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COMMISSION ON PHYTOSANITARY MEASURES

Eleventh Session

Rome, 4-8 April 2016

Adoption of International Standards for Phytosanitary Measures - Ink amendments

Agenda item 9.2

Prepared by the IPPC Secretariat

I. Introduction

1. In an effort to align official language versions of ISPMs, the IPPC Secretariat has initiated a process for translating and incorporating ink amendments previously noted by CPM in English, to the other official language versions of ISPMs. Until now, tables presenting the proposed ink amendments (in English), are reviewed by the SC and recommended to the CPM. These ink amendments are then noted by the CPM and only the English versions of ISPMs are updated. This meant that other language versions of the ISPMs would not be updated and this has potential to cause possible conflicts.

2. The Secretariat, being mandated with the translation of the ISPMs, has begun the work of translating the ink amendments already noted by the CPM. The translations of these ink amendments have be reviewed and validated by the appropriate language review group (when available for this work) or by the member of the Technical Panel for the Glossary with responsibilities for the language in question. When incorrect translations are identified during the process, these will also be corrected. The specificities regarding the origin of the changes are detailed in the publication history of the relevant standard and the Secretariat has prepared tables detailing the translated ink amendments and this information would be available upon request. Applying ink amendments in to other language versions of ISPMs should help ensure greater alignment between the language versions of the ISPMs.

3. Due to the resource intensity of this process, it will be carried out as resources become available. The Secretariat has completed work on the French and Spanish language versions, which have been updated and are posted on the IPP. Work on the Arabic, Chinese and Russian versions will be undertaken as resources are identified.

II. Background for ink amendments to adopted phytosanitary treatments

4. In their July 2013 meeting, the Technical Panel for Phytosanitary Treatments (TPPT) suggested that "effective dose" be defined because this term was not clearly understood by contracting parties when submitting treatments for consideration as IPPC treatments. The term, with the abbreviation "ED", is used in phytosanitary treatments and in ISPM 28 (Phytosanitary treatments for regulated pests).

5. The TPPT proposed a definition and that the term be included in ISPM 5 (Glossary of phytosanitary terms).

6. The Standards Committee (SC) added the term to the List of topics for IPPC standards in November 2013 and tasked the Technical Panel for the Glossary (TPG) to review the definition.

7. The TPG, in February 2014, reviewed the definition and had a fundamental concern with the proposal because a dose is normally a quantity, but was expressed in the proposal as a "level of efficacy". The TPG suggested several options (see section 6.1.15 of the TPG report).

8. The SC May 2014 asked the TPPT to discuss "effective dose" (2013-017), envisaging the options proposed by the TPG.

9. The TPPT discussed the proposals and the term in their face-to-face meeting, June 2014, and in their September 2014 and February 2015 virtual meetings. It was noted that "effective dose" was intended to represent the level of effect provided by the treatment schedule in achieving the intended efficacy in a population of target pests at a given level of confidence (e.g. 95%). The TPPT discussed the options proposed by the TPG and agreed that defining a "dose" as an "effect" was illogical. The problem arises because originally ED (or LD) would be calculated by using a range of doses, measuring the effect and then interpolating the dose that was estimated to produce a specific effect (e.g. LD50, LD99 etc.). A treatment schedule needs to represent the "efficacy" (at a confidence level) which is achieved by the treatment when applied according to the treatment schedule which includes a stated treatment "dose".

III. Conclusion

10. After due consideration, the TPPT proposed that the term should not be defined but that ink amendments, to state the level of efficacy, should be applied to the adopted phytosanitary treatments to clarify the meaning without using the term. The TPPT proposed a standard wording to the SC May 2015, which agreed with the proposal. The SC November 2015 reviewed and approved the proposed ink amendments to the adopted phytosanitary treatments (presented in Attachment 1 to this document).

IV. Recommendation

11. The CPM is invited to:

1) *note* the process for translating and incorporating ink amendments previously noted in English to the other official language versions of ISPMs.

2) *note* the ink amendments to the currently adopted phytosanitary treatments as presented in Attachment 1 to this document.
3) *agree* that once the Secretariat has applied the ink amendments, the previous versions of the phytosanitary treatments are revoked and replaced by the newly noted versions.
4) *invite* contracting parties to support the work of aligning language versions of ISPMs by making donations to the IPPC Trust fund for this purpose.

Attachment 1 - Proposed ink amendments to adopted Annexes to ISPM 28 (*Phytosanitary treatments for regulated pests*)

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 1	**Irradiation treatment for *Anastrepha ludens***	Minimum absorbed dose of 70 Gy to prevent the emergence of adults of *Anastrepha ludens*. ~~Efficacy and confidence level of the treatment is $ED_{99.9968}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9968% of adults of *Anastrepha ludens*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing third instar larvae that were identified as the most tolerant life stage.
PT 2	**Irradiation treatment for *Anastrepha obliqua***	Minimum absorbed dose of 70 Gy to prevent the emergence of adults of *Anastrepha obliqua*. ~~Efficacy and confidence level of the treatment is $ED_{99.9968}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9968% of adults of *Anastrepha obliqua*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing third instar larvae that were identified as the most tolerant life stage.
PT 3	**Irradiation treatment for *Anastrepha serpentina***	Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Anastrepha serpentina*. ~~Efficacy and confidence level of the treatment is $ED_{99.9972}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9972% of adults of *Anastrepha serpentina*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing third instar larvae that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 4	**Irradiation treatment for *Bactrocera jarvisi***	Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Bactrocera jarvisi*. ~~Efficacy and confidence level of the treatment is $ED_{99.9981}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9981% of adults of *Bactrocera jarvisi*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing 1-day old eggs and third instar larvae that were identified as the most tolerant life stages.
PT 5	**Irradiation treatment for *Bactrocera tryoni***	Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Bactrocera tryoni*. ~~Efficacy and confidence level of the treatment is $ED_{99.9978}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9978% of adults of *Bactrocera tryoni*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing 1-day old eggs and third instar larvae that were identified as the most tolerant life stages.
PT 6	**Irradiation treatment for *Cydia pomonella***	Minimum absorbed dose of 200 Gy to prevent the emergence of adults of *Cydia pomonella*. ~~Efficacy and confidence level of the treatment is $ED_{99.9978}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9978% of adults of *Cydia pomonella*.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing fifth instar larvae that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 7	**Irradiation treatment for fruit flies of the family Tephritidae (generic)**	Minimum absorbed dose of 150 Gy to prevent the emergence of adults of fruit flies. ~~Efficacy and confidence level of the treatment is $ED_{99.9968}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9968% of adult fruit flies.	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing the most tolerant life stage of a number of economically important species in the Tephritidae.
PT 8	**Irradiation treatment for *Rhagoletis pomonella***	Minimum absorbed dose of 60 Gy to prevent the development of phanerocephalic pupae of *Rhagoletis pomonella*. ~~Efficacy and confidence level of the treatment is $ED_{99.9921}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents the development of not less than 99.9921% of phanerocephalic pupae of *Rhagoletis pomonella.*	The confirmatory trials demonstrated that the stated dose prevented the formation of the phanerocephalic pupa in fruit that were treated containing third instar larvae that were identified as the most tolerant life stage.
PT 9	**Irradiation treatment for *Conotrachelus nenuphar***	Minimum absorbed dose of 92 Gy to prevent the reproduction in adults of *Conotrachelus nenuphar*. ~~Efficacy and confidence level of the treatment is $ED_{99.9880}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents the reproduction in not less than 99.9880% of adults of *Conotrachelus nenuphar.*	The confirmatory trials demonstrated that the stated dose prevented successful reproduction (development of F1 beyond the first instar) in treated adults that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 10	**Irradiation treatment for *Grapholita molesta***	Minimum absorbed dose of 232 Gy to prevent the emergence of adults of *Grapholita molesta*. ~~Efficacy and confidence level of the treatment is $ED_{99.9949}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9949% of adults of *Grapholita molesta.*	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing fifth instar larvae that were identified as the most tolerant life stage.
PT 11	**Irradiation treatment for *Grapholita molesta* under hypoxia**	Minimum absorbed dose of 232 Gy to prevent oviposition of *Grapholita molesta*. ~~Efficacy and confidence level of the treatment is $ED_{99.9932}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents oviposition of not less than 99.9932% of *Grapholita molesta.*	The confirmatory trials demonstrated that the stated dose prevented egg laying (oviposition) in adults that emerged from the fruit that were treated containing fifth instar larvae that were identified as the most tolerant life stage.
PT 12	**Irradiation treatment for *Cylas formicarius elegantulus***	Minimum absorbed dose of 165 Gy to prevent the development of F1 adults of *Cylas formicarius elegantulus*. ~~Efficacy and confidence level of the treatment is ED99.9952 at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents the development of not less than 99.9952% of F1 adults of *Cylas formicarius elegantulus.*	The confirmatory trials demonstrated that the stated dose prevented F1 adult production from eggs laid by treated adults that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 13	**Irradiation treatment for *Euscepes postfasciatus***	Minimum absorbed dose of 150 Gy to prevent the development of F1 adults of *Euscepes postfasciatus*. ~~Efficacy and confidence level of the treatment is $ED_{99.9950}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents the development of not less than 99.9950% of F1 adults of *Euscepes postfasciatus.*	The confirmatory trials demonstrated that the stated dose prevented F1 adult production from eggs laid by treated adults that were identified as the most tolerant life stage.
PT 14	**Irradiation treatment for *Ceratitis capitata***	Minimum absorbed dose of 100 Gy to prevent the emergence of adults of *Ceratitis capitata.* ~~Efficacy and confidence level of the treatment is $ED_{99.9970}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents emergence of not less than 99.9970% of adults of *Ceratitis capitata.*	The confirmatory trials demonstrated that the stated dose prevented adult emergence from the fruit that were treated containing third instar larvae that were identified as the most tolerant life stage.
PT 15	**Vapour heat treatment for *Bactrocera cucurbitae* on *Cucumis melo* var. *reticulatus***	**[Scope of the treatment** This treatment comprises the vapour heat treatment of *Cucumis melo* var. *reticulatus* (netted melon) fruit to result in the mortality of eggs and larvae of melon fly (*Bactrocera cucurbitae*) at the stated efficacy.] **Treatment schedule** ~~The efficacy and confidence level of the treatment is effective dose (ED)$_{99.9889}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule kills not less than 99.9889% of eggs and larvae of *Bactrocera cucurbitae*.	The confirmatory trials demonstrated that the stated dose killed the treated eggs and third instar larvae that were identified as the most tolerant life stages.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 16	**Cold treatment for *Bactrocera tryoni* on *Citrus sinensis***	**[Scope of the treatment** This treatment comprises the cold treatment of fruit of *Citrus sinensis* (orange) to result in the mortality of eggs and larvae of *Bactrocera tryoni* (Queensland fruit fly) at the stated efficacy.] **Treatment schedule** ~~For cultivar "Navel" the efficacy is effective dose (ED)$_{99.9981}$ at the 95% confidence level.~~ ~~For cultivar "Valencia" the efficacy is ED$_{99.9973}$ at the 95% confidence level.~~ For cultivar "Navel", there is 95% confidence that the treatment according to this schedule kills not less than 99.9981% of eggs and larvae of *Bactrocera tryoni*. For cultivar "Valencia", there is 95% confidence that the treatment according to this schedule kills not less than 99.9973% of eggs and larvae of *Bactrocera tryoni*.	The confirmatory trials demonstrated that the stated dose killed the treated first instar larvae that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 17	**Cold treatment for *Bactrocera tryoni* on *Citrus reticulata* × *Citrus sinensis***	**[Scope of the treatment** This treatment comprises the cold treatment of fruit of *Citrus reticulata* × *Citrus sinensis* (tangor) to result in the mortality of eggs and larvae of *Bactrocera tryoni* (Queensland fruit fly) at the stated efficacy.] **Treatment schedule** ~~The efficacy is effective dose (ED)$_{99.9986}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule kills not less than 99.9986% of eggs and larvae of *Bactrocera tryoni*.	The confirmatory trials demonstrated that the stated dose killed the treated first instar larvae that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 18	**Cold treatment for *Bactrocera tryoni* on *Citrus limon***	**[Scope of the treatment** This treatment applies to the cold treatment of fruit of *Citrus limon* (lemon) to result in the mortality of eggs and larvae of *Bactrocera tryoni* (Queensland fruit fly) at the stated efficacy.] **Treatment schedule** **Schedule 1: 2 °C or below for 14 continuous days** ~~The efficacy is effective dose (ED)$_{99.99}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule kills not less than 99.99% of eggs and larvae of *Bactrocera tryoni*. **Schedule 2: 3 °C or below for 14 continuous days** ~~The efficacy is ED$_{99.9872}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule kills not less than 99.9872% of eggs and larvae of *Bactrocera tryoni*.	The confirmatory trials demonstrated that the stated dose killed the treated first instar larvae that were identified as the most tolerant life stage.

PT#	PT Title	Changes in the treatment schedule	Rationale for ink amendment to reflect end-point
PT 19	**Irradiation treatment for *Dysmicoccus neobrevipes*, *Planococcus lilacinus* and *Planococcus minor***	Minimum absorbed dose of 231 Gy to prevent the reproduction of adult females of *Dysmicoccus neobrevipes*, *Planococcus lilacinus* and *Planococcus minor*. ~~Efficacy and confidence level of the treatment is $ED_{99.99023}$ at the 95% confidence level.~~ There is 95% confidence that the treatment according to this schedule prevents the reproduction of not less than 99.99023% of adult females of *Dysmicoccus neobrevipes*, *Planococcus lilacinus* and *Planococcus minor*.	The confirmatory trials demonstrated that the stated dose prevented F1 larval development from eggs laid by treated female adults that were identified as the most tolerant life stage.