

## **Effect of different cooking methods on antioxidant properties of Tomato (*Lycopersicon esculentum*)**

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**Abstract:** Tomato (*Lycopersicon esculentum*) is one of the rich sources of antioxidants, mainly, lycopene which is known to be associated with decreased risks of chronic diseases. However, cooking influences the antioxidant properties of vegetables. Therefore, this study aimed to determine the effect of three cooking methods on the antioxidant properties of tomato. The conditions of the cooking methods of tomato were boiling at 100 °C for 6 min, microwave cooking at 560W for 40 sec and stir-frying at 230 °C for 4.5 min. Ethanol (70 %, v/v) was used to extract the antioxidant properties (such as phenolics, flavonoid and other antioxidant compounds) of tomato. These antioxidant properties were determined by using total phenolic content (TPC), total flavonoid content (TFC), antioxidant capacity and DPPH radical scavenging activity analysis. Results indicated that cooking has significant influences on the antioxidant properties of tomato. Boiling did not have significant changes in the TPC, however microwave cooking and stir-frying caused significant losses compared to fresh tomato. Stir-fried tomato had significantly the lowest TPC. All three cooking methods caused significant losses in TFC, however the losses are less significant during boiling compared to microwave cooking and stir-frying. Significantly higher antioxidant capacity was observed in microwave cooked tomato than fresh and other cooked tomatoes. The highest antioxidant activity was observed in microwave cooked tomato followed by stir-fried and fresh tomatoes.

**Keywords:** Antioxidants, Flavonoid content, Phenolic content, Tomato