

College of Agricultural and Environmental Sciences College of Family and Consumer Sciences



# MANAGING PESTS ON CROPLANDS AND PASTURES

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## PRE-ASSESSMENT:

## Why Should I Be Concerned?

*Pesticides*<sup>\*</sup> are an integral part of modern agricultural production systems. Diseases, insects and weeds would make it difficult or impossible to produce many Georgia crops without the use of pesticides.

For all of their benefits, however, pesticides can be a serious threat to human health and the environment. Many pesticides are broad-spectrum poisons. Non-target species may be injured through direct contact with the pesticide, or injury may occur indirectly (e.g., through contaminated food or water sources). Additionally, pesti-cides may contaminate surface or groundwater reservoirs. There has been considerable anxiety caused by the detection of triazine herbicides in water supplies in the Midwest.

In addition to undesirable environmental effects, careless pesticide use will lead to additional regulation.

As a result of triazines appearing in Midwestern drinking water, one of the triazines (cyanazine) is being phased out, and other triazines may face additional restrictions. Agriculture producers can help maintain the availability of important pesticides by taking voluntary actions to minimize the risk of environmental contamination.

Finally, pesticides are often an expensive component of pest management. Direct pesticide costs and indirect costs associated with application, equipment maintenance, potential liability, etc. make pesticide decisions central to farm profits. Unless pesticides are applied efficiently, the applicator may waste valuable resources.

## How Does This Assessment Help Protect Drinking Water and the Environment?

- This assessment allows you to evaluate the environmental soundness of your farm and operational practices relating to your pesticide selection and use.
- You are encouraged to work through the entire document and use all eight areas when completing the as-sessment.
- The assessment asks a series of questions about your pesticide selection and use.
- Your answers (rankings) identify practices or structures that are at risk and should be modified to prevent pol-lution. The pesticide application facts provide an overview of sound environmental practices.

- You are encouraged to develop an action plan based on your needs as identified by the assessment.
- The pesticide application facts, references and publication list can provide alternatives to current practices.
- Farm\*A\*Syst is a voluntary program.
- The assessment should be conducted by you for your use. A professional from the University of Georgia Coop-erative Extension can provide assistance in completing the assessment.
- No information from this assessment needs to leave your farm.

\* Italicized words are defined in the glossary.

#### **ASSESSMENT:** Assessing Your Pesticide Selection and Use Practices.

For each category listed on the left, read across to the right and circle the statement that best describes conditions on your farm. If a category does not apply (for example, it asks about worker training and you don't have any workers), then simply skip the question. Once you have decided on the most appropriate answer, look above that description to find your rank number (4, 3, 2 or 1) and enter that number in the "RANK" column. The entire assessment should take less than 30 minutes.

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	RANK	
TRAINING AND	PERSONAL PROTECT	ION				
Personal Protective Equipment (PPE)	I always wear all PPE required on the pesticide label.	I always protect my hands and forearms from pesticide expo- sure.	Sometimes I wear gloves when han- dling pesticides.	I do not wear PPE or PPE is damaged and/ or contaminated.**		
Worker Training	All workers and handlers are fully trained according to the U.S. Environmen- tal Protection Agency (EPA) Worker Protec- tion Standard (WPS).	Most of the workers and handlers have WPS training. **	Some of the workers and handlers have WPS training. **	Many workers and handlers do not have WPS training.**		
Applicator Training	All pesticide applica- tors have Georgia pesticide certifica- tion.	All applicators who apply restricted- use pesticides have pesticide certification, or they are closely su- pervised by a certified applicator.	The supervisor is a certified applicator and is usually present during application.	Neither applicator nor supervisor are certified applicators, and the certified su- pervisor is frequently out of contact during restricted-use pesti- cide applications.**		
PESTICIDE SELE	CTION AND INTEGR	ATED PEST MANAGEM	IENT	• · · · ·		
Sources of Information	I rely on the current Georgia Pest Manage- ment Handbook Or current information from my county agent.	Pesticide selection is based on information more than 1 year old.	Pesticide selection is based on information more than 3 years old.	I do not consult the Georgia Pest Manage- ment Handbook or my county agent when selecting pesticides.		
Environmental Impacts	I always consider leachability, per- sistence, depth of water table and po- tential environmen- tal impacts when selecting pesticides.	Groundwater and en- vironmental concerns are part of pesticide decisions if there is a particular cause for concern (e.g., very shallow water table or specific warning on label).	Groundwater and en- vironmental concerns are only considered when I may face penalties.	Groundwater and environmental con- cerns are not part of my pesticide deci- sions.		

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	RANK
Integrated Pest Management (IPM)	Pest management incorporates all available options (e.g., crop rotation, bio-control, resistant control cultivars) in addition to pesti- cides.	Pest management includes at least two other components in addition to pesticide control.	Pest management may include compo- nents in addition to pesticides, but their inclusion is haphaz- ard, not planned.	Pesticides are the only means used to control pests.	
Scouting	Pest management decisions are always based on current scouting informa- tion, including economic thresholds and beneficial popu- lations.	Pest management de- cisions are based on scouting pest popula- tions, but other fac- tors (e.g., beneficials) are not considered.	Pesticides are applied when pests are first detected, regardless of economic thresh- olds.	Pesticides are ap- plied according to calendar schedule, regardless of wheth- er pests are known to be present or a threat.	
<b>EMERGENCIES A</b>	ND RECORDKEEPIN	G			
Spill Preparation	All materials needed for spill clean-up (including PPE) are readily available in the event of a spill AND all employees know how to safely contain and clean up spills.	Materials needed for spill clean-up are present but not readily available OR only some employees know how to safely contain/clean up spills.	Some materials needed for spill clean-up are not available OR few or no employees know how to contain/clean up spills.	No materials needed for spill clean-up are available AND/OR no one knows how to safely contain and clean up spills.	
Emergency Phone Numbers	Emergency numbers are posted near the telephone AND a telephone or other communication link is readily available.	Numbers are not posted near the telephone but I have a source in which to look them up quickly AND a telephone or other communication link is readily avail- able.	I know how to find emergency numbers, but the source is not close by OR a com- munication link is not readily available.	I do not know how to find emergency numbers OR I have no communication link in the event of an emergency.	
Recordkeeping	I promptly record pesticide applica- tions in accordance with WPS and USDA regulations.	I record applications within one week.	My pesticide records irregular or incom- plete.**	I do not keep re- cords of pesticide applications.**	
PESTICIDE APPL	ICATION				
Label Directions	I always follow label directions closely.	I follow most label directions most of the time.	I follow some of the label directions some of the time.	I do not read label directions.	
		RTILIZER STORAGE A	ND HANDLING		
FERTILIZATION	r				
Pesticide Measurement	Pesticides are care- fully measured for each mixing/loading operation.	Pesticides are mea- sured, but the mea- suring device is not precise because graduations are too broad (e.g., measures in cups; you need 1/2 cup).	Pesticides are mea- sured, but the mea- suring device may not be accurate due to damage or unclear graduations.	Pesticide amounts are 'eyeballed' in the tank or from the jug. A little extra may be added 'just to make sure.'	

	LOW RISK (rank 4)	LOW-MOD RISK (rank 3)	MOD-HIGH RISK (rank 2)	HIGH RISK (rank 1)	RANK
Calibration of Application Equipment	I regularly calibrate spray equipment un- der field conditions, including output from each nozzle.	I calibrate equipment at the beginning of the spray season and at least once during the season.	I calibrate at the beginning of season only.	I typically do not calibrate spray equipment unless there is an obvious malfunction.	
Application Rates	I use the lowest la- beled rate or lowest rate recommended by UGA Cooperative Extension.	I occasionally use higher than the rec- ommended rate.	I often exceed the recommended rate.	I always apply the highest rate on the label. I may exceed labeled rates.**	
Chemigation	I do not use chemi- gation or chemiga- tion is monitored closely by qualified personnel.	Chemigation is moni- tored regularly but infrequently.	Chemigation is monitored irregu- larly. The operator is often absent for long periods.	I do not monitor chemigation during application.	
Spot Treatments	I spot treat only those areas that need pesticides.	Spot treatments are frequently used.	Spot treatments are rarely used.	I always treat the entire field, regard- less of degree of infestation.	
Protection of Waterways	I never allow pes- ticides to contact surface water. There are buffer strips between all fields and water.	I use a closed sys- tem for most liquids. Some liquid and dry products are hand poured. The sprayer's fill port is easy to reach.	All liquids and dry product are hand poured. The spray- er's fill port is easy to reach.	Fields are directly adjacent to water.	
** These conditions are	e in violation of state and/or f	ederal law.			
Number of Areas Ranked			Ranking Total		

#### **ASSESSMENT EVALUATION:** What Do I Do with These Rankings?

#### STEP 1: Identify Areas That Have Been Determined to Be at Risk

Low-risk practices (4s) are ideal and should be your goal. Low- to moderate-risk practices (3s) provide reasonable protection. Moderate- to high-risk practices (2s) provide inadequate protection in many circumstances. High-risk practices (1s) are inadequate and pose a high risk for causing environmental, health, economic or regulatory problems.

High-risk practices (rankings of "1") require immediate attention. Some you can take care of right away but others could be major or costly and may require planning or prioritizing before you take action. All activities identified as "high risk" or "1s" should now be listed in the action plan. Rankings of "2s" should be examined in greater detail to determine the exact level of risk and attention given accordingly.

#### **STEP 2: Determine Your Pesticide Selection Risk Ranking**

The Overall Risk Ranking provides a general idea of how your pesticide selection and use might be affecting your ground and surface water, contaminating your soil and affecting your air quality.

Use the Rankings Total and the Total Number of Areas Ranked as determined from the questionnaire portion of this assessment to determine the Overall Risk Ranking.

#### RANKINGS TOTAL + TOTAL NUMBER OF AREAS RANKED = PESTICIDE SELECTION RISK RANKING

PESTICIDE SELECTION RISK RANKING	LEVEL OF RISK
3.6 to 4	Low Risk
2.6 to 3.5	Low to Moderate Risk
1.6 to 2.5	Moderate Risk
1.0 to 1.5	High Risk

This ranking gives you an idea of how your pesticide selection and use might be affecting your drinking water. This ranking should serve only as a general guide, not a precise diagnosis, because it represents an averaging of many individual rankings.

#### STEP 3: Read the Information Section on Improving Your Pesticide Selection and Use

When reading this, give some thought to how you could modify your practices to address some of your moderate and high-risk areas. If you have any questions that are not addressed in the Pesticide Application Facts portion of this assessment, consult the references in the back of the publication or contact your county Extension agent.

#### STEP 4: Transfer Information to the Total Farm Assessment

If you are completing this assessment as part of a "Total Farm Assessment," you should also transfer your pesticide selection ranking and your identified high-risk practices to the overall farm assessment.

## **PESTICIDE APPLICATION FACTS:** Improving Pesticide Selection and Use Practices

We'll look at five areas of pesticide management on your farm:

- Training and Personal Protection
- Pesticide Selection
- Integrated Pest Management (IPM)
- Emergencies and Recordkeeping
- Pesticide Application

# TRAINING AND PERSONAL PROTECTION

Proper training is fundamental to minimize environmental and personal risk from pesticides. You cannot expect anyone to use pesticides properly if they do not know how. Never assume that a new employee knows how to handle and apply pesticides safely; they may exaggerate their skills and abilities to impress a prospective employer. Likewise, take the time to make sure you know what you are doing.

There are a variety of materials available from your county Extension office that address every aspect of pesticide use, from selection to proper waste disposal. Take advantage of this valuable resource. Other training may be available through the Georgia Farm Bureau, chemical companies or local equipment dealers.

## Personal Protective Equipment (PPE)

Personal protective equipment, or PPE, is special clothing that prevents your direct exposure to pesticides. PPE includes respirators, protective eyewear, chemically-resistant gloves and boots, waterproof coveralls, etc. The pesticide label is your best source of information about what kinds of *protective clothing* you need. Look for required PPE under Precautionary Statements on the front panel of the label. Additionally, it is against the law for you not to wear PPE that the label requires.

#### Worker/Applicator Training

Federal regulations require specific training for people who handle *restricted-use pesticides* and for agricultural employees who may be exposed to pesticides. You can be certified to purchase/apply restricted-use pesticides

through your county Extension office or Georgia Department of Agriculture. You will have to attend training ses-sions or take a certification test; additional training is required to maintain your certification.

Contact your local Extension office for details. Only certified applicators may purchase restricted-use pesticides. Applicators using restricted-use pesticides do not have to be certified if their supervisor has a license to apply restricted-use pesticides.

Agricultural workers are protected under the EPA Worker Protection Standard. All agricultural workers must be trained before any tasks in areas where pesticides have been applied. Workers that do not handle pesticides are instructed that pesticides are harmful and how to protect themselves from pesticide exposure. Pesticide handlers receive additional training in how to safely mix/load and apply pesticides. This training applies to all general-use and restricted-use pesticides. Pesticide handlers with certification to use restricted-use pesticides do not need additional WPS training. Contact your local county Extension office for more information.

## **PESTICIDE SELECTION AND INTEGRATED PEST MANAGEMENT (IPM)** Sources of Information

Cooperative Extension is your best source of information for choosing the correct pesticide for your situation. Your local county agent has information concerning the best methods for managing pest populations in your area. Additionally, Extension publishes the *Georgia Pest Management Handbook*, which is compiled from the latest information available from Extension specialists in every field of pest management. You can purchase a copy of the handbook through your local Extension office, or you can review the information online at www.ent.uga. edu/pmh. By utilizing these resources, you can be sure that your pesticide decisions are based on current information. Outdated information may advise you to use pesticides that are ineffective or no longer registered.

#### **Environmental Impacts**

In addition to pesticide performance, you should consider the potential environmental impacts that may result from your pesticide selection. If the water table is near the surface, you should avoid pesticides that leach readily. Consider granular formulations in situations where drift may occur. Consult the pesticide label and/or your county Extension office for information concerning potential environmental impacts from pesticides.

## Integrated Pest Management (IPM)

Develop a program of Integrated Pest Management (IPM) to manage pest populations. IPM utilizes information and several methods of controlling pests to maximize pest management efficiency and minimize impacts. Pesticides are only one of the tools in an effective IPM program. Other tools include using pest-resistant cultivars, practicing crop rotation, modifying planting dates to avoid peak pest populations, and protecting organisms that help control pest populations.

#### Scouting

Scouting is fundamental for most IPM programs. Without detailed information about pest populations, you cannot design an effective IPM program. Sample fields regularly and thoroughly.

Keep records of both pests and beneficial populations. Compare pest levels with economic thresholds when they are available. It may be more profitable to tolerate a low level of pests rather than apply expensive pesticides. You can receive more information about IPM and scouting for your particular crops through your local Extension office.

## **EMERGENCIES AND RECORDKEEPING**

BE PREPARED! If you handle pesticides regularly, spills or other emergencies are inevitable. Make a plan, assemble the necessary materials and make sure that all of your employees know what to do in the event of a pesticide emergency.

#### **Spill Preparation**

Dry chemical spills can simply be swept up and used as intended. You may want to keep something to lay over the spill if windy conditions will disperse the pesticide.

Liquid spills require more planning. You should assemble the materials before a spill occurs. The first item in your spill kit should be protective clothing; a great deal of pesticide may leak out before you can find a pair of gloves. Be prepared to stop the leak at the source. The spill kit should contain any tools you may need. You will need something to contain the spill. Containment snakes can be purchased from chemical distributors, or a bucket of dirt and a shovel can be used to make a dike around the spill. An absorbent material, such as kitty litter, should be added to your spill kit to absorb any liquid. You will also need a dustpan and broom or shovel to scoop up the material after the liquid is absorbed. Also include some plastic garbage bags or other container to hold the contaminated materials. The contaminated material can be spread over a site according to the pesti-cide label. Finally, you may need some bleach to neutralize any remaining pesticide. Keep a spill kit wherever you handle pesticides regularly. The pesticide label may also have instructions for spill clean-up.

#### **Emergency Phone Numbers**

Keep a cellular phone, two-way radio or some other communication link wherever you handle pesticides. If you have a substantial pesticide spill, you may need professional assistance to avoid a catastrophe. In addition, the law requires you to report spills that present an imminent or substantial danger to public health or the environment or spills that occur on roadways or other public areas. Refer to the references at the end of the publication for emergency numbers and keep them posted near your phone.

#### **Record Keeping**

Record keeping may seem unrelated to pesticide emergencies or groundwater protection, but records of past actions can help you plan for the future. Keep records of how much pesticide you use, and purchase only those amounts you can use in a reasonable amount of time. Storing excess pesticides increases the risk of spills. You may also want to record manufacturers' names and addresses, chemical types and handling precautions. This information will help you respond quickly in an emergency.

Additionally, federal regulations require records of all applications of restricted-use pesticides. You should record the pesticide name, registration number, area treated, treated site, location, date and applicator. The records should be maintained for two years.

Records are also required for all pesticides subject to the EPA Worker Protection Standard.

The information should include:

- Location and description of the treated area.
- Pesticide name and registration number.
- Active ingredients.
- Time and date of application.
- Restricted entry interval for the pesticide.

The information has to be kept for 30 days beyond the end of the restricted entry interval. Contact your local Extension office for details concerning the Worker Protection Standard or the regulations regarding restricted-use pesticides.

## **PESTICIDE APPLICATION**

Pesticides may be applied with a wide variety of equipment, ranging from airplanes to soil injectors.

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You should consider several factors when you choose an application method:

- Your pest/crop situation.
- The potential environmental/health impacts.
- Methods permitted on the label.

The cropping situation may dictate the application method. With tall or spreading plants, the use of ground equipment may cause unacceptable mechanical injury. The presence of nearby bodies of water, public buildings or private housing makes drift management a primary concern, and aerial application may not be a good option. Consult the label; some application methods are expressly prohibited (e.g., do not apply through irrigation systems).

#### Labels and Directions ALWAYS FOLLOW THE LABEL DIRECTIONS!

This is the best way to avoid unwanted environmental impacts and personal injury. Additionally, federal law requires that you follow all directions on pesticide labeling. The labeling will give you specific instructions on protective clothing, use directions, environmental hazards, proper disposal and other important information.

Most pesticides offer a range of *application rates* for specific pests and crops. You should use the lowest effective rate. By using less pesticide, you will save money and minimize environmental impacts. Information concerning effective rates can be obtained from your local Extension office and the *Georgia Pest Management Handbook*. You can also determine effective rates for your situation by keeping accurate records of the amounts of pesticides you use and the results. It is not advisable to apply below the labeled rate unless you have specific information that reduced rates will be effective.

#### **Pesticide Measurement**

Measure pesticides carefully each time you use them. In most cases, applicators that have measured incorrectly are using too much pesticide, which wastes money and increases risks. Use the proper measuring device. If you need to measure one-half pint, do not use a measuring cup that only marks the nearest pint. It is especially critical with pesticides like pyrethroids or sulfonylureas in which ounces are used to treat an entire acre. Invest in a high-quality measuring device and use it only for pesticides; you will save money because of it. Avoid the temptation of 'eyeballing' amounts to save time; you will waste money. Never add a little extra 'just to make sure.' You will not achieve better pest control, and you may damage your crop.

#### **Calibration of Equipment and Application**

Careful measurement is wasted if you do not calibrate your spray equipment. A Nebraska survey found that only one out of four applicators were within 5 percent of their intended rate. Most applicators were over or under their intended rate by more than 25 percent. Before every spray season, carefully inspect your equipment and replace all worn components. Check the output of each nozzle; they should all have the same output. You can calibrate with water unless the material you will apply is substantially different from water in weight or flow characteristics. Otherwise, calibrate with the material to be applied. Calibrate under field conditions if possible. During the season, recalibrate periodically to be sure the output is what you expect. Careful recordkeeping of the amounts you apply can help you spot any problems. You can receive information and assistance concerning calibration from your local Extension office.

#### **Protection of Waterways**

You can minimize the amount of pesticide you use by using spot treatments whenever possible. Careful scouting of pest problems may indicate that only part of the field needs to be treated with a pesticide. Don't treat the entire field based on scouting a small area. Sample the whole field, and apply pesticides accordingly.

Finally, protect waterways from direct contamination with pesticides. Leave buffer strips of grass or other vegetation between your fields and surface water. The buffer strips will reduce the likelihood of pesticides drifting into the water as well as filtering pesticides and soil from water running off of fields. The width of the buffer strip will depend on the pesticide, the formulation and the application equipment. You will need larger buffer strips for aerial applications and for pesticides that are prone to move with surface runoff.

## **ACTION PLAN:**

An action plan is a tool that allows you to take the needed steps to modify the areas of concern as identified by your assessment. The outline provided below is a basic guide for developing an action plan. Feel free to expand your plan if you feel the need for detail or additional areas not included. Consult the list of references at the end of this publication if additional assistance is needed to develop a detailed action plan.

Area of Concern	Risk Ranking	Planned Action to Address Concern	Time Frame	Estimated Cost

## **GLOSSARY:**

**Application Rate:** The amount of pesticide applied to a specific area (e.g., pounds per acre). The recommended application rate is found on the label.

**Calibration:** A test measurement of the output of pesticide application equipment under typical operating con-ditions. Calibration should be done: 1) before using equipment, 2) when you dilute or change the pesticide product, 3) at regular intervals to check for signs of wear.

**Crop Rotation:** Planting different crops in the same field instead of growing the same crop year after year in the same field. Crop rotation can improve yields and make it easier to control some pests. If legumes are included in the rotation, nitrogen will be carried over to the next crop.

General-Use Pesticide: A pesticide that may be purchased and applied by any responsible adult.

**Integrated Pest Management (IPM):** A system of managing pest populations that integrates all methods of controlling a pest, including resistant host plants, natural enemies, cultural methods, pesticides, etc.

**Personal Protective Equipment (PPE):** Special clothing that prevents your direct exposure to pesticides. See *Protective Clothing*.

**Pesticide:** Any substance or mixture of substances intended for preventing, destroying, repelling or mitigating insects, rodents, nematodes, fungi or weeds.

Pest-Resistant Cultivars: Plant varieties that have been selected to resist or tolerate injury from pests.

**Protective Clothing:** Clothing that protects the user from getting pesticide on the skin when handling or using pesticides or cleaning up equipment or spills. Includes: rubber or neoprene boots and gloves, hats, coveralls and other garments. Also referred to as 'Personal Protective Equipment' or 'PPE'.

**Restricted-Use Pesticides:** Pesticides that require special training in the handling of pesticides. The applicator or the applicator's supervisor must receive and maintain certification through the Georgia Department of Agriculture in order to purchase or apply restricted-use pesticides.

**Scouting:** Monitoring pest management sites (fields, greenhouses, animals, etc.) for the presence of pests and/or beneficial organisms (pollinators, predators/parasites of pests).

**Worker Protection Standard (WPS):** A collection of regulations established by the U.S. EPA to ensure the protec-tion of agriculture workers who handle or work around pesticides.

U.S. Environmental Protection Agency: The federal (U.S.) agency responsible for the regulation of pesticides.

CONTACTS AND REFERENCES				
Organization	Responsibilities	Address	Phone number	
Entomology Department University of Georgia	Pesticide Applicator Certification	Extension Unit Biological Sciences Bldg. Athens, GA 30602	706-542-1765	
Biological & Agricultural Engineering Department University of Georgia	Design of pesticide storage, mixing and loading facilities. Also, calibration.	Extension Unit Rural Development Center P.O. Box 1209 Tifton, GA 31793	229-386-3442	
Agricultural Pollution Prevention (P <sup>2</sup> AD)	Questions concerning regu- lation or pollution preven- tion practices.	BAE Department University of Georgia Driftmier Engineering Ctr. Athens, GA 30602	706-542-2154	
Georgia Department of Agriculture	Collection days for old pes- ticides and pesticide con- tainer recycling.	Pesticide Division Department of Agriculture Capitol Square, Agriculture Building, Suite 550 Atlanta, GA 30334	800-241-4113	
Georgia Department of Natural Resources	To report a spill.	205 Butler St., SE Suite 1352 Atlanta, GA 30334	404-656-4958	
National Pesticide Telecommunication Network	General pesticide informa- tion, answered 9:30 a.m 7:30 p.m. EST.	NPTN Ag. Chemical Extension Oregon State University 333 Weniger Corvallis, OR 97331	800-858-7378	
U.S. Environmental Protection Agency	RCRA, Super Fund and EPCRA Hotline	1725 Jefferson Davis Hwy Crystal Square 2 Arlington, VA 22001	800-424-9346	

## **PUBLICATIONS:**

#### **University of Georgia Cooperative Extension Publications**

Search "pesticide" at http://caes.uga.edu/publications

#### The following publications can be purchased from the University of Georgia:

- Georgia Pest Management Handbook
- Commercial Pesticide Applicators' Safety Guides
- Apply Pesticides Correctly (General Standards)
- Agricultural Plant Pest Control
- Right-of-Way Pest Control

#### Northeast Regional Agricultural Engineering Service, Cooperative Extension

152 Riley-Robb, Ithaca, NY 14853-5701

• Pesticides and Ground Water: a Guide for the Pesticide User, NRAES-34

#### **Tennessee Valley Authority (TVA)**

TVA Bookstore

P.O. Box 1010, Muscle Shoals, AL 35660

• Pollution Prevention at Retail and Farm-Scale Agrichemical Facilities, Conference Proceedings, February 13-16, 1994

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Laura Lee Schroeder, Georgia Department of Agriculture, Pesticide Division; Brian Matura, Monsanto Agricultural Chemicals; Delbert Shelton, DuPont Agricultural Products; James Moore, United Agri Products. This document was also reviewed by Extension and Pollution Prevention review committees. While the technical reviewers provided guidance in copy revisions and assisted in assuring accuracy of content, the views expressed in this publication are those of the author and do not necessarily reflect the views of the reviewers.

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