



2020 SECOND CONSULTATION

1 July – 30 September 2020

Compiled comments for Draft PT: Irradiation treatment for the genus *Anastrepha* (2017-031)

Summary of comments

Name	Summary
Cuba	No hay comentarios al documento propuesto.
European Union	The comments have been introduced by the European Commission on behalf of the European Union and its Member States.
Myanmar	Agree with the document
OIRSA	Revisión Completa
Singapore	Singapore is supportive of this.

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

FAO sequential number	Para	Text	T	Comment	SC Responses
1	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (28) Guyana (30 Sep 2020 10:04 PM) Guyana has no reservation regarding the draft document at this point.	Noted
2	G	(General Comment)	C	<i>Category : TECHNICAL</i> (27) Australia (30 Sep 2020 12:59 PM) Australia has reviewed this phytosanitary treatment and is supportive of this treatment and the respective text.	Noted
3	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (26) Costa Rica (29 Sep 2020 8:33 PM) No comment	Noted
4	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (22) European Union (29 Sep 2020 5:15 PM) The comments by the EU are provided without prejudice to the European Union food safety legislation imposing limitations on the acceptance of irradiated goods.	Noted
5	G	(General Comment)	C	<i>Category : TECHNICAL</i> (21) Paraguay (29 Sep 2020 3:28 PM)	Noted

				Paraguay agrees with Cosave's comments	
6	G	(General Comment)	C	<i>Category : TECHNICAL</i> (20) Slovenia (29 Sep 2020 1:58 PM) Slovenia would like to formally endorse the EPPO comments submitted via the IPPC Online Comment System.	Noted
7	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (19) Argentina (29 Sep 2020 1:42 PM) We have no comments on this phytosanitary treatment	Noted
8	G	(General Comment)	C	<i>Category : TECHNICAL</i> (18) OIRSA (28 Sep 2020 7:15 PM) No momentous comments for this document.	Noted
9	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (17) Barbados (28 Sep 2020 6:28 PM) Barbados has no changes to make to this draft ISPM.	Noted
10	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (13) Korea, Republic of (25 Sep 2020 2:34 AM) Republic of Korea does not support to adopt this standards because according to the annex 03 of ISPM28(<i>Anastrepha serpentina</i>), minimum absorbed dose of gray to prevent the emergence of adults of <i>Anastrepha serpentina</i> was stipulated as 100Gy so 70Gy is not appropriate.	Considered but not incorporated. Detailed responses to this issue were provided by the TPPT following comments received during the first country consultation round (see 2018-06 TPPT report). In summary, the TPPT considered data for all major economic species of <i>Anastrepha</i> based on ISPM 27 DP 9, with the evidence demonstrating <i>A. ludens</i> as the most radiotolerant species, and supporting it as a suitable proxy for establishing an irradiation dose at the genus level. While variability in schedules is published for <i>Anastrepha</i> , the TPPT determined the data is relatively homogenous when accounting for outlier studies with notable methodological concerns. The TPPT also discussed the higher 100Gy dose for <i>A. serpentina</i> under PT 3, advising that this previous schedule was a conservative

					interpretation of the data at the time, with the available information likely supporting a lower dose as being effective also. Notwithstanding that, the TPPT has referred PT 3 to Standards Committee for a decision on whether it should be retained under ISPM 28. For more detail, see previous TPPT responses to country comments resulting from the round 1 consultation period, as well as from the detailed review by Hallman (2013).
11	G	(General Comment)	C	<p><i>Category : SUBSTANTIVE (15) PPPO (27 Sep 2020 11:27 PM)</i></p> <p>We fully understand the treatment schedule is based on research available and across a range of hosts.</p> <p>70 Gy seems a very low rate compared with the target irradiation for other fruit fly species. E.g., Fruit flies irradiated with a minimum dose rate of 150 Gy for Mangoes.</p> <p>The dose of Gy for imported mangoes varies depending on the targeted fruit fly species. For <i>Anastrepha</i> spp. the dose is relatively low compared to other species. Mangoes are very attractive host for multi-species of fruit flies. A more comprehensive generic treatment for Mangoes would have advantages:</p> <ul style="list-style-type: none"> • As an assurance should other pest fruit fly species occur i.e., during early stages of establishment before notification to trading partners can be fulfilled. • A higher dose may be also be more effective against other regulated invertebrates that Mangoes may host. 	<p>Considered but not incorporated. Detailed responses to this issue were provided by the TPPT following comments received during the first country consultation round. In summary, the TPPT considered data for all major economic species of <i>Anastrepha</i> based on ISPM 27 DP 9, with the evidence demonstrating <i>A. ludens</i> as the most radiotolerant species, and supporting it as a suitable proxy for establishing an irradiation dose at the genus level. While variability in schedules is published for <i>Anastrepha</i>, the TPPT determined the data is relatively homogenous when accounting for outlier studies with notable methodological concerns (see the detailed review by Hallman (2013) for further detail). Given that, the dose was based on the work by Hallman and Martinez (2001) which demonstrated efficacy in excess of the Probit 9 standard following treatment</p>

				<p>of an estimated 94,400 insects at the target dose of 60Gy. It is worth noting that Hallman and Martinez (2001) also treated an estimated 52,000 insects at 50Gy which resulted in a single emerged adult female. A single survivor in 52,000 treated insects exceeds Probit 8.7 requirements (Probit 8.742; 99.99% efficacy), a standard published through the APPPC and accepted internationally. However, in finalising the draft annex for <i>Anastrepha</i>, the TPPT based the dose and efficacy on the more conservative 60Gy disinfestation trial work.</p> <p>With regard to host factors, it is the internationally recognised position that efficacious treatments apply to all fruits and vegetables given that dosimetry systems measure the actual dose absorbed by the target pest independent of the commodity. Therefore, while the reaserch was conducted in <i>Citrus paradisi</i>, it is equally effective for managing <i>Anastrepha</i> in mango.</p> <p>The TPPT also notes the remaining comment that a higher dose is preferred to give additional assurance against other pests of concern. However, the scope of the proposed irradiation schedule is determined on the basis of the underlying research, which for this case, is for <i>Anastrepha</i> at the level of genus. Export pathways to individual countries need to</p>
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					take account of a range of other pests and it is the responsibility of the respective NPPOs to develop their own measures to address the risk accordingly. The publication of the draft irradiation standard for <i>Anastrepha</i> spp. is consistent with the vast majority of standards finalised under ISPM 28.
12	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (14) Mexico (26 Sep 2020 5:37 AM) I support the document as it is and I have no comments	Noted
13	G	(General Comment)	C	<i>Category : TECHNICAL</i> (9) Uruguay (22 Sep 2020 5:18 PM) We agree with this document as it is	Noted
14	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (4) Qatar (9 Sep 2020 9:43 AM) we don't have any comment	Noted
15	G	(General Comment)	C	<i>Category : SUBSTANTIVE</i> (3) Thailand (2 Sep 2020 10:36 AM) Thailand has no objection on the proposed draft Irradiation treatment for the genus <i>Anastrepha</i> .	Noted
16	G	(General Comment)	C	<i>Category : TECHNICAL</i> (1) Venezuela (18 Aug 2020 12:39 AM) La parte técnica del Organismo Fitosanitario de Venezuela, al analizar el proyecto de NIMF: normas para medidas fitosanitarias para productos, concluyo estar de acuerdo con lo planteado por el Grupo de debate sobre normas	Noted
17	1	DRAFT ANNEX TO ISPM 28: Irradiation treatment for the genus <i>Anastrepha</i> (2017-031)	C	<i>Category : EDITORIAL</i> (16) Nepal (28 Sep 2020 7:58 AM) We have no comments on draft annex	Noted
18	13	2018-05 SC-Standards Committee (SC) added topic <i>Irradiation treatment for the genus Anastrepha</i> (2017-031) to the TPPT work programme with priority 1.	P	<i>Category : EDITORIAL</i> (23) European Union (29 Sep 2020 5:16 PM) Acronym to be developed for its first use.	Noted
19	13	2018-05 SC-Standards Committee (SC) added topic <i>Irradiation treatment for the genus Anastrepha</i> (2017-031) to the TPPT work programme with priority 1.	P	<i>Category : EDITORIAL</i> (5) EPPO (15 Sep 2020 1:31 PM) Acronym to be developed for its first use.	Incorporated

20	19	2020-06 SC approved for second consultation via-via e-decision (2020_eSC_May_23)	P	Category : EDITORIAL (24) European Union (29 Sep 2020 5:16 PM) Typo.	Incorporated
21	19	2020-06 SC approved for second consultation via-via e-decision (2020_eSC_May_23)	P	Category : EDITORIAL (6) EPP0 (15 Sep 2020 1:31 PM) Typo.	Incorporated
22	37	Minimum absorbed dose of 70 Gy to prevent the emergence of adults of <i>Anastrepha</i> spp.	P	Category : EDITORIAL (2) Egypt (28 Aug 2020 5:19 PM) This line of information needs a reference to refer to for reliability	Considered but not incorporated. Consistent with other irradiation annex PTs under ISPM 28, the current wording of the draft under [37] is retained. Notwithstanding that, section [43] details the underlying research reviewed by the TPPT in determining the annex schedule dose.
23	40	This irradiation treatment should not be applied to fruit and vegetables stored in modified atmospheres because modified atmospheres may affect the treatment efficacy.	C	Category : SUBSTANTIVE (10) China (23 Sep 2020 8:44 AM) Revise this sentence to allow the irradiation using on commodity in MAP; Add reference : Zhan G., Zhao J., Ma F., Liu B., Zhong Y., Song Z., Zhao Q., Chen N. and Ma C. Radioprotective Effects on Late Third-Instar <i>Bactrocera dorsalis</i> (Diptera: Tephritidae) Larvae in Low-Oxygen Atmospheres. <i>Insects</i> 2020, 11, 526; doi:10.3390/insects11080526 Modified atmospheres packaging (MAP) may affect irradiation treatment efficacy. This effect was studied in the added references, which can be used for treatment efficacy evaluation.	Considered but not incorporated. The effects of low oxygen on irradiation efficacy has been discussed by the TPPT, noting a proposal for the removal of MAP restrictions for Tephritidae in commodities irradiated in a 10% or greater oxygen environment. The issue has been referred to Standards Committee for consideration, who agreed with the TPPT recommendation and proposed to remove the restriction from all PTs concerning fruit flies. The CPM is yet to approve the proposal. Accordingly, the current MAP restrictions under the draft annex schedule is retained until CPM approval.
24	40	This irradiation treatment should not be applied to fruit and vegetables stored in modified atmospheres because modified atmospheres may affect the treatment efficacy.	P	Category : TECHNICAL (8) Japan (21 Sep 2020 9:03 AM) According to the report on the TPPT meeting in July 2019, TPPT members concluded that no difference in survival of four Tephritid	Considered but not incorporated. Agreed that the effects of low oxygen on irradiation efficacy has been

				fruit fly species was found whether stored in low oxygen before and during irradiation or not. The TPPT invited the SC to consider the study on the effects of low oxygen on irradiation efficacy and the recommendation of the TPPT to remove the restriction form irradiation PTs for Tephritidae fruit flies.	discussed by the TPPT, noting a proposal for the removal of MAP restrictions for Tephritidae in commodities irradiated in a 10% or greater oxygen environment. The issue has been referred to Standards Committee for consideration, who agreed with the TPPT recommendation and proposed to remove the restriction from all PTs concerning fruit flies. The CPM is yet to approve the proposal. Accordingly, the current MAP restrictions under the draft annex schedule is retained until CPM approval.
25	45	<p>Extrapolation of treatment efficacy to all fruits and vegetables was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: <i>Anastrepha fraterculus</i> (<i>Eugenia uvalha</i>, <i>Malus pumila</i> and <i>Mangifera indica</i>), <i>Anastrepha A. ludens</i> (<i>Citrus paradisi</i>, <i>Citrus sinensis</i>, <i>Mangifera M. indica</i> and artificial diet), <i>Anastrepha A. obliqua</i> (<i>Averrhoa carambola</i>, <i>C. sinensis</i> and <i>Psidium guajava</i>), <i>Anastrepha A. suspensa</i> (<i>Averrhoa A. carambola</i>, <i>C. paradisi</i> and <i>Mangifera M. indica</i>), <i>Bactrocera tryoni</i> (<i>C. sinensis</i>, <i>Solanum lycopersicum</i>, <i>Malus M. pumila</i>, <i>Mangifera indica M. indica</i>, <i>Persea americana</i> and <i>Prunus avium</i>), <i>Pseudococcus jackbeardsleyi</i> (<i>Cucurbita</i> sp. and <i>Solanum tuberosum</i>), <i>Tribolium confusum</i> (<i>Triticum aestivum</i>, <i>Hordeum vulgare</i> and <i>Zea mays</i>), <i>Cydia pomonella</i> (<i>Malus M. pumila</i> and artificial diet) and <i>Grapholita molesta</i> (<i>Malus M. pumila</i> and artificial diet) (Bustos <i>et al.</i>, 2004; Gould and von Windeguth, 1991; Hallman, 2004a, b2004b, 2013; Hallman and Martinez, 2001; Hallman <i>et al.</i>, 2010; Jessup <i>et al.</i>, 1992; Mansour, 2003; Tuncbilek and Kansu, 1996; von Windeguth, 1986; von Windeguth and Ismail, 1987; Zhan <i>et al.</i>, 2016). It is recognized, however, that treatment efficacy has not been tested for all potential fruit and vegetable hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, the treatment will</p>	P	<p><i>Category : EDITORIAL</i> (25) European Union (29 Sep 2020 5:20 PM) Typos for consistency with the other phytosanitary treatments.</p>	<p>Modified. For references to the pest genus <i>Anastrepha</i>, the commenters amendments have been incorporated. For the host genera <i>Malus</i> and <i>Mangifera</i> however, the full taxonomic names are retained in the draft standard to avoid any potential misinterpretation as to which host association is being referenced. This will ensure the appropriate level of clarity for publication in an international standard.</p>

		be reviewed.		
26	45	<p>Extrapolation of treatment efficacy to all fruits and vegetables was based on knowledge and experience that radiation dosimetry systems measure the actual radiation dose absorbed by the target pest independent of host commodity, and evidence from research studies on a variety of pests and commodities. These include studies on the following pests and hosts: <i>Anastrepha fraterculus</i> (<i>Eugenia uvalha</i>, <i>Malus pumila</i> and <i>Mangifera indica</i>), <i>Anastrepha A. ludens</i> (<i>Citrus paradisi</i>, <i>Citrus sinensis</i>, <i>Mangifera M. indica</i> and artificial diet), <i>Anastrepha A. obliqua</i> (<i>Averrhoa carambola</i>, <i>C. sinensis</i> and <i>Psidium guajava</i>), <i>Anastrepha A. suspensa</i> (<i>Averrhoa A. carambola</i>, <i>C. paradisi</i> and <i>Mangifera M. indica</i>), <i>Bactrocera tryoni</i> (<i>C. sinensis</i>, <i>Solanum lycopersicum</i>, <i>Malus M. pumila</i>, <i>Mangifera indica M. indica</i>, <i>Persea americana</i> and <i>Prunus avium</i>), <i>Pseudococcus jackbeardsleyi</i> (<i>Cucurbita</i> sp. and <i>Solanum tuberosum</i>), <i>Tribolium confusum</i> (<i>Triticum aestivum</i>, <i>Hordeum vulgare</i> and <i>Zea mays</i>), <i>Cydia pomonella</i> (<i>Malus M. pumila</i> and artificial diet) and <i>Grapholita molesta</i> (<i>Malus M. pumila</i> and artificial diet) (Bustos <i>et al.</i>, 2004; Gould and von Windeguth, 1991; Hallman, 2004a, b2004b, 2013; Hallman and Martinez, 2001; Hallman <i>et al.</i>, 2010; Jessup <i>et al.</i>, 1992; Mansour, 2003; Tuncbilek and Kansu, 1996; von Windeguth, 1986; von Windeguth and Ismail, 1987; Zhan <i>et al.</i>, 2016). It is recognized, however, that treatment efficacy has not been tested for all potential fruit and vegetable hosts of the target pest. If evidence becomes available to show that the extrapolation of the treatment to cover all hosts of this pest is incorrect, the treatment will be reviewed.</p>	P	<p>Category : EDITORIAL (7) EPPO (15 Sep 2020 1:31 PM) Typos for consistency with the other phytosanitary treatments.</p> <p>Modified. For references to the pest genus <i>Anastrepha</i>, the commenters amendments have been incorporated. For the host genera <i>Malus</i> and <i>Mangifera</i> however, the full taxonomic names are retained in the draft standard to avoid any potential misinterpretation as to which host association is being referenced. This will ensure the appropriate level of clarity for publication in an international standard.</p>