

ABSTRACT

Oxidative browning is a problem in winemaking that causes a change in color and flavor of wine. One of the most practical oxidative inhibitors in the wine industry is sulfur dioxide (SO₂) that used as antioxidant to control wine browning. This study focused on the potential impact of different sulfur dioxide levels (0, 50, 100, and 150 ppm) on the activity of polyphenol oxidase (PPO) and content of total phenolics during santol wine fermentation. The results showed that the highest level of PPO activity was found in the wine sample without SO₂; however, after 8 days fermentation, there were no significant difference among the different treatments. The degree of browning was also determined by measuring their color at 420 nm, the results were corresponded to the result of PPO activity, the highest degree of browning was observed the sample with no SO₂ added. However, the colors for the samples with SO₂ added were similar. For the changes in total phenolics during santol wine fermentation, total phenolics slowly increased during fermentation for all treatments. The total phenolics concentration was significantly higher in the wine samples with SO₂ added compared to the wine sample without SO₂.

Keywords: phenolics, polyphenol oxidase activity, potassium metabisulfite, santol wine