Title of the paper

(Times New Roam; 12; bold)

Name of Authours – Aaaa Baaa Cccc[1*], Dddd Eeee Ffff[2]

(Times New Roam; 11; bold)

Affiliation- *[1] Aaaaaa; [2] Bbbbbbbb*

(Times New Roam; 11; italics)

Abstract - (Times New Roam; 12; bold)

Text - (Times New Roam; 12; regular)

Limited to 250 words

Keywords (Times New Roam; 11; bold): Text - (Times New Roman; 10; italics, regular, sentence case)

Aaaaa; Bbbbb; Ccccc; Dddd and Eeeee.

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Non-Destructive Quality Assessment of Blanched Black Pepper Using FT-NIR Spectroscopy

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Abstract

Pepper (*Piper nigrum* L.) is a vinyl perennial plant producing berry-like, aromatic pungent fruits, which belongs to *Piperaceae* family. It is well known as "king of spices." Traditionally, the pepper is harvested in the form of pepper vines when matured and started to change from green to red and yellow colour, threshed to remove berries from the stalk, blanched in hot water and dried under the sun. The effect of blanching and drying methods were assessed following the standard analytical procedures and nondestructive method using Fourier transform near-infrared (FT-NIR) spectroscopy. Well matured pepper berries (*var*. Panniyur-1) harvested at optimum stage and threshed using mechanical thresher were subjected to hot water and steam blanching at 100°C for 1, 2, and 3 min., traditionally followed to obtain quality final product, followed by tray drying at 50°C (air velocity 0.75 m/s) and sun drying (28 to 32°C; 65 to 75% relative humidity). From the initial moisture content of 170% (d.b.), the pepper berries were dried to a final moisture content of 11% (d.b.). All the treatments were replicated thrice. The effect of blanching and drying methods of pepper was assessed from the essential oil, oleoresin, and piperine content following the standard analytical procedures. Blanching methods, blanching duration and drying methods had a significant effect ($p < 0.05$) on quality parameters of pepper. The essential oil content ranged 2.6 to 3.2%. Sun drying and blanching for shorter durations resulted in higher values of essential oil. Oleoresin content was in the range of 8.51 to 9.19%.

Keywords: *Pepper; Blanching; Drying; Oleoresin; Piperine; Essential Oil and FT-NIR*

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