



the LABEL

PURDUE PESTICIDE PROGRAMS



Building Professionalism Through Education

July 2000

Editorial Corner

Extension work is like growing roses: the outcome is something to behold, but Darn those thorns! With Extension, as with every other job, there are problems. In this and the next three editorials I will explore some of our thornier issues: the forgotten spouse; thankless people; one bad comment; and (being) everything to everyone.

The forgotten spouse syndrome crossed my mind one evening while waiting to give my presentation to a county extension board. Extension boards are comprised of men and women who volunteer their time to advise the county extension staff; some board members farm, others don't.

Once a year the extension board, extension staff, and invited guests share an evening meal and reflect on their accomplishments over the past year. The president of the board thanks the staff and board members for their work in the county. The cooperative extension director (CED), who is in charge of all county offices, usually follows with an overview of the entire extension program. The CED thanks everyone: his staff; the mayor; the county council; local representatives; the cooks; and everyone else, up to and including the dog catcher!

Then, one by one, the educators spotlight their efforts in 4-H, family, community development, and ag and natural resources. They, too, thank local teachers, local farmers, and local people working in youth detention centers, churches, local associations, and soil

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Long History, Short Future

Chlorpyrifos has been one of the most widely used insecticides for the last three decades. One could literally spend weeks just reading the labels of some 800 consumer products that list it as an active ingredient. It's versatility lends it suitable to control lawn and shrub pests, wasps and hornets, fleas and ticks (pet collars), cockroaches—just about everything imaginable. But the 30-year history of chlorpyrifos ended June 8, 2000, when the Environmental Protection Agency announced its decision to ban it from all products used in and around the home. EPA's decision was based on the reassessment of chlorpyrifos under the Food Quality Protection Act, which affords additional protection of children from pesticide exposure. Under the new standards, the potential exposure of children to chlorpyrifos is deemed unacceptable.

The announcement by EPA was expected. The use of chlorpyrifos, better known as Dursban, has long been a bone of contention between EPA and advocates of children's health. For decades advocates have argued that children exposed to chlorpyrifos in household products are at risk. New safety standards, louder accusations, and EPA's new stance on protecting children from pesticide exposure made the decision a forgone conclusion. The intent of the decision is basically two-fold: Eliminate chlorpyrifos residues around the home, and reduce its presence in or on foods commonly consumed by children.

Reducing Residues at Home

Consumer use of chlorpyrifos products will be phased out as existing retail supplies are exhausted.

Reducing Residues Outside the Home

The professional use of chlorpyrifos (Dursban) for termite control will cease on December 31, 2002. Uses around schools, parks, and other areas where children play and study will be cancelled.

Reducing Residues on Food

Although chlorpyrifos controls insects that feed on nearly forty crops, EPA's June 8 announcement will not impact agriculture dramatically. The banning of chlorpyrifos use on tomatoes, apples, and grapes is the exception. EPA believes that elimination of residue potential on these three crops may reduce dietary risks to children by 75 percent.

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International Programs in Agriculture

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International Programs in Agriculture, Purdue University

The office of International Programs in Agriculture (IPIA) has a history that dates back more than three decades in the School of Agriculture. Originally established to provide a focal point and mechanism for leadership for international engagement within the school, the mission of IPIA has changed little in 30 years; but the specific array of activities led by IPIA has evolved over time. In the early days, most of the school's work in the global arena consisted of two principal activities: one-way transfer of expertise to developing countries, and significant roles in institution-building (colleges and universities, research institutions, etc.). A major driving force behind these activities (besides humanitarian interest) was our imperative national policy, during the period, to contain communism. Thus, although not stated in a formal sense, our early activities could be viewed as implicitly compelled by a political agenda that cast the university into a role as partner with the federal government in fulfilling this public policy goal.

With the fall of the Berlin Wall and all that it symbolized a decade ago, the compelling rationale for our institutional participation in the international arena was blurred. What has emerged in the past decade is a new university paradigm for international engagement, one driven to a significant degree by the changing global dynamics of the post-Cold-War environment. The global economy, world knowledge systems, and the international flow of technology define this new world. Now, rather than a one-directional flow of expertise and tech-

nology, the international activities of the School of Agriculture are built on global partnerships which are predicated on mutual interests and mutual benefits. That is, we now ask ourselves the question, What does international engagement bring back to the school that will strengthen our missions in education, outreach, and knowledge generation? Granted, there remains an important humanitarian element to "do the right thing" for and with developing nations, and perhaps there is even a latent political agenda; however, these are less prominent reasons for university engagement in the global arena than were those of the earlier period of our history.

Today, IPIA-led activities in the global arena are built around the theme of preparing stakeholders (students, faculty, staff, citizens) for the globalization of virtually all that impacts human lives. We have come to realize that we live in a global village and, as an observer recently pointed out, "The trouble with the global village is that there are too many village idiots." We know that we must all be able to live and work in a world in which national borders have diminished meaning. Many of us have come to realize that our lives are connected to the lives of those who live elsewhere. We are linked as global citizens. Put simply, we at Purdue University are engaged internationally because it is still the right thing to do. Thus, our energy at IPIA is now devoted to addressing the international dimension of our core missions: education, outreach, and research. None of our missions are bound by lines on the map.

Then what, specifically, do we do in IPIA today? Put simply, we are responsible for assuring that there is an appropriate international dimension within the core missions of the school. Thus, a significant component of our energy is devoted to administration of "study abroad opportunities" for undergraduate students, providing them a direct educational experience in global aspects of agriculture, natural resources, and food systems. We assist with the administration of the International Studies minor in the School of Agriculture. We provide administrative support to faculty engaged in collaborative research with scientists all over the world, recognizing that there is great value derived from the challenge of approaching a common research problem from multiple perspectives. We also know that we can learn much from each other in the partnership enterprise. We are increasingly working with the outreach component of our school mission to acquaint all Indiana citizens with our stake in the global marketplace.

A recent publication of the American Council on Education underscores the importance of this global agenda by noting, "America's future depends upon our ability to develop a citizen base that is globally competent." It is this need for global competence that now compels our agenda in IPIA and underlies our efforts and activity. To find out more about our current activities, please visit our website:

<http://www.agriculture.purdue.edu/ipia/>



History,

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While environmental groups praised EPA's efforts, they nevertheless were critical of its position to allow retailers to sell existing stocks. Their quandary is this: If EPA believes chlorpyrifos is dangerous, why allow existing stocks to be sold? Dow AgroSciences, while signing the consent agreement, lamented that no other insecticide has been studied more thoroughly: 3600 health and safety studies have been conducted. They stated in their news releases, "We steadfastly believe in the safety of chlorpyrifos." But the bottom line is, it's gone.

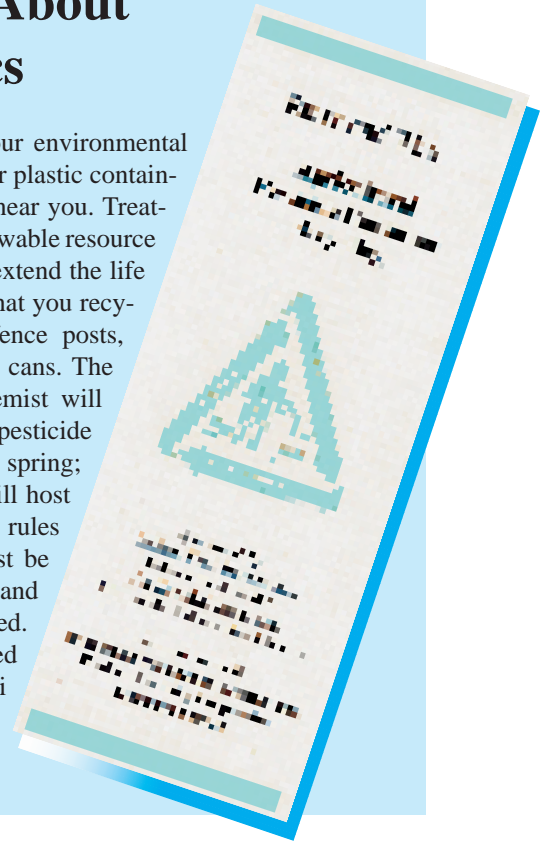
This is only the opening salvo for pesticides being evaluated under the Food Quality Protection Act. Soon, other organophosphates as well as carbamates will fall under the same scrutiny. Expect to see more pesticides fall victim to the EPA stamp, *Voluntarily Cancelled*.

Sources: Press Release. June 8, 2000. Dow AgroSciences; The Washington Post Online at www.washingtonpost.com/wp-dyn/articles/A24398-2000Jun8.html; Chlorpyrifos Revised Risk Assessment and Agreement with Registrants. June, 2000. USEPA; Chlorpyrifos Revised Risk Assessment and Risk Mitigation Measures. June 8, 2000. USEPA.



Being "Green" About Pesticide Plastics

Here is your chance to show your environmental side by taking all of those leftover plastic containers to a special recycling center near you. Treating plastic pesticide jugs as a renewable resource means helping your community extend the life of the local landfill. The plastic that you recycle can be made into plastic fence posts, pallets, flower pots, and garbage cans. The Office of the Indiana State Chemist will lead a statewide effort to recycle pesticide jugs from applications made this spring; nineteen sites around the state will host a recycling day. The recycling rules remain the same: containers must be triple-rinsed; lids, paper labels, and plastic sleeves must be removed. A little work for a good deed for the environment! Contact Joni Herman at (765) 494-1585 for information and a brochure with dates and locations.



The Lecture of Moving Lips

Can you remember a time during a lecture when you were watching the speaker's lips move but not really listening? Then you were jolted from your daydream when you realized that everyone in the class was looking at you, waiting for your response to the professor's question? The problem was, you knew neither where you were nor what was asked!

While reading a book about a horse-and-buggy doctor from the early 1900s, I was amazed to discover that he had learned his profession through lecture and memorization, the same way we learn today. The author complained even then about how poorly we learn from instructors who merely come to class, take out their notes, and rattle off the day's lecture.

Today's students also do precisely what their counterparts did a hundred years ago: They come to class, sit down, open up their notebooks, and begin writing every word that is spoken—not really listening, just writing. Ultimately someone asks, What do we have to know for the test? As long as they make a good grade, they're happy.

But some guy named Confucius said in 451 B.C., "What I hear, I forget. What I see, I remember. What I do, I understand." It's true. I can still recall the moving lips (what I saw). But, on the other hand, I can remember those professors who expected me to contribute in class. For the first couple of weeks, I hated them; but in spite of myself, by the end of the semester I had mastered

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Floating Fish: O₂ or Pesticides or Algae?

Their home was built on a hill overlooking their very own pond. The pond was their getaway spot; fun and relaxation was just a “cast” away. Needless to say, they were less than thrilled when they took a walk down to the pond and discovered dead fish floating on the surface and lying along the bank. Their whodunit questions brought them face-to-face with the grower whose farm field borders the pond. They told the grower that they saw a pesticide rig in his field just a few days back, and that they suspect his farm chemicals caused the fish kill. They ask the grower if he intends to reimburse them for the dead fish.

One option for the grower would be to cry uncle and open his checkbook. But a recent pesticide application in an adjoining field does not necessarily mean that farm chemicals caused the fish kill. Some pesticides do kill fish, *but most don't*. And even if the pesticide was toxic to fish, it still would have had to get from the field to the pond. This normally means that the application has to be followed by a gullywasher, *and* that a large part of the field drains into the pond.

A better option than immediately pleading guilty would be for the farmer to go to the pond to see for himself if there are any clues as to what might have caused the fish kill. He should keep an open mind: his pesticides may or may not have killed the fish. The fish could have died from inadequate dissolved oxygen in the water; from a petroleum spill or algae bloom toxicity; from fertilizer runoff, fish diseases, or parasites; from septic system discharge; or from an aquatic weed control application.

The grower should take detailed notes and ask lots of questions: A lawsuit is always a distinct possibility! The following should be noted.

- Date and time the fish kill was discovered.
- Date and time the site was visited.
- Location of the pond.
- Name, address, and telephone number of the pond owner.
- Name, address, and phone number of the person who discovered the fish kill (if different than the owner).
- Approximate number of dead fish.
- Preceding weather conditions: recent temperatures, cloud cover, precipitation, and wind speed and direction.
- Direction of drainage from the treated field. (Does the field that was sprayed drain into the pond?)
- Other fields that may drain into the pond.
- Species of the dead fish and those that are stressed.
- Average size of the dead fish: small or large.
- Unusual appearance of the dead fish; e.g., flared gills, open mouths, curved spines.
- Unusual behavior such as fish swimming at the surface or jumping onto the bank; snails climbing onto vegetation to get out of the water; tadpoles gulping near the surface.
- Color and odor of the water.
- Water pH and amount of dissolved oxygen in the pond.

Also, take photographs and a video. A picture is worth a thousand words!

Fish and Water Samples

Fish and water samples must be taken to confirm whether the pesticides applied nearby did actually kill the fish. Document when, how, and where the sample(s) are taken.

Fish Samples. Collect as many dead and dying fish species as possible. Wrap each fish in aluminum foil, with the dull side toward the fish; put the samples on ice immediately.

Water Samples. Collect one gallon of water in glass bottles, preferably amber-colored bottles. Rinse bottles with pond water before taking the samples. Place samples on ice, out of sunlight.

Fish and water samples can be analyzed by the Animal Disease Diagnostic Laboratory, (765) 494-7440, for a fee, and by the Office of the Indiana State Chemist, (765) 494-1589, only if a complaint is filed. Commercial companies listed in *Water Testing Laboratories (WQ-1)* (call 888-ext-info) can analyze samples, as can the pesticide manufacturer.

Making a Commitment to Pay

It's an absolute requirement to inform your insurance carrier; failure to do so might leave you without coverage. Your insurance policy states that you cannot tell anyone that the insurance company will pay to settle the claim. Let the insurance adjuster do his job; if you promise payment of a certain amount, consider it coming out of your wallet.

Use common sense when making pesticide applications near water. Follow label directions and watch the weather, but don't jump to conclusions just because fish are floating in a nearby pond after you have sprayed an adjacent field.

[Note the table on page 5.]

Source: Field Manual For the Investigation of Fish Kills. 1990. Fish and Wildlife Service. National Technical Information Service, 5285 Port Royal Road, Springfield, VA 221161; Fish Kills In Indiana—Their Causes and Prevention. Purdue University. FNR 69



Use the following table as an aid in determining probable cause(s) for fish kills.

Criteria	Oxygen Depletion	Algal Bloom	Pesticide Toxicity
Fish behavior	gasping and swimming near the surface	erratic swimming	erratic swimming
Size of fish	large fish killed first	small fish killed first	small fish killed first
Species selectivity	none if oxygen low; carp and bullheads may survive partial depletion	none; all species affected	usually, one species killed before others
Time of fish kill	night and early morning hours	bright sun (9 a.m.–5 p.m.)	any hour, day or night
Plankton abundance	algae dying	abundance of one algae species	herbicide may kill algae
Dissolved oxygen	<2 ppm, usually less than 1 ppm	12–14 ppm	8–10 ppm
Water pH	6.0–7.5	9.5 and above	7.5–9
Water color	brown, gray, or black	dark green, brown, or golden	normal

Moving Lips,

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more than facts: I had learned to think! And most of us can name a few teachers from elementary school, high school, and college who taught us by the show-and-tell method.

Traveling around the country doing programs, most of us train and educate the same way we were taught. It's slides, (click), lips, slides (click), lips, and so on until time

runs out: no questions, no interaction. Members of the audience sit like zombies, wanting the torture to end; but like students who want an A, our pesticide applicator audiences want credit toward recertification.

It is a special moment when you watch an educator talk with the audience, teaching fewer points, stressing a main point, asking the audience for their thoughts, and fielding questions along the way. Members of the audi-

ence may cringe, at first, but they soon respond. Sometimes they even have the nerve to disagree with the speaker!

We must allow people to understand and encourage them to experience all that we ask them to learn. We must connect and interact with our audience if we are to break the spell of the moving lips.



“How To” Wellhead

You’ve been assigned—or better yet, *told*—to write a wellhead protection plan to protect the wells in your community. And to top that off, you’ve been told that it better be right since the plan is a legal requirement of the Indiana Department of Environmental Management. The question that first pops into your mind is Why me? Then it’s What is a wellhead protection plan and how do I go about writing it?

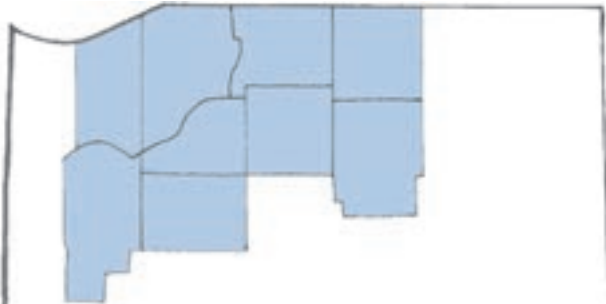
The good news is that Purdue University has just released the first five of a series of publications to help you out of a jam:

- Forming the Wellhead Protection Planning Team (WQ-28)
- A Shortcut to Wellhead Protection Delineation for Some Systems (WQ-29)
- Choosing a Consultant to Delineate the Wellhead Protection Area (WQ-30)
- Inventorying Potential Sources of Drinking Water Contamination (WQ-31)
- Effective Wellhead Protection Through Education (WQ-35)

Purdue Pesticide Programs is pleased to have been asked to help Jane Frankenberger and Barbara Cooper from Purdue’s Department of Agricultural Engineering with this important project. It is our hope that the teaming of the programs will produce better wellhead protection plans and lead to less ground water contamination. Contact the Media Distribution Center at (888) 398-4636 for free copies of the wellhead protection publications.

Farm Chemical Safety— Easy as 1, 2, 3

Managing Farm Chemicals (PPP-50) is packed full of inexpensive, practical ideas that growers can use to protect their farms against chemical contamination. A line from the publication best summarizes why we are offering these easy-to-implement tips for growers: *The most gratifying benefit of good farm chemical management—and perhaps the most important—is unpolluted land that you can pass on to your children, and they to theirs.* Not a bad reason to write a publication, is it? Call your local extension educator or Purdue’s Media Distribution Center [both at (888) 398-4636] to request your free copy of PPP-50.



A “Minty” State

Ever wonder who grows the mint that goes into chewing gums, toothpastes, medicines, and air fresheners? You might be surprised to learn that farmers have been growing mint in northern Indiana since the late 1800s. *Mint Production and Pest Management in Indiana* (PPP-103) describes mint production in our state.

Other PPP pubs on Indiana’s specialty crops: Pest Control in Indiana Cantaloupe Production (PPP-100); Pest Control in Tomatoes for Processing (PPP-101); and Pest Control in Grapes (PPP-102). Call your local extension educator or Purdue’s Media Distribution Center [both at (888) 398-4636] to request your free copies of these publications on Indiana’s “other” crops.

Editorial,

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and water conservation. Rest assured that if you helped Extension in any way during the preceding year, you will be thanked at the annual extension-board meeting!

A featured speaker is placed last on the agenda (how's that for featured?) to entertain and inform the board. This past winter I was sitting in the audience, tired from three months of road work, trying to muster the energy for my talk. I was drifting in and out, hearing only part of what the educators were saying but mainly worrying about my talk. I happened to glance at the table where the educators were sitting with their spouses and thought how odd it was that the spouses' contributions were not acknowledged.

The more I sat there thinking about the "invisible" spouses, the more it seemed that Extension had failed to acknowledge those who just might be its heroes! A few weeks later, I was again sitting in the audience (I seem to do a lot of that), eating my meal (a lot of that also takes place in this job) and waiting to give a presentation to yet another extension board. I began my talk that night by highlighting the role that our spouses play, behind the scenes, in the work we do. At the conclusion of my presentation, the spouse of one educator thanked me for reminding the board of the sacrifices she and her family have made for Extension. She said that, each year, her husband is asked to do more and more, which of course means less time for her. We talked awhile, but I remember to this day a comment that she made. She stated that the extension board has no way of knowing how much her husband has given to the county at the expense of his family. I fully understand her message since I, too, give so much of my own personal time to Extension.

I can't change the work required of us in Extension. Extension is what its always been: long hours with too many people to help. Extension was

never an 8 to 5, five-day office job. It wasn't fifty years ago, it isn't today, and it won't be fifty years from now. One could ask whether Extension and family are compatible. To be honest, sometimes job and family are at odds. It's true that sometimes we have to give up family time for Extension, and vice versa. But some of us are really good at giving up our own time and never making it up to our family. If we were keeping a ledger of time spent, most of us would show an accrued deficit under the column headed "Family."

In reality, family life often is planned around Extension. The demand for our time is incredible at certain times of the year. We are asked to serve on committees, develop programs, speak to the people, review documents, sit on boards, answer phone calls, conduct farm and business visits, and fill out university forms. Time devoted to work means less time for ourselves and our families. And during these periods we lean heavily on our significant others to take care of day-to-day family business.

But if we can't change the job, can we do something to give our families a fair shake? The answer is yes if we simply decide to make good use of our time. Simply turning down an occasional evening program can help to string together a couple of uninterrupted nights with the family. We advise our audiences to put family first, as much as possible. So if we are to balance our job and family, we must heed our own advice! "THE JOB" has to become merely "the job"; that is, Extension has to take a back seat sometimes if we are not to short-change our families. Make time to do something special

for your spouse, whether it's turning off the television to talk one-on-one, taking the family for a ride, or just having someone else do the cooking.

If we can take the time for our work, surely we can find time for our family. The great 20th century philosopher Willie Nelson said it something like this: I'm sorry if I made you feel second best. I guess I never told you that I'm happy you are mine. Little things I should have said and done, I just never took the time. You were always on my mind. It's time to make time for our spouse and our family: no excuses.

I have come to view the spouses of extension educators and specialists as the foundation of the Purdue University Cooperative Extension Service. So, if you have a few minutes, pick up the phone and call your significant other. Tell them how much you appreciate what they do. But then expect to be asked something like, Can you come home early? Your answer, of course, is no; you have to finish up the newsletter and return a zillion phone calls. The silence on the other end of the phone speaks volumes. You pause for a moment, then manage to say, "I'm on my way"! At the other end of the phone, your spouse smiles.

Good reading!

Fred Whitford
Pesticide Coordinator

