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Plastic Cover Effect on Grapevine Yield

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The POC (Plastic overhead cover) has been considered an alternative to minimize the physical and biological damages in South of Brazil, because of benefits of the cover in microclimate, restricting the free water on leaves and fruits, which is the primary factor for fungal infections. The aim of this work was to evaluate the POC effect on the yield of grapevines. The experiment was conducted in 2005/2006 and 2006/2007 seasons, in Flores da Cunha, Rio Grande do Sul, Brazil, in a vineyard of 'Moscato Giallo', trained in "Y", and covered with an impermeable plastic cloth (2.65m x 160m), in 12 rows with 35m, being left five rows without covering (control). The plants were grafted onto the Kobber 5BB rootstock planted in a density of 3703 plants/ha (3.0 x 0.9m). In both areas, the microclimate was evaluated in presence of free water (visual register), temperature (T), relative humidity (RH) of the air, photosynthetically active radiation (PAR), wind speed (WS) above the canopy and close to the cluster. The yield components were evaluated in ten plants at random

selected in each area, measuring: production per vine, cluster per vine, weight, and length of clusters, diameter and weight of berries and skin/pulp ratio. The POC increased the diurnal temperature at the canopy, but not influenced the relative humidity, decreased the PAR and WS and drastically the free water on the leaves and clusters. In the first season was not observed differences in yield between areas. However, in the second season the POC promoted a significant increase in the number of clusters per plant and, in the yield consequently. Results suggest that the plastic overhead cover did not affect the yield components and can be a tool to increase it in adverse conditions.

Keywords: microclimate, grape, physiology, budburst, production, plasticulture.

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