



---

# Impact of traditional and innovative technologies on Characteristics and bioactive compounds of *Opuntia macrorhiza* juice

**Moussa-Ayoub, T.<sup>1,2</sup>, Rohn, S.<sup>3</sup>, Jäger, H.<sup>1</sup>, El-Samahy, S.<sup>2</sup>,  
Knorr, D.<sup>1</sup>, Kroh, L.W.<sup>1</sup>**

<sup>1</sup>Technische Universität Berlin, Institute of Food Technology and Food Chemistry, Berlin, Germany.

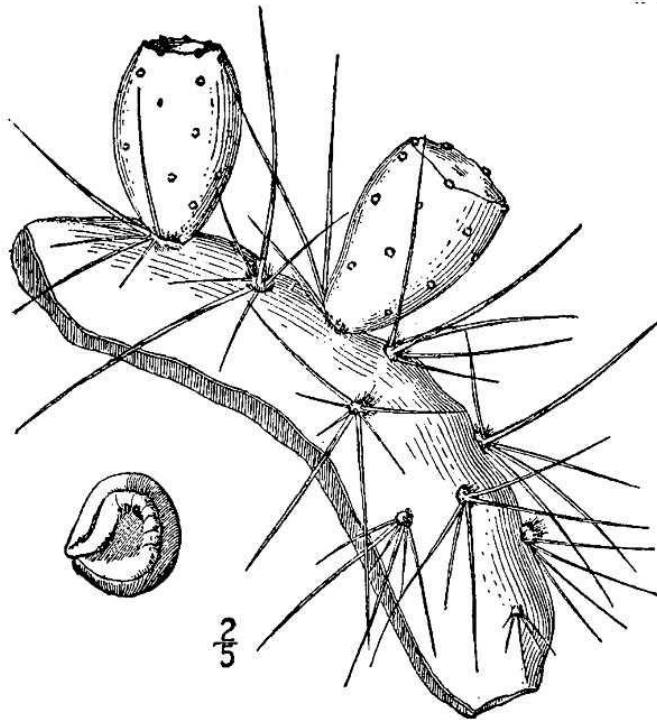
<sup>2</sup>Suez Canal University, Agriculture Faculty, Department of Food Technology, Ismailia, Egypt.

<sup>3</sup>Universität Hamburg, Institute of Food Chemistry, Hamburg, Germany.

---

# *Opuntia macrorhiza* (Twist-spine cactus pear)

---

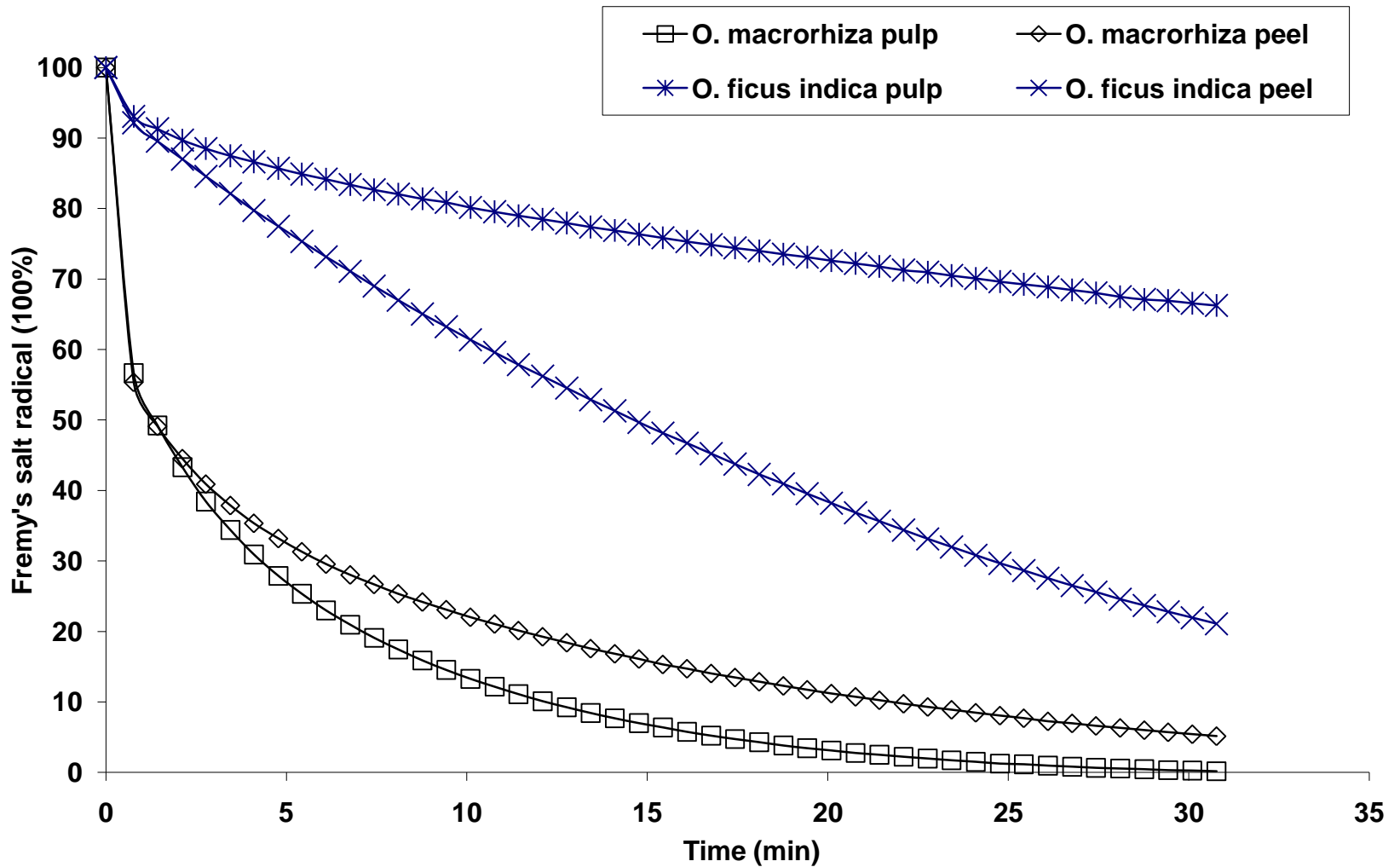


## Some characteristics of *O. ficus indica* and *O. macrorhiza*



	<i>O. ficus indica</i>	<i>O. macrorhiza</i>
season	Jul.-Aug. Oct.-Nov.	Nov.-Dec.
length (mm)	100-120	20-50
width (mm)	50-60	15-30
peel %	40-45	55-60
pulp %	40-50	35-40
moisture %	86-88	83-85
pH	6.0-6.2	3.6-3.8
TSS (°Brix)	11.5-13.5	10-10.5

# Antioxidant activity of *O. macrorhiza* & *O. ficus indica* (ESR spectroscopy)



## Problems & Aims

---

To turn focus towards the other promising species of *Opuntia*.

To introduce new species and cultivars for sustainable development in poor regions (arid and semi arid lands).

To produce cactus pear juice from *O. macrorhiza* fruits with high yield and bioactivity.

To evaluate effects of innovative non-thermal cell disintegration (PEF) on yield and bioactive compounds of *Opuntia* juices.

# Materials and Methods

---

