Transporting pesticides

By Stephen H. Futch

This CEU article grants one General Standards (CORE) continuing education unit (CEU) when submitted and approved that can be used toward the renewal of a Florida Department of Agriculture and Consumer Services restricted-use pesticide license.

Transporting pesticides safely is a key responsibility of all workers who supervise, transport, use or apply pesticides in any agriculture-related business. No one wants an accidental spill or release of pesticides into the environment. Accidental spills can cost thousands of dollars to clean up in addition to the lost value of the released pesticide. These spills result in the loss of time to properly clean up, loss of product, potential environmental contamination and possible injury to those who may come in contact with the released product. However, when accidents do occur, having the proper containment/cleanup material immediately available and being properly trained in how to handle the accidental release can minimize the risk of having an enormous disaster that costs many hours and significant funds to properly clean up.

While some pesticides may be flammable, others may produce hazardous fumes when spilled or can cause problems for the general public who may come in contact with the released material. Think about the potential cost of a pesticide cleanup. A few dollars or time spent properly training everyone who transports pesticides can save thousands of dollars in cleanup costs. Even a minor spill on a public highway, spread by vehicles over a larger area, can create enormous cleanup problems, including public safety issues. Additionally, legal fees and fines can add significantly to the cost of the spill cleanup. It is important to transport pesticides safely and securely to minimize environmental and legal issues.

LOADING PESTICIDE CONTAINERS

Before any material is loaded, all containers should be carefully inspected to make sure they can be safely transported. Any damaged containers should be placed inside a larger container to reduce the risk of chemical release. When placing a container inside another container, be sure to properly label the new container with product information and add a new label if possible.

When placing containers or loading pesticide containers into the transportation vehicles, be sure labels are properly attached, containers are in good condition and all are tightly closed. Load all containers in a manner that will minimize the risk of puncturing or tearing the containers. Organize the load in a manner to maximize the stability of those containers and to minimize the risk of them shifting while in transport. Shifting containers could make the vehicle unstable and cause an overturn.

TRANSPORTING PESTICIDES

Pesticides should never be carried in the passenger section of any vehicle. If accidents or spills were to occur, hazardous fumes or spilled chemicals could seriously injure those inside the vehicle. Additionally, it would be very difficult or may be nearly impossible to properly decontaminate and clean the inside of the vehicle. The released material residue could result in pesticide exposure to subsequent occupants riding inside the vehicle. If pesticides must be carried inside a van or other enclosed vehicle, like a box truck, then proper ventilation and a barrier between the occupants and the pesticide must be maintained.

Never allow people, pets or livestock to ride in the cargo area when the area is loaded with pesticides. All food, livestock feed, seed, fertilizers, veterinary supplies and plant materials should be properly separated from all pesticides while in transit. Products contaminated with pesticides may be rendered unusable or result in a poisoning incident. Never transport pesticides in a way that they could contaminate fertilizers or feed, making those products unusable.

Pesticides transported in the cargo

area of a vehicle must be securely tied to minimize the potential for tears, punctures or other damage that could cause the pesticide to be released. If pesticides are placed in an open bed of a truck, actions must be taken to make sure they are transported in a manner which would limit access and reduce the potential for theft. Chemicals should never be stacked higher than the sides of the truck bed to minimize the potential for them to fall out of the truck while in transit. The truck should have tie-down hooks or other devices to aid in securing the load in a proper and safe manner. The truck bed should be made of a non-porous material like steel to aid in cleaning, if needed. Truck beds made of wood or other porous material could absorb released chemicals, making cleanup very difficult.

Pesticides should be transported in a manner which avoids subjecting the container to temperature extremes and moisture. Extreme temperatures below 40 degrees F or above 110 degrees F can alter the stability or effectiveness of some formulations. Moisture can damage paper or cardboard containers or the products inside. Water-damaged containers are very difficult to safely handle later. Properly covering the containers with a waterproof tarp or cover can provide additional protection from extreme weather conditions during transport, if properly secured over and around the load.

The U.S. Department of Transportation (DOT) may require a diamond-shaped sign on a vehicle that transports specific types or quantities of pesticides that have been determined to be hazardous materials. These diamond-shaped signs will be referred to as placards. Hazardous materials may include pesticides, fertilizers (anhydrous ammonia or ammonium nitrate), fuels (gas, diesel and/or propane) and/or explosives.

Placards on vehicles will quickly aid emergency responders with general information about what is being transported. These signs reduce the possibility of someone approaching the accident scene without proper protective equipment. The placards will be color-coded and have symbols or designs to identify types of materials being transported and can easily be seen from a distance.

If you are transporting materials and quantities that require placards, you will be required to develop and implement a transportation security plan. The security plan will include: 1) protection against unauthorized access; 2) security checks of employees who pick up and transport materials that require placards; and 3) a security plan for the intended travel route. More information on a transportation security plan can be obtained by contacting the Hazardous Materials Information Center at 1 (800) HMR-4922 or on the web (www.phmsa.dot.gov/hazmat/info-center).

TRANSPORTING SECURITY

When possible, properly secure the vehicle that is transporting pesticides in a secured area. Some vehicles may be designed to allow all chemicals to be locked inside a non-passenger compartment area of the vehicle, which would limit access to the pesticides and provide additional security. In other cases, the chemicals may be placed in the open bed of the vehicle or trailer; if this is the case, the vehicle should not be left unattended. The vehicle operator is responsible for the safety of the cargo he or she is transporting. If a child or adult is poisoned or causes a chemical release because of the operator's negligence, the operator can be held legally responsible for damages or injuries. If the pesticide is stolen while in transport, the company or operator may legally be responsible for damages caused by the stolen product. So be sure to minimize any potential chance of theft or vandalism of any pesticide.

VEHICLE OPERATORS

Operators of vehicles transporting chemicals must be properly licensed for the task they will be performing. Special licenses or permits may be required for those that transport hazardous materials or substances as defined by the DOT.

If an accident were to occur during the transport of pesticides, the operator can be held accountable for injuries, contamination and/or environmental damages caused by an accidental release. The operator should also know how to properly respond to an emergency. The vehicle should have an

emergency spill kit. The spill kit should include some basic cleanup materials such as an absorbent material, shovel, broom, personal protective equipment (PPE) and a container to place cleanup material into. In the event of an accident, if you don't know how to properly and safely clean up the spill, notify your supervisor or emergency services for assistance.

ADDITIONAL SAFETY PRECAUTIONS

Before departing the pesticide loading area and entering the highway, do a final walk-around inspection of the vehicle to make sure all containers are properly secured and the truck is in a safe operating condition. Safe operating conditions can include proper tire inflation, all lights in proper working condition and any tail or lift gates in proper position. You should also make sure you have the technical data sheets, proper labels and material safety data sheets (MSDS) or safety data sheets for the pesticides being transported in the vehicle. Pesticide labels should be legible and attached to all containers. A vehicle manifest may be required if DOT regulated or hazardous materials are being transported.

The pesticide label and MSDS contain important information about storage and handling. Information will also be included about the storage temperatures, human and environmental hazards, PPE and emergency phone numbers. Having this information immediately available will aid the driver or emergency personnel to properly respond as needed.

Cell or mobile phones are a very good emergency tool. They provide a quick way to contact the company if emergency assistance is needed. Cell or mobile phones are also good emergency tools for those that work alone in remote locations.

It is everyone's responsibility to make sure accidents don't happen. However, if an accident were to occur, the actions that you take in the first few minutes after the accident can greatly impact the outcome of the event. Transportation safety and following proper procedures will greatly minimize the risk of a pesticide spill.

Source of information: "Applying Pesticides Correctly" by Fred Fishel, SM 1, UF/IFAS; Pesticide Applicator Certification and Licensing in Florida, Florida Department of Agriculture and Consumer Service, 2010.

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'Transporting pesticides' test

To receive one core continuing education unit (CEU), read "***Transporting pesticides"*** in this issue of *Citrus Industry* magazine. Answer the 20 questions on the magazine's website (www.citrusindustry.net) or mail the answers and application information to the address at the bottom of the form. The article and test set will be valid for up to one year from the publication date. After one year, this test will no longer grant a CEU. Please allow at least 10 business days after submission to receive your CEU approval form by mail or e-mail.

1. Transporting pesticides safely is a key responsibility of all agriculture-related businesses. T F
2. Spilled pesticides can cause signifcant economic, environmental and legal issues. T F
3. It is not necessary to inspect pesticide containers prior to loading them for transport. T F
4. All transported pesticides should have labels properly attached to containers during transportation. T F
5. Pesticides should never be carried in the passenger section of the vehicle. T F
6. One can transport livestock food in the same area of the vehicle with pesticides, since pesticide containers are designed to minimize leaks or spills. T F
7. The type of flooring that is in the pesticide transporting area is not of concern when transporting pesticides. T F
8. Temperatures are not of concern when transporting pesticides in Florida. T F
9. Diamond-shaped placards are required on all vehicles that transport pesticides. T F
10. Hazardous materials that may require placards include some types of pesticides, fuel, fertilizers and/or explosives. T F
11. Placards help emergency responders determine what type of materials are being transported in a given vehicle. T F
12. If you are required to place a placard on your vehicle when it is transporting pesticides, you are required to develop and implement a transporation security plan. T F
13. The vehicle operator is responsible for the safety of the cargo he or she is transporting. T F
14. If a pesticide is stolen while in transit, the vehicle operator does not have any legal responsibility. T F
15. Special licenses or permits are not required for transportation of hazardous materials. T F
16. A spill kit is not recommended in vehicles that transport pesticides. T F
17. A final walk-around inspection of vehicles is not necessary when operating vehicles that transport pesticides. T F
18. A vehicle manifest may be required if regulated or hazardous materials are being transported as regulated by DOT regulations. T F
19. MSDS sheets contain important information that could aid the emergency personnel to properly respond to a pesticide spill. T F
20. Cell or mobile phones are good emergency tools. T F

Please mark the number below to rate this article and test:

Not very useful									Very useful
1	2	3	4	5	6	7	8	9	10

Pesticide Applicator CEU Form

First Name: _____ **Last Name:** _____

E-mail: _____

Pesticide License Number: _____

Address: _____

City: _____ **State:** _____ **Zip:** _____

Phone Number: _____

Mail the answer sheet or a copy of the form to: Steve Futch, Citrus Research & Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850.

If you have questions regarding this form, test or CEUs, e-mail Steve Futch at shf@ufl.edu or call (863) 956-8644. **Allow two weeks to process your CEU request**.