Appeals Court Extends Clean-Water Controls to Pesticide Spraying

A federal appeals court ruled in early November 2002 that the aerial spraying of pesticides into U.S. waters requires a Clean Water Act permit, potentially extending controversial permit requirements on the use of herbicides and other chemicals in irrigation channels and mosquito-control efforts.

The ruling may complicate efforts by the Bush administration and congressional Republicans to ensure that federal pesticide law, not the Clean Water Act, is the governing statute in cases for which pesticides and herbicides are applied to water. The ruling also may underscore fears raised by mosquito sprayers and other users of aquatic chemicals that the U.S. Environmental Protection Agency's (EPA) plans to limit Clean Water Act permit requirements may not ward off citizen suits contesting the pesticide use.

“It's surprising the extent to which EPA is going to allow people to discharge toxics into water bodies,” one source familiar with the ruling said. The ideal situation is to have EPA permit the application of pesticides and herbicides to waters of the United States, the source says. The source says that if EPA does not move forward to permit these activities, citizen groups will likely continue suing the agency to require permits.

Another source familiar with the ruling says it may mean that other aerial-spraying activities, such as “cloud seeding” with silver nitrate to induce rainfall, would require permits. However, the source says emergency applications such as water or chemical spraying for fire control would likely not be covered.

The U.S. Court of Appeals for the 9th Circuit ruled in League of Wildlife Defenders, et al., v. Forsgren, et al., November 4 that the U.S. Forest Service (USFS) was unlawfully spraying insecticide into national forests in Washington and Oregon without the necessary clean-water permits. The ruling is available on InsideEPA.com.

USFS officials conceded they were spraying pesticides directly into rivers and other water bodies. But they argued, based on EPA regulation, that the discharge was a silvicultural nonpoint source and therefore outside the jurisdiction of the Clean Water Act.

However, the court rejected USFS's arguments. “The insecticides ... meet the definition of 'pollutant' under the Clean Water Act, and Forest Service aircraft spray ... directly into rivers, which are waters covered by the Clean Water Act. Further, an airplane fitted with tanks and mechanical spraying apparatus is a 'discrete conveyance,'” the court said, noting that all the elements of the definition of point-source pollution are met. The Clean Water Act defines a point source as “any discernable, confined and discrete conveyance, including but not limited to ... floating craft from which pollutants are or may be discharged.”

In its arguments, the Department of Justice, acting on behalf of USFS, relied partly on an EPA regulation that defines silvicultural point sources, and specifically omits “nonpoint source silvicultural activities such as ... pest and fire control.” But the court ruled that the

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U.S.F.S. "cannot contravene the will of Congress through its reading of administrative regulations." Also, the court's ruling says, "EPA may not exempt NPDES permit requirements that clearly meet the statutory definition of a point source by 'defining' it as a nonpoint source."

One environmentalist says the court's decision is "a very important ruling" but adds that matters are somewhat complicated by U.S.F.S.'s admission that they sprayed pesticides directly over, and into, water bodies. The source says a "likely possibility" will be litigation regarding aerial sprayers who do not admit to spraying directly into water bodies. The source says the issue of "drift," which occurs when the wind blows pesticides or other pollutants into waters near an application site, has not been resolved.

Justice officials are reviewing the ruling and have not yet determined whether to appeal the decision to the entire 9th Circuit or the Supreme Court. Environmentalists say the decision likely will spur similar cases in other parts of the nation.

Aerial application of pesticides is already receiving attention in other federal courts, and on Capitol Hill. Federal appeals courts have already ruled that mosquito spraying in wetlands in New York and herbicide use in irrigation districts in Oregon both require Clean Water Act permits.

But EPA deputy water chief Ben Grumbles told a House panel last month that EPA does not believe Clean Water Act permits are needed in some cases for water application of pesticides to fight mosquito-borne illnesses, including the West Nile virus. Instead, EPA will issue rules or guidance to provide local officials with regulatory certainty about what is required before spraying, Grumbles said.

At the same hearing, the House subcommittee suggested such rulings create "significant uncertainty" for public health officials and stormwater system officials. The panel said, "Communities, industries, and others do not know if a Clean Water Act permit is required for using mosquito-control measures involving the use of pesticides."

In May 2001, EPA issued a memo to regional administrators declaring that forcing irrigators to obtain permits for the use of herbicides would be a "low enforcement priority," in a move that gave water users temporary relief from federal enforcement but still left them vulnerable to citizen enforcement suits.

However, in an effort to protect irrigation districts from citizen suits, EPA issued a new guidance in March 2002 to regional administrators, arguing that the application of herbicides to irrigation canals does not necessarily fall under the Clean Water Act's effluent-discharge permit program because 1977 amendments to the law specifically exempted "irrigation return flow" from the law's jurisdiction. The memo cites a congressional definition of return flow as including "conveyances carrying the surface irrigation return as a result of the controlled application of water by any person to land used primarily for crops."

But this may still leave irrigation districts and other users of aquatic pesticides vulnerable to enforcement cases or environmentalists filing citizen suits because the guidance does not apply to point-source discharges into irrigation canals that are considered "water[s] of the United States." This means that if an irrigation canal is a "water of the United States," then the district would likely still have to seek a permit. In the Oregon case, Headwaters, Inc., v. Talent Irrigation District, for example, the court ruled that the irrigation canal was a water of the United States, so the district's application of herbicides would not be affected by the new guidance. (Modified by Phil Nixon; source: Matt Shipman, InsideEPA.com)

**Containment for On-Farm Storage of Agrichemicals**

The Illinois Pesticide Act and rules contain requirements for the proper storage and handling of pesticides and fertilizers. Original requirements mainly focused on commercial and noncommercial facilities and became effective January 1, 1990. Many changes have occurred in agriculture since 1990, including merger and consolidation of many agrichemical companies and an increase in farm size. These changes have made on-farm, noncommercial storage of bulk agrichemicals more feasible. The Illinois Director of Agriculture, under the authorities granted in the Illinois Pesticide Act and the Illinois Fertilizer Act of 1961, is responsible for creating reasonable requirements for storage and handling of agrichemicals. Increases in the number of producers installing or considering addition of bulk-storage facilities on farms facilitate the need for environmentally responsible and economically reasonable containment requirements.

**Requirements:** Effective July 1, 2002, Illinois farmers who were not subject to the earlier requirements and who have been or will be storing agrichemicals in excess of certain amounts will be required to provide secondary containment for those storage tanks. Producers will be required to register their sites and apply for a containment permit through the Illinois Department of Agriculture. These new containment requirements for on-farm storage sites are not as comprehensive as those for commercial facilities. All liquid pesticide and liquid fertilizer nonmobile storage tanks at an on-farm storage facility must be located within a secondary-containment structure. Dry fertilizer or dry pesticide materials must be stored in a manner to prevent pollution by minimizing losses to the air, surface water, underground water, or subsoil. Dry pesticides and fertilizers must be stored inside a sound structure or device having a cover or roofed top, sidewalls, and base adequate to prevent contact with precipitation and surface waters.

**Definition:** An on-farm storage facility is a permanent site designed and used for noncommercial storage of pesticides or fertilizers for more than 45 consecutive days in a single, nonmobile container that exceeds the following capacities: 300 gallons of bulk liquid pesticides, 300 pounds...
of bulk dry pesticides, 5,000 gallons of bulk liquid fertilizer, or 50,000 pounds of bulk dry fertilizer. Also, to qualify as an on-farm storage facility, it must not be used for commercial purposes or would not meet the entire definition of a noncommercial agrichemical facility, which includes mixing and loading of agrichemicals and the noncommercial application of pesticides and fertilizers.

**Time frame:** All existing on-farm storage facilities may continue to operate as they meet the compliance time frames listed here. Facilities not in existence on July 1, 2002, must install secondary containment before the storage facility can be operated. All existing on-farm storage facilities must register with the Illinois Department of Agriculture by March 31, 2003. Upon receipt of a completed registration form, the department will issue a compliance schedule to each registered facility by June 30, 2003. Detailed construction plans and specifications of the secondary-containment structure must be submitted to the department as part of the permit application by March 31, 2004. Permits must be obtained before any construction begins. All secondary-containment construction must be completed by June 30, 2005. Contact the Illinois Department of Agriculture for registration forms and additional information:

- **On-Farm Storage Facility Program**
  - Illinois Department of Agriculture, Bureau of Environmental Programs
  - P.O. Box 19281
  - Springfield, IL 62794-9281
  - (217)785-2427 or (800)641-3934
  - (Bruce E. Paulsrud; source: Illinois Department of Agriculture brochure, 8/02)

**Recycle Day Held for Mini-Bulks**

On October 9, agrichemical dealers from western Illinois participated in the industry's first-ever mini-bulk recycling event, hosted by Lincoln-Land FS in Jacksonville. The event was organized by the Illinois Department of Agriculture, the Illinois Fertilizer & Chemical Association (IFCA), and GROWMARK, Inc.

For the past 10 years, the agrichemical industry has been recycling smaller, 2-1/2-gallon pesticide containers, but there has been no program for mini-bulks ranging from 60 to 250 gallons. Many of these tanks cannot be reused because they are old or damaged, or the pesticides they were intended to hold are no longer being sold. Ag dealers and farmers have few options to dispose of such tanks, which can end up taking up a lot of storage space.

It costs about $35 dollars to dispose of a mini-bulk pesticide tank. To help offset the costs, pesticide manufacturers contributed to the cause, including Monsanto, Syngenta, Dow AgroSciences, Bayer Crop Sciences, and DuPont/Pioneer. Another major sponsor is the Illinois Council on Best Management Practices. Without the help of these sponsors, the recycling event would have been cost-prohibitive.

Nearly 400 mini-bulks were collected in Jacksonville, where they were unloaded, inspected, and then transported to Tri-Rinse in St. Louis for recycling. According to Jean Trobec of the IFCA, the event was a great success. "The ag dealers did a fine job of cleaning and cutting up the tanks, and this cooperative effort turned a problem into an environmentally sound solution for everyone involved. So long as we can continue to get sponsors for these programs, we plan to hold similar recycling events in other parts of the state."

A fact sheet from U of I Extension about pesticide-container recycling can be found at [www.pesticidesafety.uiuc.edu/facts/container.html](http://www.pesticidesafety.uiuc.edu/facts/container.html). For more information about pesticide-container recycling, contact the Illinois Department of Agriculture at (217)785-2427 or IFCA at (309)378-2632. (Mark Mohn; source: Illinois Fertilizer & Chemical Association)

**New Convenient Training Options**

University of Illinois Extension is pleased to introduce two new self-study CD-ROMs for pesticide applicators: Private Applicator (SP39-7-CR) and Stored Grain Pest Management (SP39-8-CR). The CDs contain movies with narration, photos, and text and are easy to install and use on a personal computer. They are a convenient way for producers and grain handlers to learn at their own pace at home or at the office. Applicators can review anytime—before taking a certification exam or whenever needed as a refresher.

Based on the traditional private pesticide applicator training clinic, these CDs provide detailed information regarding safe, legal, efficient, and environmentally sound use of pesticides. The Private Applicator CD was developed to prepare Illinois producers for the Private Pesticide Applicator certification exam. The Stored Grain Pest Management CD was developed to serve two grain-storage audiences: private applicators needing certification in the “Grain Fumigation” category, and commercial, not-farm-applicators needing certification in the “Grain Facility” category.

Many applicators have expressed interest in preparing for exams on their own. In terms of technology, there are several ways we could have addressed this need. However, after considering accessibility, cost, and ease of updating, we chose CD-ROM. To use these CDs, you will need a Pentium-based computer equipped with at least 32 MB of RAM, CD-ROM drive, sound card and speakers, Windows 98 or newer, and Internet Explorer or Netscape 4.0 or newer.

The Private Applicator CD contains eight movie presentations (about 3 hours total) and retails for $20. The Stored Grain Pest Management CD contains six movie presentations (about 2.5 hours total) and retails for $30. For each CD, you might also consider purchasing a training manual as a detailed reference and a workbook to help you identify the main concepts. To order, contact your local U of I Extension office or call (800)345-6087.

In conjunction with the Illinois Department of Agriculture, U of I Extension offers numerous certification training and testing clinics during the winter months. Each fall, applicators in need of recerti-
 PAT Publications

On page 5 is a list of study materials offered by the Illinois Pesticide Applicator Training (PAT) program. These materials are intended to help you prepare for the certification exam(s) that you may need to apply pesticides in Illinois.

For manuals, the publication date can be found within the first few pages of the book, near the “Issued in furtherance...” statement. As you will notice, categories with few licenses (for example, mosquito) have packets for individual study. The content changes irregularly as more current information becomes available. Workbooks are changed frequently to reflect new material and new directions in training. Although recently outdated workbooks are useful for home study, it is best to have a current edition when participating in a training session. For commercial applicators and operators attending a training clinic, registration fees cover current editions of the appropriate workbooks.

To order study materials, contact your local University of Illinois Extension office. Commercial applicators and operators can order study materials while registering for a training clinic by calling (800)644-2123 or (217)244-2123. (Bruce E. Paulsrud)

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

**ADJUST** (acetamiprid) - Bayer - Being developed for use on canola and mustard. [insecticide]

**ASANA** (eptifoxeate) - DuPont - Reduced the preharvest interval on seed corn from 21 days to 1 day. [insecticide]

**ASSURE** (quizalofop-ethyl) - DuPont - Being developed for use on flax, sunflower, and mustard. [herbicide]

**CADRE** (imazapic) - BASF - Being developed for use on soybeans and sugar cane. [herbicide]

**CHARTER** (trifluralin) - Bayer - Being developed as a seed treatment on cereals. [fungicide]

**DICHORMID** - Dow AgroSciences - EPA reestablished time-limited residue tolerances on corn for this herbicide safer. They now expire 12-31-05. (FR, vol. 67, 8-7-02)

**DINAMIC** (amicarbazone) - Bayer - Being developed for use on corn and soybeans. [herbicide]

**HARMONY** (thifensulfuron-methyl) - DuPont - Being developed for use on safelower. [herbicide]

**LUMAX** (mesotrione/s-metolachlor/aflazine) - Syngenta - A new one-pass pre-emergence herbicide for use on corn; should be available for the 2003 season.

Fruit/Vegetable

**1-MCP** (methylcyclopropene) - AgroFresh - EPA established an exemption from residue-tolerance requirements on fruits and vegetables when used as a plant-growth regulator to inhibit the effects of ethylene. (FR, vol. 67, 7-26-02)

**ACRAMITE** (bifenazate) - Uniroyal/Compton - Being developed for use on stone fruits, fruiting vegetables, nut crops, cucurbits, mint, peas, beans, and potatoes. [insecticide]

**ACTIGARD** (acebenzol) - Syngenta - Being developed for use on cucurbits and turnips. [fungicide]

**ADMIRE** (imidacloprid) - Bayer - To cover a specific exemption, EPA reestablished time-limited residue tolerances on turnips (roots and tops) and garden beets. They now expire 6-30-04. (FR, vol. 67, 8-21-02) [insecticide]

**APOLLO** (difenzoxyfipronil) - Makhteshim - Agan - Being developed for use on grapes and persimmons. [insecticide]

**CABRIO** (pyradol) - BASF - Being developed for use on onions, garlic, cucurbits, fruiting vegetables, carrots, radishes, and strawberries to control water molds, fruit roots, downy and powdery mildew, rusts, leaf spots, and blights.

**COMMAND** (domazine) - FM - Being developed for use on mint, cole crops, peas, and lentils. [herbicide]

**DITERA** (methylurea) - Valent BioSciences - Added to their label for this nematicide the use on grapes.

**ELEVATE** (fenhexamid) - Arvesta - Will add to their label the foliar application on bushberries. This product is also being developed for use on fruiting vegetables, citrus, and lettuce and postharvest on stone and pome fruit. [fungicide]

**ENDURA** (nicobifen) - BASF - A new fungicide being developed to control gray mold, white mold, rot, powdery mildew, and leaf spots on vegetables.

**ENVOKE** (trifoxysulfuron-sodium) - Syngenta - Being developed to control broadleaf weeds in tomatoes.

**ENZONE** (sodium tetrahydronorcarbame) - Entek Corp - Being evaluated for control of nematodes in strawberries and tomatoes.

**ESTEEM** (pyriproxyfen) - Valent - Added to their label the use on nut crops. [insecticide]

**FRUITONE-N** (NAA, sodium salt) - Amvac - Added to this growth regulator’s label the chemical thinning of pears.

**KANEMITE** (acequinocyl) - Arvesta - Being developed for use on pome fruits, citrus, nut crops, and strawberries. [insecticide]

**KNACK** (pyriproxyfen) - Valent - Added to their label the use on stone fruits. [insecticide]

**OMEGA** (fluazinam) - Syngenta - Being developed for use on apples. [fungicide]
## Illinois Pesticide Applicator Training Publications

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<th>Pub #</th>
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* Pre-print final drafts are available for sale NOW

** Keep in mind that all exams are given in English and the U.S. EPA approves only English-language pesticide labels.

### Turf/Ornamental

- **CLOPYRALID (Dow AgroSciences)** - The company will delete residential turf use from their label. [herbicide]
- **PENTATHLON (mancozeb)** - Griffin-Added to their label on turf the control of copper spot, grey leaf spot, dollar spot, fusarium blight, pythium blight, slime, fusarium snow mold, red thread, and brown patch.
- **RIMON (novaluron)** - Makhteshim Agan- Added to their label the use on ornamentals grown in shadehouses and outdoor nurseries. [insecticide]
- **TETRASAN (etoxazole)** - Valent- A new miticide newly registered for use on ornamentals.
**Structural**

PRE-EMPT FLY BAIT (imidacloprid/muscarel)-Bayer-Being developed for use as a bait to control flies outside of commercial and agricultural structures.

TERMINOX (chlorfenapyr)-Janssen Pharmaceutica-The company will market this product, obtained from BASF, in Europe as a preconstruction termiteicide.

**Many**

ACCENT (nicosulfuron)-DuPont-Being developed for use on cranberries and grass seed to control broadleafweeds.

ACROBAT (dimethomorph)-BASF - Being developed for use on bulb vegetables, lettuce, cole crops, cucurbits, cereals, peppers, and beans. [fungicide]

ACTARA/CENTRIC (thiamethoxam)-Syngenta-Being developed for use on citrus, cole crops, leafy vegetables, sunflower, peanuts, pecans, cereals, hops, artichokes, hops, root crops, mint, canberries, stone fruits, and other crops. [fungicide]

ADMIRE/PROVADO (imidacloprid)-Bayer-Being developed for use on stone fruits, blueberries, artichokes, strawberries, beans, carrots, peas, avocados, bananas, canberries, coffee, tropical fruits, and other crops. [fungicide]

AGRI-MEK (abamectin)-Syngenta-Being developed for use on mint, pasture grasses, herbs, bulb and leafy vegetables, avocados, cole crops, eggplant, papaya, canberries, nut crops, stone fruit, beans, pineapples, and other crops. [fungicide]

APPLAUD (buprofezin)-Nichimo America-Being developed for use on stone and pome fruits, beans, avocados, and other crops. [insecticide]

ARIUS/QUINTEC (quinophos)-Dow AgroSciences-Being developed for use on peppers, grapes, hops, stone fruit, lettuce, and strawberries. [fungicide]

ASSAIL (acetamiprid)-Bayer-Being developed for use on potatoes, tobacco, and greenhouse tomatoes. [fungicide]

AVAUNT/STEWARD (indoxacarb)-DuPont-Being developed for use on cole crops, grapes, cranberries, sugar beets, alfalfa, cucurbits, mint, peanuts, potatoes, and soybeans. [fungicide]

AXIOM (flufenpyr-ethyl)-Bayer-Being developed for use on potatoes and wheat. [herbicide]

BALANCE (isoxaflutole)-Bayer-Being developed for use on sweet corn and cereals. [herbicide]

BAYTHROID (cyfluthrin)-Bayer-Being developed for use on cole crops, soybeans, corn, cereals, peas, beans, grapes, lettuce, and other crops. [fungicide]

BIO ACT (Paecilomyces lilacinus)-Gustafson-A bioematical being evaluated for the control of nematodes in numerous crops.

BIRD SHIELD (methyl anthranilate)-Bird Shield Corp-EPA granted exemption from residue tolerance requirements on all agricultural commodities for this bird repellent. (FR, vol. 67, 8-7-02)

CALYPSO (thiacloprid)-Bayer-Being developed for use on cotton, pome fruits, blueberries, and stone fruits. [fungicide]

CAPTURE (bifenthrin)-FM C-Being developed for use on citrus, celery, olives, tomatoes, potatoes, bananas, nut crops, cole crops, beans, peas, lentils, grapes, and other crops. [fungicide]

COMPLY (fenoxycarb)-Syngenta-Being developed for use on pome fruits, nut crops, pastures, olives. [fungicide]

CONFIRM (tebuconazole)-Dow AgroSciences-Being developed for use on soap, soybeans, peanuts, sugar beets, legume vegetables, tropical fruits, grapes, strawberries, other crops. [fungicide]

DANITOL (fenpropathrin)-Valent-Being developed for use on soybeans, peppers, eggplant, and peas. [fungicide]

DIMILIN (diflubenzuron)-Uniroyal/Compton-Being developed for use on grasses, peppers, pistachios, stone fruits, nut crops, cereals, peanuts. [fungicide]

DYLOX (trichlorfon)-Bayer-TThe company plans to cancel its registration for two uses in residential areas: home perimeter and ant mound treatment. On golf courses, it will be limited to three applications per year, with a 7-day re-treatment interval. On ornamentals, the use of a foliar spray will be prohibited.

DUAL MAGNUM (s-metolachlor)-Syngenta-Being developed for use on root vegetables, stem and head brassica crops, tomatoes, grass seed, sunflower, spinach, rhubarb, Swiss chard, and asparagus. [herbicide]

ECOPART (pyraflufen-ethyl)-Arysta Life Science America-Being developed for use on cereals, potatoes, and soybeans. [herbicide]

ENFIELD (trifloxysulfuron)-Syngenta-Being developed for use in citrus, stone fruits, tomatoes, cotton, and sugarcane. [herbicide]

FACET (quindorad)-BASF-Being developed for use on barley, canola, pastures and cranberries. [fungicide]

FAM OXATE (famoxadone)-DuPont-Being developed for use on potatoes, tomatoes, bulb vegetables, grapes, cucurbits, and hops. [fungicide]

FLINT (triflorystrobins)-Bayer-Being developed for use on vegetable crops and barley. [fungicide]

FLONICAMID-FMC & ISK-Being developed for use on cotton, cucurbits, fruiting and leafy vegetables, okra, pome and stone fruits, potatoes. [fungicide]

FOLICUR (tebuconazole)-Bayer-Being developed for use on cucurbits, turnips, hops, nut crops, cereals, pistachios, sugar beets, sunflower, cotton, beans, coffee, onion, and other crops. [fungicide]

FUJIMITE (fenpyroximate)-Nichimo America-Being developed for use on cotton, pome fruits, grapes, citrus, hops, nut crops, and mint. [fungicide]

FULFILL ( pymetrozine)-Syngenta-Added to their label the use by chemi-
gation and the use on garbanzo beans, garlic, and noncrop sites. [herbicide]

GRAVEL (methoxyfenox-ide) - DowAgroSciences
- Being developed for use on mustard greens, spinach, turnips, collards, kale, and sunflower. [fungicide]

HEADLINE/CABRIO (pyraclostrobin) - BASF
- Being developed for use on corn, pome fruits, hops, caneberrries, grapes, potatoes, cucurbits, fruiting vegetables, cole crops, lettuce, cereals, citrus, stone fruits, and other crops. [fungicide]

HONOR/BAS-510 (nicobifen) - BASF
- Being developed for use on canola, peanuts, pome fruits, cucurbits, cole crops, sunflower, peas, beans, potatoes, fruiting vegetables, lettuce, nut crops, grapes, onions, stone fruits, strawberries, and other crops. [fungicide]

IMPULSE (spiroxamine) - Bayer
- Being developed for use on grapes and hops. [fungicide]

INDAR (fenbuconazole) - DowAgroSciences
- Being developed for use on grapefruit, blueberries, cranberries, and peppers. [fungicide]

INTREPID/RUNNER (methoxyfenox-ide) - Dow AgroSciences
- Being developed for use on artichokes, cole crops, corn, fruiting and leafy vegetables, tropical and stone fruits, nut crops, legume vegetables, cucumbers, mint, soybeans, okra, and other crops. [insecticide]

KARATE (lambda-cyhalothrin) - Syngenta
- Being developed for use on nut crops, potatoes, sweet potatoes, legume vegetables, alfalfa, canola, flax, cereals, sugarcane, stone fruits, pome fruits, and nut crops. [insecticide]

KNACK/ESTEEM (pyriproxyfen) - Valent
- Being developed for use on stone fruits, cucurbits, cole crops, legume vegetables, tropical fruits, grapes, strawberries, and other crops. [insecticide]

MAVRICAQUA FLOW (tualfluvalinate) - Wellmark Intl
- Added to their label the control of fire ants, mosquitoes, and glassy-winged sharpshooter.

AXIM (fluioxonil) - Syngenta
- Being developed for postharvest use on sweet potatoes, asparagus, stone and pome fruits, kiwi fruit, pomegranates, and citrus. Also to be used by drip-irrigation on cucurbits. [fungicide]

MESA (milibemcin) - Gowan
- Being developed for use on pome fruits, citrus, avocados, hops, strawberries, cotton, stone fruits, and other crops.

NEMATHORIN (fosthiazate) - Syngenta
- Being developed to control nematodes in potatoes, tomatoes, and peanuts.

OUTLOOK (dimethenamid-p) - BASF
- Being developed for use on horseradish, sweet potatoes, sugarbeets, potatoes, grass seed, onions, turnips, beets, squash, and radishes. [fungicide]

PROCLAIM (emameitin-benzothate) - Syngenta
- Being developed for use on cucurbits, fruiting vegetables, cole crops, and cotton. [fungicide]

PYRAMITE (pyridaben) - BASF
- Being developed for use on stone fruits, strawberries, papaya, hops. [insecticide]

PYTECH (gamma-cyhalothrin) - DowAgroSciences
- Being developed for use on cotton, soybeans, alfalfa, corn, and vegetables. [insecticide]

QUINTEC (quinioxyn) - DowAgroSciences
- Being developed to control powdery mildew on grapes and hops.

RALLY/NOVA (myclobutanil) - DowAgroSciences
- Being developed for use on hops, peppers, sugarbeets, artichokes, eggplant, lettuce, and papaya. [fungicide]

RAPTOR (imazamox) - BASF
- Being developed for use on grass seed, clover, sunflower, clover, chicory, rice. [fungicide]

REGENT (fipronil) - Bayer
- Being developed as a foliar treatment for use on cotton, potatoes, onions, sweet potatoes, and corn. [insecticide]

REBIN/JNSPIRE (butafenacid) - Syngenta
- Being developed as a cotton defoliant and to control weeds in grapes, pome fruit, and tree nuts. [fungicide]

RIMON (novaluron) - Makhteshim-Agan
- Being developed for use on cotton and pome fruit. [fungicide]

SECURE (etoxazole) - Valent
- Being developed for use on cotton, strawberries, pome fruit, nut crops, hops, and grapes.

SELECT (dithodim) - Valent
- Being developed for use on beets, herbs, endive, sesame, lettuce, caneberrries, asparagus, mint, spinach, legume vegetables, hops, and leafy brassica vegetables. [fungicide]

SONATA (Bacillus primilus strain 2808) - Agra Quest
- Biofungicide being developed to control botrytis, mildews, and rust on cole crops; bulb, fruiting, and leafy vegetables; cereals; cucurbits; grapes; hops; peanuts; pome and stone fruits; strawberries; other crops.

SOVAN/CYGNUS (kresoxim-methyl) - BASF
- Being developed for use on cucurbits, cereals, sugarbeets, and potatoes. [fungicide]

STARRAN E F (fluroxpy) - DowAgroSciences/UP
- Being developed for use on onions, sorghum, pome fruit, and grass seed. [fungicide]

STARK (dinitofuran) - Valent
- Being developed for use on grapes, cotton, potatoes, and leafy vegetables. [insecticide]

STINGER (clorpyralid) - DowAgroSciences
- Being developed for use on strawberries, cranberries, brassica crops, spinach, pome fruit, turnips, Swiss chard, canola, beets, stone fruits, blueberries, hops, and flax. [fungicide]

SURROUND (kaolin) - Engelhart Corp
- Added to their label the use on tropical fruits, leafy and brassica vegetables, cereal grains, and ornamentals. [insecticide]

TILT/ORBIT (propiconazole) - Syngenta
- Being developed for use on soybeans, beans, carrots, onions, tree nuts, blueberries, caneberrries, sorghum, and mint. [fungicide]

VALOR (flumoxazin) - Valent
- Being developed for use on cotton, sugarcane, grapes, stone fruits, dry beans, strawberries, potatoes, onions, mint. [fungicide]

VISO (thiazyopy) - DuPont
- Being developed for use on lemons, grapes, stone fruit, pome fruit, nut crops, alfalfa, cranberries, and olives. [fungicide]

VORTEX (propiconazole) - UNiroyal
- Comptons
- Being developed for use on root, tuber, and leafy vegetables; cole crops; cucurbits; cereals; peanuts; cotton;
canola; and other crops. [fungicide]

Other

AM VAC - The company has acquired Ambush 25WP (permethrin) from Syngenta for the U.S. market. It has also acquired the Smartbox closed-delivery system from Flow Serve U.S., Inc. This is the only EPA-approved closed-delivery system for dispersing granular pesticides.

BASF - The company has reached an agreement with the German seed company DSV, for them to market their imidazolinone-tolerant Clearfield canola on a worldwide basis. It will be introduced in the United States and Canada through Brett-Young Seeds.

GRIFFIN - The company has transferred its T rilin (trifluralin) business to Tri-Corp, manufacturers of the product.

MIDAS (iodomethane) - Arvesta - The company plans to introduce this new soil fumigant in 2003 for use on strawberries, tomatoes, peppers, and ornamentals.

MITSUBISHI CHEMICAL - The company reportedly transferred its agricultural chemical business to Nihon Nohyaku on October 1, 2002.

MONSANTO - The company is in the final stages of development for its genetically modified wheat that will have increased flour yields and enhanced proteins. It has formed a joint venture with United Spring Wheat Processors to help process and market the wheat. Monsanto will seek registration for its Roundup Ready wheat in the United States, Canada, and Japan.

MONSANTO/SCOTTS - The companies have announced they will plant 400 acres of Roundup Ready bentgrass seed in central Oregon this fall. Up to 11,000 acres will eventually be planted.

NUTRA-PACK INC - The company has signed a research agreement with Syngenta for them to develop N utra-pack's new growth regulator LPE for use as a ripening agent and shelf-life extender on fresh fruits and vegetables.

SIM PLOT PARTNERS - The company has acquired a group of horticulture products from Eco Soil Systems, Inc., based in San Diego, CA.

SUMITOMO - The company purchased a majority part of Takeda Chemical Industries Agrochemical business and will eventually take over the entire business. The new company will be named Sumika Takeda Agrochemical.

SUTERRA - This pheromone company based in Bend, OR, purchased the assets of Scenturion, a company making insect lures under the trade names First Watch, Second Watch, and Guard Post.

SYNGENTA/DU PONT - The companies have made an agreement to co-promote each other's herbicide products. Syngenta will supply DuPont with its s-metolachlor herbicides, which will sell it under its own brand name. Also, DuPont will market Syngenta's mesotrione herbicides. Syngenta will label and market Accent and Steadfast, which it will obtain from DuPont.

(Michelle Wiesbrook, unless otherwise noted, adapted from Agricultural Chemical News, September and October 2002.)

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