QUANTIFICATION OF CHOLESTEROL IN ORGANIC AND CONVENTIONAL EGGS


An increasing supply of organic products in the market is noted and among the products offered are chicken eggs. The objective of this study was to differentiate fatty acids and cholesterol of eggs (organic and conventional) by gas chromatography (GC/FID). Nine batches were analyzed for each type of egg. The mean cholesterol concentration in the yolks of organic eggs was 1195 mg.100 g yolk$^{-1}$ while the value for conventional eggs was 1236 mg.100 g yolk$^{-1}$; these values were not significantly different when ANOVA (Test Tukey, p < 0.05) was applied. The method had recovery of 91.03 ± 0.18 % and detection and quantitation limits of 0.80 and 2.50 mg 100 g$^{-1}$, respectively. The total lipids in whole organic eggs was 29.9 g.100 g food$^{-1}$, a value significantly different (Tukey, p < 0.05) and higher than whole conventional eggs (21.7 g.100 g food$^{-1}$). In both types of eggs, the amount of monounsaturated fatty acids was greater than the amount of saturated fatty acids. Among these fatty acids, the amount of omega-3 fatty acids can be highlighted, the sum of alpha-linolenic acid, EPA, cis-11,14,17-eicosatrienoic acid and DHA being higher in organic eggs (600 mg.100 g food$^{-1}$) compared to conventional eggs (458 mg.100 g of food$^{-1}$). These results show an interesting difference of organic eggs, placing them as better food in relation to public health. Omega-3 fatty acids help reduce the levels of blood fats (triglycerides) and prevent the formation of atherosclerotic plaques responsible for progressive clogging of the arteries.