

Effect of drying methods on phenolic contents of neem (*Azadirachta indica*) leaf powder

ABSTRACT

The medicinal quality of plant parts is affected due to the thermal decomposition of the active ingredients during the drying process. Additional processing such as grinding will also influence the composition and extraction of active ingredients. Neem (*Azadirachta indica*) leaves dried under shade, oven-dried at 45°C and at 70°C varied in final moisture content, color, and crispness and in their phenolic contents. Grinding depended upon the crispness of the dried leaves, where finer particle sizes were obtained from crisper leaves. The phenolics contents were higher in powder obtained from shade-dried leaves compared to the oven-dried leaves at 45°C or at 70°C. There was no difference in total phenolics in extracts from finer-sized (<250 μ m) and larger-sized (>250 μ m) particles in the case of oven-dried leaves at 45°C. However, the extracts from finer particle sizes (<250 μ m) had 262% and 10% higher phenolics compared to the larger-sized particles (>250 μ m) from oven-dried leaves at 70°C and shade-dried leaves respectively.

Keyword: Extraction; Antioxidant; Particle size; Crispness; Flowability