

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Forty-first Session

Rome, Italy, 2 July – 6 July 2018

**REPORT OF THE 20th SESSION OF THE
CODEX COMMITTEE ON FRESH FRUITS AND VEGETABLES**

Kampala, Uganda

2 – 6 October 2017

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SUMMARY AND STATUS OF WORK				
Responsible Party	Purpose	Text/Topic	Step	Para(s)
Members CCEXEC75 CAC41	Comments/Adoption	Draft Standard for Aubergines	8	19 and App. II
Members CCEXEC75 CAC41	Comments/Adoption	Proposed Draft Standard for Ware Potatoes	5	60(ii) and App. IV
Members CCEXEC75 CAC41	Approval	The project documents for new work (yam, onions and shallots and berry fruits)		70 and App. V
CCEXEC75 CAC41	Information	Extension of the timeline for completion of work on garlic, kiwifruits and ware potatoes to CCFFV21		61
		Proposed Layout for Standards for Fresh Fruits and Vegetables		93 and App. VI
EWG (Mexico) CCFFV21	Drafting Discussion	Draft Standard for Garlic	6	27(ii) and (iii)
EWG (New Zealand, Mexico and Iran) CCFFV21	Drafting Discussion	Draft Standard for Kiwifruit	7	43 and App. III
EWG (India, Cameroon and Peru) CCFFV21	Drafting Discussion	Proposed Draft Standard for Ware Potatoes	6	60(iii) and App. IV
EWG (India, and Saudi Arabia) CCFFV21	Drafting Discussion	Proposed Draft Standard for Fresh Dates	3	68(ii) and (iii)
EWG (Costa Rica and Ghana) CCFFV21	Drafting Discussion	Proposed Draft Standard for Yam	3	71(i)
EWG (Iran, India and Indonesia) CCFFV21	Drafting Discussion	Proposed Draft Standard for Onions and Shallots	3	71(ii)
EWG (Mexico and Argentina) CCFFV21	Drafting Discussion	Proposed Draft Standard for Berry Fruits	3	71(iii)
United States of America CCFFV21	Drafting	Discussion paper on glossary of terms used in the layout for Codex standards for fresh fruits and vegetables	-	95
CCFA	Action	Recommendation on the inclusion of mono- and di-glycerides of fatty acids (INS 471) and salts of myristic, palmitic and stearic acids with ammonia, calcium, potassium and sodium (INS 470 (i)) in the GSFA under the food categories "surface-treated fresh fruits" (04.1.1.2) and "surface-treated fresh vegetables" (04.2.1.2).		99

LIST OF ABBREVIATIONS USED IN THIS REPORT

AU	African Union
CAC	Codex Alimentarius Commission
CCEXEC	Executive Committee
CCFA	Codex Committee on Food Additives
CCFFV	Codex Committee on Fresh Fruits and Vegetables
CCLAC	FAO/WHO Coordinating Committee for Latin America and the Caribbean
CRD	Conference Room Document
EU	European Union
GSFA	General Standard for Food Additive (Codex Stan 192-1995)
EWG	Electronic Working Group
OECD	Organisation for Economic Cooperation and Development
PWG	Physical Working Group
TOR	Terms of Reference
UNECE	United Nations Economic Commission for Europe
USA	United States of America
WG	Working group

INTRODUCTION

1. The Codex Committee on Fresh Fruits and Vegetables (CCFFV) held its 20th Session in Kampala, Uganda from 2 – 6 October 2017, at the kind invitation of the Government of Mexico and Uganda. The Session was chaired by Mr Alberto Ulises Esteban Marina, Director General, General Bureau of Standards, Ministry of Economy of Mexico and co-chaired by Prof. William Kyamuhangire, School of Food Technology and Nutrition, Makerere University of Uganda. The Session was attended by delegates from 43 member countries and one member organisation and 3 observer organisations. A list of participants is contained in Appendix I.

OPENING

2. Honourable Dr. Jane Ruth Aceng, Minister of Health of Uganda and Honourable Amelia Kyambadde, Ministry of Trade, Industry and Cooperatives of Uganda welcomed the delegates and addressed the meeting. Dr. Bodo Bongomin, Country Representative of WHO, also made remarks on behalf of FAO and WHO.¹ The Chairperson of the Committee addressed the meeting and emphasized the importance of co-hosting meetings to jointly work to raise awareness on the relevance of international standards to protect consumers' health and ensure fair practices in the food trade.

Division of Competence

3. The Committee noted the division of competence² between the European Union and its Member States, according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE AGENDA (Agenda Item 1)³

4. The Committee adopted the Provisional Agenda as its Agenda for the Session with the following additions under Agenda Item 11, Other business:
 - revision of the meeting interval for CCFFV (India); and
 - post-harvest treatment for fresh fruits and vegetables for referral to CCFA (USA)
5. The Committee agreed to establish an in-session Working Group, chaired by USA to consider proposals for new work on standards for fresh fruits and vegetables.

MATTERS ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER SUBSIDIARY BODIES (Agenda item 2a)⁴

6. The Committee noted that matters contained in the document were mainly for information and that issues for action would be considered under the relevant agenda items.

MATTERS ARISING FROM OTHER INTERNATIONAL ORGANISATIONS ON THE STANDARDISATION OF FRESH FRUITS AND VEGETABLES (Agenda item 2b)⁵

7. The Committee noted the activities of UNECE and OECD relevant to its work.

DRAFT STANDARD FOR AUBERGINES (Agenda item 3)⁶

8. India introduced the item and noted that, based on the discussions at CAC39 and comments submitted to this Session, a revised version of the draft standard had been prepared for consideration by the Committee (CRD12). The Delegation further explained that the draft was also aligned with the proposed standard layout and noted that the provisions on tolerances for decay in "Extra" Class would require further consideration by the Committee.
9. The Committee agreed to focus its discussion on Section 4.1.1 "Extra" Class especially the proposed value for tolerances for decay, soft rot and or internal breakdown and to address additional comments when agreed on this provision.

¹ CRD22 (Opening speeches from the Ministry of Health, Ministry of Trade, Industry and Cooperatives, and WHO)

² CRD1 (Annotated Agenda – Division of competence between the EU and its Member States)

³ CX/FFV 17/20/1; CRD10 (India); CRD15 (Mexico); CRD16 (USA)

⁴ CX/FFV 17/20/2; CRD15 (Mexico)

⁵ CX/FFV 17/20/3; CRD15 (Mexico)

⁶ REP16/FFV, Appendix III; CX/FFV 17/20/4 (Bolivia, Brazil, Colombia, Cook Islands, Costa Rica, EU, Ghana, Guinea-Bissau, Jamaica, Kenya, Haiti, Peru, Somalia, Thailand, Uruguay); CRD2 (Philippines, Thailand, AU); CRD12 (India); CRD14 (Senegal); CRD15 (Mexico)

“Extra” Class and tolerances related to decay, soft rot and internal breakdown

10. The Committee generally supported the concept of having an “Extra Class” in the standard for aubergines and further noted the divergent proposals, by members on what would be the acceptable levels of tolerances for decay in “Extra” Class ranging from 0% to 1% as submitted by delegations.
11. Delegations in support, of 0% tolerances for decay in “Extra Class” noted that:
 - aubergine was not a product highly susceptible to decay therefore there was no need for tolerances for decay in “Extra” Class;
 - having a tolerance for decay in “Extra” Class was not in line with the concept of “Extra” Class which should be of superior quality of an exceptional nature; and did not reflect current trade practices;
 - having a tolerance for decay in “Extra” Class would not ensure food safety, in this regard, a clear definition of “decay”, “soft rot” and “internal breakdown” was needed to avoid phytosanitary problems associated to damages or diseases caused by pests;
 - “Extra” Class produce requires more careful production, packing, transportation as well as minimal delays in shipment and dispatch to preserve the high quality of the produce with consequent higher production and shipping costs; and investments in these efforts should be rewarded;
 - decay was a progressive process and therefore products would not meet the quality requirements after long transportation; and therefore lead to food wastage as decayed products cannot be re-graded.
12. Delegations in favor of tolerances for decay of either “0.5%”, “1%” or “less than/equal to 1%” in “Extra Class” emphasized that:
 - Codex standards should: be scientifically based; reflect current trade practices; and facilitate trade;
 - diversification of national legislation and apparent resultant or potential impediments to international trade was well recognized in the Procedural Manual as one of the criteria for the establishment of work priorities, therefore countries have to abide by their national legislation and should negotiate trade based on market preferences; and taking into account the existence of such tolerances;
 - zero tolerance was clearly inappropriate for fresh, perishable produce in trade that are transported long distances; and in some countries such tolerances have been in existence for many years;
 - fruits and vegetables, irrespective of the quality class traded-in, are perishable by nature.
13. The Committee further considered the possibility to (i) remove the entire Section 4.1.1 “Extra” Class or (ii) delete the tolerance for decay from the provision for “Extra Class” as there was no convergence on the matter. On this proposal, the following views were expressed by delegations:
 - “Extra” Class was a motivation to the farmers, as it allowed fair competition between producers who make an effort to increase the value of the production;
 - Codex Standards were based on scientific evidence and well established trade practices, therefore there was no need to remove Section 4.1.1; and such tolerances should not be left at national level;
 - Deletion of this section would send a negative message to CAC, Codex members and other stakeholders.
14. After extensive discussions, the Committee agreed to retain Section 4.1.1 “Extra” Class and to include tolerances for decay of 1% in “Extra” Class.
15. The Committee noted the reservation of EU and its Member States on having a tolerance for decay in “Extra” Class as such tolerance was not in line with the concept of “Extra” Class and would lead to products that would not meet the necessary quality requirements after transportation and consequently would increase food loss. In addition, aubergine was not highly susceptible to decay, hence having a tolerance for decay in “Extra” Class did not reflect current trade practices on this produce. This view was supported by Colombia, Morocco and Thailand.
16. The Committee also noted the reservations of Colombia, Morocco and Thailand that it was not acceptable to have a tolerance for decay in “Extra” Class and this was not in line with the concept of “Extra” Class, where products classified as such must have exceptional quality.

17. In addition, Colombia reasserted its position that provisions for “decay” should not be included in Codex standards for fresh fruits and vegetables until such a time the provision has been clarified as to the nature of the damage to be addressed and be defined in the glossary of terms. The Delegation further noted that Codex standards for fresh fruits and vegetables did not include provisions for decay in the quality tolerances and there have not been disruption in international trade.
18. The Committee further discussed the draft standard section by section, carried editorial amendments, aligned various sections in-line with the decisions on the proposed standard layout under Agenda Item 9 and took the following decisions:
- aligned sections 7.1.1 and 7.2.2 with the recommendation of CCFL43 to refer to the “name of the produce” and to apply this decision to the standard layout as well as other standards under consideration;
 - retained the allowance for sun scorch in Class II as there was no need to include this defect in the minimum requirements. It was noted that the term “sound” addressed “sun scorch” and that defects described in the quality classes (section 3.2) did not affect the flesh of the produce.

Conclusion

19. The Committee agreed to forward the draft Standard for Aubergines to CAC41 for adoption at Step 8 (Appendix II)

DRAFT STANDARD FOR GARLIC (Agenda item 4)⁷

20. Mexico, as Chair of the EWG on garlic, introduced the item and noted that, based on the discussions at CCFFV19 and CAC39 and comments submitted to this Session, there were still several issues to address that could be better considered in an EWG. In particular, the issue of whether the standard should cover smoked garlic and if so how it should be addressed still remained unresolved.
21. The Committee agreed that presentation and provisions of the standard should be aligned with the standard layout.

Section 1 – Definition of produce

22. The Committee agreed that the list of commercial types should be re-arranged into forms of presentation (solo garlic – multiple cloves) and degree of dryness (fresh, semi-, dry garlic) and that the standard should cover garlic (fresh, semi-, dry) with and without the skin to reflect worldwide trade practices.

Section 2.1 – Minimum requirements

Free of any foreign smell and/or taste – Footnote 1: inclusion of smoked garlic

23. The Committee deliberated on the whether smoked garlic should be covered by the standard.
24. Delegations in support of its inclusion noted that smoking of garlic: was a traditional method used for drying of garlic in some regions; and the method only dried the outer skin and it neither affects the aroma nor the texture (dryness) of the product. This was not a flavoured product, and was traded as a fresh product. Therefore smoked garlic should be included in the standard.
25. Delegations not in favour of inclusion of a footnote noted that smoked garlic was outside the scope of the standard and therefore it should be excluded. It was further noted that smoking was a form of food preservation; that changes the aroma of the product; and therefore reference to smoked garlic should be deleted.
26. The Committee could not agree on the inclusion of smoked garlic in the standard.

Conclusion

27. The Committee:
- (i) noted that the standard still required considerable review and was not ready for advancement in the Step procedure;
 - (ii) returned the draft Standard to Step 6, for further revision, comments and consideration by the next Session of the Committee; and

⁷ CX/FFV 17/20/5; CL 2017/13-FFV; CX/FFV 17/20/5-Add.1 (Albania, Costa Rica, Cuba, Ecuador, India, Iran, Ghana, Jamaica, Kenya, Malawi, Peru, Uruguay, USA); CRD3 (EU, Philippines, Thailand, AU); CRD14 (Senegal); CRD15 (Mexico); CRD18 (Uganda)

- (iii) established an EWG chaired by Mexico and working in English and Spanish to revise the standard based on the written comments submitted and the discussions in plenary, in particular as to some critical issues identified e.g. inclusion of smoked garlic, sizing, and any other issues that could emerge during the deliberations in the EWG.

DRAFT STANDARD FOR KIWIFRUIT (Agenda item 5)⁸

28. New Zealand, as Chair of the EWG on kiwifruit, introduced the item and noted that, based on the discussions at CAC39 and comments submitted to this Session, a revised version of the draft standard had been prepared for consideration by the Committee (CRD19). The Delegation further explained that the draft was also aligned with the proposed standard layout and indicated the following key outstanding issues that required further consideration: (i) inclusion of hybrids; (ii) maturity requirements (Brix level/dry matter content); (iii) sizing and tolerances; (iv) allowances for tolerances for decay, soft rot and internal breakdown in "Extra" Class and Class II.

29. The Committee agreed to focus its discussion on the key issues for resolution as follows:

Section 2 – Definition of produce

30. The Committee agreed with the inclusion of hybrids in the standard as these accounted for a significant portion in the kiwi fruits trade worldwide. The Committee also noted that hybrids were included in the Standard for passion fruit (CX 316-2014).

Section 3.1 – Minimum requirements

31. The Committee noted that there was no need to include provisions for bruising as the term "sound" was sufficient to cover this concern.

Section 3.1.1 – Minimum maturity requirements

32. The Committee agreed to the minimum soluble solids content of at least 6.2°Brix and noted that this value ensured no conflict with application at stages following preparation and packaging. This was a minimum requirement and a higher maturity might be applied to meet specific requirements. This minimum value was also in line with the approach taken in other Codex standards for fresh fruits and vegetables such as apples and table grapes.
33. On the proposal to have only one value of Brix for kiwifruit like in the case of table grapes and apples, the Committee noted that unlike table grapes, kiwifruit was a climateric fruit whose ripening process continued after picking/harvesting. The minimum ripeness value of 9.5°Brix (in the footnote, as an explanatory note) for kiwifruit allowed the development of satisfactory organoleptic characteristics when the fruit entered the distribution chain. It was also pointed out that in the case of apples, the absolute minimum Brix was tied to the minimum size of the fruit to ensure that no immature fruit entered the market and that apples of smaller sizes could still be marketed provided they comply with the requirements of the standard.
34. The Committee agreed to retain the minimum of 6.2° Brix which will ensure the product attains 9.5° Brix when entering the distribution chain.

Section 3.2 – Classification

35. The Committee agreed to delete the reference to "soft, shrivelled and water soaked" from the quality classes since it is covered by the minimum requirements. In addition, it was agreed that the qualifier "perfectly" sound in "Extra" Class would be difficult to gauge and was therefore deleted. The Committee also noted that defects in this case could not apply in percentages of the surface area due to the different shapes and sizes of kiwifruit dependent on the varieties.

Section 4 – Provisions concerning sizing

36. The provisions for sizing were amended in line with the common wording described in the standard layout and to provide for better clarity of the size ranges to avoid overlapping. Consequential amendments were made to Section 7.2.4 Commercial specifications.

⁸ CX/FFV 17/20/6; CL 2017/14-FFV; CX/FFV 17/20/6-Add.1 (Albania, Costa Rica, Cuba, Ecuador, India, Ghana, Jamaica, Kenya, Peru, USA); CRD4(Chile, European Union, Thailand, African Union) ; CRD14 (Senegal); CRD15 (Mexico); CRD19 (New Zealand, Iran)

Section 5 – Quality and sizing tolerances

37. The Committee noted that tolerances for sizing as currently drafted were in line with the standard layout and common practice in Codex standards for fresh fruits and vegetables. Such tolerances provided for flexibility to allow produce outside the size / size range not necessarily immediately below and/or above the size declared on the label. It was further noted that keeping tolerances only above the size range may introduce disruption in kiwifruit trade since during storage and transportation the fruit might lose moisture and therefore reduce in weight.
38. The Committee could not agree on the allowance for tolerance for decay, soft rot and internal breakdown in Class I and “Extra” Class and held similar arguments to those advanced for aubergines and the standard layout. The Committee therefore agreed to maintain these provisions in square brackets for further discussion and elaboration in an EWG.
39. In order to facilitate consensus on this issue, Jamaica noted that tolerances for quality classes should clarify the point of application and proposed the following compromise text: “However, tolerances for decay shall not be acceptable at the stages of preparation, packaging and export control points. The minimum requirements in relation to tolerances for decay, soft rot and internal breakdown shall be applicable at points beyond the export control points”. Some delegations welcomed the statement and thought it merited further discussion.
40. However, some delegations indicated that such statement would not be acceptable as Codex standards could not dictate to countries at which point of the distribution chain such tolerances could apply.

Sections 7.1.1 and 7.2.2 Name of Produce

41. The Committee agreed that the predominant flesh color may be indicated when it was not green. This would provide for flexibility as new varieties entering the market could present gradient range of colors ranked between yellowish to greenish / green color.

Conclusion

42. The Committee recognized that the standard had been thoroughly discussed at its last and present session and there were no outstanding issues to be resolved with the exception of allowance for tolerances for decay, soft rot and internal breakdown in “Extra” Class and Class I.
43. The Committee therefore agreed to hold the standard at Step 7 awaiting the resolution of the aforesaid issue in an EWG to be chaired by New Zealand, co-chaired by Mexico and Iran, and working in English and Spanish (Appendix III)
44. The Committee agreed that no further comments would be requested nor discussion on the standard would be held at its next session with the exception of the discussion on tolerances for decay, soft rot and internal breakdown that were returned to Step 6 for comments and further consideration at its next session.
45. In considering the tolerances for decay in “Extra” Class and Class I, the EWG should look at possible approaches within its mandate including submission made by Jamaica.

PROPOSED DRAFT STANDARD FOR WARE POTATOES (Agenda item 6)⁹

46. India, as Chair of the EWG on ware potatoes, introduced the item and highlighted the main changes made and issues discussed in the EWG as summarised in working document CX/FFV 17/20/7; and further indicated that based on the comments submitted at the Session, the standard had been updated as presented in CRD13. Delegations also indicated that only provisions on minimum requirements (allowance on sprouts, green colouration) and quality tolerances (i.e. tolerance for decay in “Extra” Class and soil in all classes) would require further consideration by the Committee as was pointed out in the report of CCFFV19.
47. The Committee agreed to consider the standard section by section, aligned various sections to the standard layout; noted the views of delegations expressed on different sections as follows:

Section 2 – Definition of produce

48. Deleted the term hybrids from the Section as it was explained that the term varieties was broad enough and covered also hybrids.

⁹ CX/FFV 17/20/7; CL 2017/15-FFV; CX/FFV 17/20/7-Add.1 (Albania, Argentina, Brazil, Costa Rica, Ecuador, Iran, Ghana, Jamaica, Kenya, Peru, USA); CRD5 (EU, Philippines, Thailand, African Union); CRD13 (India); CRD14 (Senegal); CRD15 (Mexico); CRD18 (Uganda)

Section 3.1 - Minimum requirements

Use of the term Pest and inclusion of IPPC (bullet 6 and 7)

49. A concern was expressed on the increasing reference to specific pests as quality defects; as well as on the impact of the reference made to IPPC in a footnote noting that Codex needed to clearly determine the relationship between Codex and IPPC.
50. The Secretariat explained that the mandate of the Committee was on quality standards for fresh fruits and vegetables, and taking into account safety requirements by cross-referencing texts developed by the relevant Codex committees. The pests being referred to were related to quality rather than quarantine matters and therefore not regulated.

Sprouting of ware potatoes (bullet 11)

51. The Committee discussed the proposal to delete restriction on sprouting of ware potatoes as: sprouted potatoes related to seed potatoes; and that such potatoes were not covered by the standard. Different views were expressed on whether the text should read “practically free of sprouting” or whether “maximum sprout length of 1 mm should be allowed”
52. It was explained that sprouting was a minimum requirement for ware potatoes as they were susceptible to sprouting if stored for a period of more than 3 months. The proposed restriction of sprout was intended to cater for this phenomena and it was therefore important to set a limit beyond which the quality of ware potatoes would not be acceptable.

Green colouration of potatoes (sub-bullet 1 of bullet 12)

53. On the requirement for green colouration, it was pointed out that pale green skin can be removed by means of peeling. Greening in ware potatoes should be considered as a defect as done in the Codex standard for quick frozen French fried potatoes. Further, it was also stated that production of glycoalkaloids in the member of botanical family *Solanaceae* is a natural phenomenon and in case of potato it is localized to skin and is always far below the harmful level. However limits should be established for this parameter vis-a-vis safety concerns on high levels of solanin in this produce like in the provision for hydrogen cyanide in the sweet or bitter cassava.

Potato scab (sub-bullet 3 of bullet 12)

54. The Committee noted the concern that this parameter was related to quarantine diseases but there was no consensus that it should be deleted from the standard.

Other considerations

55. In view of the substantive comments and concerns expressed around the provisions for external and internal defects affecting the appearance, keeping quality and presentation in the package (bullet 12 and subsequent sub-bullets) and the presence of superficial common potato scab (bullet 13), the Committee agreed to put these provisions in square brackets while recognizing that the remaining provisions were those that usually apply to Codex standards for fresh fruits and vegetables as described in the standard layout.

Section 5.1 Quality Tolerances

Table of tolerances

56. The Committee suggested to bring clarity in the quality tolerance table. The parameters such as skin defects; as listed in the Table were part of the minimum requirements and these should be deleted since within the total tolerance there is no individual restrictive tolerance for these defects. Some delegations expressed the view that loose soils and extraneous matter were not covered under minimum requirements and should be in line with IPPC, while other delegations indicated that tolerances for these parameters should be increased.
57. It was explained that the Table of tolerances included all the parameters specified under minimum requirements; and that in situations where the values for minimum requirements were exceeded, the defects exceeding minimum requirements were scored. If the sum of the individual defects exceed the allowed total tolerances limit, such a lot would be rejected.
58. The Committee agreed that the Table should be redesigned to ensure clarity, the values re-checked for consistency with the provisions of minimum requirements, the concerns on pests to be addressed and an explanation on how it would be used provided and should therefore be kept in square brackets.

Section 6.1 Uniformity

59. The Committee agreed to include “cooking type” as an optional requirement, as ware potatoes could be classified / traded into different categories according to their cooking types.

Conclusion

60. The Committee:
- (i) agreed although some issues needed to be further discussed, especially minimum requirements and Table of tolerances, substantial progress had been made on the standard; therefore, the document was ready to progress in the Step Procedure;
 - (ii) agreed to forward the proposed draft Standard to CAC for adoption at Step 5 (Appendix IV); and
 - (iii) agreed to establish an EWG chaired by India and co-Chaired by Cameroon and Peru working in English, Spanish and French to consider those critical issues identified by the Committee as well as the replies to the request for comments at Step 5 on the standard in order to provide a revised version for consideration at its next Session.

General considerations

61. The Committee noted that the timeline for completion of work of the standards for garlic, kiwifruits and ware potatoes was 2017 and therefore agreed to request for an extension of the timeline for the completion of work by CCFFV21.

Other considerations

62. The EU and its Member States suggested that a final paragraph in the Codex standards for aubergines and kiwifruits as well as other fresh fruits and vegetables be added referring to the corresponding UNECE standard and OECD brochure. It was clarified that such references were not intended to be an endorsement of the UNECE standard and OECD brochure by CCFFV. It was however considered that such references were in line with the mandate of Codex to promote coordination of all food standards works undertaken by international organizations. As a matter of transparency, and it would be necessary to inform all users of Codex standards of the existence of other widely applied and highly respected international standards.
63. Several delegations objected to the suggestion by the EU and its Member States and were of the view that this was not a common practice in Codex standards especially when referring to work of regional organizations such as UNECE.
64. The Secretariat informed the Committee under the regular review of the Codex work management, the Secretariat was currently reviewing the relations between Codex and other standard-setting organizations and the findings of the review would be presented to CAC for consideration. Consideration of the above issue could be considered in the framework of this review for advice by CAC.

PROPOSED DRAFT STANDARD FOR FRESH DATES (Agenda item 7)¹⁰

65. India, as Chair of the EWG on fresh dates, introduced the draft standard (CRD 17) and informed the Committee that, in response to the comments submitted, and the outcome of the proposed standard layout at this session, a revised version of the standard had been prepared for consideration by the Committee.
66. The Committee held a general discussion and noted the following views expressed by delegations:
- the scope of the proposed draft standard was not clear in view of the fact that “fresh dates” was a stage of physiological development of fruits;
 - the table on quality tolerance should be further considered; and
 - there was a potential overlap between the proposed draft standard and *Standard for Dates* (CXS 143-1985), which might lead to misapplication of the standard.
67. It was clarified that the standard focused on fresh dates and not dry dates and that it would only be applied at the consumer stage when dates are presented as fresh; and that depending on their varieties, fresh dates had different stages of growth/maturity. It was also appraised that detailed clarification was provided on the work of fresh dates at CCFFV 19 and CAC 39 and was accepted.

Conclusion

68. The Committee:
- (i) noted that the proposed draft standard still required further review in order to address the concerns raised and was not ready for advancement in the Step process;

¹⁰ CX/FFV 17/20/8; CL 2017/16-FFV; CX/FFV 17/20/8-Add.1 (Albania, Bangladesh, Ecuador, Iran, Jamaica, Kenya, Trinidad and Tobago); CRD6 (EU, Thailand, AU); CRD14 (Senegal); CRD15 (Mexico); CRD17 (India); CRD21 (Morocco)

- (ii) agreed to return the proposed draft Standard to Step 3, for further revision and consideration by the next Session of the Committee; and
- (iii) agreed to establish an EWG, chaired by India and co-chaired by Saudi Arabia and working in English to consider the replies to the request for comments at Step 3 on the revised proposed draft Standard; and revise the proposed draft Standard taking into account comments submitted at Step 3 for further consideration by the next session of the Committee.

PROPOSALS FOR NEW WORK ON CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES (Agenda item 8)¹¹

69. The United States of America, as Chair of the in-session WG on proposals for new work informed the Committee that based on the Criteria for the Establishment of Work Priorities, the WG had considered the five projects for new work (i.e. Yam; fresh Curry leaves; Shallots; Onion and Black berry) and recommended the following proposals for consideration by the Committee: i) a standard for yam; ii) a combined standard for onions and shallots; iii) a horizontal standard for berry fruits; and iv) a standard for fresh curry leaves. The Delegation noted that decision on new work was dependent on the outcome of the discussions on the draft and proposed draft standards for consideration under the various agenda items.
70. The EU and its Member States noted that there were UNECE standards for berry fruits, onions and shallots which were widely used in international trade and whether the development of these standards by CCFFV were the best way to use the resources of the Committee.

Conclusion

71. The Committee agreed to submit the following proposals for new work for approval by CAC and to establish EWGs to prepare, subject to the approval of the Commission, the following standards for circulation for comments, at Step 3, and consideration at its next session:
- (i) A standard for yam, EWG chaired by Costa Rica and co-chaired by Ghana, working in English and Spanish;
 - (ii) A standard for onions and shallots, EWG chaired by Iran and co-chaired by India and Indonesia, working in English only;
 - (iii) A standard for berry fruits, EWG chaired by Mexico and co-chaired by Argentina, working in English and Spanish.
72. The Committee further agreed that project documents; for the combined standard for onions and shallots and the standard for berry fruits; would be transmitted to CCEXEC (by the Chairs of the respective EWGs, through the Codex Secretariat at least three months before CCEXEC75).
73. The Committee also agreed to retain the proposal for fresh curry leaves for further development based on the result of the discussion at its next session.
74. The Secretariat underscored the need to actively participate in the work of EWGs in order to focus discussion in plenary on unresolved issues identified in the EWGs, so that the Committee could efficiently manage its work within the established deadlines. This would also enable the Committee to uptake proposals for new work as proposed by members.

PROPOSED STANDARD LAYOUT FOR CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES - OUTSTANDING ISSUES (Agenda item 9)¹²

75. The United States of America, as Chair of the EWG on the layout, introduced the item and referred to the unresolved sections of the standard layout indicated in the TOR of the EWG as mandated by CCFFV19. The delegation noted that only the issue of allowances of tolerances for decay, soft rot and internal breakdown in Extra Class and the tolerance percentage of 1% remain unresolved, and would therefore require further discussion by the Committee.
76. The Committee agreed to first focus on the unresolved sections as follows:

¹¹ CL 2015/29-FFV:Part B; CX/FFV 17/20/9; CRD7 (Costa Rica, AU); CRD14 (Senegal); CRD14 (Mexico)

¹² CX/FFV 17/20/10; CL 2017/17-FFV; CX/FFV 17/20/10-Add.1 (Albania, Argentina, Chile, Ecuador, Ghana, Iran, Jamaica, Switzerland, Thailand, Trinidad and Tobago, USA); CRD8 (Chile, EU, AU); CRD11 (Thailand); CRD15 (Mexico); CRD20 (Report of the in-session WG); CRD21 (Morocco)

Section 3.1 – Minimum Requirements: Application of phytosanitary rules to the provisions on presence of pests and damage caused by pest

77. The Committee agreed with the inclusion of a footnote on the application of phytosanitary rules in line with IPPC to the provisions on presence of pests and damage caused by pest in all Codex standards for fresh fruits and vegetables.

Section 4 – Provisions concerning sizing: Point (E) - Definition of miniature produce

78. The Committee agreed the definition of miniature produce so as to allow produce of smaller size than the minimum size requirement to be included in the standard, provided that such produce meet all the other requirements of the standard.

Section 7.2 – Non-retail Containers: Applicability of the provision to alternatively / additionally provide separate information to those indicated on the package (i.e. in the documents accompanying the shipment)

79. The Committee agreed with the revised provision that did not require additional separate information to those indicated on the package i.e. document accompanying the shipment.
80. The Committee noted that further guidance on this matter would be provided by CCFL following finalization of discussion on labelling of non-retail containers.

Section 5 – Provisions concerning tolerances: Inclusion of tolerances for decay, soft rot and internal breakdown in “Extra” Class.

Tolerance percentage of 1% in “Extra” Class

81. The Committee could not agree on the inclusion of tolerances for decay, soft rot and internal breakdown in “Extra” Class nor the tolerance percentages and thus decided to establish an in-session WG, chaired by USA, to consider this matter and other additional issues related to the scope and the Option 2 (classification/tolerances) amongst other amendments that would improve the quality of the text.
82. The Committee considered the findings of the in-session WG (CRD20) as follows:
83. The Committee could not agree on the inclusion of tolerances for decay, soft rot and internal breakdown in “Extra” Class nor on the tolerance percentages.
84. The Committee noted that according to the section on the introduction to the layout, texts in pinpoint brackets referred to optional text(s) and that their application depended on the nature of the produce and as such, the provision(s) in these brackets might be removed when they are considered not applicable or necessary.
85. The Committee however agreed to put the provision for tolerances for decay, soft rot and internal breakdown in Section 5.1.1 “Extra” Class in square brackets along with the range of proposed tolerances. Consequently, the related provision on the exception of “Extra” Class from allowances for slight deterioration due to development and tendency to perish in Section 1 (Scope) was also placed in square brackets.
86. It was noted that the result of the discussions on allowance for tolerances for decay, soft rot and internal breakdown in “Extra” Class in the EWG on kiwifruit could help in the resolution of this matter in the standard layout. The Committee therefore agreed that this issue could be further considered at its next session with a view to removing the square brackets around these provisions.
87. The Committee further agreed on the following changes:

Introduction

88. The Committee agreed that, in addition to reflecting the individual characteristics of individual fresh fruits and vegetables, the layout should also reflect current trade practices in such produce.

Section 1 - Scope

89. The Committee noted that Codex standards apply at all levels of the distribution chain and as such agreed to bring the scope in line with the nature of Codex standards and clarified that the common language applied across all Codex standards for fresh fruits and vegetables. The Committee agreed to delete the reference to the point of application at export control stage.

Section 2 – Definition of produce

90. The Committee agreed to clarify that varieties apply to those suitable for trade.

Option 2 (Classification/Tolerances)

91. The Committee agreed to combine and transfer this option to an Appendix and to place the table into square brackets for further consideration of the tolerances indicated in the table. It was further noted that the tolerances depended on individual fresh fruits and vegetables as well as the trade practices.

General considerations

92. The Committee noted that the layout was a guidance document to facilitate development and discussion of standards for fresh fruits and vegetables. It provided a harmonized presentation and common provisions applicable across fresh fruits and vegetables so that CCFFV could focus discussion on those provisions that are specific to the produce concerned. As such, the layout did not have any status in Codex (i.e. it was not a Codex text) and thus did not require approval or adoption by CAC but only the agreement of CCFFV. In addition, amendments to the layout could be considered by CCFFV at any time as appropriate and therefore did not require to go through the Codex Step procedure but only the agreement of CCFFV.

Conclusion

93. The Committee agreed to attach the layout as an Appendix to the report (Appendix VI)

DISCUSSION PAPER ON GLOSSARY OF TERMS USED IN THE LAYOUT FOR CODEX STANDARDS FOR FRESH FRUITS AND VEGETABLES (Agenda item 10)¹³

94. The Committee noted the suggestion on the necessity to develop a glossary of terms and that the current discussion paper should be further developed to assist in interpretation and application of Codex standards for fresh fruits and vegetables.

Conclusion

95. The Committee agreed that the United States of America would further develop the discussion paper on glossary of terms associated with the proposed standard layout as well as other terms used in Codex standards for fresh fruits and vegetables for consideration at its next session.

OTHER BUSINESS (Agenda item 11)¹⁴**Revision of the meeting interval for CCFFV**

96. The Committee supported the proposal by India (CRD10) to hold the session of CCFFV every 12 months for the next three consecutive sessions noting that the current frequency of 18 months was rather long and did not allow timely completion of work. Mexico, as a host country for CCFFV, welcomed the proposal and noted that this approach would assist in better budgetary scheduling. It was also proposed that the possibility of conducting a physical working group meeting prior to the session needed to be evaluated in order for CCFFV to better manage its work.
97. The Committee agreed that Mexico would formally communicate with the Codex Secretariat on matters of the meeting calendar.

Post-harvest treatment for fresh fruits and vegetables for referral to CCFA

98. The United States of America drew the attention of the Committee to the proposed formulation: mono- and di-glycerides of fatty acids (INS 471) and salts of myristic, palmitic and stearic acids with ammonia, calcium, potassium and sodium (INS 470 (i)) that is currently being used in some countries for "surface treatment" of fresh fruits and vegetables to extend the postharvest shelf-life as well as maintenance of nutrient levels and organoleptic qualities of fresh fruits and vegetables.
99. The Committee supported progress of work on this substance(s) and agreed to recommended to CCFA for the inclusion of (INS 471) and (INS 470 (i)) in the GSFA under the food categories "surface-treated fresh fruits" (04.1.1.2) and "surface-treated fresh vegetables" (04.2.1.2).

Use of effective communicative tools and quality of the simultaneous translation

100. Chile, as Coordinator of CCLAC, conveyed the views of CCLAC members¹⁵ that other more effective means of communication such as online platforms should be explored by CCFFV to allow a more inter-active discussion amongst members of EWGs, and to speed up the standards development process as well as to promote transparency and inclusiveness in the work of EWGs. Chile also expressed their concerns on the quality of translated documents and the simultaneous interpretation.

DATE AND PLACE OF THE NEXT SESSION (Agenda item 12)

101. The Committee was informed that the exact time and venue of CCFFV21 would be determined by the Host Government in consultation with the Codex Secretariat.

¹³ CX/FFV 17/20/11; CRD9 (Thailand, AU); CRD15 (Mexico)

¹⁴ CRD10 (India); CRD16 (USA)

¹⁵ Argentina, Brazil, Belize, Chile, Colombia, Costa Rica, Cuba, Ecuador, Jamaica, Mexico, Peru, Uruguay

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DRAFT STANDARD FOR AUBERGINES

(At step 8)

1. SCOPE

The purpose of the standard is to define the quality requirements for aubergine after preparation and packaging. When applied at stages following packaging, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity;
- a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

2. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of aubergine or eggplant grown from *Solanum melongena* L. of the *Solanaceae* family, to be supplied fresh to the consumer after preparation and packaging. Aubergines for industrial processing are excluded.

According to their shape a distinction is made between:

- elongated;
- globus/round; and
- oval aubergines.

3. PROVISIONS CONCERNING QUALITY**3.1 MINIMUM REQUIREMENTS**

In all classes, subject to the special provisions for each class and the tolerances allowed, the aubergine must be:

- intact;
- with calyx and peduncle which may be slightly damaged;
- firm;
- fresh in appearance;
- sound, produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- clean, practically free of any visible foreign matter;
- free of bruising or extensive healed over-cuts;
- practically free of pests¹
- practically free of damage caused by pests¹;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste;
- free of damage caused by low temperature or high temperature.

The development and condition of the aubergines must be such as to enable them:

- to withstand transportation and handling; and

¹ The provisions for pests applies without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

- to arrive in satisfactory condition at the place of destination.

3.1.1 Maturity Requirements

The aubergines must be sufficiently developed without the flesh being fibrous or woody and without hard seeds.

3.2 CLASSIFICATION

Aubergines are classified into three classes defined below:

3.2.1 “Extra” Class

Aubergines in this class must be of superior quality. They must be firm and must be characteristic of the variety and /or commercial type. Stalk must be intact and the flesh must be sound.

They must be free of defects, with the exception of slight superficial defects, provided they do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

3.2.2 Class I

Aubergines in this class must be of good quality. They must be characteristic of the variety and/or commercial type.

The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- a slight defect in shape and development;
- slight discoloration depending upon the variety;
- slight superficial defects, slight bruising and/or slight healed cracks provided they do not affect the flesh of the fruit.

3.2.3 Class II

This class includes aubergines which do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in Section 3.1 above. The following defects however may be allowed, provided the aubergine retains its essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape and development;
- discoloration depending upon variety;
- slight bruising and/or slight healed cracks or sun-scorched;
- slight dry skin defect provided they do not affect the flesh of the fruit.

4. PROVISIONS CONCERNING SIZING

Aubergines may be sized by diameter (i.e maximum diameter of the equatorial section on the longitudinal axis), count, length or weight or in accordance with existing trading practices. When sized in accordance with existing trade practices the package must be labelled with the size and method used.

To ensure uniformity in size, the size range between produce in the same package shall not exceed:

- a) For sizing by diameter:
 - 20 mm for elongated aubergines;
 - 25 mm for globus/round and oval aubergines.
- b) For sizing by weight:
 - 10 g for aubergines between 20-50 g;
 - 20 g for aubergines between >50-100 g;
 - 75 g for aubergines between >100-300 g;

- 100 g for aubergines between >300-500 g;
- 250 g for aubergines above 500 g.

Uniformity in size range is compulsory only for Extra Class, but not for the aubergines with a diameter equal or below 30mm.

5. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the relevant provisions in the *Guidelines for Food Import Control Systems (CXG 47-2003)*.

5.1 QUALITY TOLERANCES

5.1.1 “Extra” Class

Five per cent by number or weight, of aubergine not satisfying the requirements of the Class but meeting those of Class I is allowed. Included therein, is 1% tolerance for decay, soft rot and/or internal breakdown.

5.1.2 Class I

Ten per cent by number or weight, of aubergines not satisfying the requirements of the Class I but meeting those of Class II is allowed. Included therein, is 1% tolerance for decay, soft rot and/or internal breakdown.

5.1.3 Class II

Ten per cent by number or weight, of aubergines neither satisfying the requirements of the Class II nor the minimum requirement is allowed. Included therein, is 2% tolerance for decay, soft rot and/or internal breakdown.

5.2 SIZE TOLERANCES

For all classes (if sized), 10% by number or weight of aubergines not satisfying the requirements as regards sizing is allowed.

6 PROVISIONS CONCERNING PRESENTATION

6.1 UNIFORMITY

The contents of each package must be uniform and contain aubergines of the same origin, variety or commercial type, quality, colour and size (if sized). The visible part of the contents of the package must be representative of the entire contents.

However, a mixture of aubergines of distinctly different commercial types may be packed together in a package, provided they are uniform in quality and for each commercial type concerned, in origin.

6.2 PACKAGING

Aubergines must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food-grade quality, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labeling has been done with non-toxic ink or glue.

Aubergines shall be packed in each container in compliance with the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 44-1995)*.

6.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the aubergines. Packages must be free of all foreign matter and smell.

7 PROVISIONS CONCERNING MARKING OR LABELLING

7.1 CONSUMER PACKAGES

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1.1 Name of Produce

Each package shall be labelled as to the name of the produce and may be labelled as to the name of commercial type.

7.1.2 Origin of Produce

Country of origin² and, optionally, district where grown, or national, regional or local place name.

In the case of a mixture of distinctly different commercial types of aubergines of different origins, the indication of each country of origin shall appear next to the name of the commercial types concerned.

7.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional).³

7.2.2 Name of produce

Name of the produce “aubergines” Name of the commercial type (optional).

Mixture of aubergines, or equivalent denomination, in the case of a mixture of distinctly different commercial types of aubergines. If the produce is not visible from the outside, the commercial types and the quantity of each in the package must be indicated.

7.2.3 Origin of produce

Country of origin² and, optionally, district where grown or national, regional or local place name.

In the case of a mixture of distinctly different commercial types of aubergines of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2.4 Commercial specifications

- class;
- size (if sized) expressed:
 - by the minimum and maximum diameter of the equatorial section (in mm) on the longitudinal axes; or
 - by weight (in g).

7.2.5 Official Inspection Mark (optional)

8 CONTAMINANTS

8.1 The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

8.2 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

² The full or commonly used name should be indicated.

³ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “Packer or/or dispatcher (or equivalent abbreviation)” has to be indicated in close connection with the code mark.

9 HYGIENE

- 9.1** It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 9.2** The produce should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods* (CXG 21-1997).

DRAFT STANDARD FOR KIWIFRUIT

(At step 7)

1. SCOPE

The purpose of the Standard is to define the quality requirements for kiwifruit after preparation and packaging. When applied at stages following packaging, products may show in relation to the requirements of the Standard:

- a slight lack of freshness and turgidity;
- slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

2. DEFINITION OF PRODUCE

This Standard applies to kiwifruit (also known as actinidia) of varieties (cultivars) derived from *Actinidia chinensis* Planch and *A. deliciosa* (A. Chev.) C.F. Liang & A.R. Ferguson and hybrids derived from at least one of them, from the *Actinidiaceae* family, to be supplied fresh to the consumer. Kiwifruit for industrial processing are excluded.

3. PROVISIONS CONCERNING QUALITY**3.1 MINIMUM REQUIREMENTS**

In all classes, subject to the special provisions for each class and the tolerances allowed, the kiwifruit must be:

- intact (but free of peduncle);
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;
- adequately firm; not soft, shrivelled or water-soaked;
- well formed; double/multiple fruit being excluded;
- clean, practically free of any visible foreign matter;
- practically free of pests¹;
- practically free of damage caused by pests¹;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste;
- fresh in appearance;

The development and condition of the kiwifruit must be such as to enable them:

- to withstand transportation and handling;
- to arrive in satisfactory condition at the place of destination.

3.1.1 Minimum Maturity Requirements

The kiwifruit must have reached an appropriate degree of maturity, in accordance with characteristics of the variety, to allow for development of satisfactory organoleptic characteristics.

The fruit must have attained a degree of maturity of at least 6.2° Brix or an average dry matter content of 15%².

¹ The provisions for pests applies without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

² This should ensure that fruit reach a minimum degree of ripeness of 9.5° Brix when entering the distribution chain.

3.2 CLASSIFICATION

Kiwifruit are classified into three classes, as defined below:

3.2.1 “Extra” Class

Kiwifruit in this class must be of superior quality. They must be characteristic of the variety (cultivar). The flesh must be sound. Fruit must be round or oval in cross section (not flattened), and the ratio of the minimum equatorial diameter to the maximum equatorial diameter of the fruit must be 0.8 or greater.

They must be free of defects, with the exception of very slight, superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

3.2.2 Class I

Kiwifruit in this class must be of good quality. They must be characteristic of the variety (cultivar). The flesh must be sound. Fruit must be round or oval in cross section (not flattened), and the ratio of the minimum equatorial diameter to the maximum equatorial diameter of the fruit must be 0.7 or greater.

The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- a slight defect in shape (but free of swelling or malformations);
- slight defects in colouring;
- slight, superficial skin defects, provided the total area affected does not exceed 1 cm²;
- small “Hayward marks” (longitudinal lines) without protuberance.

3.2.3 Class II

This class includes kiwifruit which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements specified in Section 3.1 above. The flesh should not show any serious defects. The following defects, however, may be allowed, provided the kiwifruit retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape including flattened fruit;
- defects in colouring;
- skin defects provided that the total area affected does not exceed 2 cm²;
- several more-pronounced “Hayward marks” with a slight protuberance;
- slight bruising.

4. PROVISIONS CONCERNING SIZING

Kiwifruit may be sized by weight or count, or in accordance with existing trading practices, and labelled accordingly. When sized in accordance with existing trade practices, the package must be labelled with the size and method used.

(A) For fruit sized by weight:

For *A. chinensis* and *A. deliciosa* and hybrids between these species, the minimum weight for “Extra” Class is 90g, for Class I is 70g and for Class II is 65g.

To ensure uniformity in size, the range in size between produce in the same package that is sized by weight shall not exceed:

- 10 g for fruit less than or equal to 85 g;
- 15 g for fruit weighing greater than 85 g and up to 120 g;
- 20 g for fruit weighing greater than 120 g and up to 150 g;
- 40 g for fruit weighing greater than 150 g.

5. PROVISIONS CONCERNING TOLERANCES

5.1 QUALITY TOLERANCES

Tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fails conformity assessment, may be allowed to be re-sorted and brought into conformity in accordance with the relevant provisions in the *Guidelines for Food Import Control Systems (CXG 47-2003)*.

5.1.1 “Extra” Class

Five percent, by number or weight, of kiwifruit not satisfying the requirements of the class but meeting those of Class I. [Included therein is 1% tolerance for decay, soft rot and/or internal breakdown.]

5.1.2 Class I

Ten percent, by number or weight, of kiwifruit not satisfying the requirements of the class but meeting those of Class II. Included therein is [2%] tolerance for decay, soft rot and/or internal breakdown.

However, tolerances for decay shall not be acceptable at the stages of:

- Preparation,
- Packaging, and
- At the export control points.

The minimum requirements in relation to the standard for decay tolerances shall be applicable at points beyond the export control points.

5.1.3 Class II

Ten percent by number or weight of kiwifruit satisfying neither the requirements of the class nor the minimum requirements. Included therein not be more than 2% of in total may consist of produce affected by decay, soft rot and/or internal breakdown.

5.2 SIZE TOLERANCES

For all classes (if sized), 10% by number or weight of kiwifruit not satisfying the requirements as regards sizing is allowed.

6. PROVISIONS CONCERNING PRESENTATION

6.1 Uniformity

The contents of each package must be uniform and contain only kiwifruit of the same origin, variety (cultivar), quality and size. However, a mixture of kiwifruit of distinctly different varieties may be packed together in a package provided they are uniform in quality and, for each variety concerned, uniform in origin.

The visible part of the contents of the package must be representative of the entire contents.

6.2 Packaging

Kiwifruit must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food grade quality, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Stickers individually affixed to the produce shall be such that, when removed, they neither leave visible traces of glue nor lead to skin defects.

Kiwifruit shall be packed in each container in compliance with the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables (CAC/RCP 44-1995)*.

6.2.1 Description of Containers

The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the kiwifruit.

Packages must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1 CONSUMER PACKAGES

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1.1 Name of Produce

Each package shall be labelled as to the name of the produce and optionally the name of the variety(ies) or cultivar(s) or the predominant flesh colour.

7.1.2 Origin of Produce

Country of origin³ and, optionally, district where grown, or national, regional or local place name.

7.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

For kiwifruit transported in bulk (direct loading into a transport vehicle) these particulars must appear on a document accompanying the goods, and attached in a visible position inside the transport vehicle unless the document is replaced by an electronic solution. In that case the identification must be machine readable and easily accessible.

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁴.

7.2.2 Name of Produce

Name of the produce and optionally the name of the variety(ies) or cultivar(s) or the predominant flesh colour

The name of the variety can be replaced by a synonym. A trade name⁵ can only be given in addition to the variety or the synonym.

7.2.3 Origin of Produce

Country of origin³ and, optionally, district where grown or national, regional or local place name.

7.2.4 Commercial specifications

- class;
- size (if sized), expressed
 - by the minimum and maximum weight of the fruit; or
 - by number of fruit and the net fruit weight; or
 - by the size and method used.

7.2.5 Official Inspection Mark (optional)

8. CONTAMINANTS

8.1 The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

8.2 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

³ The full or a commonly used name should be indicated.

⁴ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference "packer and/or dispatcher (or equivalent abbreviations)" has to be indicated in close connection with the code mark.

⁵ A trade name can be a trade mark for which protection has been sought or obtained or any other commercial denomination.

9. HYGIENE

- 9.1** It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the General Principles of Food Hygiene (CXC 1-1969), Code of Hygienic Practice for Fresh Fruits and Vegetables (CXC 53-2003), and other relevant Codex texts such as codes of hygienic practice and codes of practice.
- 9.2** The produce should comply with any microbiological criteria established in accordance with the Principles and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods (CXG 21-1997).

PROPOSED DRAFT STANDARD FOR WARE POTATOES

(At step 5)

1. SCOPE

The purpose of the standard is to define the quality requirements for ware potatoes after preparation (e.g. brushing and/or washing) and packaging. When applied at stages following packaging, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity;
- a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

Due to varietal characteristics, ware potato tubers vary in:

- Shape: from spherical to ovoid
- External/skin color: from white through yellow to tan and from reddish through blue
- Flesh Color: from white to yellow to blue.
- Depth and colour of the eye cavities

2. DEFINITION OF PRODUCE

This Standard applies to commercial varieties of ware potato grown from *Solanum tuberosum* L., of the *Solanaceae* family, to be supplied fresh to the consumer, after preparation and packaging. Ware potatoes for industrial processing and early potatoes are excluded.

3. PROVISIONS CONCERNING QUALITY**3.1 MINIMUM REQUIREMENTS**

In all classes, subject to the special provisions for each class and the tolerances allowed, the ware potatoes must be:

- intact;
- sound; produce affected by rotting or deterioration, such as to make it unfit for consumption is excluded
- fresh in appearance;
- firm;
- Practically clean and practically free of any visible foreign matter¹;
- practically free from pests²;
- practically free from damage caused by pests²;
- free of abnormal external moisture, excluding condensation following removal from cold storage;
- free of any foreign smell;
- free of damage caused by low or high temperature;
- [practically unsprouted i.e. sprout may not be longer than 1 mm;]
- [free of external and internal defects affecting the appearance, keeping quality and presentation in the package, such as:

¹ Visible foreign matter excludes visual indicators of treatment with sprout inhibitors.

² Provisions for pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

- Green colouration; pale green flush not exceeding one eighth of the surface area and which can be removed by normal peeling does not constitute a defect;
 - brown stains due to heat;
 - cracks (including growth cracks), cuts, bites, bruises or roughness (only for varieties of which the skin is not normally rough) exceeding 4 mm in depth;
 - deformities;
 - grey, blue or black sub-epidermal stains; exceeding 5 mm in depth;
 - rust stains, hollow or black hearts and other internal defects;
 - deep common potato scab and powdery potato scab, of a depth of 2 mm or more.]
- [superficial common potato scab, i.e. scab spot in all must not extend over more than a quarter of the surface of the tuber.]

The development and condition of the ware potatoes must be such as to enable them to:

- withstand transportation and handling; and
- arrive in satisfactory condition at the place of destination.

3.1.1 Minimum Maturity Requirements

Ware potatoes must be sufficiently developed with cured skin, with account being taken of the characteristics of the variety and/or commercial type and the area in which they are grown.

3.2 CLASSIFICATION

In accordance with Section 5 – Provisions concerning Tolerances, ware potatoes are classified into the following classes.

“Extra” Class, Class I and Class II.

4. PROVISIONS CONCERNING SIZING

Ware potatoes are sized by diameter, or in accordance with trading practices. When sized in accordance with trading practices, the package must be labelled with the size and method used as mentioned below.

When size is determined by the equatorial diameter (means the maximum distance taken from the right angle on the largest axis of the tuber) of the ware potato (in mm) in accordance with the following table that can be used as a guide in an optional way:

Size Code	Equatorial Diameter in mm
1	more than 80
2	35-80
3	25-75
4	18-24

However, uniformity in size in sales packages up to 5 kg net weight may be restricted to a maximum of 30 mm between the smallest and the largest tuber.

5. PROVISIONS CONCERNING TOLERANCES

Tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the relevant provisions in the *Guidelines for Food Import Control Systems (CXG 47-2003)*.

[5.1 [Quality Tolerances]

S.No.	Quality Tolerances	Tolerances allowed, percentage of defective produce, by number or weight		
		Extra Class	Class I	Class II
1	Total quality Tolerances for ware potatoes not satisfying the minimum requirements of which no more than:	5	10	10
	1.1 Skin Defects: <ul style="list-style-type: none"> • Brown stains, cuts, bites • Bruises or roughness • Late blight, bacterial wilt and ring rot • Grey, blue or black sub-epidermal stains; > 5mm deep • Deep common potato scab and powdery potato scab, > 2 mm deep. • superficial common potato scab > 25% of surface • Sprouts > 1 mm • Green coloration > 1/8 of the surface area; skinning- skin missing or "feathered"; internal defects including blackheart 			
	[1.2 Frozen, decay, soft rot and or internal breakdown	1	1	2
	1.3 Soil and Extraneous matter	0.25	0.5	0.5]
2	Additional Tolerances			
	(a) Produce belonging to other varieties than Marked	2	2	2
	(b) Size Tolerances- off size from what is indicated/ marketed	10	10	10

1

6. PROVISIONS CONCERNING PRESENTATION

6.1 Uniformity

The contents of each package (or lot for produce presented in the bulk transport vehicle) must be uniform and contain only ware potatoes of the same origin, variety or commercial type, quality and size (if indicated) and optionally, cooking type (if indicated).

The visible part of the contents of the package (or lot for produce presented in the bulk transport vehicle) must be representative of the entire contents.

However, a mixture of distinctly different ware potatoes of different colours (except green) may be packed together in a sales package, provided they are uniform in quality and, for each variety concerned, in origin.

6.2 Packaging

Ware potatoes must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food grade quality, clean and of a quality such as to avoid causing any external or internal damage as well cross-contamination to the produce. The use of materials, particularly of paper or stamps bearing trade specifications is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

Ware potatoes shall be packed in each package in compliance with the appropriate sections of the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44-1995).

6.2.1 Description of Containers

The packages shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the ware potatoes. Packages must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1 CONSUMER PACKAGES

In addition to the requirements of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), the following specific provisions apply:

7.1.1 Name of Produce

If the produce is not visible from the outside, each package shall be labelled as to the name of the produce “Ware Potato” and should be labelled as to name of the variety and/or commercial type.

7.1.2 Origin of Produce

Country of origin³ and, optionally, district where grown, or national, regional or local place name.

In case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2 Non-Retail Containers

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside, either printed on the package itself or on a label secured to the fastening (if the labels are placed inside the packages (string bag), this should be done in such a way that the indications concerning marking are readable from the outside); or in the documents accompanying the shipment and attached in a visible position inside the transport vehicle unless the document is replaced by an electronic solution. In that case the identification must be machine readable and easily accessible.

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁴.

7.2.2 Name of Produce

Each shall be labelled as to the name of the produce and may be labelled as to name of the variety <and/or commercial type>. The shape of the tuber may be marked (optional) on the label such as oval, round and long.

7.2.3 Origin of Produce

Country of origin and, optionally, district where grown or national, regional or local place name.

In the case of a mixture of distinctly different varieties of ware potatoes of different origins, the indication of each country of origin shall appear next to the name of the variety concerned.

7.2.4 Commercial specifications

- class
- size (if sized)
- Optional indications: colour of flesh, colour of skin, shape of tuber

³ The full or a commonly used name should be indicated.

⁴ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark.

7.2.5 Official Inspection Mark (optional)**8 CONTAMINANTS**

- 8.1** The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission and where there is no relevant Codex MRLs recognition of destination country MRLs is an alternative.
- 8.2** The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

9. HYGIENE

- 9.1** It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 9.2** The produce should comply with any microbiological criteria established in accordance with the *Principles for the Establishment and Application of Microbiological Criteria for Foods* (CXG 21-1997).

PROJECT DOCUMENT**PROPOSAL FOR NEW WORK ON A CODEX STANDARD FOR YAM (*Dioscorea* spp.)****(Prepared by Costa Rica)****1. Purpose and scope of the standard**

- The objective of the work is to develop a global standard that establishes the basic quality requirements for yam, to assure consumers of a safe, quality product.
- The standard would apply to the different commercial varieties and/or types of *Dioscorea rotundata* and *Dioscorea cayenensis* (yellow yam), (*Dioscorea alata* L.), to be supplied fresh to the consumer after preparation and packaging.

2. Relevance and timeliness

Yam (*Dioscorea* spp.) is a tuber that is consumed all over the world and mainly sold fresh. As large volumes are exported, maintaining the final quality is important. It is sensitive to physiological and physical damage, bruising, and cold conditions, all of which have a negative effect on the tuber. In some cases, the product is not of the size required for the market.

Yam originates from Southeast Asia and Melanesia, distributed by humankind to other regions such as the Americas, Africa, Madagascar, the rest of Asia, and Australia. Yields can reach up to 23 tonnes per hectare, depending on the species and variety (Lebot 2009). It is a staple in the African countries, as the African continent accounts for more than 90% of global production. According to FAOSTAT (2016), the largest producer is Nigeria, with 35 618 420 tonnes, followed by Ghana, with 7 074 574 tonnes. The main varieties are *Dioscorea rotundata* and *Dioscorea cayenensis* (yellow yam).

Across the globe, yam is known by many different names, including: ñame común, ñame grande, ñame asiático, ñame de agua, ñame alado, yam, greater yam, winged yam, water yam, purple or white yam, Guyana arrowroot, ten-months yam, tabena, batatilla, ifame, ñangate, ñame de mina, napi, cará blanco, cará cultivado, cará de Angola, ingame blanche, igname St. Martín, ubi, ube, and shenshu.

High volumes of fresh yam are sold worldwide. In 2015, total sales were worth approximately USD 151.3 million. The main exporting countries were Ghana, Costa Rica, and Jamaica (estimates by CCI, based on COMTRADE statistics). Brazil has increased its exports to a maximum of 317 tonnes last year, mostly to the European Union, as European countries buy between 80 and 100% of its production. Panama currently produces 17 200 tonnes. In recent years, Jamaica, Colombia, Dominican Republic and Nicaragua have also started exporting yam (CNP, 2014, IICA, 2015). Jamaica produces up to 10 000 tonnes per year; Colombia produces 315 000 tonnes, which it exports to the United States and Puerto Rico and other Caribbean islands.

In Costa Rica, yam is grown in the Huetar Caribe and Huetar Norte regions; the material planted is *Dioscorea alata* L. It is produced mainly for export, with small volumes being kept for the domestic market. Exports go mainly to North America, the Caribbean and the European Union, although large volumes are also sent to other countries in Central America. The total volume ranges between 16 500 and 18 000 tonnes per year, representing up to USD 13.5 million in 2015 (Procomer, 2016).

Given the level of yam production worldwide, standards are needed to regulate quality and establish a benchmark for marketing the vegetable for producing and exporting countries. Furthermore, the elaboration of a Codex standard for yam will help protect consumer health and promote fair trade practices, in accordance with the international agreements currently in place.

For the reasons described above, several members of Codex expressed the importance of establishing requirements to ensure that supplies of the product meet quality and safety requirements, since the export volumes of Costa Rica, the Caribbean countries, South America, and Africa are significant. That would facilitate international trade for exporting and consuming countries.

3. Main aspects to be covered

This proposal for new work applies to tubers of the commercial types or varieties of *Dioscorea* spp., to be supplied fresh to the consumer after preparation and packaging:

- Establish the minimum requirements for tubers
- Specify the provisions concerning sizing.
- Define the provisions concerning quality and size tolerances.

- Establish provisions concerning presentation.
- Determine marking or labelling pursuant to the guidelines established by Codex Alimentarius.
- Add the guidelines established by Codex Alimentarius with regard to contaminants that affect the product.
- Refer to the guidelines of Codex Alimentarius with regard to hygiene requirements.

4. Assessment against the *Criteria for the Establishment of Work Priorities*

General criterion

Developing an international standard for yam would be useful for all the nations involved, be they producing, exporting, or consuming countries. The quality of the product should comply with global commercial and marketing practices, in order to take into account the needs of consumers worldwide, as well as the minimum food safety requirements.

Developing an international standard for yam would be especially useful for developing countries, as they are the principal producers, exporters, and consumers of the vegetable. The quality of the product should comply with global marketing practices in order to take into account the needs of consumers across the globe, as well as the minimum food safety requirements, to protect consumer health and guarantee fair practices in food trade. To that end, the criteria for the elaboration of a regional standard for *Dioscorea* spp. are presented below.

In Costa Rica, the tariff code for *Dioscorea* spp. is 070601060110 (chapter 07, heading 14, subheading 301019), which corresponds to bulbs, onions, tubers, tuberous roots, buds and rhizomes.

Criteria applicable to the product

a. Volume of production and consumption in various countries, and volume and trade between countries

In general, yam is marketed as a fresh product, in cardboard boxes with a net weight of approximately 18 kg or 23 kg.

Global production has increased. While in 2011, FAO reported that it was 50 million tonnes, in 2013, FAOSTAT estimated that the figure for 20 countries in Africa, Asia, the Caribbean, and South America was close to 68 million tonnes. The biggest volumes were produced by countries such as Nigeria, Ghana, Ivory Coast, Ethiopia and Benin, with volumes ranging from 45 to 1.4 million tonnes. Another ten countries produced between 0.6 and 0.2 million tonnes.

According to FAO, the countries producing volumes of less than 0.20 million tonnes included Japan, Jamaica, Venezuela, Burkina Faso, Costa Rica, Panama, Dominican Republic, and Nicaragua.

In Costa Rica, production over the last three years has averaged 15,376 tonnes (Figure 1), with nearly all of it being exported to countries such as the US, Puerto Rico, other Caribbean islands, and some European Union countries (Table 1).

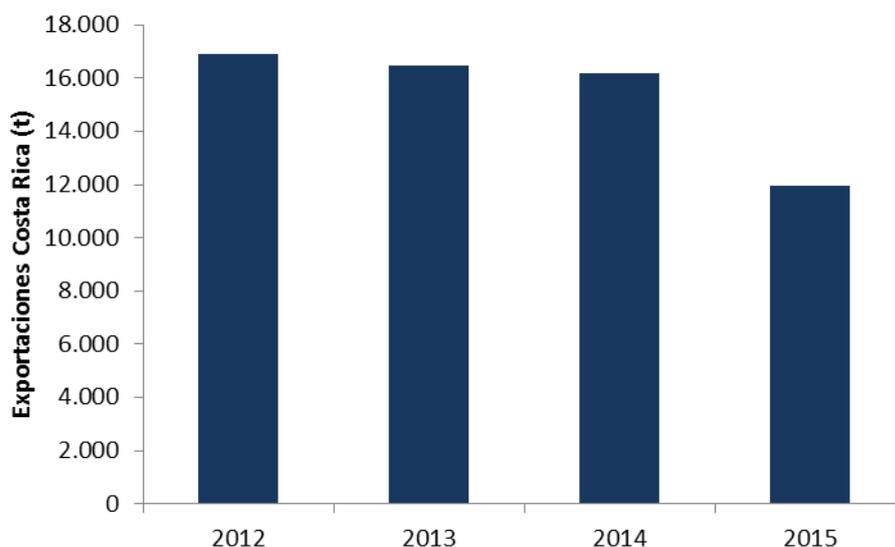


Figure 1. Volumes of exports of yam produced in Costa Rica 2012 y 2015 (Procomer 2016).

Table 1. Volume of yam sold by Costa Rica to the main purchasing countries (2012-2015).

Region	Volume (tons)			
	2012	2013	2014	2015
North America	14.123,3	12.869,9	13.055,0	9.466,9
South America	23,1	34,1	13,0	14,4
Central América				42,9
Asia				
Caribe	2.572,2	3.040,4	2.650,1	2.284,6
European Union	179,5	504,2	461,9	134,6
Rest of Europe				15,2
Total	16.898,2	16.448,6	16.180,0	11.958,6

(Source: Procomer (2016).

By 2015, the main exporting countries were Ghana, which occupied 25.9% of exports, the United States (16.2%), Costa Rica (13.8%) and Jamaica (10.5%), with export volumes between 10,000 and 26,000 metric tons (CCI calculations based on COMTRADE statistics).

Table 2 shows that in American countries have carried out transactions for amounts up to 25.39 million, which constituted 16.8% of the value of global transactions in 2015 and the total transactions made by America and the Caribbean, were the 43.7%.

In the specific case of Brazil, it is reported that exports of this tuber as fresh produce, between 2012 and 2015, generated approximately \$ 2 million with the European Union as the main destination. Other countries such as Colombia, report up to 314,991 tonnes production in 2013, however, as shown in Table 1, the value of exports is relatively low, compared to Jamaica, United States and Costa Rica.

Table 2. Value of global exports of yam made by American and the Caribbean in the period between 2012 and 2015 countries.

Countries	Exports (thousands of dollars)			
	2012	2013	2014	2015
Jamaica	0	0	22.115	25.393
United States of America	11.246	13.954	22.182	20.699
Costa Rica	15.959	18.222	17.017	15.466
Colombia	23	489	1.050	2.659
República Dominicana	177	282	418	326
Dominica	0	0	56	63
St. Vincent and the Grenadines	0	0	0	51
Panamá	99	332	225	47
Nicaragua	23	9	18	17
Canadá	0	0	28	0
Santa Lucía			1	

Source: ITC calculations based on COMTRADE statistics

b. Diversification of national legislations and resultant or potential impediments to international trade

The elaboration of this global standard is being carried out in consonance with the legitimate objectives of the World Trade Organization and the statutes of the Codex Alimentarius Commission, which include protecting consumers' health and ensuring fair practices in the food trade.

There are currently no known impediments to the elaboration of this standard, given the volume of trade in this tuber. This work would provide a specific, recognized standard to strengthen international trade in a product that originates from Africa and Asia, and currently is produced in a number of regions of the world.

Although it has been traditionally used as a food product, yam has great potential in the pharmaceutical industry. In addition, importing countries require the application of good practices in all plant products supplied to them by third countries.

Since no international standard for yam exists and no other organization has undertaken work on the subject, the establishment of a Codex standard is considered necessary and opportune, in order to integrate the criteria into a single internationally acceptable standard.

In this way, the possible barriers to trade will be reduced, and a complete legal framework will be put in place that stipulates the minimum acceptable global standards for yam.

c. International or regional market potential

Table 3 lists Costa Rica's exports of *Dioscorea* spp. to the main countries that purchased its production between 2012 and 2014. The most important were the US, Puerto Rico, Martinique, and Guadeloupe, with the first two purchasing more than 6000 tonnes each, according to data from Procomer (2015).

Table 3. Volume exported to the principal markets for Costa Rican yam between 2012 and 2015.

País	Volumen (toneladas)			
	2012	2013	2014	2015
Estados Unidos	7.374,4	6.521,2	6.695,8	4.989,8
Puerto Rico	6.424,3	6.086,8	6.140,5	4.288,1
Martinica	1.059,5	1.767,2	1.334,0	1.289,4
Guadalupe	1.462,8	1.246,8	1.294,4	995,2
Canadá	324,6	261,9	218,6	189,1
Total	16.645,5	15.883,8	15.683,5	11.751,5

d. Amenability of commodity to standardization

The standard basically addresses the aspects related to the quality, size, safety, and labeling of *Dioscorea* spp, so that consumers can be certain about the characteristics of the product they purchase.

Given the special characteristics of the product, the parameters for the various commercial types or varieties also need to be established, to make it possible to differentiate yam from other products with similar names.

e. Coverage of the main consumer protection and trade issues by existing or proposed general standards

The new work will improve the protection of the consumer and facilitate trade in yam by establishing an internationally recognized quality standard.

f. Number of commodities that would need separate standards including whether raw, semi-processed or processed

As mentioned under the previous point, there is no Codex standard for this crop. *Dioscorea* spp. is a product that is supplied fresh to the consumer, without processing, and the only practices to which it is subject are related to postharvest management (preparation and packaging).

g. Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body or bodies

There is no general product standard for yam. However, standards have been developed by Colombia and for Africa. The relevant existing standards, which could be taken into account while a Codex Standard for yam is developed, are:

- NORMA TÉCNICA COLOMBIANA - NTC 1269
- DRAFT AFRICAN STANDARD CD-ARS 825

5. Relevance to the strategic objectives of Codex

The elaboration of the proposed standard is based on the following strategic objectives:

The elaboration of a Codex Standard for yam is proposed pursuant to the strategic goal of countries promoting the maximum application of Codex Standards in their domestic legislation, and facilitating international trade. This proposal dovetails with Strategic Goal 1 - Establish international food standards that address current and emerging food issues, and the corresponding objectives of the 2014-2019 Strategic Plan. The proposal is based on scientific considerations and designed to help establish the minimum quality requirements for fresh yam, with a view to protecting the health of the consumer and achieving equitable practices in the food trade.

6. Information on relation between the proposed and other existing Codex documents

The proposal concerning the preparation of a Codex Standard for yam forms part of the Terms of Reference of the Codex Committee on Fresh Fruits and Vegetables.

7. Identification of any requirement for and availability of expert scientific advice

In elaborating the draft Codex standard, the information generated by each national expert, as well as other experts in the rest of the region, will be used as a reference.

8. Identification of any need for technical input for a standard from external bodies, so it can be scheduled

Colombia's standard will be taken into account in developing the yam standard, including the experience available in other importing/exporting countries that participate in the standardization of this product in the CCFFV.

9. Proposed timeline for new work

It is expected that the development of this standard to be conducted in three CCFFV meetings or less, depending on the agreement reached by CCFFV.

10. General information concerning *Dioscorea* spp.

Origin and geographical distribution:

- Area of origin of *Dioscorea alata*: Southeast Asia and Melanesia.
- Secondary distribution: Different species of *Dioscorea* have been introduced into the Americas, Africa, Madagascar, South and East Asia, Australia, and Melanesia.
- Long-distance migration/aided by human beings. It is grown commercially, in family kitchen gardens, and also grows wild.

Identification and description (Rodríguez 2000; Lebot 2009; Arnau et al. 2010; CABI 2015):

- **Habit and life cycle:** Herbaceous perennial; climbing, twining vine.
- **Size:** Can reach 10-15 meters in length.
- **Stem:** Quadrangular, with membranous, irregular, winged projections.
- **Leaves:** Vary greatly in size; heart-shaped; phyllotaxis - opposite.
- **Flowers:** Female flowers are in approximately 30 cm long spicules; male flowers grow in small panicles. Most cultivars are sterile. When produced, most flowers are male.
- **Tubers:** They weigh an average of 3-5 kg per plant, with many different shapes. The color of the pulp can be white, yellow, or purple.

Habitat

- Grows in tropical regions. Growth can be severely restricted by temperatures below 20°C, with optimal growth occurring at 25-30°C. Requires optimal precipitation of approximately 1150 mm during the crop cycle. Therefore, it is considered a crop with optimal development in climates designated as tropical rainforest, tropical monsoon and tropical savannah.
- Requires deep, loose, fertile, and well drained soils; and plowing followed by double raking and hilling, to encourage growth of the tubers.

Uses

- Yam is usually consumed fresh. After being peeled, cut into segments and cooked in hot water, it is eaten with other vegetables and sauces. It is also consumed as yam paste. It may also be roasted or fried.
- Forms of consumption by region: specify forms of consumption in the countries to which it is exported and in other countries, for example, in Africa and Asia.

Nutritional value

- According to data from the Agricultural Research Service of the United States Department of Agriculture, yam is high in carbohydrates, minerals (calcium, iron, magnesium, phosphorus, potassium, sodium, zinc), vitamins (thiamine, riboflavin, niacin, B6, B12, A), and fiber.

PROPOSED LAYOUT FOR STANDARDS FOR FRESH FRUITS AND VEGETABLES**Standard for {name of produce}****CODEX STAN** {number of the Standard} {year of the first adoption}**INTRODUCTION**

- This Layout is for use by the Codex Committee on Fresh Fruits and Vegetables (CCFFV);
- The Standard Layout must be followed when developing new or revising existing Codex/FFV Standards. However, it is permissible to use other appropriate texts in the Standard Layout to reflect individual FFV characteristics and current trade practices.

In the text the following conventions are used:

- {name of produce} must be replaced by the common name of the produce to be covered by the standard.
- {text}: For text which explains the use of the Standard Layout. This text does not appear in the standards.
- <text>: For optional texts or text for which several alternatives exist, depending on the products. Depending on the nature of produce the provision(s) in brackets may be removed as not applicable/necessary.

1. SCOPE

The purpose of the standard is to define the quality requirements for {name of produce} after preparation and packaging. When it is applied at stages following packaging, products may show in relation to the requirements of the standard:

- a slight lack of freshness and turgidity;
- a slight deterioration due to their development and their tendency to perish.

The holder/seller of products may not display such products or offer them for sale, or deliver or market them in any manner other than in conformity with this standard. The holder/seller shall be responsible for observing such conformity.

2. DEFINITION OF PRODUCE

This Standard applies to <part of the produce being standardized of> commercial varieties¹ (cultivars) of { name(s) of produce} grown from {Latin botanical reference}² from the {Latin botanical reference}¹ family to be supplied fresh to the consumer <{Name of produce} for industrial processing is/are excluded.>.

{The Latin botanical reference is given in accordance with the International Code of Botanical Nomenclature}

{Additional provisions concerning the definition of the produce may be included under is heading.}

3. PROVISIONS CONCERNING QUALITY**3.1 MINIMUM REQUIREMENTS**

In all classes, subject to the special provisions for each class and the tolerances allowed, the {name of produce} must be:

- intact {depending on the nature of the produce, a deviation from the provision or additional provisions are allowed};
- sound; produce affected by rotting or deterioration such as to make it unfit for consumption is excluded;

¹ Varieties suitable for trade

² All information on botanical names is taken from the GRIN database (www.ars-grin.gov) or Mansfeld's World Database of Agricultural and Horticultural Crops (<http://mansfeld.ipk-gatersleben.de/apex/f?p=185:3:0>) or any other suitable database.

- firm;
- clean, practically free of any visible foreign matter;
- practically free from pests³;
- <practically free of damage caused by pests {For fresh fruits and vegetables with edible skin²}>{or};
- <free of damage caused by pests affecting the flesh {For fresh fruits and vegetables with inedible skins or skins that are peeled off prior to consumption²}>;
- free of abnormal external moisture excluding condensation following removal from cold storage;
- free of any foreign smell and/or taste;
- fresh in appearance;
- free of damage caused by low and/or high temperature;
- {Additional provisions may be made for specific standards, depending on the nature of the produce}.

The development and condition of the {name of produce} must be such as to enable them:

- To withstand transportation and handling; and
- To arrive in satisfactory condition at the place of destination.

3.1.1 Minimum Maturity Requirements

The {name of produce} must have reached an appropriate degree of development and/or maturity in accordance with criteria proper to the variety <and/or commercial type>, to the time of harvesting/picking/etc.>, and to the area in which they are grown.

The {name of produce} must display sufficient development for the intended purpose in accordance with criteria appropriate to the variety and to the area in which they are grown {for non-climacteric fruit}.

The development and state of maturity of {name of produce} must be such as to enable them to continue their ripening process and to reach the degree of ripeness required in relation to the varietal characteristics <and the growing area> {for climacteric fruit}.

<The {name of produce} must be sufficiently developed and display such in relation to the varietal characteristics <and the growing area>.>

3.2 CLASSIFICATION⁴

The {name of produce} are/is classified into three classes defined below:

3.2.1 “Extra” Class

{Name of produce} in this class must be of superior quality. They must be characteristic of the variety <and/or commercial type>. They must be free from defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package.

<They must be:

.....

>

{Add additional Provisions/defects allowed, depending on the nature of the produce.}

³ The provisions for pests applies without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

⁴ See Annex I for Alternative format.

3.2.2 Class I

{Name of produce} in this class must be of good quality. They must be characteristic of the variety <and/or commercial type>.

<They must be:

.....
.....
.....>

{Add additional Provisions/defects allowed, depending on the nature of the produce.}

The following slight defects, however, may be allowed, provided these do not affect the general appearance of the produce, the quality, the keeping quality and presentation in the package:

- a slight defect in shape;
- slight defects in colouring;
- slight skin defects;

.....
.....
.....

{Add additional provisions/defects allowed, depending on the nature of the produce.}

<The defects must not, in any case, affect the <flesh/pulp/etc.> of the <fruit/produce/etc.> or {name of produce}.>

3.2.3 Class II

This class includes {name of produce} that do not qualify for inclusion in the higher classes but satisfy the minimum requirements specified in Section 3.1 above.

<They must be:

.....
.....
.....>

{Add additional provisions/defects allowed, depending on the nature of the produce.}

The following defects may be allowed, provided the {name of produce} retain their essential characteristics as regards the quality, the keeping quality and presentation:

- defects in shape;
- defects in colouring;
- skin defects;

<The flesh must be free from major defects.>

4. PROVISIONS CONCERNING SIZING

{Sizing should not be a factor in classification unless there is a direct correlation between size and sufficient development and market acceptance.}

{Name of produce} may be sized by < diameter, count, length or weight>; < or in accordance with existing trade practices. When sized in accordance with existing trade practices, the package must be labelled with the size and method used.>

- (A) When sized by count, size is determined by the number of individual fruit per package< in accordance with the following table>. <The following table is a guide and may be used on an optional basis.>
- (B) When sized by length, size is determined by the length of the longitudinal axis <excluding the peduncle>.

- (C) When sized by diameter, size is determined by either the maximum diameter of the equatorial section of each fruit or a diameter range per package < in accordance with the following table>. <The following table is a guide and may be used on an optional basis.>.
- (D) When sized by weight, size is determined based on the individual weight of each fruit or a weight range per package. < in accordance with the following table>. <The following table is a guide and may be used on an optional basis.>
- (E) The minimum size shall be {should be only defined in cases to guarantee sufficient development}

{In case when minimum sizes are established the size requirements might not apply to miniature produce: In case of introduction of the exemption for miniature produce, it should be checked whether other provisions on maturity and/or ripeness sufficiently developed are already in the standard or should be introduced, to guarantee the adequate development of miniature produce.}

<The size requirements shall not apply to miniature produce. Miniature produce means produce obtained from a variety or cultivar of vegetable, obtained by plant breeding and/or special cultivation techniques. These produce though smaller in size than the minimum size requirement in the standard when applicable), however, they must meet all other requirements of the standard.].>

- (F) <There is no sizing requirement for {name of produce, variety, commercial type or class depending on the nature of produce}.>

<To ensure uniformity in size, the range in size between produce in the same package shall not exceed ...>

- a) For fruit sized by diameter: x mm.
- b) For fruit sized by weight: x grams.
- c) For fruit sized by count: the difference in size should be consistent with the difference indicated in point (a).
- d) In case size codes are applied, the codes and ranges in the following table have to be respected.

{When tables and size codes are used to define uniformity in size, the size codes should be arranged in descending order ... example to be included}

<There is no sizing uniformity requirement for Class II.>

{Provisions can be added on minimum and maximum sizes and size range, depending on the nature of produce, the variety, the commercial type and possibly the individual classes}.

5. PROVISIONS CONCERNING TOLERANCES⁴

5.1 QUALITY TOLERANCES

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the relevant provisions in the *Guidelines for Food Import Control System (CXG 47-2003)*.

{The tolerances for decay may be established depending on the characteristics/ nature of produce and current trade practices.}

5.1.1 "Extra" Class

Five percent 5.0%, by number or weight, of {name of produce} not satisfying the requirements of the class, but meeting those of Class I. <Included therein, is one percent **[0.5%; 0.75%; 1%; 0.5 - 1%; either 0.5% or up to 1%]**; tolerance for decay, soft rot and/or internal breakdown.>

{Add possible tolerances for individual defects, depending on the nature of the produce.}

5.1.2 Class I

Ten percent, 10.0% by number or weight, of {name of produce} not satisfying the requirements of the class, but meeting those of Class II. Included therein, is one percent tolerance for decay, soft rot and/or internal breakdown.

{Add possible tolerances for individual defects, depending on the nature of the produce.}

5.1.3 Class II

Ten percent, 10.0% by number or weight, of {name of produce} not satisfying the requirements of the class. Included therein, is two percent tolerance for decay, soft rot and/or internal breakdown.

{Add possible tolerances for individual defects, depending on the nature of the produce.}

{The percentages for decay shall be adapted to the characteristics of the produce.}

5.2 SIZE TOLERANCES

For all classes if sized: Ten percent 10.0% by number or weight of {name of produce} not satisfying the requirements as regards to sizing.

6. PROVISIONS CONCERNING PRESENTATION

6.1 UNIFORMITY

The contents of each package <(or lot for produce presented in bulk in the transport vehicle)> must be uniform and contain only {name of produce} of the same origin, quality and size <(if sized)>.

<However, a mixture of {name of produce} of distinctly different <species> <varieties> <commercial types> <colours> may be packed together in a <package> <sales package>, provided they are uniform in quality and, for each <species> <variety> <commercial type> <colour> concerned, in origin.>

{It is recommended, not to require uniformity in size for this type of mixtures.}

{In addition, for individual standards, uniformity concerning variety and/or commercial type may be laid down, depending on the nature of the produce.}

{If specific requirements, including net weight limits of sales packages, are needed, they can be added within the context of individual standards.}

{Other possible provisions, depending on the nature of the produce.}

The visible part of the contents of the package <(or lot for produce presented in bulk in the transport vehicle)> must be representative of the entire contents.

6.2 PACKAGING

{Name of produce} must be packed in such a way as to protect the produce properly. The materials used inside the package must be of food-grade quality, clean, and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials, particularly of paper or stamps bearing trade specifications, is allowed, provided the printing or labelling has been done with non-toxic ink or glue.

<Stickers individually affixed to the produce shall be such that, when removed, they neither leave visible traces of glue nor lead to skin defects.>

{Name of produce} shall be packed in each container in compliance with the *Code of Practice for Packaging and Transport of Fresh Fruits and Vegetables* (CAC/RCP 44-1995).

6.2.1 Description of Containers

The container shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the {name of produce}.

Packages <(or lots for produce presented in bulk)> must be free of all foreign matter and smell.

7. PROVISIONS CONCERNING MARKING OR LABELLING

7.1 CONSUMER PACKAGES

In addition to the requirement of the General Standard for the *Labelling of Pre-packaged Foods* (CXS 1- 1985), the following specific provisions apply:

7.1.1 Name of Produce

Each shall be labelled as to the name of the produce and may be labelled as to name of the variety <and/or commercial type>.

7.1.2 Origin of Produce

Country of origin⁵ and, optionally, district where grown, or national, regional or local place name.

<In the case of a mixture of distinctly different varieties <species> of {name of produce} of different origins, the indication of each country of origin shall appear next to the name of the variety<species> concerned.>

7.2 NON-RETAIL CONTAINERS

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

<For {name of produce} transported in bulk (direct loading into a transport vehicle) these particulars must appear on a document accompanying the goods, and attached in a visible position inside the transport vehicle unless the document is replaced by an electronic solution. In that case the identification must be machine readable and easily accessible.>

7.2.1 Identification

Name and address of exporter, packer and/or dispatcher. Identification code (optional)⁶.

<Packer and/or dispatcher/shipper: Name and physical address (e.g. street/city/region/postal code and, if different from the country of origin, the country) or a code mark officially recognized by the national authority⁷.

7.2.2 Name of Produce

- Name of the produce <name of the variety <and/or commercial type>(optional).>
- <The name of the variety can be replaced by a synonym. A trade name⁸ can only be given in addition to the variety or the synonym.>
- <name of the variety. In the case of a mixture of {name of produce} of distinctly different varieties
- <species>, names of the different varieties <species>.>
- <“Mixture of {name of produce}”, or equivalent denomination, in the case of a mixture of distinctly different commercial types and/or colours of {name of produce}. If the produce is not visible from the outside, the commercial types and/or colours and the quantity of each in the package must be indicated.>

{Add name of the commercial type, depending on the nature of the produce}.

7.2.3 Origin of produce

Country of origin⁹ and, optionally, district where grown, or national, regional or local place name.<In the case of a mixture of distinctly different varieties <species> of {name of produce} of different origins, the indication of each country of origin shall appear next to the name of the variety<species> concerned.>

7.2.4 Commercial Specifications

- class;
- Size <(if sized)>

{Add other possible particulars, depending on the nature of the produce}.

⁵ The full or a commonly used name should be indicated.

⁶ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark.

⁷ The national legislation of a number of countries requires the explicit declaration of the name and address. However, in the case where a code mark is used, the reference “packer and/or dispatcher (or equivalent abbreviations)” has to be indicated in close connection with the code mark, and the code mark should be preceded by the ISO 3166 (alpha) country/area code of the recognizing country, if not the country of origin.

⁸ A trade name can be a trade mark for which protection has been sought or obtained or any other commercial denomination.

⁹ The full or a commonly used name should be indicated.

7.2.5 Official control mark (optional)

8. FOOD ADDITIVES

<No food additives are permitted in these products.>

<For untreated {name of vegetables}, food additives listed in Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in Food Category 04.2.1.1 (Untreated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes (including soybeans), and aloe vera), seaweeds, and nuts and seeds) are acceptable for use in foods conforming to this standard. >

{For untreated fruits, as currently no food additives are permitted according to the GSFA. Therefore, only untreated vegetables are mentioned as above.}

<For treated {name of produce} Food additives listed in Tables 1 and 2 of the *General Standard for Food Additives* (CODEX STAN 192-1995) in Food Categories 04.1.1.2 (Surface-treated fresh fruit) or 04.2.1.2 (Surface- treated fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds) are acceptable for use in foods conforming to this Standard.>

{Include the appropriate provisions, depending on the nature of the produce}.

9. CONTAMINANTS

9.1 The produce covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

9.2 The produce covered by this Standard shall comply with the maximum levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

10 HYGIENE

10.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53- 2003), and other relevant Codex texts such as codes of hygienic practice and codes of practice.

10.2 The produce should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria related to Foods* (CXG 21-1997).

11 METHODS OF ANALYSIS AND SAMPLING

{Methods of analysis to be included as appropriate / necessary}.

Annex Glossary

[To be Developed]

The following is alternate method of arranging Section 3 on Classification and Section 5 on Tolerances in FFV standards. Within this format the text indicating the tolerances/requirements for each FFV class is not used. It also allows the indication of specific defects and their individual tolerance limits

Within the table all the defects in Part (a) are tabulated against the indicated total tolerance. Also, a single defect except Decay, Soft Rot and Internal Breakdown can use the total tolerance. Since Decay, Soft Rot and Internal Breakdown is considered as the most serious defect, it is limited by the indicated.

3.1 CLASSIFICATION

In accordance with <sizing requirements in Section 4 – Provision concerning Sizing (when applicable) and> Section 5 – Provisions concerning Tolerances, {name of produce} are classified into the following class(es).

“Extra” Class, Class I and Class II

5.1 QUALITY TOLERANCES

At all marketing stages, tolerances in respect of quality and size shall be allowed in each lot for produce not satisfying the requirements of the class indicated. Produce that fail conformity assessment, may be allowed to be resorted and brought into conformity in accordance with the *Guidelines for Food Import Control System (CAC/GL 47-2003)* paragraphs 9, 10 and 27.

{The tolerances for decay may be established depending on the characteristics/ nature of produce and current trade practices.}

Tolerances in respect of quality and size shall be allowed in each package for produce not satisfying the minimum requirements of the class indicated.

Quality Tolerances	Tolerances allowed percentage of defective produce by count or weight		
	Extra Class	Class I	Class II
(a) Total Tolerance {name of produce} not satisfying the quality requirements	5	10	10
of which no more than {examples given below}			
Condition (Progressive) Defects			
Shriveling			
Unhealed bruises			
Mechanical damage			
Pest damage			
Quality (Non-Progressive) Defects			
Sunburn			
Misshapen			
Immature/not sufficiently developed			
[Decay, soft rot, internal breakdown	1	1	2]
(b) Size Tolerances- off size from what is indicated/marked	10	10	10
(c) Produce belonging to other similar varieties than marked			