



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET  
L'AGRICULTURE  
ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y  
LA ALIMENTACION  
Rome, Viale delle Terme di Caracalla. Cables: FOODAGRI, Rome. Tel. 5797

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WORLD HEALTH ORGANIZATION  
ORGANISATION MONDIALE DE LA SANTÉ  
1211 Genève 27, Avenue Appia. Câbles: UNISANTE, Genève. Tél. 34 60 61

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JOINT FAO/WHO FOOD STANDARDS PROGRAM CODEX ALIMENTARIUS  
COMMISSION

Fifth Session, Rome, 19 February - 1 March 1968

REPORT OF THE THIRD SESSION OF THE JOINT ECE/CODEX ALIMENTARIUS  
GROUP OF EXPERTS ON STANDARDIZATION OF QUICK (DEEP) FROZEN FOODS  
Rome, 18-22 September 1967

1. The Joint ECE/Codex Group of Experts on the Standardization of Quick (Deep) Frozen Foods held its Third Session in Rome from 18 to 22 September 1967. Delegates from the Following countries participated in the meeting: Australia, Austria, Belgium, Canada, Denmark, Federal Republic of Germany, Finland, France, Italy, Mexico, The Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom, United States of America. Also present were observers from Yugoslavia, the Organization for Economic Cooperation and Development, International Organization for Standardization and the International Institute of Refrigeration. The list of participants is given in Appendix I to this Report.
2. The meeting was opened by Mr. R. Aubrac, Director, Program Liaison Division, who welcomed the participants at the session on behalf of the Directors-General of FAO and WHO stating that this was the first time that the Joint Group was meeting at FAO Headquarters .
3. The meeting unanimously re-elected Mr. R. Linden (Belgium) and Mr. W. Orłowski (Poland) who had previously served as Chairman and Vice-Chairman respectively of the Joint Group. The Secretariat of the session was provided by ECE and FAO.
4. The meeting adopted without modifications the provisional agenda of the session.

Proposed Draft Provisional General Standard for Quick (Deep)  
Frozen Foods (Appendix II)

5. The meeting considered the first item of the agenda, the General Standard for Quick (Deep) Frozen Foods (Annexe I to document ALINORM 66/25 - AGRI/WP.1/469) which had been submitted at Step 3 of the Procedure for the Elaboration of Codex Standards to all Member Governments for comments. During the discussion of this item

the Secretariat informed the delegations that the Codex Alimentarius Commission would at its next session examine whether the elaboration of non-mandatory Codex of Practice would also fall within the scope of work of the Commission. After discussion, the Group of Experts decided to consider the document in the light of the comments of the various countries. Some delegations were of the opinion that the standard referred only to the end product and that it was recommendatory in nature, whilst other delegations felt that it should be mandatory and refer also to the treatment and manufacturing processes. A number of delegations expressed the view that it was impracticable to check officially all stages in the production and manufacturing processes.

6. The delegation of the Federal Republic of Germany, supported by the delegation of the United Kingdom stated the desirability of including part of the definition for quick (deep) frozen food of the Liaison Committee of Quick (Deep) Frozen Food Industries of the EEC as follows: "This freezing operation should be carried out in such a way that the area of temperature of maximum crystallization is passed very quickly taking into account the shape and type of the product." The Group of Experts examined the definition of quick (deep) frozen foods and arrived at the modifications as set out in the revised version of the definition in Appendix II to this Report. The Group of Experts decided to bring to the attention of the Commission that in general frozen foods at a temperature above -18°C were not covered by the definition in the General Standard and that if it were adopted as mandatory there would be an exclusion of a large number of products which are customarily packed, marketed and sold as frozen foods.

7. The Group noted the request of Cuba and Japan that consideration be given to the possibility of having less stringent temperature requirements in the standard due to the particular climatic conditions in their countries.

8. The delegation of the Netherlands indicated that they were not in favour of any terminology to the effect that temperature be taken into account in relation to duration of storage.

9. On packaging the Group of Experts found that it would not be appropriate to establish at the present time standard units of weight for prepackaged quick (deep) frozen foods. The Group of Experts was informed that the question of packaging material had been raised in the Codex Committee on Food Additives with respect to possible hazards from the migration of the components of the packaging material into the product. The Group of Experts agreed however that it would have to deal with the technological aspects of packaging because of the specific requirements of packaging material used for quick (deep) frozen foods. The Group of Experts thanked the Italian delegation for having prepared a paper on packaging. After considering this document and the comments thereon it decided to include a suitable paragraph which would combine all the suggestions made by the various delegations.

10. With regard to labelling the Group of Experts was informed of the results of the Codex Committee on Food Labelling which had elaborated at its last session a General Standard for Prepackaged Foods. This Committee had agreed in general with the recommendation of the Group of Experts concerning labelling.

The Group of Experts reiterated that it was important to mark packaged foods in code for the purpose of identification and recall of production lots. The Group accepted with a slight modification the present text of the labelling provision noting that in certain instances labelling provisions could be expanded by indicating the crop year and other information which would specifically apply to that particular quick (deep) frozen food.

Due to the international implications of the name of the product in English, the Group noted that products complying with the standard would have to bear a special appropriate designation which could not be used by other products. They considered the request of the Codex Committee on Labelling that the proposed nomenclature in English 'Quick (Deep) Frozen'<sup>1</sup> should be amended to correspond with common practice in English-speaking countries. The Group was told that it was not the practice in the United Kingdom to describe any of these products on the label as 'quick', 'deep' or 'frozen foods' and that there was no common practice among the English-speaking countries. The United Kingdom delegation pointed out that to require the term 'frozen' on products complying with the standard would prevent its use on other products, e.g. frozen carcasses of meat could not be called "frozen" even though they were in fact frozen. In practice the retail display cabinet would not include such products. The United Kingdom expressed a preference for the term 'quick-frozen' and it was agreed that all Governments and especially those of English-speaking countries should be asked to comment on whether they were in favour of the nomenclature (i) 'quick-frozen' or (ii) 'deep-frozen' or (iii) 'frozen', and also how frozen products not complying with the standard should be described when sold normally for direct human consumption.

11. On the question of methods of analysis and sampling the Group was informed that the sampling plans which appear in the "Inspection Manual" document CODEX/QFF/67/8 - AGRI/WP.1/523 which had been prepared by the USA had been briefly considered at the Codex Committee on Processed Fruit and Vegetables and that supplemental acceptance procedures were being considered for small sample sizes. The Group decided to ask Governments to comment on this document and on the revised portion when it was distributed.

12. The Group then considered which provisions of the Standard should be mandatory and which should be advisory. Of seventeen countries which expressed a view, seven considered that the Standard, in its entirety, should be mandatory. The other ten delegations did not accept the standard in its entirety as mandatory however they could accept some parts as mandatory and other parts as advisory. When opinion was expressed in principle on a paragraph by paragraph basis, there was a majority in favour of each individual paragraph being mandatory as indicated in the following table.

TABLE I

Paragraph	Mandatory	Advisory
Definition	12	5
Raw Materials	13	4
Treatment	9	8
General Hygiene Requirements	Not applicable	
Storage	10	7
Transportation	11	6
Distribution	11	6
Refreezing	12	5
Packaging	10	7
Labelling (a)	11	6
(b)	9	8
(c)	8	9

13. The Group decided that Governments should be asked to state in their comments the reasons as to why they would consider the entire standard or its individual paragraphs mandatory or advisory.

14. The delegations of Australia, Canada and the United States of America made the following statement:

"Regarding the General Standard for Quick (Deep) Frozen Foods they considered

1. it would be better as a Code of Practice
2. any standard should refer to the characteristics of the end product as far as mandatory provisions are concerned
3. the General Standard, as adopted, is not necessarily appropriate for the products such as meat, fish and dairy products
4. that they could not accept as mandatory those parts of the standard which specified a maximum temperature of  $-18^{\circ}\text{C}$  during distribution and in display cabinets and also expressed their concern that small rises in temperature, even for short periods, were not admissible."

Proposed Draft Provisional Standards:

Quick (Deep) Frozen Strawberries (Appendix III)

15. During the discussion of the above standard some delegations were of the opinion that ascorbic acid and citric acid should be allowed to be added to strawberries in order to prevent discolouration. Although most delegations opposed the use of additives, the Group of Experts decided to invite Governments to submit evidence as to the technical justification for the use of these additives. Governments and the Codex Committee on Food Additives were asked to comment on this usage and on the recommendation that the addition of 1-ascorbic acid should be declared on the label as an additive and the term Vitamin C should not appear on the label.

Quick (Deep) Frozen Peas (Appendix IV)

16. With regard to the proposal of the United Kingdom delegation concerning tolerance of defects, the Group of Experts accepted the proposed definition of defects. On the question of tolerance percentages for defects, the Group decided that Governments should be asked to comment on these proposals.

17. As regards the analytical characteristics, some delegations recommended that these figure percentages should be re-examined in detail.

18. The Polish delegation expressed their reservation on the distinction between the two types of peas and also on the addition of any additives to the product.

The delegations of Sweden and Switzerland reserved their position as to the statement regarding type and size in the labelling provision of the standard.

19. With reference to packaging, the Group of Experts noted the observations of the Netherlands delegation regarding standardized weights for packaged containers, but thought that at the present time it was not considered desirable to incorporate such proposals in the standard.

20. In the special Drafting Group of the Group of Experts on the question of size grading of peas it was agreed that the definition of the two types of peas, e.g. Garden Peas and Continental Peas, needs improvement since more and more hybrids are used

and continental peas are not always prepared from varieties which are round-seeded and garden peas not always from varieties which are wrinkled. The types can in fact only be distinguished by their starch pattern as mentioned in document AGRI/WP.1/458. (Netherlands proposals to 2nd session of Group of Experts).

21. In relation to size-grading some delegations considered that the system of describing sizes for any product should follow the terminology adopted by the Codex Committee on Processed Fruits and Vegetables, and which has already been adopted in the standard for quick (deep) frozen strawberries.

Draft General Standard for Quick (Deep) Frozen Fruits and Vegetables (Netherlands proposal)

22. The Group of Experts decided that document CODEX/QFF/67/4 should be considered as an outline and guide for the preparation of other standards. The Group also discussed the possible development of other group standards and decided to ask the Codex Committees dealing with fish, meat and poultry to consider whether they felt that there was a need for such standards for their respective products in the quick frozen state. These Codex Committees should, if they deemed it necessary, prepare draft group standards and submit them to this Group of Experts for their consideration.

In connection with pre-cooked frozen foods, the Group agreed that the Codex Committee on Food Hygiene should continue to develop a Code of Practice for Pre-cooked Frozen Foods which should also include the semi-cooked products.

#### Quality grading

23. During the discussions of the new standards for which rapporteur countries had prepared drafts, it was noted that quality grades were included in some of these standards. It was pointed out that the question of whether Codex standards should include quality grades had yet to be decided upon by the Codex Alimentarius Commission and that this matter would be discussed by the Codex Committee on General Principles at its second session (October 1967). The Group of Experts decided that as far as it was concerned the standards which they are at present elaborating should only be concerned with minimum requirements. If quality grades should be required later, it could be taken up as appropriate by either of the two parent bodies of the Group of Experts.

#### New Standards

24. The Group of Experts decided that the rapporteur countries should redraft the new standards and that these redrafts would be on the basis of those already elaborated for Quick (Deep) Frozen Peas and Strawberries. These redrafts should be submitted to the Secretariat in Rome or Geneva by the end of October 1967 for distribution to Governments for comments at Step 3 of the Procedure for the Elaboration of Standards.

25. In connection with additives in quick (deep) frozen Spinach (rapporteur country: Federal Republic of Germany), the use of soluble calcium salts was suggested in order to precipitate oxalic acid in view of the possible hazard of this acid to infants. The products and levels of use of these additives are to be supplied by the delegation of Denmark.

26. Rapporteur countries were asked to take note of the following points and also of the relevant paragraphs of the particular processed fruit and vegetables standards covering the same fruit and vegetables.

In the draft standard for quick (deep) frozen Raspberries (rapporteur country: France) the tolerance for broken berries should be indicated and the colour, if black or yellow, should appear in the standard.

Delegations were also asked to comment on the suitable tolerance for rot in raspberries and strawberries defining whether it meant merely over-ripeness or decomposition.

27. In the draft standard for quick (deep) frozen Brussels Sprouts (rapporteur country: Belgium) the new points were the introduction of a peroxidase test as a measure of enzyme inactivation. Governments were asked to comment on the use of this test to detect enzyme inactivation in all frozen vegetables.

A suggested optional sizing system for Brussels sprouts was the following:

- "small" up to 32 mm.
- "medium" up to 36 mm.
- "large" over 36 mm.

Governments were asked to comment on this sizing system.

28. In the draft standard for quick (deep) frozen Peaches the style "diced" was added under "Presentation". Nectarines were excluded from the standard. Since peaches for freezing are not usually blanched, in order to prevent or retard changes in colour or consistency the additives mentioned in the standard and salt can be used and should be indicated on the label. (Rapporteur country: Spain).

One delegation stated that it would not be desirable that all permitted additives should be used at the same time. To avoid this possibility it would be best to limit the number and quality of additives permitted in a product.,

29. The draft standard for quick (deep) frozen Bilberries will apply only to those bilberries conforming to the characteristics of the Vaccinium myrtillus. (Rapporteur country: Poland).

30. The Group of Experts noted that in the case of certain vegetables and fruits there is the possibility of residues of other treatment agents, such as defoliant, herbicides, growth retardants and possibly fertilizers, as well as of pesticides.

31. The Group of Experts did not consider as significant any residues of substances used in washing or blanching water such as calcium chloride, citric, lactic or ascorbic acid.

The Group decided that the draft standard for quick (deep) frozen Cauliflower should be redrafted in the light of the comments made, and the delegations of Spain and Italy agreed to collaborate and prepare a draft for the next session.

#### Status of Standards

32. The Draft Provisional General Standard for Quick (Deep) Frozen Foods, and the Draft Provisional Standards for Quick (Deep) Frozen Peas and Strawberries should be submitted to the Codex Alimentarius Commission at Step 5 of the Procedure for the Elaboration of Standards.

33. The Proposed Draft Provisional Standards for Quick (Deep) Frozen Spinach, Raspberries, Brussels Sprouts, Peaches and Bilberries should be sent out to Governments for comments at Step 3 of the Procedure for the Elaboration of Standards.

### Future Work

34. The following program of future work was agreed:
- i) Draft Standard for Quick (Deep) Frozen Green Beans. Rapporteur country: Canada.
  - ii) Draft Standard for Quick (Deep) Frozen Blueberries. Rapporteur country: United States of America.
  - iii) Draft Standard for Quick (Deep) Frozen Leeks to be elaborated by the delegation of Spain in collaboration with the delegation of Italy.
  - iv) The draft standards for Quick (Deep) Frozen Broccoli and Quick (Deep) Frozen Sour Cherries to be redrafted for the next session.
35. The following points were also raised:
- i) Delegations should have experts and technicians examine the Inspection Manual (document CODEX/QFF/67/8 -AGRI/WP.1/523) and send in their comments to the Secretariat in Rome or Geneva by the end of 1967.
  - ii) The delegation of the United States of America, in connection with criteria for mold, rot and infestation, stated that they would prepare a paper on this subject for the next session.
  - iii) Participants were asked to comment in writing on the Code of Hygienic Practice for Quick (Deep) Frozen Fruit and Vegetables Products.(CODEX/QFP/67/9-App.1)
  - iv) The Secretariat was asked to prepare a paper as to the extent to which other Codex Committees are developing frozen food standards.

### Request of the Group of Experts to the Chairman of the session

36. The Group of experts finds that important scientific and technical problems remain to be solved in order to permit application of the standards. The progress of freezing techniques and development in the use of quick (deep) frozen products in human diet necessitates urgent studies and coordination of the current researchs in these fields.

On the scientific level the International Institute of Refrigeration has been most helpful in the work of elaborating standard.

At the present, and especially regarding the future, it would seem urgent that concerted measures be taken in order to place at the disposal of the various countries the means of applying standards uniformly and correctly.

At a time when the war against hunger has become of such major concern, quick (deep) frozen foods constitute one of the most efficient means to rationalize production and to conserve food products during long periods without loss of their nutritional value.

The Group of Experts for this reason asked the Chairman of the session to prepare a paper on these topics.

### Date and place of next session

37. The Group decided that, in accordance with the usual alternation of place, the next session would take place in Geneva, probably in the autumn of 1968.

Joint ECE/Codex Alimentarius Group of Experts on the  
Standardization of Quick (Deep) Frozen Foods  
Third Session, Rome, 18-22 September 1967

LIST OF PARTICIPANTS

AUSTRALIA

WILFRED JOSEPH BETTENAY  
Chief Fruit Officer, Exports  
Dept. Primary Industry  
301 Flinders Lane  
Melbourne, Victoria

AUSTRIA

Dr. HERBERT WOIDICH  
Blaasstr. 29  
A 1190 Wien

BELGIUM

RAYMOND LINDEN  
Centre Agronomique de Gembloux  
Gembloux  
  
Ing. JOZEF LEOPOLD VERLINDEN  
Ministère de l'Agriculture  
Rue du Méridien 10  
Bruxelles

CANADA

EDWIN GRANT  
Chief, Processed Fruit and Vegetables  
Canada, Dept. of Agriculture  
Sir John Carling Bldg.  
Ottawa

DENMARK

ERLING BACHE  
Director, Civilengineer  
Danish Institute of Frozen Food  
Kastelsvej 11  
Copenhagen ø  
  
Prof. F. BRAKSNAES  
Dept. of Technical Biochemistry  
Ostervoldgade 10  
Copenhagen  
  
Prof. AAGE JEPSEN  
The Royal Veterinary of Agricultural College  
Copenhagen V

FINLAND

Prof. Dr. agr. TOIVO RAUTAVAARA  
Maataloushallitus  
Helsinki 17

FRANCE

JEAN RENE CHICHE  
Syndicat des Fabricants de Produits Surgelés  
de France  
C. ie Sanpiquet et SA Cassegrain  
BP 673  
Nantes 44

CHARLES GROSS  
Inspecteur général de la répression des frauds  
42bis, rue de Bourgogne  
Paris 7e

GERMANY, FED. REP.

Dr. HARALD Y. HAUPT  
Quantinsstrasse 14  
53 Bonn

Dr. GERHARD REIN  
Geschäftsführer  
Deutsches Tiefkühlinstitut  
5 Köen-Riehl  
Ander Flora 11

ERVIN K.E. RATHJE  
Iglo-g.m. b.H  
305 Wunstorf  
Hannover

Dr. FERDINAND SCHULTE  
Ministerialrat  
Ministerium für Gesundheitswesen  
Bad Godesberg

ITALY

Dr. IOLANDA AMICI  
Ministero della Sanità  
EUR, Rome

Dr. CARLO BESSLER  
Ispettore Generale Medico  
Ministero della Sanità  
Rome

Dr. RAIMONDO DI EGIDIO  
Medico Veterinario  
Ministero della Sanità  
Rome

GIANNI GIROLAMO  
Directeur Adjoint  
Assoc. Ital. Ind. Prodotti Alimentari  
Via P. Verri, 8  
Milano

Ing. JEAN-ANTOINE PESCHEL  
Chemical Ingeneer  
Simmenthal MER  
Aprilia

UGO SELLERIO  
Capo dei Laboratori d'Ingegneria  
Istituto Superiore di Sanità  
Viale Regina Elena 299  
Rome

Dr. ITALO ZAFFINO  
Ministero della Sanità  
Rome

MEXICO

Min. ARTURO L. ORTIGOSA  
Embajada de México  
Via L. Spallanzani 16  
Rome

NETHERLANDS

JOHANNES BURG  
Ministry of Agriculture  
The Hague

Ing. P.J. MEEREBOER  
1<sup>o</sup> v.d. Boschstraat 4  
The Hague

Ing. T. VAN HIELE  
Haagsteeg 6  
Wageningen

J. VAN WAARDENBERG  
Produktschap voor Groenten en Fruit  
Bezuidenhoutse Weg 153  
The Hague

DANIEL MARIUS VAN YSSELSREIN  
Technical Director  
IGLO N.V.  
Neyencordia  
Utrecht-Holland

Dr. G. FRED WILMINK  
Deputy Director in Chief of Public Health  
Foodstuffs Division  
Dokter Reyersstraat 10  
Leidschendam

NORWAY

ROLF W. KIRKVAAG  
Director  
Dypfr. Kontoret  
Drams. Vei 126  
Oslo

POLAND

Dr. Ing. agr. WITOLD MAJLERT  
Polski Komitet Normalizacyjny  
14 rue Swietokrzyska  
Warszawa

WACLAW ORLOWSKI  
Expert Ministry of Foreign Trade  
Central Board of Standardization  
Stepinska 9  
Warszawa

SPAIN

Ing. agr. JOSE CARBALLO  
Ministerio de Agricultura - Código Alimentario  
Av.a Pta Hierro Madrid

Ing. agr. LUIS ESTEBAN  
Jefe Sección Normalización  
Ministerio de Comercio  
Huesca 23  
Madrid (20)

SWEDEN

KARL IVAR NILSSON  
Managing Director  
AB DJUPFRYSNINGSBYRAN  
Kungsgatan 56  
Stockholm C

ULF RAMBECH  
Senior Food Technologist  
NORDRECO A.B.  
BJUV

SWITZERLAND

ERNEST GLASER  
Baiderstr. 41  
Zurich.

Dr. EMANUEL PULVER  
Afico S.A.  
Case postale La Tour-de-Peilz

UNITED KINGDOM

LEON GARRICK HANSON  
Chief Executive Officer  
Food Standards Division  
Ministry of Agriculture, Fisheries and Food  
Great Westminster House  
Horseferry Road  
London S.W. 1

JOHN RAYMOND CROOK  
Findus Ltd.  
Humberstone Rd.  
Grimsby Lines

HAROLD MULLINEAUX GOODALL  
Senior Executive Officer  
Ministry of Agriculture, Fisheries and Food  
Food Standards Branch  
Great Westminster House  
Horseferry Road  
London S.W.1

ROBIN F.A. HARBUD  
W. Brooks&Son  
40 1/50 Hagscham Road  
London S.E. 15

HUGH WILLIAM SYMONS  
Birds Eye Foods  
Walton-on-Thames  
Surrey

GEOFFREY WILLIAM  
PETER STRETTON  
Ross Foods Ltd.  
Grimsby  
Lincolnshire

U.S.A.

LOWRIE M. BEACHAM  
Director  
Division of Food Standards and Additives  
Food and Drug Administration  
Washington D.C. 20204

FRED DUNN  
Chief Processed Fruits and Vegetables Branch  
U.S. Department of Agriculture  
Washington D.C.

LEONARD S. FENN  
National Association Frozen Food Packers  
Director of Technical Services  
919 18th Street  
Washington D.C.

CLAYTON E. GASCOIGNE  
Director, Research and Development  
Winter Garden Freezer Co.  
P.O. Box 220  
Bells, Tennessee

C. JAMES LEAKE  
Vice-President Griffin Grocery Co.  
Box 1928, Muskoquee  
Oklahoma

Mrs. TILLIE LEWIS  
President  
Tillie Lewis Foods, Inc.  
Stockton, California  
Drawer

YUGOSLAVIA

Prof. DUSAN BEBIC  
Faculty of Agriculture  
Nemanjina 6  
Belgrade (Zemun)

## INTERNATIONAL ORGANIZATIONS

ECE/FAO

LAWRENCE JACOBSON  
ECE/FAO Agriculture Division  
Palais des Nations  
Geneva  
SWITZERLAND

ISO/TC 34 SC 3

Dr. Ing. agr. WITOLD MAJLERT  
Polski Komitet Normalizacyjny  
14 rue Swietokrzyska  
Warszawa  
POLAND

HE

Prof. F. BRAMSNAES  
Dept. of Technical Biochemistry  
Ostervoldgade 10  
Copenhagen  
DENMARK

OECD

MARC NORMAND  
Administrateur  
2, rue André Pascal  
Paris  
FRANCE

Appendix II

Proposed Draft Provisional GENERAL STANDARD

for

QUICK (DEEP) FROZEN POOPS

Submitted to the Codex Alimentarius Commission

at STEP 5

of the Procedure for the Elaboration of Standards

by the

JOINT ECONOMIC COMMISSION FOR EUROPE/CODEX ALIMENTARIUS GROUP  
OF EXPERTS ON THE STANDARDIZATION OF QUICK (DEEP) FROZEN FOODS

1. Scope

This general standard shall apply to all quick (deep) frozen products sold normally for direct human consumption and shall be supplemented by any additional provisions specified for individual quick (deep) frozen products, or groups of products.

2. Definition

Quick (deep) frozen foods are those which, complying with the conditions laid down hereafter, have been subjected to a freezing process at the speed appropriate to the product in appropriate equipment (which does not include cold stores and show oases), designed and operated in a manner to reduce their temperature to -18°C or lower at the centre of the product after thermal stabilization, and which are continuously retained at this low temperature up to and including the time of final sale. When a product or group of products requires a specific freezing speed or a lower temperature, the speed of freezing and the temperature to be reached will be specified in the group or individual product standard.

3. Raw Material

The raw material which is to be quick (deep) frozen shall be wholesome, suitable for the freezing process and such that the final product at least meets the minimum requirements laid down in the appropriate individual product standard.

4. Treatment before and/or after quick (deep) freezing

All steps and processes, which may also include packaging, shall be carried out quickly with the maximum care under good hygienic conditions, taking into account any storage or conditioning which is required. These processes may be carried out before or after quick (deep) freezing. After the preliminary processes have been completed the product shall be subjected without delay to a freezing process as described in paragraph 2 under "Definition".

5. General Hygiene Requirements

The General Principles of Food Hygiene as elaborated by the Codex Committee on Food Hygiene shall be followed. If a Code of Hygienic Practices has been elaborated for a given product or group of products, this Code should also be followed. This applies in particular to the paragraphs 3 and 4 above.

## 6. Storage, Transportation and Distribution

### 6.1 Storage

The storage of quick (deep) frozen products shall be carried out at a temperature appropriate to the product or the duration of storage. This temperature shall under no circumstances be higher than  $-18^{\circ}\text{C}$ , or at whatever lower temperature may be specified in the individual product standards, with the minimum of fluctuation.

### 6.2 Transportation

The transport of quick (deep) frozen products shall be carried out in equipment capable of maintaining the temperature of the product at  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) or lower. A rise in the temperature of the product may be tolerated for very brief periods, but the temperature of the product shall never be higher than  $-15^{\circ}\text{C}$ .

### 6.3 Distribution

The distribution (including local transport) of quick (deep) frozen products and their sale in the appropriate refrigerated equipment shall ensure that the product is kept at a temperature of  $-18^{\circ}\text{C}$  or lower. A rise in the temperature of the product may be tolerated for very brief periods, but the temperature of the product shall never be higher than  $-15^{\circ}\text{C}$ .

## 7. Refreezing

Products shall not be sold as quick (deep) frozen if, after preparation and final quick (deep) freezing for sale to the consumer, they have become thawed even partially and have then been refrozen. The recognized practice of thawing certain products under controlled conditions for further industrial processing is not prohibited but such products shall comply with at least the minimum requirements laid down in the appropriate individual product standard.

## 8. Packaging

Throughout the freezing, preservation and distribution of the product, the packaging must, up to the time of final sale

- (a) protect the organoleptic and quality characteristics of the product;
- (b) protect the product from bacteriological and other contamination (including contamination from the packaging material itself);
- (c) prevent moisture loss, dehydration and, where appropriate, leakage; and
- (d) not pass on to the product any odour, taste, colour or other undesirable characteristic,

## 9. Labelling

Products to which this standard applies shall be subject to the general provisions laid down by the Codex Committee on Food Labelling and subsequently approved by the Commission.

The following additional labelling provisions shall apply to all quick (deep) frozen foods:

- (a) the terms "quick frozen" or "deep frozen" shall accompany the name of the product}
- (b) there shall be an indication in code of the date of production, that is, the date the final product was packaged for retail sale}
- (c) there should be instructions for keeping and use (e.g. thawing, cooking).

The above provisions may be supplemented by further labelling provisions deemed advisable for groups of products or individual products.

10. Methods of Analysis and Sampling

(To be developed later in connection with Quality Inspection).

11. Food Additives

Additives used in the preparation of quick (deep) frozen foodstuffs shall be specified in the standards after approval by the Codex Committee on Food Additives.

12. Pesticide and other Residues

Such residues present in quick (deep) frozen foodstuffs shall not exceed the level of tolerance laid down by the competent Codex Committees.

Proposed Draft Provisional STANDARD

for

QUICK (DEEP) FROZEN STRAWBERRIES

Submitted to the Codex Alimentarius Commission

at STEP 5

of the Procedure for the Elaboration of Standards

by the

JOINT ECONOMIC COMMISSION FOR EUROPE/CODEX ALIMENTARIUS GROUP  
OF EXPERTS ON THE STANDARDIZATION OF QUICK (DEEP) FROZEN FOODS

I, Product Description and Designation

1. Product Description

Quick (deep) frozen strawberries are the product:

- (a) prepared from sound, ripe strawberries of firm texture conforming to the characteristics of Fragaria grandiflora L. and Fragaria vesca L. Before freezing the fruit is stemmed, washed and drained;
- (b) packed with or without a packing medium of dry sugar(s) or sugar syrup(s) (e.g. sucrose, invert sugar, dextrose, glucose syrup, dried glucose syrup)}
- (c) frozen and maintained at temperatures necessary to assure preservation of the product in accordance with the General Standard for Quick (Deep) Frozen Foods.

2. Presentation

Quick (deep) frozen strawberries may be presented sized or unsized, free-flowing (i.e. as the individual berries) or non free-flowing (i.e. as a solid block), in the following forms:

- (a) whole
- (b) halves
- (c) sliced

II. Composition

1. Strawberries prepared with dry sugars

For this product the formulation shall consist of not more than 25%, by mass of added dry sugars in the finished product.

2. Strawberries with syrup

(a) Syrup strength

Not less than 40% weight of sugar.

(b) Quantity of syrup

The amount of syrup used shall be no more than that required to cover the fruits and fill the spaces between them. Not more than 40% of the weight of the product should be syrup.

3. Additives

None permitted.

III. General Hygiene Requirements

All steps in the preparation and processing of quick (deep) frozen fruits and vegetables should be carried out under conditions as prescribed by the Codex Alimentarius Commission Code of Hygienic Practice for Quick (Deep) Frozen Fruit and Vegetable Products and the finished product shall comply with the specifications of that code.

IV. Minimum Requirements for the End Product

Quick (deep) frozen strawberries must be:

- intact if whole, and not materially disintegrated?, or smashed if halved or sliced;
- clean, practically free from sand and grit, and other foreign material}
- practically free from stalks, calyces, leaves and other extraneous vegetable material;
- sound, practically free from insect bites and other blemishes;
- practically free from green fruits;
- normally developed}
- of a good colour and free from foreign taste and smell;
- when presented as free-flowing, practically free from being stuck to one another and not icy.

The contents of each pack must be of similar varietal characteristics. V.

Tolerances

- (a) Not more than 5 stalks or parts of stalks longer than 3 mm by count per 500 grains of the finished product.
- (b) Not more than 5 cm<sup>2</sup> of calyces, leaves and similar extraneous vegetable material per 500 grams of the finished product.
- (c) Not more than 5% by weight of blemished fruit in halves or slices and not more than 10% by weight in whole strawberries,,
- (d) Not more than 10% by weight of strawberries may have 25% or more of the surface area uncoloured. Within this tolerance, not more than 1% by weight of the strawberries may be completely uncoloured.
- (e) Not more than 10% by weight of whole strawberries may be broken or smashed.
- (f) Not more than 0.05% by weight of ash insoluble hydrochloric acid.

- (g) For whole strawberries (*Fragaria grandiflora* L.) when size graded, not more than 10% by weight of fruit belonging to adjacent size-groups but having a diameter of not less than 12 mm.

Note: It is to be considered whether this should be replaced by the following:

"V.

1. Allowances for Defects

Any sample unit from a sample taken in accordance with the Sampling Plan for Processed Fruit and Vegetables shall be regarded as defective if more than 3 of the defects listed below are present in excess of the allowances provided for them or if the total of (a) and (d) to (g) exceeds 20%.

2. A sample unit shall be 500 grams of drained fruit.

3. Specification of Defects

- |     |  |                     |
|-----|--|---------------------|
| (a) | Berries of dissimilar varieties  | 5% by weight        |
| (b) | Stalks or parts of stalks each greater than 3 mm in one dimension (number per 500 grams or pro rata) | 3                   |
| (c) | Calices, leaves or similar extraneous vegetable material (cm <sup>2</sup> per 500 grs. or pro rata)  | 3                   |
| (4) | Blemished fruit  | 5%                  |
| (e) | Berries with 25% or more of surface area uncoloured  | 5%                  |
| (f) | Berries completely uncoloured  | 0.5%                |
| (g) | Broken or smashed berries  | 5%                  |
| (h) | Ash weight insoluble in HCl  | not more than 0.05% |

4. Sliced or Halved Fruit

In sliced and half style the appearance of the product, must not be seriously affected by disintegrated or crushed berries.

5. Size graded whole strawberries

In the case of size graded whole strawberries (*Fragaria grandiflora* L.) not more than 10% by weight of fruit may belong to adjacent size groups provided no berries have a diameter of less than 12 mm."

VI. Packaging

As in the General Standard.

VII. Labelling

1. All labelling shall conform with the labelling provisions in the General Standard for Quick (Deep) Frozen Foods and shall be subject to the general labelling provisions laid down by the Codex Committee on Food Labelling and subsequently approved by the Commission.

2. The name of the product shall include:
  - (a) the designation "Strawberries", or, in the case of fruit of the species Fragaria vesca L., "wild strawberries" or "alpine strawberries";
  - (b) the style: "halves" or "sliced", as appropriate; and
  - (c) the packing medium: "with (name of sweetener and whether as such or as the syrup)".
3. The name of the product may include the style: "whole" or "free-flowing".
4. If a term designating the sizing is used, such as "small", "medium" or "large", it must be supported by an exact graphic representation of the predominant range of size of the strawberry and/or by a statement of the predominant range of the maximum dimension in millimeters.

VIII. Sampling

[To be developed].

Proposed Draft Provisional

STANDARD

for

QUICK (DEEP) FROZEN PEAS

Submitted to the Codex Alimentarius Commission

at STEP 5

of the Procedure for the Elaboration of Standards

by the

JOINT ECONOMIC COMMISSION FOR EUROPE/CODEX ALIMENTARIUS GROUP  
OF EXPERTS ON THE STANDARDIZATION OF QUICK (DEEP) FROZEN FOODS

I, Product Description and Designation

1. Product Description

Quick (deep) frozen peas are the product

(a) prepared from fresh| clean, substantially sound, whole, shelled, immature seed of peas which have been washed, blanched and which conform to the characteristics of the species Pisum sativum L.

(b) frozen and maintained at temperatures necessary to assure preservation of the product in accordance with the General Standard for Quick (Deep) Frozen Foods.

1.2 Types

Garden peas (Sweet Green Peas) prepared from varieties, seeds of which are usually wrinkled in the mature dry condition. These peas have generally a more dark green colour and a sweet taste. Continental peas (Green peas) prepared from varieties, seeds of which are usually round in the mature dry condition. These peas have generally a light green colour.

2. Presentation

Quick (deep) frozen peas may be presented either sized or unsized.

II. General Hygiene Requirements

All steps in the preparation and processing of quick (deep) frozen fruits and vegetables should be carried out under conditions as prescribed by the Codex Alimentarius Commission Code of Hygienic Practice for Quick (Deep) Frozen Fruit and Vegetable products and the finished product shall comply with the specifications of that code.

### III Minimum Requirements for the end product

#### 3.1 Organoleptic characteristics

After thawing the product must be

- clean, practically free from grit or silt
- practically free from damage by insects or diseases
- practically free from insects and insect fragments
- of a reasonable uniform green colour according to type
- whole
- practically free from extraneous vegetable matter
- free from any foreign taste or smell.

The product shall have a normal flavour, taking into consideration any seasonings or ingredients added.

#### 3.2 Tolerances

##### Definition of defects

Blond Peas	- means peas which are yellow or white but which are edible (that is, not sour or rotted).
Blemished Peas	- means peas which are slightly stained or spotted.
Seriously Blemished Peas	- means peas which are hard, shrivelled, spotted, discoloured or otherwise blemished to an extent that the appearance or eating quality is seriously affected. These shall include worm-eaten peas.
Pea Fragments	- means portions of peas, separated or individual cotyledons, crushed, partial or broken cotyledons and loose skins, but does not include entire intact peas with skins detached;
Extraneous Vegetable Material (E.V.M.)	- means any vine or leaf or pod material from the pea plant, or other vegetable material such as poppyheads or thistles.

#### III.A Size-grading

a) Size-grading and/or sub-size grading if applied is optional

b) Three main size-groups are accepted:

i) small peas	-	8.75 mm	sieve	size
ii) medium peas	-	10,2 mm	"	"
iii) large peas	- >	10,2 mm	"	"

c) Sub-sizing (optional)

It was agreed that group No. i) could be sub-graded and if this is done the following sub-grades are allowed:

- |   |             |   |         |       |      |
|---|-------------|---|---------|-------|------|
| - | extra small | - | 7.5 mm  | sieve | size |
| - | very small  | - | 8.2 mm  | "     | "    |
| - | small       | - | 8.75 mm | "     | "    |

### 3.2.1 Allowances for Defects

Any sample unit from a sample taken in accordance with the Sampling Plan for Processed Fruit and Vegetables shall be regarded as defective if more than 3 of the defects listed below are present in excess of the allowances provided for them or if the total of (a) to (d) exceeds 12%: A sample unit shall be 500 grs. of peas.

	<u>DEFECTS</u>	<u>ALLOWANCE</u>
(a)	Blond peas	0.5% by weight
(b)	Blemished peas	5% by weight
(c)	Seriously Blemished peas	1% by weight
(d)	Pea Fragments	10% by weight
(e)	E.V.M.	1 piece "

### III.B Ingredients and Additives

Without a special indication the product shall not contain an ingredient or additive. Permitted are:

- The addition of sugars provided that mention is made in the name of the product with an indication of the percentage of the added sugar and of its nature if it is not saccharose.
- The addition of natural flavourings and their derivatives provided that mention is made in the name of the product.
- The addition of salt provided that mention is made on the label with an indication of percentage.

### 3.3 Analytical Characteristics

3.3.1 Deep frozen peas must be catalase negative by the specified method.

3.3.2 The alcohol-insoluble solids contents as determined by the method specified in Appendix A to this Standard must not exceed:

for Garden Peas (Sweet Green Peas) - [19%]

for Continental Peas (Petits Pois) - [23%]

3.3.3 Microscopical analysis of types.

### IV. Packaging

As in the General Standard.

### V. Labelling

All labelling shall conform with the labelling provisions in the General Standard for Quick (Deep) Frozen Foods and shall be subject to the general labelling provisions laid down by the Codex Committee on Food Labelling and subsequently approved by the Commission. The following specific provisions shall apply:

- (a) the name of the product is Quick (Deep) Frozen Peas,
- (b) a statement of type, e.g. Garden (Sweet Green) Peas,
- (c) a statement of size in the case of products which have been size graded by a figure; or word, e.g. small,
- (d) a statement as to ingredients added.

VI. Sampling and Test Procedures

[To be developed].

DETERMINATION OF ALCOHOL-INSOLUBLE SOLIDS

Alcohol-insoluble solids

The alcohol-insoluble solids in peas consist mainly of insoluble carbohydrates and protein. The amount present is used as a guide to maturity.

Reagents

Methylated spirit

Ethanol: - 80% v/v

Apparatus

Buchner funnel

Whatman No. 1 filter paper: 9 cm, diameter

A Macerator or Blender

(e.g. Atomix or Turmix)

Process: Weigh 250 grs. peas into the Atomix, add 250 ml. distilled water and macerate to a smooth paste. Weigh 20 grs. of the paste into 250 ml, groundnecked flask, add 120 ml. methylated spirit and reflux on the steam bath for 30 minutes. Filter with suction on a small Buchner funnel through a weighed 9 cm. No. 1 Whatman filter paper. The paper should be larger than the base of the funnel and should be folded up at the circumference to facilitate subsequent removal without loss of solids. Wash the solids with 80% ethanol until the washings are colourless. Remove the filter paper with residue from the funnel and dry in an air oven for 2 hours at +100°C (+212°F). Cool for 30 minutes in a desiccator and weigh. Deduct the dried weight of a similar filter paper from this to obtain weight of dry residue.

Calculation

Let: Weight (in grams) of dry residue = w  
Alcohol-insoluble solids % = 10 w