



## SUNFLOWER SEED HULLS FOR LOG SYSTEM CULTIVATION OF *SCHIZOPHYLLUM COMMUNE*

D. FIGLAS<sup>1,2</sup>, R. GONZÁLEZ MATUTE<sup>1,2</sup>, S. DELMASTRO<sup>1</sup> AND N. CURVETTO<sup>1</sup>

<sup>1</sup> Laboratory of Biotechnology of Edible and Medicinal Mushrooms, CERZOS (CCT-CONICET Bahía Blanca - Universidad Nacional del Sur), 8000 Bahía Blanca, Argentina.

<sup>2</sup> Comisión de Investigaciones Científicas de la Provincia de Buenos Aires, Argentina.

Accepted for publication July 4, 2014

### ABSTRACT

Sunflower seed hull, an abundant and cheap by-product of the edible oil industry, was used as a substrate for growing *Schizophyllum commune*. Mushroom mycelial growth rate on substrates prepared with sunflower seed hull, in absence or presence of supplements (barley, wheat bran, sunflower or olive oil), was evaluated. The growth analysis on sunflower seed hull (37.5%, wet weight) substrate showed a mycelial run length of 3.8 cm in seven days. In comparison, supplementation with either wheat bran [3.75%, 7.5% (w/w)], barley [3.75%, 7.5% (w/w)], or 1% vegetal oils (sunflower or olive oil) improved, but showed no significant differences on mycelial growth. A production assay on sunflower seed hull synthetic logs, in absence or presence of wheat bran, was done to evaluate the mushroom production yield for a three harvest cycle. Accumulated biological efficiency and productivity on sunflower seed hull based substrate containing 7.5% (w/w) wheat bran (biological efficiency= 48.3%, productivity= 1.6% day<sup>-1</sup>) were significantly greater than those obtained on sunflower seed hull substrate (biological efficiency= 40.7%, productivity= 1.1% day<sup>-1</sup>). Thus, sunflower seed hull can be used as the main energy and nutritional source in the formulation of a substrate for cultivating *S. commune*, and supplementation with wheat bran significantly improves mushroom yield.

**Key words:** Cultivation, medicinal mushroom, *Schizophyllum commune*, sunflower seed hulls.

---

\* Corresponding author: N. Curvetto. Tel.: +54 (291) 4861666. E-mail: micouns@criba.edu.ar