Runoff. A product applied to a slope, bare ground, or right before a rain may run off and enter streams or severely damage other plants. Runoff may kill fish or invertebrates and make the water unsuitable for swimming or drinking. Dry weed-and-feed lawn products often cause problems when they are carried off of the application site with runoff from rain or from too much watering. Be aware of where sensitive plants are growing in your neighborhood. Select a weed control chemical and application method that will not violate the label or cause damage.

Do you know . . .

- Products you purchase to control a pest, whether it's an insect, weed, disease, rodent, or even household germs, are strictly regulated by the U.S. Environmental Protection Agency (EPA) and NDA.
- Pesticide products must have approved labels that explain how the product is to be used, any precautions that must be taken, and how the product should be stored.
- It is unlawful to use, store, or dispose of a pesticide product in a manner different than what is specified on the product label.
- It is unlawful to apply restricted-use pesticides if you do not have proper certification for that type of work and a pesticide applicator license from NDA. For certain types of commercial pesticide applications, a license is required even when over-the-counter, general-use pesticides are used.

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Additional Information

University of Nebraska Extension Publications
(http://www.ianrpubs.unl.edu/epublic/ pages/index.jsp)

- Spray Drift of Pesticides, G1773
- Nozzles - Selection and Sizing, G955
- How to Spray a Field to Prevent Overlap and Reduce Drift Injury, G1570

Avoiding Herbicide Damage to Sensitive Crops
(Kansas Department of Agriculture)
http://www.ksda.gov/includes/document_center/pesticides_fertilizer/Drift/Avoid_Drift.pdf

Preventing Hormonal-Type Herbicide Damage to Kansas Grapes
(KSU)
http://www.ksda.gov/includes/document_center/pesticides_fertilizer/Drift/Prev_Horm_Damage_Grapes.pdf

NDA's Pesticide Program
www.agr.ne.gov/division/bpi/pes/pest1.htm

- Pesticide Sensitive Crop Locater
- Integrated Pest Management
- Applicator Certification and Training
- Nebraska Pesticide Act and Enforcement

National Pesticide Information Center, for objective, science-based information about pesticides and pesticide-related topics
(800) 858-7378
www.npic.orst.edu

The U.S. Environmental Protection Agency Office of Pesticide Programs www.epa.gov/pesticides/

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Protecting Nebraska's Pesticide Sensitive Crops

Flowers
Nurseries
Vineyards
Organic Crops

Fruit Orchards
Woody Florals
Vegetables
Nut Trees
Apiaries

Nebraska Department of Agriculture

Bureau of Plant Industry

Nebraska's Changing Landscape

Certainly, corn, soybeans, wheat, grain sorghum, and forage/pasture still make up the majority of our agricultural acres. But in the last decade, organic crops, vineyards, and other "pesticide sensitive" crops have been dotting the landscape in increasing numbers. Markets are being created by consumer demand for these products, and sales from these crops are contributing to agriculture's economic diversity. While all agricultural crops can be damaged by accidental pesticide drift, many of these crops are especially sensitive to pesticides, causing drastic economic impacts to individual growers.

Use Pesticides Carefully

Many plants, including grapes, tomatoes, potatoes, cotton, soybeans, and fruit and nut trees, are very sensitive to spray drift from hormonal-type pesticides like 2,4-D, dicamba, picloram, MCPA, triclopyr, fluroxypyr, and mecoprop.

Effects can occur miles away from the application site. Also, bees may be killed when insecticides are used near their hives or in flowering fields, where the bees gather nectar or pollen.

You can take precautions to avoid harming sensitive crops when you apply pesticides. Pesticides include herbicides, insecticides, and fungicides. Many plants and animals are sensitive to pesticides and may be damaged by particle spray drift, vapor drift, or affected by pesticides that run off the target area.

The Nebraska Department of Agriculture (NDA), in conjunction with the University of Nebraska, Center for Advanced Land Management Information Technologies, has developed an on-line locater for sensitive commercial crops. Pesticide applicators are encouraged to use this web site to determine if any sensitive crops are near a planned pesticide application site, and adjust their procedures (timing or application method) accordingly.

Keep in mind, however, that listings in this locater are voluntary, and not all sensitive crop locations may be listed at any one time. Applicators are encouraged to use this service and document known locations in your application records, or simply print out a view from this locater. It would also be a good idea to scout the area beforehand to become familiar with the landscape. Stop and visit with neighbors who may have sensitive crops to let them know of your intentions, and try to allay any concerns they may have.

NDA encourages commercial growers of pesticide sensitive crops to register locations at the web site listed below so that local pesticide applicators can access information for their area. This service is only as good as the information provided, so new or different information should be submitted as soon as possible. In addition, growers should take the time to contact their neighbors and/or local pesticide dealers/co-ops to let them know of concerns about the potential for pesticide damage. Good communication is the key to avoiding these problems. The **Nebraska Pesticide Sensitive Crop Locater** can be found online at:
http://www.agr.ne.gov/division/bpi/pes/psci.htm.

How to Protect Sensitive Crops and Be a Good Neighbor

Develop an IPM Plan. Before each type of application, review and consider components of integrated pest management (IPM), including pest prevention measures, scouting, economic threshold levels, and pesticide alternatives.

Carefully select a pesticide product. If chemical control is chosen, read the product label to find one that is suitable for the pest you want to control and make sure the site of application is listed on the label. Consider the toxicity and hazard of the product you select, and don't mix more than you need for a job.

Read the label. Find out how much to use and follow all label directions. It is illegal to apply more than the label allows.

Follow all precautions on the label. It will inform you of environmental hazards and any restrictions on the use of the product. Become familiar with the surrounding area. Ask yourself these questions:

- Are there any sensitive or desirable plants and animals nearby?
- Is there a stream, pond, ditch, or other open water source around?
- Will the wind carry the pesticide to the neighboring property?
- Is this product likely to volatilize due to a high temperature today or tomorrow?
- Are there any children, pets, or other animals in the area?

Watch for drift or runoff as you apply the pesticide. Stop applying if it becomes windy or if the product starts to run off the target area.

Follow label directions for storing and disposing of unused pesticides and empty containers. Off-site movement of rinse water or unused pesticides can harm sensitive sites, including sensitive crops.

How Pesticides Move Away From the Application Site

Particle Drift. Small spray droplets or particles may drift during a pesticide application and travel long distances to damage desirable plants or animals. To help prevent drift, use larger spray droplets, use low pressure, and apply close to the plants. Make sure the wind is low and blowing away from any sensitive areas. Please be aware that any dust blowing as you apply weed-and-feed fertilizer to your lawn is drift and may cause damage.

Vapor Drift. After a pesticide is applied, the product may evaporate (volatilize) off the plants and affect plants in other areas. The volatility of some pesticide products increases as the temperature increases. The product label may warn you not to apply the product if a specific temperature is expected in the next few days. *Ester* formulations of 'phenoxy' herbicides are more likely to volatilize and damage sensitive crops than *amine* formulations.