

The California Winegrape Pest Management Alliance

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The California Winegrape Pest Management Alliance (PMA) is a grower-driven collaboration with the Department of Pesticide Regulation (DPR) to promote reduced-risk pest management. The California Association of Winegrape Growers (CAWG) provides organizational leadership and a steering committee, comprised of representatives from regional and statewide winegrape organizations, guides efforts. Technical advisors include members of UC Cooperative Extension, UC Sustainable Agriculture Research and Education Program, US EPA, and USDA-ARS. Funding is provided by grants from DPR.

Inception

PMA was formed in August 1999. A number of ongoing events reflected increased concerns with pesticides and threatened uses – implementation of the Food Quality Protection Act (FQPA), increases in agricultural-urban interfaces, detections and increased awareness of groundwater contamination and other off-target movement, and raised awareness of worker exposure. The winegrape industry realized these concerns and founded PMA as a mechanism to increase adoption of reduced-risk practices, providing win-win solutions for growers, communities, and the environment. The creation and purpose of PMA is directly aligned with “Wine Vision”, a strategic plan of the wine and winegrape community to be leaders in sustainable practices – environmentally sound, socially responsible, economically viable.

For winegrapes, PMA is unique in providing a strong, unified network for communicating pest management information to growers across California. A number of regional organizations have grower-led programs for promoting sustainable farming practices. These include the Lodi-Woodbridge Biologically Integrated Farming System, the Central Coast Vineyard Team Positive Points System, the Napa Sustainable Winegrowing Group, and the Sonoma County Grape Growers Association Integrated Pest Management Program. PMA complements and expands regional efforts by supplying more extensive and updated information sourced from growers across the state.

Focus

PMA has the statewide mission to promote pest management practices that minimize the potential for environmental and human harm while maintaining the economic viability of production. The Alliance advocates that improved relations between winegrowers and their neighbors and communities are fundamental to sustainable agriculture. Therefore, one goal is to further educate the public about the logic for vineyard operations and that growers care and act to reduce pesticide risks and strengthen community relationships.

But, growers must do their part by continuing to adopt practices that minimize risks from pesticides. A key goal of PMA is to educate growers about how to reduce drift incidents for sulfur and limit uses of higher-risk herbicides. Sulfur and herbicides are important tools for pest management in winegrapes across the state. However, uses are being carefully scrutinized by

regulatory authorities and could be subject to further regulation. It is important to maintain the safe, effective uses of sulfur and herbicides, as well as those for other pest management tools.

The issue with sulfur is clear. Reports of drift have increased in recent years. In fact, a survey conducted by DPR found 86 reported incidents of sulfur drift from 1997 to June 1999. Approximately two thirds of these reports were attributed to applications on grapes, distributed across the state. Over 80% of reports for grapes involved dusting sulfur. The key factor for the increase in incidents seems to be an increase in agricultural/urban interfaces, leading to more public complaints.

There also are statewide concerns about effects of herbicides on the environment and human health. Herbicides used in grape production have been detected in groundwater in some areas. Further, many herbicides registered for grapes are considered higher-risk materials in terms of human health. Consequently, a number of herbicides and uses may be unavailable for the future. This is troubling since only one (Roundup, glyphosate) of the eight most commonly used herbicides on winegrapes is considered a lower-risk material. PMA intends to reduce uses of herbicides classified as potential contaminants of groundwater or FQPA high-risk (priority I) materials.

Actions

PMA is using field demonstration and outreach to communicate reduced-risk approaches for managing sulfur and weeds. Key to success is effective grower-to-grower transfer of practical information. Accordingly, 34 grower-cooperators have been recruited over five winegrowing regions – North Coast, Central Coast, South Coast, Northern Interior, and South Central Valley. Cooperators implement and record reduced-risk management practices for sulfur and weeds, which they share and showcase at field days for winegrowers and the public.

Sulfur cooperators have a history of farming near areas sensitive to sulfur (e.g., residences, school zones, busy roadways). These growers successfully integrate sulfur into management programs for powdery mildew without complaints of drift. Dusting sulfur must be managed with particular care because of its extensive use, visibility, and susceptibility to offsite movement by wind. Programs incorporate elements of neighbor relations, canopy management, mildew monitoring, buffer establishment, alternative fungicides, equipment operation, weather monitoring, and application timing.

PMA cooperators demonstrating weed management have been recruited based on their history of managing weeds using reduced-risk strategies and tactics. Pest management is a continuum from higher to lower risk. Ideally, pesticides categorized as higher risk are avoided. However, in the absence of reasonable options, PMA acknowledges that certain circumstances warrant uses of these materials. To optimize decisions for weed management, growers should have detailed understandings of weed species, soils, effectiveness of alternatives, and/or economic considerations specific to each vineyard. Growers that tolerate sub-economic populations of weeds are progressing fastest along the continuum to more reduced-risk weed management. PMA cooperators restrict uses of higher-risk herbicides to situations where alternative tactics provide unacceptable efficacy or are economically impractical.

Cooperators incorporate various reduced-risk options into under-the-vine programs for managing weeds. Nonchemical tactics include mechanical options (e.g., cultivating, mowing, hand hoeing), preventive interference (e.g., mulching, composting, cover cropping), heat (e.g., flaming, steaming), and drip irrigation (e.g., subsurface). In addition to efficient water use, drip irrigation can markedly limit weed pressure both spatially and temporally, and needs for supplemental control.

Those cooperators that include herbicides in their reduced-risk programs often rely on lower-risk, post-emergent materials such as glyphosate (Roundup). Where higher-risk preemergent or postemergent herbicides are warranted, uses can be minimized and risks reduced by accurate calibration and by using lowest effective rates, decreased spray swaths, and optimal application timings. Spot spraying via infrared technology or by hand or use of controlled-droplet applicators can minimize uses of post-emergent herbicides and associated costs.

Expected Achievements and Future Goals

Through expanded winegrower education, PMA intends to reduce or eliminate complaints of sulfur drift and decrease uses of higher-risk herbicides. Cooperators will continue to be added. Evolving practices for managing sulfur and weeds will be integrated into future demonstration and outreach activities. Over time, PMA will incorporate reduced-risk practices for managing other pests. An ultimate goal is to implement a statewide, grower self-assessment program for managing all vineyard pests.

Efforts to increase public understandings about real challenges faced by winegrowers and their commitment to making judicious choices will continue. The simultaneous education of growers and the public will lead to mutual understandings, improved farmer-community relationships, fewer pesticide incidents, and more sustainable farming systems.

For California's winegrowers, PMA is the latest and broadest effort at promoting sustainable viticulture through a cooperative effort of demonstration and outreach. Agriculture must be proactive in addressing and resolving challenges, such as risks from sulfur and herbicides, thereby helping direct and shape its own future. Through PMA, the winegrape community substantiates its lead role in sustainable agriculture by balancing the production of high quality winegrapes with high standards for environmental quality and human health.