DETERMINATION of ANTIOXIDANT CAPACITY (ORAC) of GREIGIA SPHACELATA and CORRELATION with VOLTAMMETRIC METHODS

Aravena-Sanhueza, F.
Pérez-Rivera, M.
Castillo-Felices, R.
Mundaca-Uribe, R.
Aranda Bustos, M.
Peña Farfal, C.

Abstract
The study and determination of the antioxidant capacity of the Greigia Sphacelata fruit were carried out. G. sphacelata is an endemic fruit of central-southern Chile, better known as Chupón or Quiscal. Spectrophotometric and modified ORAC test were developed for antioxidant capacity determinations, and later an electrochemical method was developed by differential impulse voltammetry (DPV) with a vitreous carbon electrode for the quantification of the antioxidant capacity expressed in equivalent of the Trolox standard in μmolL⁻¹. Once the voltammetric test was developed, the correlation study between both methods used to determine the antioxidant capacity of Greigia sphacelata was carried out. The results of the determination of the antioxidant capacity of Greigia sphacelata by ORAC test report an antioxidant capacity of 3525 μmol/100g equivalents of Trolox. Concerning the concentration obtained by the electrochemical methodology, 724 μmol/100g Trolox equivalents is obtained for a linear correlation r = 0.969 with the spectrophotometric method.

Author keywords
Antioxidants
DPV
Greigia sphacelata
ORAC