

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

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ALINORM 95/29

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION
Twenty-first Session
Rome, 3-8 July 1995

**Report of the Ninth Session of the
CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES
Washington, D.C., 31 October - 4 November 1994**

Note: This report incorporates Codex Circular Letter CL 1994/35-CPL

CX 5/80.2

CL 1994/35-CPL
December 1994

TO:

- Participants at the Ninth Session of the Codex Committee on Cereals, Pulses and Legumes
- Codex Contact Points
- Interested International Organizations

FROM: Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy

SUBJECT: **Distribution of the Report of the Ninth Session of the Codex Committee on Cereals, Pulses and Legumes (ALINORM 95/29)**

The report of the Ninth Session of the Codex Committee on Cereals, Pulses and Legumes (CCCPL) is attached. It will be considered by the twenty-first Session of the Codex Alimentarius Commission to be held in Rome from 3-8 July 1995.

PART A: MATTERS FOR ADOPTION BY THE CODEX ALIMENTARIUS COMMISSION

The following matters will be brought to the attention of the 21st Session of the Codex Alimentarius Commission for adoption:

1. **Draft Worldwide Codex Standards for Rice, Wheat and Durum Wheat, Peanuts, Oats and Processed Couscous at Step 8;** paras. 28-77, 107-113 and Appendices III, IV, V, VI and XIX, respectively, ALINORM 95/29.
2. **Proposed Draft Worldwide Codex Standards for Wheat Flour, Maize (Corn), Whole Maize (Corn) Meal, Degermed Maize (Corn) Meal and Maize (Corn) Grits, Certain Pulses, Sorghum Grains, Sorghum Flour, durum Wheat Semolina and Durum Wheat Flour, Gari, Whole and Decorticated Pearl Millet Grains, Pearl Millet Flour and Edible Cassava Flour at Steps 5/8;** paras. 78-106 and Appendices VII, VIII, IX, X, XI, XII, XIII, XIV, XV, XVI, XVII and XVIII, respectively, ALINORM 95/29.
3. **Proposed Draft Guideline Level and Sampling Plan for Total Aflatoxins in Peanuts Intended for Further Processing at Step 5;** paras. 12-19 and Appendix II, ALINORM 95/29.

Governments wishing to propose amendments and/or to submit comments regarding the implications which the proposed draft standards or any provisions thereof may have for their economic interest should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (at Steps 5 or 8) (*Codex Alimentarius Procedural Manual*, Eighth Edition, pages 27-29) to the Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy, **not later than 30 April 1995**.

PART B: REQUEST FOR COMMENTS

1. **Draft Guideline Levels for Cadmium and Lead in Cereals, Pulses and Legumes;** paras. 22-27, ALINORM 95/29.

The Committee agreed to return the draft guideline levels for cadmium and lead to Step 6 for additional comments, particularly in regard to the collection of additional data.

Governments and interested international organizations wishing to submit

comments on the above subject matter are invited to do so **not later than 30 September 1995** to the Chief, Joint FAO/WHO Food Standards Programme, Via delle Terme di Caracalla, 00100 Rome, Italy.

SUMMARY AND CONCLUSIONS

The Ninth Session of the Codex Committee on Cereals, Pulses and Legumes reached the following conclusions during its deliberations:

MATTERS FOR CONSIDERATION BY THE EXECUTIVE COMMITTEE AND/OR COMMISSION:

- Agreed to advance a proposed draft **Guideline Level and Sampling Plan for Total Aflatoxins in Peanuts Intended for Further Processing** to the Commission for adoption at Step 5 (para. 19);
- Agreed to discontinue the establishment of **Guideline Levels for Arsenic and Mercury in Cereals, Pulses and Legumes** (para. 21);
- Agreed to advance draft **Codex Standards for Rice, Wheat and Durum Wheat, Peanuts, Oats and Processed Couscous** to the Commission for adoption at Step 8 (paras. 76 and 113);
- Agreed to advance proposed draft **Codex Standards for Wheat Flour, Maize (Corn), Whole Maize (Corn) Meal, Degermed Maize (Corn) Meal and Maize (Corn) Grits, Certain Pulses, Sorghum Grains, Sorghum Flour, Durum Wheat Semolina and Durum Wheat Flour, Gari, Whole and Decorticated Pearl Millet Grains, Pearl Millet Flour and Edible Cassava Flour** to the Commission for adoption at Step 5, with a recommendation to omit Steps 6 and 7 (paras. 102 and 106); and,
- Agreed to recommend to the Commission that in view of the completion of its programme of work, the **Committee should adjourn *sine die*** (para. 116).

OTHER MATTERS OF INTEREST TO THE COMMISSION:

- Agreed to return the draft **Guideline Levels for Cadmium and Lead in Cereals, Pulses and Legumes** to Step 6 for additional government comment (para. 27).

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INTRODUCTION

1. The Ninth Session of the Codex Committee on Cereals, Pulses and Legumes was held in Washington, D.C. from 31 October - 4 November 1994 by courtesy of the Government of the United States of America. The Session was chaired by Mr. Steven Tanner, Acting Director, Quality Assurance and Research Division, Federal Grain Inspection Service, U.S. Department of Agriculture. A list of participants at the Session is attached as Appendix I to this report.

OPENING OF THE SESSION (Agenda Item 1)

2. Ms. Patricia Jensen, Acting Assistant Secretary for Marketing and Regulatory Programs, United States Department of Agriculture, welcomed the CCCPL delegates to Washington and expressed her strong support for the work of the Commission. She recognized the importance of food standards to the consumer, industry, and international trade. Ms. Jensen stressed the importance of Codex standards in conjunction with the GATT agreement currently under consideration by the legislatures of GATT member countries, and noted that the GATT negotiations have greatly increased the visibility and influence of the Commission.

3. Ms. Jensen discussed the importance of streamlining the standards-setting process and making it easier to understand. She applauded the progress made by the CCCPL and other Codex Committees. The importance of consumer involvement and the need to clarify the role of science in the standard-setting process was highlighted. In closing, Ms. Jensen recognized that the work of the CCCPL is of great value to the world, in terms of both public health and fair trade.

ADOPTION OF THE AGENDA (Agenda Item 2)

4. The Committee adopted the Provisional Agenda¹ without change.

¹ CX/CPL 94/1

MATTERS REFERRED TO THE COMMITTEE FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES² (Agenda Item 3)

² CX/CPL 94/2 and Conference Room Document 5

5. The Committee noted that the 20th Session of the Codex Alimentarius Commission (July 1993) adopted proposed draft Codex Standards for Rice, Wheat and Durum Wheat, Peanuts, Oats and the proposed draft amendment to the Codex Standard for Wheat Flour at Step 5, and returned the proposed draft Guideline Levels and Sampling Plans for Aflatoxins in Peanuts to Step 3 for additional government comments.

6. The Commission also agreed with the Committee's decisions in relation to the review of previously adopted regional and worldwide Codex Standards for Cereals and Cereal Products and in returning the draft Guideline Levels for Contaminants in Codex Standards to Step 6 for additional government comments.

7. In relation to the 19th Session of the Codex Committee on Methods of Analysis and Sampling (March 1994), the CCCPL was requested to specify appropriate protein conversion factors for pearl millet grains and flour, and to consider other methods for the determination of particle size in durum wheat semolina and flour³.

³ Appendix IV, ALINORM 95/23

SAMPLING PLANS FOR AFLATOXIN ANALYSIS IN PEANUTS AND CORN (Agenda Item 4 (a))

8. The Committee was informed of the conclusions⁴ of the FAO Technical Consultation on Sampling Plans for Aflatoxin Analysis in Peanuts and Corn (3-6 May 1993, Rome) as published in FAO Food and Nutrition Paper No. 55. The consultation had been held following the recommendations of the CCCPL and the Codex Committee on Food Additives and Contaminants and the major issues identified by the Consultation were as follows:

⁴ CX/CPL 94/3

- occurrence of aflatoxin contamination and its effects on international trade
- Sample collection and preparation
- Definition of practical sampling plans for peanuts and corn
- Recognition of sample size and sampling procedures for the acceptance or rejection of an aflatoxin-contaminated lot

Working groups were formed to study these specific matters in detail and the Consultation agreed to propose 35 sampling plans for 5 levels of aflatoxin contamination and two sample sizes for the following commodities: raw shelled peanuts (10), inshell peanuts (10), peanut butter (5) and shelled corn (10).

9. The Chairman expressed the appreciation of the Committee for the excellent work done by the Consultation and the advice provided in the Report. There was consensus on the need to make good use of the recommendations while discussing the proposed levels for aflatoxins in peanuts (see paras. 12 - 19).

10. The Secretariat indicated that with respect to the recommendations of the Consultation on regional training courses, FAO had organized such courses on sampling, sample preparation and methodology in different regions. The Delegations of Mexico, the Netherlands and Thailand informed the Committee of the approach taken by their countries in this matter.

11. In reply to a question concerning the possibility of conducting similar studies for other toxins and other cereals, the Secretariat recalled that the Codex Committee on Food Additives and Contaminants was currently collecting information on ochratoxins and trichothecenes in foods; the CCFAC was considering contaminants from a horizontal perspective which included the elaboration of a General Standard for Contaminants, a Code of Practice for the Reduction of Aflatoxins in Raw Materials and Supplementary Feedingstuffs for Milk Producing Animals, as well as the collection of information on aflatoxin levels and sampling plans in all foods.

CONSIDERATION OF THE PROPOSED DRAFT GUIDELINE LEVELS AND SAMPLING PLANS FOR AFLATOXINS IN PEANUTS AT STEP 4 (Agenda Item 4 (b))

12. The Committee noted that the 20th Session of the Commission had considered the proposed draft Guideline Levels (i.e., 10/xg/kg processed; 15ug/kg raw) and sampling plans for total aflatoxins in peanuts as previously discussed⁵, and had decided to return them to Step 3 for additional comment⁶. Government comments were received from Germany, Norway (unnumbered) and Thailand in response to CL 1993/31-CPL⁷.

⁵ Appendix II, ALINORM 91/29

⁶ paras. 360-363, ALINORM 93/40

⁷ CX/CPL 94/4 and Conference Room Document 1

13. The Committee re-affirmed its previous decision that the proposed levels should be discussed in conjunction with the sampling plans to be used for a specific value. Some delegations indicated that they did not refer to total aflatoxins in their national

legislation, but to aflatoxin B₁ only, and that the Committee might wish to consider this possibility.

14. Some delegations agreed that the levels of 15 µg/kg for unprocessed peanuts and 10 µg/kg for processed peanuts were acceptable for international trade while ensuring consumer protection, and consequently proposed the advancement of the Guideline Levels to Step 5 of the Procedure. Other delegations expressed the view that these levels were too high and that a value greater than 5µg/kg for processed peanuts did not adequately ensure the safety of consumers, as aflatoxin contamination was a serious public health concern.

15. Following a question on the detection of aflatoxins when lower limits applied, the Committee noted that the countries applying such levels used methods of analysis based on HPLC, with a detection limit of approximately 1 µg/kg. The Delegation of the United States, while noting that the method was able to detect the presence of aflatoxins at very low levels, stressed the difficulties associated with the sampling plan, and referred to the Tables in the Report of the FAO Technical Consultation on Sampling Plans for Aflatoxin Analysis in Peanuts and Corn (FAO Food and Nutrition Paper No. 55). With a level of 15 µg/kg, there was an 81% chance of accepting a lot and 19% of rejecting it, the average aflatoxin level in accepted lots being 4.9 ppb. With a level of 10µg/kg, 25% of lots would be rejected with an average level of 4.2 ppb in accepted lots, which meant that the lower limit, while increasing somewhat the levels of rejections, did not significantly decrease the level of contamination.

16. The Committee had an extensive exchange of views on this issue and, as no agreement could be reached on the levels to be applied, it was suggested to discontinue consideration of this matter at the present stage. The Secretariat informed the Committee that the CCFAC had decided to focus its work on source-directed measures for aflatoxins through a Code of Practice (see para. 11) especially in view of the difficulties in setting specific levels. However, some delegations were of the view that the Committee had the expertise to pursue its work in this area and should continue to consider the establishment of a level, as this would greatly facilitate international trade.

17. The Delegation of Australia suggested that a level could be established for unprocessed peanuts only, as they represented the largest part of international trade and that would leave the possibility for individual countries to apply a lower limit for peanuts intended for direct consumption. This view was supported by a number of delegations; other delegations could not accept the establishment of a level for raw peanuts only, as it did not give adequate protection to the consumer.

18. The Committee agreed not to proceed further with the level for processed peanuts and agreed to advance to Step 5 a guideline level of 15µg/kg of total aflatoxins for peanuts intended for further processing. The Committee noted that this matter would be brought to the attention of the Codex Committee on Food Additives and Contaminants and the Codex Committee on Methods of Analysis and Sampling for information. The Delegations of Switzerland, Sweden, France, United Kingdom and Japan objected to this decision, as it was not acceptable to them in regard to food safety. The Committee also noted the written comments of Germany and Norway which disagreed with the level of 15µg/kg on similar grounds.

Status of the Proposed Draft Guideline Level and Sampling Plan for Total Aflatoxins in Peanuts Intended for Further Processing

19. The Committee agreed to advance the proposed draft Guideline Level of 15

µg/kg (20 kg sample size) for total aflatoxins in peanuts intended for further processing for adoption at Step 5 by the 21st Session of the Commission, with the understanding that the Codex Committee on Food Additives and Contaminants would be advised of this decision. This level was associated with the sampling plan presented in FAO Food and Nutrition Paper 55, Figure 2-2 (p. 45), Sample Preparation and Analytical Methods (p.34), Sample Collection (p.58) and Table 1-1 (p. 37). The Proposed Draft Guideline Level and Sampling Plan are attached as Appendix II to the report.

CONSIDERATION OF DRAFT GUIDELINE LEVELS FOR ARSENIC/MERCURY AND CADMIUM/LEAD IN CEREALS, PULSES AND LEGUMES AT STEP 7 (Agenda Item 5)

Arsenic and Mercury

20. The 20th Session of the Codex Alimentarius Commission agreed with the decision of the eighth CCCPL to return the draft guideline levels for arsenic and mercury (0.5 and 0.05 mg/kg, respectively) to Step 6 for additional government comments⁸. Government comments submitted at Step 6 were received from Canada, Norway, Sweden, Thailand, and the United States in response to CL 1992/32-CPL.⁹

⁸ paras. 369-370, ALINORM 93/40

⁹ CX/CPL 94/5 and Conference Room Document 2

Status of the Draft Guideline Levels for Arsenic and Mercury

21. As the Committee noted that there was no indication of high levels of arsenic or mercury in cereals, pulses or legumes, it was decided to discontinue the establishment of guideline levels, especially since these contaminants did not appear to present a problem in international trade.

Cadmium and Lead

22. The 20th Session of the Codex Alimentarius Commission agreed with the decision of the eighth CCCPL to return the draft guideline levels for cadmium and lead (0.1 and 0.5 mg/kg, respectively) to Step 6 for additional government comments¹⁰. Government comments submitted at Step 6 were received from Canada, Norway, Sweden, Thailand, and the United States in response to CL 1992/32-CPL.¹¹

¹⁰ paras. 371-372, ALINORM 93/40

¹¹ CX/CPL 94/5 and Conference Room Document 2

23. The Committee also noted that the 41st Meeting of the Joint FAO/WHO Expert Committee on Food Additives¹² (February 1993) re-evaluated cadmium and lead, and established provisional tolerable weekly intakes of 7 and 25 µg/kg of body weight, respectively.

¹² WHO Technical Report Series 837

24. Several delegations, while noting that the level proposed for cadmium was probably effective for most cereals, pulses and legumes, suggested that a level of 0.15 for whole wheat and durum wheat should be considered in order to prevent the creation of unnecessary barriers to trade. However, in creating levels for specific commodities, it was noted that additional data on cadmium levels and dietary intake estimates in specific cereals would need to be considered, as there were extreme differences between crops, crop years and areas of production. Other delegations were of the opinion that the establishment of guideline levels for cadmium were not necessary, as current information indicated that problems in international trade were minimal. Some

delegations felt that guideline levels should be established in view of the toxicity and cumulative effects of cadmium as well as its presence in specific commodities.

25. It was also noted that the 27th Session of the Codex Committee on Food Additives and Contaminants would be considering a discussion paper on cadmium in the context of establishing the "horizontal" General Standard on Contaminants and Toxins in Foods.

26. While some delegations were of the opinion that the draft guideline level for lead provided an adequate level of protection for consumers, other delegations were of the opinion that the level should be significantly reduced, especially in consideration of the recent JECFA re-evaluation. It was also noted that the Codex Committee on Food Additives and Contaminants would be considering a discussion paper on lead at its 27th Session.

Status of the Draft Guideline Levels for Cadmium and Lead

27. In view of the above discussions, the Committee agreed to return the draft guideline levels for cadmium and lead (i.e., 0.1 and 0.5 mg/kg, respectively) to Step 6 for additional government comment on those issues identified above, particularly as regards the collection of additional data (see para. 24), and in consideration of current CCFAC initiatives in this area. It was also agreed that guideline levels for cadmium should be set on the basis of individual commodities, and that the Codex Committee on Food Additives and Contaminants would be advised of this decision.

CONSIDERATION OF DRAFT CODEX STANDARDS AT STEP 7¹³ (Agenda Item 6)

28. The Committee was informed that the 20th Session of the Commission had adopted the proposed draft Standards for Rice, Wheat and Durum Wheat, Peanuts and Oats at Step 5¹⁴, while noting that the standards were under review by an *ad hoc* Drafting Group under the direction of the United Kingdom in order to determine which sections should be transferred to an advisory text or removed from the Standard. Government comments submitted at Step 6 were received from Canada, Chile, Italy, Norway (unnumbered), Thailand, the United States and European Breakfast Cereals Association.¹⁵

¹³ CX/CPL 94/6

¹⁴ paras. 364-366, ALINORM 93/40

¹⁵ CX/CPL 94/6 - Add. 1, Conference Room Documents 3 and 4

29. The Delegation of the United Kingdom, while expressing its appreciation to the members of the Drafting Group (Australia, Canada, China, Netherlands, Thailand, United States), introduced the draft standards and indicated that the provisions had not been amended. The presentation had been changed in accordance with the recommendations of the 19th Commission Session (1991) and the 10th Session of the Committee on General Principles (1992), to include only essential provisions in the main body of the standard.

Draft Codex Standard for Rice

30. The Committee considered the text section by section and agreed to the following amendments.

Section 2 - Description

31. The Committee agreed to group the definitions of rice types under a new Section 2.1, Definitions. In Section 2.1.2, the Committee agreed to delete reference to "whole

rice" in the English version only, as this term was not used as a description for husked rice. The Committee also agreed to delete the description in parentheses under glutinous or waxy rice, as the description incorrectly included both regular and glutinous varieties of rice.

32. The Committee had an exchange of views on the opportunity of including Section 2.2 Classification in the main body of the standard, or transferring it to the Annex. Some delegations supported the inclusion of the classification in the standard as it was required to ensure fair trade practices and to avoid misleading the consumer, and governments were expected to regulate on this matter, as indicated in the Preamble. Other delegations were of the view that such provisions were of use to traders and should be more adequately transferred to the Annex.

33. The Observer from the EC indicated that the provisions applied in the EC were similar to Option 3, as applied to milled rice; long grain rice was divided into grade A rice and grade B rice.

34. The Committee agreed to include the provisions for Classification, including the three options, in the Annex, as this allowed the use of different systems of classification according to the countries where rice was traded. The Delegations of Mexico and France, while indicating their preference for Option 3, objected to this decision, as they felt that harmonization was needed for purposes of international trade and for the information of the consumer. Clarification was also required as to the purpose of and criteria for retaining provisions in the standard, especially as it related to the possibility for governments to regulate on such matters.

Section 3 - Essential Composition and Quality Factors

35. The Committee agreed to refer to "insects and mites" in Section 3.1.2, as mites could also appear during storage.

Section 3.2.1 - Moisture Content

36. The Committee considered how the issue of moisture content could be addressed so as to take account of widely differing climatic conditions. Some delegations were of the view that a level of 15% was too high to ensure adequate storage of the rice, especially in countries with a tropical climate, and suggested to reduce it to 14%. Other delegations noted that 15% was acceptable in some regions and that this level could be retained, with a statement to the effect that member states had the possibility to require lower levels to ensure an adequate shelf life of the product, in view of the specific conditions prevailing in their country; governments accepting the standard would indicate and justify the requirements they applied. After an extensive exchange of views on this matter, the Committee agreed to retain the level of 15% and the statement.

Section 3.2.2 - Extraneous Matter

37. The Committee discussed the levels proposed for extraneous matter, and there was general consensus on the need to reduce contamination by inorganic matter as a priority, especially as the standard applied to rice intended for direct consumption; the Committee, therefore, agreed to reduce the allowed level from 0.5% to 0.1 % for inorganic matter, and to retain the current figures for organic matter. It was also decided to delete the levels for glutinous rice, as they were no longer relevant to the standard. The Delegation of Switzerland reserved in general its position concerning defects expressed in figures.

Section 4 - Contaminants

38. In discussing the establishment of guideline levels for mycotoxins and heavy metals, the Committee noted that the Codex Committee on Food Additives and Contaminants was responsible for the establishment and/or endorsement of such levels.

Section 5 - Hygiene

39. The Committee had an exchange of views on the necessity to address the issue of mycotoxin contamination and agreed that this was covered in the third indent of Section 5.3 in the Hygiene Section, and that reference should be made to "microorganisms including fungi" to make it more explicit. It was noted that this section would be forwarded to the Committee on Food Hygiene for endorsement.

Section 7 - Labelling

40. Following the decision not to include Classification in the main body of the standard, the Committee agreed to delete reference to the size of rice grains in Section 7.1.

Section 8 - Methods of Analysis and Sampling

41. The Committee agreed to delete the square brackets around [Other] Test Methods (Section 8.3), with a reference to the ISO Method 7301 retained. It was noted that this Section would be forwarded to the CCMAS for endorsement.

Annex to the Draft Codex Standard for Rice

42. Following the inclusion of Section 1 - Classification in the Annex, the numbering was amended accordingly. The Committee noted that in the new Section 3 - Optional Ingredients, the description of nutrients should include "amino acids".

43. The Committee agreed that the title of newly numbered Section 4 should read "Other Quality Factors" as this would be consistent with the format used in other revised Codex Standards. The Committee further agreed to amend the description of Red Kernels in order to differentiate them clearly from heat-damaged kernels and red-streaked kernels.

44. The observer from the European Commission considered that the percentages decided for defective kernels (Section 4.2) and especially for immature kernels, chalky kernels and red kernels were much too high and therefore, objected to the maximum levels proposed.

45. The Committee agreed that amendments of a general nature made to the draft Standard for Rice would be incorporated into the other Standards considered under this agenda item, unless noted otherwise.

Draft Codex Standard for Wheat and Durum Wheat

46. In discussing the draft Codex Standard for Wheat and Durum Wheat point by point, the Committee agreed to the following changes:

Section 1 - Scope

47. The Committee agreed with the recommendation of the Drafting Group to combine the draft Standards for Wheat and Durum Wheat into one single standard, primarily in view of the similarities between the provisions for both commodities.

Section 3.2.1 - Moisture Content

48. The Committee had detailed discussions concerning the moisture limits proposed for wheat and durum wheat (15.5% m/m for wheat; 14.0% m/m for durum wheat), including the need for lower or higher limits and the possibility of elaborating a single limit for both commodities. Although it was noted that diverse climatic conditions and growing areas may necessitate the application of distinct and/or higher moisture values, it was also suggested that adequate processing procedures (e.g., drying) would result in an acceptable product.

49. In view of the above discussions, the Committee agreed to a single moisture limit of 14.5% m/m for both wheat and durum wheat, especially since the revised text in this section allowed governments to apply lower moisture levels if justified. The Delegation of the Netherlands objected to this decision, as it was felt that a level of 16% should be established to take account of other climatic conditions.

Section 3.2.3 - Toxic or Noxious Seeds

50. Notwithstanding an opinion that this section should be moved to the annex of the Standard as it was a production and quality issue not related to food safety, the Committee reaffirmed that it should remain as part of the main body of the standard.

51. The Committee agreed to add Jimson weed (*Datura* spp.) to this section for completeness. In addition, the Committee agreed to change the current reference to "absent" to read as "The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health".

Section 3.2.5 - Organic Extraneous Matter

52. In view of the Committee's previous discussions concerning the application of a single moisture limit to wheat and durum wheat, and in consideration that the standard only applied to product intended for further processing as opposed to direct consumption, the Committee agreed to establish a single limit of 1.5% m/m for organic extraneous matter.

Section 3.2.6 - Inorganic Extraneous Matter

53. The Committee agreed to a single limit of 0.5% m/m for both wheat and durum wheat.

Annex to the Draft Codex Standard for Wheat and Durum Wheat

Quality Factors

Section 1 - Minimum Test Weight

54. The Committee decided to remove the reference in this Section to the "Schopper Scale or any other equipment giving equivalent results" as the equipment used to measure this provision should be left to the national authorities. An updated method of analysis was added, ISO 7971- 1986. Several delegations recognized that the minimum test weight for both wheat and durum wheat was too low for milling purposes.

Section 2 - Shrunken and Broken Kernels

55. The Committee corrected the sieve sizes in this section by specifying separate limits for wheat (1.7mm X 20mm) and durum wheat (1.9mm X 20mm). The limits were also amended to 5% for wheat and 6% for durum wheat.

Section 3 - Edible Grains other Than Wheat and Durum Wheat

56. The Committee revised the limits to 2% for wheat and 3% for durum wheat.

Section 4 - Damaged Kernels

57. The Committee revised the limits to 6% for wheat and 4% for durum wheat. The Committee also agreed to expand the definition for damaged kernels.

58. The observer from the European Commission requested a revision of Section 4 concerning damaged kernels by deleting references to fermentation and germination. In addition, the observer requested the introduction of a new section entitled "fermented and germinated kernels", with limits of 6% for wheat and 4% for durum wheat. The Committee did not agree with this proposal.

Section 5 - Insect Bored Kernels

59. The Committee changed these limits to 1.5% for wheat and 2.5% for durum wheat.

Draft Codex Standard for Peanuts

Section 2 - Description

60. The Committee noted that the correct term applying to peanuts was "pod" instead of "shell", and amended these terms accordingly.

Section 3.2.2 - Mouldy, Rancid or Decayed Kernels

61. The Committee had an extensive discussion on the opportunity to retain the section in the main body of the standard. Some delegations were of the view that aflatoxin contamination was covered in the proposed draft Guideline Level for Total Aflatoxins in Peanuts as discussed under Agenda Item 4 (paras. 12-19), and that a requirement limiting mouldy kernels was therefore not useful; moreover, decayed kernels were covered under the description of damaged kernels in the Annex. They proposed to remove the section to the Annex, as it was not essential, especially as the standard applied to peanuts intended for further processing. Other delegations supported the inclusion of these provisions as they dealt with essential requirements necessary to prevent consumer deception and to ensure the edibility and safety of the product. It was also pointed out that if the tolerances set in the section were transferred to the Annex, the standard would only refer to "free from abnormal flavours, odours" (Section 3.1.2), which did not allow for any tolerance.

62. It was suggested by the Netherlands that "rancid" would be more adequately described by a reference to free fatty acids and peroxide value. The Delegations of Brazil, supported by Argentina, Australia and the United States suggested that the percentage of mouldy, rancid or decayed kernels be amended to 0.5% (instead of 0.2%) if the section remained in the standard, as the peanuts would be further processed.

63. The Committee agreed to retain Section 3.2.2 as currently drafted, with the addition that peroxide value should not exceed 5 meq active oxygen/kg and free fatty acids should not exceed 1%, as a definition of rancidity. The Delegations of Australia and the United States agreed to the definition of rancidity but objected to retaining the Section in the standard, as they felt it belonged more adequately in the Annex.

Section 3.2.3.2 - Extraneous Matter

64. The Committee had an exchange of views on the levels of extraneous matter to be allowed and as several delegations supported a change in the limit from 0.2% to 0.5%, the Committee agreed to this amendment. The Delegations of the Netherlands

and the United Kingdom objected to this decision, as they felt that kernels had already undergone some measure of processing and the percentage of foreign matter should remain as low as possible.

Section 4 - Contaminants

65. The Committee agreed that reference should be made to the Proposed Draft Guideline Level and Sampling Plan for Aflatoxins in Peanuts intended for further processing (see para. 19).

Section 7.1- Name of the Product

66. The Committee agreed to replace the reference to "varieties" with "types" of peanuts, as the latter term was used in trade, and to add "peanuts in pod" to the name of the food.

Section 8.1 - Sampling

67. The Committee agreed to include a reference to the document on Sampling Plans for Aflatoxin Analysis in Peanuts and Corn, FAO Food and Nutrition Paper No. 55.

Section 8.3 - Test Methods

68. The Committee agreed that reference should be made to methods for peroxide value and free fatty acids, as requirements had been set for these criteria.

Annex to the Draft Codex Standard for Peanuts

69. The Committee had an extensive exchange of views on the kernel defects and agreed to add to Section 2 two new subsections d) mechanical damages and e) germinated kernels. It was further agreed to set the following limits: a) freezing injury: 1%, b) shrivelled kernels: 5%, and 2% for the last three sub-sections.

70. The Committee agreed to remove the brackets around 3% for discoloured kernels, and to allow 5% instead of 1 % of peanuts of another type than the designated type.

Draft Codex Standard for Oats

Section 1 - Scope

71. The Committee had an exchange of views on the opportunity to include *Avena nuda* (hullless oats) in the Scope of the standard, and recalled previous discussions held at the last session on this matter (para. 85, ALINORM 93/29). It was noted that this species was increasingly grown and traded in some countries. However, in view of the difficulties associated with the provisions to be applied, the Committee came to the conclusion that it should not be covered by the standard at this stage, and agreed to exclude it specifically from the Scope.

Section 3.2.1 - Moisture Content

72. The Committee agreed to retain the level of 14%, with a statement allowing member countries to use a lower level where required, as previously agreed (see para. 36). The Delegation of the Netherlands objected to this decision, as they supported a higher limit of 15% to take account of other climatic conditions.

Section 3.2.3 - Toxic or Noxious Seeds

73. Following the decision to include *Datura* spp. (Jimson weed) in the draft standard for Wheat (see para. 51), it was agreed to make a similar amendment to the list of toxic

seeds as it was of equal relevance for Oats. Although a delegation supported the removal of ergot from this section as it was not relevant for oats, the Committee did not agree with the proposal. The Committee noted, however, that there was not a method to determine ergot.

Section 8.2 - Determination of Moisture

74. The Committee agreed to refer to ISO Method 712-1985, which applied to all cereals. The Delegation of Canada drew the attention of the Committee to the fact that there was no error specified in the ISO Method.

Annex to the Draft Codex Standard for Oats

75. The Delegation of Brazil informed the Committee that defect classes were currently under consideration in that country.

Status of the Draft Codex Standards for Rice. Wheat and Durum Wheat. Peanuts and Oats

76. The Committee agreed to advance the above draft Standards to Step 8 for adoption by the 21st Session of the Commission. The amended draft Standards are attached respectively as Appendices III, IV, V and VI to this report.

77. The Delegation of France indicated that it agreed in principle with the advancement of the draft and the provisions therein, but reserved its position until such time as the exact status of the standard and the Annex would be clarified with respect to the obligations of Member countries under the GATT Agreements. The Delegations of the Netherlands, Sweden and the United Kingdom expressed the same reservation.

CONSIDERATION OF PROPOSED DRAFT REVISED CODEX STANDARDS AT STEP 4¹⁶ (Agenda Item 7)

¹⁶ CX/CPL 94/7

78. The Committee was informed that the 20th Session of the Codex Alimentarius Commission agreed¹⁷ that the CCCPL should review and simplify previously adopted Worldwide Codex Standards for Wheat Flour, Maize (Corn), Whole Maize (Corn) Meal, Degermed Maize (Corn) Meal and Maize (Corn) Grits, Certain Pulses, Sorghum Grains, Sorghum Flour, Durum Wheat Semolina and Durum Wheat Flour by an *ad hoc* Working Group under the direction of the United States. Government comments submitted at Step 3 were received from New Zealand, Norway and Thailand¹⁸.

¹⁷ paras. 373-376, ALINORM 93/40

¹⁸ CX/CPL 94/7 - Add. 1

79. The Committee also noted that the Commission adopted¹⁹ the proposed draft amendment to the fat acidity basis and measurement, as related to ISO Method 7305, in the Codex Standard for Wheat Flour at Step 5.

80. In discussing the proposed draft Codex Standards point-by-point, the Committee agreed to the following changes:

Proposed Draft Revised Codex Standard for Wheat Flour

Section 1 - Scope

81. The Committee agreed to add club wheat (*Triticum compactum* Host.) to sub-section 1.1 and the second indent of sub-section 1.2 as it was inadvertently omitted from the text.

Section 3.1 - Quality Factors - General

82. The Committee agreed to define filth as "impurities of animal origin, including dead insects" in Section 3.1.3. It was noted that this definition included various impurities of animal origin, such as rodent hair.

Section 3.2.1 - Moisture Content

83. Notwithstanding the opinion of several delegations that the moisture content should be lowered from 15.5% to 14.5%, the Committee decided to maintain the higher value with the understanding that a statement would be added to this section to indicate that governments could specify a lower value if justified.

Annex to the Proposed Draft Revised Codex Standard for Wheat Flour

Ash

84. The observer of the European Commission recommended the inclusion of ISO Method 2170 into this Section but the Committee did not agree with this suggestion.

Fat Acidity

85. It was noted that the ISO Method had recently been revised as to the expression of fat acidity. The Delegation of France was of the opinion that the CCMAS should consider endorsement of the ISO Method as a Type I Method.

86. The Committee decided to maintain the limits and associated ISO and AOAC Methods in this Section, with the understanding that the Codex Committee on Methods of Analysis and Sampling would reconsider this Section for endorsement.

¹⁹ paras. 367-368, ALINORM 93/40

Protein

87. Some delegations felt that the protein level was too low and should be raised as it did not conform to current international usages and technology. However, as it was pointed out that the Standard applied to wheat flour used for a variety of purposes, including baking and cake-making, the Committee decided not to make any changes to the level proposed.

Optional Ingredients

88. The Committee agreed to re-introduce this entire Section into the main body of the Standard, in order to allow for the use of optional ingredients if properly identified in the ingredients list.

Particle Size

89. The Committee corrected the limit to read as 212 microns. The reference to the "Ro-Tap sieve machine method or equivalent" was deleted.

Enzymes and Flour Treatment Agents

90. The Committee agreed to move all food additive provisions into the main body of the Standard, with the understanding that these Sections will eventually be incorporated into the Codex General Standard on Food Additives when completed. It was also noted that comments concerning specific additives and their use levels should be directed through the Codex Committee on Food Additives and Contaminants. The Delegation of Sweden expressed its objection to the use of sulphur dioxide, as it might cause severe reactions, especially among asthma sufferers.

91. The Committee agreed that amendments of a general nature made to the proposed draft Standard for Wheat Flour would be incorporated into the other Standards considered under this agenda item, if applicable.

Proposed Draft Revised Codex Standard for Maize (Corn)

Section 3.2.1 - Moisture Content

92. The Committee agreed to maintain the proposed moisture limit of 15.5 %. The Delegations of Mexico and Sweden objected to this decision as they felt that the level was too high, especially in regard to problems associated with mycotoxin contamination.

Annex to the Proposed Draft Codex Standard for Maize (Corn)

93. Notwithstanding the opinion of the Delegation of Mexico to significantly reduce the 6% limit for broken kernels, the Committee decided to maintain the level as proposed. The Delegation of Mexico objected to this decision, as high levels of broken kernels lead to significant losses when processing the corn. In view of the importance of fine particles of broken grains to Mexico, the Delegation suggested to amplify the definition of extraneous matter (Section 3.2.2) and the corresponding defect for broken kernels to read as "all organic and inorganic materials that are not maize, including broken kernels of maize that pass through a sieve with circular holes of 12/64 inches (4.76 mm)". The Delegation of Mexico also proposed to include maize classification by colour in Section 2.1, Product Definition. The Committee did not agree with these proposals.

Proposed Draft Revised Codex Standard for Whole Maize (Corn) Meal

Annex to the Proposed Draft Revised Codex Standard for Whole Maize (Corn) Meal

94. Notwithstanding the opinion of some delegations that the protein conversion factor and limit should be amended for consistency with the wheat flour standard, the Committee decided to maintain the figures as proposed.

Proposed Draft Revised Codex Standard for Degermed Maize (Corn) Meal and Maize (Corn) Grits

95. Notwithstanding minor typographical corrections, the Committee decided to maintain the Standard as proposed.

Proposed Draft Revised Codex Standard for Certain Pulses

Section 2 - Description

96. The Delegation of Mexico suggested that separate standards for each pulse listed in the Section be elaborated. The Committee did not support this suggestion.

Proposed Draft Revised Codex Standard for Sorghum Grains

Annex to the Proposed Draft Revised Codex Standard for Sorghum Grains

97. The Committee agreed that the provision concerning tannin content should be moved into the main body of the Standard, as similarly listed in the Codex Standard for Sorghum Flour.

98. The Committee also agreed that the portion of the Table concerning defects should be clarified as to the maximum limits for each defect as related to the total defects (see Appendix XII).

Proposed Draft Revised Codex Standard for Sorghum Flour

Section 8.3 - Determination of Tannin

99. The Committee agreed to add a reference to ISO Method 9648-1988 for the determination of tannins, for consistency with the Sorghum Grain standard.

Proposed Draft Revised Codex Standard for Durum Wheat Semolina and Durum Wheat Flour

Section 3.2.1 - Moisture Content

100. Notwithstanding a suggestion to raise the moisture limit from 14.5% to 15.5%, the Committee agreed to maintain the level as proposed.

Section 7.1 - Name of the Product

101. It was decided that the term "whole durum wheat semolina" should also be applied to this Section, as stipulated in the Scope Section 1.1.

Status of the Proposed Draft Revised Codex Standards

102. The Committee agreed to advance the proposed draft revised Codex Standards for Wheat Flour, Maize (Corn), Whole Maize (Corn) Meal, Degermed Maize (Corn) Meal and Maize (Corn) Grits, Certain Pulses, Sorghum Grains, Sorghum Flour and Durum Wheat Semolina and Durum Wheat Flour to the 21st Session of the Codex Alimentarius Commission for adoption at Step 5, with a recommendation to omit Steps 6 and 7 for adoption at Step 8. The proposed draft revised Codex Standards are attached to this report as appendices VII, VIII, IX, X, XI, XII, XIII and XIV, respectively.

103. The Delegation of Mexico objected to the advancement of the proposed draft Revised Codex Standard for Maize (Corn), for those reasons stated in paragraph 93.

CONSIDERATION OF THE CONVERSION OF REGIONAL CODEX STANDARDS TO PROPOSED DRAFT WORLDWIDE CODEX STANDARDS AT STEP 4²⁰ (Agenda Item 8)

²⁰ CX/CPL 94/8

104. The Committee noted that the 20th Session of the Codex Alimentarius Commission agreed²¹ that the CCCPL should review and simplify previously adopted Regional Codex Standards for Gari, Whole and Decorticated Pearl Millet Grains, Pearl Millet Flour, Edible Cassava Flour and the draft Standard for Processed Couscous with a view towards their conversion to Worldwide Codex Standards by an *ad hoc* Working Group under the direction of the United States. Government comments at Step 3 were received from New Zealand²².

²¹ paras. 373-376, ALINORM 93/40

²² CX/CPL 94/8 - Add. 1

Proposed Draft Codex Standard for Gari

105. The Delegation of France suggested that the level for cyanogenic glycosides be reduced from 2 mg/kg to 1 mg/kg, as recommended by the Council of Europe. The Delegation of Brazil was of the view that there should be no tolerance for this substance. It was noted that the Proposed Draft Standard for Cassava Flour included a level of 10 mg/kg for this contaminant, and the Committee felt some clarification would be required as to the levels applied in both standards. It was noted that this contaminant had been considered by the Committee on Food Additives and Contaminants as related to the

Codex Standard for Cassava Flour (para. 63 and Appendix II, ALINORM 93/12). The Committee agreed to the suggestion of the Chairman to leave the levels of cyanogenic glycoside in square brackets at this stage and that clarification would be provided prior to the consideration of the drafts by the Commission.

Status of the Proposed Draft Worldwide Codex Standards for Gari. Whole and Decorticated Pearl Millet Grains. Pearl Millet Flour and Edible Cassava Flour

106. The Committee agreed to advance the above proposed draft Standards to Step 5, with the recommendation that the Commission should omit Steps 6 and 7 and adopt them at Step 8. The Proposed Draft Standards are attached to this report as Appendices XV, XVI, XVII, XVIII, respectively.

Draft Codex Standard for Processed Couscous

107. The Committee noted that the 20th Session of the Commission had adopted²³ at Step 5 the Proposed Draft Standard for Couscous, as elaborated by the Codex Coordinating Committee for Africa²⁴.

²³ paras. 103-104, ALINORM 93/40

²⁴ Appendix III, ALINORM 93/28

Section 1 - Scope

108. The Delegation of France suggested that the Scope section should be amended by referring to couscous "agglomerated by the addition of drinking water".

Section 3.2.1 - Moisture Content

109. The Delegation of France suggested a moisture content of 12.5% instead of 13.5%.

Section 7 - Labelling

110. The Delegation of Canada was of the view that labelling requirements should not prevent the marketing of couscous produced from wheat flour or other commodities, especially in periods of drought or penury. The Delegation of France stated that the product name should not include the term "processed". The Delegation of France also indicated that the name "couscous" without further qualification should apply only to product obtained from durum wheat, and that other products could only be marketed with an adequate description.

Annex to the Draft Codex Standard for Processed Couscous

111. The Delegation of France was of the view that the current values for Granularity (particle size) were not technically achievable, and proposed to replace them with a range of 630 to 2000u. The Delegation also stated that the term "disaggregation" was not commonly known.

112. The Committee noted that the version of the text circulated for comments at Step 6 in document CX/CPL 94/8 was not the draft adopted by the Commission at Step 5.

Status of the Draft Codex Standard for Processed Couscous

113. The Committee agreed to advance the draft Standard, including the above suggestions, to Step 8 for adoption by the 21st Session of the Commission, with the understanding that the Coordinating Committee for Africa would be advised of this decision and of suggestions made during the present CCCPL session. The draft Standard is attached as Appendix XIX to this report.

OTHER BUSINESS (Agenda Item 9)

114. The Committee had no other business to discuss.

MEDIUM-TERM OBJECTIVES AND FUTURE PROGRAMME OF WORK (Agenda Item 10)

115. The Committee noted that it had met the objectives set by the Commission concerning the simplification and rationalization of Codex commodity standards, and noted its current status of work, as presented in Annex 1, whereby all the standards under consideration were advanced to Step 8 for adoption by the Commission.

DATE AND PLACE OF NEXT SESSION (Agenda Item 11)

116. The Committee recommended that in view of the completion of its programme of work, it should adjourn *sine die*. The Chairman expressed his appreciation to the Committee for the important work carried out over the years. It was noted that further work would be carried out in accordance with the relevant sections of the Procedural Manual and the decisions of the Commission.

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

Current Status of Work

Standard/Guideline Level	Step	For Action By:	Document Reference
Draft Worldwide Codex Standards for Rice, Wheat and Durum Wheat, Peanuts, Oats and Processed Couscous	8	21st Commission	Appendices III, IV, V, VI and XIX; ALINORM 95/29
Proposed Draft Worldwide Codex Standards for Wheat Flour, Maize (Corn), Whole Maize (Corn) Meal, Degermed Maize (Corn) Meal and Maize (Corn) Grits, Certain Pulses, Sorghum Grains, Sorghum Flour, Durum Wheat Semolina and Durum Wheat Flour, Gari, Whole and Decorticated Pearl Millet Grains, Pearl Millet Flour and Edible Cassava Flour	5/8	21st Commission	Appendices VII, VIII, IX, X, XI, XII, XIII, XIV, XV, XVI, XVII and XVIII; ALINORM 95/29
Draft Guideline Levels for Cadmium and Lead in Cereals, Pulses and Legumes	6	Governments	Para. 27, ALINORM 95/29
Proposed Draft Guideline Level and Sampling Plan for Total Aflatoxins in Peanuts	5	21st Commission	Appendix II, ALINORM 95/29

**ALINORM 95/29
APPENDIX I**

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**GUIDELINE LEVEL AND SAMPLING PLANS FOR
AFLATOXINS IN PEANUTS
(at Step 5)**

Guideline Level

Maximum of 15 µg/kg for total aflatoxins for peanuts intended for further processing, based on a sample size of 20 kg as referenced in the following material obtained from FAO Food and Nutrition Paper 55 (Rome, 1993), "Sampling Plans for Aflatoxin Analysis in Peanuts and Corn".

Sample Collection

Wherever possible, it is most appropriate (and convenient) to collect the sample when the selected lots are mobile. The estimation of the true mean aflatoxin content of a stack of sacks, for example, will be facilitated when representative samples are collected during the construction or dismantling of the stack. Similarly, sampling of large shipments of groundnuts can best be performed during the loading/unloading operation. In this situation, it is recommended that representative samples be collected from representative lots from, for example, ships holds, conveyer belts, dockside weighing towers, trucks or barges.

For unprocessed material, each sample should be composed of at least one hundred incremental samples, taken in a representative manner (using a systematic random sampling method), from locations throughout the lot.

Sample Preparation - A hammer mill with a #14 screen (3.1 mm diameter hole in the screen) similar to the type used by the U.S. Department of Agriculture to prepare samples for aflatoxin analysis is specified for peanuts. This choice represents a compromise in terms of cost and precision.

A minimal test portion size of 100 g for comminuted peanuts is recommended. If larger test portions or mills that produce a finer grind are used to prepare the sample, a lower sample preparation variance will result.

Analytical Methods - TLC analytical methods to quantify aflatoxin in the subsample extract are recommended. An extensive survey by Horwitz et al. (1993) suggested that TLC represents the most common type analytical method used by analytical laboratories.

The analytical variability, as measured by the coefficient of variation, ranges from about 9 to 82 percent. The variability associated with TLC methods reflects a compromise in the precision capabilities of the various analytical laboratories. If different analytical methods are used or more aliquots are analyzed per extract, the analytical variability can be reduced.

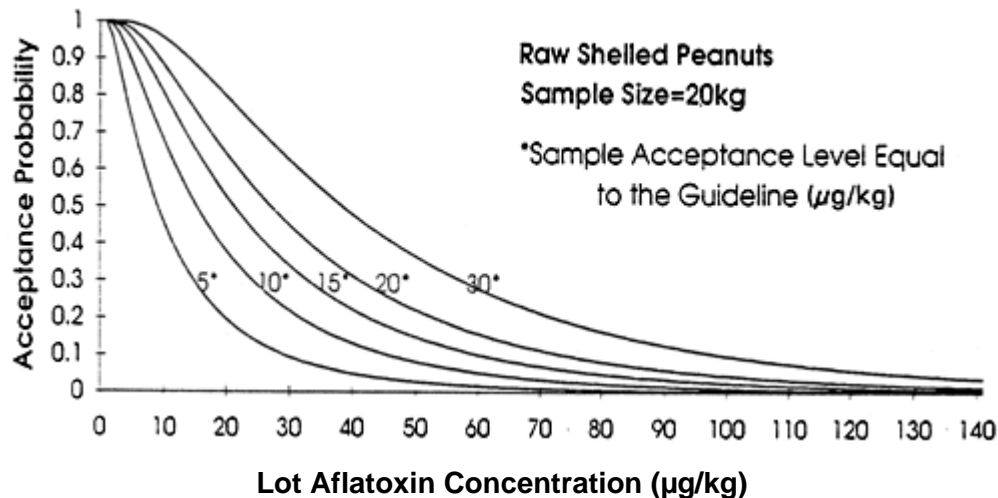


Figure 2.2 Five operating characteristic curves showing the probability of accepting raw shelled peanut lots when using 20 kg sample kernels, hammer mill for comminution, 100 g test portion, TLC analytical methods, and five sample acceptance levels.

Table I.I. Critical Factors for the Design of Aflatoxin Sampling Plans

Raw Shelled Peanuts	Number Plans
Guidelines ($\mu\text{g}/\text{kg}$) - 5, 10, 15, 20, 30	10
Sample Size (kg) - 5, 20 (kernels)	
Comminution - Hammer Mill (#14 screen)	
Test Portion Size (g) - 100	
Analytical Method - TLC	
Inshell Peanuts	
Guidelines ($\mu\text{g}/\text{kg}$) - 5, 10, 15, 20, 30	10
Sample Size (kg) - 7, 27 (pods) .	
Comminution - Hammer Mill (#14 screen)	
Test Portion Size (g) - 100	
Analytical Method - TLC	

DRAFT CODEX STANDARD FOR RICE
(at Step 8)

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to the standard contains quality and compositional provisions which have been agreed internationally and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not however form part of the standard and thus acceptance of the standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to husked rice, milled rice, and parboiled rice, all for direct human consumption; i.e., ready for its intended use as human food, presented in packaged form or sold loose from the package directly to the consumer. It does not apply to other products derived from rice or to glutinous rice.

2. **DESCRIPTION**

2.1 **Definitions**

2.1.1 Rice is whole and broken kernels obtained from the species *Oryza sativa* L.

2.1.1.1 Paddy rice is rice which has retained its husk after threshing.

2.1.1.2 Husked rice (brown rice or cargo rice) is paddy rice from which the husk only has been removed. The process of husking and handling may result in some loss of bran.

2.1.1.3 Milled rice (white rice) is husked rice from which all or part of the bran and germ have been removed by milling.

2.1.1.4 Parboiled rice may be husked or milled rice processed from paddy or husked rice that has been soaked in water and subjected to a heat treatment so that the starch is fully gelatinized, followed by a drying process.

2.1.1.5 Glutinous rice; waxy rice: Kernels of special varieties of rice which have a white and opaque appearance. The starch of glutinous rice consists almost entirely of amylopectin. It has a tendency to stick together after cooking.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Rice shall be safe and suitable for human consumption.

3.1.2 Rice shall be free from abnormal flavours, odours, living insects and mites.

3.2 **Quality Factors - Specific**

3.2.1 **Moisture Content** 15% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 **Extraneous Matter:** is defined as organic and inorganic components other than kernels of rice.

3.2.2.1 Filth:

impurities of animal origin (including dead insects) 0.1% m/m max

3.2.2.2 **Other organic extraneous matter** such as foreign seeds, husk, bran, fragments of straw, etc. shall not exceed the following limits:

	<u>Maximum Level</u>
Husked Rice	1.5% m/m
Milled Rice	0.5% m/m
Husked Parboiled Rice	1.5% m/m
Milled Parboiled Rice	0.5% m/m

3.2.2.3 **Inorganic extraneous matter** such as stones, sand, dust, etc. shall not exceed the following limits:

	<u>Maximum Level</u>
Husked Rice	0.1 % m/m
Milled Rice	0.1% m/m
Husked Parboiled Rice	0.1% m/m
Milled Parboiled Rice	0.1% m/m

4. **CONTAMINANTS**

4.1 **Heavy Metals**

The products covered by the provisions of this standard shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Rice shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;

- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms, including fungi, in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Rice shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the food.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3. When the product is packaged in sacks, these must be clean, sturdy, and strongly sewn or sealed.

7. **LABELLING**

In addition to requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

The name of the product to be shown on the label shall be in accordance with the definitions given in Section 2.1. The alternative names given in parenthesis shall be used in accordance with local practice.

7.2 **Labelling of Non-retail Containers**

Information on non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 ISO 950-1981 Cereals - Sampling (as grain).

8.1.2 Additional Methods:

AACC 64-70A - Wheat and Whole Grains

AACC 64-50 - Sampling of Feed Grains and Feed Stuffs.

AOAC 14th ED (1984) 7.001 Bag Sampling.

8.2 **Determination of Moisture**

8.2.1 ISO 712-1985 Cereals and Cereal Products - Determination of Moisture (Routine Reference Method) (Type I: air oven).

8.2.2 ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products (Stated to be identical to ISO 712-1985).

8.3 **Other Test Methods**

ISO 7301 (Annex A), (Determination of extraneous matter, broken kernels, defective kernels and other kinds of rice)

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased and to offer options for classification. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standards when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

1. CLASSIFICATION

If rice is classified as long grain, medium grain or short grain, the classification should be in accordance with one of the following specifications. Traders should indicate which classification option is chosen.

OPTION 1: kernel length/width ratio

1.1 Long grain rice:

1.1.1 Husked rice or parboiled husked rice with a length/width ratio of 3.1 or more.

1.1.2 Milled rice or parboiled milled rice with a length/width ratio of 3.0 or more.

1.2 Medium grain rice:

1.2.1 Husked rice or parboiled husked rice with a length/width ratio of 2.1-3.0.

1.2.2 Milled rice or parboiled milled rice with a length/width ratio of 2.0-2.9.

1.3 Short grain rice:

1.3.1 Husked rice or parboiled rice with a length/width ratio of 2.0 or less.

1.3.2 Milled rice or parboiled milled rice with a length/width ratio of 1.9 or less.

OPTION 2: the kernel length

1.1 Long grain rice has a kernel length of 6.6 mm or more.

1.2 Medium grain rice has a kernel length of 6.2 mm or more but less than 6.6 mm.

1.3 Short grain rice has a kernel length of less than 6.2 mm.

OPTION 3: a combination of the kernel length and the length/width ratio

1.1 Long grain rice has either:

1.1.1 a kernel length of more than 6.0 mm and with a length/width ratio of more than 2 but less than 3, or;

1.1.2 a kernel length of more than 6.0 mm and with a length/width ratio of 3 or more.

1.2 Medium grain rice has a kernel length of more than 5.2 mm but not more than 6.0 mm and a length/width ratio of less than 3.

1.3 Short grain rice has a kernel length of 5.2 mm or less and a length/width ratio of less than 2.

2. MILLING DEGREE

Milled rice (white rice) may be further classified into the following degrees of milling:

2.1 **Undermilled rice** is obtained by milling husked rice but not to the degree necessary to meet the requirements of well-milled rice.

2.2 **Well-milled rice** is obtained by milling husked rice in such a way that some of the germ and all the external layers and most of the internal layers of the bran have been removed.

2.3 **Extra-well-milled rice** is obtained by milling husked rice in such a way that almost all of the germ, all of the external layers and the largest part of the internal layers of the bran, and some of the endosperm, have been removed.

3. **OPTIONAL INGREDIENTS**

Nutrients

Vitamins, minerals and specific amino acids may be added in conformity with the legislation of the country in which the product is sold. (Governments accepting the Standard are requested to indicate the requirements in force in their country.)

FACTOR	MAXIMUM LIMIT	METHODS OF ANALYSIS
4 OTHER QUALITY FACTORS		
<p>In those instances where more than one factor limit and/or method of analysis is given it is strongly recommended that users specify the appropriate limit and method of analysis.</p>		
<p>4.1 <u>Whole Kernel</u> is a kernel without any broken part.</p>		
<p>4.1.1 <u>Head Rice</u> is a kernel, the length of which is equal to or greater than three quarters of the average length of the corresponding whole kernel.</p>	<p>buyer preference</p>	<p>ISO 7301 (Annex A)</p>
<p>4.1.2 <u>Large Broken Kernel</u> are fragments of kernel, the length of which is less than three-quarters but greater than one-half of the average length of a corresponding whole kernel.</p>	<p>buyer preference</p>	<p>ISO 7301 (Annex A)</p>
<p>4.1.3 <u>Medium Broken Kernel</u> are fragments of kernel, the length of which is equal to or less than one-half but greater than one-quarter of the average length of a corresponding whole kernel.</p>	<p>buyer preference</p>	<p>ISO 7301 (Annex A)</p>
<p>4.1.4 <u>Small Broken Kernel</u> are fragments of kernel, the length of which is equal to or less than one-quarter of the average length of a corresponding whole kernel but which does not pass through a metal sieve with round perforation 1.4 mm in diameter.</p>	<p>buyer preference</p>	<p>ISO 7301 (Annex A)</p>
<p>4.1.5 <u>Chips</u> are fragments of kernel which pass through a metal sieve with round perforations 1.4 mm in diameter.</p>	<p>0.1 % m/m</p>	<p>ISO 7301 (Annex A)</p>

FACTOR	MAXIMUM LIMIT				METHOD OF ANALYSIS
	<u>Husked Rice</u>	<u>Milled Rice</u>	<u>Husked Parboiled Rice</u>	<u>Milled Parboiled Rice</u>	
4.2 Defective Kernels					
4.2.1 <u>Heat-Damaged Kernels</u> are kernels, whole or broken, that have changed their normal colour as a result of heating. This category includes whole or broken kernels that are yellow due to alteration. Parboiled rice in a batch of non-parboiled rice is also included in this category.	4.0% m/m*	3.0% m/m	8.0% m/m*	6.0% m/m	ISO 7301 (Annex A)
4.2.2 <u>Damaged Kernels</u> are kernels, whole or broken, showing obvious deterioration due to moisture, pests, diseases, or other causes, but excluding heat-damaged kernels.	4.0% m/m	3.0% m/m	4.0% m/m	3.0% m/m	ISO 7301 (Annex A)
4.2.3 <u>Immature Kernels</u> are un-ripe and/or undeveloped whole or broken kernels.	12.0% m/m	2.0% m/m	12.0% m/m	2.0% m/m	ISO 7301 (Annex A)
4.2.4 <u>Chalky Kernels</u> are whole or broken kernels except for glutinous rice, of which at least three-quarters of the surface has an opaque and floury appearance.	11.0% m/m*	11.0% m/m	N/A	N/A	ISO 7301 (Annex A)

4.2.5 Red Kernels are whole or broken kernels with a red-coloured pericarp covering more than one-quarter of their surface. 12.0% m/m 4.0% m/m 12.0% m/m 4.0% m/m ISO 7301 (Annex A)

4.2.6 Red-Streaked Kernels are kernels, whole or broken, with red streaks, the lengths of which may be equal to or greater than one-half of that of the whole kernel, but the surface area covered by these red streaks shall be less than one-quarter of the total surface. N/A 8.0% m/m N/A 8.0% m/m ISO 7301 (Annex A)

4.2.7 Pecks are whole or broken kernels of parboiled rice of which more than one-quarter of the surface is dark brown or black in colour. N/A N/A 4.0% m/m* 2.0% m/m ISO 7301 (Annex A)

* After Milling for Control Purposes

4.3 Maximum Recommended Levels of Other Types of Rice	<u>Husked Rice</u>	<u>Milled Rice</u>	<u>Husked Parboiled Rice</u>	<u>Milled Parboiled Rice</u>	
Paddy Rice	2.5% m/m	0.3% m/m	2.5% m/m	0.3%	ISO 7301 (Annex A)
Husked Rice	N/A	1.0% m/m	N/A	1.0% m/m%	
Milled Rice	N/A	N/A	2.0% m/m	2.0% m/m%	
Glutinous Rice	1.0% m/m*	1.0% m/m	1.0% m/m*	1.0% m/m	

* After Milling for Control Purposes

ALINORM 95/29
APPENDIX IV

DRAFT CODEX STANDARD
FOR WHEAT AND DURUM WHEAT
(at Step 8)

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to the standard contains quality and compositional provisions which have been agreed internationally and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not however form part of the standard and thus acceptance of the standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to wheat grains and durum wheat grains as defined in Section 2 intended for processing for human consumption. It does not apply to club wheat (*Triticum compactum* Host.), red durum wheat, durum wheat semolina or products derived from wheat.

2. **DESCRIPTION**

2.1 Wheat is the grains obtained from varieties of the species *Triticum aestivum* L.

2.2 Durum wheat is the grains obtained from varieties of the species *Triticum durum* Desf.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality and Safety Factors - General**

3.1.1 Wheat and durum wheat shall be safe and suitable for processing for human consumption.

3.1.2 Wheat and durum wheat shall be free from abnormal flavours, odours, living insects and mites.

3.2 **Quality Factors - Specific**

3.2.1 Moisture Content

	<u>Maximum Level</u>
Wheat	14.5% m/m
Durum Wheat	14.5% m/m

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Ergot:

Sclerotium of the fungus *Claviceps purpurea*

	<u>Maximum Level</u>
Wheat	0.05% m/m
Durum Wheat	0.05% m/m

3.2.3 Extraneous matter are all organic and inorganic materials other than wheat and durum wheat, broken kernels, other grains and filth.

3.2.3.1 Toxic or Noxious Seeds:

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotalaria {*Crotalaria* spp.}, Corn cockle (*Agrostemma githago* L.), Castor bean (*Ricinus communis* L.), Jimson weed {*Datura* spp.}, and other seeds that are commonly recognized as harmful to health.

3.2.3.2 Filth (impurities of animal origin,

including dead insects): 0.1% m/m maximum

3.2.3.3 Other Organic extraneous matter which is defined as organic components other than edible grains of cereals (foreign seeds, stems, etc.):

	<u>Maximum Level</u>
Wheat	1.5% m/m
Durum Wheat	1.5% m/m

3.2.3.4 Inorganic extraneous matter which is defined as any inorganic component (stones, dust, etc.):

	<u>Maximum Level</u>
Wheat	0.5% m/m
Durum Wheat	0.5% m/m

4. **CONTAMINANTS**

4.1 **Heavy Metals**

The products covered by the provisions of this standard shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Wheat and durum wheat shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the cleaned product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product, after cleaning and sorting, and before further processing:

- shall be free from microorganisms in amounts which may represent a hazard to health;

- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms, including fungi, in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Wheat and durum wheat shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy, and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "wheat" or "durum wheat" as applicable.

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address, of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 ISO 950-1981 Cereals - Sampling (as Grain).

Additional Methods:

AACC 64-70A - Wheat and Whole Grains.

AACC 64-50 - Sampling of Feed Grains and Feed Stuffs.

AOAC 14th ED. (1984) 7.001 Bag Sampling.

8.2 **Determination of Moisture**

ISO 712-1985 Cereals and Cereal Products - Determination of Moisture. (Routine Reference Method) (Type I: air oven).

ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products (stated to be identical to ISO 712-1985).

8.3 **Other Test Methods**

ISO 7970-1989 (Annex C) (Determination of the impurities content).

ANNEX

Provisions provided with the Annex are not considered as essential for the protection of consumer health or safety. The following are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standards when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given it is strongly recommended that users specify the appropriate limit and method of analysis.

QUALITY FACTOR	LIMIT		METHODS OF ANALYSIS
	<u>Wheat</u>	<u>Durum Wheat</u>	
1. <u>Minimum test weight</u> The weight of a hundred litre volume expressed in kilogrammes per hectolitre.	68	70	The test weight shall be the weight per ISO 7971-1986 expressed in kilogrammes per hectolitre as determined on a test portion of the original sample.
2. <u>Shrunken and broken kernels</u> Broken or shrunken wheat or durum wheat which will pass through a 1.7 mm x 20 oblong-holed metal sieve for wheat and through a 1.9 mm x 20 oblong-holed metal sieve for durum wheat.	5.0% m/m max	6.0% m/m max	ISO 5223-1983 "Test sieves for cereals".
3. <u>Edible Grains other than wheat and durum wheat</u> (whole or identifiably broken)	2.0% m/m max	3.0% m/m max	ISO 7970-1987: (Annex C)
4. <u>Damaged kernels</u> (including pieces of kernels that show visible deterioration due to moisture, weather, disease, mould, heating, fermentation, sprouting, or other causes.	6.0% m/m max	4.0% m/m max	ISO 7970-1987: (Annex C)

5. Insect bored kernels (kernels which have been visibly bored or tunnelled by insects) 1.5% m/m 2.5% m/m To be developed

**DRAFT CODEX STANDARD FOR PEANUTS
(at Step 8)**

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to the standard contains quality and compositional provisions which have been agreed internationally and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not however form part of the standard and thus acceptance of the standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to peanuts as defined in Section 2 intended for processing for direct human consumption.

2. **DESCRIPTION**

2.1 **Definition of the Product**

Peanuts, either in the pod or in the form of kernels, are obtained from varieties of the species *Arachis hypogaea* L.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Peanuts shall be safe and suitable for processing for human consumption.

3.1.2 Peanuts shall be free from abnormal flavours, odours, living insects and mites.

3.2 **Quality Factors - Specific**

3.2.1 Moisture Content

	<u>Maximum Level</u>
Peanuts in-pod	10%
Peanut kernels	9.0%

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Mouldy, rancid or decayed kernels 0.2% m/m max

Mouldy kernels are defined as kernels with mould filaments visible to the naked eye.

Decayed kernels are defined as those showing visibly significant decomposition.

Rancid kernels are defined as those which have undergone oxidation of lipids (should not exceed 5 meq active oxygen/kg) or the production of free fatty acids (should not exceed 1.0%) resulting in the production of disagreeable flavours.

3.2.3 Organic and inorganic extraneous matter: is defined as organic or inorganic components other than peanuts and includes stones, dust, seeds, stems, etc.

3.2.3.1

Filth

impurities of animal origin (including dead insects) 0.1% m/m max

3.2.3.2

Other organic and inorganic extraneous matter

Peanuts in-pod 0.5% m/m max

Peanut kernels 0.5% m/m max

4. **CONTAMINANTS¹**

¹ A Proposed Draft Guideline Level for Total Aflatoxin in Peanuts intended for further processing is under elaboration.

4.1

Heavy Metals

The products covered by the provisions of this standard shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2

Pesticide Residues

Peanuts shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

5.

HYGIENE

5.1

It is recommended that the product covered by the provisions of this standard should be prepared in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene" (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2

To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3

When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health,
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms, including fungi, in amounts which may represent a hazard to health.

6.

PACKAGING

6.1

Peanuts shall be packaged in such manner which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product. Packaging will be sound, clean, dry, and free from insect infestation or fungal contamination.

6.2

Packing material shall be made of substances which are safe and suitable for their intended use, including new clean jute bags, tinplate containers, plastic or paper boxes or bags. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy, and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **The Name of the Product**

The name of the product to be shown on the label shall be "peanuts" or "peanuts in-pod" and type of peanuts.

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given either on the container or in accompanying documents, except that the name of the product, lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 ISO 950-1981 Cereals - sampling (as Grain).

Additional Methods:

AACC 64-70A - Wheat and Whole Grains

AACC 64-50 - Sampling of Feed Grains and Feed Stuffs.

AOAC 14th ED. (1984) 7.001 Bag Sampling.

FAO Food and Nutrition Paper 55, Rome, 1993 - Sampling Plans for Aflatoxin Analysis in Peanuts and Corn.

8.2 **Determination of Moisture**

8.2.1 ISO 712-1985 Cereals and Cereal Products - Determination of Moisture (Routine Reference Method). (Type I: air oven).

8.2.2 ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products (Reference Method). Stated to be identical to ISO 712-1985.

8.2.3 Moisture and Volatile Matter - AOCS Ab 2-49

8.3 **Test Methods**

8.3.1 ISO 712 and Annex A to ISO/DIS 7301.

8.3.2 Peroxide Value
AOCS Cd 8-53

8.3.3 Free fatty acids
AOCS Ab 5-49

ANNEX

Provisions provided with the Annex are not considered as essential for the protection of consumer health or safety. The following are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standards when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given it is strongly recommended that users specify the appropriate limit and method of analysis.

QUALITY FACTOR	MAXIMUM LIMIT	METHODS OF ANALYSIS
1. <u>In-Pod Defects</u>		
1.1 <u>Empty pods</u> : Pods containing no kernels	3% m/m	to be determined
1.2 <u>Damaged Pods</u> : include:		
a) shrivelled pods (pods which are imperfectly developed and shrunken); or	10% m/m	to be determined
b) pods having cracks or broken areas which cause conspicuous openings or which seriously weaken a large portion of the pod, especially if the kernel inside the pod is easily visible without any pressure forced upon the edges of the crack:		
1.3 <u>Discoloured Pods</u> : Pods having dark discolouration caused by mildew, staining, or other means affecting 50% or more of the pod surface.	2% m/m	to be determined
2. <u>Kernel Defects</u>		
2.1 <u>Damaged Kernels</u> include:		
a) those affected by freezing injury causing hard, translucent or discoloured flesh;		
b) shrivelled kernels which are imperfectly developed and shrunken]; and/or	5.0% m/m	

c) those damaged by insects, worm cuts	2.0% m/m	
d) mechanical damage	2.0% m/m	to be determined
e) germinated kernels	2.0% m/m	
2.2 <u>Discoloured Kernels</u> : Kernels are not damaged but are affected by one or more of the following:	3% m/m	to be determined
a) flesh (cotyledon) discolouration which is darker than a light yellow colour or consists of more than a slight yellow pitting of the flesh; and/or		
b) skin discolouration which is dark brown, dark grey, dark blue, or black, and covers more than 25 % of the kernel.		
2.3 <u>Broken and Split Kernels</u> : Broken kernels are those from which more than a quarter has been broken off. Split kernels have been split into halves.	3.0% m/m	to be determined
3. Peanuts other than the designated type	5.0% m/m	to be determined

DRAFT CODEX STANDARD FOR OATS
(at Step 8)

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to the standard contains quality and compositional provisions which have been agreed internationally and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not however form part of the standard and thus acceptance of the standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to oat grains as defined in Section 2 intended for processing for direct human consumption. This standard does not apply to *Avena nuda* (hulless oats).

2. **DESCRIPTION**

Oats are defined as the grains of *Avena saliva* and *Avena byzantina*.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Oats shall be safe and suitable for processing for human consumption.

3.1.2 Oats shall be free from abnormal flavours, odours, living insects and mites.

3.2 **Quality and Safety Factors - Specific**

3.2.1 **Moisture Content** 14.0% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the standard are requested to indicate and justify the requirements in force in their country.

3.2.2 **Ergot:**

Sclerotium of the fungus *Claviceps purpurea* 0.05% m/m max

3.2.3 **Toxic or Noxious seeds:**

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotalaria (*Crotalaria* spp.), Corn cockle
(*Agrostemma githago* L.), Castor bean
(*Ricinus communis* L.), Jimson weed (*Datura* spp.), and other seeds that are commonly recognized as harmful to health

3.2.4 Filth: impurities of animal origin

(including dead insects) 0.1% m/m max

3.2.5 **Other Organic extraneous matter** 1.5% m/m max

which is defined as organic components other than edible grains of cereals (foreign seeds, stems, etc.).

3.2.6 **Inorganic extraneous matter** 0.5% m/m max which is defined as any inorganic component (stones, dust, etc.):

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Oats shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Oats shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the cleaned product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product, after cleaning and sorting, and before further processing:

- shall be free from microorganisms in amounts which may represent a hazard to health; .
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms including fungi in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Oats shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy, and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

The name of the product to be shown on the label shall be "oats".

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product, lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

[Method to be developed].

8.2 **Determination of Moisture**

AOAC 925.10

AACC 44-15A

ISO 712-1985 Cereals and Cereal Products - Determination of moisture
(Routine Reference Method). (Type I: air oven).

ANNEX

Provisions provided with the Annex are not considered as essential for the protection of consumer health or safety. The following are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standards when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given it is strongly recommended that users specify the appropriate limit and method of analysis.

QUALITY FACTOR	LIMIT	METHODS OF ANALYSIS
1. <u>Minimum test weight</u> : The weight of a hundred litre volume of oats expressed as kilogrammes per hectolitre	at least 46 kg/hl	The test weight shall be the weight per ISO 7971-1986 or any other equipment giving equivalent results expressed as kilogrammes per hectolitre as determined on a test portion of the original sample
2. <u>Hull-less and broken kernels</u> (kernels with no hulls and broken of any size)	5.0% m/m max	to be developed
3. <u>Edible Grains other than oats</u> (whole or identifiably broken)	3.0% m/m max	to be developed
4. <u>Damaged kernels</u> (including pieces of kernels that show visible deterioration due to moisture, weather, disease, insects, mould, heating, fermentation, sprouting or other causes.	3.0% m/m max	to be developed
5. <u>Wild oats</u> : <i>Avena fatua</i> or <i>Avena sterilis</i>	0.2% m/m max	to be developed
6. <u>Insect Bored Kernels</u> kernels which have been visibly bored or tunnelled by insects	0.5% m/m max	to be developed

7. Blemished Grains i.e. grains with stained hulls due to the action of climatic factors to be decided to be developed

**PROPOSED DRAFT REVISED CODEX STANDARD FOR WHEAT FLOUR
(at Step 5/8)**

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

1.1 This standard applies to wheat flour for direct human consumption prepared from common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof, which is prepackaged ready for sale to the consumer or destined for use in other food products.

1.2 It does not apply:

- to any product prepared from durum wheat, *Triticum durum* Desf., singly or in combination other wheat;
- to whole meal, whole-wheat flour or semolina, farina milled from common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof;
- to wheat flour destined for use as a brewing adjunct or for the manufacture of starch and/or gluten;
- to wheat flour for non-food industrial use;
- flours whose protein content have been reduced or which have been submitted after the milling process to a special treatment other than drying or bleaching and/or to which have been added other ingredients than those mentioned under Section 3.2.2 and 4.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Wheat flour is the product prepared from grain of common wheat, *Triticum aestivum* L., or club wheat, *Triticum compactum* Host., or mixtures thereof, by grinding or milling processes in which the bran and germ are partly removed and the remainder is comminuted to a suitable degree of fineness.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Wheat flour and any added ingredients shall be safe and suitable for human consumption.

3.1.2 Wheat flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Wheat flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture Content** 15.5% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Optional Ingredients

The following ingredients may be added to wheat flour in amounts necessary for technological purposes:

- malted products with enzymatic activity made from wheat, rye or barley;
- vital wheat gluten;
- soybean flour and legume flour.

4. FOOD ADDITIVES Maximum Level in Finished Product

4.1 Enzymes

4.1.1	Fungal amylase from <i>Aspergillus niger</i>	GMP
4.1.2	Fungal amylase from <i>Aspergillus oryzae</i>	GMP
4.1.3	Proteolytic enzyme from <i>Bacillus subtilis</i>	GMP
4.1.4	Proteolytic enzyme from <i>Aspergillus oryzae</i>	GMP

4.2 Flour Treatment Agents

4.2.1	L-ascorbic acid and its sodium and potassium salts	300 mg/kg
4.2.2	L-cysteine hydrochloride	90 mg/kg
4.2.3	Sulphur dioxide (in flours for biscuit and pastry manufacture only)	200 mg/kg
4.2.4	Mono-calcium phosphate	2500 mg/kg
4.2.5	Lecithin	2000 mg/kg
4.2.6	Chlorine	2500 mg/kg in high ratio cakes
4.2.7	Chlorine Dioxide	30 mg/kg for yeast raised bakery products
4.2.8	Benzoyl Peroxide	60 mg/kg
4.2.9	Azodicarbonamide	45 mg/kg for leavened bread

5. CONTAMINANTS

5.1 Heavy Metals

Wheat flour shall be free from heavy metals in amounts which may represent a hazard to human health.

5.2 **Pesticide Residues**

Wheat flour shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

5.3 **Mycotoxins**

Wheat flour shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

6. **HYGIENE**

6.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

6.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

6.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

7. **PACKAGING**

7.1 Wheat flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

7.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

7.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

8. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1) the following specific provisions apply:

8.1 **Name of the Product**

8.1.1 The name of the product to be shown on the label shall be "wheat flour."

8.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9. **METHODS OF ANALYSIS AND SAMPLING**

9.1 **Sampling**

According to:

9.1.1 ISO 2170-1980 Cereals and Pulses - Sampling of Milled Products (for packaged products)

9.1.2 ICC 130 Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products). Stated to be identical to ISO 2170-1980.

9.1.3 ISO 6644-1981 Cereals and Milled Cereal Products - Automatic Sampling by Mechanical Means.

9.1.4 ICC 138 Mechanical Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours, and By-Products) (Method for sampling the moving product). Stated to be identical to ISO 6644-1981.

9.1.5 AACC 64-60 Sampling of Flour, Semolina, and Similar Products: Feeds and Feed- stuffs in Sacks.

9.2 **Determination of Moisture**

According to:

9.2.1 ISO 712-1985 Cereals and Cereal Products - Determination of Moisture Content (Routine reference method). (Type I: air oven).

9.2.2 ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products - Practical Method. Stated to be identical to ISO 712-1979.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
ASH	Buyer Preference	AOAC (1980) Cereal Foods-Direct Method, 14.006 (Type I); 550°C to constant weight
FAT ACIDITY	Not more than 70 mg per 100 g flour on a dry matter basis expressed as sulphuric acid - or - Not more than 50 mg of potassium hydroxide shall be required to neutralize the free fatty acids in 100 grammes flour on a dry matter basis	ISO Method 7305 (ISO 7305-1986) - or - AOAC (1980) Cereal Foods - Fat Acidity (applicable to wheat and corn) 14.070 - 14.072 (Type I Method)
PROTEIN (N x 5.7)	Min: 7.0% on a dry weight basis	ICC 105/1 Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed (Type I Method) Selenium/Copper catalyst. - or - ISO 1871 (1975)
NUTRIENTS • vitamins • minerals • amino acids	Conform With Legislation of the Country in Which the Product is Sold	None Defined
PARTICLE SIZE (GRANULARITY)	98% or more of flour shall pass through a 212 micron (No. 70 sieve)	AOAC (1980) Cereal Adjuncts - Assortment of Grits, 10.128-10.129 (Type I method)

**PROPOSED DRAFT REVISED CODEX STANDARD FOR MAIZE (CORN)
(at Step 5/8)**

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to maize (corn) for human consumption, i.e., ready for its intended use as human food, presented in packaged form or sold loose from the package directly to the consumer. This standard specifies requirements for whole grain shelled dent maize, *Zea mays indentata* L., and/or shelled flint maize, *Zea mays indurata* L., or their hybrids. It does not apply to processed maize.

2. **DESCRIPTION**

2.1 **Product Definition**

Maize (corn) is the shelled grains of the species defined in the scope.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Maize shall be safe and suitable for human consumption.

3.1.2 Maize shall be free from abnormal flavours, odours and living insects.

3.1.3. Maize shall be free from filth in amounts which may represent a hazard to human health.

3.2 **Quality Factors - Specific**

3.2.1 **Moisture Content** 15.5% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 **Extraneous matter** are all organic and inorganic materials other than maize, broken kernels, other grains and filth.

3.2.2.1 **Filth** are impurities of animal origin (including dead insects).

0.1 % m/m max

3.2.2.2 **Toxic or Noxious Seeds:**

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotolaria (*Crotalaria* spp.), Corn cockle (*Agrostemma githago* L.), Castor bean (*Ricinus communis* L.), Jimson weed (*Datura* ssp.), and other seeds are commonly recognized as harmful to health.

3.2.2.3 **Other organic extraneous matter** which is defined as organic components other than edible grams of cereals (foreign seeds, stems, etc.) (1.5% m/m max).

3.2.2.4 **Inorganic extraneous matter** which is defined as any inorganic component (stones, dust, etc.) (0.5% m/m max).

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Maize (corn) shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Maize (corn) shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Maize (corn) shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Maize (corn) shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "maize (corn)."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

According to:

ISO 950-1979 Cereals - Sampling (as Grain).

8.2 **Determination of Moisture**

According to:

ISO 6540-1980 Maize - Determination of moisture content (on milled grains and on whole grains) (Type I).

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
<p>KERNELS OF OTHER COLOURS</p> <ul style="list-style-type: none"> • In yellow maize. Maize grains which are yellow and/or light red in colour are considered to be yellow maize. Maize grains which are yellow and dark red in colour, provided the dark red colour covers less than 50% of the surface of the grain, are also considered to be yellow maize. • in white maize. Maize grains which are white and/or light pink in colour are considered to be white maize. White maize also means maize grains which are white and pink in colour, provided the pink colour covers less than 50% of the surface of the grain • in red maize. Maize grains which are pink and white or dark red and yellow in colour are considered to be red maize, provided the pink or dark red colour covers 50% or more of the surface of the grain. • mixed maize 	<p>MAX: 5.0% by weight of maize of other colours</p> <p>MAX: 2.0% by weight of maize of other colours</p> <p>MAX: 5.0% by weight of maize of other colours</p>	<p>Visual Examination</p>
<p>KERNELS OF OTHER SHAPE</p> <ul style="list-style-type: none"> • in flint maize 	<p>MAX: 5.0% by weight of maize of other shapes</p>	<p>Visual Examination</p>

<ul style="list-style-type: none"> • in dent maize • flint and dent maize 	<p>MAX: 5.0% by weight of maize of other shapes</p> <p>RANGE: 5.0% to 95% by weight of flint maize</p>	
<p>DEFECTS</p> <ul style="list-style-type: none"> • blemished grains: grains which are insect or vermin damaged, stained, diseased, discoloured, germinated, frost damaged, or otherwise materially damaged. • broken kernels • other grains 	<p>MAX: 7.0% of which diseased grains must not exceed 0.5%</p> <p>MAX: 6.0%</p> <p>MAX: 2.0%</p>	<p>Visual Examination</p> <p>ISO 5223-1983 (4.50 mm metal sieve)</p> <p>Visual Examination</p>

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Appendix IX

**PROPOSED DRAFT REVISED CODEX STANDARD FOR WHOLE MAIZE (CORN)
MEAL
(at Step 5/8)**

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

1.1 This standard applies to whole maize (corn) meal for direct human consumption prepared from kernels of common maize, *Zea mays* L., as described in Section 2.1.

1.2 This standard does not apply to degermed maize (corn) meal, enriched maize (corn) meal, maize (corn) flours, maize (corn) grits, quick grits, hominy grits, self-rising maize (corn) meals, bolted maize (corn) meals, maize (corn) flakes and other maize (corn) based ready-to-eat cereals, maize (corn) flaking grits, and alkaline treated maize (corn) products.

1.3 This standard does not apply to maize meals for use as a brewing adjunct, to maize meals used for manufacturing of starch and any industrial use, nor to maize meal for use as an animal feed.

2. DESCRIPTION

2.1 Whole maize (corn) meal is the food prepared from fully mature, sound, ungerminated, whole kernels of maize, *Zea mays* L., by a grinding process in which the entire grain is comminuted to a suitable degree of fineness. In its preparation coarse particles of the ground maize kernel may be separated, reground and recombined with all of the material from which they were separated.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Whole maize meal shall be safe and suitable for human consumption.

3.1.2 Whole maize meal shall be free from abnormal flavours, odours, and living insects.

3.1.3 Whole maize meal shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture Content** 15.0% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Whole maize (corn) meal shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Whole maize (corn) meal shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Whole maize (corn) meal shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Whole maize (corn) meal shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "whole maize (corn) meal."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

According to:

8.1.1 ISO 2170-1980 Cereal and Pulses - Sampling of Milled Products.

8.1.2 ICC 130 Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products).

8.1.3 AOAC (1980) 10.092, 10.125.

8.1.4 AACC 64-60 Sampling of Flour, Semolina, and Similar Products; Feeds and Feedstuffs in Sacks.

8.2 **Determination of Moisture**

According to:

8.2.1 ISO 712-1985 Cereals and Cereal Products - Determination of Moisture (Routine Reference Method). (Type 1; air oven).

8.2.2 ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products (Reference Method). (Stated to be identical to ISO 712-1979).

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
ASH	MAX: 3.0% on a dry weight basis	AIAC (1980) 14.006 (Type I) 550°C to constant weight
PROTEIN (N x 6.25)	MIN: 8% on a dry weight basis	ICC 105/1 Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and Feed (Type I). Selenium/Copper catalyst - or - ISO 1871 (1975)
CRUDE FAT	MIN: 3.1% on a dry weight basis	AOAC (!(*)) 14.067, 7.056 Crude Fat or (Anhydrous) Ether Extract (Type I)
GRANULARITY	95 % or more of the whole maize meal shall pass through a 1.70 mm sieve - AND - 45% or more shall pass through a 0.71 mm sieve - AND - 35% or less of the whole maize meal shall pass through a 0.212 mm sieve	AOAC (1980) 10.128 -10.129 (Type I method with sieve specifications as in ISO 3310/1 1982 test sieve)

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Appendix X

**PROPOSED DRAFT REVISED CODEX STANDARD FOR DEGERMED MAIZE
(CORN) MEAL AND MAIZE (CORN) GRITS
(at Step 5/8)**

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

1.1 This standard applies to degermed maize (corn) meal and to degermed maize (corn) grits for direct human consumption milled from kernels of common maize, *Zea mays* L.

1.2 This standard does not apply to whole maize (corn) meal, maize (corn) flours, quick grits, hominy grits, self-rising maize (corn) meals, enriched maize (corn) meals, enriched maize (corn) grits, bolted maize (corn) meals, maize (corn) flakes, and alkaline treated maize (corn) products.

1.3 This standard does not apply to maize (corn) meals for use as a brewing adjunct, to maize (corn) meals used for manufacturing of starch and any industrial use, nor to maize (corn) meal for use as an animal feed.

2. DESCRIPTION

2.1 Degermed maize (corn) meal is the food prepared from fully mature, sound, degermed kernels of maize (corn), *Zea mays* L., cleaned from impurities, mold, seeds of weeds and other cereals by a grinding process in which the grain is comminuted to a suitable degree of fineness and from which bran and germ are removed. In its preparation, coarse particles of the ground maize kernel may be separated, reground and recombined with all of the material from which they were separated.

2.2 Degermed maize (corn) grits is the food prepared from fully mature, sound, degermed, kernels of maize (corn), *Zea mays* L., cleaned from impurities, mold, seeds of weeds and other cereals, by a grinding process in which the grain is comminuted to a suitable degree of fineness and from which bran and germ are almost completely removed.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Degermed maize meal and degermed maize grits shall be safe and suitable for human consumption.

3.1.2 Degermed maize meal and degermed maize grits shall be free from abnormal flavours, odours, and living insects.

3.1.3 Degermed maize meal and degermed maize grits shall be free from filth (impurities of

animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 **Quality Factors - Specific**

3.2.1 **Moisture Content** 15.0% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Degermed maize (corn) meal and maize (corn) grits shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Degermed maize (corn) meal and maize (corn) grits shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Degermed maize (corn) meal and maize (corn) grits shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Degermed maize (corn) meal and maize (corn) grits shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. LABELLING

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 Name of the Product

7.1.1 The name of the product to be shown on the label shall be "degermed maize (corn) meal," or "maize (corn) grits."

7.2 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Sampling

According to:

8.1.1 ISO 2170-1980 Cereal and Pulses - Sampling of Milled Products.

8.1.2 ICC 130 Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products).

8.1.3 AOAC (1980) 10.092 Sampling, 10.125 Cereal Adjuncts.

8.1.4 AACC 64-60 Sampling of Flour, Semolina and Similar Products; Feeds and Feedstuffs in Sacks.

8.2 Determination of Moisture

According to:

8.2.1 ISO 712-1985 Cereals and Cereal Products - Determination of Moisture (Routine Reference Method). (Type I; air oven).

8.2.2 ICC 110/1 Determination of Moisture Content of Cereals and Cereal Products (Reference Method). Stated to be identical to ISO 712-1979.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHODS OF ANALYSIS
ASH	MAX: 1.0% on a dry weight basis	AOAC (1980) 14.006 (Type I; 550°C to constant weight)
PROTEIN (N x 6.25)	MIN: 7.0% on a dry weight basis	ICC 105/1 Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed (Type I) Selenium/Copper catalyst - or - ISO 1871 (1975)
CRUDE FAT	MAX: 2.25% on a dry weight basis	AOAC (1980) 14.067, 7.056 Crude Fat or (Anhydrous) Ether extract (Type I)
GRANULARITY • degermed maize meal	95% or more shall shall through a 0.85 sieve; - AND - 45% or more shall pass through a 0.71 mm Sieve; - AND - 25% or less shall pass through a 0.210 sieve	AOAC (1980) 10.128-10.129 (Type I method with sieve specifications as in ISO 3310/1-1982 test sieves)
• degermed maize grits	95% or more through a 2.00 mm sieve;	AOAC (1980) 10.128-10.129 (Type I method with sieve

	- AND - 20% or less through a 0.71 mm sieve	specifications as in ISO 3310/1- 1982 test sieves)
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Appendix XI

PROPOSED DRAFT REVISED CODEX STANDARD FOR CERTAIN PULSES
(at Step 5/8)

This standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

This Standard applies to the whole, shelled or split pulses defined below which are intended for direct human consumption. The Standard does not apply to pulses intended for factory grading and packaging, industrial processing, or to those pulses intended for use in the feeding of animals. It does not apply to fragmented pulses when sold as such, or to other legumes for which separate standards may be elaborated.

2. DESCRIPTION

2.1 Product Definition

Pulses are dry seeds of leguminous plants which are distinguished from leguminous oil seeds by their low fat content. The pulses covered by this Standard are the following:

- Beans of *Phaseolus* spp. (except *Phaseolus mungo* L. syn. *Vigna mungo* (L.) Hepper and *Phaseolus aureus* Roxb. syn. *Phaseolus radiatur* L., *Vignaradiata* (L.) Wilczek);
- Lentils of *Lens culinaris* Medic. Syn. *Lens esculenta* Moench.;
Peas of *Pisum sativum* L.;
- Chick peas of *Cicer arietinum* L.;
- Field beans of *Vicia faba* L.;
- Cow peas of *Vigna unguiculata* (L.) Walp., syn. *Vigna sesquipedalis* Fruhw., *Vigna sinensis* (L.) Savi exd Hassk.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

- 3.1.1 Pulses shall be safe and suitable for human consumption.
- 3.1.2 Pulses shall be free from abnormal flavour, odours, and living insects.
- 3.1.3. Pulses shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 Moisture Content

3.2.1.1 Two maximum moisture levels are provided to meet different climatic conditions and marketing practices. Lower values in the first column are suggested for countries with tropical climates or when long-term (more than one crop year) storage is a normal commercial practice. The values in the second column are suggested for more moderate climates or when other short-term storage is the normal commercial practice.

<u>Pulse</u>	<u>Moisture Content</u> (per cent)	
- beans	15	19
- lentils	15	16
- peas	15	18
- chick peas	14	16
- cow peas	15	18
- field beans	15	19

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.1.2 In the case of pulses sold without their seed coat, the maximum moisture content shall be 2 per cent (absolute) lower in each case.

3.2.2 **Extraneous matter** is mineral or organic matter (dust, twigs, seedcoats, seeds of other species, dead insects, fragments, or remains of insects, other impurities of animal origin). Pulses shall have not more than 1 % extraneous matter of which not more than 0.25% shall be mineral matter and not more than 0.10% shall be dead insects, fragments or remains of insects, and/or other impurities of animal origin.

3.2.2.1 **Toxic or noxious seeds**

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotalaria (*Crotalaria* spp.), Corn cockle (*Agrostemma githago* L.), Castor bean (*Ricinus communis* L.) Jimson weed (*Datura* spp.), and other seeds that are commonly recognized as harmful to health.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Pulses shall be free from heavy metals in amounts which may represent a hazard to health.

4.2 **Pesticide Residues**

Pulses shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Pulses shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the

Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to these products.

5.2 To the extent possible in good manufacturing practice, the products shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the products:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Pulses shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be the commercial type of the pulse.

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Moisture Content**

ISO 665-1977 - Oilseeds - Determination of moisture and volatile matter content (Type I).

8.2 **Methods of Sampling**

ISO 951-1979 - Pulses in bags - Sampling

Additional Methods:

AACC 64-70A - Sampling of wheat and other whole grains (large mass; other than mechanical means).

AACC 64-50 - Sampling of feeds and feedstuffs (bagged materials).

AOAC 14th Ed. (1984) 7.001 - Sampling of animal feed (bag sampling).

ISO 950-1979 -Cereals - Sampling (as grain).

ICC 101/1 - Cereals -

Sampling as grain (Stated to be identical to 150 950).

ISO 6644-1981 - Cereals and milled cereal products - automatic sampling by mechanical means.

ICC 120 - Mechanical sampling of grains (Stated to be identical to 150 6644).

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
<p>DEFECTS</p> <ul style="list-style-type: none"> • seeds with serious defects. Seeds in which the cotyledons have been affected or attached by pests; seeds with very slight traces of mould or decay; or slight cotyledon staining • seeds with slight defects. Seeds which have not reached normal development; seeds with extensive seedcoat staining, without the cotyledon being affected; seeds in which the seedcoat is wrinkled, with pronounced folding, or broken pulses - broken pulses. Broken in whole pulses are pulses in which the cotyledons are separated or one cotyledon has been broken. Broken in split pulses are pulses in which the cotyledon has been broken 	<p>MAX: 1.0%</p> <p>MAX: 7.0% of which broken pulses must not exceed 3.0%</p>	<p>Visual Examination</p>
<ul style="list-style-type: none"> • seeds of a similar colour but a different commercial type (except in beans with white seeds) • seeds of different colour (other than discoloured seeds) 	<p>MAX: 3.0%</p> <p>MAX: 6.0%</p>	

<ul style="list-style-type: none"> • discoloured seeds • discoloured seeds of the same commercial type • beans with green seed and peas with green seeds with slight discolouration of the seed 	<p>MAX: 3.0%</p> <p>MAX: 10.0%</p> <p>MAX: 20.0%</p>	
<p>PRESENTATION</p> <ul style="list-style-type: none"> • Shelled pulses. Pulses without their seedcoat, with the cotyledons not separated • split pulses. Pulses without their seedcoat, with the two cotyledons separated one from the other 	<p>Buyer Preference</p>	<p>Visual Examination</p>

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Appendix XII

PROPOSED DRAFT REVISED CODEX STANDARD FOR SORGHUM GRAINS
(at Step 5/8)

This standard is confined to essential provisions relating to public health, and safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

This Standard applies to sorghum grains as defined in Section 2, for human consumption; i.e., ready for its intended use as human food, presented in packaged form or sold loose from the package directly to the consumer. It does not apply to other products derived from sorghum grains.

2. DESCRIPTION

2.1 Definition of the Product

2.1.1 Sorghum grains are whole or decorticated grains obtained from species of *Sorghum bicolor* (L.) Moench. They may be suitably dried if necessary.

2.1.2 Whole Sorghum Grains

These are sorghum grains obtained as such after a complete threshing without any further treatment.

2.1.3 Decorticated Sorghum Grains

These are sorghum grains from which the external casings and whole or parts of the germ have been removed in an appropriate manner, using mechanical treatment.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Sorghum grains shall be safe and suitable for human consumption.

3.1.2 Sorghum grains shall be free from abnormal flavours, odours, and living insects.

3.1.3 Sorghum grains shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture Content** 14.5% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Definition of Defects

The product shall have not more than 8.0% total defects including extraneous matter, inorganic extraneous matter, and filth as contained in the standards and blemished grains, diseased grains, broken kernels, and other grains as contained in the Annex.

3.2.2.1 **Extraneous matter** is all organic and inorganic material other than sorghum, broken kernels, other grains and filth. Extraneous matter includes loose sorghum seedcoats. Sorghum grains shall have not more than 2.0% extraneous matter of which not more than 0.5% shall be extraneous inorganic matter.

3.2.2.2 **Filth** is impurities of animal origin including dead insects (0.1% m/m max).

3.2.3 **Toxic or noxious seeds**

The products covered by the provisions of this standard shall be free from the following toxic or noxious seeds in amounts which may represent a hazard to human health.

Crotalaria (*Crotalaria* spp.), Corn cockle (*Agrostemma githago* L.), Castor bean (*Ricinus communis* L.), Jimson weed (*Datura* spp.), and other seeds that are commonly recognized as harmful to health.

3.2.4 **Tannin Content**

(a) For whole sorghum grains, the tannin content shall not exceed 0.5% on a dry matter basis.

(b) For decorticated sorghum grains, the tannin content shall not exceed 0.3% on a dry matter basis.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Sorghum grains shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Sorghum grains shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Sorghum grains shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Sorghum grains shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1985) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "sorghum grains."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 ISO 950-1979 Cereals - Sampling (as grain).
Additional Methods:

AACC 64-70A - Wheat and Whole Grains
AACC 64-50 Sampling of Feeds and Feed Stuffs
AOAC 14th Ed. (1984) 7.001 Bag Sampling.

8.2 **Determination of Moisture**

8.2.1 ISO 6540-1980 - Maize - Determination of moisture content (on milled grains and on whole grains) (Type 1).

8.3 **Determination of Tannin**

NFV 03-751 September 1985 Norme Francaise "Sorghum-Determination of Tannin Content" (Type I Methods) or, ISO 9648 (1988)

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
<p>COLOUR</p> <ul style="list-style-type: none"> white, pink, red, brown, orange, yellow, or any mixture of these colours abnormal colour. Grains whole natural colour has been modified by bad weather conditions, contact with the ground, heat, and excessive respiration. These grains may be dull, shrivelled, swollen, puffed, or bloated in appearance 	Buyer Preference	Visual Examination
<p>ASH</p> <ul style="list-style-type: none"> decorticated sorghum grains 	MAX: 1.5% on a dry matter basis	ICC 104 Method for the determination of ash in cereals and cereal products (Ashing at 900°C) (Type I method); -OR -
PROTEIN (N x 6.25)	MIN: 7.0% on a dry matter basis	ICC 105/1-Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed using selenium copper catalyst (Type II method) -OR - ISO 1871 (1975)
FAT	MAX: 4.0% on a dry matter basis	AOAC 14th ed. (1984)-14.066, 7.061 Crude Fat or Anhydrous Ether Extract (Type I); -OR -

		ISO 5986 (1983) - animal feedingstuffs - Determination of Diethyl Ether Extract
CRUDE FIBER	Buyer Preference	ICC 113 Determination of Crude Fiber Value (Type I) -OR- ISO 6541 (1981) Agricultural food products determination of crude fiber content-modified Scharrer method

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
<p>DEFECTS (Total)</p> <ul style="list-style-type: none"> • blemished grains. Grains which are insect or vermin damaged, of abnormal colour, sprouted, diseased, or otherwise materially damaged - diseased grains. Grains made unsafe for human consumption due to decay, moulding, or bacterial decomposition, or other causes that may be noticed without having to cut the grains open to examine them - insect or vermin damaged grains. Kernels with obvious weevil-bored holes or which have evidence of boring or tunnelling, indicating the presence of insects, insect webbing or insect refuse, or degermed grains, chewed in one or more than one part of the kernel which exhibit evident traces of an attack by vermin. - grains having an abnormal colour. Grains whose natural colour has been modified by bad weather conditions, contact with the ground, heat, and excessive respiration. These grains may be dull, shrivelled, swollen, puffed, or bloated in appearance 	<p>MAX: (Total) 8.0%'</p> <p>MAX: 3.0% of which diseased grains must not exceed 0.5%</p>	<p>Visual Examination</p>
<ul style="list-style-type: none"> - sprouted grains. Grains exhibiting obvious signs of sprouting. - frost-damaged grains. Grains which are damaged by frost and may appear bleached or blistered and the seed coat may be peeling. Germs may 		

appear dead or discoloured.		
<ul style="list-style-type: none"> broken kernels. Sorghum and pieces of sorghum which pass through a 1.8 mm round-hole sieve 	MAX: 5.0%	
<ul style="list-style-type: none"> other grains which are edible grains, whole or identifiable broken, other than sorghum (i.e., legumes, pulses and other edible cereals) 	MAX: 1.0%	

¹ The maximum amount of defects includes those from this Annex and Section 3.2.2 of the Standard.

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Appendix XIII

PROPOSED DRAFT REVISED CODEX STANDARD FOR SORGHUM FLOUR
(at Step 5/8)

This Standard is confined to essential provisions relating to public health, food safety, and consumer protection on which it could be expected that governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

This Standard applies to sorghum flour destined for direct human consumption as defined in Section 2.1 below.

1.1 This Standard does not apply to grits or meal obtained from *Sorghum bicolor* (L.) Moench.

2. DESCRIPTION

2.1 Sorghum flour is the product obtained from grains of *Sorghum bicolor* (L.) Moench through a process of industrial milling during which the seed coat is removed and the germ is removed to a large extent and the endosperm is comminuted to a suitable degree of fineness.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Sorghum flour shall be safe and suitable for human consumption.

3.1.2 Sorghum flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Sorghum flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2. Quality Factors - Specific

3.2.1 **Moisture Content** 15.0% m/m max.

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 **Tannin Content.** The tannin content of sorghum flour shall not exceed 0.3% on a dry matter basis.

4. CONTAMINANTS

4.1 Heavy Metals

Sorghum flour shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide Residues

Sorghum flour shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Sorghum flour shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Sorghum flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1, 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "sorghum flour."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may

be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

According to:

8.1.1 ISO 2170-1980 - Cereals and Pulses - Sampling of Milled Products.

8.1.2 ICC 130 - Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products).

8.1.3 AOAC 14th Ed. (1984) 10.126 - Sampling of Malt 10.159 (Cereal Adjuncts).

8.1.4 AA 64-60 - Sampling of Flour, Semolina, and Similar Products; Feeds and Feedstuffs in Sacks.

8.2 **Determination of Moisture**

8.2.1 ISO 712-1985 - Cereals and cereal products - Determination of moisture (Routine reference method). (Type I).

8.2.2 ICC 1101 - Determination of Moisture Content of Cereals and Cereal Products (Reference Method). (Stated to be identical to ISO 712-1985).

8.3 **Determination of Tannin**

NFV 03-751 September 1985, Norme Francaise "Sorghum-Determination of Tannin Content" (Type I Method) or ISO 9648 (1988).

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
ASH	MIN: 0.9% on a dry matter basis - AND - MAX: 1.5% on a dry matter basis	ICC 104-Method for the determination of ash in cereals and cereal products (Ashing at 900°C) (Type I Method) -OR- ISO 2171 (1980) - Cereals, pulses, and derived products - Determination of ash
PROTEIN (N x 6.25)	MIN: 8.5% on a dry matter basis	ICC 105/1 - Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed using selenium copper catalyst (Type II method) -OR - ISO 1871 (1975)
CRUDE FAT	MIN: 2.2% on a dry matter basis - AND - MAX: 4.7% on a dry matter basis	AOAC 14th ed. (1984) -14.066, 7.061 Crude Fat or Anhydrous Ether Extract (Type I method) -OR- ISO 5986 (1983) - Animal feedstuffs - Determination of Diethyl Ether Extract
CRUDE FIBER	MAX: 1.8% on a dry matter basis	ICC 133-Determination of Crude Fiber Value (Type I method) -OR- ISO 6541 (1981) - Agricultural food products - Determination of Crude Fiber Content - Modified Scharrer Method

COLOUR	RANGE: 18 to 30 units	Colorimetric Method of Kent Jones using Martincolor grader. In "Modern Cereal Chemistry", 6th ed. 1967, edited by Kent Jones-Amos, published by Food Trade Press Ltd., London, U.K. (Type I Method)
PARTICLE SIZE (GRANULARITY)	MIN: 100% of flour shall pass through a sieve the dimensions of the mesh being diameter of 0.5 mm for "fine" flour and a diameter of 1 mm for "medium" flour	AOAC 14th ed. (1984) - 10.162-10.163 Sorting of Corn Grits, Sieving Method (Type I method with sieve specifications as in ISO 3310/1 - 1982 Test sieves)

**PROPOSED DRAFT REVISED CODEX STANDARD FOR DURUM WHEAT
SEMOLINA AND DURUM WHEAT FLOUR
(at Step 5/8)**

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

1.1 This standard applies to durum wheat semolina, including whole durum wheat semolina and durum wheat flour for direct human consumption prepared from durum wheat (*Triticum durum* Desf.) which are prepackaged ready for sale to the consumer or destined for use in other food products.

1.2 It does not apply:

- to any product prepared from common wheat (*Triticum aestivum* L.) or club wheat (*Triticum compactum* Host.) or mixtures thereof, or to mixtures of these wheats in combination with durum wheat (*Triticum durum* Desf.)
- to durum wheat flour or semolina for non-food industrial or animal feed use.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Durum wheat semolina and durum wheat flour are the products prepared from grain of durum wheat (*Triticum durum* Desf.) by grinding or milling processes in which the bran and germ are essentially removed and the remainder is comminuted to a suitable degree of fineness. Whole durum wheat semolina is prepared by a similar comminuting process, but the bran and part of the germ are retained.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Durum wheat semolina and durum wheat flour and any added nutrients shall be safe and fit for human consumption.

3.1.2 Durum wheat semolina and durum wheat flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Durum wheat semolina and durum wheat flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture Content** 14.5% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Durum wheat semolina and durum wheat flour shall be free from heavy metals in amounts which may represent a hazard to health.

4.2 **Pesticide Residues**

Durum wheat semolina and durum wheat flour shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Durum wheat semolina and durum wheat flour shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Durum wheat semolina and durum wheat flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 Name of the Product

7.1.1 The name of the product to be shown on the label shall be "durum wheat semolina," "whole durum wheat semolina," or "durum wheat flour."

7.2 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Sampling

8.1.1 Instructions for obtaining primary samples according to:

ISO 2170-1980 - Cereals and Pulses - Sampling of Milled Products.

ICC 130 - Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours and By-Products)(Stated to be identical to ISO 2170-1980).

ISO 6644-1981 - Cereals and Milled Cereal Products - Automatic Sampling by Mechanical Means.

ICC 138 - Mechanical Sampling of Milled Products (Semolinas, Flours, Agglomerated Flours, and By-Products)(Method for sampling the moving product). Stated to be identical to ISO 6644-1981.

AACC 64-60 - Sampling of Flour, Semolina, and Similar Products: Feeds and Feedstuffs in Sacks.

8.1.2 The size of the sample to be taken from homogeneous lots should be in accordance with Table 3 of the Instructions on Codex Sampling Procedures (CX/MAS 1-1987, Appendix V).

8.1.3 For all determinations, the laboratory sample should be prepared according to the Variables Plan for Proportion Defective: Known Standard Deviation (CX/MAS 1-1987, Appendix IV).

8.1.4 For all determinations, analysis should be performed on the "blended bulk sample".

8.2 Determination of Moisture

8.2.1 ISO 712-1985 - Cereals and Cereal Products - Determination of Moisture Content (Routine reference method). Air oven (Type I).

8.2.2 ICC 110/1 - Determination of Moisture Content of Cereals and Cereal Products - Practical Method. Stated to be identical to ISO 712-1985.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
ASH <ul style="list-style-type: none"> • durum wheat semolina • whole durum sheat semolina • durum wheat flour 	MAX: 1.3% on a dry basis MAX: 2.1 % on a dry basis MAX: 1.75% on a dry basis	AOAC 14th ed. (1984) -Cereal Foods – Direct Method, 14.006 (550°C to constant weight) (Type I Method); -OR- ISO 2171 (1980) - Cereals, Pulses, and Derived Products - Determination of Ash Method B-550°C constant weight
PROTEIN (N x 5.7) <ul style="list-style-type: none"> • durum wheat semolina • whole durum wheat semolina • durum wheat flour 	MIN: 10.5% on a dry basis MIN: 11.5% on a dry basis MIN: 11.0% on a dry basis	ICC 105/1-Method for the Determination of Crude Protein in Cereals and Cereal Products for Food and for Feed. Selenium/Copper catalyst (Type II Method) -OR- ISO 1871 (1975)
NUTRIENTS <ul style="list-style-type: none"> • vitamins • minerals • amino acids 	Conform with Legislation of the Country in Which the Product is Sold	None Defined
PARTICLE SIZE <ul style="list-style-type: none"> • durum wheat semolina • durum wheat flour 	MAX: 79% shall pass through a 315 micron silk gauze or man-made textile sieve MIN: 80% shall pass through a	None Defined

	315 micron silk gauze or man-made textile sieve	
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PROPOSED DRAFT CODEX STANDARD FOR GARI
(at Step 5/8)

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

This standard applies to gari destined for direct human consumption which is obtained from the processing of cassava tubers (*Manihot esculenta* crantz).

2. DESCRIPTION

2.1 Definition of the Product

Gari is the finished product obtained by artesinal or industrial processing of cassava tubers (*Manihot esculenta* Crantz). The processing consists of peeling, washing and grating of the tubers, followed by fermentation, pressing, fragmentation, granulation, drying if necessary, sifting and suitable heat treatment.¹ Gari is presented as flour of variable granule size.

¹ Suitable heat treatment means toasting, grilling or any other method of cooking capable of producing the characteristic organoleptic properties of the product. During the heat treatment, there is a partial gelatinization of the starch and the dehydration of gari grains.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality Factors - General

3.1.1 Gari shall be safe and suitable for human consumption.

3.1.2 Gari shall be free from abnormal flavours, odours, and living insects.

3.1.3 Gari shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture content** 12.0% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.2.2 Cyanogenic glycosides and hydrocyanic acid

Total hydrocyanic acid content shall not exceed [2 mg/kg] determined as free hydrocyanic acid.

3.3 Extraneous matter

According to good manufacturing practices, gari shall be practically free from extraneous matter.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Gari shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Gari shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this Commodity.

4.3 **Mycotoxins**

Gari shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 101969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Gari shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "gari."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 Instructions for drawing primary samples according to ISO 2170-1980 (Cereals and Pulses) or ICC Method of Sampling No. 101-1960 (Sampling of Milled Products).

8.1.2. The size of the sample to be taken from a homogeneous lot should be in accordance with Table 3 of the instructions on Codex Sampling Procedures (CX/MAS 1-1987, Appendix V).

8.1.3 For all determinations the laboratory sample should be prepared according to the variable plan for proportion defective (CX/MAS 1-1987, Appendix IV).

8.1.4 For all determinations, except particle size of the product analysis should be performed on the "blended bulk sample".

8.1.5 For verification of size of product as declared on the label, determinations in consignments of prepackaged products should be in individual packages.

8.3 **Determination of Moisture (Defining Method, Type 1)**

According to the ISO Method (ISO 712-1985, Cereals and Cereal Products - Determination of Moisture). This method measures water content by determining loss of weight of the sample heated under given conditions.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
TOTAL ACIDITY	MIN: 0.6% determined as lactic acid - AND - MAX: 1.0% determined as lactic acid	AOAC method 1975 14.064 - 14.065 -OR - ISO/DP 7305
CRUDE FIBER	MAX: 2.75%	ISO 2171 (1980) - Cereals, Pulses and Derived Products - Determination of Ash (Type I Method)
ASH	MAX: 2.75%	ISO 2171 (1980) - Cereals, Pulses and Derived Products - Determination of Ash (Type I Method)
ENRICHMENT • vitamins • proteins • other nutrients	Conform with Legislation of the Country in Which the Product is Sold	None Defined
FOOD ADDITIVES	Conform with Legislation of the Country in Which the Product is Sold	None Defined
OPTIONAL INGREDIENTS • edible fats or oils • salt	Conform with Legislation of the Country in Which the Product is Sold	None Defined
CLASSIFICATION		
• extra-fine gari	MIN: 100% by weight shall pass through a 0.50 mm sieve - AND -	ISO 2591-1973, test sieving. The sieves used are AFNOR sieves with square mesh

<ul style="list-style-type: none"> • fine grain gari 	<p>MIN: 40% by weight shall pass through a 0.25 mm sieve</p> <p>MIN: 100% by weight shall pass through a 1 mm sieve</p> <p>- AND -</p> <p>MAX: 40% by weight shall pass through a 0.5 mm sieve</p>	
<ul style="list-style-type: none"> • medium grain gari 	<p>MIN: 100% by weight shall pass through a 1.25 mm sieve</p> <p>- AND -</p> <p>MAX: 40% by weight shall pass through 1.00 mm sieve</p>	
<ul style="list-style-type: none"> • coarse grain gari 	<p>MIN: 100% by weight shall pass through a 2 mm sieve</p> <p>- AND -</p> <p>MAX: 40% by weight shall pass through a 1.25 mm sieve</p>	
<ul style="list-style-type: none"> • unclassified gari 	<p>Buyer preference</p>	

**PROPOSED DRAFT CODEX STANDARD FOR WHOLE
AND DECORTICATED PEARL MILLET GRAINS**
(at Step 5/8)

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to whole and decorticated pearl millet destined for human consumption which is obtained from *Pennisetum americanum* L., Senegalese varieties "souna" and "sanio".

2. **DESCRIPTION**

2.1 **Definition of the Product**

2.1.1 Pearl millet grains shall be whole or decorticated and suitable dried if necessary. They shall have the characteristics of the species *Pennisetum americanum* L.

2.1.2 **Whole Grains**

These are grains of pearl millet obtained as such after proper threshing with no mechanical treatment.

2.1.3 **Decorticated Grains**

These are grains of pearl millet from which outer parts, amounting to 20-22% of the weight of the whole grains have been removed in an appropriate manner using mechanical treatment (for example, simple abrasion).

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Pearl millet grains shall be safe and suitable for human consumption.

3.1.2 Pearl millet grains shall be free from abnormal flavours, odours, and living insects.

3.1.3 Pearl millet grains shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 **Quality Factors - Specific**

3.2.1 **Moisture Content.13% m/m max**

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

3.3 **Definition of Defects**

3.3.1 *Extraneous Matter* is vegetable matter, shrivelled grains (grains which have not reached normal maturity), altered grains, etc.

3.4 **Tolerances for Defects**

3.4.1 *Extraneous Matter* - Whole pearl millet grains shall not have more than 2.0% of extraneous

matter. Decorticated pearl millet grains shall not have more than 0.5% of extraneous matter. Also, whole and decorticated pearl millet grains shall be practically free from dirt, animal debris, mineral particles and diseased grains.

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Pearl millet grains shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Pearl millet grains shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Pearl millet grains shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Pearl millet grains shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply.

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "millet grains," or "decorticated millet grains."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING 8.1 Sampling**

8.1.1 Instructions for drawing primary samples according to ISO 2170-1980 (Cereals and Pulses) or ICC Method of Sampling No. 101-1960 (Sampling of Milled Products).

8.1.2 The size of the sample to be taken from a homogeneous lot should be in accordance with Table 3 of the Instructions on Codex Sampling Procedures (CX/MAS 1-1987, Appendix V).

8.1.3 For all determinations the laboratory sample should be prepared according to the variables plan for proportion defective (CX/MAS 1-1987, Appendix IV).

8.1.4 For all determinations analysis should be performed on the "blended bulk sample".

8.2 **Determination of Moisture (Type 1 Method)**

According to ICC Standard Method No. 109.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
APPEARANCE o brown, white or green	Buyer Preference	Visual Examination
1,000 KERNEL WEIGHT o whole millet grains o decorticated millet grains	RANGE: 5.0 to 10.0 g RANGE: 4.0 to 8.0 g	None Defined
1 LITER WEIGHT	RANGE: 750 to 820 G	None Defined
ASH o decorticated millet grains	RANGE: 0.8 to 1.0% on a dry matter basis	ISO Method No. 2171-1980 (Type I Method)
PROTEIN (N x 5.7)	MIN: 8.0% on a dry matter basis	AOAC Method XIV (1984) 14.026 (Type I Method)
DECORTICATION	MAX: 20%	None Defined
CRUDE FIBER o whole millet grains o decorticated millet grains	RANGE: 3.0 to 4.5% on a dry matter basis MAX: 2.0% on a dry matter basis	ISO Method No. 5498-1981 (Type I Method)
FAT o whole millet grains o decorticated millet grains	RANGE: 3.5 to 6.0% on a dry matter basis RANGE: 2.0 to 4.0% on a dry matter basis	AOAC Method XIV (1984) 14.066, 7.062 (Type I Method)

**PROPOSED DRAFT CODEX STANDARD FOR PEARL MILLET FLOUR
(at Step 5/8)**

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. SCOPE

1.1 This standard applies to flour destined for direct human consumption which is obtained from pearl millet *Pennisetum americanum* L., Senegalese varieties "souna" and "sanio".

1.2 This standard does not apply to grits or coarse grain obtained from pearl millet.

2. DESCRIPTION

The flour is the product destined for human consumption which is obtained from pearl millet grains (*Pennisetum americanum* L.) through a process of industrial milling during which the germ is removed to a large extent and the endosperm is reduced to a sufficiently fine powder.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Quality factors - General

3.1.1 Pearl millet flour shall be safe and suitable for human consumption.

3.1.2 Pearl millet flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Pearl millet flour shall be free from filth (impurities of animal origins, including dead insects) in amounts which may represent a hazard to human health.

3.2 Quality Factors - Specific

3.2.1 **Moisture content** 13.0% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standard are requested to indicate and justify the requirements in force in their country.

4. CONTAMINANTS

4.1 Heavy Metals

Pearl millet flour shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide Residues

Pearl millet flour shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Pearl millet flour shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Pearl millet flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "pearl millet flour."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 **Sampling**

8.1.1 Instructions for drawing primary samples according to ISO 2170-1980 (Cereals and Pulses) or ICC Method of Sampling No. 101-1960 (Sampling of Milled Products).

8.1.2 The size of the sample to be taken from a homogeneous lot should be in accordance with Table 3 of the Instructions on Codex Sampling Procedures (CX/MAS 1-1987, Appendix V).

8.1.3 For all determinations the laboratory sample should be prepared according to the variables plan for proportion defective (CX/MAS 1-1987, Appendix IV).

8.1.4 For all determinations, except particle size of the flour, analysis should be performed on the "blended bulk sample".

8.1.5 For verifications of size of flour as declared on the label, determinations in consignments of prepackaged products should be on individual packages.

8.2 **Determination of Moisture** (Type I Method)

According to ICC Standard Method No. 109.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
PARTICLE SIZE		None Defined
o fine flour	MIN: 100% shall pass through a 0.5 mm sieve	
o medium flour	MIN: 100% shall pass through a 1 mm sieve	
ASH	RANGE: 0.8 to 1.0% on a dry matter basis	ISO Standard 2171-1980 (Type I Method)
PROTEIN (N x 5.7)	MIN: 8.0% on a dry matter basis	AOAC Method XIV (1984), 14.026 (Type I Method)
FAT	MAX: 5.0% on a dry matter basis	AOAC Method XIV (1984) 14.066, 7.062 (Type I Method)
CRUDE FIBER	MAX: 1.5 m/m on dry matter	ISO Standard 5498-(1981) (Type I Method)
COLOR	RANGE: 18 to 30 Kent-Jones units	Kent-Jones and Martin (Kent-Jones et. al., 1956)
FOOD ADDITIVES	Conform with Legislation of the Country in Which the Product is Sold	None Defined

PROPOSED DRAFT CODEX STANDARD FOR EDIBLE CASSAVA FLOUR
(at Step 5/8)

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that Governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

This standard applies to cassava flour intended for direct human consumption which is obtained from the processing of edible cassava (*Manihot esculenta* crantz).

2. **DESCRIPTION**

2.1 **Definition of the product**

Edible cassava (*Manihot esculenta* Crantz) flour is the product prepared from dried cassava chips or paste by a pounding, grinding or milling process, followed by sifting to separate the fibre from the flour. In case of edible cassava flour prepared from bitter cassava (*Manihot Utilisima* Pohl), detoxification is carried out by soaking the tubers in water for a few days, before they undergo drying in the form of whole, pounded tuber (paste) or in small pieces.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Edible cassava flour shall be safe and suitable for human consumption.

3.1.2 Edible cassava flour shall be free from abnormal flavours, odours, and living insects.

3.1.3 Edible cassava flour shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 **Quality Factors - Specific**

3.2.1 Moisture Content 13% m/m max

Lower moisture limits should be required for certain destinations in relation to the climate, duration of transport and storage. Governments accepting the Standards are requested to indicate and justify the requirements in force in their country.

3.2.2 **Hydrocyanic acid content**

The total hydrocyanic acid content of edible cassava flour shall not exceed [10 mg/kg].

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Edible cassava flour shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 Pesticide Residues

Edible cassava flour shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 Mycotoxins

Edible cassava flour shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. HYGIENE

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable matter.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. PACKAGING

6.1 Cassava flour shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. LABELLING

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 Name of the Product

7.1.1 The name of the product to be shown on the label shall be "edible cassava flour."

7.2 Labelling of Non-Retail Containers

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. METHODS OF SAMPLING

8.1 Sampling

8.1.1 Instructions for drawing primary samples according to ISO 2170-1980 (Cereals and Pulses) or ICC Method of Sampling No. 101-1960 (Sampling of Milled Products).

8.1.2 The size of the sample to be taken from a homogeneous lot should be in accordance with Table 3 of the Instructions on Codex Sampling Procedures (CX/MAS 1-1987, Appendix V).

8.1.3 For all determinations the laboratory sample should be prepared in accordance with the variables plan for proportion defective (CX/MAS 1-1987, Appendix IV).

8.1.4 For all determinations, except particle size of flour (Section 2.2), analysis should be performed on the "blended bulk sample".

8.1.5 In order to verify granularity (i.e., to verify particle size of flour declared on the label)(Section 2.2), determinations in consignments of prepackaged products should be on individual packages.

8.2 Determination of Moisture (Type I Method)

According to ISO 712-1985 Cereals and Cereal Products - Determination of Moisture (routine reference method).

8.3 Determination of Total Hydrocyanic Acid

Method to be selected.

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRTPTION	Max: 2.0%	METHOD OF ANALYSIS
CRUDE FIBER	MAX: 2.0%	ISO 5498 (1981) - Determination of Crude Fiber Content- B.S. Separation by filtration through filter paper - General Method
ASH	Max: 3.0%	ISO 2171 (1980) - Cereals, Pulses and Derived Products - Pulses and Derived Products - Determination of Ash (Type I Method)
FOOD ADDITIVES	Conform With Legislation of the Country in Which the Product is Sold	None Defined
PARTICLE SIZE o fine flour o coarse flour	MIN: 90% shall pass through a 0.60 mm sieve MIN: 90% shall pass through a 1.20 mm sieve	None Defined

DRAFT CODEX STANDARD FOR PROCESSED COUSCOUS¹
(at Step 8)

¹ Notwithstanding typographical corrections and a slight rearrangement of the text, this Appendix does not include those suggestions made at the current CCCPL meeting for amendments to the Standard (see paras. 107-113).

This Standard is confined to essential provisions relating to public health, food safety and consumer protection on which it could be expected that governments would make regulations. The Annex to this Standard contains quality and compositional provisions which have been agreed to internationally to facilitate trade, and which are strongly recommended to traders to form, where appropriate, the basis of sales or purchase contracts. The Annex does not, however, form part of the Standard, and acceptance of the Standard by Governments does not imply acceptance of the Annex.

1. **SCOPE**

1.1 The term "couscous", as defined in Section 2 below, refers to processed couscous destined for direct human consumption.

1.2 This standard does not apply to couscous intended for the same use but prepared from cereals other than durum wheat.

2. **DESCRIPTION**

This standard applies to couscous, i.e. the product prepared from durum wheat semolina (*Triticum durum*) to which drinking water has been added and which has undergone physical treatment such as cooking and drying.

3. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

3.1 **Quality Factors - General**

3.1.1 Processed couscous shall be safe and suitable for human consumption.

3.1.2 Processed couscous shall be free from abnormal flavours, odours, and living insects.

3.1.3 Processed couscous shall be free from filth (impurities of animal origin, including dead insects) in amounts which may represent a hazard to human health.

3.2 **Quality Factors – Specific**

3.2.1 **Moisture Content**

The moisture content of processed couscous shall not exceed 13.5%

4. **CONTAMINANTS**

4.1 **Heavy Metals**

Processed couscous shall be free from heavy metals in amounts which may represent a hazard to human health.

4.2 **Pesticide Residues**

Processed couscous shall comply with those maximum residue limits established by the Codex Committee on Pesticide Residues for this commodity.

4.3 **Mycotoxins**

Processed couscous shall comply with those maximum mycotoxin limits established by the Codex Committee on Food Additives and Contaminants for this commodity.

5. **HYGIENE**

5.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2-1985), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

5.2 To the extent possible in good manufacturing practice, the product shall be free from objectionable mater.

5.3 When tested by appropriate methods of sampling and examination, the product:

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6. **PACKAGING**

6.1 Couscous shall be packaged in containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

6.2 The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They should not impart any toxic substance or undesirable odour or flavour to the product.

6.3 When the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

7. **LABELLING**

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985 (Rev. 1 1991) Codex Alimentarius Volume 1), the following specific provisions apply:

7.1 **Name of the Product**

7.1.1 The name of the product to be shown on the label shall be "processed couscous."

7.2 **Labelling of Non-Retail Containers**

Information for non-retail containers shall either be given on the container or in accompanying documents, except that the name of the product lot identification and name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8. **METHODS OF ANALYSIS AND SAMPLING**

8.1 ISO 2170-1980. Cereals and Legumes. Sampling for milled products.

8.2.2 **Moisture**

ISO 712-1985. Cereals and Cereal Products. Determination of moisture (Routine Reference Method) (Type I Method: air oven).

ANNEX

Provisions provided within the Annex are not considered as essential for the protection of consumer health or safety. The following provisions are of an advisory nature reflecting quality factors and criteria typically used by commerce to define or describe the quality of product purchased. Individual merchandisers should independently determine their product quality needs. These guidelines are intended to assist users of the Codex standard when making international purchases and are, therefore, not subject to formal acceptance by users of the standard.

In those instances where more than one factor limit and/or method of analysis is given we strongly recommend that users specify the appropriate limit and method of analysis.

FACTOR/DESCRIPTION	LIMIT	METHOD OF ANALYSIS
CAROTENOID PIGMENTS	Buyer Preference	None Defined
DISAGGREGATION	Buyer Preference	None Defined
SEMOLINA PROPORTIONS o fine semolina o coarse semolina	RANGE: 20-30% RANGE: 70-80%	None Defined
COARSE MEDIUM SEMOLINA o coarse semolina o medium semolina	RANGE: 25-30% RANGE: 70-75%	None Defined
GRANULARITY	RANGE: 920-960 microns	To be Determined
ACIDITY	MAX: 50 mg H ₂ SO ₄ per 100g	ISO 7305 (1986). Cereal Milled Products. Determination of Fat Acidity
ASH	MAX: 1.1%	ISO 2171 (1980) Cereals, Legumes and Derived Product Determination of Ash
FOOD ADDITIVES	Conform with Legislation of the Country in Which the Product is Sold	None Defined
DRY GLUTEN	Buyer Preference	ISO 6645 (1981) Wheat Flour Determination of Dry Gluten