INFLUENCE OF ASCORBIC ACID ON THE KINETICS OF POLYPHENOLOXIDASE YELLOW PASSION FRUIT (*Passiflora edulis* f. *flavicarpa Degener*).

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The maintenance of color is one of the most important quality factors in processing pulps, juices and nectars. Enzymatic browning is a phenomenon widely observed in these products and induces severe changes color, flavor and nutritional losses. The polyphenoloxidase (E.C. 1.10.3.1; PPO) is associated with this phenomenon. Traditionally, control of the enzymatic browning in fruit juices and pulps is done by combining heat treatment and chemical inhibitors. Ascorbic acid has been considered as the best alternative chemical inhibitor of PPO and its addition is common in the fruit juices processing industry. In this context, the objective of this study was to analyze the likely mechanism of action of the ascorbic acid in the kinetics of this enzyme, since the literature does not report what is the real influence of the ascorbic acid on the kinetics of polyphenoloxidase. For this use the PPO extracted from passion fruit as a model enzyme and catechol as substrate. The kinetics of the PPO was studied in the presence of ascorbic acid concentrations from 0.33 to 2.66 mmol / L, which can be seen that in first 60 seconds of enzymatic oxidation kinetics of catechol were similar in all the concentrations, but from 60 seconds there was a gradual reduction in the detection of the product formed by the enzymatic oxidation. It follows that ascorbic acid does not exert influence on reaction rate or the inhibition of PPO, but operates in product formed reversing and / or connecting the same, thus controlling the enzymatic browning.