3207 - Crop Breeding & Genetics

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RESISTANCE OF SEEDLESS TABLE GRAPES CULTIVARS AND SELECTIONS TO DOWNY MILDEW

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Downy mildew caused by Plasmopara viticola (Berk. & Curt) Berl. Toni is a devastating disease of grapes worldwide mainly in hot and humid regions.Because of its destructive nature and economic importance, the Breeding Program of Embrapa Grape and Wine is actively trying to enhance resistance to downy mildew in its breeding material. The objective of this study was to evaluate the resistance of seedless table grapes cultivars and selections to downy mildew under natural infection. Two experiments were conducted in April/May and November/ December 2006 in Tropical Viticulture Experimental Station in Jales, São Paulo, Brazil. Ten selections and one cultivar developed by the Genetic Grape Breeding Program of Embrapa Grape and Wine were assessed for resistance to downy mildew under natural field conditions. Traditional hybrid Seyve Villard 12375 and cultivar Thompson Seedless were used as resistant and susceptible controls, respectively. The experimental design was on randomized blocks with 13 treatments and five replications, each plot presenting four plants. Downy mildew resistance was determined by evaluating the disease severity on the leaves, employing a scale with notes from 1 to 9 defined by UPOV and OIV, during 53 and 38 days without spraying fungicide in the first and second experiment, respectively. The analysis of the area under the disease progress curve (AUDPC) indicated that the selection Embrapa 102 as well as the cultivar Seyve Villard 12375 was highly resistant to downy mildew, while the selections Embrapa 96, Embrapa 42, Embrapa 50 and the cultivars BRS Clara and Thompson Seedless were highly susceptible. The selection Embrapa 200 was classified as resistant, the selections Embrapa 47 and Embrapa 116, as moderately resistant and the selections Embrapa 92, Embrapa 179 and Embrapa 91, as susceptible. The downy mildew resistance of the analyzed genetic material together with the desirable agronomic characteristics make it a promise of future seedless table grapes cultivars. Also, it can be used in future crossings which aim to develop new cultivars.