

EPPO Standards for the Efficacy Evaluation of Plant Protection Products (FAO, 1989; OEPP/EPPO, 1989) 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 give 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).

The 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. The 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 (and EU Member States; EU, 1991, 1993) 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 reason 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.