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The Effect of Hydrogen Cyanamide on Breaking Bud Dormancy in cv. Niágara Rosada after previous Ethephon Application

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Since the decade of 1980, the grapevine Niágara Rosada *Vitis labrusca* has been cultivated in tropical climate regions. The vines are conducted in the arbor system and grafted on vigorous rootstock which are adapted to these conditions. Achieving a satisfactory bud dormancy breakage and a good development of sprouts in periods with minimum temperatures below 17°C constitutes a challenge. The application of 2,160 ppm ethephon before pruning induces senescence of the leaves and stimulates budburst. However, since these events occur in a non-uniform manner, the application of hydrogen cyanamide (HC) might become necessary. In periods with minimum temperatures above 18 °C the effect of ethephon is stronger which makes it possible to reduce the concentration of HC. The objective of this study was to determine the most appropriate HC concentration to induce budburst in grapevines that have been treated with 2,160 ppm ethephon approximately 12 to 18 days before pruning. The experiment was designed as a factorial 3 x 4, distributed at random in five blocks, being the first factor composed of tree pruning periods in fall, while the second consisted of four HC concentrations (0; 1.22; 2.45; e 3.67 %). Pruning was performed when the plants were defoliated to more than 95 % and were in stage 2 of Eichorn & Lorenz (1997). On the same day the pruning was performed, HC was applied on the last four buds, where the evaluations were carried out. In the hottest period, the 1.22 % HC afforded budburst indices over 70 %, which resulted in at least 1.2 sprouts per bud.

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