Coming to a Label Near You—New Language on Protecting Endangered Species

We last wrote about what was happening in the world of protecting endangered and threatened species from the use of pesticides in the March 2004 issue. That article gave a brief history of the Endangered Species Act (ESA) and also discussed proposed changes in information exchange between the involved federal agencies. At the time, the 31-year-old act was thought by some to be “extinct”; but the pot was just beginning to brew. It was and still is very much alive. The intent of this article is to prepare you for what is to come, something that will directly affect you as a pesticide user.

The last few years have been busy ones for the Environmental Protection Agency (EPA). As a result of numerous lawsuits over inadequate consultations with the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS), EPA now has to move forward with (some would say revitalize) a program designed to protect ESA-listed species and their designated critical habitat from the use of certain pesticides that may affect them. This program, the Endangered Species Protection Program (ESPP), was started in 1988 by USEPA as a voluntary effort. The main goal was to alert pesticide users of the risks that pesticides pose on endangered and threatened species. However, the focus has changed a bit. Since this past spring, EPA now considers listed species when it makes regulatory decisions. The “new” program, deemed necessary for EPA to be fully in compliance with the ESA, just recently received final signature. EPA’s plans for program implementation were printed in the Federal Register. The notice can be viewed at http://www.epa.gov/fedrgstr/EPA-SPECIES/2005/November/Day-02/e21838.htm.

How will this new program affect users of pesticides?

No one knows the full extent of the effects; however, one of the two program goals is “To minimize the impact of the program on pesticide users.” The other goal is “To provide the best protection for endangered species from the use of pesticides.” What is for sure is that
new language will be added to the labels of some pesticides—those with identified concerns—directing users to refer to special “county” bulletins called “Endangered Species Protection Bulletins.”

According to an EPA email sent on 11/2/05, “Bulletins will identify the species of concern, name the pesticide active ingredient that may harm the listed species, provide a description of the protection measures necessary to protect the species, and contain a county map showing the geographic area(s) associated with the protection measures, depending on the sensitivity of the species to other factors such as collection.”

These bulletins will be enforceable just as the label is. Pesticide users who fail to read and follow all label provisions, including bulletins, are subject to enforcement under the misuse provisions of FIFRA, whether or not the application results in harm to the species. As stated in the Federal Register, “EPA will generally seek to ensure that registrants include the following statement on the product label at the beginning of the product’s “Directions for Use”:

“ENDANGERED SPECIES PROTECTION REQUIREMENTS

“This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult http://www.epa.gov/espp/, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.”

The bulletins will be geographically specific and include use limitations for certain pesticides to ensure that their use will not jeopardize the continued existence of a listed species. Maps will be as narrowly focused as possible without giving away exact locations of species, in the interest of avoiding vandalism or collection. In past years, EPA’s use restrictions on county maps were just that, countywide, which was quite burdensome to many applicators. These maps were also difficult to locate. Some newer maps are currently located on EPA’s Web site, http://www.epa.gov/espp/usa-map.htm, however, EPA is in search of a more permanent address. I’m told that the Illinois maps are currently under construction by EPA.

From what I gather, EPA, at least at the regional level, is still trying to determine the logistics of it all. It will be a while before all labels have this language. Currently, it is unknown how old products without the new language will be handled. All users of pesticides will be affected by the new language—even homeowners.

According to http://www.epa.gov/espp/, EPA wants to minimize the impact of this program on pesticide users. Therefore, EPA plans to

1. use the minimum limitations that will protect the species
2. recommend that states provide alternative, but protective, use limitations that are appropriate for their location and situation
3. recommend alternative pesticides
4. work with USDA to inform users about wetlands reserve and conservation reserve programs to offset impacts by offering compensation for land taken out of production
5. inform users about the occasional reimbursements available from the Fish and Wildlife Service for crops not harvested when the crops are important to a species.

The formal comment period for the new program has already expired. However, many comments and EPA’s responses are listed in the Federal Register notice. This quite lengthy section provides much insight as to why the program was designed the way it was. As a pesticide user, you still have the opportunity to get involved, according to points 2 and 3 above. Another opportunity for you to voice your opinions will be the public comment periods during future pesticide registrations. Those will be announced in the Federal Register.

What do you need to do?

Before you use or even buy a pesticide, look on the label for these new statements regarding bulletins. As always, read and follow all pesticide labels carefully; but now you must also read and follow any applicable bulletins carefully. When planning your applications, give yourself enough time to obtain and interpret any needed bulletins. It’s a great idea to keep good records of your applications. In the event of a pesticide use inspection, applicators must be able to prove they obtained the correct bulletin and followed directions. As mentioned above, applicators must use bulletins that are in effect in the month in which the pesticide will be applied. Therefore, record keeping of all pesticide applications, not just restricted use, may even be required before all the program dust settles.

But wait there’s more!

With all of that said, there has also recently been a call for action to revise the ESA. There is concern that only a very small percentage of species listed have fully recovered and much conflict has resulted from existing legislation. The House Resources Committee voted in late September to overhaul the act with the Threatened and Endangered Species Recovery Act of 2005 (TESRA). This bill has been sent to a work group at The Keystone Center (http://www.keystone.org/html/esa_working_group.html) for input. It also awaits Senate approval in
the spring. The intent of TESRA is to fix existing ESA problems by replacing the critical habitat program with a more integrated recovery-planning process using better science. The hope is that this will better protect private property owners and also minimize conflicts that lead to litigation. As with any legislation, there are supporters and opponents. Some say TESRA streamlines the ESA; some say it guts it. To learn more about TESRA, visit http://resourcescommittee.house.gov/. It is unclear how TESRA would affect the ESPP.

We will try our best to keep you current on these very complex issues. Future happenings will be discussed in the Illinois Pesticide Review as they occur. You can also visit EPA’s Web site, http://www.epa.gov/espp/esppfield-imp.htm, for further information. (Michelle Wiesbrook)

Mark Your Calendar for Some University of Illinois Educational Programs

As the season for fall and winter meetings approaches, faculty and staff at the University of Illinois have been planning educational programs that we believe will improve your understanding of the crop protection and crop production issues we faced in 2005, with consideration for lessons learned and planning for the future. Early in 2006, we intend to provide a “curriculum” of educational programs that will enable you to obtain the type of continuing education that meets your needs. Three types of programs are highlighted below.

Crop Protection Technology Conference, January 4 and 5. As usual, we begin our educational programming year with the Crop Protection Technology Conference—formerly the Illinois Agricultural Pesticides Conference, formerly the Illinois Custom Spray Operators Training School. This program has been held annually since 1949, with the overall objective of focusing on proper, timely, and wise use of crop-protective products to serve both agriculture and the environment. Held on the University of Illinois Urbana-Champaign campus, the 2006 conference has been streamlined to include an opening session for all participants, six issue-focused symposia, and a new closing session for all participants. Following are program highlights, with further details and registration information available at www.ipm.uiuc.edu/conferences:

Opening session on January 4: “State of the College of ACES” address by Dean Robert Easter; overview of 10 years of transgenic crops by Assistant Dean Bruce Chassy; and “The Day After Yesterday,” a multidisciplinary and interactive review of 2005 with university specialists and the audience.

Three symposia on January 4: (A) “Soil Fertility Strategies: Managing Future Changes and Challenges”; (B) “Glyphosate-Resistant Weeds: Current Status, Potential Implications”; and (C) “Wrestling with Old, New, and Persistent Management Challenges in Corn.”

Three symposia on January 5: (D) “Will That New Sprayer Get ‘Rusty?’”; (E) “Soybean Pest Management: Then, Now, and Tomorrow”; and (F) “Issues in Environmental Toxicology: Science, Courtrooms, and Public Policy.”

Closing session on January 5: A fresh idea for the 2006 conference, this session will convene everyone before the conference ends. A light box lunch will be provided during “Who Needs IPM in the 21st Century: A Critical Point/Counterpoint for Agriculture.” This approximately hour-long session should be of interest to everyone at the conference.

University of Illinois Corn and Soybean Classics. We will stage the ninth version of this highly successful program on the following dates:

January 10: Interstate Center, Bloomington, IL
January 11: Kishwaukee College, Malta, IL
January 12: The Mark, Moline, IL
January 17: Crowne Plaza, Springfield, IL
January 18: Holiday Inn, Mt. Vernon, IL
January 19: Holiday Inn, Collinsville, IL


University of Illinois Regional Crop Management Workshops. Conducted for the first time in 2005, these workshops are being retooled to focus primarily on regional issues and to provide a forum for more hands-on, in-depth discussions. The workshops will be held on the following dates:

February 7 and 8: Southern Illinois Crop Management Workshop, Rent Lake Resort and Conference Center, Whittington, IL. For further information, contact Dennis Epplin, Mt. Vernon Extension Center, depplin@uiuc.edu.

February 21 and 22: Central Illinois Crop Management Workshop, Route 66 Hotel and Conference Center, Spring-
What Are Your Pest Management Priorities?

At first, the answer to this question seems quite simple and most would say “to safely and economically control them!” However, and as with most situations, the difficulty is in the details. Whether you’re dealing with crop or noncrop plants, is there a comprehensive document that describes what is known and what is not known about the pests you’re trying to manage? How, if at all, is this information prioritized and shared within your industry and with researchers, educators, and regulators? As resources for producers, businesses, universities, and government agencies become tighter, the answers to these questions become more and more important.

For 79 crop and noncrop areas in the United States (19 in the North Central Region), such documents exist; they are called Pest Management Strategic Plans (PMSP). The USDA Office of Pest Management Policy is facilitating the production of PMSP, which are developed by growers, commodity associations, university specialists, food processors, crop consultants, and EPA. These plans address pest management needs and priorities for individual commodities. Each plan focuses on commodity production in a particular state or region. The plans take a pest-by-pest approach to identifying the current management practices (chemical and nonchemical) and those under development. Plans also state the commodity’s priorities for research, regulatory activity, and education/training programs needed for transition to alternative pest management practices.

A multi-state PMSP goes well beyond the information provided in a traditional Crop Profile. Most notably, the PMSP is a forward-looking document that draws upon the diverse experience and expertise of a wide range of individuals. Successful PMSP workshops essentially compel the participants to recognize and reconcile the minor and major factors that limit their commodity. Finally, the PMSP provides published documentation that addresses a wide variety of stakeholder needs, such as

**Producers**
- Efficacy of various pest management products and tactics
- Priorities for research, education, or other sponsored programs
- Useful document for conveying needs to policy makers
- Documentation to support Section 18 and 24(c) pesticide label requests

**Researchers**
- Documentation of stakeholder needs; supports funding requests
- Support for IR-4 (minor crop) Food Use Workshop research prioritization

**Regulators**
- Receive information on actual pest management practices and timelines; less likely to use default assumptions in risk assessments
- Made aware of special concerns (for example, resistance management)

**Registrants**
- May identify markets for development of new pest management products

To date, almost all PMSPs deal with crops rather than non-crop areas.

However, as the Green Industry gains more recognition and respect relative to crop production, I am hopeful that the number of noncrop PMSPs will increase. For additional information regarding Pest Management Strategic Plans, visit the North Central Region IPM Website (www.ncipm.org/pmsp/index.cfm). (Bruce E. Paulsrud)

EPA’s Pesticides Program

The United States Environmental Protection Agency (EPA) and the states (Illinois Department of Agriculture) register or license pesticides for use in the United States. In addition, anyone planning to import pesticides for use in the United States must notify EPA. EPA receives its authority to register pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

EPA’s pesticides work across many programs within EPA. The Office of Pesticide Programs, along with the Office of Prevention, Pesticides, and Toxic Substances (OPPTS), works with 10 regional offices and other EPA program offices on a wide range of pesticide issues and topics, such as

- Evaluating potential new pesticides and uses
- Providing for special local needs and emergency situations
- Reviewing safety of older pesticides
- Registering pesticide-producing establishments
- Enforcing pesticide requirements.

**Evaluating potential new pesticides and uses.** Federal law requires that before selling or distributing a pesticide in the United States, a person or company must obtain registration, or license, from the EPA. Before registering a new pesticide or new use for a registered pesticide, EPA must first ensure that the pesticide, when used according to label directions, can be used with a reasonable certainty of
no harm to human health and without posing unreasonable risks to the environment. To make such determinations, EPA requires more than 100 different scientific studies and tests from applicants. Where pesticides may be used on food or feed crops, EPA also sets tolerances (maximum pesticide residue levels) for the amount of the pesticide that can legally remain in or on foods.

Most states conduct a review of the pesticide label to ensure that it complies with federal labeling requirements and any additional state restrictions of use. To learn more about state pesticide requirements, visit the American Association of State Pesticide Control Officials.

States may require the registration of pesticides and inert ingredients that are exempt (considered very safe) from the requirements of registration under Section 25b of FIFRA.

New approaches to minor uses. Minor uses of pesticides are those for which the total U.S. production for a crop is fewer than 300,000 acres. Minor use also applies to pesticide uses that do not provide sufficient economic incentive for a registrant to support initial or continuing registrations. EPA has been increasing communication with minor-use stakeholders, coordinating activities with EPA, the United States Department of Agriculture (USDA), and the Department of Health and Human Services (DHHS), and expediting registrations for minor use pesticides.

Providing for special local needs and emergency situations. States have authority under Section 24(c) of FIFRA to add uses to pesticides based on special local needs. States may not register new active ingredients under Section 24(c).

Other federal agencies or an authorized state official may request that EPA allow or an additional use for a registered pesticide to respond to emergency situations under Section 18 of FIFRA for a specific period. EPA may approve or disapprove this request. The Section 18 database includes records for all Section 18 Emergency Exemptions received by EPA.

Reviewing safety of older pesticides. EPA is reregistering pesticides to ensure that older pesticides meet current safety standards. Changes to the way a pesticide is used may be necessary to protect consumers, workers, or the environment. EPA is also reassessing tolerances (maximum residue limits) for pesticides on food. In these reassessments, EPA places special consideration on potential exposure risks to children, who may be more vulnerable to risks from pesticides.

A new program, registration review, will replace EPA’s pesticide reregistration and tolerance reassessment programs starting in 2006, as those programs approach completion. Registration review will operate continuously, encompassing all registered pesticides. This program is currently under development and will make sure that, as the ability to assess risk evolves and as policies and practices change, all registered pesticides will continue to meet the statutory standard of no unreasonable adverse effects.

Registering pesticide-producing establishments. Pesticide-producing establishments must be registered with EPA under Section 7 of FIFRA. EPA regional offices administer the registration of pesticide-producing establishments and assign EPA establishment numbers.

Enforcing pesticide requirements. States may be delegated primary enforcement responsibility for pesticide-use violations. The states have this authority when they have adopted and are implementing pesticide-use regulations or when they have entered into a cooperative agreement with EPA for specific pesticide enforcement.

Additional information about these programs can be obtained by visiting EPA’s Web site at http://www.epa.gov/pesticides/about/aboutus.htm. (Adapted slightly from EPA fact sheets by Phil Nixon.)

Commercial Pesticide Training Information Available

It’s that time of year again—time to think about the expiration status of your Illinois Pesticide License. December 31 is the expiration date for Commerical, Commercial Not-for-Hire, Dealer, and Public licenses. The Illinois Department of Agriculture sends out both retest and renewal letters, typically in November. Your letter indicates your license status. However, you can check its status anytime by searching the Illinois Department of Agriculture Kelly Registration Pesticide Applicator Database at http://www.kellysolutions.com/IL/Applicators/index.asp.

If you are new to this industry, you may need information on license requirements and testing and training options. The Pesticide Safety Education Program at the University of Illinois has released its clinic dates for the 2005–2006 season. You can view the schedule and find related information at http://www. pesticidesafety.uiuc.edu/training/training.html. Schedule booklets can also be picked up at your local U of I Extension office or ordered by calling (800)644-2123 or (217)244-3469. The booklets contain order information for study materials, and an up-to-date list of materials can also be found online at http://www. pesticidesafety.uiuc.edu/publications/publications.htm.

How current are the study materials on your bookshelf? A lot can change in a 3-year test cycle. Just this year alone, the turf and ornamentals workbook was revised, and we are currently revising both the aquatics manual and its accompanying workbook. We anticipate that the finished publications will be available soon. Materials are revised from time to time, so checking this list prior to training or testing is recommended. (Michelle Wiesbrook)
New and Nearly New Nozzles

Several nozzle types have recently been introduced, and a few others will be available soon. Although each one uses different technologies and features, they all share a similar purpose of increasing spray efficacy while reducing the risk of drift.

VariTarget Nozzle

Many of you have probably read some of the articles I have written for Illinois Pesticide Review in the past dealing with droplet size (January 2004) and how the droplet size can change in relation to a speed change when using a spray-rate controller (March 2004). There are two main problems encountered when using a spray-rate controller, both due to the fact that the controller uses pressure to adjust nozzle flow rate in response to speed changes. The first problem is that most conventional nozzles can vary their flow rate only over a 2:1 range when operated within the recommended pressure range. The second problem is that faster speeds during an application require a higher flow rate, which causes the spray-rate controller to increase pressure. This pressure increase reduces droplet size and increases the risk of drift.

As an example, an 8002 extended-range flat-fan nozzle has a recommended pressure operating range of 15 to 60 psi. The flow rate at 15 psi is 0.12 gallons per minute (GPM); and at 60 psi, 0.24 GPM. This means the flow rate can only be doubled with this nozzle. Therefore, we say it has a 2:1 flow rate range. If a speed change during an application required a flow rate below 0.12 GPM or above 0.24 GPM, the only way to achieve it with this nozzle would be to operate it outside its recommended pressure range. This is not a good idea because of a poor spray pattern at pressures lower than 15 psi and an abundance of small, drift-prone droplets created at pressures above 60 psi.

To overcome this limitation, the new VariTarget nozzle has an orifice that changes size in response to pressure changes, allowing it to provide a flow rate between 0.15 GPM and 1.5 GPM with a single nozzle. Because the size of the orifice is varying in response to changes in pressure, there is minimal change in droplet size. The droplet spectrum is selected by choosing one of two caps, one that produces a coarse droplet spectrum and one that produces a medium droplet spectrum. The Vari-Target uses a diaphragm to control the position of a plunger. The movement of this plunger within the nozzle body controls the size of the orifice. You can read more about the VariTarget nozzle at http://www.sprayparts.com/dealer/Altorfer/default.cfm?PID=1.14&SP_ObjectID=13787&SP_ID=9.38.

Hi-flow Nozzle

Although not brand new, this nozzle is still relatively new. It has a wide, 140-degree fan angle and is designed to meet the demand of the high flow rates required when making applications at higher gallons per acre and faster speeds. The Hi-flow nozzle uses a removable pre-orifice to increase spray-droplet size and reduce the risk of drift. Hi-flow nozzle tips are available as a single-piece, fastcap design for use on standard nozzle bodies. They have a pressure operating range of 15 to 80 psi and are an excellent alternative to standard flood nozzles. Hi-flow nozzles are available in three sizes from Hypro and five sizes from John Deere. You can read more about Hi-flow nozzles at http://www.hypropumps.com/Agriculture/Whats_New.cfm?bums=Agriculture and http://jdparts.deere.com/partsmkt/document/english/pmac/10142_BroadcastWideAngleSprayTips.htm.

DG TwinJet Nozzle

The DG (Drift Guard) TwinJet is an improved design of the standard TwinJet nozzle. It offers the same dual, flat-fan patterns, with fans angled 60-degrees apart, one pointed forward and the other backward. What makes it different from the standard TwinJet is that it has a pre-orifice that reduces the formation of small spray droplets and lowers the risk of drift. The DG TwinJet can be used for the same types of applications as the standard TwinJet. You can learn more about the DG TwinJet at http://www.teejet.com/ms/teejet/newsStory.asp?ID=85. Follow the link to the document about spraying solutions.

CP-65T-S Nozzle

The CP-65T-S is a flood nozzle designed to meet the needs of postemergence applications with a unique design that won it an American Society of Agricultural Engineers (ASAE) 2005 AE50 Award for design innovation. This design includes a quick-turn attachment for ease of use with standard nozzle bodies and a compact design offering multiple orifice sizes. To accomplish this, the CP-65T-S has two rotating dials. The first dial has six metering orifices and is rotated to select the desired orifice size based on the required flow rate for the application. The second dial has three deflectors on it and is rotated to select the desired deflector based on the required droplet spectrum. A single CP-65T-S is capable of providing flow rates ranging from 0.26 to 1.28 GPM and is designed to operate between 30 and 60 psi. For more information, visit http://www.cpproductsinc.com/ground/post_emerge.html.

Guardian Nozzle

The Guardian nozzle is designed for a wide variety of applications, ranging from contact insecticides and fungicides to systemic herbicides. It is an air-induction nozzle capable of producing a medium droplet spectrum. It has a 120-degree spray pattern and is designed to operate between 15 and 115 psi. For more information, visit http://www/hypropumps.com/Agriculture/Whats_New.cfm?bums=Agriculture.
Turbo TeeJet Induction Nozzle

The Turbo TeeJet Induction (TTI) nozzle combines air-induction with the pre-orifice and turbulence-chamber design of the original Turbo TeeJet nozzle. This combination of technologies creates a large droplet spectrum, greatly reducing the risk of drift. The TTI is designed to operate between 15 and 100 psi and is currently available in four sizes. For more information, visit http://www.teejet.com/MS/TeeJet/product_Detail.asp?ID=249&SUB=true.

Nozzle Web Sites

In addition to these recent nozzle developments, I would also like to point out two interactive Web sites that have been designed to assist applicators with the selection of nozzle tips. The first is CP Product’s Web site (http://www.cpproductsinc.com/ground/product_list.html), and the second is Wilger's Web site (http://www.wilger.net/). By following the appropriate links from these home pages, users can find interactive guides to assist them in selecting the appropriate tip size and pressure to achieve the desired flow rate and droplet spectrum for the type of application they are going to make. (Scott Bretthauer)

Pesticide Update

Since this newsletter began, we have included a “Pesticide Update” section to make you aware of new pesticides, product cancellations, label changes, etc. Those updates were provided by Thomson Publications, revised by us, and used with their permission. Regrettably, it seems this tradition must end, as we no longer are able to obtain this publication for one reason or another. Pesticide Safety Education Specialists at the University of Illinois will continue to publish critical pesticide updates; however, we do not have the resources or connections to provide such thorough coverage as in the past. If anyone is aware of a resource that would fill this void, please contact Michelle Wiesbrook at (217)244-4397 or buesinge@uiuc.edu. We appreciate your input. Thank you for your readership! (Michelle Wiesbrook)