

ABSTRACT

With the aim to expand the Italian total antioxidant capacity (TAC) database, the TAC values of 11 spices, 5 dried fruits, 7 sweets, 18 cereal products, 5 pulses, and 6 nuts were determined using three different assays and considering the contribution of bound antioxidant compounds in fiber-rich foods (i. e. cereals, legumes, and nuts). Among spices, saffron displayed the highest antioxidant capacity, whereas among dried fruits, prune exhibited the highest value. The TAC values of all the chocolates analyzed were far higher than the other sweet extracts measured. Among cereal products, whole meal buckwheat and wheat bran had the greatest TAC. Among pulses and nuts, broad bean, lentil and walnuts had the highest antioxidant capacity, whereas chickpeas, pine nuts and peanuts were less effective.

The contribution of bound phytochemicals to the overall TAC was relevant in cereals as well as in nuts and pulses. The complete TAC database could be utilized to properly investigate the role of dietary antioxidants in disease prevention.