10th INTERNATIONAL VERTICILLIUM SYMPOSIUM
16-20 NOVEMBER, 2009
CORFU ISLAND, HELLAS

PROGRAM

ABSTRACTS OF PLENARY, KEYNOTE, ORAL AND POSTER PRESENTATIONS

LIST OF PARTICIPANTS

FRONT COVER PICTURE

A TYPICAL SCENERY OF THE AEGEAN ISLAND ASTYPALAIA DURING SUMMER

Combination of land and sea with the messenger Ancient Greek God Hermes

Symbolic meaning: The ancient Greek God Hermes is carrying the message concerning the solution of controlling Verticillium over the seas and cultivated lands around the world.....

Picture and comments by Eris Tjamos

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CORFU HOLIDAY PALACE HOTEL
CORFU ISLAND, HELLAS

Dear colleagues

The International Verticillium Steering Committee and the Local Organizing Committee of the 10th International Verticillium Symposium are pleased to have fulfilled the organization of the symposium.

Over 80 scientists from 14 countries will attend the symposium.

Ninety-one plenary, keynotes, oral and poster presentations will be given.

You will enjoy staying in one of the most beautiful, picturesque islands of the Mediterranean Sea. You will hear a lot about the history of the people and admire the civilization of the country you are visiting particularly for those coming for the first time in Greece. You will visit the ancient and medieval sites and places, where Greeks lived for thousands of years. You will be also experienced the hospitality of the modern Greeks and enjoy food and drinks. Beyond attending the symposium you will be in a very friendly and creative environment for holding fruitful scientific discussions and creating new accountancies and links leading to future research cooperation.

For the International Verticillium Steering Committee and the Local Organizers

Eris Tjamos

MOLECULAR DETECTION OF *VERTICILLIUM DAHLIAE* IN SOIL

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Verticillium wilt is a serious problem in tree nursery and agricultural crops in the Netherlands. Losses due to this disease in tree nursery industry recently were estimated at around 5 million euro annually. Because *V. dahliae* is widely spread, nurserymen need to check the soil of new fields for the presence of this fungus before culturing susceptible crops. Methods for detection and quantification of *V. dahliae* in soil samples based on plating of subsamples on selective agar media are well known and commonly used. However, these methods are laborious, time consuming and the results are only indicative for the disease levels to be expected as some microsclerotia may remain dormant. For faster and more exact detection, a PCR method, preferentially a quantitative (real time) PCR, might be a better tool both to advise growers and for use in research.

The aim of this study is therefore to compare existing bioassays for detection of *V. dahliae* with a (quantitative) DNA test for application in detection and quantification of *V. dahliae* in soil samples.

The primers VerDITSF/VerDITSR were developed according to the ribosomal ITS sequence of *V. dahliae*. The sensitivity, due to the multi-copy ITS-sequences present in this fungus, under laboratory conditions was high; no cross-reaction was found with *V. albo-atrum* nor *V. tricorpus, Olpidium, Rhizoctonia*, *Pythium* spp. or other soil fungi as far as tested. A specific amplicon of approx. 300 bp was amplified under standard PCR-conditions. For real time PCR detection the primers VertBt-F/VertBt-R were developed which amplified an internal ITS-fragment of 115 bp; a good result was obtained using SYBRGreen detection with purified DNA of *V. dahliae.*

At this moment the extraction of soil samples containing *V. dahliae* is optimized to obtain DNA. Preliminary results indicate that a nested PCR might be needed to obtain a signal to be able to detect low amounts of DNA of this fungus.