



**X CONGRESO
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*Transmission of plant
viruses by water*

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Diverse plant pathogenic viruses occur in high concentrations in surface waters like ditches, rivers and lakes. For a number of viruses it has been demonstrated that they can be released from undisturbed roots into the soil respectively water and that these viruses remain infectious there for long periods of time. Experiments were carried out and will be presented including a review on worldwide research.

Infected plants growing in the vicinity of waters may thus likewise be a source of plant viruses in rivers and lakes. Furthermore dump material from vegetables and ornamentals may be another source of viruses in surface waters. Methods to detect respectively identify plant viruses in water are comparatively presented.

In landscapes with agricultural and horticultural crops the application of irrigation water from rivers and lakes has to be reconsidered critically in regard to evaluate the risk of a dissemination of plant virus diseases. A similar source of danger display recirculating irrigation systems developed to increase productivity as well as more efficient use of water,

energy, nutrient and pesticides. These systems facilitate virus transmission. So data on the transmissibility of selected viruses as there are Tomato spotted wilt virus (TSWV), Cucumber green mottle mosaic virus (CGMMV), Pepino mosaic virus (PepMV), Cymbidium mosaic virus (CyMV) und Odontoglossum ringspot virus (ORSV) by recirculating nutrient solutions are presented. Furthermore the transmission of plant viruses by water may be aided for instance by a) zoospores of *Olpidium* sp. which acquire the virus outside the host plant or b) by aphidal vectors.

Applicable pesticides are helpful measures to control biotic stress impact and minimize virus-induced yield losses. Selected pesticides combining fungicide and insecticide efficacy to be used in horticulture are presented. Moreover disinfection of tools and tables as prophylactic trail to avoid virus transmission is discussed.