

2019 SECOND CONSULTATION

1 July – 30 September 2019

Compiled comments for Draft ISPM: Requirements for the use of modified atmosphere treatments (2014-006)

Summary of comments

Name	Summary
APPPC Σ	Agreed comments based on the conclusions of the 20th APPPC regional workshop on draft ISPMs.
COSAVE	Ver también archivo del grupo del Taller Regional de la CIPF para complementar y asegurar que todos los comentarios hayan sido introducidos en el grupo de la CIPF.
Cuba	No contamos con experiencia suficiente en este tipo de tratamiento; estamos de acuerdo con los comentarios aceptados en el Taller Regional para América Latina. No hay intención de enviar algún otro comentario.
European Union	Comments submitted by the European Commission on behalf of the European Union and its 28 Member States.
Libya	I agree with comments
Malawi	Malawi supports the draft ISPM: Requirements for the use of modified atmosphere treatments (2014-006)
Nigeria	NPPPO Nigeria supports this draft ISPM in addition to other phytosanitary treatments.
OIRSA	Revisión finalizada, incorporado los comentarios consensuados por los países del OIRSA.
Singapore	Singapore agreed with APPPC comments in this ISPM. Due to technical glitch, countries were unable to indicate support to APPPC comments via the usual means in the past.
Trinidad and Tobago	T&T is in agreement with the comments made and collated by CAHFSA at the IPPC Regional Workshop for the Caribbean 2019
Zambia	This Draft ISPM has our support and its adoption is welcome

T (Type) - B = Bullet, C = Comment, P = Proposed Change, R = Rating

FAO sequential number	Para	Text	T	Comment
1	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (281) Jamaica (1 Oct 2019 9:22 AM) The standard should state that the use of a modified atmosphere as a phytosanitary measure should be consistent with appropriate food safety standards.
2	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i>  Mexico (275) Mexico (30 Sep 2019 10:54 PM) The corresponding annexes should be generated in ISPM 28 with specifications for treatment vs pests, which guide countries to use this treatment.
3	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i>  Mexico (270) Mexico (30 Sep 2019 10:25 PM) Clarify differentiates between what is modified atmosphere and controlled atmosphere.
4	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (267) Guyana (30 Sep 2019 8:17 PM) We endorse the comments submitted by CAHFSA originating from the 2019 Regional IPPC workshop.
5	G	(General Comment)	C	<i>Category : TECHNICAL</i> (260) Argentina (30 Sep 2019 7:50 PM) In response to a COSAVE comment during first consultation suggesting the SC to evaluate the relevance of including a section on authorization of entities considering the draft on this topic under development, it was explained that the paragraphs (section 5.1) in this draft standard actually link to the draft standard on Authorization and gives some elements specific for MAT. The SC-7 agreed that in the context of this draft, the section addresses specific aspects as related to the treatment providers and agreed to modify the section title to "Authorization of treatment providers". We agree with the modification of the title and to include specific aspects related to treatment providers in this section. However section 5.1 of this draft includes requirements applicable not only to treatment providers but also to entities performing other phytosanitary actions, and the draft on Authorization includes requirements that are also applicable to treatment providers and are

				not included in the above mentioned section. To avoid inconsistency between both drafts and to ensure that all requirements for treatment providers are considered (general and specific) we suggest to include a reference to the draft on Authorization of entities in this section.
6	G	(General Comment)	C	<p><i>Category : TECHNICAL</i> (259) Argentina (30 Sep 2019 7:48 PM) The draft states that "Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard". Therefore, considering that the Scope of the standard is aimed to "modified atmosphere treatments", the standard covers both treatment possibilities. However, in several parts of the draft, it is mentioned that the treatment parameters should be "maintained" (Section 2, 3, 4 and 5) Thus, it seems that the standard is focused only to "controlled atmosphere treatments". It is recommended that the draft be reviewed by TPPT to adjust or clarify this situation.</p>
7	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (252) Antigua and Barbuda (30 Sep 2019 6:47 PM) Antigua and Barbuda adopts the comments submitted on this standard by the CAHFSA Workgroup and has no further comments.</p>
8	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (250) Peru (30 Sep 2019 4:23 PM) Perú ratifica los comentarios y sugerencias concordados a nivel del COSAVE y en el Taller Regional realizado en Medellín, Colombia.</p>
9	G	(General Comment)	C	<p><i>Category : TECHNICAL</i> (249) Poland (30 Sep 2019 3:36 PM) Poland would like to formally endorse the EPPO comments submitted via the IPPC online Comment System.</p>
10	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (247) Canada (30 Sep 2019 11:23 AM) Substantive and editorial comments are provided for consideration and incorporation.</p>
11	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (244) Canada (30 Sep 2019 11:03 AM) Canada supports the draft ISPM on the use of modified atmosphere as a phytosanitary measure.</p>
12	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (239) Indonesia (29 Sep 2019 4:43 PM) Indonesia supports this standard</p>
13	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (206) Trinidad and Tobago (28 Sep 2019 11:30 AM)</p>

				T&T is in agreement with the comments made and collated by CAHFSA at the IPPC Regional Workshop for the Caribbean 2019
14	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (201) Singapore (28 Sep 2019 1:33 AM) There is a need to include more validated treatment schedules for different commodities ie in appendix in order for this ISPM to be usable.
15	G	(General Comment)	C	<i>Category : TECHNICAL</i> (199) Paraguay (27 Sep 2019 9:25 PM) De acuerdo con los comentarios de COSAVE.
16	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (196) Eswatini (27 Sep 2019 12:45 PM) Standard is relevant
17	G	(General Comment)	C	<i>Category : TECHNICAL</i> (195) Slovenia (27 Sep 2019 10:24 AM) Slovenia would like to formally endorse the Eppo comments submitted via the IPPC Online Comment System.
18	G	(General Comment)	C	<i>Category : TECHNICAL</i> (194) Cuba (26 Sep 2019 10:38 PM) No contamos con experiencia en este tipo de tratamiento.
19	G	(General Comment)	C	<i>Category : TECHNICAL</i> (186) Uruguay (25 Sep 2019 9:06 PM) In response to a COSAVE comment during first consultation suggesting the SC to evaluate the relevance of including a section on authorization of entities considering the draft on this topic under development, it was explained that the paragraphs (section 5.1) in this draft standard actually links to the draft standard on Authorization and gives some elements specific for MAT. The SC-7 agreed that in the context of this draft, the section addresses specific aspects as related to the treatment providers and agreed to modify the section title to "Authorization of treatment providers". We agree with the modification of the title and to include specific aspects related to treatment providers in this section. However section 5.1 of this draft includes requirements applicable not only to treatment providers but also to entities performing other phytosanitary actions, and the draft on Authorization includes requirements that are also applicable to treatment providers and are not included in the above mentioned section. To avoid inconsistency between both drafts and to ensure that all requirements for treatment providers are considered (general and specific) we suggest to include a reference to the draft on Authorization of entities in this section

20	G	(General Comment)	C	<p><i>Category : TECHNICAL</i> (185) Uruguay (25 Sep 2019 9:04 PM) The draft states that "Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard". Therefore, considering that the Scope of the standard is aimed to "modified atmosphere treatments", the standard covers both treatment possibilities. However, in several parts of the draft, it is mentioned that the treatment parameters should be "maintained" (Section 2, 3, 4 and 5) Thus, it seems that the standard is focused only to "controlled atmosphere treatments". It is recommended that the draft be reviewed by TPPT to adjust or clarify this situation</p>
21	G	(General Comment)	C	<p><i>Category : TECHNICAL</i> (178) Venezuela (23 Sep 2019 6:01 PM) La Posición de Venezuela con respecto al uso de tratamiento de atmósfera modificada, es que se trata de un método de envasado que implica la eliminación del aire del interior y su reemplazo por un gas o mezcla de gases, la cual dependerá directamente del tipo de producto, en los cuales el ambiente gaseoso ha sido modificado para disminuir el grado de respiración, reducir el crecimiento microbiano y retrasar el deterioro enzimático y permitir alargar la vida útil del producto. Dependiendo de las exigencias del alimento, se requerirá una atmósfera con ambientes ricos en CO2 y pobres en O2, los cuales reducen el proceso de respiración en los productos, conservando sus características fisicoquímicas, organolépticas y microbiológicas por un mayor tiempo, también evita que se almacene humedad en la superficie y absorba gases como el etileno. Cuando se formulan atmósferas con concentraciones de CO2 superiores a un 5 a 10% se logra suprimir el desarrollo de hongos y bacterias aerobias estrictas. Particularmente esas concentraciones son efectivas para inactivar bacterias aerobias gram negativas responsables del deterioro organoléptico de la mayor parte de los alimentos. El CO2 tiene mayor efecto inhibitorio a bajas temperaturas porque a esas condiciones se incrementa su solubilidad en la fase acuosa del alimento, es así que las atmósferas de alto contenido de CO2 son más efectivas en alimentos refrigerados.</p>
22	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE</i> (177) Myanmar (23 Sep 2019 11:25 AM) We agree all APPPC comments as the reviewers.</p>
23	G	(General Comment)	C	<p><i>Category : EDITORIAL</i> (136) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM) T&T endorses the draft ISPM re. second consultation- Requirements</p>

				for the use of modified atmosphere treatments as phytosanitary measures (2014-006)
24	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (129) PPPO (17 Sep 2019 1:37 AM) New Zealand has reviewed and supports the draft standard.
25	G	(General Comment)	C	<i>Category : EDITORIAL</i> (107) Barbados (11 Sep 2019 1:26 PM) Barbados finds the document a relatively good one as it covers the major areas.
26	G	(General Comment)	C	<i>Category : TECHNICAL</i> (102) Grenada (8 Sep 2019 5:54 PM) A relevant standard that can be adopted by the NPPO of Grenada
27	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (79) Zambia (1 Sep 2019 12:15 PM) We support the introduction of this Draft ISPM and would be good to have it adopted as one of the ISPMs.
28	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (71) Malawi (28 Aug 2019 4:59 PM) Malawi supports the draft ISPM
29	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (37) China (21 Aug 2019 3:28 AM) NPPO has difficulty in formulating the technical requirements of modified atmosphere treatment. An appendix is needed to describe the key technical requirements of the facilities and implementations of the modified atmosphere treatment. The following contents could be included: -premises -critical facilities (such as control system for gas concentration, temperature, and relative humidity) -operational personnel and training; -product packing, transiting, storage, and segregation; -procedure for modified atmosphere treatment, including efficacy evaluation; -inspection and phytosanitary certification
30	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (36) Malawi (18 Aug 2019 9:47 AM) Malawi supports the Draft ISPM: Requirements for the use of modified atmosphere treatments (2014-006)
31	G	(General Comment)	C	<i>Category : TECHNICAL</i> (32) Botswana (16 Aug 2019 12:08 PM) In agreement with the standard even though it might be difficult for developing countries to implement

32	G	(General Comment)	C <i>Category : SUBSTANTIVE</i> (30) New Zealand (6 Aug 2019 3:41 AM) New Zealand supports the standard
33	G	(General Comment)	C <i>Category : TECHNICAL</i> (25) COSAVE (17 Jul 2019 3:35 PM) The draft states that "Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard". Therefore, considering that the Scope of the standard is aimed to "modified atmosphere treatments", the standard covers both treatment possibilities. However, in several parts of the draft, it is mentioned that the treatment parameters should be "maintained" (Section 2, 3, 4 and 5) Thus, it seems that the standard is focused only to "controlled atmosphere treatments". It is recommended that the draft be reviewed by TPPT to adjust or clarify this situation.
34	G	(General Comment)	C <i>Category : TECHNICAL</i> (24) COSAVE (17 Jul 2019 3:34 PM) In response to a COSAVE comment during first consultation suggesting the SC to evaluate the relevance of including a section on authorization of entities considering the draft on this topic under development, it was explained that the paragraphs (section 5.1) in this draft standard actually link to the draft standard on Authorization and gives some elements specific for MAT. The SC-7 agreed that in the context of this draft, the section addresses specific aspects as related to the treatment providers and agreed to modify the section title to "Authorization of treatment providers". We agree with the modification of the title and to include specific aspects related to treatment providers in this section. However section 5.1 of this draft includes requirements applicable not only to treatment providers but also to entities performing other phytosanitary actions, and the draft on Authorization includes requirements that are also applicable to treatment providers and are not included in the above mentioned section. To avoid inconsistency between both drafts and to ensure that all requirements for treatment providers are considered (general and specific) we suggest to include a reference to the draft on Authorization of entities in this section.
35	38	This standard provides technical guidance for national plant protection organizations (NPPOs) on the application of modified atmosphere treatments Modified Atmosphere Treatments (MATs) as phytosanitary measures, including authorization, monitoring and auditing of treatment providers.	P <i>Category : SUBSTANTIVE</i> (268) Ghana (30 Sep 2019 8:40 PM)

36	38	This standard provides technical guidance for national plant protection organizations (NPPOs) on the <u>parameters to be considered for</u> application of modified atmosphere treatments as phytosanitary measures, including authorization, monitoring and auditing of treatment providers.	P	<i>Category : TECHNICAL</i> (86) OIRSA (2 Sep 2019 3:16 PM) Adjust to the content of the standard, which is indicated by the parameters that should be considered when applying the atmosphere treatment, because this standard does not specify doses that should be applied or for which pests would be effective. Data that would be useful
37	38	This standard provides technical guidance for national plant protection organizations <u>National Plant Protection Organizations</u> (NPPOs) on the application of modified atmosphere treatments as phytosanitary measures <u>Phytosanitary Measures</u> , including authorization, monitoring and auditing of treatment providers.	P	<i>Category : EDITORIAL</i> (1) Ghana (4 Jul 2019 5:52 PM)
38	39	This standard does not provide details on specific modified atmosphere treatments, such as specific schedules for specific regulated pests on specific commodities, and does not include use of modified atmosphere for non-phytosanitary purposes, such as minimizing the perishability of foodstuffs or other quality related uses of modified atmosphere. <u>Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard.</u>	P	<i>Category : TECHNICAL</i> (55) Japan (28 Aug 2019 1:15 PM) The description in paragraph 49 "Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard" should be described in "Scope" because it is applied within every situation in this ISPM. In addition, "Controlled atmosphere treatment is a type of modified atmosphere treatment" should be left in Background as relevant information in the context of the previous sentences, and "and is covered by this standard" can be deleted.
39	39	This standard does not provide details on specific modified atmosphere treatments, such as specific schedules for specific regulated pests on specific commodities, and does not include use of modified atmosphere for non-phytosanitary purposes, such as minimizing the perishability of foodstuffs or other quality related uses of <u>the</u> modified atmosphere.	P	<i>Category : EDITORIAL</i> (7) CA (5 Jul 2019 5:41 PM)
40	45	This standard provides guidance on modified atmosphere treatments and their application as phytosanitary <u>Phytosanitary</u> measures. It identifies parameters to be considered when applying modified atmosphere treatments. Operational requirements for treatment application, including enclosures, treatment procedures and treatment systems, are described.	P	<i>Category : EDITORIAL</i> (2) Ghana (4 Jul 2019 5:53 PM)
41	46	Guidance is provided to NPPOs on authorizing, monitoring and auditing treatment providers. The roles and responsibilities of NPPOs and treatment providers are described.	C	<i>Category : SUBSTANTIVE</i> (269) Ghana (30 Sep 2019 8:45 PM) This statement does not reflect the statement in the scope of this document. It is being skewed toward authorization, monitoring and auditing treatment providers and leaving the NPPOs as treatment

				providers themselves. These statements are sen in the whole document and must be revised to take care of the scope of the standard.
42	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	<i>Category : SUBSTANTIVE</i> (276) Saint Kitts And Nevis (30 Sep 2019 11:12 PM)
43	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	<i>Category : SUBSTANTIVE</i>  Mexico (272) Mexico (30 Sep 2019 10:32 PM) The above, since all ISPMs are for that.
44	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	<i>Category : TECHNICAL</i> (261) Argentina (30 Sep 2019 7:52 PM) Redundant, harmonization is the purpose of all the ISPM.
45	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	<i>Category : TECHNICAL</i>  Costa Rica (251) Costa Rica (30 Sep 2019 5:55 PM) Redundang, harmonization is the purpose of all the ISPM.
46	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	<i>Category : EDITORIAL</i> (207) European Union (28 Sep 2019 6:22 PM) The wording is redundant.
47	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose	C	<i>Category : EDITORIAL</i> (200) Lesotho (27 Sep 2019 10:28 PM) the highlighted part of the sentence needs rephrasing from ..."within and between different countries in different countries" to make the meaning clearer. suggested text:"within, between and among different countries"

		of this standard is to enhance harmonization of such measures within and between different countries in different countries.		
48	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : TECHNICAL (187) Uruguay (25 Sep 2019 9:08 PM) Redundant, harmonization is the purpose of all the ISPM.
49	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : EDITORIAL (151) EPP0 (20 Sep 2019 12:25 PM) The wording is redundant.
50	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	C	Category : EDITORIAL (130) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM) remove from sentence
51	48	This standard provides generic requirements <u>including parameters to be considered</u> for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : TECHNICAL (87) OIRSA (2 Sep 2019 3:18 PM) In accordance with paragraph 38
52	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	C	Category : EDITORIAL (8) Indonesia (8 Jul 2019 2:18 AM) Indonesia proposes to remove last three words "in different countries", so the sentence becomes: 'The purpose of this standard is to enhance harmonization of such measures within and between different countries'
53	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose	P	Category : EDITORIAL (57) Japan (28 Aug 2019 1:18 PM) Editorial revision

		of this standard is to enhance harmonization of such measures within and between different countries in different countries.		
54	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	C	Category : EDITORIAL (51) South Africa (27 Aug 2019 8:31 AM) Propose deletion of "in different countries", the reason being to avoid repetition of this sentence
55	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : EDITORIAL (46) Thailand (26 Aug 2019 12:30 PM)
56	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries .	P	Category : EDITORIAL (33) Iran (17 Aug 2019 10:59 AM)
57	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	C	Category : TECHNICAL (14) COSAVE (16 Jul 2019 8:55 PM) Redundant, harmonization is the purpose of all the ISPM.
58	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : TECHNICAL (13) COSAVE (16 Jul 2019 8:54 PM)
59	48	This standard provides generic requirements for the application of modified atmosphere treatments as phytosanitary <u>Phytosanitary</u> measures, specifically those adopted under ISPM 28 (<i>Phytosanitary treatments for regulated pests</i>). The purpose of this standard is to enhance harmonization of such measures within and between different countries in different countries.	P	Category : EDITORIAL (3) Ghana (4 Jul 2019 5:53 PM)

60	49	Modified atmosphere treatments involve altering gas concentrations in ambient air, which is achieved by increasing the carbon dioxide (CO ₂) content (hypercarbia) or reducing the oxygen (O ₂) content (hypoxia or anoxia) of the treatment environment, or both, to create an atmosphere lethal to target pests. Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard <u>treatment</u> .	P	<i>Category : TECHNICAL</i> (179) Japan (25 Sep 2019 2:10 PM) The description in para 49 "Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard." should be included in "Scope" of this standard. Accordingly the description "and is covered by this standard" in para 49 should be deleted to avoid duplication.
61	49	Modified atmosphere treatments involve altering gas concentrations in ambient air, which is achieved by increasing the carbon dioxide (CO ₂) content (hypercarbia) or reducing the oxygen (O ₂) content (hypoxia or anoxia) of the treatment environment, or both, to create an atmosphere lethal to target pests <u>pests without the introduction of additional toxic agents e.g fumigants</u> . Controlled atmosphere treatment is a type of modified atmosphere treatment and is covered by this standard.	P	<i>Category : SUBSTANTIVE</i> (119) PPPO (17 Sep 2019 1:37 AM) Addition of words to clarify the paragraph.
62	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>the ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	<i>Category : TECHNICAL</i> (208) European Union (28 Sep 2019 6:23 PM) More precise wording.
63	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>the ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	<i>Category : TECHNICAL</i> (152) EPPO (20 Sep 2019 12:25 PM) More precise wording.
64	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone. While an atmosphere with a high CO2 <u>or a low O2 concentration may be harmful, in this application</u>	P	<i>Category : EDITORIAL</i> (142) Australia (19 Sep 2019 6:28 AM) Clarification

		there are negligible environmental impacts, compared to the depletion of ozone levels when using methyl bromide, or a low O₃ concentration may be harmful, in this application there are negligible environmental impacts.		
65	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>ozone levels in the atmosphere</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	Category : EDITORIAL (141) Australia (19 Sep 2019 6:27 AM) Identifying that it is ozone levels in the atmosphere that are reduced by using methyl bromide fumigation.
66	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence of regulated pests into an importing country, which may be beneficial to that countries biodiversity <u>beneficial to biodiversity</u> . The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone. While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	Category : EDITORIAL (140) Australia (19 Sep 2019 6:26 AM) Regulated pests are controlled, in this case using modified atmospheres, so that quarantine pests are not introduced into an importing country.
67	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone. While an atmosphere with a high <u>N2 and</u> CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	Category : SUBSTANTIVE (120) PPPO (17 Sep 2019 1:37 AM) Propose to include N2
68	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>the ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	Category : TECHNICAL (110) IPPC Regional Workshop Europe and Central Asia (13 Sep 2019 2:15 PM) Created by merging other changes together

69	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	<i>Category : TECHNICAL</i> (93) NEPPO (3 Sep 2019 9:21 AM)
70	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>the ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	<i>Category : TECHNICAL</i> (59) Japan (28 Aug 2019 1:23 PM) Metyl bromide depletes the ozon layer.
71	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone. While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts <u>impacts because it is changed in only enclosures</u> .	P	<i>Category : TECHNICAL</i> (58) Japan (28 Aug 2019 1:19 PM) Add more explanation to complement the information in this sentence.
72	52	Modified atmosphere treatments may be used to prevent the introduction and spread of regulated pests and hence may be beneficial to biodiversity. The use of modified atmosphere treatments as an alternative to methyl bromide fumigation provides an additional benefit to the environment by reducing methyl bromide emissions, which deplete ozone <u>ozone layer</u> . While an atmosphere with a high CO ₂ or a low O ₂ concentration may be harmful, in this application there are negligible environmental impacts.	P	<i>Category : EDITORIAL</i> (34) Iran (17 Aug 2019 11:00 AM)
73	55	The objective of using a modified atmosphere treatment as a phytosanitary measure is to achieve pest mortality at a specified efficacy.	C	<i>Category : EDITORIAL</i> (209) European Union (28 Sep 2019 6:25 PM) To be consistent with the title of this draft standard, 'treatments' and 'measures' should be in plural.

74	55	The objective of using a modified atmosphere treatment as a phytosanitary measure is to achieve pest mortality at a specified efficacy.	C	<i>Category : EDITORIAL</i> (153) EPPO (20 Sep 2019 12:25 PM) To be consistent with the title of this draft standard, 'treatments' and 'measures' should be in plural.
75	55	The objective of using a modified atmosphere treatment as a phytosanitary measure is to achieve pest mortality at a specified efficacy.	C	<i>Category : TECHNICAL</i> (26) Nepal (19 Jul 2019 4:04 AM) It is here not clearly mentioned that the rate of mortality? How much % of mortality is acceptable 100% or less?
76	55	The objective of using a modified atmosphere treatment as a phytosanitary measure is to achieve pest mortality at a specified efficacy.	C	<i>Category : TECHNICAL</i> (9) Indonesia (8 Jul 2019 2:37 AM) Indonesia propose to insert "in any stage" after pest mortality, so that the complete sentence become "The objective of using a modified atmosphere treatment as a phytosanitary measure is to achieve pest mortality in any stage at a specified efficacy."
77	57	Modified atmosphere treatments are undertaken by <u>NPPO or authorized</u> treatment providers or the NPPO in <u>a-an approved</u> treatment facility. Modified atmosphere treatments may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : SUBSTANTIVE</i> (238) Indonesia (29 Sep 2019 4:42 PM) NPPO is main authority to conduct phytosanitary treatment so it should be mentioned first instead of providers
78	57	Modified atmosphere treatments are undertaken by treatment providers or the NPPO in a treatment facility. Modified atmosphere treatments <u>as phytosanitary measures</u> may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : EDITORIAL</i> (210) European Union (28 Sep 2019 6:25 PM) Clearer.
79	57	Modified atmosphere treatments are undertaken by treatment providers or the NPPO <u>and treatment providers</u> in a treatment facility. Modified atmosphere treatments may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : SUBSTANTIVE</i> (197) China (27 Sep 2019 1:44 PM) Support to APPPC comments
80	57	Modified atmosphere treatments are undertaken by treatment providers or the NPPO in a treatment facility. Modified atmosphere treatments <u>as phytosanitary measures</u> may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : EDITORIAL</i> (154) EPPO (20 Sep 2019 12:25 PM) Clearer.
81	57	Modified atmosphere treatments are undertaken by treatment providers <u>authorized by NPPO</u> or the NPPO <u>personnel</u> in a treatment facility. Modified atmosphere treatments may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : EDITORIAL</i> (121) PPPO (17 Sep 2019 1:37 AM) Propose to add details of "authorized" providers and NPPO "personnel"

82	57	Modified atmosphere treatments are undertaken by treatment providers or the NPPO in a or authorized treatment facility providers in treatment facilities . Modified atmosphere treatments may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : EDITORIAL</i> (105) Thailand (9 Sep 2019 1:01 PM)
83	57	Modified atmosphere treatments are undertaken by <u>either</u> treatment providers or the NPPO in a the country in which the treatment facility is conducted or initiated . Modified atmosphere treatments may be applied before export, during transport, or at the point of entry under suitable conditions of confinement.	P	<i>Category : TECHNICAL</i> (60) Japan (28 Aug 2019 1:30 PM) "in a treatment facility" is not appropriate. In this ISPM, a place or site in which a treatment is conducted is "in an enclosure" (paragraph No69) and MAT is also conducted during transport. [69]Modified atmosphere treatments are conducted in an enclosure.
84	58	The gas-O₂ and CO₂ concentrations may be modified in the following ways:	P	<i>Category : TECHNICAL</i> (211) European Union (28 Sep 2019 6:27 PM) The indents below mainly relate to CO ₂ and O ₂ concentrations.
85	58	The gas-O₂ and CO₂ concentrations may be modified in the following ways:	P	<i>Category : TECHNICAL</i> (155) EPPO (20 Sep 2019 12:25 PM) The indents below mainly relate to CO ₂ and O ₂ concentrations.
86	58	The gas -concentrations of CO₂ and O₂ may be modified in the following ways:	P	<i>Category : TECHNICAL</i> (111) IPPC Regional Workshop Europe and Central Asia (13 Sep 2019 2:15 PM) The indents below refer mainly to O ₂ and CO ₂ . It was suggested to reword the indents according to the change suggested in this paragraph.
87	59	changing the proportion of O ₂ and CO ₂ in the atmosphere by adding a gas (such as CO ₂ or nitrogen) and maintaining this atmosphere <u>- decreasing the O₂ concentration by adding a substance (such as iron oxide) that captures O₂</u>	P	<i>Category : TECHNICAL</i> (212) European Union (28 Sep 2019 6:30 PM) Due to the change proposed in paragraph 58, the wording of this section might be simplified. Proportion is also not the right term to use. This is a widely used method because it is easy to implement. EU recommends the TPPT to consider the inclusion of this method in the standard.
88	59	changing the proportion of O ₂ and CO ₂ in the atmosphere by adding a gas (such as CO ₂ or nitrogen) and maintaining this atmosphere <u>- decreasing the O₂ concentration by adding a substance (such as iron oxide) that captures O₂</u>	P	<i>Category : TECHNICAL</i> (157) EPPO (20 Sep 2019 12:25 PM) This is a widely used method because it is easy to implement. EPPO recommends the TPPT to consider the inclusion of this method in the standard.

89	59	changing the proportion of O ₂ and CO ₂ in the atmosphere by adding a gas (such as CO ₂ or nitrogen) and maintaining this atmosphere	C	<p><i>Category : TECHNICAL</i> (156) EPPPO (20 Sep 2019 12:25 PM) Due to the change proposed in paragraph 58, the wording of this section might be simplified. Proportion is also not the right term to use.</p>
90	59	changing the proportion of O ₂ and CO ₂ in the atmosphere by adding a gas (such as CO ₂ or nitrogen) and maintaining this atmosphere	C	<p><i>Category : TECHNICAL</i> (113) IPPC Regional Workshop Europe and Central Asia (13 Sep 2019 2:15 PM) The TP should check whether the term 'proportion' is appropriate ('concentration?')</p>
91	59	changing the proportion of O ₂ and CO ₂ in the atmosphere by adding a gas (such as CO ₂ or nitrogen) and maintaining this atmosphere <u>- decreasing the O2 concentration by adding a substance (such as iron oxide) that captures O2</u>	P	<p><i>Category : TECHNICAL</i> (112) IPPC Regional Workshop Europe and Central Asia (13 Sep 2019 2:15 PM) This is a widely used method because it is easy to implement. There was no expertise in the RWS and it was recommended the TP to confirm if this is appropriate</p>
92	63	2.1 Treatment parameters	P	<p><i>Category : EDITORIAL</i> (202) Singapore (28 Sep 2019 1:34 AM) Agreed with APPPC comment to delete section title 2.1 Treatment parameters as this is not necessary here.</p>
93	63	2.1 Treatment parameters	P	<p><i>Category : EDITORIAL</i> (115) APPPC (16 Sep 2019 4:55 AM) To delete the paragraph 2.1 Treatment Parameters and to subsume rest under section 2 instead.</p>
94	63	2.1 Treatment parameters	P	<p><i>Category : EDITORIAL</i> (104) Thailand (9 Sep 2019 12:55 PM) To delete header 2.1: Treatment parameters</p>
95	63	2.1 Treatment parameters	C	<p><i>Category : TECHNICAL</i> (94) NEPPPO (3 Sep 2019 9:21 AM) Adding Atmospheric Pressure as a parameter is vital. (Rational: pressure condition is a vital factor that is interacting with other treatment conditions such as temperature, humidity and duration. For instance, the potential mortality percentage of fruit flies were achieved in shorter time when mangoes <i>Mangifera indica</i> infected with <i>Anastrepha suspensa</i> exposed to lower pressure when tested, as eggs by 9.4 days in 15 mm Hg and 10.6 days in 20 mm Hg LP (Thomas et al., 2006). Reference: T. Davenport, T White, and S. Burg (2006) optimal Low-pressure Conditions for Long-term Storage of Fresh Commodities Kill Caribbean Fruit Fly Eggs and Larvae. HortTechnology 16. https://doi.org/10.21273/HORTTECH.16.1.0098.</p>

96	63	2.1 Treatment parameters	C	<p><i>Category : TECHNICAL</i> (48) Egypt (26 Aug 2019 2:49 PM) Adding Atmospheric Pressure as a parameter is vital. (Rational: pressure condition is a vital factor that is interacting with other treatment conditions such as temperature, humidity and duration. For instance, the potential mortality percentage of fruit flies were achieved in shorter time when mangoes <i>Mangifera indica</i> infected with <i>Anastrepha suspensa</i> exposed to lower pressure when tested, as eggs by 9.4 days in 15 mm Hg and 10.6 days in 20 mm Hg LP (Thomas et al., 2006).</p> <p>Reference: T. Davenport, T White, and S. Burg (2006) optimal Low-pressure Conditions for Long-term Storage of Fresh Commodities Kill Caribbean Fruit Fly Eggs and Larvae. HortTechnology 16. https://doi.org/10.21273/HORTTECH.16.1.0098.</p>
97	64	Parameters <u>The main parameters</u> to consider when implementing modified atmosphere treatments include:	P	<p><i>Category : SUBSTANTIVE</i> (213) European Union (28 Sep 2019 6:31 PM) Because pressure was deleted from this list but is still mentioned in paragraphs 78 and 85.</p>
98	64	Parameters <u>The main parameters</u> to consider when implementing modified atmosphere treatments include:	P	<p><i>Category : SUBSTANTIVE</i> (158) EPPO (20 Sep 2019 12:25 PM) Because pressure was deleted from this list but is still mentioned in paragraphs 78 and 85.</p>
99	65	atmospheric gas concentrations <u>concentrations (O2, CO2 and N2)</u>	P	<p><i>Category : SUBSTANTIVE</i> (236) Indonesia (29 Sep 2019 4:33 PM) To make clear</p>
100	65	atmospheric gas concentrations <u>- air speed (metre per second measured on a routinely calibrated anemometer)</u>	P	<p><i>Category : TECHNICAL</i> (143) Australia (19 Sep 2019 7:34 AM) Some treatment schedules require a desired air speed and that it be monitored to ensure distribution of gas(es).</p>
101	65	<u>- atmospheric pressure</u> <u>- atmospheric gas concentrations</u>	P	<p><i>Category : SUBSTANTIVE</i> (95) NEPPO (3 Sep 2019 9:21 AM)</p>
102	68	humidity. <u>- Atmospheric Pressure</u>	P	<p><i>Category : TECHNICAL</i> (50) Egypt (26 Aug 2019 2:51 PM)</p>
103	69	Modified atmosphere treatments are conducted in an enclosure <u>enclosure (e.g. vacuum chamber, freight containers, warehouses or packaging)</u> . The lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	<p><i>Category : SUBSTANTIVE</i> (235) Indonesia (29 Sep 2019 4:31 PM) To mention the examples of MAT</p>

104	69	Modified atmosphere treatments are conducted in an enclosure enclosure (e.g. vacuum chamber, freight containers, warehouses, cargo ship holds or packaging). The he lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	Category : SUBSTANTIVE (203) Singapore (28 Sep 2019 1:35 AM) Agreed with APPPC comment to move the sentence with examples of MAT to be here to provide more clarity on the examples of MAT.
105	69	Modified atmosphere treatments are conducted in an enclosure enclosure (e.g. vacuum chamber, freight containers, warehouses, cargo ship holds or packaging). The lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	Category : SUBSTANTIVE (198) China (27 Sep 2019 1:45 PM) Support to APPPC comment
106	69	Modified atmosphere treatments are conducted in an enclosure enclosure (e.g. vacuum chamber, freight container, warehouses, cargo ship holds or packaging) The lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	Category : SUBSTANTIVE (137) Korea, Republic of (18 Sep 2019 8:58 AM) To provide an example of an enclosure "(e.g. vacuum chamber, freight container, warehouses, cargo ship holds or packaging)".
107	69	Modified atmosphere treatments are conducted in an enclosure enclosure (e.g. vacuum chamber, freight containers, warehouses, cargo ship holds or packaging). -The lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	Category : SUBSTANTIVE (116) APPPC (16 Sep 2019 4:56 AM) To list examples of MAT at the start for clarity.
108	69	Modified atmosphere treatments are conducted in an enclosure enclosure (e.g. vacuum chamber, freight container, warehouse, cargo ship hold, packaging). The lethal condition of the atmosphere should be achieved and maintained throughout the enclosure for a specified length of time as required by the treatment schedule.	P	Category : TECHNICAL (61) Japan (28 Aug 2019 1:32 PM) Move the examples of enclosures from paragraph 76 to here. It is easier for ISPM readers that the example is placed in former paragraph rather than in latter one. Add "packaging"(e.g.oxygen absorbing film) (see para74).
109	71	When the gas concentrations are not maintained at the required level for the specified duration, the treatment may not have been effective failed and should be restarted.	P	Category : SUBSTANTIVE (240) Indonesia (29 Sep 2019 5:13 PM) Indonesia proposes to replace 'may not have been effective' to 'failed' to emphasize. It also considered whether repeated MAT can reduce the quality of a commodity
110	71	When the gas concentrations are not maintained at the required level for the specified duration, the treatment may not have been effective and should be restarted.	C	Category : TECHNICAL (232) Gambia (29 Sep 2019 12:22 AM) Here the assumption is that the treatment under this condition will not be effective and the treatment therefore should be repeated

111	71	When the gas concentrations are not maintained at the required level for the specified duration, the treatment may not have been effective and <u>treatment process</u> should be restarted <u>verified and corrective actions should be taken accordingly.</u>	P	Category : <i>SUBSTANTIVE</i> (96) NEPPPO (3 Sep 2019 9:21 AM)
112	71	When the gas concentrations are not maintained at the required level for the specified duration, the treatment may not have been effective and <u>all treatment process</u> should be restarted <u>verified and corrective actions should be taken.</u>	P	Category : <i>TECHNICAL</i> (35) Iran (17 Aug 2019 11:02 AM)
113	72	Temperature and humidity are factors in achieving the required efficacy of modified atmosphere treatments, in particular because they affect the respiration rate of the target pest, and should be maintained according to the treatment schedule. <u>In addition, the effect on the product quality must be taken into account.</u>	P	Category : <i>TECHNICAL</i> (262) Argentina (30 Sep 2019 7:54 PM) The effect on the product quality is also important and should be mentioned
114	72	Temperature and humidity are factors in achieving the required efficacy of modified atmosphere treatments, in particular because they affect the respiration rate of the target pest, and should be maintained according to the treatment schedule. <u>In addition, the effect on the product quality must be taken into account.</u>	P	Category : <i>SUBSTANTIVE</i>  (253) Costa Rica (30 Sep 2019 6:49 PM) The effect on the product quality is also important and should be mentioned
115	72	Temperature and humidity are factors <u>to consider</u> in achieving order to achieve the required efficacy of modified atmosphere treatments, in particular because they affect the respiration rate of the target pest, and should be maintained according to the treatment schedule.	P	Category : <i>EDITORIAL</i> (245) Canada (30 Sep 2019 11:05 AM) Editorial change for better clarity.
116	72	Temperature and humidity are factors in achieving the required efficacy of modified atmosphere treatments, in particular because they affect the respiration rate of the target pest, and should be maintained according to the treatment schedule. <u>In addition, the effect on the product quality must be taken into account.</u>	P	Category : <i>TECHNICAL</i> (241) COSAVE (29 Sep 2019 5:21 PM) In addition, the effect on the product quality must be taken into account: The effect on the product quality is also important and should be mentioned
117	72	Temperature and humidity are factors in achieving the required efficacy of modified atmosphere treatments, in particular because they affect the respiration rate of the target pest, and should be maintained according to the treatment schedule. <u>In addition, the effect on the product quality must be taken into account.</u>	P	Category : <i>TECHNICAL</i> (188) Uruguay (25 Sep 2019 9:10 PM) The effect on the product quality is also important and should be mentioned.

118	73	3. 2.2 Enclosures Used for Modified Atmosphere Treatments	P	<i>Category : EDITORIAL</i> (43) China (21 Aug 2019 10:46 AM) The treatment application should include treatment parameters, enclosures and measuring parameters.
119	75	The ability to maintain the specified gas concentrations for the duration of the treatment is influenced by the permeability of the material and the surface to volume surface area-to-volume ratio of the enclosure, and the effectiveness of seals at structural conjunctions or joins and openings of the enclosure.	P	<i>Category : EDITORIAL</i> (144) Australia (19 Sep 2019 7:36 AM) Clarification
120	76	Enclosures (e.g. vacuum chambers, freight containers, warehouses, cargo ship holds) should be designed and constructed to maintain the parameters of the treatment. Features of specifically designed and constructed enclosures, both fixed and portable, include:	P	<i>Category : TECHNICAL</i> (62) Japan (28 Aug 2019 1:33 PM) Move the examples of enclosures from here to paragraph 69. It is easier for ISPM readers that examples place in former paragraph rather than in latter one.
121	78	pressure control	P	<i>Category : EDITORIAL</i> (214) European Union (28 Sep 2019 6:32 PM) To be moved after "humidity control" because pressure does not appear in Section 2.1 but only in paragraph 85.
122	78	pressure control	P	<i>Category : EDITORIAL</i> (159) Eppo (20 Sep 2019 12:25 PM) To be moved after "humidity control" because pressure does not appear in Section 2.1 but only in paragraph 85.
123	79	temperature control	P	<i>Category : EDITORIAL</i> (215) European Union (28 Sep 2019 6:33 PM) To be put after "gas concentration control" because gas concentration is the most important parameter (see Section 2.1).
124	79	temperature control	P	<i>Category : EDITORIAL</i> (160) Eppo (20 Sep 2019 12:25 PM) To be put after "gas concentration control" because gas concentration is the most important parameter (see Section 2.1).
125	80	gas concentration control - temperature control	P	<i>Category : EDITORIAL</i> (216) European Union (28 Sep 2019 6:34 PM) Move "temperature control" after "gas concentration control" because gas concentration is the most important parameter (see Section 2.1).
126	80	gas concentration control - temperature control	P	<i>Category : EDITORIAL</i> (161) Eppo (20 Sep 2019 12:25 PM) Move "temperature control" after "gas concentration control" because gas concentration is the most important parameter (see Section 2.1).
127	81	humidity control - pressure control	P	<i>Category : EDITORIAL</i> (217) European Union (28 Sep 2019 6:34 PM)

				Move 'pressure control' after 'humidity control' because pressure does not appear in Section 2.1 but only in paragraph 85.
128	81	humidity control - pressure control	P	<i>Category : EDITORIAL</i> (162) Eppo (20 Sep 2019 12:25 PM) Move 'pressure control' after 'humidity control' because pressure does not appear in Section 2.1 but only in paragraph 85.
129	82	systems to alert operators when there is a treatment failure	P	<i>Category : EDITORIAL</i> (218) European Union (28 Sep 2019 6:36 PM) Move at the end of the list (more logical order).
130	82	systems to alert operators when there is a treatment failure	P	<i>Category : EDITORIAL</i> (163) Eppo (20 Sep 2019 12:25 PM) Move at the end of the list (more logical order).
131	82	systems to alert operators when there is a treatment failure leakage	P	<i>Category : EDITORIAL</i> (145) Australia (19 Sep 2019 7:50 AM) Clarification
132	84	exhaust systems - systems to alert operators when there is a treatment failure.	P	<i>Category : EDITORIAL</i> (219) European Union (28 Sep 2019 6:37 PM) Move at the end of the list (more logical order).
133	84	exhaust systems - systems to alert operators when there is a treatment failure.	P	<i>Category : EDITORIAL</i> (164) Eppo (20 Sep 2019 12:25 PM) Moved at the end of the list (more logical order).
134	84	exhaust systems. - safeguarding systems.	P	<i>Category : TECHNICAL</i> (42) China (21 Aug 2019 5:20 AM) Some of the gases used are harmful to people health that safeguarding system is needed.
135	85	Modified atmosphere treatments that rely on the introduction of inert gases to reduce O ₂ levels and hence achieve anoxic conditions may use non-gas-tight enclosures or use enclosures that are not specifically designed for modified atmosphere treatments. When using enclosures that are not specifically designed for modified atmosphere treatment use, particular attention should be paid to the pressure required to maintain the treatment parameters as specified in the treatment schedule.	C	<i>Category : TECHNICAL</i>  Costa Rica (254) Costa Rica (30 Sep 2019 6:50 PM) It is recommended to clarify the paragraph regarding the parameters that should be taken into account in case the structure is not specifically designed for treatment
136	85	Modified atmosphere treatments that rely on the introduction of inert gases to reduce O ₂ levels and hence achieve anoxic conditions may use non-gas-tight enclosures or use enclosures that are not specifically designed for modified atmosphere treatments. When using enclosures that are not specifically designed for modified atmosphere treatment use, particular attention should be paid to the pressure required to maintain the treatment parameters as	P	<i>Category : TECHNICAL</i> (193) Japan (26 Sep 2019 11:07 AM) Add example of using specifically designed enclosures are required.

		specified in the treatment schedule. <u>Additionally, when a large quantity of articles (e.g. grain in bulk) is treated with high CO₂ concentration in an enclosure, large-scale gas absorption into articles may cause negative pressure which leads to damage the enclosure. A specifically designed enclosure (e.g. gas-tight silo and warehouse equipped with pressure relief valves) can be used to avoid the damage.</u>		
137	85	Modified atmosphere treatments that rely on the introduction of inert gases to reduce O ₂ levels and hence achieve anoxic conditions may use non-gas-tight enclosures or use enclosures that are not specifically designed for modified atmosphere treatments. When using enclosures that are not specifically designed for modified atmosphere treatment use treatments, particular attention should be paid to the pressure required to maintain the treatment parameters as specified in the treatment schedule.	P	<i>Category : EDITORIAL</i> (220) European Union (28 Sep 2019 6:38 PM) Better wording (delete "use" twice + plural for "treatment").
138	85	Modified atmosphere treatments that rely on the introduction of inert gases to reduce O ₂ levels and hence achieve anoxic conditions may use non-gas-tight enclosures or use enclosures that are not specifically designed for modified atmosphere treatments. When using enclosures that are not specifically designed for modified atmosphere treatment use treatments, particular attention should be paid to the pressure required to maintain the treatment parameters as specified in the treatment schedule.	P	<i>Category : EDITORIAL</i> (165) EPPA (20 Sep 2019 12:25 PM) Better wording (delete "use" twice + plural for "treatment").
139	85	<u>Modified atmosphere treatments that rely on the introduction of inert gases to reduce O₂ levels and hence achieve anoxic conditions may use non-gas-tight enclosures or use enclosures that are not specifically designed for modified atmosphere treatments. When using enclosures that are not specifically designed for modified atmosphere treatment use, particular attention should be paid to the pressure required to maintain the treatment parameters as specified in the treatment schedule.</u>	C	<i>Category : TECHNICAL</i> (90) OIRSA (2 Sep 2019 3:23 PM) This paragraph is ambiguous and contradictory to paragraph 76
140	86	4. <u>2.3</u> Measuring Treatment Parameters	P	<i>Category : EDITORIAL</i> (44) China (21 Aug 2019 10:47 AM) The treatment application should include treatment parameters, enclosures and measuring parameters.
141	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment	P	<i>Category : TECHNICAL</i> (263) Argentina (30 Sep 2019 7:55 PM)

		parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles period. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.		These treatments are used as phytosanitary measures. Thus, deleted text is redundant.
142	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles period. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	P	<i>Category : TECHNICAL</i>  Costa Rica (255) Costa Rica (30 Sep 2019 6:52 PM) These treatments are used as phytosanitary measures. Thus, deleted text is redundant.
143	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	C	<i>Category : TECHNICAL</i> (223) European Union (28 Sep 2019 6:45 PM) In relation to the last sentence in this paragraph - a possibly interesting suggestion for the steward and the TPPT: According to the list with description of ways to reduce O2 concentration (Section 2 "Treatment Application"), it is indicated that the gas concentration may be modified by adding CO2 or N2. In addition, in the first paragraph of Section 4 "Measuring Treatment Parameters" it is specified that the crucial parameters for modified atmosphere treatments are O2 and CO2 concentrations, however, when adding N2, it would be also important to measure its concentration.
144	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved-reached and maintained throughout the treatment period to manage the risk of target pests in regulated articles achieve pest mortality. The erucial-critical parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	P	<i>Category : EDITORIAL</i> (221) European Union (28 Sep 2019 6:40 PM) Better wording, consistent with paragraph 55. More appropriate wording. The word "critical" is used in ISPM 43 (Requirements for the use of fumigation as a phytosanitary measure) in the outlines, in Section 2 (Fumigation application) and in Section 6.1 (Documentation of procedures).
145	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles period. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	P	<i>Category : TECHNICAL</i> (189) Uruguay (25 Sep 2019 9:12 PM) These treatments are used as phytosanitary measures. Thus, deleted text is redundant

146	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been reached and maintained throughout the treatment period to achieve pest mortality. The critical parameters for modified atmosphere treatments are typically O₂ and CO₂ concentrations, temperature and duration of exposure of the commodity.	C	<p><i>Category : TECHNICAL</i> (167) EPPO (20 Sep 2019 12:25 PM) A possibly interesting suggestion for the steward and the TPPT: According to the list with description of ways to reduce O₂ concentration (Section 2 "Treatment Application"), it is indicated that the gas concentration may be modified by adding CO₂ or N₂. In addition, in the first paragraph of Section 4 "Measuring Treatment Parameters" it is specified that the crucial parameters for modified atmosphere treatments are O₂ and CO₂ concentrations, however, when adding N₂, it would be also important to measure its concentration.</p>
147	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved-reached and maintained throughout the treatment period to manage the risk of target pests in regulated articles achieve pest mortality. The crucial-critical parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	P	<p><i>Category : EDITORIAL</i> (166) EPPO (20 Sep 2019 12:25 PM) Better wording, consistent with paragraph 55.</p> <p>More appropriate wording. The word "critical" is used in ISPM 43 (Requirements for the use of fumigation as a phytosanitary measure) in the outlines, in Section 2 (Fumigation application) and in Section 6.1 (Documentation of procedures).</p>
148	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and temperature , duration of exposure of the commodity commodity and may include ethylene levels.	P	<p><i>Category : TECHNICAL</i> (146) Australia (19 Sep 2019 7:51 AM) May be critical in CA treatments of ethylene-producing and/or ethylene-sensitive produce.</p>
149	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	C	<p><i>Category : TECHNICAL</i> (114) IPPC Regional Workshop Europe and Central Asia (13 Sep 2019 2:15 PM) A possibly interesting suggestion for the steward and the TPPT: According to the list with description of ways to reduce O₂ concentration (Section 2 "Treatment Application"), it is indicated that the gas concentration may be modified by adding CO₂ or N₂. In addition, in the first paragraph of Section 4 "Measuring Treatment Parameters" it is specified that the crucial parameters for modified atmosphere treatments are O₂ and CO₂ concentrations, however, when adding N₂, it would be also important to measure its concentration.</p>

150	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	C	<p><i>Category : TECHNICAL</i> (16) COSAVE (16 Jul 2019 9:16 PM) Estos son tratamientos usados como medidas fitosanitarias por lo tanto el texto eliminado es redundante.</p> <p>These treatments are used as phytosanitary measures. Thus, deleted text is redundant.</p>
151	87	Parameters specified in the treatment schedule should be measured and recorded at appropriate intervals to ensure that the required treatment parameters have been achieved and maintained throughout the treatment period to manage the risk of target pests in regulated articles period. The crucial parameters for modified atmosphere treatments are typically O ₂ and CO ₂ concentrations, temperature and duration of exposure of the commodity.	P	<p><i>Category : TECHNICAL</i> (15) COSAVE (16 Jul 2019 9:14 PM)</p>
152	88	In some cases, humidity is considered <u>as</u> an important treatment parameter and should then also be measured and recorded during the treatment period.	P	<p><i>Category : EDITORIAL</i> (122) PPPO (17 Sep 2019 1:37 AM) Grammar correction</p>
153	89	Pressure does not affect the efficacy of the treatment but may be important to ensure that the required treatment conditions are achieved, either when negative pressure is used to remove O ₂ or when positive pressure is used to flush the enclosure of O ₂ . If pressure is important to achieve the required treatment conditions, it should also be measured and recorded.	C	<p><i>Category : SUBSTANTIVE</i> (40) China (21 Aug 2019 3:32 AM) The gas tightness of an enclosure should be required to prevent the air exchange to maintain the parameters of the treatment (such as the concentration). If necessary, before treatment, a gas tightness test (measuring the pressure half time) should be performed.</p> <p>For fixed airtightness facilities, especially vacuum facilities, maintaining good airtightness is the basic requirement. In some cases, gas replenishment cost is high.</p>
154	90	All equipment used for measuring and recording treatment parameters should be <u>regularly</u> calibrated according to the manufacturer's instructions and, where applicable, NPPO specifications.	P	<p><i>Category : EDITORIAL</i> (123) PPPO (17 Sep 2019 1:37 AM) Propose to add details</p>
155	92	The equipment used to measure gas concentrations <u>within the enclosure</u> should have an adequate accuracy (e.g. ±5% of the gas concentrations to be achieved throughout the treatment).	P	<p><i>Category : TECHNICAL</i> (65) Japan (28 Aug 2019 1:45 PM) Clarify where gas should be measured.</p>
156	92	The equipment used to measure gas concentrations should have an adequate accuracy (e.g. ±5% of the gas concentrations to be achieved throughout the treatment).	C	<p><i>Category : TECHNICAL</i> (52) South Africa (27 Aug 2019 8:33 AM) Consider indicating the timing and position where the measurement is taken so as to ensure that an accurate measurement is taken.</p>

157	93	4.2 Measuring and mapping Measuring temperature	P	Category : SUBSTANTIVE (75) Japan (29 Aug 2019 3:22 PM) Delete "and mapping" Refer to paragraph 94 and 95.
158	93	4.2 Measuring and mapping temperature	C	Category : SUBSTANTIVE (108) United States of America (11 Sep 2019 6:05 PM) This particular draft ISPM is not concerned with how temperature is determined in a modified atmosphere enclosure, only that it can be measured when required by a modified atmosphere/ temperature treatment schedule. The details on temperature mapping are more relevant to ISPM 42. We suggest referring to ISPM 42 instead in this section.
159	94	Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors. <u>Mapping should be a requirement for the authorization.</u>	P	Category : SUBSTANTIVE  Mexico (274) Mexico (30 Sep 2019 10:51 PM) Important element to take into consideration
160	94	Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.	C	Category : SUBSTANTIVE  Mexico (273) Mexico (30 Sep 2019 10:48 PM) . Mapping should be a requirement for the authorization.
161	94	Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. as regards loads and packaging) to determine the best locations for placing temperature sensors.	P	Category : EDITORIAL (224) European Union (28 Sep 2019 6:46 PM) Clearer.
162	94	<u>Modified atmosphere treatments are frequently used in conjunction with modification of other parameters such as temperature.</u> Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.	P	Category : EDITORIAL (204) Singapore (28 Sep 2019 1:37 AM) Agreed with APPPC comment - to copy para 50 as introduction to this section 4.2.
163	94	<u>The temperature of the commodity and the atmosphere within the enclosure should be measured to ensure that the required temperature is achieved.</u> Temperature mapping of the enclosure should <u>may</u> be performed <u>necessary</u> to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.	P	Category : TECHNICAL (180) Japan (25 Sep 2019 2:17 PM) Temperature mapping is not always required for modified atmosphere treatments because atmospheric gas concentration is the highest priority parameter. Similarly, temperature mapping is not required for fumigation treatment of ISPM 43 even though temperature is one of the parameters.
164	94	<u>Modified atmosphere treatments are frequently used in conjunction with modification of other parameters such as temperature.</u> Temperature mapping	P	Category : SUBSTANTIVE (138) Korea, Republic of (18 Sep 2019 9:19 AM) To add a new paragraph clarifying "Modified atmosphere treatments

		of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.		are frequently used in conjunction with modification of other parameters such as temperature."
165	94	Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. as regards loads and packaging) to determine the best locations for placing temperature sensors.	P	<i>Category : EDITORIAL</i> (168) Eppo (20 Sep 2019 12:25 PM) Clearer?
166	94	Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors. Temperature sensors/probes must be calibrated regularly and have reliability and accuracy within an acceptable range.	P	<i>Category : TECHNICAL</i> (147) Australia (19 Sep 2019 7:53 AM) Routinely calibrated probes would provide reliable temperature data and this is important as some CA treatments in addition to adding/modifying gas(es) require a desired temperature (often fruit core temperature be measured) for effective treatment.
167	94	Temperature mapping of the enclosure should be performed by approved or authorized personel. to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.	P	<i>Category : SUBSTANTIVE</i> (124) Pppo (17 Sep 2019 1:37 AM)
168	94	Modified atmosphere treatments are frequently used in conjunction with modification of other parameters such as temperature. Temperature mapping of the enclosure should be performed to identify temperature variation under normal operating conditions (e.g. loads and packaging) to determine the best locations for placing temperature sensors.	P	<i>Category : SUBSTANTIVE</i> (117) APPPC (16 Sep 2019 4:57 AM) To copy para 50 here except for humidity for clarity
169	95	The temperature of the commodity and the atmosphere within the enclosure should be measured and monitored to ensure that the required temperature is achieved.	P	<i>Category : SUBSTANTIVE</i> (237) Indonesia (29 Sep 2019 4:37 PM) To add in "and monitored" to ensure that the temperature is maintained throughout the process for clarity
170	95	The temperature of the commodity and the atmosphere within the enclosure should be measured to ensure that the required temperature is achievedreached.	P	<i>Category : EDITORIAL</i> (225) European Union (28 Sep 2019 6:46 PM) Better wording.
171	95	The temperature of the commodity and the atmosphere within the enclosure should be measured and monitored to ensure that the required temperature is achieved.	P	<i>Category : SUBSTANTIVE</i> (205) Singapore (28 Sep 2019 1:38 AM) Agreed with APPPC comment to add in "and monitored" after measured to denote the need of monitoring instead of only measured at a point in time only. It is critical to ensure that the treatment parameters are maintained throughout the treatment.

172	95	The (APPPC comment) The temperature of the commodity and the atmosphere within the enclosure should be measured <u>and monitored</u> to ensure that the required temperature is achieved.	P	<i>Category : SUBSTANTIVE</i> (41) China (21 Aug 2019 3:33 AM) Temperature should be monitored throughout the treatment period in addition to temperature measurement.
173	95	The temperature of the commodity and the atmosphere within the enclosure should be measured to ensure that the required temperature is achieved.	P	<i>Category : TECHNICAL</i> (76) Japan (29 Aug 2019 3:36 PM) Move paragraph 95 to before paragraph 94.
174	95	The temperature of the commodity and the atmosphere within the enclosure should be measured to ensure that the required temperature is achieved <u>reached</u> .	P	<i>Category : EDITORIAL</i> (169) Eppo (20 Sep 2019 12:25 PM) Better wording?
175	95	The temperature of the commodity and the atmosphere within the enclosure should be measured <u>and monitored</u> to ensure that the required temperature is achieved.	P	<i>Category : EDITORIAL</i> (139) Korea, Republic of (18 Sep 2019 9:22 AM) To add in "and monitored" to ensure that the temperature is maintained throughout the process for clarity
176	95	The temperature of the commodity and the atmosphere within the enclosure should be measured <u>and monitored</u> to ensure that the required temperature is achieved.	P	<i>Category : SUBSTANTIVE</i> (118) APPPC (16 Sep 2019 4:58 AM) To add in "and monitored" to ensure that the temperature is maintained thro'out the process for clarity.
177	95	The temperature of the commodity and the atmosphere <u>atmospheric pressure</u> within the enclosure should be measured <u>and mapped</u> to ensure that the required temperature is achieved.	P	<i>Category : SUBSTANTIVE</i> (97) NEppo (3 Sep 2019 9:21 AM)
178	97	Confidence in the adequacy of a modified atmosphere treatment as a phytosanitary measure is primarily based on assurance that the treatment is effective against the target pest under specific conditions and that the treatment has been properly applied. Systems for such a treatment should be designed, used and monitored to ensure that treatments are properly conducted and commodities are protected from infestation and contamination after treatment.	C	<i>Category : EDITORIAL</i> (226) European Union (28 Sep 2019 6:47 PM) To be consistent with the title of this draft standard, 'treatments' and 'measures' should be in plural.
179	97	Confidence in the adequacy of a modified atmosphere treatment as a phytosanitary measure is primarily based on assurance that the treatment is effective against the target pest under specific conditions and that the treatment has been properly applied. Systems for such a treatment should be designed, used and monitored to ensure that treatments are properly conducted and commodities are protected from infestation and contamination after treatment.	C	<i>Category : EDITORIAL</i> (170) Eppo (20 Sep 2019 12:25 PM) To be consistent with the title of this draft standard, 'treatments' and 'measures' should be in plural.
180	98	The NPPO of the country in which the treatment is conducted or initiated (the latter when treatment takes place during transport) is responsible for ensuring that the system requirements are met.	C	<i>Category : TECHNICAL</i> (91) OIRSA (2 Sep 2019 3:24 PM) A verification process must be included for each treatment cycle as some cycles may fail. It is better to detect the fault immediately after

				treatment than at the point of entry into the importing country as paragraph 144 refers.
181	99	5.1 Authorization of treatment providers	C	<i>Category : TECHNICAL</i> (264) Argentina (30 Sep 2019 7:56 PM) See general comment.
182	99	5.1 Authorization of treatment providers	C	<i>Category : TECHNICAL</i> (190) Uruguay (25 Sep 2019 9:13 PM) See general comment
183	99	5.1 Authorization of treatment providers <u>facilities/ providers and operators</u>	P	<i>Category : SUBSTANTIVE</i> (125) PPPO (17 Sep 2019 1:37 AM) Propose to include, facilities and operators
184	99	5.1 Authorization of treatment providers	C	<i>Category : TECHNICAL</i> (21) COSAVE (16 Jul 2019 10:29 PM) Ver comentario general. See general comment.
185	100	Treatment providers should be authorized by the <u>The</u> NPPO in of the country in which the <u>phytosanitary</u> treatment is conducted or initiated <u>initiated is responsible for the authorization of treatment providers</u> . This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization, including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.	P	<i>Category : SUBSTANTIVE</i> (246) Canada (30 Sep 2019 11:21 AM) Consistent with language used in ISPM 43.
186	100	Treatment providers should be authorized by the NPPO in of the country in which the treatment is conducted or initiated. This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization, including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.	P	<i>Category : EDITORIAL</i> (227) European Union (28 Sep 2019 6:48 PM) Clearer, consistency with ISPM 43 (Requirements for the use of fumigation as a phytosanitary measure).
187	100	Treatment providers should be authorized by the NPPO in of the country in which the treatment is conducted or initiated. This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization,	P	<i>Category : EDITORIAL</i> (171) EPPPO (20 Sep 2019 12:25 PM) Clearer, consistency with ISPM 43 (Requirements for the use of fumigation as a phytosanitary measure).

		including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.		
188	100	Treatment providers should be authorized by the NPPO in the country in which the treatment is conducted or initiated <u>initiated (the latter when treatment takes place during transport)</u> . This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization, including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.	P	<p><i>Category : SUBSTANTIVE</i> (126) PPPO (17 Sep 2019 1:37 AM) Propose to include ..the latter when treatment takes place during transport. To be consistent with ISPM43</p> <p>Propose the inclusion of option 2 where NPPOs are both the treatment providers and operators.</p>
189	100	Treatment providers should be authorized by the <u>The NPPO in-of</u> the country in which the <u>phytosanitary</u> treatment is conducted or initiated <u>initiated (the latter when treatment take place during transport) is responsible for the authorization of treatment provider</u> . This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization, including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.	P	<p><i>Category : SUBSTANTIVE</i> (69) Japan (28 Aug 2019 2:17 PM) To revise the text in line with ISPM43 "Requirements for the use of fumigation as phytosanitary measure" because NPPO does not necessarily authorize treatment provider.</p>
190	100	Treatment providers should be authorized by the NPPO in the country in which the treatment is conducted or initiated <u>initiated in accordance with ISPM xx, Requirements for NPPOs if authorizing entities to perform phytosanitary actions</u> . This authorization normally includes approval of both treatment facilities and treatment providers. The NPPO should set requirements for treatment provider authorization, including training of personnel, treatment procedures, adequate equipment and storage conditions. Specific procedures appropriate for each facility, provider and commodity treatment should also be approved by the NPPO.	P	<p><i>Category : SUBSTANTIVE</i> (47) Thailand (26 Aug 2019 12:42 PM) The ISPM related to the authorization should be referred in this paragraph.</p>

191	101	NPPOs should maintain a list of authorized treatment providers for modified atmosphere treatment, including, where appropriate, approved facilities <u>facilities and treatment procedures involved</u> .	P	<i>Category : SUBSTANTIVE</i> (45) PPPO (25 Aug 2019 3:38 PM) addition of .. treatment procedures to "...where appropriate, approved facilities"
192	103	The NPPO of the country in which the treatment is conducted or initiated is responsible for monitoring and auditing the treatment, treatment facilities and providers. Continuous supervision of treatments should not be necessary, provided treatment procedures are properly designed and can be verified to ensure a high degree of system integrity for the facility, process and commodity in question. The monitoring and auditing should be sufficient to detect and correct deficiencies promptly.	P	<i>Category : EDITORIAL</i> (228) European Union (28 Sep 2019 6:49 PM) A comma to be deleted.
193	103	The NPPO of the country in which the treatment is conducted or initiated is responsible for monitoring and auditing the treatment, treatment facilities and providers. Continuous supervision of treatments should not be necessary, provided treatment procedures are properly designed and can be verified to ensure a high degree of system integrity for the facility, process and commodity in question. The monitoring and auditing should be sufficient to detect and correct deficiencies promptly.	P	<i>Category : EDITORIAL</i> (172) Eppo (20 Sep 2019 12:25 PM) A comma to be deleted.
194	103	The NPPO of the country in which the treatment is conducted or initiated is responsible for monitoring and auditing the treatment, facilities and providers. Continuous supervision of treatments should not be necessary, provided treatment procedures are properly designed and can be verified to ensure a high degree of system integrity for the facility, process and commodity in question. The monitoring and auditing should be sufficient to detect and correct deficiencies promptly.	C	<i>Category : SUBSTANTIVE</i> (127) PPPO (17 Sep 2019 1:37 AM) Propose to include a second option to reflect 5.1's comment.
195	105	access for the NPPO for to audit, including either prearranged or unannounced visits or both	P	<i>Category : EDITORIAL</i> (277) Saint Kitts And Nevis (30 Sep 2019 11:14 PM)
196	105	access for the NPPO (or its authorized entity) for audit, including either prearranged or unannounced visits or both	P	<i>Category : SUBSTANTIVE</i> (98) NEppo (3 Sep 2019 9:21 AM)
197	106	a system to maintain and archive treatment-treatment, facility and equipment <u>maintenance</u> records and provide NPPOs, or where appropriate other government agencies, with access to these	P	<i>Category : SUBSTANTIVE</i> (128) PPPO (17 Sep 2019 1:37 AM) Inclusion of facility and equipment maintenance records

198	108	5.3 Measures to Prevention of infestation and contamination after treatment	P	Category : SUBSTANTIVE (99) IPPC Regional Workshop Africa (4 Sep 2019 1:19 PM)
199	109	The consignment owner is responsible for prevention of infestation and contamination after treatment and may cooperate with the treatment provider on how to achieve this. After the treatment is successfully completed, measures should be implemented to prevent possible infestation or contamination of the treated commodity. The following measures may be required:	C	Category : EDITORIAL (233) Gambia (29 Sep 2019 12:48 AM) re-infestation
200	109	The consignment owner is responsible for prevention of infestation and contamination after treatment and may cooperate with the treatment provider on how to achieve this. After the treatment is successfully completed, measures should be implemented to prevent possible infestation-re-infestation or contamination of the treated commodity. The following measures may be required:	P	Category : EDITORIAL (148) Australia (19 Sep 2019 7:54 AM) Clarification
201	110	keeping the commodity in a pest-free-pest-free enclosure	P	Category : EDITORIAL (149) Australia (19 Sep 2019 7:54 AM) Clarification
202	112	segregating and identifying treated commodities	C	Category : EDITORIAL (12) Indonesia (8 Jul 2019 3:50 AM) Indonesia propose to change "segregating and identifying treated commodities" with "separating treated commodities and those have not been treated in such a way to prevent infestation or contamination"
203	116	6. Documentation	C	Category : SUBSTANTIVE (278) Saint Kitts And Nevis (30 Sep 2019 11:15 PM) The title should encompass documents to be kept by treatment providers and NPPOs.
204	117	The NPPO of the country in which the treatment is conducted or initiated is responsible for ensuring that treatment providers maintain documents of procedures and keep appropriate records, such as raw data on gas concentrations and temperature recorded during treatments. Accurate record keeping is essential to allow for trace-back capability.	C	Category : SUBSTANTIVE (234) Gambia (29 Sep 2019 12:57 AM) The NPPO should also keep appropriate records for traceability
205	117	The NPPO of the country in which the treatment is conducted or initiated is responsible for ensuring that treatment providers maintain documents of procedures and keep appropriate records, such as raw data on gas	P	Category : EDITORIAL (150) Australia (19 Sep 2019 7:55 AM) Clarification

		concentrations <u>treatment start</u> and <u>stop times and</u> temperature recorded during treatments. Accurate record keeping is essential to allow for trace-back capability.		
206	119	Procedures should be documented to ensure that commodities are treated consistently in accordance with the treatment schedule. Process controls and operational parameters should be established to provide the operational details necessary for the authorization of a treatment provider. Calibration and quality control procedures should be documented by the treatment provider. The documented procedures should include the following:	C	<p><i>Category : EDITORIAL</i> (53) South Africa (27 Aug 2019 8:36 AM) Addition of punctuation mark ";" and deletion of "and" on the first sentence in order to make the sentence more clearer.</p>
207	123	temperature and gas sensor calibration and <u>temperature sensor calibration</u>	P	<p><i>Category : EDITORIAL</i> (229) European Union (28 Sep 2019 6:51 PM) More logical order (e.g. see titles of Section 4.1 and 4.2, or paragraph 139). Alternative wording can be: "calibration of gas and temperature sensors".</p>
208	123	temperature and gas sensor calibration and <u>temperature sensor calibration</u>	P	<p><i>Category : EDITORIAL</i> (173) EPP0 (20 Sep 2019 12:25 PM) More logical order (e.g. see titles of Section 4.1 and 4.2, or paragraph 139). Alternative wording (clearer?): "calibration of gas and temperature sensors".</p>
209	127	<u>training of personnel.</u>	C	<p><i>Category : SUBSTANTIVE</i> (279) Saint Kitts And Nevis (30 Sep 2019 11:17 PM) What exactly is the documented procedure in the training of personnel? (How often the training is to occur? What the topics in the training are?) It would be useful if some examples were given in bracket.</p>
210	128	6.2 Record keeping	C	<p><i>Category : SUBSTANTIVE</i> (74) Indonesia (29 Aug 2019 12:57 AM) Indonesia proposes to re-arrange the structure of the section: 6. Inspection 7. Documentation 7.1 Documentation of Procedures 7.2 Record Keeping 7.3 Documentation by the NPPO</p>
211	134	target regulated pest pests	P	<p><i>Category : EDITORIAL</i> (242) Barbados (30 Sep 2019 6:29 AM) in keeping with general nature of the paragraph</p>

212	134	target regulated pestpests	P	Category : EDITORIAL (131) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM)
213	139	gas concentration or concentrations, temperature of commodity and (if required) other atmospheric parameters such as humidity and pressure - equipment calibration records	P	Category : SUBSTANTIVE (54) Thailand (27 Aug 2019 9:33 AM) An additional bullet on equipment calibration records (for temperature and gas sensor) should be added to complete the necessary recorded information and to comply with the bullet 4 under section 6.1.
214	140	any observed deviation from the treatment schedule and, where appropriate, subsequent actions taken. <u>Equipment calibration records should be also kept by the treatment provider for at least one year.</u>	P	Category : SUBSTANTIVE (70) Japan (28 Aug 2019 2:30 PM) Calibration records should be kept by the treatment provider for at least one year in the same way of ISPM42 and ISPM43.
215	142	All NPPO procedures should be appropriately documented and records, including those of monitoring inspections made and phytosanitary certificates issued, should be maintained for at least one year. In cases of non-compliance or new or unexpected phytosanitary situations, documentation should be made available upon request as described in ISPM 13 (<i>Guidelines for the notification of non-compliance and emergency action</i>).	C	Category : SUBSTANTIVE (133) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM) For a better flow of information, Consider including in the introductory section on the documentation as this section deals with NPPO documentation
216	142	All NPPO procedures should be appropriately documented and records, including those of monitoring inspections made and phytosanitary certificates issued, should be maintained for at least one year. In cases of non-compliance or new or unexpected phytosanitary situations, documentation should be made available upon request as described in ISPM 13 (<i>Guidelines for the notification of non-compliance and emergency action</i>).	P	Category : SUBSTANTIVE (132) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM)
217	142	All NPPO procedures should be appropriately documented and records, including those of monitoring inspections made and phytosanitary <u>Phytosanitary</u> certificates issued, should be maintained for at least one year. In cases of non-compliance or new or unexpected phytosanitary <u>Phytosanitary</u> situations, documentation should be made available upon request as described in ISPM 13 (<i>Guidelines for the notification of non-compliance and emergency action</i>).	P	Category : EDITORIAL (4) Ghana (4 Jul 2019 6:01 PM)

218	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	P	<p>Category : TECHNICAL</p> <p>(265) Argentina (30 Sep 2019 7:56 PM)</p> <p>In the case of modified atmosphere, the founding of live non-target pests should not be considered as a failure of the treatment.</p>
219	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	P	<p>Category : TECHNICAL</p> <p> Costa Rica</p> <p>(256) Costa Rica (30 Sep 2019 6:54 PM)</p> <p>In the case of modified atmosphere, the founding of live non-target pests should not be considered as a failure of the treatment.</p>
220	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this the NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	P	<p>Category : EDITORIAL</p> <p>(248) Canada (30 Sep 2019 11:29 AM)</p> <p>Editorial change.</p>
221	144	Inspection should be carried out by the NPPO of the exporting country, and <u>an inspetion at import</u> may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	P	<p>Category : TECHNICAL</p> <p>(230) European Union (28 Sep 2019 6:52 PM)</p> <p>In order to avoid ambiguity about the location of the inspection (it is not in the country of export).</p>
222	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their	P	<p>Category : TECHNICAL</p> <p>(191) Uruguay (25 Sep 2019 9:15 PM)</p> <p>In the case of modified atmosphere treatments, the finding of live non-target pests should not be considered as a failure of the treatment.</p>

		survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.		
223	144	Inspection should be carried out by the NPPO of the exporting country, and <u>an inspection at import</u> may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	P	<i>Category : TECHNICAL</i> (174) EPP0 (20 Sep 2019 12:25 PM) In order to avoid ambiguity about the location of the inspection (it is not in the country of export)
224	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary. <u>Withdrawal, suspension and Revocation of Authorisation</u> <u>The authorized entity may withdraw from the contract only upon meeting guidelines stipulated by the NPPO</u>	P	<i>Category : SUBSTANTIVE</i> (100) IPPC Regional Workshop Africa (4 Sep 2019 1:19 PM)
225	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.	C	<i>Category : TECHNICAL</i> (17) COSAVE (16 Jul 2019 10:02 PM) Para el caso de atmósferas modificadas la detección de una plaga viva no objetivo, no podría ser considerada como una falla del tratamiento. In the case of modified atmosphere, the founding of live non-target pests should not be considered as a failure of the treatment.
226	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their	P	<i>Category : TECHNICAL</i> (18) COSAVE (16 Jul 2019 10:02 PM)

		survival indicates a treatment failure and whether additional phytosanitary measures may be necessary.		
227	144	Inspection should be carried out by the NPPO of the exporting country, and may be carried out by the NPPO of the importing country, to determine compliance with phytosanitary -Phytosanitary import requirements. Where live non-target pests are found after treatment, by either the NPPO of the exporting country or the NPPO of the importing country, this NPPO should consider if their survival indicates a treatment failure and whether additional phytosanitary -Phytosanitary measures may be necessary.	P	Category : EDITORIAL (5) Ghana (4 Jul 2019 6:04 PM)
228	145	The NPPO of the importing country may check-examine documentation and records for treatments conducted during transport to determine compliance with phytosanitary import requirements.	P	Category : EDITORIAL (231) European Union (28 Sep 2019 6:53 PM) Better wording that is consistent with ISPM 23 (Guidelines for inspection), Section 2.1 (Examination of documents associated with a consignment).
229	145	The NPPO of the importing country may check-examine documentation and records for treatments conducted during transport to determine compliance with phytosanitary import requirements.	P	Category : EDITORIAL (175) EPPO (20 Sep 2019 12:25 PM) Better wording that is consistent with ISPM 23 (Guidelines for inspection), Section 2.1 (Examination of documents associated with a consignment).
230	147	The NPPO of the country in which the treatment is conducted or initiated is responsible for the evaluation, approval and auditing of the application of modified atmosphere treatments as phytosanitary -Phytosanitary measures, including those performed by the NPPO itself or by other authorized treatment providers. When treatments are conducted or completed during transport, the NPPO of the exporting country is usually responsible for authorizing the treatment provider applying the treatment during transport, and the NPPO of the importing country is responsible for verifying if the treatment requirements have been met.	P	Category : EDITORIAL (6) Ghana (4 Jul 2019 6:10 PM)
231	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere of facilities. The respective responsibilities of the NPPO and the other regulatory	P	Category : SUBSTANTIVE  Mexico (271) Mexico (30 Sep 2019 10:28 PM) Delete because what we are going to approve are the facilities

		agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.		
232	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere treatments facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	P	<p><i>Category : TECHNICAL</i></p> <p>(266) Argentina (30 Sep 2019 7:58 PM)</p> <p>"and international" deleted because the cooperation with international agencies is outside the Scope of the this standard which is about the application of AM. Proposed change also for consistency with ISPM 43 on fumigation.</p> <p>"modified atmosphere" replaced by "treatment" for consistency.</p>
233	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of modified treatment providers, and the approval of modified atmosphere treatment facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	P	<p><i>Category : TECHNICAL</i></p> <p> Costa Rica</p> <p>(257) Costa Rica (30 Sep 2019 6:56 PM)</p> <p>"and international" deleted because the cooperation with international agencies is outside the Scope of the this standard which is about the application of AM. Proposed change also for consistency with ISPM 43 on fumigation.</p> <p>"modified atmosphere" replaced by "treatment" for consistency.</p>
234	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	P	<p><i>Category : SUBSTANTIVE</i></p> <p>(243) Barbados (30 Sep 2019 6:34 AM)</p>
235	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere treatment facilities. The respective responsibilities of the NPPO and the other	P	<p><i>Category : TECHNICAL</i></p> <p>(192) Uruguay (25 Sep 2019 9:18 PM)</p> <p>1) "and international" deleted because cooperation with international agencies is outside the Scope of the this standard which is about the application of MAT, and also for consistency with ISPM 43 on fumigation.</p> <p>2) "modified atmosphere" was replaced by "treatment" for consistency.</p>

		regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.		
236	148	To the extent necessary, the NPPO should cooperate with other national and international-national regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	P	<p><i>Category : SUBSTANTIVE</i> (134) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM) No known international regulatory agency</p>
237	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	C	<p><i>Category : TECHNICAL</i> (92) OIRSA (2 Sep 2019 3:25 PM) Add: As well as ensure the effectiveness of the treatments of the protocols used.</p>
238	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere facilities. The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.	C	<p><i>Category : TECHNICAL</i> (20) COSAVE (16 Jul 2019 10:10 PM) Eliminación de "and international": Eliminado porque la cooperación con organismos internacionales esta fuera del ámbito de esta norma que tratan de la aplicación de tratamientos de atmósfera modificada. Ademas por consistencia con la NIMF 43 de fumigación.</p> <p>Sustitución de "modified atmosphere" por treatment: Por consistencia.</p> <p>"and international" deleted because the cooperation with international agencies is outside the Scope of the this standard which is about the application of AM. Proposed change also for consistency with ISPM 43 on fumigation.</p> <p>"modified atmosphere" replaced by "treatment" for consistency.</p>
239	148	To the extent necessary, the NPPO should cooperate with other national and international regulatory agencies concerned with the development, approval and safety of the modified atmosphere treatment, including the training and	P	<p><i>Category : TECHNICAL</i> (19) COSAVE (16 Jul 2019 10:06 PM)</p>

		certification of personnel conducting the treatment, the authorization of treatment providers, and the approval of modified atmosphere facilities treatments facilities . The respective responsibilities of the NPPO and the other regulatory agencies, if any, should be identified to avoid requirements that are overlapping, conflicting, inconsistent or unjustified.		
240	149	Potential implementation issues	C	<p><i>Category : TECHNICAL</i></p> <p> Costa Rica (258) Costa Rica (30 Sep 2019 6:57 PM) Manual or guide with details of treatment programs with AM, including the different types of this treatment system Guide on this topic regarding pests that can be controlled Regional workshops by experts in the field Case studies where this treatment has been successfully implemented.</p>
241	149	Potential implementation issues	C	<p><i>Category : TECHNICAL</i></p> <p>(89) OIRSA (2 Sep 2019 3:22 PM) In the case of Guatemala: it does not have the technology to do this type of treatment, only an autoclave for destruction of plant products at the Aurora airport, in the case of mango, a hydrothermal treatment is made for export.</p>
242	149	Potential implementation issues	C	<p><i>Category : SUBSTANTIVE</i></p> <p>(88) OIRSA (2 Sep 2019 3:20 PM) Manual or guide with details of treatment programs with AM, including the different types of this treatment system</p> <ul style="list-style-type: none"> · Guide on this topic regarding pests that can be controlled · Talks in regional workshops by experts in the field · Case studies where this treatment has been successfully implemented.
243	149	Potential implementation issues	C	<p><i>Category : SUBSTANTIVE</i></p> <p>(78) Nigeria (29 Aug 2019 4:12 PM) NPPO Nigeria agree with the call for proposal on modified atmosphere treatment.</p>
244	149	Potential implementation issues	C	<p><i>Category : SUBSTANTIVE</i></p> <p>(77) Nigeria (29 Aug 2019 4:02 PM) When the new ISPM is developed it should be accompanied with an arrangement for training of personnel to build the NPPOs capacity for the implementation of the ISPM.</p>
245	150	This section is not part of the standard. The Standards Committee in May 2016 requested that the Secretariat gather information on any potential	C	<p><i>Category : SUBSTANTIVE</i></p> <p>(280) Saint Kitts And Nevis (30 Sep 2019 11:23 PM) Implementation issues: -trained personnel: if the NPPO personnel is not adequately trained</p>

		implementation issues related to this draft. Please provide details and proposals on how to address these potential implementation issues.		to understand this type of treatment (e.g if it was performed correctly, especially where the treatment is intended to be completed while being transported), then the country may not want to accept this type of phytosanitary treatment. Possible solution: training/ internship for NPPO personnel about this type of treatment. -lack of facilities for modified atmosphere treatment: lack of facilities to perform this type of treatment. Possible solutions: access to funding and exchanges with countries that have these type of facilities.
246	150	This section is not part of the standard. The Standards Committee in May 2016 requested that the Secretariat gather information on any potential implementation issues related to this draft. Please provide details and proposals on how to address these potential implementation issues.	C	<i>Category : SUBSTANTIVE</i> (135) Caribbean Agricultural Health and Food Safety Agency (17 Sep 2019 6:17 PM) 1. Lack of trained NPPO personnel in importing country to administer treatment or determine if treatment was done correctly or authorize a third party in-country to perform treatments for export: Proposed solution-training for NPPO personnel in order to be able to accept/perform/ authorize this type of treatment. 2. Lack of treatment facilities in importing country (to perform treatment or in the event of treatment failure that may have occurred prior to or during transport). Proposed solution-knowledge sharing on appropriate enclosures to be used for this treatment type e.g. bilateral exchanges between developed and developing countries
247	150	This section is not part of the standard. The Standards Committee in May 2016 requested that the Secretariat gather information on any potential implementation issues related to this draft. Please provide details and proposals on how to address these potential implementation issues.	C	<i>Category : SUBSTANTIVE</i> (109) Philippines (12 Sep 2019 6:13 AM) The main implementation issue is the capacity building of personnel about modified atmosphere treatment, as this is new to the Philippines in general. Further, annexes/appendices that may explain further some technical information/details.
248	150	This section is not part of the standard. The Standards Committee in May 2016 requested that the Secretariat gather information on any potential implementation issues related to this draft. Please provide details and proposals on how to address these potential implementation issues.	C	<i>Category : TECHNICAL</i> (101) Lesotho (6 Sep 2019 5:47 PM) the draft is well spelled no additional comments
249	150	This section is not part of the standard. The Standards Committee in May 2016 requested that the Secretariat gather information on any potential implementation issues related to this draft. Please provide details and proposals on how to address these potential implementation issues.	C	<i>Category : TECHNICAL</i> (31) Botswana (16 Aug 2019 12:05 PM) It might be difficult to implement for developing countries due to lack of resources