



U.S. EPA Addresses Conflict Between FIFRA and the Clean Water Act

- 1 U.S. EPA Addresses Conflict Between FIFRA and the Clean Water Act
- 3 EPA Cites Five Colorado Growers for WPS Violations
- 3 A Shot Heard 'Round the Industry?
- 4 Children's Exposure to Pesticides
- 5 Free Pesticide Record-keeping Manual from USDA
- 5 Goodbye to Mark Mohr
- 5 Pesticide Update

The Environmental Protection Agency (EPA) issued an "Interim Statement and Guidance on Application of Pesticides to Waters of the United States in Compliance with FIFRA." This was done to address an interpretation of the Clean Water Act (CWA) affecting pesticides regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) applied to waters of the United States. The memorandum was issued partially in response to a statement by the U.S. Court of Appeals for the Second Circuit in *Altman v. Town of Amherst* that highlighted the need for EPA to interpret clearly whether National Pollutant Discharge Elimination System (NPDES) permits under section 402 of CWA are required for applications of pesticides that comply with relevant requirements of FIFRA. EPA will solicit comments on this interim statement through the *Federal Register* before determining a final agency position. Until that position is made final, however, the application of pesticides in compliance with relevant FIFRA requirements is not subject to NPDES permitting requirements, as described in this statement.

EPA will continue to review the variety of circumstances in which applications of pesticides to waters of the United States are regulated under CWA. This memorandum addresses two instances for which EPA believes that the application of a pesticide to waters of the United States consistent with FIFRA does not constitute the discharge of a pollutant that requires an NPDES permit under CWA: (1) Applying pesticides directly to waters of the United States to control pests. Examples include applications to control mosquito larvae or aquatic weeds present in the waters of the United States. (2) Applying pesticides to control pests present over waters of the United States that results in a portion of the pesticides being deposited to waters of the United States: for example, when insecticides are aerially applied to a forest canopy where waters of the United States may be present below the canopy or when insecticides are applied over water for control of adult mosquitoes.

It is EPA's position that these types of applications do not require NPDES permits under CWA if the pesticides are applied consistent with all relevant requirements of FIFRA. Applications of pesticides in violation of the relevant requirements of FIFRA would be subject to enforcement under any and all appropriate statutes, including but not limited to FIFRA and CWA. This interpretation also does not preclude or nullify any existing authority vested with states or tribes to impose additional requirements on the use of pesticides to address water-quality issues to the extent authorized by federal, state, or tribal law.



In *Headwaters, Inc., v. Talent Irrigation District*, the U.S. Court of Appeals for the Ninth Circuit held that an applicator of herbicides was required to obtain an NPDES permit under the circumstances before the court. That decision caused public health authorities, natural resource managers, and others who rely on pesticides great concern and confusion about whether they have a legal obligation to obtain an NPDES permit when applying a pesticide consistent with FIFRA and, if so, the potential impact such a requirement could have on accomplishing their mission of protecting human health and the environment. Since *Talent*, only a few states have issued NPDES permits for applying pesticides. Most state NPDES permit authorities have opted not to require applicators of pesticides to obtain NPDES permits. In addition, state officials have continued to apply pesticides for public-health and resource-management purposes without obtaining NPDES permits. These varying practices reflect the substantial uncertainty among regulators, the regulated community, and the public regarding how CWA applies to the use of pesticides.

There has been continued litigation and uncertainty following the *Talent* decision. One such case is *Altman v. Town of Amherst (Altman)*, which was brought against the town for not obtaining an NPDES permit for its application of pesticides to wetlands as part of a mosquito-control program. In September 2002, the Second Circuit remanded the *Altman* case for further consideration and issued a summary order that stated, "Until the EPA articulates a clear interpretation of current law among other things, whether properly used pesticides released into or over waters of the United States can trigger the requirement for an NPDES permit [or a state-issued permit in the case before the court] the question of whether properly used pesticides can become pollutants that violate the Clean Water Act will remain open."

This memorandum provides EPA's interpretation of how the CWA currently applies to the two specific circumstances listed above. Under those circumstances, EPA has concluded that the CWA does not require NPDES permits for a pesticide applied consistent with all relevant requirements of FIFRA. This interpretation is consistent with the circumstances before the Ninth Circuit in *Talent* and with the brief filed by the United States in the *Altman* case.

Applying a pesticide to waters of the United States would require an NPDES permit only if it constitutes the "discharge of a pollutant" within the meaning of CWA. The term "pollutant" is defined in section 502(6) of the CWA as follows:

"The term 'pollutant' means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water."

EPA has evaluated whether pesticides applied consistent with FIFRA fall within any of the terms in section 506(2), in particular whether they are "chemical wastes" or "biological materials." EPA has concluded that they do not fall within either term. First, EPA does not believe that pesticides applied consistent with FIFRA are chemical wastes. The term "waste" ordinarily means that which is "eliminated or discarded as no longer useful or required after the completion of a process." Pesticides applied consistent with FIFRA are not such wastes; on the contrary, they are EPA-evaluated products designed, purchased, and applied to perform their intended purpose of controlling target organisms in the environment. Therefore, EPA concludes that chemical wastes do not include pesticides applied consistent with FIFRA.

EPA also interprets the term "biological materials" not to include pesticides applied consistent with FIFRA. It is un-

likely that Congress intended EPA and the states to issue permits for the discharge into water of any and all material with biological content. With specific regard to biological pesticides, it is far more likely that Congress intended not to include biological pesticides within the definition of "pollutant." This interpretation is supported by multiple factors.

EPA's interpretation of biological materials as not including biological pesticides avoids the nonsensical result of treating biological pesticides as pollutants even though chemical pesticides are not: All pesticides applied in a manner consistent with the requirements of FIFRA are EPA-evaluated products intended to perform essentially similar functions. Many of the biological pesticides in use today are reduced-risk products that produce a more narrow range of potential adverse environmental effects than many chemical pesticides. As a matter of policy, it makes little sense for such products to be subject to CWA permit requirements when chemical pesticides are not.

To determine whether a pesticide is a pollutant under CWA, EPA believes it is appropriate to consider the circumstances of how a pesticide is applied, specifically whether it is applied consistent with relevant requirements under FIFRA. Rather than interpret the statutes so as to impose overlapping and potentially confusing regulatory regimes on the use of pesticides, this interpretation seeks to harmonize CWA and FIFRA. Under this interpretation, a pesticide applicator is assured that complying with environmental requirements under FIFRA will mean that the activity is not also subject to the distinct NPDES permit requirements of CWA. However, like an unpermitted discharge of a pollutant, application of a pesticide in violation of relevant FIFRA requirements would be subject to enforcement under any and all appropriate statutes, including but not limited to FIFRA and CWA.

In the near future, EPA will seek public comment on this interim statement and guidance in the *Federal Register*. EPA will review all comments and determine whether changes or clarifications are necessary before issuing final interpretation and guidance. Until this interim statement is published, contact Louis Eby in the EPA Office of Wastewater Management, (202)564-6599, or Arty Williams in the EPA Office of Pesticide Programs, (703)305-5239, to discuss it. (*Phil Nixon, adapted from EPA document.*)

EPA Cites Five Colorado Growers for WPS Violations

The U.S. Environmental Protection Agency (EPA) issued administrative complaints against five Colorado growers on June 3, 2003, for violations of the Federal Insecticide, Fungicide, and Rodenticide Acts (FIFRA) Worker Protection Standard (WPS), a regulation aimed at reducing the risk of pesticide poisonings and injuries among agricultural workers and pesticide handlers.

The Colorado growers include David Petrocco Farms, Inc., Brighton; Bauserman Farms, Inc., Manzanola; Dionisio Farms, Pueblo; Villano Brothers, Inc., Ft. Lupton; and MJ Farms, Inc., Commerce City. In the case of Petrocco Farms, EPA is proposing a civil penalty of \$231,990 for 229 violations of WPS and FIFRA. This is the largest proposed federal WPS misuse penalty in EPA history.

“Environmental justice is one of the highest priorities for EPA’s enforcement program, and this Agency will take whatever steps are necessary to ensure agricultural workers and pesticide handlers are protected from harmful exposure to pesticides,” said John Peter Suarez, EPA assistant administrator for enforcement and compliance assurance. “The federal government will not tolerate growers who

place their workers in harm’s way because they fail to comply with the law.” Petrocco Farms employs about 250 mostly seasonal workers and averages \$12 million in annual sales. In 2001, Petrocco Farms received a written warning notice from EPA documenting WPS violations that included not centrally displaying pesticide safety, emergency, and application information for its workers. In a follow-up 2002 inspection, EPA found the company still failed to post pesticide-specific application information about all pesticides applied within the last 30 days in a central location accessible to all their workers. Specific pesticide application information is crucial in obtaining the best medical care in case of emergency.

EPA also issued complaints June 3, 2003, against the four other Colorado growers for violations that included failure to post emergency information in a central location and failure to post pesticide-specific application information in a central location. For the violations, EPA is proposing civil administrative penalties ranging from \$2,200 to \$23,320. The Colorado growers have 30 days either to pay the penalty or answer EPA’s charges and request a hearing. They also may request an informal conference with EPA anytime to discuss the allegations.

WPS regulations are designed to reduce poisoning and injuries among agricultural workers and pesticide handlers. They regulate pesticide use and require that workers and pesticide handlers be given appropriate training, equipment, and information. Data from the U.S. Bureau of Labor Statistics show that agricultural workers suffer from high rates of illnesses commonly correlated with chemical use. Tens of thousands of illnesses are reported each year. Workers may be injured from direct spray, drift, or residue left by pesticides; and handlers face additional risks from spills, splashes, inhalation, or inadequate protective equipment.

The WPS offers protections to more than 3.5 million people who work with

pesticides at more than 560,000 workplaces. Specifically, growers are required to re-strict entry to treated areas, provide notification of pesticide applications, post specific information regarding pesticide applications (what, where, and when), assure that workers have received safety training, post safety information, provide decontamination supplies, and provide access to emergency assistance when needed.

State agencies generally have primary jurisdiction for enforcing WPS misuse violations. EPA, however, has primary jurisdiction in Wyoming and partial primary jurisdiction in Colorado. EPA also prosecutes cases referred to it by the states.

Regulated parties who want to come into compliance can find information on WPS at www.epa.gov/pesticides/health/worker.ht. (*Bruce Paulsrud; source: U.S. EPA, http://cfpub.epa.gov/compliance/newsroom/; released 6/5/03*)

A Shot Heard 'Round the Industry?

Since the Worker Protection Standard (WPS) became law in 1992, this federal program has moved through various phases of federal and state implementation, including (1) education/compliance assistance, (2) product-labeling inspection, and (3) employer-compliance inspections. Because of the relatively long time spent focusing on education/compliance assistance, you may have been led to believe that the WPS is not being enforced and that the law has no “teeth.” Enforcement actions taken and comments made last month by the U.S. Environmental Protection Agency (EPA) should dispel these myths.

The EPA issued administrative complaints against five Colorado growers, for violations of the Federal Insecticide, Fungicide, and Rodenticide Act’s (FIFRA)

WPS. See the complete article elsewhere in this issue of *IPR* (source: U.S. EPA, <http://cfpub.epa.gov/compliance/newsroom/>; released 6/5/03).

WPS assistance in Illinois. In Illinois, the Illinois Department of Agriculture has been conducting WPS-specific compliance inspections for several years. What, you may ask, has University of Illinois Extension done to help Illinois producers and commercial applicators understand and comply with the WPS? Besides press releases, newsletter articles, radio spots, and answering untold compliance questions from individuals, we have spread the word in the following ways:

1. **WPS-specific sessions:** Soon after the EPA's manual, *The Worker Protection Standard for Agricultural Pesticides: How to Comply*, was released in 1993, U of I Extension offered numerous informational WPS sessions across the state. These sessions continued for several years until widespread interest waned. In recent years, U of I Extension has, upon request, conducted WPS refresher and train-the-trainer sessions.
2. **WPS worker and handler training:** The WPS provisions are discussed during private and commercial Pesticide Applicator Training clinics; and upon request, the Extension educator or specialist can issue a worker or handler training-verification card following training (these cards are optional and no test is required). Since about 1995, U of I Extension has issued 71 worker cards and 223 handler cards. Clearly, these cards are requested by a small fraction of the WPS employees in Illinois.
3. **WPS resources:** The Pesticide Safety Education Web site (<http://www.pesticidesafety.uiuc.edu/facts/facts.html>) offers several simplified WPS guides, a resource guide, and linkage to the EPA's WPS Web site. Note that a wide range of WPS training materials and compliance publications and

supplies can be purchased through major agricultural or horticultural supply catalogs such as Gempler's.

Future of WPS. Following full implementation in the mid-1990s, there have been a few specific amendments to the WPS rules that provide increased flexibility. However, the 132-page, how-to-comply manual published in July 1993 remains EPA's official compliance reference. Over the past 11 years, the EPA has received considerable constructive and destructive criticism about the WPS from producer groups, worker advocacy groups, the U.S. General Accounting Office (report dated 4/13/2000), and the Children's Health Protection Advisory Committee.

In response, the EPA sponsored four national stakeholder workshops over the last 3 years to determine if and how WPS provisions should be revised. U of I Extension specialist Michelle Wiesbrook participated in two of these workshops. The reassessment centered on six areas: training, enforcement, complaint and retaliation, communications, children's health, and funding.

In short, the WPS is a federal program, and diverse stakeholder needs and opinions must be addressed. At this time, there is little more than speculation to offer WPS employers and employees regarding potential changes to the rules and regulations. A draft national WPS reassessment report is expected in mid-July 2003, and a draft proposal for regulation changes is planned for September 2004.

In the meantime. . .

- Review the existing WPS provisions (see "WPS Resources," point 3 above) and make sure you are adequately protecting yourself and your employees, as well as third parties (for example, crop advisors and commercial applicators) that enter your fields. If you have questions, contact your local U of I Extension office. Also, you can contact Bruce Paulsrud, (217)244-9646, or Michelle Wiesbrook, (217)244-4397, for help.

- Watch for EPA's draft reassessment report later this summer. Expect further information via this newsletter.
- Until the dust begins to settle with the WPS reassessment, U of I Extension does not intend to launch any major WPS-specific training campaigns or develop additional paper, Internet, or other digital training materials. (Bruce Paulsrud)

Children's Exposure to Pesticides

Humans are born in an early state of development, more so than many other animals. This results in a very long maturation process that extends well past puberty. Developing animals are more sensitive to chemicals than are adults. This is apparently due to their developing organ systems, nervous systems, and other parts of the body utilizing a variety of chemicals (hormones) as trigger mechanisms to initiate development and progression of development of these systems. These chemicals are exceedingly active materials, being able to cause extreme changes when present in minute quantities. Other chemicals can change or inhibit their activity, resulting in changes in the development of the individual that can have lifelong effects.

The U.S. Congress recognized these effects on children in the Food Quality Protection Act of 1996. Dietary differences between children and adults are taken into account, with pesticides used on foods heavily consumed by children being subject to an additional 10x-protection factor in risk-cup analysis. The same law addresses endocrine disruptors, which apparently have more effect on children and developing animals than adults.

Some recent studies by Washington State University address pesticide exposure to children. They found that house dust in homes of agricultural workers was

higher than those in other homes in the same community. Urine samples from preschool children of pesticide applicators had higher levels of pesticide metabolites than children of nonagricultural workers. To determine how this higher pesticide level was being brought home, dust from vehicles driven to and from their job by farm workers was sampled and showed a strong association between home and vehicle dust for several pesticides.

The same studies showed that children who live near farmland treated with pesticides have higher exposures to these chemicals than those living farther away. A study of 44 preschool children living near sprayed fruit orchards had higher levels of pesticide metabolites in their urine during periods of active pesticide spraying, with levels that returned to normal after spray applications ceased.

Other studies conducted several years earlier in other states showed that pesticides, particularly lawn-applied herbicides, appear to be moved into houses on shoes. Pesticide residues were highest in carpet near doorways and decreased away from doorways. Noncarpeted floors had lower concentrations of pesticides, but residues could still be found.

A major question to be asked is: What are the effects of these increased pesticide levels on the health and development of children, as well as the health of adults? This is the unknown for which there is no good answer. However, with current research showing that small amounts of chemicals can have an effect at levels well below that causing obvious cause-and-effect reactions, it is prudent to keep pesticide exposure as low as is practical. (*Phil Nixon; source: NIOSH AgConnections Newsletter, Spring 2003*).

Free Pesticide Recordkeeping Manual from USDA

Don't let the price fool you. This *is* a useful publication! The differences between Worker Protection Standard (WPS) and Restricted Use Pesticide (RUP) recordkeeping requirements can be frustrating. This manual simplifies recordkeeping by combining the requirements from both laws.

More than a record book, this 52-page manual includes instructions and quick-reference charts that explain the RUP- and WPS-recordkeeping requirements. It also includes an example of a record sheet, calibration information, and a 6-year calendar.

In each 8-1/2-by-11-inch, spiral-bound manual, you can record up to six different applications, including required information about tank-mix partners, for up to 16 different fields. For each field record, 11 columns spanning two facing pages provide ample space to record all required information, as well as additional application details. If one of the laws does not apply to you, simply look for the "USDA" and "WPS" symbols at the top of each column to quickly check which details you can skip and still have a legal record.

Even if your sprayer is parked in the shed collecting dust right now, consider placing an order for next year. For one or more free copies, call the USDA Records Branch, (703)330-7826, or write to USDA Records Branch, 8609 Sudley RD, Suite 203, Manassas, VA 20110-4482.

For more information about recordkeeping, contact your local University of Illinois Extension office or check out the U of I Pesticide Safety Education Web site, <http://www.pesticidesafety.uiuc.edu/facts/facts.html>. (*Bruce Paulsrud*)



Goodbye to Mark Mohr

After 4 years as the calibration, equipment, and pesticide-drift-control expert on the U of I Pesticide Applicator Team, Mark Mohr has moved on to the Land of Lakes of Minnesota. He is the new spray-tip product manager for Hypro Corporation in New Brighton. Although we wish him well with his new endeavors, we will certainly miss him.

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

DIVIDEND EXTREME (*difenoconazole/mefenoxam*)—*Syngenta*—A new combination product to control various diseases of cereals.

FANDANGO (*flouxastrubin*)—*Bayer Crop Science*—A new cereal fungicide that will be marketed in the next 2 years.

PROLINE (prothioconazole)—Bayer Crop Science—A new foliar cereal fungicide to be introduced next year.

REGENT (fipronil)—BASF—The company has finalized the acquisition of this product on a worldwide basis from Bayer. [insecticide]

STALWART (metolachlor)—Sipcam Agro—A new formulation recently registered by EPA for use on corn. [herbicide]

YIELD SHIELD (*Bacillus pumilus* GB-34)—Gustafson—EPA registered this new biological, seed-treatment fungicide for use on soybeans. It colonizes the root surface of a plant and stimulates the plant's own natural defense system against diseases.

Fruit/Vegetable

ENTRUST (spinosad)—Dow AgroSciences—A new formulation for use by organic growers. [insecticide]

MESSENGER (harpen protein)—Eden BioSciences—Added to their label the use to aid in the control of postharvest diseases in citrus.

MSR (oxydemeton-methyl)—Gowan—Added to their label the use on Spanish onions. [insecticide]

REASON (fenamidone)—Bayer Crop Science—Registration is expected later this year on lettuce, tomatoes, cucurbits, onions, and potatoes to control early and late blight, downy mildew, leaf spot, and purple blotch. [fungicide]

SINBAR (terbacil)—DuPont—The label has been expanded for use on strawberries, for which it now can be used during the planting year. [herbicide]

TETRASUL (lime sulfur)—OR-CAL—A new formulation for use on fruits and vegetables. [fungicide]

Turf/Ornamental

DECREE (fenhexamid)—Sepro—Label expansion will include the control of powdery mildew on ornamentals.

DRIVE (quinclorac)—BASF—Added to their label the control of English daisy, Carolina geranium, morningglory, and wild violet in turf.

ECLIPSE (2,4-DP/clopyralid/MCPA)—Riverdale—A new three-way combination herbicide for use on turf.

FLAGSHIP (thiamethoxam)—Syngenta—Registration is expected in the near future for use on greenhouse-grown ornamentals. [insecticide]

ECOGUARD BIOFUNGICIDE (*Bacillus licheniformis* SB-3086/18A)—Novozymes Biologicals—A new biological fungicide being developed to control dollar spot on golf courses and other turf-grass areas.

FLORICAMID—FMC—A new systemic insecticide that should be registered by the end of 2003 for use on greenhouse ornamentals.

LASAR (oxyfluorfen/oxadiazon)—UHS—A new granular formulation for use on ornamentals. [herbicide]

PICCOLO (paclobutrazal)—Fine-Agrochemical—A new formulation from Europe, to be introduced into the U.S. market as a growth regulator for use on ornamentals.

PREPAIR (napropamide/oxadiazon)—UHS—A new granular formulation for use on ornamentals. [herbicide]

REVOLVER (foramsulfuron)—Bayer—A new postemergence herbicide used to remove cool-season grasses from warm-season grasses on turf. It controls such grasses as poa annua, bluegrass, ryegrass, bentgrass, and tall fescue. Also controlled are henbit and goosegrass.

RHAPSODY (*Bacillus subtilis* QRD-131)—AgraQuest—A new biological fungicide that should be registered in the near future on greenhouse ornamentals.

SEXTANT (iprodione)—Olympic—A new formulation available for use on ornamentals. [fungicide]

Structural

CHLORFENAPYR—BASF—EPA has extended an experimental permit to use on structures to control termites in 22, states including Illinois. The permit now expires 12-31-04. (FR, vol. 68, 3-12-03)

IMPASSE TERMITE BLOCKER (*lambda-cyhalothrin*)—Syngenta—A new termite-control product that recently received EPA registration. It is used preconstruction to prevent plumbing penetration and bath-trap areas from becoming termite-entry points.

MAXFORCE (imidacloprid)—Bayer—A new fly bait that kills flies within 60 seconds. It gives up to 30-day control and can be broadcast, used in bait stations, or dissolved in water to paint on surfaces.

PHANTOM (chlorfenapyr)—BASF—Received registration for ant and cockroach control—indoors only. Apply as a crack-and-crevice or spot treatment.

RECRUIT III (noviflumuron)—Dow AgroSciences—EPA has registered this product for use as a termite-control bait in conjunction with their Senticon Termite Colony Eliminator System.

SAGA WP (tralomethrin)—Bayer—The company has decided to discontinue production of this product. [insecticide]

SUCCESS (spinosad)—Dow AgroSciences—Added to their label the use on herbs. [insecticide]

TEMPO ULTRA (betacyfluthrin)—Bayer—A new insecticide being developed to control termites, ants, and similar insects.

TERMIDOR (fipronil)—BASF—A new termiticide that controls termites through injection and contact. It controls termites in 3 months or less. It can also be used for ant control around building exteriors.

WOLSIN FL-35 (fenpropimorph)—BASF—Proposed to EPA to register this new active ingredient as a wood preservative to control sap stain, mold, and decay of fresh-cut lumber and wood prod-

ucts during storage and transit. The comment period expired 5-4-03. (FR, vol. 68, 4-2-03)

Many

CURBIX (ethiprole)—Bayer Crop Science—A new insecticide to be introduced later this year.

GEMSTAR (Nuclear polyhedrosis virus of Helicoverpa zea)—Certis—Being marketed to control corn earworm, cotton bollworm, and tobacco budworm on tomatoes, cotton, broccoli, and sugar beets.

QUINTEC (quinoxifen)—Dow Agro-Sciences—Registration is expected by the end of the year for use on hops, grapes, and cherries. [fungicide]

SCIMITAR (lambda-cyhalothrin)—Syngenta—The label for this product will be expanded to include use on indoor ornamentals. [insecticide]

SPORODEX L BIOLOGICAL FUNGICIDE (Pseudozyma flocculosa)—Plant Products Co.—Received a conditional registration from EPA to control powdery mildew in greenhouse-grown roses and English seedless cucumbers. Expires 9-30-04. (FR, vol. 68, 4-9-03) [fungicide]

TALUS (buprofezin)—Sepro—A new insect-growth regulator that is expected to be registered this year on nursery and greenhouse crops.

Other

ASSAIL (acetamiprid)—Nisso—This product was jointly developed by Nisso and Aventis. Nisso has taken over the rights to the product and granted permission to DuPont to market it on cotton in the United States and Cerexagri to market it on horticultural crops in the United States. Various companies around the world have also been assigned marketing rights.

BAYER—The company plans to introduce glufosinate-tolerant Liberty Link cotton in the United States this year on a limited basis.

BIOTECH CROPS—In the United States, 80% of the soybeans and 38% of the corn acreage will be planted with genetically bioengineered seed.

CLOROX CO.—The company has sold its Black Flag and Roach Motel bait trap brands to Fountainhead Group of New York, located in Mills, NY. The company had previously sold its Maxforce insecticide line.

DUPONT/MONSANTO—The two companies have agreed to a worldwide marketing agreement on Monsanto's Yield Guard Rootworm insect-resistant corn technology. DuPont's subsidiary, Pioneer Hi Bred, will receive a royalty-bearing license from Monsanto.

MYCOGEN SEEDS—The company, in cooperation with BASF, will market imidazolinone-tolerant sunflower seed under the Clearfield brand name.

UCB—This Belgium company's agrochemical division has been renamed Taminco Crop Protection.

UHS (United Horticultural Supply)—This company, a division of UAP, has acquired York Distributors, an East Coast pest-control distributor.

(Michelle Wiesbrook, unless otherwise noted, adapted from Agricultural Chemical News, May and June 2003.)

University of Illinois Extension
Pesticide Applicator Training Program
1201 S. Dorner Drive
Urbana, IL 61801

The *Illinois Pesticide Review* is published
six times a year on the Web at [http://
www.pesticidesafety.uiuc.edu/](http://www.pesticidesafety.uiuc.edu/)

*Copyright © 2003, Board of Trustees, University
of Illinois*