

## Summary report from the First International Workshop on Grapevine Trunk Diseases

The First International Workshop on Grapevine Trunk Diseases, jointly organized by the Mediterranean Phytopathological Union and the International Council on Grapevine Trunk Diseases (ICGTD), was held in Siena, Italy from 1 to 3 October, 1999. Ninety-five scientists from 21 different countries focused attention on esca (black measles) in Europe, California and Australia, and on esca-like diseases in Argentina and Chile. The economic importance of this problem was confirmed by recent surveys in Italy which revealed vineyards with up to 63% of the vines infected in Southern Italy (Apulia) and up to 85% in Tuscany.

In addition, young-grapevine declines, also called “black goo”, or “Petri grapevine decline”, as experienced in South Africa, Australia, Hungary, Portugal, Italy and California, were the subject of special notice. With only a single exception, it was agreed that parasitic diseases of this kind are of great concern to all grape-producing countries because of their adverse effect on vine productivity and longevity.

Three recent developments in Australia received attention. First was the formal diagnosis of esca in 1999. Second was the widespread recovery of *Phaeoacremonium chlamydosporum* from rootstock mother vines and the discovery that this fungus can produce pycnidia and pycnoconidia. The third development was the launching of a national project aiming at the control of esca, black goo and other trunk diseases.

Recent advances in the taxonomy and molecular biology of the fungi involved with the above diseases were examined and discussed. As a result, *P. chlamydosporum* has been redispersed in a new genus as *Phaeomoniella chlamydospora*. As for the lignicolous basidiomycetes associated with esca, it appears that *Fomitiporia punctata* is the most prevalent species, at least in Europe. In Chile and Australia, some different species seem to exist that are not sufficiently known.

A most interesting session dealt with host-pathogen interactions.

The Italian group from the Universities of Bari and Florence has made notable advances in this area. In large-scale experiments in Apulia it was demonstrated that *F. punctata*, when singly inoculated in mature vines, is able to produce internal white rot but not the leaf or fruit symptoms of esca. This fungus thus behaves as a primary pathogen, without the need of other organisms. On the contrary, the presence of *P. aleophilum* appears to limit the wood colonization by *F. punctata* while that of *P. chlamydospora* seems to make no difference. Where *P. aleophilum* and *P. chlamydospora* were inoculated in vines individually or in combination, they induced foliar symptoms (chlorotic spots and a marginal reddish area) after only six months.

Of considerable importance were the results obtained in the Bordeaux region of France where epidemiological studies conducted for three consecutive years (from 1996 to 1999) showed that both *P. chlamydospora* and *P. aleophilum* can be airborne and that the former organism is able to contaminate pruning wounds. The isolation of both fungi from the inside of unpruned canes also suggests that they can be propagated and distributed through infected nursery material.

Two aspects of the epidemiology of esca were investigated in Central (Tuscany) and Southern Italy (Apulia): the annual incidence of esca and its spatial aggregation in vineyards. The phenomenon ascertained by all investigators was the high level of fluctuation of symptom expression from year to year. This makes it difficult to analyze the type of progress of the disease in the vineyard. However, the results of statistical analyses indicate that in the vineyards so far examined in Tuscany esca is spread by airborne spores from distant and/or internal sources rather than by contaminated pruning tools along the vine columns.

Little could be said about chemical control. However, it was quite evident that esca has greatly gained in importance in most countries mainly because of the banning of sodium arsenite and the lack of effective sanitation measures. This could be seen in the vineyards visited during the field trip in the Chianti area.

Because of the world-wide importance of grapevine trunk diseases and the urgency of developing safe and effective control measures, the ICGTD intends to continue the work of co-ordinating the various research groups involved in this sector, disseminating awareness of the results obtained and encouraging meetings and workshops on these diseases.

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