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Background: Pumpkin is grown all over the world, from the United States to China, India, Tunisia, and Europe, being one of the most economically important species cultivated worldwide. The present study targeted to examine Pumpkin peels, seeds, and fibers' phenolic contents as well as their antioxidant and antimicrobial capacities. Thus, the aim of this presentation was (1) to evaluate the total phenolic content of three organs from three Tunisian varieties (2) to determine their antioxidant activities with *in vitro* tests (3) and to evaluate their abilities to inhibit the growth of selected bacteria.

Materials/Methods: Three Tunisian varieties (Batati, Karkoubi, Bejaoui) were chosen and their mature fruits were cut and peels, seeds, and fibers were separated then lyophilized and their bioactive compounds were extracted with aqueous ethanol. The obtained extracts were tested for their total phenolic content (Folin-Ciocalteu test), antiradical activities (DPPH test) as well as for their antimicrobial activities against bacterial and yeast strains (*P. aeruginosa*, *S. aureus*, *S. typhimurium*, *E. hirae*, and *C. albicans*)



Samples		TPP (mg GAE/gDW)	IC 50% (µg/mL)
Karkoubi	Peels	115.32± 0.48	300± 1.08
	fibrous strand and seeds	46.85± 0.12	740± 1.98
Batati	Peels	76.02± 0.11	650± 0.99
	fibrous strand and seeds	57.61± 0.24	730± 1.18
Béjaoui	Peels	147.61± 0.99	250± 1.58
	fibrous strand and seeds	39.01± 0.98	750± 1.33

The obtained data highlighted significant differences between the studied three cultivars as well as the studied fruit parts. Indeed, results analysis showed the richness of Béjaoui (148 mg GAE/g DM) in phenolics, closely followed by Karkoubi one (115 mg GAE/g DM), as compared to Batati fruit whose total phenolic content was lower than 80 mg GAE/g DM. In addition, fruit parts phenolic investigation depicted that, independently of the genotype, peels exhibited the highest phenolic content as compared to seeds and fiber ones. The capacity of the studied samples to stabilize DPPH radical was quite strong, although being significantly different. Moreover, the antimicrobial activity varied greatly depending on the studied genotype and fruit part. Peels of Batati fruits was found to possess the most powerful antibacterial activity, as it inhibited efficiently the growth of all the tested strains by more than 80%. In particular, the growth of *P. aeruginosa* and *S. aureus* was completely inhibited with 100% growth inhibition. As a whole, these results indicate that in relevant proportions, these by-products from pumpkin fruit had the potential to be consumed as supplements or as natural sources of active molecules.

