



**THE OHIO STATE UNIVERSITY**

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

### **Hardin County Extension News Release**

For Further Information Contact:

Mark Badertscher

Agriculture and Natural Resources Extension Educator

Phone – 419-674-2297

E-Mail – badertscher.4@osu.edu

For Immediate Release – May 4, 2016

## **Spray Drift a Concern**

*Hardin County* – Spring is here and although the temperatures may not always make us feel that way, fruit and vegetable producers and farmers are busy planting and tending to their crops. With the coming of each spring is the optimism of a successful crop along with the challenges that accompany this goal. Besides the weather, producers must properly manage pests, which include weeds, insects, and diseases. One of the most common methods of managing these pests is to use pesticides, which when applied according to label are a safe and effective way of managing these pests.

However, a problem that sometimes occurs is spray drift when applying pesticides. This can often be a concern with certain weed killers known as herbicides. The Environmental Protection Agency (EPA) defines spray drift as the movement of pesticide dust or droplets through the air at the time of application or soon thereafter, to any site other than the area intended. As a result of extensive research, the causes and fixes of spray drift are well known and documented. For example, using nozzles and pressures that result in the creation of fine spray droplets, and/or spraying during windy conditions greatly increase the risk of drift.

Pesticide labels routinely contain much information on steps that applicators should take to reduce the risk of drift occurring. The instructions on the pesticide label are given to ensure the safe and effective use of pesticides with minimal risk to the environment. Many drift complaints result from application procedures that violate the label instructions. Another way that pesticides can drift off target is volatilization. Volatilization occurs when pesticide surface residues change from a solid or liquid to a gas or vapor after an application of a pesticide has occurred.

Once airborne, volatile pesticides can move long distances off-site. The potential for a pesticide to volatilize is related to the vapor pressure of the chemicals involved. Pesticides with high vapor pressure are likely to be more volatile than those with low vapor pressure. Pesticides known to have the potential to vaporize carry label statements that warn users of this fact. While there are things that the applicator can control (such as nozzle tip, pressure, boom height) to reduce spray droplet or dust drift, vapor drift is dependent upon the weather conditions at the time of application since the likelihood of pesticide volatilization increases as temperature and wind speed increases and if relative humidity is low.

Despite an applicator's best intentions, the risk of spray drift occurring is always present, most often as the result of the factors involved that are not under the applicator's control, for example, changing weather conditions. To reduce misunderstanding, we suggest an ongoing dialogue between specialty crop growers and their neighbors who grow corn and soybean and with commercial spray applicators who are likely to use 2,4-D and dicamba.

A pesticide application that damages or contaminates nearby property, including plants and bees, is not only a violation of Ohio regulations, but can be a very costly mistake for all parties. Certified Organic farms can be put out of business for three years or more if their fields are exposed to pesticides. In Hardin County, there are several fruit and vegetable growers who grow sensitive crops such as fruit trees, tomatoes and grapes, as well as other produce that are susceptible to these chemicals.

These are very high value crops, and an off-target application or drift/volatilization problem can cost the applicator several thousands of dollars in damage, not to mention the possible loss of their Ohio pesticide applicator license. Even greenhouses are not always safe from pesticide drift. It has been estimated that a greenhouse crop containing 8000 tomato plants could be valued at \$70,000-\$80,000.

Develop and maintain a good relationship with your neighbors. A good relationship starts with open communication. Offer a tour of your operation, explain how damaging drift of pesticides can be to your crops. In the case of grapes, make sure to point out the potential for herbicide drift to cause yield loss, poor grape quality, increased susceptibility to cold injury, and reduction in long-term profitability. Discuss the possibility of planting buffer vegetation between your crops and your neighbors' crops to reduce risk.

Neighboring farmers and commercial spray applicators will need accurate information on where specialty crops are being grown. The Ohio Department of Agriculture has launched a website designed to incorporate coordinates for fields planted to sensitive crops into Google

Maps. This site is known as the Ohio Sensitive Crop Registry ([agri.ohio.gov/scr](http://agri.ohio.gov/scr)). Applicators can check this website for proximity of sensitive crops to fields they are planning to spray. If you farm near roadways or other rights-of-way contact your county or state highway department, power company, railroads, etc., since herbicides are likely used for weed control in those situations already.

Set an example of pesticide stewardship. Fruits and vegetables include the most intensively sprayed crops grown in the United States. In some cases the herbicide injury problem is caused by an application made by the owner, rather than by a neighbor. The likelihood of drift is a multiple of many factors, but some important ones are wind speed, droplet size (determined primarily by nozzle type), the height of the nozzle above the ground or canopy, and the operating pressure. Drift can be minimized by spraying on a morning or evening with low but not zero wind conditions (3–10 mph), keeping the spray boom and nozzles close to the ground, reducing pressure (less than 30 psi), and using low drift nozzles that generate large droplets.

Even with the best of intentions drift incidents can happen. Before filing a drift complaint, talk to other people such as an Extension Educator to gather additional information. It is also a good idea to inform the suspected pesticide applicator about your concerns and try to work out a satisfactory solution. If you are convinced that your crops or landscape plants were damaged by herbicide drift, you can file a complaint with the office of Pesticide and Fertilizer Regulation at the Ohio Department of Agriculture.

*Sources for this article include OSU Fact Sheet HYG-6105 (Reducing 2,4-D and Dicamba Drift Risk to Fruits, Vegetables and Landscape Plants), OSU Vegnet volume 23, number 2 (The Ohio Sensitive Crop Registry Mapping Tool), and OSU Vegnet volume 23, number 3 (What Should You Do With Fruit and Vegetables After Pesticide Drift?).*