RECOMMENDATIONS TO END-USERS

- Potential use of resistance enhancing compounds in case of low disease pressure (downy mildew)
- Perform leaf removal at pre flowering stage on varieties with very compact clusters for reduced bunch rot sensitivity and increased grape quality

> Use epidemiological models to better schedule treatments against downy and powdery mildew
> Combination with sulphur may increase efficacy of Serenade

FOR MORE DETAILS VISIT THE PROJECT WEBSITE: www.vineman-org.eu

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INTEGRATION OF PLANT RESISTANCE, CROPPING PRACTICES, AND BIOCONTROL AGENTS FOR ENHANCING DISEASE MANAGEMENT, YIELD EFFICIENCY, AND BIODIVERSITY IN ORGANIC EUROPEAN VINEYARDS

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Main Project Results

Single management components evaluated within the VineMan.org project were considered for the development of two innovative strategies for a comprehensive organic management of the vineyard diseases.

The first strategy is more conservative (risk-adverse strategy) and is based on the combination of:
- the use of epidemiological models for downy and powdery mildew to schedule copper and sulphur treatments at label dose;
- fall treatments with the hyperparasite Ampelomyces against powdery mildew overwintering fruiting bodies (if disease severity is high enough at the time of harvest);
- the use of Aureobasidium pullulans against grey mould.

The second strategy (risk-seeking strategy) is based on the combination of:
- the use of epidemiological models for downy and powdery mildew to schedule copper and sulphur treatments at reduced dose;
- canopy management (i.e. early leaf removal) for the control of grey mould.

The two innovative strategies were tested in vineyards set up by project partners following a common protocol in grapevine growing seasons 2013 and 2014, in:

- Tuscany (Italy), cv Sangiovese
- Freiburg (Germany), cv Müller-Thurgau
- Vipava valley (Slovenia), cv Pinela
- Klosterneuburg (Austria), cv Chardonnay.

The two innovative strategies were compared with the common practice: the use of epidemiological models allowed a significant reduction in terms of fungicides use (Treatment Frequency Index, TFI), with a consequent reduction in their cost and a reduction in the ecotoxic chronic risk for aquatic organism.

Both innovative strategies requested a specific training of the farmers and operators; the result was an increase of their knowledge and skills that was reflected in a higher job gratification.

The social acceptability of the innovative tools increased significantly because of the reduced use of fungicides, their reduced dose and their substitution with natural bio-control agents.