

AERATED SPARKLING WHOLE GRAPE JUICE: AN INNOVATION IN THE BEVERAGE INDUSTRY

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The food industry operates in constant innovation to develop new products with appeal of pleasure, convenience and health. In the beverage sector, there is a growing search for fruit juices and others fruit drinks in response to the demand and consumer preferences. Under current legislation, the juice is classified as an unfermented, non-concentrated and undiluted beverage, and it is considered as integral when it is produced in natural concentration and without the addition of sugars. According to the Normative Instruction 23, from July 8, 2014, the Ministry of Agriculture, Livestock and Food Supply (MAPA) defines that the soft drink carbonation must be over 2,5 V (two and a half volumes). However, a lower value than this characterize the soft drink as a soft soda. The objective of this study was to develop an aerated sparkling whole grape juice. The Niágara Branca cultivar (*Vitis labrusca*) from Mariópolis (PR) was used to the production of juice by steam-drag method. The filling process was made still at high temperature, and after that the juice was clarified in bottles through the addition of liquid pectinase obtained from *Aspergillus niger* strain up to 55 °C (Rapidase® Smart Color – DSM). The juice was refrigerated, filtered and it got putted on the carbonation barrel. The carbonation was performed considering the relation between pressure (kg/cm²) and temperature of juice, then it has been used 2 kg/cm² until obtaining gas-liquid equilibrium. The juice transferring occurred to a closed back-pressure system, with 0,5 kg/cm² pressure, and the juice was filled in sterilized glass bottle. Then, it was closed with crown cap and stored in refrigeration at 7 °C. To the CO₂ determination, it was used a Haffmans Inpack CO₂ calculator – ICC, based on Henry's law. The juice developed in this study presented 2,7 (v/v) carbonation, so it could be compared to the levels recommended by the legislation for soft drink. However, the beverage of this study was developed through the whole grape juice (100 % fruit), whose technological

innovation could be used as a competitive strategy to the industry of carbonated soft drinks due to a natural carbonated juice with the differential for being more nutritious, so it may increase the interest in healthy drinks in Brazil.

Palavras-chave: carbon dioxide, natural carbonated juice, niágara grape