P38 – Reaction of PIWI cultivars and selections to Ripe rot during grape physiological maturation in south of Brazil

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Abstract

The southern regions of Brazil conditions favor the occurrence of diseases, due to the presence of temperature and rain-induced diseases, which hamper the quality of the grapevine harvest and the productivity. Although genetic breeding developed cultivars that carries out resistance alleles to downy and powdery mildew, called PIWI varieties, but not yet to ripe rot of grape. Ripe rot is caused by several species of *Colletotrichum* and exhibit rotting on ripe fruits, which directly degrades the quality of the wine or require early harvest. Therefore, the objective of this work was to evaluate the incidence and severity of ripe rot of grape in different PIWI cultivars and selections. The work was carried out in the experimental stations of Epagri, Videira, and UFSC, Curitibanos, both in Santa Catarina; under periodic monitoring of average, maximum and minimum air temperatures, rainfall and relative humidity. All cultivars and selections used come from modified backcrossing, with 90% of *V. vinifera* genome. The incidence (I) and severity (S) of the ripe rot were performed at 2018/2019 and 2019/2020 harvests on five clusters of two randomly chosen plants, according to a diagrammatic scale of rot in vine clusters. A randomized block design was applied, with data normality using the Shapiro-Wilk test and Analysis of Variance (ANOVA), in the R 4.1.2 software. In Videira, the average temperature was 2°C and precipitation was 20-30% higher than in Curitibanos. In both years and locations, the relative humidity always was above 75%. Although distinct behavior of the PIWI cultivars and selections to the incidence and severity, all genotypes showed symptoms of ripe rot in both vintages and locations. While cultivars Sauvignon Blanc and Bronner showed the highest susceptibility, Gf.2004-043-0015 and Gf.2004-043-0024 showed the lowest susceptibility to ripe rot. Cultivars Regent, Baron, Calardis Blanc, Felicia, Bronner and Prior showed intermediate susceptibility.

Keywords: *Coletotrichum* spp., disease resistance, Ripe rot of grape, grapevine, *Vitis vinifera.*