

RESEARCH ARTICLE

# Influence of steeping conditions (time, temperature, and particle size) on antioxidant properties and sensory attributes of some white and green teas

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## Abstract

The influence of commonly used steeping times and temperatures, as well as leaf size on the antioxidant activity and sensory attributes of tea were studied. Five unblended white and green tea samples from China and Malawi, infused in hot (70 °C and 90 °C; 7 min) or cold water (room temperature: 15, 30, 60, or 120 min) either as whole leaves or as milled, were analyzed. Total phenolic and flavonoid contents as well as antioxidant power (ABTS assay) were measured. The results show that the maximum extraction efficiency occurs with cold water for 120 min and with hot water at 90 °C and that only in the case of teas from whole, large leaves, the extraction was greater in cold than in hot infusions. Moreover, tea infusions prepared from milled leaves have the greatest antioxidant activity. In the sensory evaluation of some of the tea infusions, white teas were perceived more fragrant than green ones and were judged as the most favorite by the majority of the judges, especially for the brew prepared in cold water from whole leaves; all infusions obtained from the milled leaves in fact have a more bitter and astringent taste.

## Keywords

Antioxidant activity, flavonoid, tea extract, sensory evaluation, total phenolic content

## History

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