Fruiting-body-base flour from an Oyster mushroom waste in the development of antioxidative chicken patty

ABSTRACT

In a commercial oyster mushroom farm, from 300 g of the total harvest, only the cap and stem of the fruiting body parts are harvested (200 g) while the unused lower section called fruiting-body-base (FBB) is discarded (50 g). A new antioxidative FBB flour (FBBF) conversion to mixed-ratio chicken patty was recently developed which converts 16.67% of FBB into an edible flour. At the initial stage, pretreatments of FBBF were optimized at particle size (106 µm) and citric acid concentration (0.5 g/100 mL) to improve flour antioxidant responses. Such pretreatments boosted total phenolic content (2.31 ± 0.53 mg GAE/g) and DPPH (51.53 ± 1.51%) of pretreated FBBF. Mixed-ratio chicken patty containing FBBF (10%, 20%, 30%) significantly ($P < 0.05$) influenced the hardness, cohesiveness, springiness, and chewiness of the patties. However, only the hardness and chewiness increased proportionally with the increase FBBF in concentration. Notably, 60 panellists considered that 10% FBBF-chicken patty sensory attributes, including lightness, redness, and yellowness, is acceptable to consumers. This information could be used to market any type of commercial mushroom farm waste as alternative food products.