

# VTPP Quarterly

A Newsletter From Virginia  
Tech Pesticide Programs

## IN THIS ISSUE

- Winter Pesticide Application on Livestock  
Pages 1-2
- Understanding Pesticide Hazards  
Pages 2-3
- Blast From the Past: Myers Graduating Vermorel Nozzle  
Page 3
- Program Updates  
Page 4
- National Pesticide Safety Education Month  
Page 5



Winter 2024 • Volume 5, Issue 1 • VTPP.ORG

### Winter Pesticide Application on Livestock

Kathleen Miller – Extension Associate

As we move into the colder months, it is important for livestock managers to consider how environmental conditions during pesticide application can affect animals. Pests pose a risk to livestock year-round, with some pests specifically targeting hosts in the winter. Livestock pests have the potential to reduce milk production, slow weight gain, cause anemia, and increase the chance of secondary infections, eventually leading to economic loss for producers.

### Influence of Environmental Factors on Pesticide Toxicity

It is imperative not to apply pesticidal sprays or dips to livestock when temperatures are below freezing. Applying liquid pesticide formulations to animals under these conditions causes additional stress and can lead to

illnesses, such as pneumonia. In warmer months, applying pesticides to livestock during hot and humid conditions can also lead to hazardous situations. In these conditions, liquid pesticide formulations will dry more slowly, allowing the pesticide to sit longer on the animal. This can increase the chance of pesticide poisoning.

Apart from extreme temperatures, application challenges may arise during the winter months if conditions are wet. Applying liquid pesticide formulations, such as pour-ons or spot-ons, to animals with wet or snow-covered coats increases the likelihood of adverse effects from pesticide poisoning. This is because wet animals absorb liquid pesticides far more quickly than animals with dry coats.

### Influence of Animal Characteristics on Pesticide Toxicity

Certain characteristics of animals can

affect how they respond to a winter pesticide application. To reduce the risk of livestock poisoning, always consider the following:

- Gender – In some species, the sex of the animal can influence how it responds to a particular pesticide and how quickly the pesticide is removed from the body. For example, female cattle are less sensitive to organophosphates than bulls. Furthermore, a pregnant animal is typically more sensitive to pesticides due to pregnancy-related stresses.
- Age and size – Both young and old animals are typically more susceptible to pesticide poisoning. Similarly, smaller animals should receive a lower application amount than larger animals. Details on application rates can be found on the product label.
- Health – An unhealthy animal is far more susceptible to pesticide poisoning than a healthy one.

### Recognizing and Responding to Pesticide Poisoning in Livestock

Recognizing the signs and symptoms of pesticide poisoning in livestock can improve your ability to respond and save an animal. While signs and symptoms can vary based on the specific product used, general indicators of pesticide poisoning to look for include difficulty breathing, drooling, frequent urination, skin irritation, twitching, or lack of coordination. If an animal in your care displays signs or symptoms of pesticide poisoning, call a veterinarian.

Before attempting to wash the pesticide from the animal, protect yourself from the pesticide by wearing appropriate personal protective equipment (PPE). The pesticide product label will provide directions for washing the pesticide from the animal. If pesticides must be washed from an animal during colder temperatures, take additional precautions (e.g., washing in a warm building) to minimize the chance of causing other illnesses.

### Cold Weather Application Alternatives

If weather conditions do not allow for application of liquid pesticide formulations to livestock outdoors, consider treating the animals indoors. This option provides a warm, dry space for sprayed animals to

dry completely before returning outdoors. Certain precautions must be taken when treating animals indoors. The building must have good ventilation, and all feed and water must be either removed from the area or protected from the pesticide.

Rather than applying liquid pesticide formulations to livestock in winter, application of dusts can be a safer alternative for some pest problems. One choice for self-treatment is the use of dust bags. These can be strategically placed in areas where the animal will be forced to contact and rub against them, effectively applying the dust to their coat. Dusts can also be sprinkled onto livestock by hand.

### Understanding Pesticide Hazards

Daniel Frank – Director, VTPP

Pesticides can enter the human body through four primary pathways commonly referred to as routes of entry (fig. 1). These include the mouth (oral), skin (dermal), eyes (ocular), and lungs (inhalation).

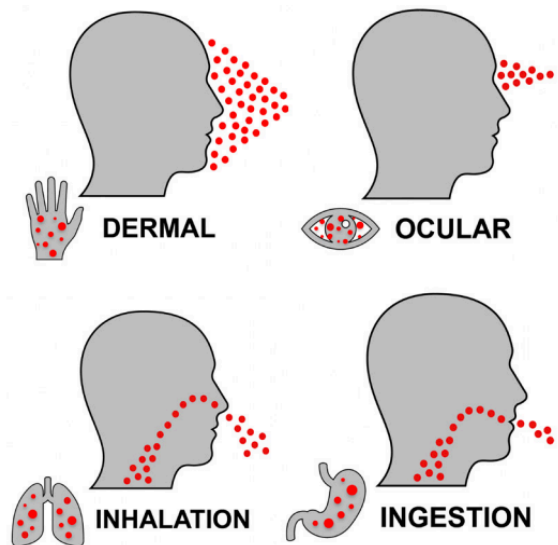


Figure 1. The four routes of exposure to pesticides.

Oral exposure to a pesticide may result from

- Accidentally splashing or spraying pesticides into the mouth.
- Neglecting to wash hands before eating, drinking, smoking, or chewing tobacco.
- Mistaking pesticides for food or beverages (keep pesticides in original containers!).

Dermal exposure to a pesticide may result from

- Accidentally splashing or spraying pesticides on unprotected skin.
- Failing to wash hands after handling pesticides or their containers.

- Wearing inadequate protective clothing during mixing and application.
- Wearing clothing contaminated with pesticides.

Ocular exposure to a pesticide may result from

- Accidentally splashing or spraying pesticides into the eyes.
- Applying pesticides during windy weather without eye protection.
- Rubbing eyes with contaminated gloves or hands.
- Loading pesticide dusts, granules, or other dry formulations without eye protection.

Inhalation exposure to a pesticide may result from

- Prolonged exposure to pesticides in enclosed or poorly ventilated spaces.
- Inhaling vapor, dust, or mist while handling pesticides without appropriate protective equipment.
- Using an improperly fitted respirator or old or inadequate cartridge or canister while handling pesticides.

A signal word is generally required for all registered pesticide products. Signal words, such as DANGER, WARNING, and CAUTION, convey the acute toxicity of a pesticide as it relates to humans and other mammals. These words, prominently displayed on pesticide labels, help users assess the potential danger of a particular pesticide product.

- DANGER indicates the pesticide product is highly toxic by some route of entry. The pesticide may be corrosive, causing irreversible damage to the skin or eyes. Alternatively, it may cause acute illness or death if eaten, absorbed through the skin, or inhaled. If this is the case, the word "POISON" must also be included in red letters on the front panel of the product label.
- WARNING indicates the pesticide product is moderately toxic by some route of entry. It may also mean the product is likely to cause moderate skin or eye irritation.
- CAUTION indicates slight toxicity. These pesticides are less likely to cause acute illness through a particular route of entry than products with DANGER or WARNING signal words.

Following the signal word is the precautionary statements section of a pesticide label. This section provides information about toxicity, irritation, and sensitization hazards associated with the use of

a pesticide, as well as treatment instructions and information to reduce exposure potential. The precautionary statements also detail any protective actions needed to prevent poisoning accidents. These protections directly relate to the toxicity of the pesticide (signal word) and the route(s) of entry that must be particularly protected.

Remember, the most reliable information about a pesticide is provided on its label. Always read the label carefully. Pay close attention to the signal word and precautionary statements. Consider the most likely routes of exposure. By adhering to the instructions on the label, pesticides can be used safely and efficiently, ensuring the well-being of the applicator, other humans, domestic animals, and the environment.

## Blast From the Past

Stephanie Blevins Wycoff – Extension Associate

### Myers Graduating Vermorel Nozzle

This antique brass nozzle was sold by the F. E. Myers & Bro. Company of Ashland, Ohio (fig. 2). In the early 1900s, this company manufactured a variety of spray pumps, nozzles, and accessories, which they marketed primarily to fruit tree growers. When used to apply liquid insecticides, the spring on the nozzle could be adjusted to produce a fine mist or solid spray. At the time, growers could purchase this nozzle for about 80 cents. Today, nozzles are produced from many materials including polymers, stainless steel, and ceramic and can cost upwards of \$5 per nozzle. *Special thanks to Dr. Michael Weaver for his research and collection of VTPP's historical antiques.*



Figure 2. Myers Graduating Vermorel Nozzle, circa early 1900s.

## Program Updates

---

### VTPP Updates

VTPP will continue to host its online private applicator recertification course until midnight on Feb. 29, 2024. There is a \$30 fee for this self-paced course that provides full credit for categories 90 and 91. Share this registration link with any private applicator(s) who may be interested in this option: [tinyurl.com/VCE-VTPP-PAR-90-91](https://tinyurl.com/VCE-VTPP-PAR-90-91).

You can also find the registration on [register.ext.vt.edu/](https://register.ext.vt.edu/) by searching under “Programs” and then under “Agriculture” or “Natural Resources”, or by using specific keywords (i.e., pesticide, applicator, private, recertification, PAR, private applicator, VTPP, Category 90, Category 91).

For guest account issues, please contact Traci McCoy ([tsmccoy@vt.edu](mailto:tsmccoy@vt.edu)), and copy Stephanie Collins ([collinss@vt.edu](mailto:collinss@vt.edu)) and Patty Taylor ([ptaylor1@vt.edu](mailto:ptaylor1@vt.edu)). For questions about course content, please contact Rachel Parson ([rparson@vt.edu](mailto:rparson@vt.edu)).

### VDACS Updates

#### 2024 Plastic Pesticide Container Recycling Program

Virginia Department of Agriculture and Consumer Services, Office of Pesticide Services (VDACS-OPS) in cooperation with Virginia Cooperative Extension (VCE) is again offering localities and VCE offices the opportunity to participate in the annual Plastic Pesticide Container Recycling Program. This program is designed to provide agricultural producers, pesticide dealers, and pest control firms with an environmentally responsible alternative for the disposal of properly rinsed plastic pesticide containers. In 2023, 107,803 pounds of plastic pesticide containers were recycled, for a total of approximately 2.5 million pounds of containers recycled since 1993.

Localities and VCE offices interested in participating in the program for the first time are required to submit an Administrative Plan. The following requirements are of particular importance to potential participants and must be addressed in each plan:

1. Identifying a responsible party, including
  - a. Federal ID Number.
  - b. Payee full name and mailing address.
  - c. Email for the contact person.
2. Establishing a secure, covered recycling site.
3. Employing, training, and supervising a container inspector(s), including
  - a. Identifying a container inspector(s).
  - b. Documenting the training of the container inspector(s).
4. Inspecting all plastic pesticide containers to assure cleanliness per Agricultural Container Recycling Council (ACRC) guidelines. More information can be found at [agrecycling.org](https://agrecycling.org) in English and Spanish.
5. Providing sufficient personnel to assist the recycling contractor onsite during the collection and/or granulation of the containers.

As in the past, first time participants in 2024 will have the option for four successive one-year renewal periods.

Localities and VCE offices that have current Memorandums of Agreement (MOAs) with VDACS and are interested in participating in 2024 are not required to submit a new Administrative Plan. An email with information regarding requirements to continue in the program will be sent to all localities and VCE offices with current MOAs.

The project period for the 2024 Plastic Pesticide Container Recycling Program is Jan. 1 through Dec. 31, 2024. Submissions of the activity report and expense reimbursement request (up to \$2,500), including receipts, for expenses incurred during the 2024 project period, will be due to VDACS by Jan. 31, 2025.

An announcement regarding the opportunity to participate in the 2024 program, including the revised guidance, is coming soon. In the interim, if you need additional information regarding program responsibilities, funding availability for the program, and additional requirements for participation (including submission of the Administration Plan), please contact Marlene Larios ([marlene.larios@vdacs.virginia.gov](mailto:marlene.larios@vdacs.virginia.gov)) at (804) 371-6561.

# NATIONAL PESTICIDE SAFETY EDUCATION MONTH

February  
is

National  
Pesticide  
Safety  
Education  
Month!

- There are about 1 million certified pesticide applicators in the U.S.
- 11,000-15,000 pesticide products are registered for use in each state.
- Common consumer products that contain pesticides include
  - Flea collars.
  - Ant and roach traps.
  - Some lawn care products like weed and feed.
- Pesticide Safety Education Programs (PSEPs) are housed at land-grant universities, like Virginia Tech.

\*Facts provided by National Stakeholder Team for PSEP Funding

7th Annual NPSE Month - Pesticide Stewardship Resources:

- [vtp.org](http://vtp.org)
- [pesticidestewardship.org](http://pesticidestewardship.org)

Organized by the National Stakeholder Team for Pesticide Safety Education Program Funding, this month-long awareness campaign aims to reinforce safe pesticide use with a wide variety of audiences.