USE OF STABLE VARIANTS OF LOW AND HIGH PATHOGENICITY IN CONTROL OF VASCULAR DISEASES : PRELIMINARY RESULTS OBTAINED WITH *VERTICILLIUM DAHLIAE* KLEBAHN AND TOMATO

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BACKGROUND AND OBJECTIVES

Good control of vascular diseases can be obtained by using agronomical methods and resistant varieties simultaneously. But, sometimes, resistance genes are yet unknown, for example, to control race 2. Is it therefore possible to use stable hyalin variants of *V.dahliae* in the control of tomato *Verticillium* wilt The aim of the present study is to answer this question.

MATERIALS AND METHODS

Several hyalin variants previously obtained from different isolates of race 1 or race 2 of *V. dahliae* (Hadisutrisno, 1987) were used in this study.

Each variant was inoculated to susceptible and resistant tomato by the usual method (Lahlou and Boisson, 1984) or used by plant breeders, comparatively with wild isolates, for testing susceptibility or resistance of tomato to *Verticillium* wilt (Rouamba, 1987).

Hyalin variants of *V. dahliae* belonging to race 2 were used in cross-protection experiments (Souop,1987)., Plants of Marmande VR (a variety of tomato having the gene Ve) were inoculated by dipping (Lahlou and Boisson, 1984) first with a non pathogenic hyalin variant and later with a highly pathogenic one. Depending upon disease development, symptoms were compared on preinoculated by protective strain and non-preinoculated plants.

RESULTS AND CONCLUSIONS

Hyalin variants have some useful pecularities for plant breeders.

Firstly, highly pathogenic hyalin variants could be obtained in the progenies of mildly or weakly pathogenic isolated or clones. For example, variant V3.190 found by Hadisutrisno (1987) was much more pathogenic than the isolate 3 (originating from Brazil and belonging to race 2) from which it appeared. This variant was tested by plant breeders in the experimental INRA station at Montfavet and now is used in routine to look for tomato cultivars resistant to race 2 of *V.dahliae* (Laterrot, personal communication).

Secondly, these hyalin variants behaved similarly in repeated inoculations. Their pathogenicity was very stable, opposite to the large variability observed in the wild isolates (ROUAMBA, 1987).

2 - Cross protection is effective and durable in tomato and could be useful to control epidemics of *Verticillium* wilt caused by race 2 of *V. dahliae*. Conditions to obtain good premunition were studied in laboratory. Further experiments in fields are however necessary to insure such technique effectiveness.

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