



Redefining Pest Management - a Holistic Approach

Practice Abstract N° 22

Best Management Practices for spray applications in vineyards

When spraying plant protection products (PPP), farmers have a responsibility to prevent it from drifting as well as harming the environment, human health, and food safety in other ways. One way to mitigate the impact of PPP is to improve the efficiency of spray applications through increasing depositions on the target crop and reducing losses to the environment. Best Management Practices (BMPs) have been drafted to aid the farmers in setting up and using their sprayer in an efficient manner. Besides more general BMPs, specific BMPs for vine growers and their vineyard sprayer are listed:

- 1) Match the air support to the canopy target and density. Inappropriate design and fan settings can have a negative effect on spray deposition and losses. Excessive air flow rates should be avoided and air deflectors (if present) should be adjusted to match the canopy and symmetry in air flow rate on both sprayer sides.
- 2) Consider the use of variable air flow rate systems. Adjusting the air flow with respect to the target characteristics (e.g. canopy density measured using ultrasonic sensors) on the go, allows increasing the canopy deposition, while reducing spray drift and losses.
- 3) Match the spray distribution to the canopy to avoid spray losses by adjusting the number of nozzles, spray angle, nozzle spacing and distance to the target. When appropriate, the use of off-center nozzles is encouraged.



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