Pesticide Drift Fact Sheet

- ***U.S. Environmental Protection Agency (U.S. EPA) scientifically evaluates the potential for a product to drift before it is registered (licensed) and requires safeguards to mitigate those concerns.***
- ***There are different ways pesticides can move off target and all of those ways are scientifically evaluated before a product is registered.***
- ***Pesticide applicators are responsible for damage caused by pesticides that move off target so ensuring the product is applied correctly is a top priority.***

What is drift?

Drift is the off-site movement of spray droplets or pesticide particles during or shortly after a pesticide product is applied. For example, an applicator uses a backpack sprayer during windy conditions in conflict with the label and the pesticide travels to a crop on the other side of the roadway. Drift can occur from both solids and liquids but spray drift from liquids is much more likely so most studies concentrate on spray drift.

There are different ways other than drift that pesticides can move off target. The U.S. EPA scientifically evaluates all types of potential off-site movement before a product is registered to ensure those risks are mitigated.

How is the public protected from pesticides moving off-site?

Companies are required to test their products for potential drift and volatility and that information must be submitted to U.S. EPA for evaluation before a product can be registered.

U.S. EPA also uses scientific computer models to predict how a product might move off-site under a variety of different conditions. These models are even used to estimate potential contribution of spray drift to pesticide residues in drinking water. The U.S. Army and USDA Forest Service have extensively evaluated spray drift through aerial application. Through evaluation of the submitted data and computer models, scientist can determine if the product will drift and the potential for bystander and non-target exposure.

Once a determination is made, U.S. EPA can impose restrictions to mitigate concerns. Restrictions must be incorporated into the product's directions for use before it can be registered.
Examples may include:

- Required use of drift reduction technologies such as specific nozzle types
- Changes to the product's formulation
- Required buffer zones
- Reduced application rates
- Prohibition of certain application methods

Applicators are responsible for following the product's directions for use. Violations can lead to civil penalties of up to $5,000.00 per offense, criminal penalties of up to $25,000, 1 year in prison, or both. They are also responsible for any damage caused by drift. (Hawaii Chapter 149A-41).

The Hawaii Department of Agriculture is responsible for investigating all drift complaints. Staff prioritize complaints over all other matters.

Pesticide Drift - Myths

Myth: Dust from agricultural fields carry pesticides many miles off-site impacting human health.

Response: Agricultural pesticides are formulated and applied to ensure off-site movement is negligible. Trace amounts of many chemicals including pesticides may be found in dust particles in the atmosphere, but there is no credible evidence to indicate these amounts pose a health hazard. Extensive air testing in California and Hawaii confirm that pesticides are not often found in the ambient air and when they are, they are well below health hazard levels of concern.

Myth: Heavy rains cause toxic pesticides to run off agricultural fields and into the ocean, causing sea life deaths and turtles to develop tumors.

Response: While recent studies have identified various causes of harmful tumors growing on endangered green sea turtles, none of the causes are linked to pesticides and some studies have ruled them out. There are no credible scientific studies linking agricultural pesticides to sea life concerns in Hawaii.

Most agricultural pesticides quickly break down to non-toxic byproducts in the environment. The potential for off-site movement is scientifically evaluated before a product is registered and mitigated in various ways. Label restrictions and applicator licensing requirements ensure products are used properly and don't cause unreasonable adverse environmental effects.

Myth: There have been no drift, monitoring, or safety studies performed where I live so there's no way to assure my safety.

Response: The topography and climatic conditions in general are similar on all of Hawaii's islands, so environmental studies conducted on one island are likely applicable to the other islands as well, though some factors may vary. Product labeling and applicator licensing requirements are equivalent throughout the state and the scientific evaluation process for products was purposefully developed to ensure human health and environmental safety regardless of where in the U.S. a product is applied.