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Grapevine Leafroll control program 2019

To effectively control Leafroll disease data is captured by field technicians in an annual surveillance program. This is processed and compiled into a report that is used to manage the disease and makes specific recommendations based on the currently accepted disease model. This service consists of the following actions in combinations as applicable in different scenarios.

Indexing - The layout of a vineyard is transferred to a grid so that data can be stored for individual vines in a given block. This is only performed once and is used in successive seasons provided the layout remains stable. An area of 3 - 10 hectares is typically covered in a day.

Surveillance on red varieties - Inspecting for leafroll symptoms on a vine for vine basis, recording incidence of infection (grids) and marking vines for rouging. Repeated annually for blocks being controlled. An area of 5 - 20 hectares is typically covered in a day.

Spot testing on white varieties - Used to gain an idea of the disease incidence in white blocks and constitutes collecting samples from 20 vines per ha for ELISA testing. An area of 5 - 20 hectares is typically covered in a day.

Geoinformatics - Map images are generated using Google earth and data plotting techniques which show infection spread and is a powerful decision making tool. This can take between half a day and two days to compile depending on the farm size and complexity.

Reporting - Findings are discussed and recommendations are conveyed on a block for block basis. Lists and maps of infected vines are generated to be used for managing rouging programs. This can take between half a day and two days to compile depending on the program size and complexity.

Rates and Tariffs

The total cost per hectare is very difficult to predict accurately since a variety of factors contributing to the amount of time spent in surveys such as the infection rate, block layout complexity and slopes. The total cost for the control program in the first season of its application has typically been between R500 (under ideal conditions) and R1500 when the terrain has been highly challenging along with high infection rates. For billing purposes field work and data capture is conducted by trained technicians at R280 per hour. When quad-bikes are employed (during surveys in permitting conditions and for transport between blocks) their use is levied at R140 per hour. Project co-ordination, geoinformatics and reporting is conducted at R450 per hour. Lab tests cost R46 per test to confirm infections when symptoms are unclear or contentious and for identification of infections in white varieties. For sites more than 20 km from Stellenbosch travel costs are calculated at R8 per km from the city and travel time rates apply for one direction.

Season Schedule

The indexing of blocks is conducted during February while virus titre increases to appropriate levels for testing. After indexing is completed a deposit of R300 is invoiced per ha for the blocks scheduled for field work. This is followed by sampling of white varieties during March and their testing. By April visual symptoms are sufficiently developed for visual inspections and can be conducted until the leaves fall for winter. Since we have a limited capacity, multiple clients and specific time windows in which to do our work the data processing and reporting aspects are conducted for the most part after field work has been completed. Final reports and invoices are submitted before then end of June.