

A - Informazioni generali

CIP

TRWEJP

Codice Interno Proposta

Proponente

CACCIOLA, Santa Olga - DI3A

Stato

Inviata

Ambito

INTERNAZIONAL

Scadenza Interna

Acronimo

RESISTECH

Titolo

Resistance-Aware Technologies and Strategies for Sustainable Crop

Descrizione

RESISTECH addresses the growing challenge of pesticide resistance in woody crop systems by developing a new, integrated approach that combines monitoring, early detection, predictive modelling and practical management strategies. Focusing on vineyards and complementary woody crops across different regions, the project aims to reduce pesticide dependency while preserving the longterm effectiveness of existing control options. At the core of RESISTECH is a shift from reactive crop protection to anticipatory resistance management. The project will establish harmonised monitoring systems that bring together remote sensing, field observations and farm management data to generate resistance-risk indicators and spatial risk maps. These data will feed into innovative early warning and predictive modelling tools, combining artificial intelligence with biologically informed approaches to anticipate resistance emergence, spread and potential control failure before it becomes critical. These insights will be translated into user-oriented decision support systems that provide clear, actionable recommendations tailored to real farming conditions. RESISTECH will go beyond existing approaches by explicitly integrating resistance-risk and selectionpressure dynamics into monitoring, modelling and decision-making processes. The project will develop and validate integrated pest management strategies that combine biological control, agro-ecological practices, resistant plant material and precision interventions. These strategies will be tested in living labs with farmers and stakeholders, ensuring they are practical, usable and ready for adoption. In parallel, foresight and scenario analysis will assess how resistance risks and management options evolve under future climate and regulatory conditions.

Responsabile Amministrativo Dott. Roberto Faedda

