Advanced Technologies for the Improvement of Spray Application Techniques in Spanish Viticulture: An Overview

PICTURE NOT AVAILABLE

Title	Advanced Technologies for the Improvement of Spray Application Techniques in Spanish Viticulture: An Overview
Title (native language)	
Category	
Short summary for practitioners (Practice abstract) in English)	This paper presents part of the research work carried out in Spain in the field of sensors for characterizing vineyard canopies and monitoring spray drift in order to improve vineyard spraying and make it more sustainable. Some methods and geostatistical procedures for mapping vineyard parameters are proposed, and the development of a variable rate sprayer is described. All these technologies are interesting in terms of adjusting the amount of pesticides applied to the target canopy.
Short summary for practitioners	
Website	
Audiovisual material	
Links to other websites	
Additional comments	
Keywords	Energy management	Biodiversity and nature management
Additional keywords	Vineyard; Spraying techniques; Precision viticulture; LIDAR; Ultrasound
Geographical location (NUTS)	EU
Other geographical	

location	
Cropping systems	Vineyards
Field operations	Pesticide application
SFT users	Farmer | Contractor
Education level of users	
Farm size (ha)	

Scientific article

Title	Advanced technologies for the improvement of spray application techniques in Spanish viticulture: An overview
Full citation	Gil, E.; Arnó, J.; Llorens, J.; Sanz, R.; Llop, J.; Rosell-Polo, J.R.; Gallart, M; Escolà, A. (2014). Sensors (Switzerland), DOI:10.3390/s140100691

Effects of this SFT

Productivity (crop yield per ha)	No effect
Quality of product	No effect
Revenue profit farm income	No effect
Soil biodiversity	No effect
Biodiversity (other than soil)	No effect
Input costs	No effect
Variable costs	No effect
Post-harvest crop wastage	No effect
Energy use	No effect
CH4 (methane) emission	No effect
CO2 (carbon dioxide) emission	No effect
N2O (nitrous oxide) emission	No effect
NH3 (ammonia) emission	No effect
NO3 (nitrate) leaching	No effect
Fertilizer use	No effect
Pesticide use	No effect
Irrigation water use	No effect
Labor time	No effect
Stress or fatigue for farmer	No effect
Amount of heavy physical labour	No effect
Number and/or severity of personal injury accidents	No effect
Number and/or severity of accidents resulting in spills property damage incorrect application of fertiliser/pesticides etc.	No effect
Pesticide residue on product	No effect
Weed pressure	No effect
Pest pressure (insects etc.)	No effect
Disease pressure (bacterial fungal viral etc.)	No effect

Information related to how easy it is to start using the SFT

This SFT replaces a tool or technology that is currently used. The SFT is better than the current tool	no opinion
The SFT can be used without making major changes to the existing system	no opinion
The SFT does not require significant learning before the farmer can use it	no opinion
The SFT can be used in other useful ways than intended by the inventor	no opinion
The SFT has effects that can be directly observed by the farmer	no opinion
Using the SFT requires a large time investment by farmer	no opinion
The SFT produces information that can be interpreted directly	no opinion

[View this technology on the Smart-AKIS platform.](#)

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