

# HYDROLATS FROM SEVEN LAMIACEAE SPECIES AS POTENTIALLY USEFUL WASTE

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- ✓ Essential oils, and hydrolats (floral waters) as distillation by-products, isolated from aromatic representatives of the Lamiaceae family have been widely used as flavouring agents in food and cosmetics.
- ✓ Considering the well-confirmed linkage among oxidative stress, diabetes mellitus and neurodegeneration, **this research was aimed to examine the chemical composition, as well as antioxidant, antidiabetic and antineurodegenerative potential of hydrolats of seven Lamiaceae species.**

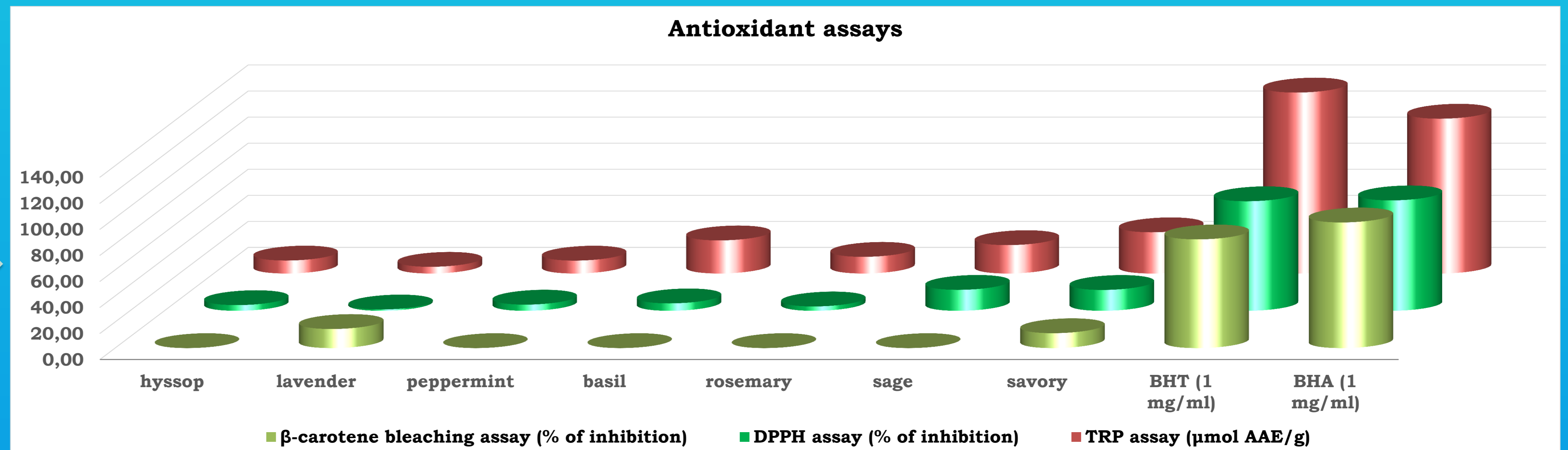
- ✓ The essential oil was isolated from the plant material of hyssop, lavender, basil, peppermint, savory, rosemary and sage, commercially grown on the fields of the Institute for Medicinal Plant Research "Dr Josif Pančić". After hydrodistillation, hydrolats were collected and subjected to further analyses.



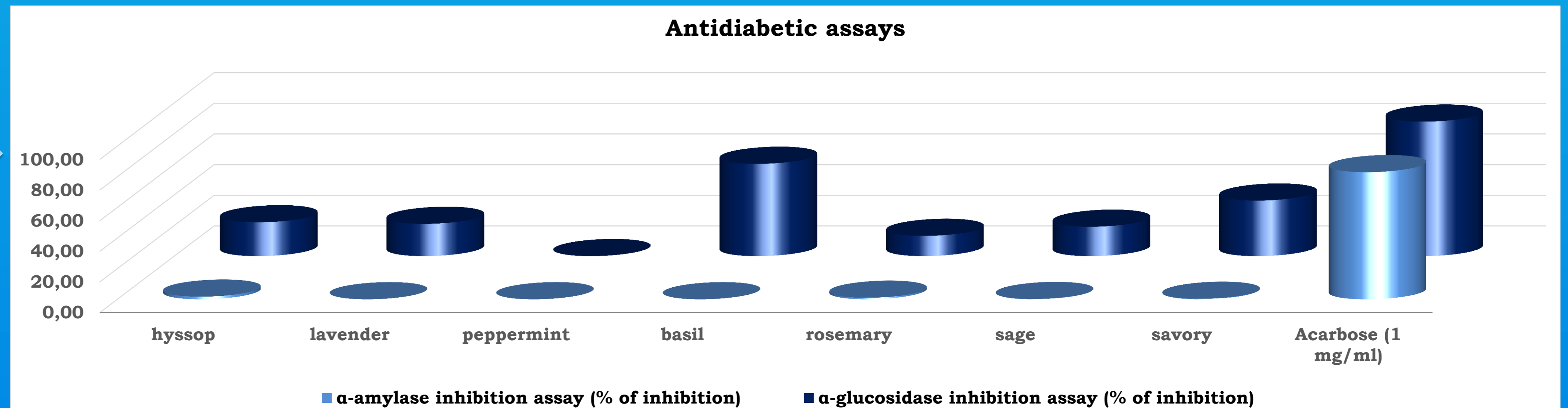
Chemical analysis was performed using GC-FID and GC-MS.

Major components						
hyssop	lavender	peppermint	basil	rosemary	sage	savory
cis-pinocamphone (80.60%)	linalool (39.31%) linalyl acetate (23.27%)	menthone (30.19%) isomenthol (31.19%)	linalool (49.63%) methyl chavicol (12.91%)	verbenone (48.71%) camphor (29.41%)	1.8-cineole (61.98%)	geraniol (65.83%)

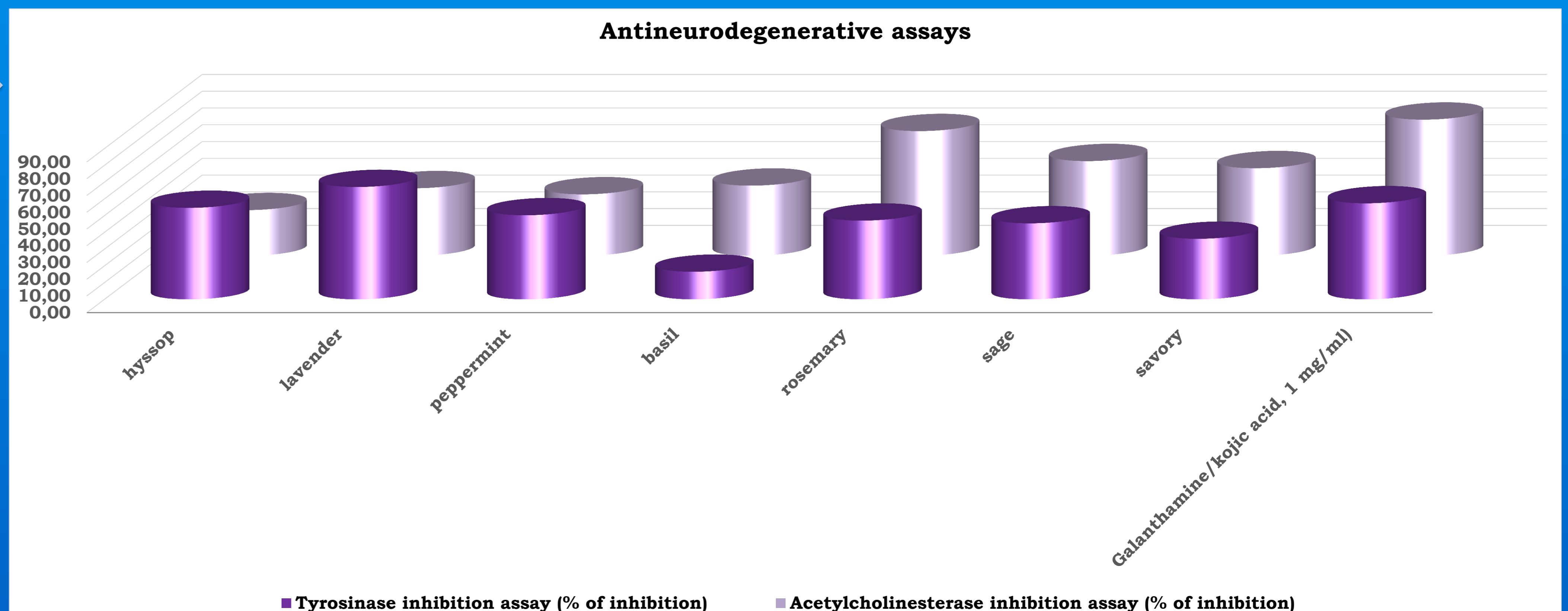
Antioxidant effects were evaluated using DPPH, total reducing power (TRP) and  $\beta$ -carotene bleaching assays.



Antidiabetic effects were assessed by inhibition of  $\alpha$ -amylase and  $\alpha$ -glucosidase.



Antineurodegenerative effects were assessed by inhibition of acetylcholinesterase and tyrosinase.



- ✓ Although antioxidant and antidiabetic effects of hydrolats were significantly weaker compared to positive controls, their **antineurodegenerative effects were similar to those of standards tested at 1 mg/mL.**

- ✓ In conclusion, the examined aromatic plant's hydrolats should be considered **as a source of components possessing antineurodegenerative effects**, with potential utilization in food and pharmaceutical industries; hence **they should not be discarded after distillation**, as they usually are.

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