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Comments from the Coordinator

October is fast approaching, so it is time for another pesticide In-service program. This year's program highlights both IPM and FQPA. Our featured speaker will be Suzanne Wuerthele from the regional 8 EPA office in Denver. Suzanne is an MSU graduate with a background in pharmacology, and is currently a toxicologist with EPA. We met Suzanne at the North Central Pesticide Education meeting last May, where she gave the best explanation that I've heard of endocrine disruptors. What are they? What is the evidence for hormone disruption? What is known and not known? What chemicals are suspected? What does this mean for the average person? Tolerances and review of organophosphates have been the major concern thus far as FQPA is implemented. However, as recommendations for an endocrine disruptor screening/testing program have finally been released (see article in this issue), hormone disruption is sure to become a greater issue. In other parts of the world, mainly Japan and Europe, it already is a major concern. The European Parliament recently called for a total ban on suspected endocrine disruptors until better data is collected.

Register now for the In-service October 6th and hear what all the fuss is about! See page 10 for In-service details.

Chris DiFonzo

Pesticide Education Coordinator/Field Crops Entomologist

New MSU Extension Bulletin Tackles Emergency Planning on the Farm

Sandy Perry, MSU Pesticide Education Program

A farmer may view his farm as a piece of heaven, but emergency personnel may see it as a dangerous environment full of fatal traps. In an effort to increase understanding and cooperation between farmers, emergency responders, and local emergency planning committees (LEPCs), a project was devised to develop one set of paperwork that would serve multiple purposes for emergency planning. The project evolved as a cooperative effort between the Groundwater Stewardship Program, MSU's Pesticide Education Program, MDA's Pollution Prevention Division, with input from Michigan State Police Emergency Management Division, and several county LEPCs and county fire officials. A new Extension bulletin, "**Emergency Planning For the Farm**" (E-2575) was the outcome.

The new bulletin is a revised and reformatted version of the old "SARA Title III Emergency Planning Requirements." It contains updated forms for SARA Title III reporting as well as some new additions. Once the forms are filled out and photocopied, they will serve three separate but equally important purposes.

The first purpose is to **assist the local emergency planning committee** in developing an emergency plan if the agricultural operation has chemicals at or above the SARA Title III threshold planning quantity. There are also instructions for reporting spills or releases of products at or above the reportable quantity.

The second purpose is to serve as the **farm emergency plan**—containing a farm map, list of chemicals stored on the farm and other information of use to emergency

responders who may be called to the farm for fire or other emergency situations. The farm plan will be stored in a weather-resistant tube supplied by the Michigan Groundwater Stewardship Program and located in a spot designated by the local fire district. In this way, all emergency responders will have access to a complete farm plan and hazardous material information that is in a standardized format for all farms participating in the **Michigan Emergency Tube Program** (see related article on page 3).

The third purpose is to serve as the **Farm-A-Syst fact sheet** for Emergency Preparedness Planning. Groundwater technicians will help farmers fill out the Farm-A-Syst worksheet on Emergency Planning as well as make the final site visit—inspecting forms from E-2575 and the emergency tube location—prior to extending pesticide recertification credits for the Emergency Preparedness module (pending MDA approval). Extension agents will be holding winter meetings to help growers work through the forms from E-2575 and to assist with distribution of the Emergency Tubes.

The cooperation of so many individuals and organizations in this project is certain to reap the greatest benefit of all—saving time and effort when an emergency threatens.



Q&A's About Michigan Emergency Tubes

The following is provided to help answer growers' questions about the Michigan Emergency Tube Program. The tubes are designed to ensure that emergency crews have the information they need about a farm and family in the event a crisis should occur.

What is the Michigan Emergency Tube?

The Michigan Emergency Tube is a weather-resistant tube that holds vital information for emergency crews about your farm or facility.

Why do I need a Michigan Emergency Tube?

You need a Michigan Emergency Tube to assist emergency crews if they need to be on your farm.

What's in a Michigan Emergency Tube?

An emergency plan describing your building locations, chemical/fertilizer storage(s), land features and fire concerns. Your Michigan Groundwater Stewardship Program staff can help you develop an emergency plan.

Where do I get a Michigan Emergency Tube?

Beginning in fall 1998, tubes will be available from your local Michigan Groundwater Stewardship Program representative. The representatives are usually housed with your Conservation District or MSU Extension staff.

Where is the Michigan Emergency Tube placed?

The tube must be clearly visible to emergency crews entering your farmstead. It is important that your tube be mounted in the location determined by your county officials.

Who installs the Michigan Emergency Tube?

You do. If you need assistance, contact a sponsoring organization.

Who can use the Michigan Emergency Tube?

Any farm owner.

Who maintains the Michigan Emergency Tube?

You do. The emergency plan should be updated annually or whenever changes occur on the farmstead.

Will every farm benefit from a Michigan Emergency Tube?

Yes. Every farm owner should be prepared for an emergency. The Michigan Emergency Tube will help you be prepared and will protect your local emergency crews.

Is there a cost to me?

The tube is free, if you are a cooperator of your local Groundwater Stewardship Program. The Michigan Emergency Tube is sponsored by the Michigan Groundwater Stewardship Program to protect water and soil resources, as well as your family, employees, and local emergency crews.

The Michigan Emergency Tube is sponsored by:

- ⌞ Your local Groundwater Stewardship team
- ⌞ The Michigan Groundwater Stewardship Program
- ⌞ The Michigan Department of Agriculture (517-335-6529)
- ⌞ Michigan State University Extension
- ⌞ The Michigan State Police Emergency Management Division.
- ⌞ Michigan Farm Bureau





Chemical Update

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



Products Under Development:

Insecticides

- Actara (thiamethoxam; Novartis)—being developed for insect control on cole crops, cucumbers, potato, leafy vegetables, grapes, pome fruits, and cereals. Actara has already received registration in Brazil.
- Fulfill (pymetrozine; Novartis)—registration expected soon (1999?) for fruiting vegetables, cucurbits, and potato to control whitefly and leafhopper, with registration on cole crops, and leafy vegetables to follow.

Tolerances Proposed:

Insecticides

- Baythroid (cyfluthrin; Bayer)—proposed tolerances of 0.01 ppm on potato.
- Confirm (tebufenozide; Rohm & Haas)—proposed tolerances of 1 ppm on pome fruits, 3 ppm on apple pomace, 6 ppm on leafy greens, 10 ppm on leafy *Brassica* vegetables, and 2 ppm on head *Brassica* vegetables.
- Danitol (fenpropathrin; Valent)—proposed tolerances of 5 ppm on grapes and pome fruits, 0.5 ppm on melons, 10 ppm on raisins, and 3 ppm on head *Brassica* vegetables.
- Fury (zeta-cypermethrin; FMC)—proposed tolerances of 2 ppm on head *Brassica* vegetables, 14 ppm on leafy *Brassica* vegetables, and 10 ppm on other leafy vegetables.

Herbicides

- Balance (isozafutole; Rhone-Poulenc)—proposed tolerances of 0.2 ppm on field corn and 1 ppm on corn forage.
- Poast (sethoxydim; BASF)—proposed tolerances of 1 ppm on grapes, 2 ppm on raisins, 16 ppm on soybeans, 15 ppm on succulent beans and bean forage, 4 ppm on tuber vegetable crops, 1 ppm on garden beets.
- Tough (pyridate; Novartis)—proposed tolerances of 0.1 ppm on garbanzo beans and 0.3 ppm on head *Brassicas*.



Tolerances Established:

Insecticides

- Applaud (buprofezin; AgrEvo)—time limited tolerances established of 0.5 ppm on cucurbits and 0.7 ppm on tomatoes.
- Confirm (tebufenozide; Rohm & Haas)—tolerance established of 0.5 ppm on wine grapes, and 1 ppm on pears.

Herbicides

- Affinity (carfentrazone-ethyl; FMC)—temporary residue tolerances extended on wheat and corn until 5-8-99.
- Amber (triasulfuron; Novartis)—established tolerances of 0.02 ppm on hay and 0.07 ppm on grass forage.
- Starane (fluoxypr-methyl; Dow Agro-Sciences)—tolerances established on wheat/barley at 0.5 ppm, field corn at 0.05 ppm, and sweet corn at 2 ppm.

Fungicides

- Folicur (tebuconazole; Bayer)—time-limited tolerances extended for barley grain at 2 ppm, barley hay/straw at 20 ppm, and wheat straw at 2 ppm.

Registrations/Label Additions:

Insecticides

- Distance (pyriproxyfen; Valent)—received registration for use on indoor ornamentals to control fungus gnats, leaf miner, scales, and whiteflies.
- DZN 6000 (diazinon; Novartis)—added rutabagas to the label.
- PFR-MUP/PFR-97 WDG (*Paecilomyces fumosus*, Apopka strain 97; Thermo Trilogy)—new bioinsecticide approved for use in greenhouses and interiorscapes to control aphids, spider mites, thrips, and whiteflies.
- Precise (fipronil; Rhone-Poulenc)—received registration to use indoors for termite control.

Herbicides

- Barrier (diclobenil; PBI Gordon)—new label allows use on ornamentals.
- Dimension (dithiopyr; Rohm and Haas)—received label for application to turf grown for sod production.



Fungicides

- BSP Sulforix (lime sulfur; Ag Formulators)—label addition of rust control on peaches.
- Champ (copper hydroxide; Agtrol)—preharvest interval reduced from 48 to 24 hours.
- Curzate (cymoxanil; DuPont)—M-8 formulation will be phased out and replaced by new 60DF formulation. It should be tank mixed with a protectant fungicide such as chlorothalonil or mancozeb.
- Ridomil Gold (mefonoxam; Novartis)—signal word on label reduced from “warning” to “caution”.

Label Deletions:

Insecticides

- Disyston (disulfoton; Bayer)—proposed deletion of lettuce from the Disyston label, effective 2-1-99.
- Lorsban (chlorpyrifos; Dow AgroSciences)—requested deletion of popcorn and carrots from the label.
- Orthene (acephate; Valent)—will drop pasture, rangeland, and forestry uses from the label effective 1-4-99.
- Pyrethrin/piperonyl butoxide (AgrEvo/Prentiss)—pets will be deleted from the label, effective 2-1-99.

Fungicides

- Mertect (thiabendazole; AgrEvo)—dry beans and soybean will be deleted from the label, effective 1-19-99.

Results of IR-4 Work:

Insecticides

- Oftanol (isofenphos; Bayer)—Bayer may now add Christmas trees and Japanese holly to the label.
- Permethrin (various; FMC and Zeneca)—companies can now add 25 new ornamentals to the permethrin label.
- Tempo (cyfluthrin; Bayer)—company can now add balsam, carnation, chrysanthemum, geranium, poinsettia, and primrose to the label.

Herbicides

- Basagran (bentazon; BASF)—company can now add holly, marigold, petunia, and yew to the label.
- Dual (metolachlor; Novartis)—company can now add snapdragon to the label
- Factor (prodiamine; Novartis)—company can now add 80 new ornamentals to the label.

Fungicides

- Bravo (chlorothalonil; Zeneca)—company can add 13 new ornamentals to the label.

- Glio-Gard (*Gliocaidium virens*, Thermo Trilogy)—company can add balsam, begonia, marigold, petunia, snapdragon, zinnia, and several other ornamentals to the label.
- Kocide (copper hydroxide, Griffin)—company can add elm, honey locust, honeysuckle, and iris to the label.

Miscellaneous:

- **Gamestop**, a fish-oil-based deer and rabbit repellent, has been approved by EPA for application to trees, shrubs, and ornamentals.



- Some **AgrEvo** turf products will now be distributed by **Scotts**, including Banol, Delta Gard, Finale, Illoxan, ProStar, Prograss, and Turcam.
- **Forage Genetics** has entered into agreements with **DeKalb** and **Novartis** to develop glyphosate-tolerant alfalfa lines (i.e. RoundUp Ready). The expected release date will be in the year 2000.
- **Monsanto** is planning a \$9 million molecular breeding facility in Ankeny, Iowa. The company has also purchased part of First Line Seeds in Guelph, which will market RoundUp Ready soybeans in Canada. It also purchased all of a wheat-breeding business to work on genetically engineered wheat.
- **Mycogen** has entered a deal with **Rhone-Poulenc** to jointly develop and market biotech crops, initially cotton and sugarcane.
- **Novartis** is spending millions over the next decade to develop the Novartis Agricultural Discovery Institute in San Diego. The institute will be devoted to agricultural genetics research.
- **Pioneer** is readying RoundUp Ready canola for the U.S. market in 2000.

(Sources: *Ag. Chem. News*, 8/15/98 & 9/15/98)





Pesticide Registrations Canceled Due to Nonpayment of Annual Fees

Nearly one thousand pesticide registrations were canceled by EPA this summer due to non-payment of annual maintenance fees. The fees, required to be paid by pesticide registrants to EPA each year, were due in January 1998. Notices of cancellation were sent to companies in March, but payments were accepted until mid-May. The cancellation order permits registrants to sell and distribute existing stocks of canceled pesticides until January 15, 1999. Existing stocks held by dealers and applicators can, however, generally be used until they are gone. The section 24(c) (= state) registrations canceled in Michigan are the following: Clean Crop Cucurbit EC Herbicide on pumpkin and other crops; Command 4EC on winter squash and other crops; and Altosid Liquid Larvicide on marshes for mosquito control. The section 3 (= federal) registrations canceled number in the hundreds. The Pesticide Education Office at 517-432-2203 can provide a copy of the complete list (based on *Pest. & Tox. Chem. News*, 8/6/98).



European growers. This legislation has been gaining support over the summer. If the European Union adopts the new date, the economic argument against the 2001 date will not be valid (based on *Pest. & Tox. Chem. News*, 8/6/98).

OSU Study Suggests Hybrid "Superweeds" a Possibility

Previous studies have shown that transgenic oilseed rape can cross with weedy relatives, and that transgenic pollen can carry up to, and fertilize weeds, a mile away. Now an Ohio State University researcher has presented evidence that weedy hybrid *Brassica* plants with transgenic genes retain competitive ability. Professor Allison Snow and European colleagues crossed herbicide resistant oilseed rape (*Brassica napus*) with a weed, *Brassica rapa*. Progeny were cultivated for several generations and seed production and other traits were measured. The hybrid progeny were just as hardy and aggressive as the non-transgenic weedy relative, and they retained the herbicide resistance trait. This is at odds with arguments from biotech companies that hybrids with transgenic genes are not of concern because they would be less competitive (produce fewer flowers or seed, etc.) than non-transgenic plants.

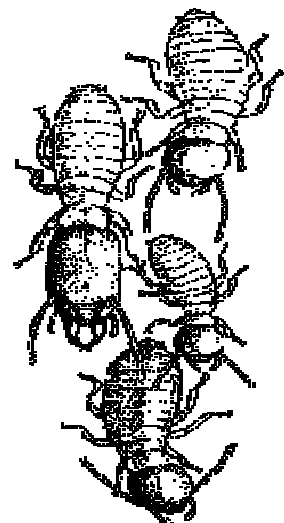
Europe May Speed Up Phaseout of Methyl Bromide

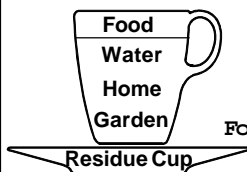
A commission has recommended that the European Union change its deadline for banning methyl bromide to 2001, similar to the deadline for the United States. The Commission recommendation was based on increasing concerns about continued ozone loss over Europe. Some in Europe have already voiced opposition to the new date, citing lack of alternatives and the potential that produce from North Africa (where methyl bromide would still be legal) would replace home-grown crops. Under the Montreal Protocol signed in 1992, developed countries, including European nations, must phaseout methyl bromide by 2005. Under the Clean Air Act, the United States has an even stricter phaseout date, 2001. Interestingly, congressional legislation geared towards *delaying* the methyl bromide phaseout in the U.S. is based partly on the economic argument that after 2001, U.S. growers would be at a competitive disadvantage compared to



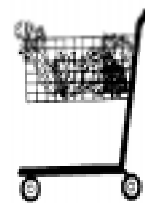
Shocking Fraud in California

A pest control company in California was found guilty of deceptive advertising and fraud for marketing an "Electro-gun" termite control system. The company claimed its Electro-gun System, which uses electric current, was a non-pesticide method that could treat entire structures as effectively or better than fumigation or insecticide sprays. In reality, investigators found that the company routinely used insecticides in conjunction with the electricity. In an electrifying judgment, the company was fined \$100,000 (based on *Pest. & Tox. Chem. News*, 8/13/98).





Food Quality Protection Act Information



For more information, contact a regional MDA office or Dr. Christina DiFonzo, MSU
Pesticide Education Program (517) 353-5328.

EPA Releases Report on Safety Factors for 40 OPs

In August, the EPA Safety Factor Committee released recommendations for applying the "kids safety factor" to OP pesticides. Under FQPA, additional safety factors added to tolerances are supposed to protect children and sensitive subpopulations from adverse effects of pesticide residues. In some cases, data was inadequate for the Committee to recommend a reduction in the safety factor; in others, additional data has led to reduction or elimination of the factor.

The Committee recommends the following six OPs retain the 10x safety factor:

- cadusafos
- chlorpyrifos
- methyl parathion
- oxydemetonmethyl
- tribufos
- trichlorofon.

The Committee recommends the following ten OPs have a reduced 3x safety factor:

- coumaphos
- dichlorvos
- disulfoton
- isofenphos
- methamidophos
- phorate
- phosmet
- phostebupirim
- pirimiphos-methyl
- terbufos

These OPs are recommended not to have a safety factor:

- acephate
- azinphosmethyl
- bensulide
- chlorethoxyfor
- diazinon
- dimethoate
- ethion
- ethoprop
- ethyl parathion
- fenamiphos
- fenitrothion
- fenthion
- malathion
- methidathion
- naled
- profenofos

- propetamphos
- tetrachlorvinphos

And Health Risks of 9 OPs Released.....

In a related story, EPA's Health Effects Division released reports evaluating health risks of nine OPs. The following is a summary for each of the nine:

Azinphosmethyl—insecticide (Guthion)

- Not a likely carcinogen.
- Data complete.
- Studies thus far show no effect on rat/rabbit fetuses, or increased sensitivity of baby rats versus adults.
- *No additional safety factor recommended.*
- HOWEVER, EPA's Health Effects Division says dietary exposure alone exceeds safe levels for acute dietary risk, not even counting drinking water exposure; must reduce dietary exposure or get additional residue data.

NOTE: In response to this evaluation of azinphosmethyl, its registrant, Bayer Corporation, has proposed the following steps to cut worker exposure: 1) participate in a safety education program to remind growers and dealers how to handle OPs and carbamates; 2) distribute all azinphosmethyl products in closed-delivery systems by 1999; 3) prohibit use of the product in greenhouses or with backpack sprayers; 4) add label language to reduce drift; 5) remove several crops from the label; 6) initiate crop residue and drinking water studies, and collect additional exposure and toxicology data.

Bensulide—preemergence herbicide (Betasan, Prefar)

- Data set for development/ reproductive toxicity is complete.
- Not a likely carcinogen.
- No data to indicate endocrine disruption (awaiting new screening protocols).
- No data to indicate common mechanism of toxicity with other pesticides.
- *No additional safety factor required.*

Ethion—broad-spectrum insecticide

- Studies thus far show no effect on rat/rabbit fetuses, or increased sensitivity of baby rats versus adults.



- No data to suggest adverse effects on children.
- *No additional safety factor recommended at this time.*

Fenamiphos—nematicide (Nemacur)

- Studies thus far show no effect on rat/rabbit fetuses, or increased sensitivity of baby rats versus adults.
- *No additional safety factor recommended at this time.*

Isofenphos—soil insecticide (Oftanol, Pryfon)

- Not a likely carcinogen.
- Relatively persistent.
- Acute oral and dermal toxicity (Poison Control records between 1985-1992 do show cases of poisonings of children).
- Majority used on golf courses (60%), remainder on residential/public turf.
- Could not say there is a “reasonable certainty” of no harm to children from exposure by playing on lawns or ingesting treated grass.
- *Reduced safety factor of 3x.*

Naled—insecticide (Dibrom)

- EPA’s Health Effects Division says there is not enough data to do an acute dietary risk assessment.
- *No additional safety factor recommended at this time.*

Phorate—soil insecticide (Thimet)

- EPA’s Health Effects Division says dietary exposure is exceeded; it is not recommending reregistration.
- *Safety Factor Committee recommending a 3x safety factor at this time.*

Profenofos—insecticide/miticide (Curacron)

- Used on cotton; dietary exposure not an issue.
- Reasonable certainty that no harm will result to kids.
- *No additional safety factor required.*

Terbufos—soil insecticide (Counter)

- Lack of neurotoxicity studies and data on cholinesterase inhibition in the nervous system.
- *Safety Factor Committee recommending a 3x safety factor at this time.*

(Based on *Pest. & Tox. Chem. News*, 7/16/98)



EDSTAC Releases Final Report to EPA

The Endocrine Disrupter Screening and Testing Advisory Committee (EDSTAC) has released its final report to EPA. The committee was formed nearly two years ago to develop a plan for screening and testing chemicals for hormone disruption. Testing is required under both FQPA and the Safe Drinking Water Act.

Pesticide ingredients—both active and inert—fall under the testing program, as well as thousand of other chemicals. Grand total: a whopping 86,000 chemicals will eventually have to be screened. The EDSTAC report offers both concrete recommendations and options for EPA to follow as it implements the program.

Of concern now is the timeline for implementation. There has never been a hormone disrupter-screening program before, and this one is ambitious and complex. It obviously will take a while to get the program underway. Another concern is MONEY. Who will pay, not only for the screening program, but also for development, validation and standardization of the testing procedures before screening can begin.

EDSTAC makes dozens of recommendations to EPA. One of the most important is that all chemicals (including pesticides) produced in a quantity over 10,000 pounds should be pre-screened for endocrine disruption, i.e., the chemical interacts with hormone receptors. EDSTAC recommends that chemicals be placed in one of four categories with respect to endocrine disruption:

Category 1—Unlikely candidates:

- Approximately 25,000 compounds.
- Includes large molecular weight compounds, such as polymers.
- Assumption is that these chemicals are too large to interact with the endocrine system.
- Recommendation: *no screening necessary.*

Category 2—Insufficient data:

- Approximately 61,000 compounds.
- Ability to interact with the endocrine system is unknown due to lack of data.
- Recommendation: *screening of individual compounds, as well as mixtures, on a priority basis. Priority given to compounds with the greatest chance of exposure and adverse health affects. Screening should consist of both in vivo (animal) and in vitro (tissue culture) tests.*

Category 3—Possible endocrine disrupters:

- Chemicals which have interacted with the endocrine system in previous research.
- Recommendation: *test for endocrine disrupting affects. Testing program should use a wide range of species and susceptible life stages of animals.*



Category 4—Known endocrine disrupters:

- Chemicals shown to produce adverse health affects related to endocrine function
- Recommendation: *hazard assessment*.

(Partial source: *Pest. & Tox. Chem. News*, 9/3/98)

Quick Hits

Remember that darn right-to-know brochure mandated by FQPA? It was supposed to be in your local grocery store by August 1998, but last time I perused the produce section, there is no sign of it. The language of

the brochure is still being debated. Industry groups such as the American Crop Protection Association and the Grocery Manufacturers of America believe the brochure goes far beyond what Congress intended. Originally the pamphlet was supposed to be a simple discussion of pesticide risks, benefits, plus give practical tips for reducing residues. At issue now is the inclusion of recommending organic food as a way to reduce residue, plus discussions of “benefits-based” decisions regarding pesticides. Revised date for publication—sometime this fall.



Drift Management Videos, Slide Sets, and Reports Available

The video, “Straight Talk About Minimizing Spray Drift—A Guide for Applicators” produced by the National Coalition on Drift Minimization (NCODM) is designed for use in pesticide applicator training (PAT) meetings and other educational settings. The primary audience for showing this video would be applicators, both private and commercial, regardless of the application method. The video is designed to help all involved in the application industry better understand each and everyone’s role in lessening the spray drift problem. Also produced by the NCODM are two slide sets concerning drift minimization the can be downloaded via the web site: <http://www.age.uiuc.edu/faculty/rew/index.html>.

To order 1 to 9 *free* copies of the video “Straight Talk About Minimizing Spray Drift” place your order with:

Andrew Hewitt
Stewart Agricultural Research Services, Inc.
P.O. Box 509
Macon, MO 63553
Phone: 660-762-4240
Fax: 660-762-4295
Email: ahewitt@marktwain.net

For 10 or more copies, place your order directly to the duplication company, Video Services Group. A minimum cost will be charged to cover the cost of video duplication, handling and postage. Pricing is negotiable based on quantity ordered.

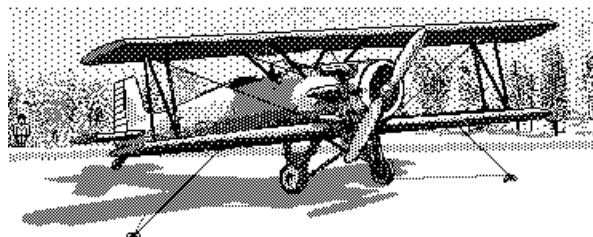
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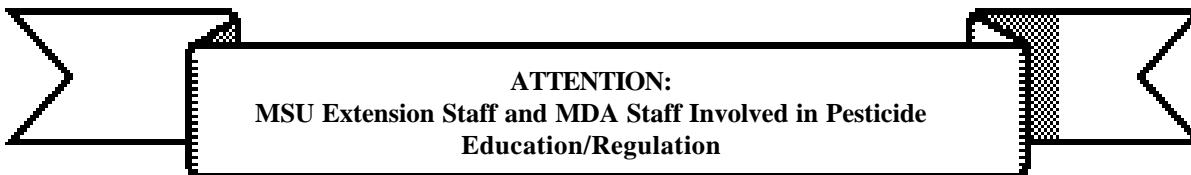
Gerry Raisch, Sales Manager
11126 Lindbergh Business Court
St. Louis, MO 63123
Phone: 800-737-8045
Fax: 314-487-9387

Additional drift materials are available from Stewart Agricultural Research Services. Four Spray Drift Task Force (SDTF) study summary reports are available. The booklets are summaries of the ground, aerial, airblast, and chemigation studies conducted by SDTF. Contact Andrew Hewitt at the above address for copies.

The video “Drifting Toward Extinction, Or...?” produced by the National Agricultural Aviation Research and Education Foundation (NAAREF) on behalf of the Professional Aerial Applicators Support System (PAASS) program is available for the primary audience of pilots who operate or work for aerial application businesses. You can receive a copy of this video by contacting:

Duncan C. Wurm, PAASS Director
Phone: 202-546-5722
Fax: 202-546-5726





**ATTENTION:
MSU Extension Staff and MDA Staff Involved in Pesticide
Education/Regulation**

October 6, 1998 Annual Pesticide Education and Regulatory Update

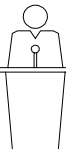
If you haven't already done so, you can still register for the in-service program, **Pesticide Education and Regulatory Update** sponsored by MSU's Pesticide Education Program. This year's program will be held on **October 6** from **9:00 am to 4:30 pm** in the **Hannah Ballroom** (back half of **USA Café** on Hagadorn Road in East Lansing). A **\$15.00** registration fee is required to cover the costs of lunch and breaks.


This year's program offers many interesting and informative presentations. Two programs featured on the agenda are: "Overview of Endocrine Disruptors—What are they and what do we know about them?" presented by Dr. Susan Wuerthele of the US EPA Region 8 Office and the "Student-Assisted Integrated Pest Management Program" presented by Larry Swain of the MDA and by students from Detroit's Lewis Cass Technical High School (refer to the feature article in the May/June, 1998 issue of *Pesticide Notes*). The program has also been approved for pesticide applicator recertification credits and for CCA (Certified Crop Advisor) credits.

Registration and payment of the \$15 fee can be made at the door between **8:00 and 9:00 am** on October 6. However, advanced notification of your registration (and payment if possible) is appreciated. We gladly accept MSU account numbers. Extension personnel can register via the CeeNet system by signing up for course #9995 and/or phone, fax, or email your registration to the following:

In-service Registration
Phone: 517-353-5147
FAX: 517-353-4995
Email: randallc@msue.msu.edu

Be sure to include your name, address, and telephone number.

 **Pesticide Applicator Recertification Seminars**
This partial listing of recertification seminars was provided by MDA. Certified applicators and registered technicians may earn recertification credits by attending these programs. For additional information, call the MDA Lansing office at (517) 373-1087.
NOTE: Renewal of pesticide applicator certification credentials can be done by taking the appropriate exam(s) or by obtaining the necessary number of recertification credits by attending approved seminars.



Date	Seminar	Location	Credit	Category	Phone #
10/6-7	IFC/FSA Two Day Seminar	Atlanta, GA	6	Com Core, 7A,7C,8,ST	(913)782-7600
10/15	1998 PAASS Program	Mt. Pleasant, MI	2	Com Core, AE	(517)353-5147
10/20-21	IFC/FSA Two Day Seminar	Pleasanton, CA	6	Com Core, 7A,7C,8,ST	(913)782-7600
11/14	PLCAA 19th Annual Conf.	Nashville, TN	2	Com Core, 3A	(700)977-5222
11/17-18	AIB Food Plant Sanitation Wkshp	Ontario, CN	8	Com Core, 7A,7D	(800)633-5137

Instructions for recertification training seminar attendance and training seminar dates are posted at the MDA website: <http://www.mda.state.mi.us/industry/semsked.html>

