FY2018-2019 EPA-HAWAII PESTICIDE CONSOLIDATED PERFORMANCE PARTNERSHIP GRANT

PESTICIDES IN WATER PROGRAM WORKPLAN

I. INTRODUCTION

The Hawaii Department of Agriculture (HDOA) is the lead state agency for the enforcement of the Hawaii Pesticides Law (Chapter 149A, Hawaii Revised Statutes) and the Hawaii Administrative Rules (Chapter 66, Title 4). The HDOA has the statutory authority to control the sale and use of pesticides through applicator certification, applicator education and outreach, product registration and licensing, use and misuse surveillance, and the administration of enforcement actions.

Chapter 149A-32.5 (1), HRS provides explicit authority that a determination as to whether unreasonable adverse effects exist shall be made when residues of a pesticide is detected in drinking water. Chapter 149A-14(a)(4), HRS, states that the department may refuse to license a pesticide when it has been determined that the proposed use would result in an unreasonable adverse effect to the environment. The goals for the Pesticides in Water Program include the following:

- To evaluate the "Pesticides of Interest";
  - Annually review the "Pesticides of Interest";
- Actively manage pesticides of concern beyond the label to reduce or prevent further contamination of local water resources:
  - Take actions to reduce or prevent contamination from "Pesticides of Concern", including:
    - Reclassify pesticide products as restricted-use pesticides (RUPs) when the pesticide or pesticide uses can reasonably be expected to result in the contamination of groundwater.
  - Continue participation in the State of Hawaii Geographic Information System (GIS) coordination;
  - Continued tracking of RUPs and Tax Map Keys (TMK) to plan and develop an inspection scheme for vulnerable areas; and
  - Track the use of RUPs and pesticides requiring annual use permits through sales records and the location of farming operations based on Global Positioning System (GPS) readings;
- Demonstrate progress of the management strategy to reduce or maintain concentrations of pesticides of concern, including:
  - Determine risks to drinking water sources through a drinking water monitoring program.

The Hawaii Department of Health (HDOH) is the lead agency for water quality protection in the State of Hawaii, and responsible for the conceptualization, development, and implementation of the Water Quality Plan. The HDOH is responsible for enforcing the State Primary and Secondary Drinking Water Regulations to protect public water systems in the State and regulates the monitoring of maximum contamination levels under Hawaii Revised Statutes (HRS) 340-E and the Federal Safe Drinking Water Act (SDWA). The Clean Water Branch (CWB), responsible for protecting Hawaii's coastal and inland water resources, accomplishes statewide coastal water surveillance and watershed-based environmental management through a combination of permit issuance, monitoring, enforcement, sponsorship of polluted runoff control projects, and public education. The CWB also administers the National Pollutant Discharge Elimination System (NPDES). The Safe Drinking Water Branch (SDWB) is responsible for safeguarding public health by protecting Hawaii's drinking water sources (surface water and groundwater) from contamination through a combination of engineering review, enforcement and assuring that owners and operators of public water systems provide safe drinking water to the community and monitoring. The Environmental Planning Office's Water Quality Management Program provides technical assistance with the State of Hawaii's water quality standards for inland and marine surface waters and monitors and assesses the biological, chemical and physical integrity of the State's surface waters.

II. OBJECTIVES

To initiate regulatory actions such as use restrictions, cancellation or registration denial if it is determined that unreasonable risks are or will result from a pesticide's use and to develop a program to identify pesticides which could potentially leach, and to continue cooperation and communication between the Pesticides Program and the HDOH.

A three-tiered approach will be used to measure the performance in identifying pesticides of concern by evaluating a list of pesticides of interest that may have the potential to threaten water quality, taking actions to manage pesticides of concern and examining trend data to demonstrate improvement in water quality.

A. Evaluation

1. New Product Review

   License requests for products containing a new chemical (first year product licensed in Hawaii) must be accompanied by environmental fate data. In addition, review of these products will involve a scoring process which will consider EPA registration status, analysis of chemical properties, total acreage expected to be treated, and whether the product is applied directly to the soil or if the pesticide is systemic and acts by moving throughout the plant, including the roots. Depending on the review score, the product may either be licensed, or subjected to further review and comment to determine if the license request/product should: 1) be denied; 2) be classified as a restricted use pesticide (RUP); 3) be licensed under the provisions of an annual use permit; 4) require environmental monitoring; or 5) be licensed without restrictions.

2. New Pesticides with The Potential to Leach to Ground Water

   The Pesticides Program evaluates new pesticides to determine whether or not adverse effects will result from its use, including the potential to contaminate sources of drinking water. Risk of the potential to contaminate drinking water sources is assessed by a preliminary review which considers: 1) chemo-dynamic properties of the pesticide; 2) acreage of potential use; 3) type of use (foliar, soil, dip, indoor, etc.); and 4) modeling based on soil chemistry and pesticide chemistry. The outcome of the preliminary review will determine whether the pesticide requires full groundwater review by an expert and/or field studies of selected pesticides under Hawaii's soil and hydrologic conditions.

   Some of the new pesticide chemistries are considered by the EPA to be safer than older pesticides. However, when these newer pesticides present a risk of contaminating drinking water sources, the product, after a determination of unreasonable adverse effects is made, would be classified as an RUP to restrict use of the product to knowledgeable applicators and to track its use. Chemical manufacturers and registrants have refused to license these reclassified "safer" pesticides due to the stigma associated with an RUP, thereby leaving Hawaii's farmers without the option of using these "safer" pesticides.

An alternative to the RUP reclassification is to license the product as a non-RUP for use under the provisions of an annual use permit which would allow tracking of its use. However, rule revisions are needed to clarify product distribution and recordkeeping requirements so that they are enforceable.

3. Pesticides of Interest

The Pesticides Program will evaluate the 57 pesticides of interest identified by the 2005 SFIREG survey of states and 20 state-define pesticides of interest, to determine whether a human health or environmental reference point is likely to be approached or exceeded in localized areas of Hawaii. The evaluation will generally be based on available monitoring data for Hawaii from the HDOH, but can also be based on information from other states with comparable conditions. If it is determined that the reference point is likely to be approached or exceeded, the pesticide may be designated a "Pesticide of Concern" and will be required to be managed to prevent or reduce contamination.

4. Field and laboratory studies

Evaluation of all pesticides licensed in the state for their potential to contaminate groundwater resources is necessary for existing pesticides as well as new products. The Pesticides Program will evaluate currently licensed products that have a higher potential for leaching in field and laboratory studies to determine specific leaching potential in Hawaii soils under typical climate conditions. Criteria for application will include properties of the pesticide, use patterns, volume and rates of application, and sites of application. The priority list of pesticides to be evaluated will be based on the Pesticides of Concern.

B. Management

1. Product Reclassification

The State of Hawaii identifies pesticides for restricted-use classification, generally including acutely toxic pesticides, persistent pesticides with chronic toxicity concerns, and herbicides with the potential to cause damage from drift off-target. Other pesticides that are candidates for restricted-use classification include pesticides in toxicity categories I and II; pesticides or pesticide uses which are determined to be a health hazard for one or more reasons, including but not limited to toxicity, body storage, oncogenicity, mutagenicity, and teratogenicity or other reproductive effects; and pesticides or pesticide uses which can be reasonably anticipated to result in significant reductions in non-target organisms or fatality to members of endangered species.

The Administrative Rules expanded the criteria for reclassification to include pesticides or pesticide uses which can reasonably be anticipated to result in contamination of ground water. Physical properties information used by the Pesticides Program are: persistence (half-life); and mobility (solubility in water, potential for the chemical to be adsorbed to the soil, and the potential for the chemical to evaporate or volatilize from the soil). Use patterns identified with the potential to contaminate ground water include pesticides applied directly to the soil and those which move throughout plant tissue, including roots, and are released into the environment.

2. Use Restrictions

The Pesticides Program has the ability to track the sales of restricted-use pesticides through the RUP sales records and the location of farming operations based on TMK information. Linking this information with other data sources will provide the Department with the ability to determine where RUPs are being applied and be available as a tool if products are further restricted based on applications sites. The amended Administrative Rules enables the HDOA to designate a pesticide as requiring an annual use permit for purchase if the HDOA determines that existing controls over the pesticide are inadequate to prevent unreasonable adverse effects to humans or the environment. The rules now require an annual use permit for the purchase and use of herbicides containing Picloram and additional pesticides may be designated as requiring an annual use permit. In determining whether or not to issue an annual use permit, the potential use will be reviewed for compliance with the pesticide's label directions, the quantity of pesticide to be permitted, and other permit conditions necessary to prevent unreasonable adverse effects to humans and the environment.

3. Outreach

Educational and outreach efforts will be made with pesticide applicators that focus on practices that minimize the potential for pesticides to enter water, implementing locally-specific practices to protect water quality in vulnerable water resource areas and promoting best management practices to prevent or reduce contamination.

4. Water Quality Labeling Compliance

Compliance with, and enforcement of non-compliance with water quality protection labeling requirements will be monitored as part of routine inspections. An inspection scheme will be used targeting inspections in areas of high risk for contamination of ground and surface water from pesticides, along with how these areas overlap with locations of pesticide use. Water quality label language may include provisions such as buffer zones, soil type prohibitions, well head and surface water protection zones and chemigation system requirements.

III. WORK PROGRAM

A. New Product Review

	FY2018	FY2019
1. Utilize New Product Review Sheet.	ongoing	ongoing
2. Review groundwater data received from registrants of new chemistries to assist in the determination of the behavior of the chemicals under Hawaii's soil and hydrologic conditions.	ongoing	ongoing
3. Review by the University of Hawaii, HDOH Hazard Evaluation or Emergency Response Office (HEER) & the U.S. Geological Survey (USGS).	If criteria based on B.1. met.	If criteria based on B.1. met.

4. Licensing applications withdrawn or chemicals classified as "restricted-use" or requirement for an annual use permit due to water quality concerns.	ongoing	ongoing
5. Maintain a database of labels with ground water advisories.	ongoing	ongoing
6. Work with HDOH, SDWB to develop and implement a ground water monitoring program for pesticides of concern	ongoing	ongoing

B. Tracking Restricted-Use Pesticides Sales

1. Review applications of certified private applicators to validate and verify Tax Map Key information.	as applicators are certified	as applicators are certified
2. Review sales records of dealers selling restricted-use pesticides to certified private applicators.	ongoing	ongoing

C. Geographic Information System Capability

	FY2018	FY2019
1. GIS training	as upgraded	as upgraded
2. Attend the State GIS Users' meeting.	monthly	monthly
3. Copy layers from the Department of Business, Economic Development & Tourism server to HDOA's GIS.	ongoing	ongoing

D. Water Program Core Elements

1. Evaluate pesticides from the list of 57 pesticides of interest and 20 state-defined pesticides of interest.	annually	annually
2. Manage **"Pesticides of Concern"**.	ongoing	ongoing
3. Demonstrate progress	ongoing	ongoing
4. Reevaluate pesticides as new information becomes available, which may include field and laboratory studies.	ongoing	ongoing

E. Procurement Under Assistance Agreements

1. Update information on vendors' Disadvantaged Business Enterprise (DBE) status.	as new vendors are utilized	as new vendors are utilized
2. Complete and submit the MBE/WBE Utilization Report (5700-52A) to EPA.	10/31/2018	10/31/2019

F. Report

The State will utilize the Pesticides of Interest Tracking System (POINTS).	12/31/2018	12/31/2019