International Conference on
Mycology and Fungal Infections
December 12-13, 2023 | Paris, France
Volume: 15

Optimization of process parameters for milling of enzymatically pre-treated bengal gram, mungbean and pigeaon pea

Monica attri
Punjab Agricultural University, India

This study was carried out to investigate the effect of enzymatic pretreatment at different enzyme concentration, incubation time and temperature on milling and cooking properties of bengal gram var. PBG7, mungbean var. ML818 and pigeon pea var. PAU881 by using response surface methodology. Three enzymes cellulase, xylanase and laccase were used in different combinations for enzymatic pretreatment. The optimized conditions for enzymatic pretreatment of bengal gram (incubation temperature, 50.05°C; incubation time, 19.55min and enzyme concentration, 79.06 mg), mungbean (incubation temperature, 51.12°C; incubation time, 19.95 min and enzyme concentration, 81.96 mg) and pigeon pea (incubation temperature, 50.72°C; incubation time, 19.83 min and enzyme concentration, 81.84 mg) were obtained. Enzymatically pretreated samples were compared to untreated samples and it was revealed that under optimum conditions of enzymatic pretreatment of bengal gram, mungbean and pigeon pea, maximum percent increase in dhal yield over control was observed in bengal gram(13.01%), pigeon pea (9.75%) and mungbean (7.71%). Maximum percent reduction in broken over control was recorded in bengal gram (39.3%), mungbean (33.9%) and pigeon pea (30.37%) with decrease in time of milling.

Biography

Monica Attri is a dedicated researcher in the Department of Microbiology at Punjab Agricultural University, located in Ludhiana, Punjab, India. With a strong background in microbiological research, she is committed to advancing knowledge in microbial sciences, focusing on innovative approaches to understanding and harnessing microbial processes for agricultural and environmental benefits. Her contributions to the field reflect her passion for scientific exploration and her commitment to addressing challenges in microbiology, which are pivotal for sustainable agricultural practices.