Fruits Cross Visit Report

Organic Cherry and Olive production

Croatia, Split

06-08 May 2025

Introduction

South Eastern Europe Advisory Service Network (SEASN) organized a cross-visit on the organic cherry variety “Maraska” and olive production. The cross-visit provided valuable insights into how organic fruit production can thrive in one of the more challenging agricultural landscapes in the Mediterranean area – the rocky karstic slopes of the Makarska region. The event brought together 10 participants from Croatia, Slovenia, Hungary, and Slovakia, including advisors and researchers.

Through farm visits, interactive discussions with farmers, and among themselves, participants explored the unique interplay between kartic soils, microclimate, and sustainable farming practices. The valuable meeting with representatives of the Croatian Ministry of Agriculture gave participants an insight into organic farming in Croatia, and the practices and approaches used for improving the percentage of organic farming and organic agricultural advisors in Croatia. The visit demonstrated how natural resilience, tradition, and innovation together define the success of organic production in the Dalmatian region

Scientific and Advisory Context

The Makarska highlands region, part of the Dinaric karst system, is dominated by shallow, stony soils formed on limestone bedrock. These karstic soils are poor in organic matter and nutrients but rich in minerals such as calcium and magnesium, creating an alkaline environment (pH 7,5 – 8,0). The soil structure promotes an efficient draining system, limiting waterlogging and erosion, but on the other hand, these properties reduce nutrient retention and organic matter buildup (Liu et al., 2014).

These conditions make intensive farming near impossible, yet ideal for resilient organic systems that rely on low-input management and deep-rooted perennials like olives and sour cherries – especially the native variety Maraska. The region’s unique microclimate, a mix of Mediterranean and continental influences, further enhances these advantages: the so-called “bura” wind, a cold downslope wind, significantly reduces humidity and pest pressure, often eliminating the need for chemical interventions (Bašić, 2013; Jukić Špika et al., 2022).

This natural synergy of terrain and climate fosters a model of soil resilience rather than high fertility, where productivity depends on deep root systems, slow nutrient cycling, and stable ecological balance (Liu et al., 2014).

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Farm Visits

Farm Visit 1 – Terra Marascae farm: Cultivating Resilience in Makarska

The organic sour cherry farm Terra Marascae, located in the foothills of the Mosor Mountains – between Biokovo and the Cetina River canyon – spans 40 hectares and is dedicated to cultivating the traditional Maraska variety, which has been grown in this region for more than 500 years.

Image 1: Terra Marascae farm, photo: Urban Hrovatič

Despite the rocky and skeletal soil, the farm has succeeded in producing cherries of exceptional quality, reaching some of the highest Brix sugar levels in the world and developing a unique phenolic profile. This outstanding quality is largely attributed to its location — 400 meters above sea level, south-oriented, and blessed with more than 2,500 hours of sunlight annually.

The Maraska variety represents both a genetic and cultural treasure of the Dalmatian region. Its natural adaptability to drought and mineral-rich soils allows it to thrive where most other fruit trees would fail. The farmer emphasized that, although the soil layer is thin, the combination of limestone minerals, intense sunlight, and wind exposure results in fruits with concentrated flavor and exceptionally high antioxidant levels.

On-site demonstrations showcased the use of monitoring equipment for phenological observations and environmental data collection, providing valuable examples of how advisors can integrate science-based monitoring into their daily advisory practice.

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Image 2: Device for measuring phenological stages and microclimate, photo: Urban Hrovatič

Farm Visit 2 – Jurin Dvor: Innovation in Organic Olive Growing

The second visit was to Jurin Dvor, which offered an innovative example of how passion and persistence can establish a successful and thriving olive grove in a harsh karstic land. The farmer established his farm directly under organic principles, meaning he didn't undergo the conversion process. The farm cultivates both native (Oblica) and introduced (Leccino) olive varieties on a terrain that needs much adaptation for growing conditions.

Image 3: Jurin Dvor farm, photo: Urban Hrovatič

A remarkable innovation is the farm's use of a stone crusher, which not only prepares the soil but also functions as a natural pest management tool. An "accidental" finding, that the fine dust created during the crushing of the stone helps pests fall off the trees. This simple, low-cost approach perfectly illustrates how local creativity and on-farm innovation can solve context-specific challenges.

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The farmers also emphasized the importance of wind ("bura") and the area's constant air movement – up to 18 hours of wind per day – which suppresses humidity, diseases, and pests. This unique microclimate creates ideal conditions for organic cultivation, minimizing external inputs and fostering natural plant health.

Image 4: Discussion with farmer and degustation of olive products, photo: Urban Hrovatič

However, in the Makarska region, microclimate conditions can change significantly even within a distance of one kilometre or with a slight variation in altitude. This means that farms located just a short distance apart may experience completely different climatic patterns, which requires a localized advisory approach and advice tailored to specific farmers' needs and circumstances.

Policy and Advisory Exchange

Participants also received a presentation from a representative of the Croatian Ministry of Agriculture, Nataša Puhelek Pustina, who is a specialist in organic production. Her presentation provided an overview of the organization of the public advisory system, the training and certification of advisors, and current support measures for organic production.

The Ministry's advisory network includes 20 regional services, 117 local offices, and over 220 advisors. Through the Back Office system and the SEMIS digital platform, it ensures continuous professional development by recording advisory activities, trainings, and demonstrations. Under the CAP Strategic Plan 2023–2027, interventions 78.01 and 78.02 strengthen advisory capacity in organic farming through education, demonstration activities, and on-farm learning. The Ministry also manages an eMonitoring network with over 400 smart stations and IoT (Internet of Things) sensors across Croatia, providing real-time environmental data to support advisory decisions. All these tools are integrated into eAdvisor, a central online platform that connects farmers, advisors, and data systems — enabling easier access to information, online learning, and digital advisory services. To further expand organic advisory capacity, the Ministry promotes training of conventional advisors and collaboration between advisors, researchers, and innovation brokers through AKIS working groups, fostering joint learning and innovation.

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Comparing participants' national advisory systems initiated a valuable discussion among participants about shared challenges of advisory work in Europe. These included advisor training, certification complexity, and finding the right balance between policy-driven support and farmers' everyday realities. Participants emphasized the difficulty of turning policy-based recommendations into practical, immediate solutions that farmers can apply on their farms.

This exchange reinforced the importance of cross-border learning. Advisors from different regions recognized that, despite contrasting environments, similar principles apply: trust in farmers' knowledge, adaptation to local microclimates, and openness to simple but effective innovations.

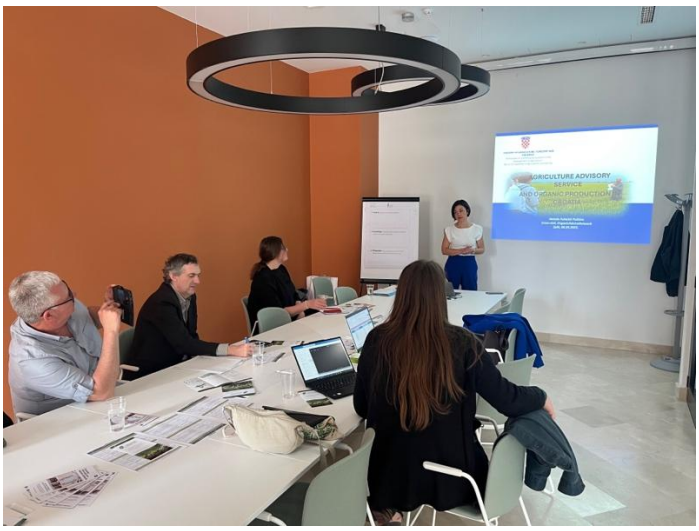

Image 5: Presentation by Nataša Puhelek Puština, Ministry of Agriculture – overview of advisory system and organic support measures, photo:Urban Hrovatič

Key Lessons for Advisors Who Did Not Attend

- Adapt advisory to local context: Microclimates like the "bura" in Dalmatia can turn environmental challenges into natural advantages for organic production.
- Respect farmers' local knowledge: One farmer shared how his persistence in planting the Maraska cherry against conventional advice paid off – proving that farmer intuition often complements scientific recommendations.
- Encourage innovation: Local tools and simple solutions, such as Jurin Dvor's stone crusher, can be sustainable and replicable elsewhere.
- Link science and practice: Observations from Terra Marascae's phenological monitoring can inspire advisors to introduce more data-driven approaches.
- Use reflection workshops: Structured post-visit reflections help consolidate insights, turning experiences into transferable advisory tools.
- Value cross-border exchange: Understanding other advisory frameworks broadens advisors' perspectives and supports continuous improvement.

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The Croatian Fruit Cross Visit illustrated how traditional knowledge and scientific understanding can merge into practical innovation. Both farms, Terra Marascae and Jurin Dvor, demonstrated how adapting to natural conditions rather than overcoming them creates long-term sustainability.

For advisors, this visit highlighted key takeaways: the value of listening to farmers, encouraging on-farm experimentation, and understanding that resilience in agriculture is rooted in local adaptation and proactive responses to climate change.

The lessons learned in Croatia are relevant for all regions where challenging soils and shifting climatic conditions require creativity, persistence, and respect for nature.

Image 6: Group picture, photo:Urban Hrovatič

Sources

Bašić, F. (2013). The Soils of Croatia. Springer Netherlands. https://doi.org/10.1007/978-94-007-5815-5

Jukić Špika, M., Romić, D., Žanetić, M., Zovko, M., Klepo, T., Strikić, F., & Perica, S. (2022). Irrigation of Young Olives Grown on Reclaimed Karst Soil Increases Fruit Size, Weight and Oil Yield and Balances the Sensory Oil Profile. Foods, 11(18), Article 18. https://doi.org/10.3390/foods11182923

Liu, Y., Song, T.-Q., Cai, D.-S., Zeng, F.-P., Peng, W.-X., & Du, H. (2014). [Soil fertility characteristics under different land use patterns in depressions between karst hills]. Ying Yong Sheng Tai Xue Bao = The Journal of Applied Ecology, 25(6), 1561–1568.

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