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Improving the olive production in Tunisia: Virtual and practical pruning training

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Abstract

Olive cultivation holds immense economic and cultural significance in Tunisia, with olive oil production being a pillar of the nation's agricultural sector. Pruning is a critical horticultural practice that directly influences olive tree growth, fruit production, and overall orchard health. However suboptimal pruning can lead to reduced yields, and increased susceptibility to diseases. Moreover, the olive industry faces significant challenges related to the shortage of skilled labour, limited knowledge, and inadequate access to specialised training. To address these issues, this study project proposes the implementation of a Virtual Pruning Training (VPT) programme designed to empower Tunisian olive growers.

Using modern technology, the training aims to provide a scalable and cost-effective solution for disseminating pruning expertise to olive farmers or workers across the country. It would be developed in close collaboration with olive growers' associations, and Tunisian agricultural research institutions to ensure its relevance to the local context. The programme offers face-to-face or online conferences with virtual practice features and interactive 3D tree simulations together with organised practical workshops in field. The VPT focuses on understanding olive value chain (VC) in upstream, then identifying appropriate pruning times based on tree growth patterns, recognising different pruning techniques virtually and practically, and the impact of pruning on fruit production and tree health. The VPT programme includes virtual practice using 3D models collected from real-life case studies, showcasing successful pruning practices and their subsequent positive effects on olive production. These Interactive elements enable participants to simulate pruning scenarios, providing hands-on experience in a virtual environment.

By promoting sustainable and efficient pruning practices, the VPT programme aims to minimise production losses and increase the economic viability of olive farming in Tunisia. The success of the VPT project would be assessed through pre- and post-training evaluations as well as feedback from participants and stakeholders. The VPT for olive trees in the Tunisian context represents a transformative step towards elevating the country's olive VC. By empowering farmers with knowledge and practical skills, the VPT aims to foster sustainable agricultural practices, secure olive production, and preserve Tunisia's rich olive heritage for future generations.

Keywords: 3D models, olive farming, practice, pruning training, sustainable

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