



HAZMAT Transportation Security Plan

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Since September 11, 2001, the U.S. Department of Transportation (USDOT) has worked closely with hazardous materials shippers and carriers, as well as federal, state, and local government agencies, to improve the security of hazardous materials in our nation's transportation system. This article outlines USDOT's new hazardous materials transportation security requirements and is written specifically to alert and inform farmers, a group that has historically been exempt from hazardous materials (HAZMAT) regulations.

Many pesticide educators (including myself) and regulators were caught off guard by this new regulation because it arrived via federal legislative channels that we don't normally watch. Although I had more questions than answers at the time, I addressed this topic in the November 2003 issue of *Illinois Pesticide Review*. As you will see in upcoming paragraphs, the question "Does this apply to farmers?" has been resolved.

In a nutshell. Beginning September 25, 2003, agricultural producers who ship or transport certain hazardous materials in quantities that require placards must develop and implement a transportation security plan. The hazardous materials and specific trigger quantities are listed on page 3. The written security plan must include measures to address personnel, unauthorized access, and transportation issues. Your security plan will *not* be collected by state or USDOT offices, but these agencies are authorized to enforce the regulation. Note that if your dealer/supplier delivers the affected pesticides, fertilizers, and fuels to your operation, you do *not* need a security plan; but the dealer/supplier does. Furthermore, if you transport the affected pesticides, fertilizers, and fuels only between fields of your farm, you do *not* need a security plan.

The following information was obtained from a USDOT document entitled "Transportation Security Evaluation & Planning for Farmers, Ranchers, & Production Agricultural Operations." This document, along with the 2-page "Hazardous Materials Transportation Security Plan for Agricultural Operations" can be used by farmers as a template to aid in complying with the new HAZMAT regulations. The original documents can be obtained via USDOT's Web site (<http://hazmat.dot.gov/pubtrain/AgSecPlan.pdf>; 1/13/04).

Background. Farmers, ranchers, and other agricultural operations can better secure the safe transport of hazardous materials, deter terrorist and illegal acts, and reduce their exposure to liability by developing and implementing security plans that conform to USDOT requirements in 49 CFR Part 172, Subpart I. Agricultural operations commonly use many materials that are potential targets for terrorism and illegal activities, including explosives such as dynamite or detonators; certain poisonous pesticides; fertilizers such as anhydrous ammonia and ammonium nitrate; and fuels such as gasoline, diesel, and propane.

To assist agricultural operations in assessing risk and transporting hazardous materials safely, this sample security plan contains three important components—personnel security, unauthorized access, and security while in transit. Most importantly, the plan conforms to USDOT security requirements for persons who offer or transport hazardous materials.

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Assessing Your Risk

Explosion and fire. Hazardous materials that are explosive, flammable, or combustible can be used to attack large groups of people, buildings, and critical infrastructure. Examples include explosives and bulk quantities of gasoline, diesel fuel, or propane. In addition, bulk quantities of ammonium nitrate and ammonium nitrate fertilizers can be used to make explosives. For agricultural operations transporting these hazardous materials, the greatest security risk is that a shipment may be highjacked or stolen.

“Toxic by inhalation” hazards (TIH). TIH materials, either as gases or volatile liquids, can be used to attack people in confined spaces such as buildings or subways. Bulk quantities present dangers to large areas and could affect many people. In agriculture, TIH includes the fertilizer anhydrous ammonia. For farmers transporting TIH materials, the greatest security risk is that a shipment may be highjacked, stolen, or attacked while traveling in a populated area.

Poisonous liquids or solids. Materials with oral toxicity (that is, poisonous if consumed) can be used to attack food or drinking-water supplies. Also, liquids that are toxic via inhalation of their vapors can be used to attack groups of people indoors or outdoors. In agriculture, certain pesticides are considered toxic and are labeled by DOT as “Poison.” For agricultural operations transporting toxic/poisonous materials, the greatest security risk is a shipment being highjacked, stolen, or illegally released while traveling in a populated or vulnerable infrastructure area.

Which pesticides are affected? As indicated in Table 1, the regulation specifies that only certain quantities of USDOT Division 6.1 pesticides are affected. The Southern Crop Production Association Web site (http://southcrop.org/Ship_Desc/secondpage.htm) provides shipping descriptions for a wide range of pesticides (in various formulations and container sizes); look for the “6.1” in the product description. Your dealer may have a similar list for products commonly used in your area. The most reliable place to find

a product’s DOT hazard class is in the “Transportation Information” section of that product’s Material Safety Data Sheet (MSDS). You can obtain an MSDS from pesticide dealers or label Web sites, such as www.cdms.net/manuf/manuf.asp.

No joke. Rural America and agricultural products may seem unlikely targets for terrorists. However, before September 11, 2001, few considered it likely that two airplanes would be used in a devastating act of terrorism. Inconveniences in modern air travel serve as reminders that we must be vigilant about homeland security. Now is a good time to critically assess the security and safety of your *entire* operation and take actions to prevent problems.

Pesticide security and safety resources.

For more information about this and other HAZMAT regulations, contact the Hazardous Materials Information Center at (800)467-4922 or visit the Hazardous Materials Transportation (HMT) Security Web site (http://hazmat.dot.gov/hmt_security.htm). You can obtain an additional single-page summary of this regulation from USDOT’s Web site (<http://hazmat.dot.gov/pubtrain/AgSec%20Flyer%20V5.pdf>). For help in assessing the security of your pesticide storage area, see www.pesticidesafety.uiuc.edu/facts/storage.html and www.pesticidesafety.uiuc.edu/facts/securityposter.pdf. (Bruce E. Paulsrud)

FAQ: Pesticide Application Certification, Training

1. I use pesticides in a greenhouse; what license do I need? In the past, a Private Applicator license was sufficient (for this question, we’re ignoring commercial applications). However, a recent Illinois rule change requires individuals to be licensed as Commercial Not-for-Hire Operators or Applicators if the operation employs two or more non-family members to apply pesticides.

The reason for this change is twofold: (1) to ensure that *all* persons who apply pesticides in larger greenhouse operations become certified and thus are better informed and protected and (2) to improve compliance with Occupational Health and Safety Administration (OSHA) right-to-know regulations.

For affected greenhouse operations, note that the most appropriate certification category for greenhouse applications is Plant Management. Also note that employees who previously needed documented Handler training under the Worker Protection Standards (WPS) must now become Certified Operators. Persons with a current Operator or Applicator license do not need WPS training, but other WPS provisions apply.

2. What is the difference between an Applicator and an Operator license? An Applicator (Commercial, Public, or

Commercial Not-for-Hire) is the person in an organization who has the responsibility for all pesticide purchasing, storage, handling, and use. Each organization must have at least one person licensed as an Applicator at each facility location. The categories (for example, Field Crops, Turf, etc.) included on the Applicator’s license dictate the areas in which a company may legally apply pesticides. An Applicator, (usually an owner, supervisor, or foreman) may use pesticides or supervise the use of pesticides by licensed Operators.

An applicant must pass (70% correct) either the General Standards exam or the Aerial General Standards exam; each exam has 100 questions. In addition, an applicant must pass (70% correct) one or more category exams. The category exams are 50-question tests on specialized topics. Category selection depends on the sites where the company uses pesticides.

In addition to paying the license fee (see FAQ #7), commercial Applicators must provide a certificate of insurance with proper coverage. The insurance requirements are sent to you by the Illinois Department of Agriculture (IDOA) along with your application; they are also described in the laws and regulations chapter of *Illinois Pesticide Applicator Training Manual: General Standards (SP39)*.

An **Operator** (Commercial, Public, or Commercial Not-for-Hire) is a person who uses pesticides at the job site. An Operator's license is tied directly to a specific Applicator's license. An individual cannot be licensed as an Operator unless he or she works with a properly licensed Applicator. An Operator can apply pesticides only under the direct supervision of the Applicator and can apply pesticides only to areas covered by the Applicator's license. Supervision and direction of Operators by an Applicator means the

Applicator must be in daily contact with the Operators. If the Applicator is out of town or not available, the Operator may not legally apply pesticides. An applicant must pass (70% correct) either the General Standards exam or the Aerial General Standards exam; each has 100 questions.

For both types of licenses, after you pass the exam(s), the IDOA will send you a license application. Submit the completed application to the IDOA within 90 days. If 90 days elapse, you must retest. See FAQ #7 for details about fees.

3. What's the difference between Grain Fumigation and Grain Facility licenses?

The Grain Fumigation license is for Private Applicators, and the Grain Facility license is for Commercial Not-for-Hire Applicators. Each license has a separate, 50-question exam. Current Private Applicators (with 1 or 2 years left before retesting) who want to add Grain Fumigation to their license must surrender their Applicator license after passing the Grain Fumigation exam; the IDOA then issues a "combination" license.

Hazardous Materials Transportation Security Plan for Agricultural Operations

(continued from page 3)

Personnel Security

To the extent feasible and practical, references, employment history, and immigration status will be checked for personnel hired after September 25, 2003, who will be responsible for transporting these listed hazardous materials from any supplier to this operation. Personnel responsible for transporting the listed hazardous materials from any supplier to this agricultural operation will be instructed on how to adhere to this security plan.

Unauthorized Access

If it is necessary to stop during transportation of the listed hazardous materials, authorized personnel of this agricultural operation's (operation personnel) will to the extent practical prevent unauthorized persons from gaining access to the shipment by monitoring the shipment during the stop, locking the shipment inside the transport vehicle, securing the shipment to the transport vehicle, and/or securing closures on the container(s) or package(s).

If it is necessary to stop during transportation of the listed hazardous materials, operational personnel will check the vehicle and the shipment after the stop to evaluate whether tampering or illegal activity has taken place.

Operation personnel will report suspicious incidents or events to local law enforcement officials and/or the FBI as soon as is practical, using the contact information supplied below.

Local police:

Local fire/emergency rescue/HAZMAT response:

Nearest FBI field office:

Security During Transport

Operation personnel will to the extent practical minimize transit time for the listed hazardous materials by going directly from the supplier to the operation.

Operation personnel will report suspicious incidents or events to local law enforcement officials or the FBI as soon as is practical, using the contact information supplied above.

For your records and personnel use, keep a copy of this plan in an accessible but secure location at the agricultural operation.

Prepared by _____ Date _____

Revised/edited/reviewed by _____ Date _____

Across Illinois, there are typically one or two Grain Fumigation and four Grain Facility training sessions each winter, based on demand and client-retest numbers (see <http://www.pesticidesafety.uiuc.edu/training/training.html> for current dates and locations). If the scheduled Grain Fumigation sessions are not convenient, Private Applicators can register for a Grain Facility training session (sessions are similar, with Grain Facility training a bit more comprehensive).

Both audiences are directed to use *Illinois Pesticide Applicator Training Manual: Grain Facility (SP39-8)*. A workbook and self-study CD (*Stored Grain Pest Management SP39-8CD*) are also available. To order study materials, see FAQ #8. Finally, if you wish to apply grain fumigants “for hire,” you must be licensed by the Illinois Department of Public Health, (217)782-4674.

4. As a certified Private Applicator, can I purchase and apply soil fumigants?

Yes, your regular Private Applicator license is sufficient for application to soil you own or control; you do not need to take the soil-fumigation exam. To learn about soil fumigants, safety, and application techniques, consider purchasing *Illinois Pesticide Applicator Training Manual: Soil Fumigation (SP39-18)*. To order study materials, see FAQ #8.

5. Does Illinois have license reciprocity with other states? It depends! Federal and state laws govern pesticide applicator certification requirements. State laws vary, and in some cases the categories or other certification requirements don't match up well. As a result, some states honor licenses from other states and some do not. Contact IDOA Certification and Licensing, (800)641-3934, with your specific reciprocity question.

6. Is there an age limit for those seeking either a Private or Commercial license? In Illinois, you must be at least 16 years old to hold any type of pesticide applicator license.

7. What are the fees? Pesticide safety training and certification in Illinois represent a joint effort between U of I Extension

(training) and the IDOA (certification). The training fee for Private Applicators is variable across the state (\$0 to \$10). The training fee for all other persons (except Structural Pest Control; see FAQ #8) is \$30. For Private Applicators, the current license fee is \$15 for a 3-year license, with or without grain-fumigation certification.

For Commercial licenses, the current fee is \$45 for a 1-year Applicator's license or \$35 for a 1-year Operator's license; the certification exam is valid for 3 years if no lapse in licensure occurs.

For Public and Commercial Not-for-Hire licenses, there is no license fee, and the certification exam is valid for 3 years if no lapse in licensure occurs.

8. Where can I purchase study materials and register for training? Training manuals and workbooks are available through (1) your local U of I Extension office, www.extension.uiuc.edu; (2) the Illinois Pesticide Safety Education Program office, (800)644-2123 or (217)244-2123; or (3) online at www.Publications.Plus.uiuc.edu.

Private applicators wishing to attend a training and testing clinic should contact their local U of I Extension office. Those seeking a Structural Pest Control license (for example, for indoor pest control or for commercial grain fumigation) should contact the Illinois Department of Public Health, (217)782-4674. All others seeking pesticide applicator training (Commercial, Commercial-Not-for-Hire, or Public) in Illinois should contact the Pesticide Safety Education Program office, (800)-644-2123 or (217)244-2123. (*Bruce E. Paulsrud*)

Spray-Droplet Size Measurement and Classification

You have probably heard about the importance of spray-droplet size and the relationship among droplet size, target coverage, and the potential for drift. Small droplets are generally regarded to

provide better coverage of the target but to be more likely to drift. Large droplets provide reduced coverage but are not likely to drift. The goal is to select a nozzle that produces droplets that give the coverage needed for the type of application you are making, while keeping drift to a minimum. How do you determine what droplet size you need and which nozzle type, size, and operating pressure give you that droplet size? There are several ways to describe the droplet sizes produced by a nozzle, but a classification system using several categories is the most practical.

Spray droplets are measured in microns (μm). One micron equals 1/25,000 inch. Droplet size is given as the diameter of the droplet. The droplet size at which spray drift becomes a concern is 200 μm . Smaller droplets are more likely to drift, while larger ones are not a high risk for drift. For comparison, a human hair is about 100 μm in diameter. In general, nozzles with large orifices produce larger droplets, while those with smaller orifices produce smaller ones. Not all droplets, however, produced by an individual nozzle are the same size. A nozzle produces a range of droplet sizes, known as the droplet-size spectrum. This means that even if you use a nozzle with a large orifice (mainly producing large droplets), some spray droplets are small, thus prone to drift.

Many of you are probably familiar with a common method used to describe the droplet spectrum of a nozzle: volume median diameter, abbreviated VMD. VMD is the droplet size at which half the total spray volume coming out of the nozzle is in droplets larger than the VMD and half in smaller droplets. The problem with using VMD to describe the size of droplets produced by a nozzle is that it does not directly address the small droplets, which are the ones we are concerned about drifting off-target. For example, a nozzle with a VMD of 710 μm sprays out half its total volume in droplets with a diameter greater than 710 μm and the other half in smaller droplets. This tells us nothing about the number of droplets

Table 2. Droplet-Spectrum Category, VMD, and Recommendation for Various Pesticide Types or Uses
(with an X representing a recommendation).

| ASAE standard S-572 droplet-spectrum categories | VMD (µm) | Contact insecticide, fungicide | Systemic insecticide, fungicide | Contact foliar herbicide | Systemic foliar herbicide | Soil-applied herbicide | Incorporated soil-applied herbicide |
|-------------------------------------------------|----------|--------------------------------|---------------------------------|--------------------------|---------------------------|------------------------|-------------------------------------|
| Very fine (VF) | <150 | .. | .. | .. | .. | .. | .. |
| Fine (F) | 150–250 | X | .. | .. | .. | .. | .. |
| Medium (M) | 250–350 | X | X | X | X | .. | .. |
| Coarse (C) | 350–450 | .. | X | .. | X | X | X |
| Very coarse (VC) | 450–550 | .. | .. | .. | .. | X | X |
| Extremely coarse (XC) | >550 | .. | .. | .. | .. | .. | X |

smaller than 200 µm, the ones we are concerned about drifting off-target.

Another way of describing the droplet sizes produced by a nozzle is the percentage of spray volume contained in droplets smaller than a specific diameter, usually 200 µm. This directly addresses those droplets at risk for drift. For instance, a nozzle may be measured to produce 2% of its total spray volume in droplets smaller than 200 µm in diameter. This means only a small portion of the droplets produced by this nozzle are at risk for drift. This type of description, however, tells nothing about the size of the remaining droplets produced, information needed to determine potential coverage.

The most useful means of describing the droplet sizes produced by a nozzle is to use droplet-size categories based on the entire droplet-size spectrum, not just the VMD or the percentage of volume in small droplets. The spray-classification system used is the American Society of Agricultural Engineers (ASAE) standard S-572: Spray Nozzle Classification by Droplet Spectra. This classification system has six categories (from small to large): very fine, fine, medium, coarse, very coarse, and extra coarse. Using these categories, an applicator can select a nozzle and operating pressure that produces a specific droplet-size spectrum.

The droplet-size spectrum required for a job is based on the type of pesticide being applied and eventually will be on all pesticide labels. Table 2 shows the six droplet-spectrum categories, their VMD range, and pesticide types and uses for

which they are recommended. Keep in mind that even though a VMD range is given for each category, the classification is based on the entire droplet spectrum produced by a nozzle, not just the VMD. The VMD is given for reference.

The droplet-spectrum categories are the best method for achieving a specific droplet size with your application. First, determine the droplet spectrum you need. Then use a nozzle catalog to select a nozzle type, size, and operating pressure that give you that droplet size. By selecting the appropriate category based on the type and use of a pesticide, an applicator can be assured of getting acceptable results while keeping the risk of drift to a minimum. (Scott Bretthauer)

Pesticide Update

The following information provides registration status of particular pesticides and should not be considered as pesticide recommendations by University of Illinois Extension.

Agronomic

ATLANTIS (mesosulfuron)—Bayer Crop Science—A new herbicide being developed for use on cereals. [insecticide]

FANDANGO (floxastrobil/prothioconazole)—Bayer Crop Science—A new combination fungicide being developed for use on cereals.

INPUT (prothioconazole)—Bayer Crop Science—A new fungicide being developed for use on cereals.

PROLINE (prothioconazole)—Bayer Crop Science—A new fungicide being developed for use on oilseed rape (canola).

STALWART (metolachlor)—Sipcam Agro—A new formulation being marketed on corn. [herbicide]

Fruit/Vegetable

ADMIRE (imidacloprid)—Bayer—Added to their label the use on pecans to control aphids and spittlebugs.

AMDRO PRO FIRE ANT BAIT (hydramethylnon)—BASF—Added to their label the control of big-headed ants in tropical fruit and nut orchard crops.

CALLISTO (mesotrione)—Syngenta—Being developed for use on sweet corn to control volunteer potatoes. [insecticide]

CAPTEVATE (captan)—Arvesta—A new formulation to control various diseases on fruits and vegetables.

DITERA (Myrothecium verrucania)—Valent—This biological nematicide is now being marketed as a DF formulation.

ELITE 45WP (tebuconazole)—Bayer Crop Science—Added to their label the use on grapes and peaches. [fungicide]

ENVIDOR/ECOMITE (spirodiclofen)—Bayer—A new product being developed to control mites. It will first be introduced on pome fruit and citrus. It also has activity against scales and psylla.

INTREPID (methoxyfenozide)—Dow AgroSciences—Added to their label the control of lepidoptera insects in grapes.

MAXCEL (N6-benzyl adenine)–Valent–A growth regulator being developed for use on apples and pistachios.

PREFAR (bensulide)–Gowan–Added to their label the use on cilantro. [herbicide]

REASON (fenamidone)–Bayer Crop Science–This new fungicide is being developed for use on potatoes, cucurbits, onions, and tomatoes. It is currently registered for use on lettuce. Diseases controlled include Phytophthora, Pythium, and Plasmopora.

SANDEA (halosulfuron)–Gowan–Added to their label the use on beans. [herbicide]

SERENADE (QST strain of Bacillus subtilis)–Agra Quest–This biofungicide is being developed to control fire blight, scab, and powdery mildew on pome fruits and vegetables. An RTU formulation is being developed for homeowner use.

SWITCH (cyprodinil/fludioxonil)–Syngenta–Added to their label the use on berries, pistachios and watercress. [fungicide]

TANOS (famoxadone/cymoxanil)–DuPont–Received registration in the United States and Canada for use on potatoes and tomatoes to control early and late blight.

Turf/Ornamental

BARRICADE (prodiamine)–Syngenta–At the request of the manufacturer, they will delete from their label the use on plants grown for cut-foilage production, effective 5-3-04. (FR, vol. 68, 11-5-03) [herbicide]

FLAGSHIP (thiamethoxam)–Syngenta–This 25 WG formulation is now available for the ornamental market to control whiteflies, aphids, and mealy bugs.

MONUMENT (trifloxysulfuron)–Syngenta–A new herbicide being developed to control nutgrass and grassy weeds in turf. It is a 75% WDG formulation.

ONYX (bifenthrin)–FMC–A new formulation to control various insects in lawns and ornamentals. It is especially effective on borers in ornamental trees.

RHAPSODY (Bacillus subtilis strain QST 713)–Agra Quest–Received registra-

tion to use on ornamentals to control various fungal and bacterial diseases.

SEVIN (carbaryl)–Bayer Crop Science–At the manufacturer's request, they are deleting from their label the turf/lawn broadcast use for liquid formulations, effective 5-3-04. (FR, vol. 68, 11-5-03)

Structural

ADVANCE TERMITE BAITING SYSTEM (diflubenzuron)–Whitmire Micro Gen–A new termite baiting system is now available for colony elimination. It allows wood-to-soil contact that invites termites into the baiting station.

GENTROL (hydroprene)–Wellmark Int'l–Added to their label the control of bedbugs.

IMIDACLOPRID–Bayer–EPA has issued an experimental permit to use on 825 structures to evaluate the control of subterranean termites, dry wood termites, damp wood termites, carpenter ants, and other wood-infesting insects. Authorized for use in 25 states, including Illinois. Expires 12-31-05. (FR, vol. 68, 11-12-03)

IMPASSE TERMITE BLOCKER (lambda-cyhalothrin)–Syngenta–Adding to their label the control of termites around plumbing, electrical, and other utility penetrations.

Many

ARABESQUE (Muscodor albus strain QST 20799)–Agra Quest–A new biological fungicide being developed for use on post-harvest citrus, pome and stone fruit, cut flowers, and fruiting vegetables, and as a growing media and seed treatment to control root rot, damping off, and wilt diseases.

CRUISER (thiamethoxam)–Syngenta–Added to their label the use as a seed treatment to control various insects on succulent shelled and edible podded beans and sunflowers.

ENVOKE (trifloxysulfuron)–Syngenta–Being developed to control various weeds in almonds, citrus, cotton, sugarcane and tomatoes. It is a 75% WDG formulation.

FUJIMITE 5% EC (fenpyroximate)–Nichimo America Inc–Being developed to control insects and mites on cotton, pome fruit, grapes, and ornamentals.

GRAMOXONE MAX (paraquat)–Syngenta–Added to their label the use on persimmons, endive, dry peas, and artichokes and as a harvest aid on field corn, popcorn, and seed corn. [herbicide]

GUTHION (azinphos-methyl)–Bayer Crop Science–Added raspberry crown borer to their label.

INSPIRE (butafenacil)–Syngenta–Being developed as a cotton defoliant and as a nonselective herbicide.

QUICK SILVER IVM (carfentrazone-ethyl)–FMC–A new formulation to control various weeds in rights-of-way, fence rows, utility areas, and industrial areas.

RONILAN (vinclozolin)–BASF–EPA has extended time-limited residue tolerances on succulent beans and canola. These will expire for beans on 9-30-05 and for canola on 11-30-08. (FR, vol. 68, 9-30-03) [fungicide]

SPOD-X EC (nuclear polyhedrosis virus of Spodoptera exiqua)–Certis–A bioinsecticide used to control beet armyworms in field and greenhouse crops and on ornamentals.

TALSTAR ONE (bifenthrin)–FMC–A newly labeled product to replace Talstar Termiticide and Talstar Insecticide. Labeled for use on termites, general household pest control, turf, and ornamentals, and in food-handling establishments.

TOPSIN-M (thiophanate-methyl)–Cerexagri–Added to their label the control of white mold on potatoes and powdery mildew on sugarbeets.

TRILOGY XL (neem oil/pyrethrin/piperonyl/butoxide)–Certis USA–A new formulation to control insects and diseases on fruits, vegetables, ornamentals.

Other

BASF–The company has sold their soil-treatment products used in Japan to the Japanese company Agro Kanesho. These include the products DD and Dazonet.

BAYER—The company is marketing its glufosinate-herbicide-tolerant canola in Australia. It is sold under the trade name Invigor.

CHLOROPICRIN—This soil fumigant is now being manufactured and marketed by Arvesta in the United States.

DUPONT—The company has acquired Griffin Corp's interest in Griffin LLC, becoming the sole owner of the company.

GOWAN—The company has acquired Syngenta's EPTC herbicide products, including Eptam and Eradicane for the United States and Canada.

GRIFFIN—The company has appointed Agrisel as the exclusive sales agent for their turf and ornamental products Camelot, Transit, Junction, and Komeen.

MONSANTO—The company has announced a price increase on its Rounup Ready corn and soybeans this following year. Corn seed will increase about \$3 per bag and soybean seed about \$2 per bag.

RENOVATE 3 (triclopyr)—*Sepro*—Being developed to control woody plants, broadleaf weeds, and aquatic weeds in ponds, lakes, and marshes.

RIVERDALE—This Nufarm company has acquired the exclusive marketing rights to Syngenta's two industrial herbicides, Vanquish (dicamba) and Endurance (prodiamine). They will eventually be marketed under the Riverdale label.

SBP-1282 (resmethrin/bio allethrin)—*Valent BioSciences*—At the request of the manufacturer, they have deleted from their label the use in food-handling establishments, effective 12-5-03. (*FR*, vol. 68, 11-5-03)

SCOTTS—The company has acquired in New Zealand and Australia the lawn and garden business of Yates Ltd.

SHUTTLE (acequinocyl)—*Arvesta*—A new miticide being developed for use on ornamentals.

STATURE (dimethomorph)—*BASF*—A new fungicide to control downy mildew, phytophthora, stem rot, and crown rot in greenhouse- and nursery-grown ornamentals.

SUMITOMO—The company has acquired worldwide sales rights to Ethaboxam (Guardian) from LG Life Sciences of South Korea. This fungicide is used on grapes, potatoes, and other vegetable

crops to control downy mildew. The company has also taken over the agricultural chemical business of the Japanese company Takeda in a 60-40 joint venture named Sumitomo Chemical Takeda Agro Co. Sumitomo will acquire Takeda's 40% within 4 years.

UAP—This distribution company owned by ConAgra Foods has been sold for \$600 million to Apollo Management L.P., a private investment firm in New York City. Headquarters will remain in Greeley, CO.

UNITED PHOSPHORUS—The company has purchased from BASF the herbicide Acifluorfen. It is sold under the trade names of Ultra Blazer, Storm, and Volt.

(*Michelle Wiesbrook, unless otherwise noted, adapted from Agricultural Chemical News, November and December 2003.*)

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Michelle L. Wiesbrook, Extension Specialist, Pesticide Application Training and Horticulture