

Utilization of oyster mushroom powder (*Pleurotus ostreatus*) in the development of biscuits

Rihan M.H.¹, Roshana M.R.^{2*} and Mahendran T.¹

¹Department of Agricultural Chemistry, Faculty of Agriculture, Eastern University, Sri Lanka.

^{2*}Department of Biosystems Technology, Faculty of Technology, Eastern University, Sri Lanka.

Oyster mushroom (*Pleurotus ostreatus*) is commercially important in the world and many people admire them due to their taste, flavour, high nutritional value, and medicinal properties. Therefore, this study was carried out to develop biscuits using oyster mushroom powder. The biscuits were developed using wheat and oyster mushroom powder in the ratios of 100:00 (T₁), 95:5 (T₂), 90:10 (T₃), 85:15 (T₄) and 80:20 (T₅) respectively. Each biscuit was tested for its physiochemical and sensory characteristics. The data were analyzed using SAS statistical software package at p<0.05 significant level. According to the results, the physical parameters of biscuits such as diameter and spread ratio were decreased from 5.02±0.01 to 4.62±0.01 cm, 9.4±0.14 to 4.77±0.03 and thickness, volume and density increased from 0.54±0.01 to 0.97±0.01 cm, 10.60±0.09 to 16.19±0.13 cm³, and 0.73±0.01 to 1.05±0.01 gcm⁻³ respectively while increasing oyster mushroom powder from 0 to 20%. The proximate analysis of biscuits showed that the ash, protein, fat and fibre content increased from 0.84±0.02 to 1.82±0.01%, 6.61±0.01 to 8.01±0.01%, 27.61±0.01 to 33.56±0.02% and 1.45±0.02 to 2.42±0.01% respectively and moisture content decreased from 2.39±0.01 to 2.17±0.01% while increasing oyster mushroom powder from 0 to 20%. In sensory evaluation, T₄ gets the highest mean value compared with other treatments in terms of colour, texture, flavour, taste and overall acceptability. Therefore, the biscuit prepared from 85% wheat flour with 15% mushroom powder (T₄) is highly acceptable in terms of nutritional and sensory parameters. Therefore, a successful combination of oyster mushroom powder with wheat flour for biscuit production could be nutritionally advantageous.

Keywords: Biscuits, composite flour, nutritional quality, oyster mushroom.

*Corresponding author: mrroshana30@gmail.com