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EFFECTS OF LEAF REMOVAL AND TOPPING ON YIELD AND QUALITY OF GRAPE 'SYRAH' IN THE SÃO FRANCISCO VALLEY, NORTHEAST BRAZIL.

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Embrapa Semiárido; Embrapa Semiárido; Embrapa Semiárido; Embrapa Semiárido;

The objective of this study was to evaluate the influence of leaf removal and topping on the yield, biomass and quality of grapes cultivar Syrah in the São Francisco Valley. The experiment was established in 2010 in a commercial vineyard in Casa Nova-BA (9°16'S; 40°52'W; 413.5 m), during three production cycles. The treatments consisted of combinations of leaf removal and topping, as follows: control (treatment performed by the winery); leaf removal and no topping; leaf removal and two toppings when berries groat-sized, bunches begin to hang (phase 1) and when berries beginning to touch (phase 2); leaf removal and one topping in phase 2; leaf removal and one topping in phase 1; no leaf removal and two toppings in phases 1 and 2; no leaf removal and one topping in phase 2 and no leaf removal and one topping in phase 1. The experimental design was randomized blocks with four replications and 10 plants per plot. Higher yields in the first two cycles of production, but also a greater number of bunches in the 2nd and 3rd cycles were observed in plants submitted to leaf removal and one topping in phase 1. There was a higher production of fresh mass of branches in the leaf removal and no topping treatment, which showed the best results for production of fresh leaves in the first cycle of production. However in the 2nd and 3rd cycles, there was no influence of leaf removal and topping on the production of fresh mass of branches and higher fresh and dry weight of leaves were obtained in treatments with two toppings or one topping in phase 2. The mean of Ravaz index were 3.0, 3.5, and 2.3, respectively, on the 1st, 2nd and 3rd production cycles. The sugars and organic acids content in the berries were not affected by treatments. The brightness of skin was higher with no leaf removal in three cycles, but did not differ from control in the 2nd and 3rd cycles. Still, with no leaf removal, under the conditions of the 1st cycle, the attribute a^* was more negative, indicating a higher proportion of green pigments, even though the more visible pigments were anthocyanins. However, the response was not maintained and showed more negative values a^* in 2nd cycle, in treatments with leaf removal alone or combined with topping. The highest values b^* , representing the presence of yellow pigments were observed when one used topping only in phase 2. It is possible that leaf removal in the conditions of the first cycle, had promoted greater degradation of yellow pigments.