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POTENTIAL OF LENTIL POLYPHENOLS FOR ANTIOXIDANT, ANTIBACTERIAL, AND ANTIFUNGAL PROPERTIES (CORAL VARIETY)

Saliha DJABALI[1,2]✉ and Malika BARKAT[1].

[1]Laboratory of Biotechnology and Food Quality (BIOQUAL), Institute of Nutrition, Food and Food Technologies (INATAA) University Brothers Mentouri Constantine 1, Algeria.
[2]University Mohamed Seddik Ben Yahia, Faculty of natural and life sciences, Department of applied microbiology and food science, Jijel, Algeria
✉salihabiotec@yahoo.fr

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ABSTRACT

The objective of this study is to evaluate the content of total polyphenols, flavonoids and anthocyanins, to estimate the antifungal, antibacterial and antioxidant activity of the polyphenols extracted from the whole grains of dry *Coral* lentil, and to highlight the influence of cooking in water on the quantity and quality of phenolic compounds. This variety seems to be rich in phenolic compounds with a positive impact of cooking in water on the total polyphenol content.Concerning flavonoids and anthocyanins, cooking seems to have exerted a negative effect. An increase in antioxidant activity after cooking the grains was recorded.The results of the antibacterial activity showed that the most sensitive strains were the Gram-positive strains. The extract that showed maximum inhibition was raw coral.

For antifungal activity, *Alternaria* strains seem to be the most sensitive. Phenolic extracts from raw grains were found to be very active; at the concentration of 2mg/ml and phenolic extracts from cooked grains were found to be very active; at the concentration of 1mg/ml. The *Penicillium* sp strain has a random growth which prevented us from calculating their inhibition rates.The highest value of antifungal index 100 is marked for the phenolic extract of cooked coral lentil followed by raw coral lentil. The phenolic extract of cooked Coral lentil showed fungistatic activities on both strains at 1mg/ml and fungicidal activity on Penicillium,sp at 2mg/ml. The phenolic extract of raw Coral lentil showed both fungicidal and fungistatic activity on Alternaria,sp and fungistatic activity on Penicillium,sp at 2mg/ml.