
- crushed fungi 6% max.
- damaged fungi 10% max.

The Japanese delegation reserved its position regarding the maximum tolerance of 10% for damaged fungi pending consideration of the revised definition for 'damaged fungi' and the bearing this might have on the tolerance for Shii-ta-ke fungi.

(e) Labelling

The relevant provisions of the General Standard for the Labelling of Prepackaged Foods to be quoted in full and the whole section to be edited to cover use of appropriate synonyms, etc.

22. The delegations of the Netherlands and the USA considered that the tolerances for maggot damaged fungi were generally too high. The Committee agreed to submit the standard to the Commission at Step 5 and to inform the Commission that there had been no significant differences of opinion between the European and non-European participants at the meeting. (Please see Appendix V).

Proposed Draft Provisional Standard for Fresh Fungus - Chanterelle

23. The Committee agreed to submit the standard for Fresh Chanterelle to the Commission at Step 5 as a regional standard for Europe after minor editorial amendments. (Please see Appendix VI). The Committee expressed its appreciation of the work which had been done by the Polish authorities in preparing the texts of the Standards for Fungi.

GENERAL INFORMATION

24. (a) The Committee was informed that the Canadian Government would be submitting a revised text of its proposals for the amendment of the Commission's Rules concerning regional standards. The revised text would be distributed to Member Governments in advance of the next session of the Codex Alimentarius Commission.
- (b) The Committee was informed that the background paper on soups and broths being prepared for the Commission would deal with trade, consumption, legislation and other relevant matters concerning the question of standards for these products.

COORDINATOR FOR EUROPE

25. The Committee expressed its appreciation of the work done by Dr. R. Wildner and the Austrian Government, and unanimously recommended to the Commission that Dr. Wildner be reappointed Coordinator for Europe for a further term.

FUTURE WORK

26. The Committee indicated that it would be willing to undertake the task of elaborating standards for soups and broths, should the Commission decide that standards for such products ought to be elaborated. The Committee would also be prepared to draw up standards for edible ices and sherbets, irrespective of the raw material employed.

FOODS FOR SPECIAL DIETARY USES

27. Dr. Forschbach, Chairman of the Codex Committee on Foods for Special Dietary Uses, informed the meeting of progress made at the last session of that Committee. It was noted that the Codex Committee on Foods for Special Dietary Uses had decided not to proceed with standards for body-building foods. The delegations of Switzerland and the Federal Republic of Germany regretted this decision and would wish to see work on these foods undertaken by a group of countries especially interested in these foods. The Coordinator undertook to look into this matter and to report to the Commission.

INFORMATION ON ACTIVITIES OF THE E.E.C.

28. The delegate of Denmark proposed that the Committee's agenda for future sessions should contain an item concerning progress and activities of the E.E.C. on the harmonization of food legislation within the Community. The Secretariat undertook to contact the Commission of EEC in Brussels on this subject.

DATE AND PLACE OF NEXT MEETING

29. Dr. Wildner informed the Committee that the Austrian authorities would be pleased to act as host to the next session of the Committee in Vienna in the autumn of 1969.

CLOSURE OF SESSION

30. At the closure of the session the Committee had the honour of being addressed by Mrs. G. Rehor, Bundesminister für Soziale Verwaltung.

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ALINORM 69/6

APPENDIX II

(November 1968)

DRAFT

PROVISIONAL STANDARD FOR HONEY

(at Step 8 of the Procedure for
the Elaboration of Regional
Codex Standards)

DRAFT PROVISIONAL STANDARD FOR HONEY

at

Step 8

of

Regional Codex Standards

1. DESCRIPTION

1.1 Definition of Honey

Honey is the sweet substance produced by honey bees from the nectar of blossoms or from secretions of or on living parts of plants, which they collect, transform and combine with specific substances, and store in honey combs.

1.2 Description

Honey consists essentially of different sugars, predominantly glucose and fructose. Besides glucose and fructose, honey contains protein, amino acids, enzymes, organic acids, mineral substances, pollen and other substances, and may include sucrose, maltose, melezitose and other oligo-saccharides (including dex-
trins) as well as traces of fungi, algae, yeasts and other solid particles resulting from the process of obtaining honey. The colour of honey varies from nearly colourless to dark brown. The consistency can be fluid, viscous or partly to entirely crystallized. The flavour and aroma vary, but usually derive from the plant origin.

1.3 Subsidiary Definitions and Designations

1.3.1 According to origin:

Blossom or nectar honey is the honey which comes mainly from nectaries of flowers.

Honeydew honey is the honey which comes mainly from secretions of or on living parts of plants. Its colour varies from very light brown or greenish to almost black.

1.3.2 According to mode of processing:

Comb honey is honey stored by bees in the cells of freshly built broodless combs, and sold in sealed whole combs or sections of such combs.

Extracted honey is honey obtained by centrifuging decapped broodless combs.

Pressed honey is honey obtained by pressing broodless combs with or without the application of moderate heat.

2. ESSENTIAL COMPOSITION AND QUALITY FACTORS

2.1 Compositional Criteria

2.1.1 Apparent reducing sugar content, calculated as invert sugar

Blossom Honey, when labelled as such: not less than 65%
Honeydew Honey and blends of Honeydew
Honey and Blossom Honey: not less than 60%

2.1.2 Moisture content: not more than 21%
Heather Honey (Calluna): not more than 23%

2.1.3 Apparent sucrose content: ^{a/} not more than 5% ^{b/}
Honeydew Honey, blends of Honeydew
Honey and Blossom Honey, Rubinia,
Lavender and Banksia menziesii Honeys: not more than 10% ^{b/}

2.1.4 Water-insoluble solids content: not more than 0.1%
Pressed Honey: not more than 0.5%

2.1.5 Mineral content (ash): not more than 0.4%
Honeydew Honey and blends of
Honeydew Honey and Blossom Honey: not more than 1.0%

2.1.6 Acidity: not more than 40 milliequivalents acid
per 1000 grams

2.1.7 Diastase activity ^{a/} and hydroxymethylfurfural content ^{a/}

Determined immediately after processing and blending
diastase figure on Gothe scale: not less than 8
and the hydroxymethylfurfural content: not more than
40 mg/kg

Honeys with low natural enzyme
content, e.g. Citrus, diastase
content on Gothe scale: not less than 4
provided the hydroxymethylfurfural content is not more
than 10 mg/kg.

^{a/} The indicated figures are subject to revision taking into account new developments in methods of analysis

^{b/} Values for true sucrose content will be determined when agreement has been reached upon the methods of analysis recommended by the Codex Committee on Methods of Analysis and Sampling.

2.2 Specific Prohibitions

- 2.2.1 Honey must not have any objectionable flavour, aroma or taint absorbed from foreign matter during the processing and storage of honey.
- 2.2.2 Honey must not have begun to ferment or be effervescent.
- 2.2.3 Honey must not be heated to such an extent as to inactivate greatly or completely the natural enzymes it contains (see 2.1.7).
- 2.2.4 The acidity of honey must not be changed artificially.

3. FOOD ADDITIVES AND ADDITIONS

None permitted.

4. HYGIENE

Honey must be free from inorganic or organic matters foreign to its composition, such as mould, insects, insect debris, brood or grains of sand, when the honey appears in retail trade or is used in any product for human consumption.

5. CONTAMINANTS

Honey shall be free from pesticide residues and other contaminants within the limits of the sensitivity of analytical methods to be established by the Codex Committees on Pesticide Residues and Food Additives.

6. LABELLING

The following provisions in respect of the labelling of this product have been endorsed by the Codex Committee on Food Labelling.

6.1. The Name of the Food

- 6.1.1 Subject to the provisions of 6.1.4 only products conforming to the standard may be labelled "honey".
- 6.1.2 No honey may be designated by any of the designations in 1.3 unless it conforms to the appropriate description contained therein.
- 6.1.3 Honey may be designated according to colour, and according to floral or plant source if the predominant part of the honey originates from the floral or plant source

or sources so designated and if the honey has the characteristics of the type of honey concerned. Honey may be designated by the name of the geographical or topographical region if the honey was produced exclusively within the region referred to in the designation.

- 6.1.4 Honey not complying with the requirements of 2.1.7, 2.2.1, 2.2.2 or 2.2.3 of this Standard must, if offered for sale, be labelled "baking honey" or "industrial honey".
- 6.1.5 Honey complying with the provisions of this standard may be sold under designations which describe its physical characteristics, e.g. "creamed", "whipped" or "set".

6.2 Net Contents

The net contents, in either the metric (S.I. units) or avoirdupois systems of measurement, as required by the country in which the product is sold, shall be declared by weight.

6.3 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor shall be declared.

6.4 Country of origin

The country of origin of the honey shall be declared unless it is sold within the country of origin, in which case the country of origin need not be declared. ^{1/} If the honey undergoes processing in a second country which essentially changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

6.5 Presentation of mandatory information

General

- 6.5.1 Statements required to appear on the label by virtue of this standard shall be clear, prominent and readily legible by the consumer under normal conditions of purchase and use. Such information shall not be obscured by designs or by other written, printed or graphic matter and shall be in contrasting colour

^{1/} The Secretariat draws attention to the fact that in the General Standard for the Labelling of Prepackaged Foods, as revised at the last session of the Codex Committee on Food Labelling, this requirement reads as follows: "The country of origin of a food shall be declared if its omission would mislead or deceive the consumer".

to that of the background. ^{1/} Where the container is covered by a wrapper, the wrapper shall carry the necessary information, or the label on the container shall be readily legible through the outer wrapper or not obscured by it. In general, the name and net contents of the product shall appear on that portion of the label normally intended to be presented to the consumer at the time of sale.

- 6.5.2 ^{2/} Honey shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are suggestive, either directly or indirectly, of any other product with which honey might be confused, or in such a manner as to lead the purchaser or consumer to suppose that the honey is connected with such other product.
- 6.5.3 Any information or pictorial device may be displayed in labelling provided that it is not in conflict with the above labelling requirements nor would mislead or deceive the consumer in any way whatsoever in respect of the product.

Language

- 6.5.4 The language used for the declaration of the statements referred to in 6.5.1 shall be a language acceptable to the country in which the product is intended for sale. If the language on the original label is not acceptable, a supplementary label containing the mandatory information in an acceptable language may be used instead of re-labelling.

Note: The Secretariat draws attention to the fact that in the General Standard for the Labelling of Prepackaged Foods, as revised at the 1968 session of the Codex Committee on Food Labelling, the following additional provisions appear in the text:

- ^{1/} "The letters in the name of the food shall be in a size reasonably related to the most prominent printed matter on the label."
- ^{2/} "Prepackaged food shall not be described or presented on any label or in any labelling in a manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect."

7. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods. The sections the numbers of which appear in square brackets represent amendments proposed by the Coordinating Committee for Europe and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling. ^{1/}

7.1 Chemical Analysis of Reducing Sugars

[7.1.1] Principle of the Method

The method is a modification of the Lane and Eynon (1923) procedure involving the reduction of Soxhlet's modification of Fehling's solution by titration at boiling point against a solution of reducing sugars in honey using methylene blue as an internal indicator. The maximum accuracy for this type of determination is attained by ensuring that the reduction of the Fehling's solution during the standardization step and in the determination of the reducing sugars in the honey solution are carried out at constant volume. A preliminary titration is therefore essential to determine the volume of water to be added before the determinations are carried out to satisfy this requirement.

7.1.2 Reagents

[7.1.2.1] Soxhlet's modification of Fehling's solution

Solution A. Dissolve 69.28 g. copper sulphate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) in 1 litre distilled water.

Solution B. Dissolve 346 g. sodium potassium tartrate ("Rochelle salt") and 100 g. sodium hydroxide (NaOH) in 1 litre distilled water. Filter through prepared asbestos.

^{1/} Please see report of the Fourth Session of the Codex Committee on Methods of Analysis and Sampling, ALINORM 69/23.

[7.1.2.2] Standard Invert Sugar solution (10 g/litre aq.)

Weigh accurately 9.5 g pure sucrose, add 5 ml hydrochloric acid (ca. 36.5% w/w HCl) and dilute with water to about 100 ml, store this acidified solution for several days at room temperature (ca. 7 days at 12° to 15°C, or 3 days at 20° to 25°C), and then dilute to 1 litre (N.B.: acidified 1.0% invert sugar remains stable for several months). Neutralize a suitable volume of this solution with 1N. sodium hydroxide solution (40 g/litre) immediately before use and dilute to the required concentration (2 g/litre) for the standardization.

7.1.2.3 Methylene blue solution

Dissolve 2 g in distilled water and dilute to 1 litre.

[7.1.3] Sampling

Melt the honey, in a closed container, on a water-bath at 60°C for a maximum time of 30 min. [Alternatively melt the honey, in a closed container, on a water-bath at 40°C, no time limit specified]. Cool the honey and ensure that any condensate on other parts of the container is re-incorporated in the bulk honey by mixing well, with agitation, until homogeneous.

7.1.4 Procedure[7.1.4.1] Preparation of Test Sample

Weigh accurately a representative quantity of about 2 g of the homogeneous honey sample, dissolve in distilled water, and dilute to 200 ml in a calibrated flask. (HONEY SOLUTION).

[7.1.4.2] Standardization of the modified Fehling's solution

Standardize the modified Fehling's solution A, so that exactly 5 ml (pipette) when mixed with approximately 5 ml, of Fehling's solution B, will react completely with 0.050 g invert sugar added as 25 ml dilute invert sugar solution (2 g/l).

[7.1.4.3] Preliminary titration

The total volume of the added reactants at the completion of the reduction titration must be 35 ml. This is made up by the addition of a suitable volume of water before the titration commences. Since the compositional criteria of the honey standard specify that there should more than 60% reducing sugars (calculated as invert sugar) a preliminary titration is necessary to establish the volume of water to

be added to a given sample to ensure the reduction is carried out at constant volume. This volume of water to be added is calculated by subtracting the volume of diluted honey solution consumed in the preliminary titration (x ml), from 25 ml.

Dilute 50 ml honey solution to 100 ml with distilled water (diluted honey solution). Pipette 5 ml, Fehling's solution A into a 250 ml Erlenmeyer flask, and add approximately 5 ml Fehling's solution B. Add 7 ml distilled water, a little powdered pumice, followed by about 15 ml diluted honey solution from a burette. Heat the cold mixture to boiling over a wire gauze, and maintain moderate ebullition for 2 min., add 1 ml 0.2 percent aqueous methylene blue solution whilst still boiling and complete the titration within a total boiling time of 3 minutes, by repeated small additions of diluted honey solution until the indicator is decolourized. Note the total volume of diluted honey solution used (x ml.) from 25 ml.

[7.1.4.4] Determination

Calculate the amount of added water necessary to bring the total volume of the reactants at the completion of the titration to 35 ml by subtracting the preliminary titration (x ml.) from 25 ml.

Pipette 5 ml Fehling's solution A into a 250 ml Erlenmeyer flask and add approximately 5 ml Fehling's solution B.

Add (25-x) ml distilled water, a little powdered pumice, and, from a burette, all but 1.5 ml of the diluted honey solution volume determined in the preliminary titration. Heat the cold mixture to boiling over a wire gauze and maintain moderate ebullition for 2 min. Add 1.0 ml 0.2% methylene blue solution whilst still boiling and complete the titration within a total boiling time of 3 minutes, by repeated small additions of diluted honey solution until the indicator is decolourized. Note the total volume of diluted honey solution (y ml). Duplicate titrations should agree within 0.1 ml.

[7.1.5] Expression and Calculation of Results

$$C = \frac{2000}{W y}$$

where C = g invert sugar per 100 g honey (%)
W = weight of honey sample taken
y = volume of diluted honey solution consumed in the determination (ml).

7.1.6 Notes on Procedure

Whilst it is essential to the accuracy and repeatability of the determination that the volume of water necessary to bring the reactant mixture to a total volume of 35 ml be determined for each individual sample, the following table gives typical volumes which may be encountered at the preliminary titration stage for the incremental contents of invert sugar shown, assuming the test sample (7.1.4.1) weighs about 2 g:

Invert Sugar Content %	Volume of distilled water to be added ml.
60	8.3
65	9.6
70	10.7
75	11.6

7.2 Determination of Apparent Sucrose Content

7.2.1 Principle of Method

Based on the Walker (1917) inversion method.

7.2.2 Reagents

7.2.2.1 Soxhlet modification of Fehling's Solution
(see 7.1.2.1)

7.2.2.2 Standard invert sugar solution (see 7.1.2.2)

7.2.2.3 Hydrochloric acid (6.34 N)

7.2.2.4 Sodium hydroxide solution (5 N aqueous)

7.2.3 Sampling

The honey is prepared for sampling as in 7.1.3.

7.2.4 Procedure

7.2.4.1 Preparation of test sample

As in 7.1.4.1 (honey solution).

7.2.4.2 Hydrolysis of the test sample

The honey solution (50 ml) is placed in a 100-ml graduated flask, together with 25 ml distilled water, and heated over a water bath to 65°C. The flask is removed from the water bath and 10 ml of 6.34 N hydrochloric acid added. The solution is allowed to cool spontaneously for 15 min or longer as required. It is then cooled and neutralized with 5 N sodium hydroxide, using litmus as indicator and the volume adjusted to 100 ml (diluted honey solution)

7.2.4.3 Titration

As in 7.1.4.3

7.2.5 Expression and Calculation of Results

Apparent sucrose content = (Invert sugar content after inversion minus invert sugar content before inversion) x 0.95

The result is expressed as g apparent sucrose/100g honey

7.2.6 Notes on Procedure

▮ A quantitative method for actual sucrose content, when the apparent sucrose content is above 5%, should be evaluated preferably using chromatographic techniques.

7.3 Determination of Moisture Content

7.3.1 Principle of Method

Based on the refractometric method of Wedmore (1955)

7.3.2 Apparatus

Refractometer

7.3.3 Sampling

The honey is prepared for sampling as in 7.1.3

7.3.4 Procedure

7.3.4.1 Preparation of Test Sample (see 7.1.4.1) (honey solution)

7.3.4.2 Determination of the refractive index

The refractive index of the test sample is determined using a refractometer at 20°C, and the reading converted to moisture content (% w/w) using the table given overleaf:

TABLE FOR THE ESTIMATION OF MOISTURE CONTENT
(Wedmore, 1955)

Refractive Index (20°C)	Moisture Content (%)	Refractive Index (20°C)	Moisture Content (%)	Refractive Index (20°C)	Moisture Content (%)
1.5044	13.0	1.4940	17.0	1.4840	21.0
1.5038	13.2	1.4935	17.2	1.4835	21.2
1.5033	13.4	1.4930	17.4	1.4830	21.4
1.5028	13.6	1.4925	17.6	1.4825	21.6
1.5023	13.8	1.4920	17.8	1.4820	21.8
1.5018	14.0	1.4915	18.0	1.4815	22.0
1.5012	14.2	1.4910	18.2	1.4810	22.2
1.5007	14.4	1.4905	18.4	1.4805	22.4
1.5002	14.6	1.4900	18.6	1.4800	22.6
1.4997	14.8	1.4895	18.8	1.4795	22.8
1.4992	15.0	1.4890	19.0	1.4790	23.0
1.4987	15.2	1.4885	19.2	1.4785	23.2
1.4982	15.4	1.4880	19.4	1.4780	23.4
1.4976	15.6	1.4875	19.6	1.4775	23.6
1.4971	15.8	1.4870	19.8	1.4770	23.8
1.4966	16.0	1.4865	20.0	1.4765	24.0
1.4961	16.2	1.4860	20.2	1.4760	24.2
1.4956	16.4	1.4855	20.4	1.4755	24.4
1.4951	16.6	1.4850	20.6	1.4750	24.6
1.4946	16.8	1.4845	20.8	1.4745	24.8
				1.4740	25.0

Temperature corrections

Refractive Index:

Temperatures above 20°C - Add 0.00023 per °C

Temperatures below 20°C - Subtract 0.00023 per °C

7.4 Gravimetric Determination of Water-Insoluble Solids Content

7.4.1 Sampling

The honey is prepared for sampling as in 7.1.3.

7.4.2 Procedure

7.4.2.1 Preparation of test sample

Honey (20g) is weighed to the nearest centigram (10 mg) and dissolved in a suitable quantity of distilled water at 80°C and mixed well.

7.4.2.2 Gravimetric determination

The test sample is filtered through a previously dried and weighed fine sintered glass crucible (pore size 15-40/ μ) and washed thoroughly with hot water (80°C) until free from sugars (Mohr test). The crucible is dried for one hour at 135°C, cooled and weighed to 0.1 mg.

7.4.3 Expression of Results

The result is expressed as g water-insoluble solids/100g honey.

7.5 Determination of Mineral Content (Ash)

7.5.1 Sampling

Honey is prepared for sampling as in 7.1.3

7.5.2 Procedure

7.5.2.1 Ignition of the honey

Honey (5-10g) is weighed accurately into an ignited and pre-weighed platinum or silica dish and gently heated in a muffle furnace until the sample is black and dry and there is no danger of loss by foaming. The sample is then ignited at 600°C to constant weight. The sample is cooled before weighing.

7.5.3 Expression of Results

The result is expressed as g ash/100g honey.

7.6 Determination of Acidity

7.6.1 Sampling

The honey is prepared for sampling as in 7.1.3.

7.6.2 Procedure

7.6.2.1 Preparation of Test Sample

Honey (10.0g) is weighed out and dissolved in 75 ml carbon dioxide free distilled water.

7.6.2.2 Titration

The test sample is titrated against carbonate-free 0.1N sodium hydroxide using 4-5 drops of neutralized phenolphthalein indicator. The end-point colour should persist for 10 sec. For darkly coloured samples a smaller weight

should be taken. As an alternative, a pH meter may be used and the sample titrated to pH 8.3.

7.6.3 Expression and Calculation of Results

The result is expressed as milliequivalents acid/1000g honey and is calculated as follows:

$$\text{Acidity} = 10v$$

where v = the number of ml 0.1N NaOH used in the neutralization of 10g honey

7.7 Determination of Diastase Activity

7.7.1 Principle of Method

Based on the method of Schade etal (1958) modified by White etal (1959) and Hadorn (1961).

7.7.2 Reagents

7.7.2.1 Iodine stock solution:- Dissolve 8.8g of iodine AR in 30-40 ml water containing 22g potassium iodide AR and dilute to 1 litre with water.

7.7.2.2 Iodine solution 0.0007 N:- Dissolve 20g potassium iodide AR in 30-40 ml water in a 500-ml volumetric flask. Add 5.0 ml iodine stock solution and make up to volume. Make up a fresh solution every second day.

7.7.2.3 Acetate buffer - pH 5.3 (1.59 M):- Dissolve 87g sodium acetate $\cdot 3H_2O$ in 400 ml water, add about 10.5 ml glacial acetic acid in a little water and make up to 500 ml. Adjust the pH to 5.3 with sodium acetate or acetic acid as necessary, using a pH meter.

7.7.2.4 Sodium chloride solution 0.5 M:- Dissolve 14.5g sodium chloride AR in boiled-out distilled water and make up to 500 ml. The keeping time is limited by mould growth.

7.7.2.5 Starch solution - Use a starch with a blue value between 1.0 - 1.1 as determined by the method below. Weigh out that amount of starch which is equivalent to 2.0g anhydrous starch. Mix with 90 ml of water in a 250-ml conical flask. Bring rapidly to the boil, swirling the solution as much as possible, heating over a thick wire gauze preferably with an asbestos centre. Boil gently for 3 min. cover and allow to cool spontaneously to room temperature. Transfer to a 100-ml volumetric flask, place in a water bath at 40°C to attain this temperature and make up to volume at 40°C.

Method for determining blue value of starch

The amount of starch equivalent to 1g anhydrous starch is dissolved by the above method, cooled and 2.5 ml acetate buffer added before making up to 100 ml in a volumetric flask.

To a 100-ml volumetric flask add 75 ml water, 1 ml N hydrochloric acid and 1.5 ml of 0.02 N iodine solution. Then add 0.5 ml of the starch solution and make up to volume with water. Allow to stand for one hour in the dark and read in 2 cm cells using a spectrophotometer at 575 m μ against a blank containing all the ingredients except the starch solution.

Reading on the optical density scale = Blue value

7.7.3 Apparatus

7.7.3.1 Water-bath at $40 \pm 0.2^{\circ}\text{C}$

7.7.3.2 Spectrophotometer to read at 575 and 660 m μ

7.7.4 Sampling

The sample should not be heated in any way but should be well mixed until homogeneous and the sample for the determination weighed out. (honey)

7.7.5 Procedure

7.7.5.1 Preparation of test samples

Honey solution: 10.0g honey is weighed into a 50-ml beaker and 5.0 ml acetate buffer solution is added, together with 20 ml water to dissolve the sample. The sample is completely dissolved by stirring the cold solution. 3.0 ml sodium chloride solution is added to a 50-ml volumetric flask and the dissolved honey sample is transferred to this and the volume adjusted to 50 ml.

NB. It is essential that the honey should be buffered before coming into contact with sodium chloride.

Standardization of the starch solution

The starch solution is warmed to 40°C and 5 ml is pipetted into 10 ml of water at 40°C and mixed well. 1 ml of this solution is pipetted into 10 ml iodine solution diluted with 35 ml of water and mixed well. The colour is read at 660 m μ against a water blank.

The optical density should be 0.760 ± 0.020 . If necessary the volume of added water is adjusted to obtain the correct optical density.

7.7.5.2 Optical density determination

10 ml of honey solution is pipetted into a 50-ml conical flask and placed in a water bath at 40°C together with the flask containing the starch solution. After at least 15 min, 5 ml starch solution is pipetted into the honey solution, shaking vigorously and starting a stopwatch at the same time. 1 ml aliquots are taken at 5 min intervals and added to 10 ml iodine solution diluted with the standard volume of water. The optical density is determined immediately, and aliquots are taken until an optical density of less than 0.235 is reached.

7.7.6 Expression and Calculation of Results

The optical density is plotted against time (min) on a rectilinear paper. A straight line is drawn through at least the last three points on the graph to determine the time when the reaction mixture reaches an optical density of 0.235. This time in minutes is divided by 300 to obtain the diastase number (DN). This number expresses the diastase activity as ml 1% starch solution hydrolysed by the enzyme in 1g of honey in 1 h at 40°C.

Diastase activity = DN = ml starch solution (1%)/g honey/h at 40°C.

7.7.7 Notes on Procedure

The method for the determination of invertase activity and the use diastase/invertase ratio as measure of the condition of the honey may be considered at a later stage (see Kiermier, F., Küberlein W. (1954): Z. Unters. Lebensmitt 98, 329).

7.8 Photometric Determination of H.M.F. Content

7.8.1 Principle of Method

Based on the method of Winkler (1955)

7.8.2 Reagents

7.8.2.1 Barbituric acid solution: Weigh out 500 mg barbituric acid and transfer to a 100-ml graduated flask using 70 ml water. Place in a hot water bath until dissolved, cool and make up to volume.

7.8.2.2 p-toluidine solution: Weigh out 10.0g p-toluidine AR and dissolve in about 50 ml isopropanol by gentle warming on a water bath. Transfer to a 100-ml graduated flask with isopropanol and add 10 ml glacial acetic acid. Cool and make up to volume with isopropanol. Keep the solution in the dark for 24 h. The solution darkens gradually and eventually has to be renewed.

7.8.3 Apparatus

7.8.3.1 Spectrophotometer to read at 550 m μ

7.8.3.2 Water bath

7.8.4 Sampling

The honey is prepared for sampling as in 7.7.4. (honey)

7.8.5 Procedure

7.8.5.1 Preparation of test sample

10g of honey sample is weighed and dissolved without heating in 20 ml distilled water made free of oxygen by boiling and passing nitrogen through it. This is transferred to a 50-ml graduated flask and made up to volume. (honey solution)

7.8.5.2 Photometric determinations

2.0 ml of honey solution is pipetted into each of two test tubes and 5.0 ml p-toluidine solution is added to each. Into one test tube 1 ml water is pipetted and into the other 1 ml barbituric acid solution and both mixtures are shaken. The one with added water serves as the water blank. The addition of the reagents should be done without pause and should be finished in about 1-2 min. The extinction of the sample is read against the blank at 550 m μ using a 1-cm cell immediately the maximum value is reached.

7.8.6 Expression and Calculation of Results

The method may be calibrated by using a standard solution of hydroxymethylfurfuraldehyde (HMF) standardized by dissolving commercial or laboratory prepared HMF and assaying spectrophotometrically where $\epsilon = 16,830$ (J.H. Turner 1954) at 284 m μ ; using 0-300 μ g standards. An equation is given by which results may be roughly worked out

$$\text{mg/100g HMF} = \frac{\text{Extinction}}{\text{Thickness of layer}} \times 19.2$$

Results are expressed as mg HMF/kg honey.

REFERENCES CITED

- Lane J.H., Eynon L. (1923), J.Soc.Chem.Ind. 42, 32T, 143T, 463T
Walker H.S. (1917), J.Ind.Eng.Chem., 2, 490
Schade J.E., Marsh G.L., Eckert J.E. (1958), Food Research, 23, 446
White J.W., Parent F.W., (1959), J.A.O.A.C., 42, 344
Hadorn H. (1961), Mitt.Gebiete Lebensm u. Hyg., 52, 67
Winkler O. (1955), Z. Lebensm. Untersuch u. Forsch., 102, 161
Turner J.H., Roberts P.A., Barrick P.L., Cotton R.H. (1954), Anal. Chem. 26, 898
Kiermier F., Köberlein W. (1954), Z. Unters. Lebensmitt., 98, 329
Wedmore E.B. (1955), Bee World, 36, 197
White J.W., Kushnir I., Subors M.H. (1964), Food Technol. 18, 558

PROPOSED DRAFT PROVISIONAL STANDARD
FOR NATURAL MINERAL WATERS
(Step 5)

I. DESCRIPTION

A. Definition of Natural Mineral Water

Natural mineral water is bacteriologically sound water from a natural or drilled underground water source which

- (i) has properties favourable to health because of its particular qualities or
- (ii) contains in one kg., at its origin and after bottling, at least 1000 mg. of dissolved salts or at least 250 mg. of free carbon dioxide, and which has favourable physiological properties.

The recognition of a water as a natural mineral water in accordance with the above criteria is a matter for the competent authority in the country of origin.

B. Supplementary Definitions and Descriptions

(i) Naturally effervescent mineral water

A naturally effervescent mineral water is a water which after possible decantation* and replacement of gas, and after bottling has the same content of gas from the source as at emergence of the water taking into account the usual technical tolerance.

(ii) Non-effervescent natural mineral water

A non-effervescent natural mineral water or a natural mineral water fortified with gas from the source is a water which after possible decantation* and bottling does not have the same carbon dioxide content as at emergence.

(iii) Carbonated natural mineral water

A carbonated natural mineral water is a water to which carbon dioxide of another origin has been added.

II. ESSENTIAL COMPOSITION AND QUALITY FACTORS

A. Compositional Criteria

- (i) The composition, temperature and, generally, the essential characteristics of the water must remain stable within the limits of natural fluctuations. Possible variations in flow must not be able to change the composition, the temperature or the essential characteristics.

* Decantation is a physical process of separating undesirable elements from mineral water, permitted by national legislation, on condition that the mineralization of the water is not modified in its essential constituents which give it its properties.

- (ii) The treatments provided for in paragraphs I.B(i), (ii) and (iii) above may only be carried out on condition that the mineral content of the water is not modified in its essential constituents which give the water its properties.
- (iii) The transport of natural mineral waters in mobile tankers for bottling or for any other process before bottling is prohibited.

III. HYGIENE

The following provisions in respect of the food hygiene of this product are subject to endorsement by the Codex Committee on Food Hygiene:

- (i) The bacteriological properties of natural mineral waters shall be at least those recommended in the WHO "International Standards for Drinking Water", Second Edition 1963.
- (ii) The source or the point of emergence must be protected against risks of pollution.
- (iii) The installations intended for the production (exploitation) of natural mineral waters must be such as to exclude any possibility of contamination and to preserve the properties of the water in conformity with its definition. For this purpose and in particular:
 - (a) The catchment, the pipes and the reservoirs must be made from material suited to the water and in such a way as to prevent the introduction of foreign substances into this water.
 - (b) The equipment and the use thereof for production (exploitation), especially installations for washing and bottling, must meet hygienic requirements.
 - (c) If during production (exploitation) it is found that the water is polluted, the producer must stop all operations until the cause of pollution is eliminated.
 - (d) The observance of the above provisions will be subject to periodic checks in accordance with the requirements of the country of origin.

IV. PACKAGING

A. Containers

- (i) Natural mineral waters when sold shall be prepacked in sealed containers suitable for the prevention of the possibility of adulteration (falsification) or contamination of the water.

V. LABELLING

The following provisions in respect of the labelling of this product are subject to endorsement by the Codex Committee on Food Labelling:

A. The Name of the Product

- (i) The designation "natural mineral water" shall only be used if the water conforms to the definition in section I.A.
- (ii) The designation "naturally effervescent mineral water" shall only be used if the content of carbon dioxide from the source is the same as on emergence in accordance with section I.B(i).
- (iii) The designations "non-effervescent natural mineral water" or "natural mineral water fortified with gas from the source" shall only be used if the content in carbon dioxide is not the same as on emergence in accordance with section I.B(ii).
- (iv) The designation "carbonated natural mineral water" shall be used if there has been an addition of carbon dioxide from another origin in accordance with section I.B(iii).
- (v) If the natural mineral water has been decanted then the word "decanted" shall form part of the designation.

B. Net contents

- (i) The net contents, in either the metric (S.I. units) or avoirdupois or both systems of measurement, as required by the country in which the product is sold, shall be declared by volume.

C. Name and Address

- (i) The name and address of the manufacturer shall be declared.

D. Country of origin

- (i) The location of the source or the name of the source as well as country of origin shall be declared.

E. Presentation of Mandatory Information

(i) General

Statements required to appear on the label by virtue of this standard shall be clear, prominent and readily legible by the consumer under normal conditions of purchase and use. Such information shall not be obscured by designs or by other written, printed or graphic matter and shall be in contrasting colour to that of the background. Where the container is covered by a wrapper, the

wrapper shall carry the necessary information. or the label on the container shall be readily legible through the outer wrapper or not obscured by it. In general, the name and net contents of the product shall appear on that portion of the label normally intended to be presented to the consumer at the time of sale.

(ii) Language

The language used for the declaration of the statements referred to in section V.E(i) shall be a language acceptable to the country in which the product is intended for sale. If the language on the original label is not acceptable, a supplementary label containing the mandatory information in an acceptable language may be used instead of relabelling.

F. Optional Labelling

(i) The following information may also appear on the label or container:

- (a) trade name;
- (b) the date of the authorization to commence production (exploitation);
- (c) the results of analysis of the water either as it emerges at the source with the mentioning of any treatment, or of the contents of the bottle;
- (d) statements concerning properties favourable to health.

G. Labelling Prohibitions

- (i) The name of a locality, hamlet or specified place may not form part of the trade name unless it refers to a natural mineral water produced (exploited) at the place designated by that trade name.
- (ii) The use of any statement or of any pictorial device which may create confusion in the mind of the public about the nature, origin, composition and properties of natural mineral waters put on sale is prohibited.

VI. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

- (i) Modern methods of analysis must be used for testing.
- (ii) The methods of analysis for the bacteriological requirements and toxic substances contained in the WHO "International Standards for Drinking Water", Second Edition 1963, shall apply unless more sensitive analytical methods have been developed.

- (iii) In the detailed report of the analysis, the methods used must be specified.
- (iv) The presentation of the results of the analysis must be made according to the ISM standards (International Standard Measurements); the results must be given in mg/kg, in milliequivalents and in milliequivalents per hundred.

VII. SPECIAL PROHIBITIONS OR RESTRICTIONS

- (i) The use of natural mineral water is permitted in the manufacture of refreshing non-alcoholic drinks and may be mentioned, but without any reference to properties favourable to health.
- (ii) When refreshing non-alcoholic drinks bear the name of a natural mineral water, they may only be manufactured at the place of the exploitation of the source.
- (iii) Containers, commercial documents and advertizing of water for beverages which do not correspond to the definition of natural mineral water, may not bear any statement liable to create confusion with the latter. In particular, no allusion may be made to properties favourable to health and to statements of analyses.

- - - -

NOTE BY THE FAO SECRETARIAT CONCERNING

- 1) Proposed Draft Provisional General Standard for Edible Fungi and Fungus Products
- 2) Proposed Draft Provisional Standard for Dried Edible Fungi
- 3) Proposed Draft Provisional Standard for Fresh Fungus "Chanterelle"

The Coordinating Committee for Europe, at its Sixth session held in Vienna from 4 to 8 November 1968, examined the above drafts which had been elaborated by the Polish delegation. Certain amendments to the draft standards were agreed upon, and it was decided that the FAO Secretariat should prepare for submission to the Codex Alimentarius Commission at Step 5 revised drafts in the Codex Format, incorporating the agreed amendments. The revised drafts are contained in Appendices IV, V and VI of this document. In presenting the texts in the Codex Format, the FAO Secretariat has added, for consideration, a section on hygiene. As instructed by the Committee, the FAO Secretariat has also quoted the relevant provisions of the General Standard for the Labelling of Prepackaged Foods in full, and has made such editorial changes as appeared necessary. The Proposed Draft Provisional Standard for Dried Edible fungi covers Shii-ta-ke mushrooms.

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PROPOSED DRAFT PROVISIONAL GENERAL STANDARD FOR
EDIBLE FUNGI AND FUNGUS PRODUCTS
(Step 5)

I. SCOPE

This standard contains general requirements applicable to all edible fungi, whether fresh or processed, permitted for consumption by the competent authorities in the consuming countries. More specific requirements for the products covered by this standard may be laid down in group of products standards or in individual product standards.

II. DESCRIPTION

1. Definitions of products

- 1.1 "Edible fungi" are fruit bodies of a specific plant group - fungi - which either grow wild or are cultivated and which after necessary processing are suitable for use as a food.
- 1.2 "Species" means botanical species and closely related varieties; i.e. varieties of boletus edulis and round or pointed morels shall be regarded as being of the same species.
- 1.3 "Fresh fungi" are fungi sorted and packed, delivered to the consumer as soon as possible after they have been picked.
- 1.4 "Mixed Fungi" are prepared by mixing fungi of different species according to the established proportion.
- 1.5 "Fungus products" means dried fungi (including freeze-dried fungi, fungus grits, fungus powder), pickled fungi, salted fungi, fermented fungi, quick frozen fungi, fungus extract, fungus concentrate, dried fungus concentrate, and sterilized fungi.
- 1.6 "Dried fungi" means the product obtained by drying or freeze drying edible fungi of one species, whether whole or sliced.
- 1.7 "Fungus grits" means coarsely ground dried edible fungi of one species.
- 1.8 "Fungus powder" means dried edible fungi of one species ground so finely as to allow the powder to pass through a sieve having a 200 microns mesh.

- 1.9 "Pickled fungi" means fresh or previously preserved edible fungi of one or more species appropriately prepared and soaked in a liquid with the addition of salt, vinegar, lactic, citric or ascorbic acid, and then pasteurized in hermetically sealed containers.
- 1.10 "Salted fungi" means fresh edible fungi of one species, either whole or sliced, preserved in brine after previous cleaning, washing and bleaching.
- 1.11 "Fermented fungi" means fresh edible fungi only of one species preserved by salt and lactic acid fermentation.
- 1.12 "Quick frozen fungi" means fresh edible fungi of one species which have been quick frozen after cleaning, washing and bleaching and are kept at -18°C .
- 1.13 "Fungus extract" means a product extracted from fresh edible fungi juice or from dried fungi water of fungi of one or more species with the addition of salt and which is concentrated to 7% of saltless extract.
- 1.14 "Fungus concentrate" means a product concentrated from fresh edible fungi juice or from dried fungi water of one or more species with the addition of salt and which is concentrated to 24% of saltless extract.
- 1.15 "Dried fungus concentrate" means the dried product obtained from fungus extract or fungus concentrate.
- 1.16 "Sterilized fungi" means edible fungi, either fresh, salted or frozen, of one species, whole or sliced, packed in airtight containers in water and salt and heat treated to a degree guaranteeing the resistance of the product to microbiological spoilage.
- 1.17 Fungi in olive oil and other vegetable oils 1/
(Text to be drawn up).

2. Definitions of Defects

- 2.1 "Damaged fungi" means fungi with more than 1/4 of the cap missing.
- 2.2 "Crushed fungi" means parts of mushrooms passing through a sieve having a 15x15 mm mesh for fresh fungi and a 5x5 mm mesh for dried fungi.

1/ Information to be supplied by Italy to the rapporteur (Mr. Orłowski, Poland).

- 2.3 "Decayed fungi" are fungi which are brownish or rotten as a result of attack by bacteria and/or mould.
- 2.4 "Maggot damaged fungi" are fungi having four or more holes caused by maggots.
- 2.5 "Organic impurities of vegetable origin" are admixtures of other edible fungi, parts of plants such as leaves, pine needles, etc.
- 2.6 "Mineral impurities" are substances, the ashes of which are insoluble in hydrochloric acid.

3. Main Species

All edible fungi permitted for consumption by the competent authorities in the consuming countries.

4. Examination and sorting of raw material

As there are edible fungi which closely resemble inedible or poisonous fungi, care shall be taken to ensure, when the fungi are being picked, that only those of the same edible species are collected. Where such care has not been adequately exercised, the edible fungi species shall be sorted from the collected fungi, before they are marketed, preserved or used in the preparation of fungus products. Edible fungi which are to be marketed, or preserved, or used in the manufacture of fungus products shall be carefully examined to determine whether there are any inedible fungi amongst them, and such inedible fungi shall be removed.

III. ESSENTIAL COMPOSITION AND QUALITY FACTORS

1. Fresh fungi

1.1 Condition: Fresh edible fungi shall be healthy i.e. not decayed, clean, firm, undamaged, practically free from maggot damage and shall possess the flavour and taste appropriate for the species.

1.2 Composition. The number of stalks shall not exceed the number of caps.

1.3 Permitted defects

1.3.1 Wild growing fungi

- | | | |
|---|-------------|-------------|
| a) Mineral impurities | - max. 1% | } by weight |
| b) Organic impurities of vegetable origin | - max. 0.2% | |
| c) Content of maggot damaged fungi | - max 4% | |

1.3.2 Cultivated fungi

- | | | |
|------------------------------------|--|-------------|
| a) Mineral impurities | - max. 0.5% | } by weight |
| b) Organic impurities | - max. 0.1% | |
| c) Content of maggot damaged fungi | - practically free of maggot damaged fungi | |

2. Fungus Products (General requirements)

2.1 Raw material. Only fresh edible fungi which have been treated or processed immediately after they have been picked before deterioration sets in may be used in the preparation of fungus products. Both as raw material and as preserved fungi, they shall be healthy, clean, undamaged, practically free of maggot damage and possess the flavour and taste appropriate to the species. If fungi other than fresh fungi are used, this shall be mentioned on the label.

2.2 Permitted Ingredients

Fungus products may contain:

- a) salt (sodium chloride)
- b) vinegar
- c) spices and herbs

2.3 Styles

Processed fungi may be presented in various styles, e.g. whole with stalks, whole caps (buttons) without stalks, slices, pieces and stalks, grits, powder or concentrate.

2.4 Composition

Except in the case of fungus products consisting entirely of caps or where the addition of stalks is stated on the label in accordance with the provisions of section VIII-1.5, the number of stalks shall not exceed the number of caps.

3. Fungus products (special requirements)

3.1 Dried fungi

3.1.1 Quality criteria

- a) Colour, flavour and taste - appropriate to the species
- b) Water content - max. 6% freeze-dried
- max. 13% dried other than freeze-dried

3.1.2 Permitted defects

- a) Mineral impurities and organic impurities of vegetable origin - max. 2.2% }
- b) Content of maggot damaged fungi - max. 20% } by weight

3.2 Fungus grits and fungus powder3.2.1 Quality criteria

a) Water content - max. 9%

3.2.2 Permitted defects

a) Mineral impurities - max. 2%, by weight

3.3 Pickled fungi3.3.1 Permitted ingredients

a) Salt (sodium chloride) - max. 2.5%, by weight

3.3.2 Permitted defects

a) Mineral impurities - max. 0.1%, by weight

b) Organic impurities of vegetable origin - max. 0.02%, by weight

c) Content of maggot damaged fungi - wild growing fungi - 4% *
- cultivated fungi - 0.5% *
* by weight3.4 Salted fungi3.4.1 Permitted ingredientsa) Salt (sodium chloride)

<u>min.</u>	<u>max.</u>
14%, by weight	18%, by weight

3.4.2 Permitted defects

a) Mineral impurities 0.3%, by weight

b) Organic impurities of vegetable origin 0.5%, by weight

c) Content of maggot damaged fungi 4%, by weight

3.5 Fermented fungi3.5.1 Permitted ingredientsa) Salt (sodium chloride)

<u>min.</u>	<u>max.</u>
3%, by weight	6%, by weight

3.5.2 Permitted defects

a) Mineral impurities 0.2%, by weight

b) Organic impurities of vegetable origin 0.1%, by weight

c) Content of maggot damaged fungi 4%, by weight

3.6 Quick frozen fungi3.6.1 Permitted defects

a) Mineral impurities 0.2%, by weight

b) Organic impurities of vegetable origin 0.02%, by weight

c) Content of maggot damaged fungi 4%, by weight

- 3.7 Fungus extract and fungus concentrate
- 3.7.1 Permitted ingredients
- a) Salt (sodium chloride) - max. 20%
- 3.7.2 Permitted defects
- a) Mineral impurities or organic impurities of vegetable origin - none
- 3.8 Dried fungus concentrate
- 3.8.1 Quality criteria
- a) Water content - max. 9%
- 3.8.2 Permitted ingredients
- a) Salt (sodium chloride) - max. 5%
- 3.8.3 Permitted defects
- a) Mineral impurities or organic impurities of vegetable origin - none
- 3.9 Sterilized fungi
- 3.9.1 Permitted ingredients
- a) Salt (sodium chloride) - max. 1%
- 3.9.2 Permitted defects
- a) Mineral impurities - max. 0.1%
- b) Organic impurities of vegetable origin - max. 0.02%
- c) Maggot damaged fungi - max. 4%

IV. FOOD ADDITIVES

The following provisions in respect of food additives and their specifications as contained in section.... of the Codex Alimentarius are subject to endorsement by the Codex Committee on Food Additives:

<u>Name of additive</u>		<u>Level of use</u>
Acetic acid	} in fungus products	
Lactic acid		
Citric acid		
Ascorbic acid		
Acetic acid	pickled fungi	max. 2%
Lactic acid	fermented fungi	min. 1%
Lactic and Citric acid used in combination	sterilized fungi	max. 0.5%

V. HYGIENE

It is recommended that the products covered by this standard be prepared in accordance with, as appropriate, (i) the Code of Hygienic Practice for Dehydrated Fruits and Vegetables including Edible Fungi, (ii) the Code of Hygienic Practice for Deep-Frozen Fruit and Vegetable Products, which are being developed by the Codex Committee on Food Hygiene, and (iii) the relevant sections of the General Principles of Food Hygiene adopted by the Codex Alimentarius Commission.

VI. WEIGHTS AND MEASURES

Provisions on minimum fill for fungi packed in liquid media to be developed

VII. PACKAGING, STORAGE AND TRANSPORTATION

1. The packaging used for fresh fungi shall be perforated to allow the free passage of air, if needed.
2. Quick-frozen fungi shall be stored at a temperature not higher than -18°C . Such other requirements in regard to storage and transportation as are laid down in the General Standard for Quick-Frozen Foods being developed by the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods shall also apply.
3. In the case of (a) dried fungi, and (b) fungus grits and fungus powder, attention is directed to the need to prevent these products from absorbing moisture and being attacked by insects, particularly moths and mites.

VIII. LABELLING

The following provisions in respect of the labelling of the products are subject to endorsement by the Codex Committee on Food Labelling:

1. The Name of the Food

- 1.1 Products conforming to the definitions and other requirements set out in this standard shall be designated, as appropriate, "fungi", "dried fungi", "freeze-dried fungi", "fungus grit", "fungus powder", "pickled fungi", "salted fungi", "fermented fungi", "quick frozen fungi", "fungus extract", "fungus concentrate", "dried fungus concentrate", "sterilized fungi" or "canned fungi" but an appropriate synonym may be used instead of the word "fungi", e.g. "mushrooms".
- 1.2 In the case of fresh, dried, salted, quick-frozen, fermented, pickled and canned fungi, the common name of the species of fungi shall be stated in addition to the word "fungi". The Latin name of the species shall also be stated.

- 1.3 In the case of other fungus products consisting of more than one species of fungus, the word "mixed" shall form part of the designation. Additionally, the name (including Latin name) of the species shall be stated on the label. Processed fungus products made from other than fresh fungi shall have a designation on the label indicating the nature of the previous process.
- 1.4 If fungi other than fresh fungi are used in the preparation of fungus products this shall be declared on the label.
- 1.5 If stalks have been added to fresh fungi or fungus products, the words "stalks added" shall appear on the label.

2. List of ingredients

Where ingredients and additives have been added, a complete list of such ingredients and additives shall be declared on the label in descending order of proportion.

3. Net Contents

The net contents shall be declared as the net weight in either the metric (S.I. units) or avoirdupois or both systems of measurement, as required by the country in which the product is sold, except for fungus products packed in liquid, in which case the drained weight of the product shall be declared.

4. Name and address

The name and address of the manufacturer, packer, distributor, importer, exporter, or vendor shall be declared.

5. Country of origin

The country of origin of the product shall be declared unless the product is sold within the country of origin, in which case the country of origin need not be declared. If the product undergoes processing in a second country which essentially changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

6. Presentation of mandatory information

General

- 6.1 Statements required to appear on the label by virtue of this standard shall be clear, prominent and readily legible by the consumer under normal conditions of purchase and use. Such information shall not be obscured by designs or by other written, printed or graphic matter and shall be in contrasting colour to that of the background. Where the container is covered by a wrapper, the wrapper shall carry the necessary information, or the label on the container shall be readily legible through the outer wrapper or not

obscured by it. In general, the name and net contents of the product shall appear on that portion of the label normally intended to be presented to the consumer at the time of sale.

- 6.2 The product shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are suggestive, either directly or indirectly, of any other food with which the product might be confused, or in such a manner as to lead the purchaser or consumer to suppose that the product is connected with such other food.
- 6.3 If pictures of fungi appear on the label, they shall be in colour, so that the species are clearly recognizable.
- 6.4 Any information or pictorial device may be displayed in labelling provided that it is not in conflict with the above labelling requirements nor would mislead or deceive the consumer in any way whatsoever in respect of the product.

Language

- 6.5 The language used for the declaration of the statements referred to in 6.1 shall be a language acceptable to the country in which the product is intended for sale. If the language on the original label is not acceptable, a supplementary label containing the mandatory information in an acceptable language may be used instead of re-labelling.

IX. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

General methods of analysis for mineral impurities to be recommended by the Codex Committee on Methods of Analysis and Sampling

PROPOSED DRAFT PROVISIONAL STANDARD
FOR DRIED EDIBLE FUNGI 1/
(Step 5)

To be read in conjunction with the
General Standard for Edible Fungi
and Fungus Products.

I. SCOPE

This standard applies to dried fungi (including freeze-dried fungi), whole or sliced, of all edible species, after preparation and packing.

II. DESCRIPTION

1. Definitions of products

- 1.1 Whole dried fungi means the product obtained from cleaned and dried fungi. Their stalks may be shortened.
- 1.2 Whole caps without stems.
- 1.3 Cut dried fungi means the product obtained from whole fungi sliced and dried, the thickness of individual slices being 1-4 mm.

2. Definitions of defects

- 2.1 "Damaged fungi" means whole fungi, with more than 1/4 of the cap missing, or, in the case of cut fungi, means fungi with more than 1/3 of the total surface of the slice missing.
- 2.2 "Carbonized fungi" means whole or sliced fungi with traces of carbonization on their surface.
- 2.3 "Maggot damaged fungi" means fungi having four or more holes caused by maggots.
- 2.4 "Fallen-off stalks" means stalks separated from the caps.
- 2.5 Other defects referred to further on in this standard are defined as in the General Standard for Edible Fungi and Fungus Products.

3. Main Species

All edible fungi permitted for consumption by the competent authorities in the consuming countries.

1/ Secretariat note: This standard covers Shii-ta-ke mushrooms.

III. ESSENTIAL QUALITY FACTORS

1. Raw Material

1.1 The raw material used for the production of dried fungi shall meet the general requirements set out in the General Standard for Edible Fungi and Fungus Products.

2. End Product

2.1 Dried Fungi shall be:

- healthy, i.e. not decayed;
- of a colour, flavour and taste appropriate for the species;
- clean, i.e. free of organic and mineral impurities;
- practically free of maggot damage and damage caused by insects;
- undamaged;
- properly dried (maximum water content for freeze-dried fungi - 6%, for dried other than freeze-dried fungi - 13%).

3. Permitted Defects and Tolerances

3.1 A total of 25%, by weight, of fungi not satisfying the end-product requirements in 2.1 above is allowed. However, within this tolerance, the following maximum individual tolerances shall apply:

- mineral impurities and organic impurities of vegetable origin, 2.2%
- maggot damaged fungi:
 - cultivated species, 3%
 - wild species, 20%
- crushed fungi, 6%
- carbonized fungi, 2%
- damaged fungi, 10%
- fallen-off stalks shall be equal in number to caps, i.e 1:1.

IV. HYGIENE

It is recommended that the products covered by this standard be prepared in accordance with the Code of Hygienic Practice for Dehydrated Fruits and Vegetables including Edible Fungi, which is being developed by the Codex Committee on Food Hygiene.

V. PACKAGING AND PRESENTATION

(a) Uniformity

Packages in a lot (cartons, polyethylene bags, boxes) shall each contain fungi of the same commercial type, and shall have a uniform net weight.

(b) Packaging

Cartons, bags and boxes shall be such as to ensure adequate protection against humidity during storage and transport of the produce. Any paper or other material used inside the package shall be new, waterproof and harmless to human health. Fungi shall not come into contact with printed inscriptions on the package.

(c) Fungi are loosely packed in packing units.

VI. LABELLING

The following provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

1. Name of the Product

1.1 Products conforming to the definitions and other requirements set out in this standard shall be so designated as to specify:

- a) the common and Latin name of the species of fungus used, but an appropriate synonym may be used instead of the word "fungi", e.g. "mushrooms";
- b) the type of product: "dried fungi" or "freeze-dried fungi";
- c) the style: whole, caps or sliced.

2. Net Contents

The net contents shall be declared by weight in either the metric (S.I. units) or avoirdupois or both systems of measurement, as required by the country in which the product is sold.

3. Name and Address

The name and address of the packer and exporter shall be declared.

4. Country of Origin

The country of origin of the product shall be declared on the label, unless the product is sold within the country of origin, in which case the country of origin need not be declared.

5. Presentation of mandatory information

General

5.1 Statements required to appear on the label by virtue of this standard shall be clear, prominent and readily legible by the consumer under normal conditions of purchase and use. Such information shall not be obscured by designs or by other written, printed or graphic matter and shall be in contrasting colour to that of the background. Where the container is covered

by a wrapper, the wrapper shall carry the necessary information, or the label on the container shall be readily legible through the outer wrapper or not obscured by it. In general, the name and net contents of the product shall appear on that portion of the label intended to be presented to the consumer at the time of sale.

- 5.2 The product shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are suggestive, either directly or indirectly, of any other food with which the product might be confused, or in such a manner as to lead the purchaser or consumer to suppose that the product is connected with such other food.
- 5.3 Any information or pictorial device may be displayed in labelling provided it is not in conflict with the above labelling requirements nor would mislead or deceive the consumer in any way whatsoever in respect of the product.

Language

- 5.4 The language used for the declaration of the statements referred to in 5.1 shall be a language acceptable to the country in which the product is intended for sale. If the language on the original label is not acceptable, a supplementary label containing the mandatory information in an acceptable language may be used instead of re-labelling.

6. Official Control Stamp

Each package may be marked with an official control stamp.

VII. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

General methods of analysis for mineral impurities to be recommended by the Codex Committee on Methods of Analysis and Sampling.

VII. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling described hereunder are international referee methods which are to be endorsed by the Codex Committee on Methods of Analysis and Sampling.

General methods of analysis for mineral impurities to be recommended by the Codex Committee on Methods of Analysis and Sampling.

6.3 Name and Address

The name and address of the packer and exporter shall be declared.

6.4 Country of Origin

The country of origin of the product shall be declared, unless the product is sold within the country of origin, in which case the country of origin need not be declared.

6.5 Presentation of mandatory information

General

6.5.1 Statements required to appear on the label by virtue of this standard shall be clear, prominent and readily legible by the consumer under normal conditions of purchase and use. Such information should not be obscured by designs or by other written, printed or graphic matter and shall be in contrasting colour to that of the background. Where the container is covered by a wrapper, the wrapper shall carry the necessary information, or the label on the container shall be readily legible through the outer wrapper or not obscured by it. In general, the name and net contents of the product shall appear on that portion of the label normally intended to be presented to the consumer at the time of sale.

6.5.2 The product shall not be described or presented on any label or in any labelling by words, pictorial or other devices which refer to or are suggestive either directly or indirectly, of any other food with which the product might be confused, or in such a manner as to lead the purchaser or consumer to suppose that the product is connected with such other food.

6.5.3 Any information or pictorial device may be displayed in labelling provided it is not in conflict with the above labelling requirements nor would mislead or deceive the consumer in any way whatsoever in respect of the product.

Language

6.5.4 The language used for the declaration of the statements referred to in 6.5.1 shall be a language acceptable to the country in which the product is intended for sale. If the language of the original label is not acceptable a supplementary label containing the mandatory information in an acceptable language may be used instead of re-labelling.

6.6 Official Control Stamp

Such package may be marked with an official control stamp.

3.4 Permitted Defects and Tolerances

A maximum of 15%, by weight, of Chanterelles not satisfying the requirements under 3.1, 3.2 and 3.3 above is allowed, but within this figure the following maximum tolerances shall apply:

- mineral impurities, 1%
- organic impurities, 0.2%
- crushed fungi, 2%.

IV. HYGIENE

It is recommended that the product covered by this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene.

V. PACKAGING AND PRESENTATION

5.1 Uniformity

Packages in a lot (bast basket, small slatted box) shall each contain fungi of the same commercial type (sized or unsized) and shall be uniform in net weight.

5.2 Packaging

Bast baskets, wooden boxes or cartons shall be such as to allow the free passage of air and to ensure adequate protection during transport. Any paper or other material used inside the package shall be new and harmless to the consumer's health. Fungi shall not come in contact with printed inscriptions on the package.

5.3 Presentation

Fungi are packed in bulk.

VI. LABELLING

The following provisions in respect of the labelling of the product are subject to endorsement by the Codex Committee on Food Labelling:

6.1 Name of the Product

The product shall be so designated as to specify the common and Latin name of the fungus.

6.2 Net Contents

The net contents shall be declared by weight in either the metric (S.I. units) or avoirdupois or both systems of measurement, as required by the country in which the product is sold.

PROPOSED DRAFT PROVISIONAL STANDARD
FOR FRESH FUNGUS "CHANTERELLE"
(Step 5)

To be read in conjunction with the
General Standard for Edible Fungi
and Fungus Products

I. SCOPE

This standard applies to edible, wild growing fungi of the species CANTHARELLUS CIBARIUS, supplied fresh, after sorting and packing.

II. DESCRIPTION

2.1 Definitions of Defects

The definitions of defects in fresh fungi as set out in the General Standard for Edible Fungi and Fungus Products shall apply.

III. ESSENTIAL QUALITY FACTORS

3.1 Fresh Chanterelles shall be

- fresh in appearance,
- light yellow to dark yellow in colour,
- healthy, i.e. not decayed,
- practically free from maggot damage,
- as firm as possible,
- whole, i.e. undamaged,
- clean, i.e. practically free from organic and mineral impurities,
- free from foreign smell and taste,
- free from excessive moisture,
- able to withstand transport and handling.

3.2 The diameter of the cap of fresh Chanterelles shall be as follows:

- minimum 10 mm
- maximum 65 mm

3.3 Sizing

The Chanterelles may be sorted according to their size determined by the diameter of the cap. If the Chanterelles are sorted, the difference between the smallest and the largest caps in the same package shall not exceed 20 mm.