

## **Normes OEPP EPPO Standards**

Efficacy evaluation of plant protection products  
Evaluation biologique des produits  
phytosanitaires

PP 1/276 (1), PP 1/277 (1), PP 1/278 (1),  
PP 1/152 (4), PP 1/181 (4), PP 1/214 (2),  
PP 1/223 (2), PP 1/225 (2), PP 1/226 (2),  
PP 1/239 (2)

PP 1/279 (1), PP 1/26 (4), PP 1/125 (4)  
PP 1/280 (1), PP 1/108 (3), PP 1/130 (3)  
PP 1/64 (4)

PP 1/146 (3), PP 1/162 (3), PP 1/171 (3)



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## Approval

EPPO Standards are approved by EPPO Council. The date of approval appears in each individual standard.

## Review

EPPO Standards are subject to periodic review and amendment. The next review date for this set of EPPO Standards is decided by the EPPO Working Party on Plant Protection Products.

## Amendment record

Amendments will be issued as necessary, numbered and dated. The dates of amendment appear in each individual standard (as appropriate).

## Distribution

EPPO Standards are distributed by the EPPO Secretariat to all EPPO member governments. Copies are available to any interested person under particular conditions upon request to the EPPO Secretariat.

## Scope

EPPO Standards for the Efficacy Evaluation of Plant Protection Products are intended to be used by National Plant Protection Organizations, in their capacity as authorities responsible for registration of plant protection products, and by the agrochemical companies which apply for registration of their products.

## Outline of requirements

EPPO Standards for the Efficacy Evaluation of Plant Protection Products describe the conduct of field and glasshouse trials carried out to assess the efficacy of plant protection products against specific pests by comparison with reference product(s). Each guideline gives details on experimental conditions (test organism, crop, trial conditions, design and layout of the trial), application of treatments (test and reference product, type of application and of equipment, time and frequency of application, doses and volumes, other products), mode of assessment, recording and measurements (meteorological and edaphic data, type, time and frequency of assessment, direct effects on the crop, effects on non-target organisms, recording of yield), and results (reporting).

EPPO Standards are drafted by consultation within Panels of relevant experts, drawn from across the EPPO region, to present best practice for the production and generation of efficacy data for the specific situation or target pest. They are agreed by EPPO following standard approval procedures decided by the EPPO Council and involving consultation of all Member Governments. They are reviewed on an *ad hoc* basis when Member Governments consider that scientific or other advances

have occurred to warrant significant changes to the text. Where changes are considered appropriate, the Panels draft amended versions of the specific standards which are subjected to the same approval procedures as the original versions, and published. EPPO Standards thus provide a scientifically sound and widely agreed method for the conduct of efficacy evaluation trials, and the results obtained by their use provide a sound basis for the demonstration of the efficacy of the product under evaluation.

EPPO Standards set requirements to be applied in member countries for efficacy evaluation of plant protection products. Efficacy evaluation of plant protection products should be conducted in accordance with specific EPPO Standards where these are available and in accordance with Good Experimental Practice. Other standards may also be followed, provided they satisfy at least the requirements of the relevant EPPO Standard. Such other standards may also be used in a manner complementary to EPPO Standards, providing additional information that may be useful when planning the design and conduct of the trial. If such other standards make less stringent requirements than the EPPO Standard, the methodology should be modified so that it at least complies with the EPPO Standard.

In an efficacy trials programme, situations may arise where trials cannot exactly comply with the requirements of an EPPO Standard. For example, a suitable standard treatment may not be available, or there may be practical constraints on plot size or number of replicates. In this case, there should be a sound and scientific consideration of the impact of such non-compliance on the integrity of the trial and the information obtained from it. Provided this integrity is not compromised, the trial may be accepted as following the EPPO Standard. A full explanation of the non-compliance should be provided in the report.

There may also be situations where a trial is conducted in a way that does not follow the methodology of the EPPO Standard, but provides results of equivalent quality. The reasons for conducting such trials are many and varied. Novel modes of action of plant protection products may require a different approach to assessment methodology and to timing of assessments, as may scientific advances in the knowledge of the pest. With consolidation in the agrochemical industry, there is a tendency to produce data for the European market as a whole. To reflect particular requirements or standard methods in certain member countries and to ensure uniformity of trials design in a trials series there may be a need to adjust the methodology used. The purpose of the trial may be to demonstrate a particular attribute of performance of the product where a specific and appropriate design or assessment regime may be required. The methodology that has been used, and the reasoning that it is appropriate for the efficacy trial, should be fully explained.

If there is no EPPO Standard available for a specific situation, an EPPO Standard may exist for the same or a closely related pest on the same or a similar crop, a draft EPPO Standard may be available, or another standard may exist that is suitable. Otherwise, the applicant should discuss possible trial methods with the authority.

## Existing EPPO Standards in this series

All the EPPO Standards for efficacy evaluation of plant protection products were originally published in Bulletin OEPP/EPPO Bulletin, over the period from 1977 to the present day. In the 1990s, a general revision was undertaken. Existing guidelines were brought into line with a new standard text. These new versions (dated 1996/1998) replaced all the versions published in Bulletin OEPP/EPPO Bulletin up to EPPO Standard PP 1/200 (dated 1996). The old versions are now withdrawn.

The new versions of the EPPO Standards were then (1997/1999) published in a new publication *Efficacy Evaluation of Plant Products*, available from the EPPO Secretariat. This was composed of four volumes, completed by four supplements, incorporating all new and revised EPPO Standards in this series up to and including those approved by EPPO Council in 2003-09. This publication was replaced by a second edition, which is now out of print, and these standards are now available on line (see below).

New or revised standards are first published in *Bulletin OEPP/EPPO Bulletin*, of which the following have now appeared:

- OEPP/EPPO (1997) EPPO Standards PP 1/135 (2), 1/201–206. *Bulletin OEPP/EPPO Bulletin 27*, 385–442.
- OEPP/EPPO (1998) EPPO Standards PP 1/26 (3), 1/38 (3), 1/64 (3), 1/131 (3), 1/207–211. *Bulletin OEPP/EPPO Bulletin 28*, 275–358.
- OEPP/EPPO (1999) EPPO Standards PP 1/19 (3), 1/69 (3), 1/125 (3), 1/152 (2), 1/212–213. *Bulletin OEPP/EPPO Bulletin 29*, 273–348.
- OEPP/EPPO (2001) EPPO Standards PP 1/3 (4), 1/17 (3), 1/22 (3), 1/25 (3), 1/31 (3), 1/129 (3), 1/170 (3), 1/214. *Bulletin OEPP/EPPO Bulletin 31*, 289–336.
- OEPP/EPPO (2002) EPPO Standards PP 1/4 (4), 1/73 (3), 1/95(3), 1/96 (3), 1/165 (3), 1/166 (3), 1/215–218. *Bulletin OEPP/EPPO Bulletin 32*, 311–366.
- OEPP/EPPO (2003) EPPO Standards PP 1/1 (4), 1/18 (3), 1/54 (3), 1/78 (3), 1/107 (3), PP 1/219–222. *Bulletin OEPP/EPPO Bulletin 33*, 1–86.
- OEPP/EPPO (2004) EPPO Standards PP 1/19 (4), PP 1/60 (3), PP 1/181 (3), PP 1/223–226. *Bulletin OEPP/EPPO Bulletin 34*, 1–40.
- OEPP/EPPO (2005) EPPO Standards PP 1/10 (4), PP1/46 (3), PP 1/178 (3), PP 1/227–238. *Bulletin OEPP/EPPO Bulletin 35*, 171–232.
- OEPP/EPPO (2005) EPPO Standards PP 1/28 (3), PP 1/45 (3), PP 1/70 (3), PP 1/157 (3), PP 1/239–247. *Bulletin OEPP/EPPO Bulletin 35*, 543–597.
- OEPP/EPPO (2007) EPPO Standards PP 1/135 (3), PP 1/152 (3), PP 1/248, PP 1/20 (3), PP 1/43 (3), PP 1/49 (3), PP 1/50 (3), PP 1/51 (3), PP 1/52 (3), PP 1/63 (3), PP 1/71 (3), PP 1/158 (3), PP 1/193 (3), PP 1/209 (2), PP 1/249–255. *Bulletin OEPP/EPPO Bulletin 37*, 4–98.
- OEPP/EPPO (2007) EPPO Standards PP 1/207 (2), PP 1/256, PP 1/257, PP 1/53 (3), PP 1/76 (3), PP 1/91 (3), PP 1/93 (3), PP 1/258–260. *Bulletin OEPP/EPPO Bulletin 37*, 452–498.
- OEPP/EPPO (2008) EPPO Standards PP 1/2 (4), PP 1/12 (4), PP 1/75 (3), PP 1/88 (3), PP 1/89 (3), PP 1/90 (3), PP 1/98 (3), PP 1/99 (3), PP 1/119 (3), PP 1/208 (2), PP 1/114 (3), PP 1/261 (1), PP 1/262 (1), PP 1/263 (1), PP 1/264 (1), PP 1/265 (1), PP 1/266 (1), PP 1/267 (1). *Bulletin OEPP/EPPO Bulletin 38*, 268–337.
- OEPP/EPPO (2009) EPPO Standards PP 1/36 (3), PP 1/61 (3) PP 1/92 (3), PP 1/94 (3), PP 1/111 (3), PP 1/116 (3), PP 1/117 (3), PP 1/136 (3), PP 1/141 (3), PP 1/154 (3), PP 1/190 (3).
- OEPP/EPPO (2010) EPPO Standards PP 1/14 (3), PP 1/115 (3), PP 1/137 (3), PP 1/138 (3), PP 1/140 (3), PP 1/143 (3), PP 1/153 (3), PP 1/155 (3), PP 1/156 (4), PP 1/163 (3), PP 1/164 (3), PP 1/189 (3), PP 1/268 (1), PP 1/269 (1), PP 1/270 (1).
- OEPP/EPPO (2011) EPPO Standards PP 1/62 (3), PP 1/67 (3), PP 1/81 (3), PP 1/118 (3), PP 1/139 (3), PP 1/145 (3), PP 1/161 (3), PP 1/183 (3), PP 1/186 (3), PP 1/212 (2), PP 1/271-275 (1).
- OEPP/EPPO (2012) EPPO Standards PP 1/276 (1), PP 1/277 (1), PP 1/278 (1), PP 1/152 (4), PP 1/181 (4), PP 1/214 (2), PP 1/223 (2), PP 1/225 (2), PP 1/226 (2), PP 1/239 (2) PP 1/279 (1), PP 1/26 (4), PP 1/125 (4), PP 1/280 (1), PP 1/108 (3), PP 1/130 (3), PP 1/64 (4), PP 1/146 (3), PP 1/162 (3), PP 1/171 (3).
- EPPO Standards on efficacy evaluation of plant protection products are now available as a web-based database (<http://pp1.eppo.org>).

## References

- FAO (1989) Guidelines on efficacy data for the registration of pesticides for plant protection. *Bulletin OEPP/EPPO Bulletin 19*, 196–220.
- OEPP/EPPO (1989) General introduction to the EPPO Guidelines for Efficacy Evaluation of Plant Protection Products. *Bulletin OEPP/EPPO Bulletin 19*, 183–195.