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## Effects of sulfuring at different concentrations on polyphenols and polyphenol oxidase activity in dried apricots

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Effects of various sulfur dioxide (SO<sub>2</sub>) concentrations (451, 832, 1594 and 2112 mg/kg SO<sub>2</sub>) on polyphenols, polyphenol oxidase (PPO) activity and browning values of dried apricots were investigated. Moreover, the correlations between browning with polyphenols and PPO activity were also determined. The apricots were sulfured by SO<sub>2</sub> gas from liquefied SO<sub>2</sub> tank in the same sulfuring house and the sulfured apricots were then sun-dried. Dried apricots containing no SO<sub>2</sub> were evaluated as a control group. Eight polyphenols (chlorogenic acid, ferulic acid, caffeic acid, gallic acid, pyrocatechol, catechin, epicatechin and rutin) were identified in the samples. The major polyphenol was determined as chlorogenic acid (84%). Strong correlation ( $r=0.917$ ) was found between SO<sub>2</sub> concentrations and polyphenols contents of the samples. High PPO activity was determined in control group while PPO activity was not determined in the samples containing SO<sub>2</sub> even at the lowest level (451 mg SO<sub>2</sub>/kg). However, as SO<sub>2</sub> concentration increased, browning value of the samples decreased ( $r=0.977$ ). Although there was no PPO activity in none of the dried sulfured-apricots, their browning values were different. Thus, SO<sub>2</sub> prevented the browning due to not only inactivation effect on PPO but also their antioxidant activity. Taking into consideration of the safety of sulfites, we suggest 451 mg SO<sub>2</sub> per kg apricot for the inactivation of PPO and the preservation of desirable golden-color in dried apricots.

### Biography

Melek Altindag was graduated from Department of Food Engineering at Ankara University as honor student in 2008 and then she worked in different private firms as a food engineer in Ankara. Currently, she is doing her Master degree in the Department of Food Engineering at Ankara University. At the same time, she is working in a spice producing firm as a Quality Control Engineer.

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