Abstract Template

Abstract Title: Application of in-line atmospheric plasma system to improve brown rice germination

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Abstract (not more than 300 words)

Germination is an effective and common process used to improve the nutritional quality of cereals. During germination, some seed reserves are degraded and used for the respiration and synthesis of new cell constituents for the developing embryo, thereby causing significant changes in the nutritional, and sensory characteristics of the cereal seed. After soaking brown rice in water for several hours it is incubated under certain temperature and humidity conditions until the germinated brown rice is harvested. Germinated brown rice is popular because it contains considerably more gamma-aminobutyric acid (GABA; a non-protein amino acid which has a high biological activity) than brown rice.

Brown rice was exposed in the in-line atmospheric plasma system. Treatment of brown rice in plasma increases the germinating percentage, seedling length and water uptake under laboratory germination tests. In germinating brown rice, α-amylase activity was significantly higher in the treated ones compared to the controls. The higher enzyme activity in plasma-treated brown rice could be triggering the fast germination and early vigor of seedlings. The main finding of this study indicates that in-line atmospheric plasma is effective at enhancing the germination of brown rice.

Keywords—*in-line, atmospheric plasma, brown rice, germination*

Professional Biography (100-150 words)

Hua Han Chen has completed his PhD at the age of 28 years from National Chung Hsing University. He is Professor of National Penghu University of Science and Technology. He has published more than 25 papers in reputed journal. Recently, his research focuses on the application of plasma on the modification of brown rice.



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