ANTIOXIDANT EFFECTS OF THE RESIDUE FROM EXTRACT OF THE MUSHROOM
Agaricus blazei IN MILK ENRICHED WITH OMEGA-3*

Ana Carolina C. Vital1***; Dulce A. M. Silva1; Camila P. Croge2***; Sandra M. G. da Costa2; Paula T. Matumoto-Pintro2. 1Food Engineering student, Universidade Estadual de Maringá (UEM), Avenida Colombo, 5790, 87020-900, Maringá, PR, Brazil. 2Departamento de Agronomia – UEM. 3Departamento de Biologia – UEM. *Project funded by CNPq; **ITI/CNPq scholarships; ***DTI/CNPq scholarships; E-mail: ptmpintro@uem.br

The application of antioxidants is a simple way to reduce constant lipid alterations that changes the color, flavors and nutritional value. The objective of this study was investigate the capacity antioxidant of the mushroom residue from extract of the Agaricus blazei (MRA) in milk enriched with omega-3 (2g/100g). Different amounts of MRA (0.1g, 0.2g and 0.3g/100g) were added in milk enriched with omega-3 and stored during 8 days with light. Conjugated dienes (CD) and thiobarbituric acid (TBA) reactive method (TBARs) were used to evaluate oxidation. For CD, milk samples were mixed in isooctane:2-propanol (2:1 mL/mL), filtered and measured at 245 nm. CD concentration was expressed as mmol/kg fat. The TBARs method is based on the reaction of TBA and malonaldehyde, a secondary lipid oxidation product. The results of TBARs were calculated by a malonaldehyde calibration curve. Milk samples were mixed with TBA solution (1% TBA; 15% trichloroacetic acid and HCl 562.5 µM), boiled (15 min), cooled, centrifuged and measured at 540 nm. The results of day 0 to CD was 12.7; 12.4; 12.5 and 14.5 mmol/kg fat and to TBARs assay was 4.8; 5.0; 3.8 and 4.6 µM of malonaldehyde. The results of eighth day to CD was 43.6; 39.9; 39.1 and 33.8 mmol/kg fat and to TBARs assay was 105.1; 87.9; 76.7 and 61.9 µM of malonaldehyde. The results to CD and TBARs were to 0, 0.1, 0.2, and 0.3 g/100g of mushroom residue respectively. MRA showed that has an effect protective in lipid oxidation.