Exploring Functional Biodiversity in Vineyard Agroecosystems: Contemporary Approaches

Suvremeni pristupi istraživanju funkcionalne bioraznolikosti vinogradarskih agroekosustava

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The project "Ecological and Epidemiological Role of Auchenorrhyncha and Pollinating Insects in Vineyard Ecosystems: Integration of Smart Technologies and Functional Biodiversity" (EKOVINTEH) encompasses research on Auchenorrhyncha diversity, with particular emphasis on potential phytoplasma vectors, the inventory of floristic composition and habitat types, and the role of pollinating insects in grapevine pollination.



Field monitoring



Study sites

Virovitica · Požega · Osijek
Đakovo · Erdut · Ilok

Managed vineyards:
Virovitica, Požega, Osijek, Đakovo, Erdut, Ilok

Abandoned vineyards:
Đakovo, Erdut, Ilok

Auchenorrhyncha monitoring



Yellow sticky traps
5 + 2 traps per vineyard



Smart traps
Automated monitoring

Sampling period

May – September

V VI VII VIII IX

2026 | 2027 | 2028

Flora and habitat surveys
May, July, September

Investigation of the role of pollinators in table grape pollination

1 Pollinator community assessment

- Collection and identification of pollinators to determine community composition and abundance.

2 Experimental pollination

- Pollinator exclusion (bagged inflorescences)
- Natural pollination (open access)
- Enhanced pollination (increased honey bee visitation)

3 Pollen analysis

- Proportion of grapevine pollen in honey bee pollen.

4 Yield and quality parameters

- Cluster weight
- Number of berries
- Berry size
- Berry weight
- Berry firmness
- Dimensions
- Soluble solids (° Brix)
- Total acidity
- pH

Outcomes

- *Assessment of Auchenorrhyncha diversity in vineyards of eastern Croatia.*
- *Identification of potential phytoplasma vectors.*
- *Evaluation of smart traps for Auchenorrhyncha monitoring.*
- *Characterisation of plant diversity and vineyard habitats.*
- *Assessment of pollinator diversity and their role in grapevine pollination.*
- *Biodiversity-based approaches for sustainable vineyard management.*

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