



2005-010: Draft Annex to ISPM 26 - Phytosanitary Procedures for Fruit Fly (Tephritidae) Management

| Com m. no. | Par a. no. | Comme nt type | Comment | Explanation | Language | Country |
|------------|------------|---------------|---|--|----------|---|
| 1. | G | Editorial | | A well written document and the intentions for the draft specification are clearly defined | English | South Africa |
| 2. | G | Substantive | I support the document as it is and I have no comments | | English | Jordan, Canada, Singapore, Lao People's Democratic Republic, Cameroon, Kenya, Zambia, Mexico, Burundi, United States of America |
| 3. | G | Substantive | <u>New Zealand feels that the strategies should be re-ordered. The most successful strategy is exclusion and this should be first. It should then be followed by eradication, control and lastly suppression.</u> | There does not appear to be any good reason for the present order of strategies. | English | New Zealand |
| 4. | 10 | Substantive | The four strategies used to manage target fruit fly populations are suppression, containment, eradication and exclusion. One or more of these strategies can be used depending on the circumstances and objectives. The corresponding phytosanitary procedures should take into account the phytosanitary import requirements of the importing country, fruit fly status in the target area, <u>host range</u> , host phenology and host susceptibility, pest biology, and economic and technical feasibility of the available phytosanitary procedures, as relevant. | The term "host range" should be added to fulfil the determination of host phenology and host susceptibility. | English | Thailand |
| 5. | 10 | Substantive | The four strategies used to manage target fruit fly populations are suppression, containment, eradication and exclusion. One or more of these strategies can be used <u>simultaneously</u> , depending on the circumstances and objectives. The corresponding phytosanitary procedures should take into account the phytosanitary import requirements of the importing country, fruit fly status in the target area, host phenology and host susceptibility, pest biology, and economic and technical feasibility of the available phytosanitary procedures, as relevant. | Indonesia would like to add "simultaneously" because one or more suitable strategies may work together in the same time at defined area. | English | Indonesia |
| 6. | 10 | Substantive | The four strategies used to manage target fruit fly populations are suppression, containment, eradication and exclusion. One or more | Addition of "to be used for fruit fly management" because the additional | English | South Africa |

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| | | ive | of these strategies can be used depending on the circumstances and objectives. The corresponding phytosanitary procedures <u>to be used for fruit fly management</u> should take into account the phytosanitary import requirements of the importing country, fruit fly status in the target area, host phenology and host susceptibility, pest biology, and economic and technical feasibility of the available phytosanitary procedures, as relevant. | wording provides clarity on the purpose of the action to be taken. | | |
| 7. | 13 | Substantive | 1. reduce a target fruit fly population to below an acceptable level <u>specified level of pest prevalence</u> | It should be more specific, It can not be so wide. It Should be consistent with ISPM 30 in which it is already defined in the MTD. | English | Costa Rica |
| 8. | 13 | Substantive | 1. reduce a target fruit fly population to below an acceptable level <u>or at the population level that meet the phytosanitary requirement</u> | Indonesia would like to add “ or at the population level that meet the phytosanitary requirement” such as to meet low pest prevalence as required by an importing country. | English | Indonesia |
| 9. | 14 | Editorial | 1. establish an FF-ALPP <u>(ISPM 22:2005; ISPM 30:2008)</u> | Cf. paragraph [35]. | English | Norway |
| 10. | 14 | Editorial | 1. establish an FF-ALPP <u>(ISPM 22:2005; ISPM 30:2008)</u> | Cf. paragraph [35]. | English | Morocco |
| 11. | 14 | Editorial | 1. establish an FF-ALPP <u>(ISPM 22:2005; ISPM 30:2008)</u> | Cf. paragraph [35]. | English | European Union |
| 12. | 14 | Editorial | 1. establish an FF-ALPP <u>(ISPM 22:2005; ISPM 30:2008)</u> | Cf. paragraph [35]. | English | EPPO, Serbia |
| 13. | 14 | Editorial | 1. establish an FF-ALPP <u>(ISPM 22:2005; ISPM 30:2008)</u> | Cf. paragraph [35]. | English | Algeria |
| 14. | 30 | Editorial | The following requirements should be considered when applying phytosanitary procedures for fruit fly management:,- | Editorial punctuation for flow and better understanding of the sentence. | English | South Africa |
| 15. | 32 | Substantive | Accurate identification of the target fruit fly species should be ensured so that the appropriate strategies and phytosanitary procedures can be selected and applied. National plant protection organizations (NPPOs) should have access to trained personnel to identify <u>detected specimens</u> adult and , where possible, immature stages of the target fruit fly species in an expeditious manner (ISPM 6:1997). | • Deletion of "adult and", addition of: “detected specimens” to align the sentence with the ISPM 27: (2006). Diagnostic protocols for regulated pests (e.g. 1, 2.4, etc). | English | South Africa |

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| 16. | 33 | Editorial | 2.2 Knowledge of Fruit fly biology | better in a list of requirements | English | Norway |
| 17. | 33 | Editorial | 2.2 Knowledge of Fruit fly biology | better in a list of requirements | English | Morocco |
| 18. | 33 | Editorial | 2.2 Knowledge of Fruit fly biology | better in a list of requirements | English | European Union |
| 19. | 33 | Editorial | 2.2 Knowledge of Fruit fly biology | better in a list of requirements | English | EPPO, Serbia |
| 20. | 33 | Editorial | 2.2 Knowledge of Fruit fly biology | better in a list of requirements | English | Algeria |
| 21. | 36 | Technic al | The area in which the phytosanitary procedures will be applied should be delimited. Geographical characteristics and crop host distribution within this area should be known. | If cultivated and wild host distribution has to be known. Or "plant host distribution". | English | Norway |
| 22. | 36 | Technic al | The area in which the phytosanitary procedures will be applied should be delimited. Geographical characteristics and crop host distribution within this area should be known. | If cultivated and wild host distribution has to be known. Or "plant host distribution". | English | Morocco |
| 23. | 36 | Technic al | The area in which the phytosanitary procedures will be applied should be delimited. Geographical characteristics and crop host distribution within this area should be known. | If cultivated and wild host distribution has to be known. Also consistent with para [34]. | English | European Union |
| 24. | 36 | Technic al | The area in which the phytosanitary procedures will be applied should be delimited. Geographical characteristics and crop host distribution within this area should be known. | If cultivated and wild host distribution has to be known. Or "plant host distribution". | English | EPPO, Algeria, Serbia |
| 25. | 42 | Substant ive | An official operational plan that specifies the required phytosanitary procedures should be developed. This operational plan may include specific requirements for the application of phytosanitary procedures and describe the roles and responsibilities of the interested and affected groups (ISPM 4:1995; ISPM 22:2005). 2.7 Evaluation of effectiveness The validiy of implementation of phytosanitary measures may be evaluated by concerned parties, including on site visit, evaluation and recognizing the effectiveness. | We would like to propose to add new section as herein for demonstration the evaluation of effectiveness of procedures. This should be provided as additional option. | English | Thailand |

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| 26. | 42 | Substantive | An official operational plan that specifies the required phytosanitary procedures should be developed. This operational plan may include specific requirements for the application of phytosanitary procedures and describe the roles and responsibilities of the interested and affected groups (ISPM 4:1995; ISPM 22:2005). <u>Add: 2.7 Evaluation of the effectivenessThe validity of implement of phytosanitary measures may be evaluated by concerned parties, including on site visit, evaluation and recognizing the effectiveness.</u> | The effectiveness of fruit fly management measures are concerned by the importing country and exporting country. The evaluation of effectiveness should be added. | English | China |
| 27. | 45 | Substantive | Phytosanitary procedures may be applied in an area, at a place of production or at a production site; during the pre- or post-harvest period; at the packing house; or during shipment or distribution of the commodity. Pest free areas, places of production and production sites, <u>area of low pest prevalence</u> may require the establishment and maintenance of an appropriate buffer zone. Appropriate phytosanitary procedures may be applied in the buffer zone if necessary (this standard and ISPM 10:1999). | Addition of "area of low pest prevalence", because maintenance of an appropriate buffer zone is also required with regard to an area of low pest prevalence as referenced in the ISPM 22: (2005). Requirements for the establishment of areas of low pest prevalence, ISPM 29: (2007) Recognition of pest free areas and areas of low pest prevalence, ISPM 30: (2008). Establishment of areas of low pest prevalence for fruit flies (Tephritidae): | English | South Africa |
| 28. | 47 | Substantive | Mechanical and cultural control procedures should be applied in order to reduce the <u>accumulation-level</u> of fruit fly populations. These controls include phytosanitary procedures such as field sanitation, fruit stripping, pruning, host plant removal or netting, fruit bagging, host-free periods, use of resistant varieties, trap cropping, ploughing and ground swamping. | "Accumulation" is not an recognized term to explain population dynamics of insects. | English | COSAVE, Uruguay, Brazil, Argentina, Peru |
| 29. | 47 | Substantive | Mechanical and cultural control procedures <u>may</u> should be applied in order to reduce the accumulation of fruit fly populations. These controls <u>may</u> include phytosanitary procedures such as field sanitation, fruit stripping, pruning, host plant removal or netting, fruit bagging, host-free periods, use of resistant varieties, trap cropping, ploughing and ground swamping. | There is debate as to whether fruit stripping is appropriate and may indeed cause female flies to spread. Fruit stripping is only appropriate if the fruit is a host and is in an infestable stage/ripeness. Removal of fallen fruit, while good for many reasons has not be shown to reduce fruit fly populations in all crops. For example, navel oranges are rarely infested (if at all) so there is no point mandating fruit stripping or orchard sweeping if the fruit are not infested. Fruit | English | Australia |

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| | | | | stripping and orchard sweeping present their own set of problems. For example, removing all fruit from within a 200 m radius will result in 500 tonnes (22 full container loads) of fruit for disposal. The standard should not make mandatory an activity that is not required. | | |
| 30. | 47 | Substantive | Mechanical and cultural control procedures should be applied in order to reduce the level accumulation of fruit fly populations. These controls include phytosanitary procedures such as field sanitation, fruit stripping, pruning, host plant removal or netting, fruit bagging, host-free periods, use of resistant varieties, trap cropping, ploughing and ground swamping. | "Accumulation" is not an recognized term to explain population dynamics of insects. | English | Chile |
| 31. | 47 | Substantive | Mechanical and cultural control procedures should be applied in order to reduce the accumulation of fruit fly populations. These controls include phytosanitary procedures such as orchard and field sanitation, fruit stripping, pruning, host plant removal or netting, fruit bagging, host-free periods, use of resistant varieties, trap cropping, ploughing and ground swamping. | Addition of "orchard and" because sanitation may be done in the orchard, vineyards etc. | English | South Africa |
| 32. | 48 | Technical | The effectiveness of field sanitation increases when the collection and disposal of fallen fruit are focused on the preferred hosts and are done continuously on an area-wide basis. For good results, collection and disposal should be done before, during and after harvest. collection and disposal of fallen fruit must be done as quickly as possible, and not exceeding three days | Fruit fly in the fallen fruit often will be transferred into soil after 3days. | English | China |
| 33. | 49 | Technical | Fruit that remains on the host plants after harvest, fruit rejected because of poor quality during harvest and packing, and fruit on host plants present in the surrounding area should be collected and safely destroyed disposed-of (e.g. by deep fruit burial). | Infested fruit on/in the ground is a major source of uncontrolled fruit fly infestations. If you bury fruit, the maggots will still be able to emerge from the fruit and pupate in the soil. Deep burial, more than 30 cm below ground, should be deep enough that the larvae will not survive. | English | Australia |
| 34. | 50 | Substantive | Elimination of Maintain low level green cover vegetation at the place of production will facilitate collection of fallen fruit. In addition, when vegetation is eliminated whit this practice , fallen fruit with larvae may be more exposed to direct sunlight and natural enemies, which will contribute to fruit fly larvae mortality. | It is not recommended complete removal of vegetation that can be counterproductive for conservation of the environment. The total removal of vegetation is not a good practice since it eliminates natural enemies | English | Costa Rica |

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| | | | | and causes erosion. | | |
| 35. | 50 | Technic al | Elimination of vegetation at the place of production will facilitate collection of fallen fruit. In addition, when vegetation is eliminated fallen fruit with larvae may be more exposed to direct sunlight and natural enemies, which will contribute to fruit fly larvae mortality. | Elimination of vegetation isn't beneficial to biological control. | English | China |
| 36. | 51 | Editorial | Bagging of fruit and use of exclusion netting can prevent fruit fly infestation of the fruit . Where used, bagging or exclusion netting should be carried out before the fruit becomes susceptible to fruit fly infestation. | Propose to remove "of the fruit", to avoid redundancy | English | Indonesia |
| 37. | 52 | Editorial | The pupae of many fruit flies can be targeted by disturbing the soil medium in which they pupate. This can be done by ground swamping (causing pupae anoxia) or ploughing (causing physical damage, desiccation to the pupae and exposing them to natural enemies). | Propose to remove "medium" to avoid confusion | English | Indonesia |
| 38. | 52 | Substant ive | The pupae of many fruit flies can be targeted by disturbing the soil medium in which they pupate. This can be done by ground swamping (causing pupae anoxia) or ploughing (causing physical damage, desiccation to the pupae and exposing them to natural enemies). | To clarify the meaning we propose to add "exposed to sunlight and", then replace desiccation by desiccated | English | Indonesia |
| 39. | 65 | Editorial | Lure and kill devices known as "bait stations" may be a more environmentally-friendly control procedure for fruit fly suppression than BAT . Bait stations consist of an attractant and a killing agent that may be contained in a device or directly applied to an appropriate surface. Unlike traps, bait stations do not retain the attracted fruit flies. | Clearer. | English | Norway |
| 40. | 65 | Editorial | Lure and kill devices known as "bait stations" may be a more environmentally-friendly control procedure for fruit fly suppression than BAT . Bait stations consist of an attractant and a killing agent that may be contained in a device or directly applied to an appropriate surface. Unlike traps, bait stations do not retain the attracted fruit flies. | Clearer. | English | Morocco |
| 41. | 65 | Editorial | Lure and kill devices known as "bait stations" may be a more environmentally-friendly control procedure for fruit fly suppression than BAT . Bait stations consist of an attractant and a killing agent that may be contained in a device or directly applied to an appropriate surface. Unlike traps, bait stations do not retain the attracted fruit flies. | Clearer. | English | European Union |

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| 42. | 65 | Editorial | Lure and kill devices known as "bait stations" may be a more environmentally-friendly control procedure for fruit fly suppression than BAT. Bait stations consist of an attractant and a killing agent that may be contained in a device or directly applied to an appropriate surface. Unlike traps, bait stations do not retain the attracted fruit flies. | Clearer. | English | EPPO, Serbia |
| 43. | 66 | Editorial | Bait stations are suitable for use in, for example, commercial fruit production operations, area-wide fruit fly management programmes, public areas and, in many cases, organic groves. Bait stations may be used in fruit fly pest free areas for population suppression of localized and well-isolated outbreaks. In infested areas known to be fruit fly reservoirs and sources of incursions into FF-ALPPs and FF-PFAs, bait stations should be deployed at high densities. | For consistency we propose to add pest between fruit fly and free areas | English | Indonesia |
| 44. | 72 | Editorial | Mass trapping uses trapping systems at high density to suppress fruit fly populations. In general, mass trapping procedures are the same as for traps used for survey purposes (Appendix 1). Traps should be deployed at the place of production early in the season when the first adult flies move into the field and populations are still at low levels, and should be serviced appropriately. | 1) Clearer with the addition of a comma in the last sentence. 2) Clearer with the addition of "should be" in the last sentence. | English | Norway |
| 45. | 72 | Editorial | Mass trapping uses trapping systems at high density to suppress fruit fly populations. In general, mass trapping procedures are the same as for traps used for survey purposes (Appendix 1). Traps should be deployed at the place of production early in the season when the first adult flies move into the field and populations are still at low levels, and should be serviced appropriately. | 1) Clearer with the addition of a comma in the last sentence. 2) Clearer with the addition of "should be" in the last sentence. | English | Morocco |
| 46. | 72 | Editorial | Mass trapping uses trapping systems at high density to suppress fruit fly populations. In general, mass trapping procedures are the same as for traps used for survey purposes (Appendix 1). Traps should be deployed at the place of production early in the season when the first adult flies move into the field and populations are still at low levels, and should be serviced appropriately. | 1) Clearer with the addition of a comma in the last sentence. 2) Clearer with the addition of "should be" in the last sentence. | English | European Union |
| 47. | 72 | Editorial | Mass trapping uses trapping systems at high density to suppress fruit fly populations. In general, mass trapping procedures are the same as for traps used for survey purposes (Appendix 1). Traps should be deployed at the place of production early in the season when the first adult flies move into the field and populations are still at low levels, and should be serviced appropriately. | 1) Clearer with the addition of a comma in the last sentence. 2) Clearer with the addition of "should be" in the last sentence. | English | EPPO, Serbia |

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| 48. | 72 | Editorial | Mass trapping uses trapping systems at high density to suppress fruit fly populations. In general, mass trapping procedures are the same as for traps used for survey purposes (Appendix 1). Traps should be deployed at the place of production early in the season when the first adult flies move into the field and populations are still at low levels, and <u>should be</u> serviced appropriately. | 1) Clearer with the addition of a comma in the last sentence. 2) Clearer with the addition of "should be" in the last sentence. | English | Algeria |
| 49. | 73 | Editorial | Trap density should be based on such factors as fruit fly density, physiological stage of the fruit fly, efficacy of the attractant and killing agent, phenology of the host and host density. The timing, layout and deployment of traps should be based on the target fruit fly <u>species</u> and host ecological data. | To clarify the meaning and consistency we would like to add "species" | English | Indonesia |
| 50. | 82 | Editorial | Sterile fruit flies may be released from the ground or from the air. Release intervals should be adjusted according to the longevity of the insect. Sterile fruit flies are generally released once or twice per week but the frequency of release may be influenced by circumstances such as pupae supply, staggered adult fly emergence and unfavourable weather. To establish sterile fruit fly release density, the quality of the sterile fruit flies, the level of the wild population and the desired sterile : wild fruit fly <u>density ratio</u> should be considered. | Cf. paragraph [83]. | English | Norway |
| 51. | 82 | Editorial | Sterile fruit flies may be released from the ground or from the air. Release intervals should be adjusted according to the longevity of the insect. Sterile fruit flies are generally released once or twice per week but the frequency of release may be influenced by circumstances such as pupae supply, staggered adult fly emergence and unfavourable weather. To establish sterile fruit fly release density, the quality of the sterile fruit flies, the level of the wild population and the desired sterile : wild fruit fly <u>density ratio</u> should be considered. | Cf. paragraph [83]. | English | Morocco |
| 52. | 82 | Editorial | Sterile fruit flies may be released from the ground or from the air. Release intervals should be adjusted according to the longevity of the insect. Sterile fruit flies are generally released once or twice per week but the frequency of release may be influenced by circumstances such as pupae supply, staggered adult fly emergence and unfavourable weather. To establish sterile fruit fly release density, the quality of the sterile fruit flies, the level of the wild population and the desired sterile : wild fruit fly <u>density ratio</u> should | Cf. paragraph [83]. | English | European Union |

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| | | | be considered. | | | |
| 53. | 82 | Editorial | Sterile fruit flies may be released from the ground or from the air. Release intervals should be adjusted according to the longevity of the insect. Sterile fruit flies are generally released once or twice per week but the frequency of release may be influenced by circumstances such as pupae supply, staggered adult fly emergence and unfavourable weather. To establish sterile fruit fly release density, the quality of the sterile fruit flies, the level of the wild population and the desired sterile : wild fruit fly density <u>ratio</u> should be considered. | Cf. paragraph [83]. | English | EPPO, Algeria |
| 54. | 88 | Editorial | Routine and periodic quality control tests should be carried out to determine the effect of mass rearing, irradiation, handling, shipment duration, holding and releasing on the performance of the sterile <u>fruit</u> flies, according to desired quality parameters (FAO/IAEA/USDA, 2003). | The word "fruit" should be added between "sterile flies" to be consistent with topic 3.6.2 Sterile fruit fly quality control. | English | Thailand |
| 55. | 90 | Substantive | Classic biological control may be used to reduce fruit fly populations. For further suppression, inundative release may be used. During inundative release, large numbers of natural enemies, typically parasitoids, are mass reared and released during critical periods to reduce pest populations. The use of biological control by inundation is limited to those biological control agents for which mass-rearing technology is available. The mass-reared natural enemies should be of high quality so that suppression of the target fruit fly population can be effectively achieved. The release of the biological control agents should be done on an area- wide basis and directed towards marginal and difficult to access areas that have high host density and that are known to be fruit fly reservoirs and sources of infestation for commercial fruit production or urban areas. | Biological control is not limited to extensive areas but also in smaller areas | English | Costa Rica |
| 56. | 97 | Substantive | NPPOs should ensure that records of information supporting all stages of the suppression, containment, eradication and exclusion strategies are kept for two years (or longer, if justified). | To be consistent with ISPM 30 1.3 Documentation and record-keeping Paragraph 3 | English | Costa Rica |
| 57. | 98 | Editorial | 67. References | wrong order of numbering. | English | Thailand |
| 58. | 98 | Editorial | 76. References | The number of the section has to be corrected. | English | Norway |

1 June - 30 September 2014

| Com m. no. | Par a. no. | Comme nt type | Comment | Explanation | Language | Country |
|------------------|------------------|---------------------|----------------------------------|--|----------|----------------|
| 59. | 98 | Editorial | 76. References | The number of the section has to be corrected. | English | Morocco |
| 60. | 98 | Editorial | 76. References | The number of the section has to be corrected. | English | European Union |
| 61. | 98 | Editorial | 76. References | The number of the section has to be corrected. | English | EPPO |
| 62. | 98 | Editorial | 76. References | Editorial error. | English | China |
| 63. | 98 | Editorial | 76. References | The number of the section has to be corrected. | English | Algeria |