

DSSCAST – COSTS, BENEFITS AND REPLICABILITY OF THE DSS FOR CHESTNUT ORCHARDS

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MAIN CHALLENGE/ OBJECTIVES

The challenge was to adopt monitoring technologies and Decision Support Systems (DSS) with sustainable costs for chestnut farms, which are often small-scale or fragmented. The objective was to create a useful tool to reduce water waste and unnecessary interventions, while improving quality, productivity, and the timeliness of decision-making.

MAIN RESULTS/ OUTCOMES

The project estimated an increase in net profitability from €1,140/ha to €1,950/ha, thanks to higher production, better quality, and more targeted management. The DSS also makes it possible to avoid unnecessary irrigation and agronomic interventions.

PRACTICAL IMPLICATIONS / RECOMMENDATIONS

To assess the adoption of the DSS, farmers should consider three main cost items: the cost of the technology, training in data use, and technical support during the initial phase. The project envisages accessible solutions, such as purchasing farm management software or an app, or subscribing to an annual alert service.

The investment becomes more sustainable when shared among farms, cooperatives, districts, or consortia, especially where farm sizes are limited. Replicability is high because the model can be adapted to other chestnut orchards and, with appropriate calibration, also to other tree crops. Before adoption, it is advisable to map the plots, select monitoring points, define who will manage the alerts, and establish operational procedures: when to irrigate, when to prune, when to sample fruits, and when to request technical support. The main advantage is not only technological but also managerial: turning climatic, water, and plant health data into simple, timely, and traceable decisions.

GEOGRAPHICAL LOCATION

Forino, Montoro e Montella, provincia di Avellino, Campania, Italia.



FURTHER INFORMATION

DSSCAST provided low-impact transfer options, including an app/farm management system, an alert system, and the use of data collected in chestnut-growing areas. The expected economic benefits derive from higher yields, better market quality, reduced waste, and more targeted interventions.

Project link: <https://dsscast.com/>



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