Characterization of *Pleurotus florida* Mycelia as a Functional Food

Janice C. Laforteza¹, Renato G. Reyes², Trinidad P. Trinidad¹

¹University of Santo Tomas, Philippines
²Central Luzon State University, Philippines

**Purpose:** Functional foods are food products that can provide beneficial physiological effects beyond basic nutrition. As functional foods, mushrooms are promising sources of several nutritional and health-beneficial compounds, including proteins, minerals, dietary fibers, and myconutrients. *Pleurotus florida* as the most widely cultivated mushroom, has a large-scale market for human consumption particularly its fruiting bodies, however, studies on its mycelia are scarce. The study aimed to characterize the mycelia of this species as a functional food.

**Methods:** The nutrient composition; dietary fiber and its fermentability in vitro, myconutrients, and antioxidant activity of the mycelia were analyzed using standard methods.

**Results:** Findings showed that its mycelial powder (MP) had a moisture content of 18.13 ± 0.03 g/100g; ash of 12.2 ± 0.06 g/100g; protein of 5.03 ± 0.09 g/100g; fat of 0.1 ± 0.00 g/100g, and carbohydrates of 61.4 ± 0.12 g/100g. Results also revealed that MP is an excellent source of dietary fiber (54.54 ± 3.03 g/100g) and contained high amounts of insoluble (21.72 ± 0.93 g/100g) and soluble (33.14 ± 1.78 g/100g) fiber. MP also produced significant amounts of short chain fatty acids after fermentation in vitro simulating conditions in the colon; acetate (1.92 ± 0.05 mg/g), propionate (0.89 ± 0.03 mg/g) and butyrate (0.31 ± 0.03 mg/g). Mycelial powder contained myconutrients such as phenolics (1.58 ± 0.06 mg GA/g) and flavonoids (0.74 ± 0.00 mg RHE/g) that exhibited antioxidant activity (DPPH - 33.85%, FRAP - 1.30 ± 0.06 mg Trolox/g, ABTS - 0.75 ± 0.00 mg Trolox/g sample).

**Conclusions:** In conclusion, mycelia may be considered as a potential functional food/ingredient and may be utilized by the food industry, thus contribute in the prevention for risk of chronic diseases and in the maintenance of human health.