PTIMA

Redefining Pest Management - a Holistic Approach

Practice Abstract Nº 23

Best Management Practices for spray applications in apple orchards

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 growers and their apple orchard sprayer are listed:

1) Match the air support to the canopy target and density. Air assistance is used to enhance transport of droplets in the canopy by moving and lifting the foliage and thus improving spray penetration, deposition and coverage, including the underside of the leaves. However, 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) 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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