

**Table S1.** Result of machine learning algorithms implemented with the Lazy Predict library in Python software to discriminate among *Verticillium* wilt risk classes based on the following disease and climatic parameters: the level of susceptibility of olive cultivar (Cv; RSI), the inoculum density of *Verticillium dahliae* in the soil (ID; ppg), the monthly mean temperature (T; °C) and precipitation (P, mm), the isothermality, or the temperature oscillation between day and night in relation to the oscillation between the summer and winter seasons within the same year (Isot) and the coefficient of variation of seasonal precipitation (CvP).

*Model	Accuracy	Balanced accuracy	F1 score	Time consumed(s)
Decision Tree Classifier	0.8	0.6	0.8	0.1
Stochastic Gradient Descent Classifier	0.8	0.6	0.8	3.2
Light Gradient Boosting Machine Classifier	0.8	0.6	0.8	6.6
Bagging Classifier	0.8	0.6	0.8	0.4
Random Forest Classifier	0.8	0.6	0.8	1.3
Extra Trees Classifier	0.7	0.6	0.7	0.9
Extra Tree Classifier	0.7	0.5	0.7	0.1
Label Spreading	0.7	0.5	0.7	1.3
Label Propagation	0.7	0.5	0.7	1.0
K-Neighbours Classifier	0.7	0.4	0.6	0.3
Adaptive Boosting Classifier	0.6	0.3	0.5	1.4
Support Vector Classifier	0.6	0.3	0.5	0.4
Quadratic Discriminant Analysis	0.6	0.3	0.5	0.1
Nearest Centroid	0.4	0.3	0.4	0.1
Multilayer Perceptron	0.6	0.3	0.5	0.1
Passive Aggressive Classifier	0.5	0.3	0.5	0.1
Gaussian Naive Bayes	0.6	0.3	0.5	0.0
Bernoulli Naive Bayes	0.6	0.3	0.5	0.2
Linear Discriminant Analysis	0.6	0.2	0.5	0.2
Logistic Regression	0.6	0.2	0.5	0.2
Calibrated Classifier Cross-Validation	0.6	0.2	0.5	5.7
Linear Support Vector Classifier	0.6	0.2	0.5	1.6
Ridge Classifier	0.6	0.2	0.5	0.1
Ridge Classifier Cross-Validation	0.6	0.2	0.5	0.2
Stochastic Gradient Descent Classifier	0.6	0.2	0.5	0.2
Dummy Classifier	0.4	0.2	0.4	0.1