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Maintaining Personal Protective Equipment

At this time of year, when pesticides are commonly being used, it is important to take the time to properly clean and maintain Personal Protective Equipment (PPE). The following is taken, with little revision, from the new national *Pesticide Applicator Core Manual*. When you finish an activity in which you are handling pesticides or are exposed to them, remove your personal protective equipment right away. Start by washing the outside of your gloves with detergent and water before removing the rest of your PPE. Wash the outside of other chemical-resistant items before you remove your gloves. This practice helps you avoid contacting the contaminated part of the items while you are removing them, thus keeping the inside surface from becoming contaminated. If any other clothes have pesticides on them, change them also. Determine whether contaminated items should be disposed of or cleaned for reuse.

Disposables

Disposable PPE items are not designed to be cleaned and reused. Discard them when they become contaminated with pesticides. Place disposable PPE in a separate plastic bag or container prior to disposal.

Chemical-resistant gloves, footwear, and aprons labeled as disposable are designed to be worn only once and then thrown away. These items often are made of thin vinyl, latex, or polyethylene. These inexpensive disposables may be a good choice for brief pesticide-handling activities that require dexterity, as long as the activity does not tear the thin plastic. For example, you might use disposable gloves, shoe covers, and an apron while pouring pesticide into a hopper or tank, cleaning or adjusting a nozzle, or making minor equipment adjustments.

Nonwoven (including coated nonwoven) coveralls and hoods, such as Tyvek™, usually are designed to be disposed of after use. Most are intended to be worn for only one workday. The instructions with some coated nonwoven suits and hoods permit the user to wear them more than once if each use period is short and not much pesticide gets on them. Pay



close attention when reusing these items, and be ready to change them whenever there are signs pesticides could be getting through the material or the inside surface is contaminated.

Dust/mist masks, prefilters, canisters, filtering and vapor-removing cartridges, and a few cartridge respirators are disposables. They cannot be cleaned. Be sure to replace these disposable items often.

Reusables

Some PPE items, such as rubber and plastic suits, gloves, boots, aprons, capes, and headgear, are designed to be cleaned and reused several times. However, do not make the mistake of continuing to use these items when they no longer offer adequate protection. Wash the reusable items thoroughly between uses, and inspect them for signs of wear or abrasion. Never wash contaminated gloves, boots, respirators, or other PPE in streams, ponds, or other bodies of water. Check for rips and leaks by using the rinse water to form a “balloon” (that is, filling the PPE item with water) and/or by holding the items up to the light. Even tiny holes or thin places can allow large quantities of pesticide to penetrate the material and reach your skin. Discard any PPE item that shows sign of wear.

Even if you do not see any signs of wear, replace reusable chemical-resistant items regularly—the ability of a chemical-resistant material to resist the pesticide decreases each time an item is worn. A good rule is to throw out gloves that have been worn for about 5 to 7 workdays. Extra-heavy-duty gloves, such as those made of butyl or nitrile rubber, may last as long as 10 to 14 days. Glove replacement is a high priority because adequate hand protection greatly reduces the pesticide handler’s chance for exposure. The cost of frequently replacing your gloves is a wise investment. Footwear, aprons, headgear, and protective suits may last longer than gloves because they generally receive less exposure to the pesticides and less abrasion from rough surfaces. Replace them

regularly and at any sign of wear. Most protective eyewear and respirator bodies, face-pieces, and helmets are designed to be cleaned and reused. These items can last many years if they are of good quality and are maintained correctly.

Launder fabric coveralls and work clothing after each day’s use. Do not attempt to launder clothing made of cotton, polyester, cotton blends, denim, and canvas if these items are drenched or saturated with concentrated pesticides labeled with the signal word DANGER—POISON, DANGER, or WARNING. Always discard any such contaminated clothing or footwear at a household hazardous waste collection site.

Be sure to clean all reusable PPE items between uses, even if they were worn for only a brief period of exposure. Pesticide residues that remain on PPE are likely to penetrate the material. If you wear that PPE again, pesticide may already be on the inside of the material next to your skin. Also, PPE worn several times between launderings may build up pesticide residues. The residues can reach a level that can harm you, even if you are handling pesticides that are not highly toxic. After cleaning reusable items, place them in a plastic bag or clothing hamper away from your personal clothes and away from the family laundry.

Washing PPE

Always wash pesticide-contaminated items separately from the family laundry. Otherwise, pesticide residues may be transferred to the other laundry and may harm you or your family. Be sure that the people who clean and maintain your PPE and other work clothes know they can be harmed by touching these pesticide-contaminated items. Instruct them to wear gloves and an apron and work in a well-ventilated area, if possible, and avoid inhaling steam from the washer or dryer.

Follow the manufacturer’s instructions for cleaning chemical-resistant items. If the manufacturer instructs you to clean

the item but gives no detailed instructions, follow the “Procedure for Washing Contaminated PPE” detailed below. Some chemical-resistant items that are not flat, such as gloves, footwear, and coveralls, must be washed twice—once to clean the outside of the item and a second time after turning the item inside out. Some chemical-resistant items, such as heavy-duty boots and rigid hats or helmets, can be washed by hand using hot water and a heavy-duty liquid detergent.

Use the following procedure for washing non-chemical-resistant items such as cotton, cotton/polyester, denim, canvas; other absorbent materials; and most chemical-resistant items.

Procedure for Washing Contaminated PPE

1. Wash only a few items at a time so there is plenty of agitation and water for dilution.
2. Wash in a washing machine, using a heavy-duty liquid detergent and hot water for the wash cycle. Set your washer to the longest wash cycle and two rinse cycles.
3. Use two entire machine cycles to wash items that are moderately to heavily contaminated. (If PPE is too contaminated, bundle it in a plastic bag, label the bag, and take it to a household hazardous waste collection site.)
4. Run the washer through at least one additional entire cycle without clothing, using detergent and hot water, to clean the machine before any other laundry is washed.

Hang the washed items to dry, if possible. It is best to let them hang for at least 24 hours in an area with plenty of fresh air. Even after thorough washing, some items still may contain residues. When the items are exposed to clean air and sunlight, most residues move to the surface of the fabric, evaporate, or break down. You may wish to buy two or more sets of PPE so you can leave one set airing while wearing the other set. Do not hang items in enclosed living areas; pesticide residues that remain in the items may

evaporate and expose people or animals in the area. If it is not possible to hang fabric items to dry, a clothes dryer may be used. Over time, however, the dryer may become contaminated with pesticide residues.

Maintaining Eyewear and Respirators

Wash goggles, face shields, shielded safety glasses, respirator bodies, and facepieces after each day of use. Use a detergent and hot water to wash them thoroughly. Remove any contaminants (such as residual pesticides) under running water with a soft brush. Sanitize them by soaking for at least 2 minutes in a mixture of 2 tablespoons of chlorine bleach in 1 gallon of hot water. Rinse thoroughly to remove the detergent and bleach. After rinsing to remove the detergent and bleach, dry the items thoroughly or hang them in a clean area to dry.

Pay particular attention to headbands. Replace headbands made of absorbent materials with chemical-resistant headbands. After each day of use, inspect all headbands for signs of wear or deterioration, and replace them as needed.

Store respirators and eyewear in an area where they are protected from dust, sunlight, extreme temperatures, excessive moisture, and pesticides or other chemicals. A sturdy plastic bag with a zip closure works well for storage. Store respirator cartridges in an airtight bag, or they lose their effectiveness.

Respirator maintenance is especially important. Inspect your respirator before each use. Repair or replace any part that shows signs of wear or deterioration. Maintain an inventory of replacement parts for the respirators you own, and do not use substitutes or incompatible brands. If you keep a respirator for emergency use or as a backup, inspect it at least monthly.

If you remove your respirator between handling activities, follow these guidelines:

- Wipe the respirator body and facepiece with a clean cloth.
- Replace caps, if available, over cartridges, canisters, and prefilters.
- Seal the respirator (except for any prefilters) in a sturdy, airtight container, such as a plastic bag with a zip closure. If you do not seal the respirator immediately after each use, the disposable parts will have to be replaced more often because cartridges and canisters continue to collect impurities as long as they are exposed to the air. Prefilters, however, do not lose their effectiveness when exposed to the air. Remove contaminated prefilters before placing the canisters and cartridges in a zip-closable plastic bag to avoid contaminating the canisters and cartridges.

At the end of every workday that you wear a reusable respirator, be sure to do the following:

- Remove the prefilter. Most filters should be discarded.
- Take off the cartridges or canisters. Discard them, or (if they are still usable) replace their caps and seal them in an airtight container, such as a plastic bag with a zip closure.
- Clean and store the respirator as directed above.
- Discard disposable respirators according to manufacturer's instructions. Do not try to clean them.

Remember: Do not store your respirators or other PPE in pesticide-storage areas.

Handle respirators with the same care that you give your other protective equipment and clothing. Consult labels and MSDS for instructions about protective equipment and clothing, and remember that protective equipment has limitations. A person is never completely protected and must still use caution and common sense to prevent pesticides from contacting the body. (*Phil Nixon*)

Recent Happenings with Paraquat

Recently, in Denver, Colorado, a private applicator was issued a Notice of Warning by EPA for the misuse of the herbicide Paraquat Plus. In an effort to kill coyotes, he allegedly soaked meat with Paraquat Plus and left it on nearby property. Unfortunately, area dogs found the meat instead. At least three died, and two were treated for poisoning. The Colorado Department of Wildlife and local authorities were investigating the matter. Another fatal incident occurred in 2003, when at least seven dogs in Oregon died after being directly targeted. Unfortunately, over the years, there have been other intentional, malicious paraquat poisonings of animals, prompting the publication of a toxicology brief for the veterinary community entitled, "Helping animals exposed to the herbicide paraquat" (http://www.aspc.org/site/DocServer/vetm0904_755-762.pdf?docID=5581&AddInterest=1101). Of course, coyote or dog control is *not* a labeled use of paraquat. It is instead labeled for weed control and has been used worldwide to control numerous plant species for over 45 years. It is nonselective, contact in its activity, and very fast acting.

Paraquat can be highly toxic to humans as well. In fact, the label states, "DANGER: one swallow can kill. Symptoms are prolonged and painful. Onset of symptoms may be delayed for up to three days after swallowing. May be harmful or fatal if absorbed through skin or inhaled. Harmful to skin and eyes. If you come into contact with paraquat, immediately wash with soap and water." Because of its high toxicity, it is classified in the United States as a restricted-use pesticide for use only by licensed applicators.

Swallowing often occurs accidentally, but that's not always the case. In past years, paraquat has been a popular agent for suicide, especially in developing countries. According to the MSDS for

paraquat, it is estimated that only 15 ml of paraquat is sufficient to cause death by oral ingestion. That's not much, considering a 12-ounce can of cola is 355 ml. One little drink may be enough to cause multi-organ failure in just a few days. The Centers for Disease Control and Prevention encounter paraquat poisoning cases often enough to have created a fact sheet on paraquat: <http://www.bt.cdc.gov/agent/paraquat/basics/facts.asp>.

In the interest of pesticide stewardship this past December, Syngenta, the maker of Gramoxone Max, introduced a new formulation of paraquat, Gramoxone Inteon. The purpose of the new formulation was not to increase weed control but instead to reduce oral toxicity in vomiting species. Other benefits include a less offensive odor (smells like decaying grass for a more positive handling and application experience) and a more convenient use rate (minimizes the risk of user error). A natural-based shielding agent, alginate, was added to minimize movement of any ingested herbicide into the small intestine, thus slowing absorption and reducing toxicity. The alginate works by forming a protective barrier when it comes in contact with stomach acid. Alginates are commonly used both in the food and pharmaceutical industries. Both the old and new formulations of Gramoxone contain an emetic that induces vomiting, but the new formulation also includes a purgative to enhance excretion. The idea is for the body to move the paraquat out as quickly as possible in all directions. What is left in the body is slowly absorbed, thus increasing the time for and efficacy of medical treatment. Like the old formulation, the new Inteon is a green liquid, making it less likely to be confused with cola drinks. Regardless of these changes, the label still bears the signal word, "Danger/Poison." Syngenta conducted non-guideline studies to determine the benefits of the new formulation, however EPA considers only standard acute toxicity studies when determining the appropriate signal word for a label.

Unfortunately, older concentrates and formulations found in other countries may not have any of these accidental poisoning safeguards (strong, deterring odor; added emetics; green color). The original paraquat introduced in the 1960s was reddish brown in color and odorless. A common practice of the time was to store pesticides in smaller containers such as beverage bottles—without proper labeling. Fatal poisonings resulted when these containers were confused with cola, tea, or even red wine. Over the years, pesticide applicators have learned not only about the dangers of storing pesticides in food and feed containers but also how to prevent pesticide exposure through various educational training programs and publications—such as those provided by the University of Illinois Pesticide Safety Education Program! Fortunately, the number of accidental poisonings has decreased over time. Improvements in formulation technology should further reduce fatalities.

A quick Web search can dig up all kinds of information about paraquat poisonings and suicides, but be sure to note how reliable the source of information is. What is their interest in the matter? One Web site that may be useful, <http://www.paraquat.com/>, is actually sponsored by Syngenta, but it links to various government reports and journals and features information from around the world. The FAQ section especially contains much information on poisonings. (*Michelle Wiesbrook, adapted from Syngenta's Technical Bulletin on Gramoxone Inteon and an EPA Agriculture Newsroom News Release, March 17, 2006.*)

Illinois Agricultural Aviation Association's 2006 Operation S.A.F.E. Fly-In

The Illinois Agricultural Aviation Association (IAAA) held its 2006 Operation S.A.F.E. fly-in from April 24 to 26. As with the 2004 and 2005 fly-ins, it was located at the Coles County Memorial Airport in Mattoon, Illinois. The fly-in was sponsored by Syngenta, who manned the flight line and collected the spray data. S.A.F.E. stands for Self-regulating Application and Efficiency. The S.A.F.E. program is designed to offer aerial applicators an opportunity for a professional analysis of their aircraft's performance. The fly-in allows aerial applicators to view their aircraft's spray pattern and droplet size spectrum. By viewing this information, they can make any changes necessary to their aircraft setup to improve or change the spray pattern or the size of droplets created during an application. Spray pattern and droplet-spectrum data is collected and analyzed by specially trained members of the University of Illinois Extension Pesticide Safety Education Program (PSEP). For more information about the equipment used to analyze the spray patterns and droplet spectrums at a fly-in, see *Illinois Pesticide Review (IPR)*, vol. 17, no. 3, May 2004.

One of the things an aerial applicator can learn at a fly-in is how his or her spray pattern looks and what the appropriate swath width should be. Mounting nozzles on the boom of an agricultural aircraft is not the same as mounting nozzles on a ground sprayer. To begin with, the boom is mounted well below and behind the aircraft's wings. This keeps the spray leaving the nozzles out of the turbulence caused by the air moving over the wings. The length of the boom is limited to about three-quarters the length of the wing span. This keeps the spray leaving the nozzles out the turbu-

lence caused by vortices formed at the wing tips. The nozzles underneath the fuselage of the aircraft are often mounted on nozzle drops to lower them further, or removed altogether. This is done to prevent spray from being displaced by the turbulence associated with prop wash. The spray droplet spectrum created by an aircraft is also examined at a fly-in, and adjustments can be made to the nozzles if a different droplet size is desired. See *IPR*, vol. 18, no. 4, May 2005, for details on how aerial applicators control spray droplet size with their aircraft.

This year's fly-in got off to a speedy start. The S.A.F.E. analysts arrived with their equipment at noon, and aircraft were making passes on the flight line by 2:30 in the afternoon. They continued flying spray passes until dark, and the analysts were still analyzing data at 10:00 p.m. Ninety passes over the flight line were made by 10 different aircraft. In addition to the string system used to record the spray pattern and the water-sensitive paper used to measure the droplet size, a digital camera was mounted in a special protective enclosure on the flight line. As an aircraft made a pass over the string, a remote control was used to trigger the camera and take photographs of the aircraft making the application. Computer memory cards were sent in to the analysis center, along with the string and water-sensitive paper, and a photograph of the aircraft spraying was printed. This photograph was included with the packet of information given to the aerial applicator, and used to help interpret the other reports and look for problems with the spray equipment.

The second day of the fly-in saw no action whatsoever. Rainy and windy weather prevented pattern testing. The analysts were able to catch up on analyzing the data, and spent time with the pilots explaining the results and making suggestions to improve spray performance. All the spray patterns looked good, and only a few aircraft needed minor adjustments. The spray-droplet spectrums for all the

aircraft were set to make applications for soybean rust, should that disease appear in Illinois in 2006. The aerial applicators also received updates on what to expect for pests in Illinois for 2006. In addition to these updates, they received training on how to prevent accidents caused by collisions with wires and towers. This was important training that may very well save their lives. Aerial applicators are often required to fly in close proximity to these objects to make an application. Besides the existing network of power and telephone wires, the continued increase in cellular phone towers and wind turbine generators poses a serious hazard to the safety of aerial applicators.

On the morning of the third day, aircraft were again in the air. Several of the aerial applicators wanted to verify changes made to their aircraft after the first day, and a few new aircraft showed up, having been unable to make it on the first day. All total for the whole fly-in, 15 different aircraft flew a total of 147 passes over the flight line. The event was a success, and aerial applicators in Illinois are ready for any potential threat in 2006, soybean rust or otherwise. (*Scott Bretthauer*)

Lawn-Care Containment Regulations

If you operate a lawn-care company, please be advised that there are containment regulations designed to prevent environmental contamination from pesticides and/or fertilizers. Illinois law mandates that a containment area must be used for the loading of lawn-care products for distribution to a customer. The purpose of the containment area is to intercept, retain, recover, and reuse pesticide spills, wash water, and rinse water from application equipment or other items used for the storage, handling, preparation for use, transport, or application of pesticides to turf areas. Any

application or handling of fertilizers only, application to trees and shrubs only, land areas located within a public or private rights-of-way, or land areas utilized for turf research or commercial turf production are exempt from these regulations.

Portable and nonportable containment areas can be permitted and installed, provided they are constructed of an impervious material that is compatible with the pesticides being handled/contained at the facility. Section 256.40 (Title 8 Illinois Administrative Code, Chapter 1) mandates the minimum containment area dimensions and capacities, as well as the requirements and restrictions regarding sump, plumbing, and storage for the three general containment permit classes. Section 256.70 addresses cleaning of the containment area and how to manage and dispose of spills, wash water, rinse water, and any precipitation that accumulates in the containment area. In addition, this section mandates all application equipment that has not been washed must be parked in the containment area or otherwise protected from precipitation to prevent the release of pesticide/fertilizer residues into the environment. Section 256.90 outlines the need for a backflow preventer or a fixed proper air gap to protect water supplies.

A containment permit must be obtained for all existing containment areas. Permits are issued by the Illinois Department of Agriculture (IDA; see contact information below) and must be renewed every 5 years. Before buying, constructing, or modifying a containment area or pad, notify the IDA to ensure that you meet all requirements. As part of the permit process, applicants must provide a map and detailed plot plan of the structure or area, as well as other supporting documentation necessary to meet the mandate and proposal. You may also need to provide documentation of compatibility, a written estimate of life expectancy for the containment structure, and the manufacturer's repair and maintenance directions.

The above information is based on 415 Illinois Compiled Statutes 65/5 (<http://www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterIC=36>) and Illinois Administrative Code Title 8, Chapter 1, Subchapter i, Section 256 (www.ilga.gov/commission/jcar/admincode/008/00800256sections.html). For detailed information or to request a containment permit form, contact Jerry Kirbach with the Illinois Department of Agriculture, Bureau of Environmental Programs at 1(800)641-3934 (voice and TDD) or (217)785-2427.

For information about pesticide storage and containment facilities (tips and building designs), consider the following resources:

Designing Facilities for Pesticide and Fertilizer Containment (MWPS-37; revised in 1995). This 116-page handbook emphasizes planning and designing pesticide and fertilizer containment facilities and provides engineering and planning information. Chapters discuss regulations; site selection; functional system design; pesticide and fertilizer storage; secondary containment; mixing/loading facilities and equipment; worker safety; concrete; remodeling facilities; emergency planning; and waste disposal. An appendix of regulatory agencies and officials in each state is included. Cost is \$17. Order by phone, (515)294-4337, or online at www.mwps.org (click on the "Construction" link).

On-Farm Agrichemical Handling Facilities (NRAES-78; 1995). This 22-page publication discusses important considerations to make when building or planning a pesticide-storage facility. Topics covered include principal parts of the storage facility, storage environmental requirements, safety requirements, and storage alternatives. It looks at the components of a well-designed facility, including detailed descriptions for a storage room; mixing room; safety equipment, records, and locker room; and an area for equipment loading and rinsing. Later sections deal with building ventila-

tion, humidity, and temperature; warning signs; fire safety; personal emergency equipment; security; and building site considerations. Cost is \$7.00. Order by phone, (515)294-4337, or online at www.mwps.org (click on the "Construction" link).

Pesticide Storage and Mixing Building (MWPS-74002). The building design is 2" x 4" stud-frame construction, insulated, and has bathroom/locker area, mixing area, with double door access for equipment. Download building plans for free at www.public.iastate.edu/~mwps_dis/mwps_web/ms_plans.html.

"Pesticide Storage and Security" fact sheet (2001). University of Illinois Extension Pesticide Safety Education Program. Free download at <http://www.pesticidesafety.uiuc.edu/facts/storage.html>. (Bruce Paulsrud)

Common Pesticide License Questions

Do I need a license to apply pesticides to my own land? **Answer:** Yes, if you choose to use a restricted-use pesticide (RUP), you are required to show proof of license before you may buy the RUP. These products have a obvious "Restricted-Use Pesticide" statement at the top of the pesticide label. If the product is not a RUP, it is a general-use pesticide and, as a farmer or homeowner, you do not need a license to apply it to your own land or land you rent.

Do I need a license to apply fertilizer as part of my lawn-care business? **Answer:** No, as long as the fertilizer does not contain a pesticide. Fertilizers of the "Weed-n-feed" and "Grub-n-Feed" type contain pesticides and, as a commercial applicator, you must be licensed to apply these products. Whether you apply pesticides or only fertilizers, you must post the turf area after application.

What is the difference between "Private," "Commercial for Hire," "Commercial Not for Hire," and "Public" pesticide license designations? **Answer:** A Private Applicator license is required for persons who—for the purpose of producing an agricultural commodity primarily intended for sale, consumption, propagation, or other use by humans or animals—use or supervise the use of a restricted-use pesticide (1) on property owned, rented, or leased by themselves or their employer, or (2) on no more than two neighbors' farms as exchange for labor.

A Commercial for Hire Applicator or Operator license is required of persons who apply a pesticide (restricted or general use) for any purpose on property other than that owned, rented, or leased by themselves or by their employer. If you apply pesticides for profit, this license designation is appropriate for you.

A Commercial Not for Hire Applicator or Operator license is required of persons who apply pesticides (restricted or general use) on the property of their employer, but who are not public (governmental) employees. Examples include grain elevator managers and workers, rural electric company field personnel, and railroad rights-of-way maintenance personnel.

A Public Applicator or Operator license is required of employees of governmental agencies who apply any pesticides in the normal course of their duties. Examples include groundskeepers in public cemeteries and golf courses, park-district maintenance personnel, foresters (public land), mosquito-abatement-district personnel, county and township weed commissioners, groundskeepers of public establishments, State Department employees, state university and college employees, Extension educators, vocational agricultural teachers, and other public employees who apply pesticides as part of their job requirements.

I farm and operate a custom pesticide application business. Which license do I need?

Answer: If you use restricted-use pesticides on your farm, you must be licensed as a Private Applicator. In addition, for your custom application business, you must be licensed as a Commercial for Hire Pesticide Applicator.

I'm confused about the terms "Applicator" and "Operator." Answer: After you decide which license designation is appropriate for you (see above question), you need to decide if you should be listed as an Applicator or Operator. Simply stated, an Operator works under the direct supervision of their Applicator. To become an Operator, you must pass the General Standards exam. An Applicator must also pass this exam, plus one or more category exams (for example, Turf, Field Crops). Both Applicators and Operators are permitted to operate application equipment; handle, mix, and apply pesticides; store pesticides; and dispose of excess pesticides and containers. However, the Applicator must be accessible to his or her Operators when they are working with pesticides. If you work alone or are the only one in your company that applies pesticides, you must be licensed as an Applicator.

I have two Applicators where I work; one is licensed in Turf and the other in Ornamentals. As an Operator, may I apply pesticides to turf and trees? Answer: Yes, but each Applicator's license number must be listed on your operator's license. If you want to add or change an Applicator, simply call the Illinois Department of Agriculture, (800)641-3934, and ask to have your paperwork and license changed.

Occasionally, I am asked to spray and kill the grass and weeds along fences and weeds growing in parking lots. Which category do I need? Answer:

Although you may be spraying grass in these sites, the grass is not maintained as turf, so the turf license is not appropriate for these applications. For these jobs, you need the Rights-of-Way category. In addition, this category allows you to spray roadsides, electric powerlines, pipelines, railroads, and other rights-of-way sites.

I work at a grain elevator and several local farmers have asked me to fumigate their grain. Does my Commercial Not for Hire Grain Facility license allow this? Answer: With your current license, you may not fumigate the farmer's grain if the grain does not belong to your company. To custom fumigate, you need to be licensed through the Illinois Department of Public Health, (217)782-4674. A farmer who wishes to fumigate his or her own grain must be certified first as a Private Applicator and then certified in Grain Fumigation to purchase and use grain fumigants. (Bruce Paulsrud)

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