

Pesticide Review

News

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Considerations Before Consuming Produce Following a Pesticide Misapplication

Every summer Extension Pesticide Safety Education Specialists are asked the same type of question repeatedly by home vegetable gardeners. The details leading up the situation at hand vary, but in the end the basic question is the same. Their vegetable plants have accidentally or mistakenly come into contact with a pesticide being applied. They always want to know if their produce is safe to eat.

The University of Illinois does not recommend consuming anything that has been applied with a pesticide which is not labeled for application onto that plant species. This includes situations where pesticide drift is strongly suspected. Products that may be applied to food crops must have established, legal residue tolerance levels of which labeled application rates are then based. Often in the case of pesticide drift, there are no known tolerance levels and even if there were, the application rate would not be known. So it's impossible to know if the produce would be safe to



Herbicide injury on a newly planted pepper, Michelle Wiesbrook, University of Illinois.



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consume or not. Perhaps it would degrade quickly within the plant. Perhaps it would accumulate in the fruit. It is simply unknown as it hasn't been tested.

Can garden produce be tested by an independent lab for pesticide residues? Yes, but you would need to know what specific chemical to test for and you would need to locate a lab that is capable of testing for that compound. Also, be prepared to pay a few hundred dollars for each test. Typically, this expense will greatly exceed the value of the garden's produce. Of course if drift injury is suspected, you can file a formal [pesticide misuse/incident complaint](#) with the Illinois Department of Agriculture (IDOA), but it must be received within 30 days of the incident or within 30 days of when the damage was first noticed. Additional information on pesticide uses and misuses can be found on [the agency's website](#). The Department's role in pesticide misuse incidents is limited to determining whether a violation has occurred. IDOA cannot help complainants recover damages.

I know that herbicide injury on vegetable plants is upsetting. I have found myself in this same situation a few times. If plants are visibly injured near harvest time, it should be a no-brainer not to eat the fruit. It's better to err on the safe side and avoid consuming anything that is definitely showing injury symptoms or weird growth (twisting, curling, cupping, strapping, leathery leaves, etc.). It gets trickier when drift is suspected but not confirmed early in the growing season but then plants grow completely out of any symptoms by harvest. If there are no injury symptoms, they are likely fine. When a misapplication such as drift occurs, the amount of damage to be expected depends on several things including how much was applied, the susceptibility of the plant species in general, how healthy they were, their growth stage, the weather conditions, etc. Keep in mind, herbicide injury symptoms can easily be confused with symptoms caused by

insects, disease, or environmental stress and vice versa. Also, realize that tomatoes and grapes are extremely sensitive to herbicides and can show injury symptoms at ultra-low rates of certain growth regulator herbicides like dicamba and 2,4-D which can travel up to 2 miles from the target site via vapor drift. I live in the country and grow both grapes and tomatoes. Guess what happens just about every summer? Guess what looks completely fine by harvest time? I have a small orchard and a good sized vegetable garden. Our property is surrounded by farm fields. I'm certain that every year, some plants are likely drifted on though they may not show any damage or I may not ever notice it. There are risks with everything and the dose makes the poison. It's a judgement call that producers and gardeners have to make for themselves.

If the chemical and application dates are known, growers can contact the National Pesticide Information Center (<http://npic.orst.edu/>) and discuss with their trained toxicologists the risks associated with consuming any affected produce, if affected plants can be salvaged after a certain amount of time has passed, etc. They can help you make an informed decision. They will not give you a simple yes or no answer concerning if your produce is truly safe to eat or not.

Produce is bountiful this time a year. Vegetables can be bought at stores and farmers' markets. Neighbors will likely happily share their abundance with you. By late season, I'm always so tired of picking the garden and I'm pushing produce on my friends and co-workers. You probably have a friend like me.

For further reading, see [Understanding and Preventing Off-target Movement of Herbicides](#) in the June/July 2021 issue of this newsletter and [Is it Spray Drift and What Do I Do?](#) in the July/August 2020 issue.

Michelle Wiesbrook

Help Your Doctor to Recognize Pesticide Poisonings

Pesticide poisoning symptoms often go unrecognized or misdiagnosed. Many people or even doctors do not recognize the symptoms of a pesticide poisoning. They often get mixed up with other issues. Common pesticide poisoning symptoms can range from a headache, dizziness, nausea, excessive sweating, or even fatigue. These symptoms can also mimic heat stress, food and alcohol poisoning, asthma, and other illnesses making diagnosing pesticide poisonings challenging.



Pesticide poisoning can be easily confused with heat stroke and other illnesses. Here, the victim has been moved to fresh air and is having his collar loosened as part of the first aid procedure. Credit: University of Illinois PSEP

As an applicator it is important to help doctors by telling them what you do for work, and if you were exposed to chemicals, fumes, dusts, noise or high heat at work. Doctors also need to know if there are physical activities that you do at work that might be harming you. The reality is that most doctors have never even seen a case of pesticide poisoning. Doctors may have been trained to recognize the symptoms of a pesticide poisoning, but class time devoted to the subject was likely limited given how uncommon their occurrence is and how many other illnesses there are

that also require training time. They also may be unfamiliar with diagnostic tests. The cholinesterase diagnostic test is used to diagnose organophosphate pesticide exposure.

A great resource that exists for medical professionals is the PERC-med (Pesticide Educational Resources Collaborative - Medical) website (<http://pesticideresources.org/med/resources/training.html>) where continuing education, conferences, and webinars are linked. Included is a 60-minute continuing medical education course created for California but nationally applicable. This course, "Recognition, Management and Reporting of Pesticide Illness: A General Overview", is designed for health care providers and covers how to diagnose and treat pesticide illnesses.

Another excellent resource is the 2013 (6th) edition (updated in 2018) of, "Recognition and Management of Pesticide Poisonings". Call the National Service Center for Environmental Publications at 1-800-490-9198 to order publication EPA 735K13001 or download it at <https://www.epa.gov/pesticide-worker-safety/recognition-and-management-pesticide-poisonings>.

Both are free! Of particular interest may be the Index of Signs and Symptoms. The 5th edition is available in Spanish at the same website.

Michelle Wiesbrook and Maria Turner

Helpful Resources for Aquatic Applicators

NPDES Permit Information

University of Illinois Pesticide Safety Education Program (PSEP) has developed two helpful documents for applicators seeking NPDES permits. The first document is an NPDES Permit Summary intended to help applicators determine when an NPDES permit is required and where to request permits. This includes

descriptions of application areas and types of applications that require NPDES permits.

To access the NPDES Permit Summary, please visit: <https://extension.illinois.edu/sites/default/files/2021-07/NPDES%20Summry%20%281%29.pdf>

The second document is an **NPDES FAQ**. This FAQ includes examples of situations where an NPDES permit is required and offers clarifying questions such as:

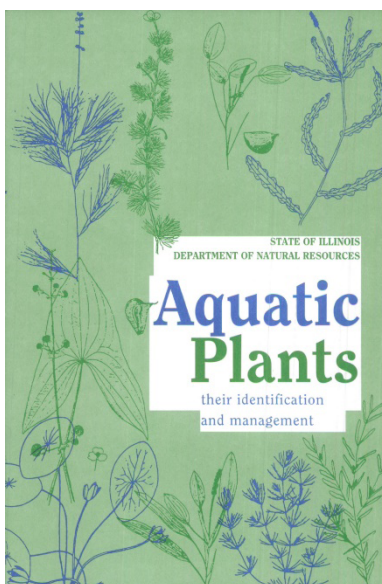
- What does “at water’s edge” mean?
- Are ditches that are dry included?
- Who declares an emergency?

To access the NPDES FAQ, please visit: <https://extension.illinois.edu/sites/default/files/2021-07/NPDES%20FAQ%202021%20%281%29.pdf>

Free Aquatic Plant Identification Book

Aquatic Plants, Their Identification and Management is a 56 page book created by Illinois Department of Natural Resources. This book used to be available for purchase but is now available for free as a pdf.

This book contains identification characteristics alongside black and white photos and drawings of common aquatic plants. It also provides management tips, product recommendations and dosing tables based on the size of the aquatic area to be treated. Labels may have changed since the creation of this book, so we recommend comparing the



recommendations in the book to your product label. If they differ, follow the label that came with your product!

To access Aquatic Plants, Their Identifications and Management, please visit: <https://www2.illinois.gov/dnr/publications/Documents/00000270.pdf>

Reporting Invasive Aquatic Weeds

If you encounter an invasive aquatic weed species, they can be reported online using USGS's ***Nonindigenous Aquatic Species reporting system, NAS***. This system allows you to report the invasive plant you found, roughly how many, date, county, location (select the location on the map to enter the GPS coordinates automatically or enter the coordinates manually) and any comments you have about the plant or area where it was found. You can even upload an image of the plant.

USGS
science for a changing world

NAS - Nonindigenous Aquatic Species

Home Alert System Database & Queries Taxa Information

Sighting Report Form

Please fill in all entries then click the **Send Report** button below. Your attention to detail is included within the *Comments* entry area.

Are you a natural resource professional with multiple observations to submit? Please email [What are you reporting?](#)

Please do not fill in any special characters such as the degree signs (characters that are allowed :)

Type:

Common Name:

Genus: (if known)

Species: (if known)

Number Observed:

When was it found?

Date of the Observation (MM/DD/YYYY):

Where was the observation made?

State:

County:

Decimal Degrees Degrees, Minutes, Seconds

Latitude: -or- ° ' " N

Longitude: -or- ° ' " W

If you are typing the coordinates, please use the button below to verify that they are correct.
If you are using the map to find coordinates, please zoom in as much as possible to ensure accuracy.

Base Layer: ☒ Topo ☐ Road ☐ Aerial

Map showing Clinton Lake State Recreation Area and surrounding roads (H Rd, Maywood Rd, Wood Rd).

To use NAS, please visit: <https://nas.er.usgs.gov/sightingreport.aspx>

The Illinois Department of Natural Resources also provides a Listing of Injurious Species that includes all species (plant or animal) that should be reported in the state of Illinois. For a full list of invasive aquatic plants that should be reported, follow the link below and skip to part d.

To access the Listing of Injurious Species, please visit: <https://www.ilga.gov/commission/jcar/admincode/017/017008050000200R.html>

Online Aquatics Applicator Training

Online Aquatic Applicator Training is available through University of Illinois PSEP and is intended to help applicators prepare for their licensing exam. This training has three main sections. The first section covers identification characteristics of common weeds, beneficial plants in ponds and lakes, and information about how to report aquatic invasive weeds.

The second section discusses practical management strategies for various plant species in different aquatic environments. The third section provides information about appropriate equipment for aquatic environments, that equipment's calibration and review of the math required to determine the proper rate of application for aquatic areas. This training also includes optional knowledge check questions to help applicators prepare for their licensing exam and additional resources that may be helpful to aquatic applicators, like NPDES permit information.

To learn more about Online Aquatic Applicator Training or the Pesticide Safety Education Program please visit: <https://extension.illinois.edu/psep> and choose Training and Testing. Online training will be down for annual maintenance and course updates beginning July 30th. Online training and testing will resume on October 1st for licensing in the 2022 calendar year. Don't forget to add us to your fall or winter calendar!

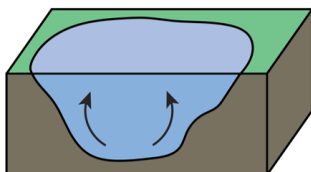
Sarah Hughson

Water Blooms



Causes:

- I. Seasonal turning
- Nutrient-rich water moves to the surface as temperatures change
- **Shallow water, sunlight and nutrients** support temporary water blooms
- Common in spring
- No control needed



I

Curlyleaf Pondweed

Leaves

- Alternate
- Simple, Oblong
- Wavy
- Minute teeth along edges
- 1 - 5 inches



Oblong

• Exotic invasive species



I



Left: Screenshot from the Algae portion of the Aquatic Plant Identification presentation, Sarah Hughson, University of Illinois at Urbana-Champaign

Right: Screenshot from the Submersed Plants portion of the Aquatic Plant Identification presentation, Sarah Hughson, University of Illinois at Urbana-Champaign

PSEP Online Training Season Wraps Up

Pesticide Safety Education Program's first all-online training season has officially come to a close.

We would like to thank all the applicators and operators who participated and made online training a success! We hope that the availability of online training made one aspect of an otherwise difficult year a little bit easier.



Each year, online training requires a seasonal closure so our team can ensure that our content and online learning system are up to date. This temporary maintenance period will run from July 30th-Sept 30th, a time when we anticipate the fewest operators and applicators will seek training.

Online training and testing opens for registration on Oct. 1st!

An Oct. 1st start date gives operators and applicators the opportunity to begin training for 2022 even earlier than previous years. Please add us to your fall or winter calendar and have a great summer!

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The *Illinois Pesticide Review* is published six times a year. For more information about pesticide safety or for more issues of this newsletter, please visit us at www.pesticidesafety.illinois.edu. You can also reach us at 800-644-2123.

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