◆ EPPO Standards ◆

PHYTOSANITARY PROCEDURES

GLOMERELLA GOSSYPII

INSPECTION AND TEST METHODS
FOR COTTON SEEDS

PM 3/41(1) English

Organisation Européenne et Méditerranéenne pour la Protection des Plantes
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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 Phytosanitary Regulations.

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 Phytosanitary Procedures are intended to be used by National Plant Protection Organizations, in their capacity as bodies responsible for the inspection, testing and treatment of plants and plant products moving in trade, or for the implementation of surveys against quarantine pests.

REFERENCES

OEPP/EPPO (1996) Glossary of Phytosanitary Terms. *EPPO Technical Documents* no. 1026.

CABI/EPPO (1997) Quarantine Pests for Europe, 2nd edition (Ed. by Smith, I.M.; McNamara, D.G.; Scott, P.R.; Holderness, M.), CAB International, Wallingford, UK.

OEPP/EPPO (in preparation) Specific Quarantine Requirements. Available as electronic documents from the EPPO Web Site.

DEFINITIONS

Phytosanitary procedure: Any officially prescribed method for performing inspections, tests, surveys or treatments in connection with plant quarantine.

Inspection: Official visual examination of plants, plant products or other regulated articles to determine if pests are present and/or to determine compliance with phytosanitary regulations.

Survey: An official procedure conducted over a defined period of time to determine the characteristics of a pest population or to determine which species occur in an area.

Test: Official examination, other than visual, to determine if pests are present or to identify pests.

Treatment: An officially authorized procedure for the killing, removal or rendering infertile of pests.

OUTLINE OF REQUIREMENTS

EPPO Phytosanitary Procedures describe the methods to be followed for performing inspections, tests, or treatments of commodities moving in trade, or surveys against quarantine pests. For many quarantine pests, a reference to the relevant EPPO Phytosanitary Procedure is made in the corresponding EPPO Specific Quarantine Requirements. The development of EPPO phytosanitary procedures started many years ago, and these methods have been published in the Bulletin OEPP/EPPO Bulletin under several titles: ‘Fumigation standards’, ‘Quarantine Inspection Procedures’ and ‘Quarantine Procedures’. All of them are now appearing under the title ‘EPPO Phytosanitary Procedures’ and are being edited into EPPO Standard format. The numbering of these procedures will continue to follow the sequence described in the Bulletin OEPP/EPPO Bulletin 20(2), 229-233, which corresponds approximately to the chronological order of appearance of the Phytosanitary Procedures.

EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES

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Phytosanitary procedure

GLOMERELLA GOSSYPII

INSPECTION AND TEST METHODS FOR COTTON SEEDS

Specific scope

This standard describes the inspection and test methods for *Glomerella gossypii* on cotton seeds, to satisfy the requirements of EPPO Standard PM 2/71(1).

Specific approval and amendment

First approved in September 1991.
Edited as EPPO Standard in 1998.

Introduction

Glomerella gossypii is an EPPO A2 quarantine organism and details about its biology, distribution and economic importance can be found in Data sheet no. 71 (OEPP/EPPO, 1982).

According to the EPPO specific quarantine requirements for *G. gossypii* (OEPP/EPPO, 1990), importing countries are recommended to require countries exporting cotton seeds, where *G. gossypii* occurs, to certify that the seed crop has been inspected during the growing season and found free from *G. gossypii* or that the seeds were acid-delinted or that representative samples of seeds have been tested by an EPPO-recommended method and found free from the fungus.

Method

Symptoms of infection by *G. gossypii* in field-grown plants are generally easily visible when weather conditions are suitable. Otherwise low levels of infection may escape notice and contaminated seeds may look healthy. The method for detection of *G. gossypii* on seeds of *Gossypium* spp. requires germination of seeds and detection of symptoms on seedlings. Details are given in Appendix I.

APPENDIX I

Field inspection

During the growing season, look for symptoms on seedling stems and bolls (OEPP/EPPO, 1982).

Seed test

Germination of seeds of Gossypium spp.
Take at random 1200 seeds (6 replicates of 200) and soak separately in 60 ml distilled water for 17 h. Sow in moist sterile sand each replicate in a separate seed tray, at l-cm spacing in rows 3 cm apart. Pour remaining water from each container over seeds and cover with a 2-cm layer of moist sand. Incubate at 25-28°C and RH 80-90%, with natural daylight, watering every day, or as necessary, to keep the sand moist.

Detection of disease symptoms on the seedlings
After 11-14 days, score seedlings for symptoms (hypocotyls show black water-soaked anthracnose lesions, which usually spread to cause wilting and death of the seedling). *Xanthomonas campestris* pv. *malvacearum* is also

seed-borne on *Gossypium* spp. and will kill seedlings under the same conditions (the same test can be used for its detection). In this case, cotyledons show marginal water-soaked lesions, which run along the veins, reaching the terminal bud and thus killing the seedling. If there is doubt about identification from the symptoms, incubate the damaged hypocotyls at 25°C in a moist chamber for 5-6 days and look for the characteristic pink cushion-like acervuli of the fungus forming at the centre of lesions. This procedure is based on that of Halfon-Meiri & Volcani (1977).

References

Halfon-Meiri, A., Volcani, Z. (1977) A combined method for detecting *Colletotrichum gossypii* and *Xanthomonas malvacearum* in cotton seed. *Seed Science and Technology* **5**, 129-139.

OEPP/EPPO (1982) Data sheets on quarantine organisms. No. 71. *Glomerella gossypii. Bulletin OEPP/EPPO Bulletin* **12** (1).

OEPP/EPPO (1990) Specific quarantine requirements. *EPPO Technical Documents* no. 1008.

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