



ANTIOXIDANT AND α -AMYLASE INHIBITION ACTIVITY OF *RUTA CHALEPENSIS* L EXTRACTS

Khalid Al-Ismail^{1✉}, Rawya Al-Atewi¹, Maher Al-Dabbas¹, Radwan Ajo²

¹Nutrition and Food Technology Department, Faculty of Agriculture, The University of Jordan, Amman-Jordan

²Nutrition and Food Processing Department, Al-Huson University College, Al-Balqa Applied University, Jordan

✉kh.ismail@ju.edu.jo

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ABSTRACT

In the present study total phenolic compounds (TPC), Total flavonoids content (TFC), α -amylase inhibitory activity, and antioxidant activity were measured by the DPPH test of methanol and ethyl acetate extracts of the leaves and flowers of *Ruta chalepensis* L were evaluated. The extraction yield using methanol for the flower and leaves were about 25%, while those for ethyl acetate were about 3.4%. TPC of the methanol extracts for the flowers and leaves of the *Ruta* was around 1150 mg GAE /100 g dried *Ruta*, while TPC of ethyl acetate extract of the *Ruta* leaves and flowers were 760 and 290 mg GAE /100 g dried *Ruta*. The methanolic extracts of *Ruta* leaves and flowers exhibited the strongest DPPH radical scavenging activity. The IC₅₀ for both extracts were about 12 mg TPC/mL). However, the ethyl acetate extract of flowers showed the lowest DPPH radical scavenging activity (IC₅₀ = 96.7 mg TPC/ ml) and it was significantly different than that of leaves (IC₅₀ = 62 mg TPC/ml). The inhibitory effect of methanolic extracts of leaves on the α -amylase was the lowest (42.2%) followed by ethyl acetate of flowers (53.9%). Whereas, the ethyl acetate extract of leaves showed the highest inhibitory effect against α - amylase (63.7%) followed by methanolic extract of flowers (57.9%). The results obtained in this study clearly indicate that *R. chalepensis* L has a significant potential to use as a natural antioxidant as well as an antidiabetic agent.