Micologia Aplicada International, 28(1), 2016, pp. 1-10

www.micaplint.com

Antioxidant capacity of frozen *Pleurotus ostreatus* during convective drying

L. Valiente[1], E. Ohaco[1*] and A. De Michelis[2*]

[1] Universidad Nacional del Comahue, FATA, 25 de Mayo y Reconquista, 8336 Villa Regina, Río Negro, Argentina. E-mail: ohacoelizabeth@hotmail.com
[2] INTA AER El Bolsón - CONICET, Mármol 1950, 8430 El Bolsón-Río Negro, Argentina.

Accepted for publication: November 7, 2015

ABSTRACT

The influence of drying conditions on antiradical power, total phenols, flavonoids, and surface color in frozen basidiocarps of *Pleurotus ostreatus* was studied. Drying was carried out in an experimental rig, air velocity of 2 m/s, 5% relative humidity, and at different temperatures (50 C, 60 C, 70 C). Total phenols were determined according to the Folin-Ciocalteau method, flavonoids by complex formation with $AlCl_3$, and antiradical power by 1,1-diphenyl-2-picrylhydrazyl (DPPH). Surface color was also measured. A decrease was observed in the content of flavonoids during the first 15 min of drying in all temperatures tested. The content of total phenols increased, but subsequent stabilization was noted as drying progressed. Higher temperatures of the drying air preserved the antiradical power. A drying air temperature of 60 C was suitable for variables studied, showing *P. ostreatus* adequate stability of total phenols, antiradical power, and color. This process allows the use of oyster mushrooms out of season.

Key words: Antiradical power, dehydration, flavonoids, *Pleurotus ostreatus*, polyphenols.

* E. Ohaco and A. De Michelis are members from CONICET.