



Redefining Pest Management - a Holistic Approach

Practice Abstract N° 7

Chemical control of grape downy mildew

Grape downy mildew, caused by the parasite *Plasmopara viticola*, attacks all European varieties and may cause large losses of production, especially in warm and humid climates. The pathogen affects all green vine parts, especially leaves and bunches. Main symptoms include oily, yellowish and angular lesions on leaves, located between the veins and necrosis of the stem or shoot. OPTIMA project is searching alternative products to reduce the use of chemical pesticides and optimize their efficacy. Both pre-infection (protective) and post-infection (systemic or penetrant) fungicides are widely used for the control of grape downy mildew. Pre-infection fungicides include copper-based fungicides, dithiocarbamates (e.g. mancozeb, metiram), phthalimides (folpet) and quinones (dithianon) that are applied close to an infection event. Post-infection should be applied as soon as possible after an infection event and prior to the appearance of oilspots. Currently registered in EU post-infection fungicides include: phenylamides (e.g. melalaxyl, benalaxyl), Qil (e.g. amisulbrom, ciazofamid), phosphonates (e.g. fosetyl-aluminum, potassium phosphonate), QoSI (e.g. ametoctradin), carboxylic acid amides (e.g. mandipropamid, iprovalicarb, dimethomorph, benthiavalicarb, valifenalate), benzamides (e.g. zoxamide, fluopicolide), QoI (e.g. famoxadone, pyraclostrobin), oxathiapiprolin, fluazinam and cymoxanil. Fungicide resistance to some of these chemicals, such as QoI or CAA fungicides, have been reported and in order to prevent the development of fungicide resistance, practical recommendations are to apply the at-risk fungicides in combinations as a tank mix and to rotate fungicides with different mechanisms of action.



THIS PROJECT HAS RECEIVED FUNDING FROM
THE EUROPEAN UNION'S HORIZON 2020 RESEARCH
AND INNOVATION PROGRAMME UNDER GRANT
AGREEMENT N. 773718

optima-h2020.eu

