



PESTICIDE *Update*

Vol. XVII - No. 2

Pesticide Section / Food & Drug Protection Division
<http://www.agr.state.nc.us/fooddrug/pesticid/index.htm>

Summer/Fall 1999

Food and Drug Protection Division Director, Robert L. Gordon, Retires

Bruce Williams Named New Director

Robert L. Gordon, Director of the NCDA&CS-Food and Drug Protection Division, announced his retirement after twenty-five years of service with the Department. Mr. Gordon's retirement became effective July 31, 1999. Mr. Gordon began his career with the Department in 1974 as Drug Administrator and was promoted in 1985 to Deputy Director. In 1991, Mr. Gordon became Director of the Division.

Mr. Gordon has been a dedicated employee and a man of many personal and professional accomplishments during his many years of service to the State of North Carolina and its citizens. One needs only to look at the scope of the Food and Drug Protection Division - from foods, drugs, dairy products,

medical devices, cosmetics, commercial animal feeds, pet foods, fertilizers, antifreeze to pesticides - to appreciate the enormous responsibility of managing the daily operation of programs which are so crucial to protecting the public's health and safety and to promoting a clean, safe environment.

Mr. Gordon's professional expertise and technical competence as a registered pharmacist and as a manager of governmental affairs, coupled with his overwhelming dedication to serving the citizens of North Carolina, will make him sorely missed. We wish him the best of luck in his retirement.

N.C. Ag Commissioner James A. Graham has announced that Mr. E. Bruce Williams, the current Deputy Director of the Food and Drug Protection Division, will replace Mr. Gordon.



Robert L. Gordon, Director of the NCDA&CS-Food and Drug Protection Division

Board Approves Study of Human Metabolism of Pesticides

The North Carolina Pesticide Board has approved funding for a two-year study on the human metabolism of important pesticides used in North Carolina. The project leader, Dr. Ernest Hodgson, and a team of toxicologists propose to identify specific interactions which pesticides may have with human metabolic enzymes rather than relying upon extrapolations.

For a number of years, the risk assessments of pesticides have relied upon arbitrary ten-fold uncertainty factors to account for extrapolation from animal studies and to take into consideration the variation within the human population. Although very conservative, this approach

has been necessary since appropriate data from the human population have often not been available. The Food Quality Protection Act (FQPA) of 1996 now requires an additional ten-fold safety factor for the protection of infants and children, thereby increasing the total uncertainty factor to be required to *one thousand-fold*. In addition, FQPA now mandates combined risk assessments for pesticides which have the same mode of action. These two additional requirements of FQPA almost certainly will mean that many beneficial pesticides will no longer be available for use in North Carolina

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Metabolism of Pesticides (continued)

or the rest of the nation unless new data are generated for risk assessments.

Data collected from the proposed human metabolism study will provide some "real-life data" so that there can be a reduction in the use of uncertainty factors. The pesticides considered for this study include both insecticides (acephate, chlorpyrifos, and carbaryl) and herbicides (alachlor, atrazine, and metolachlor). Additional compounds will be added as the research continues. Dr. Hodgson, a Williams Neal Reynolds Professor of Toxicology at North Carolina State University (NCSU), along with, Dr. Randy Rose of the NCSU Toxicology Department, Dr. Joyce A. Goldstein of the National Institute of Environmental Health Services, and Ms. Julia Storm, MSPH and Agromedicine Specialist/Toxicologist at NCSU, will conduct the study.

The newly acquired data will enable North Carolina to take a leading role in the debate over how to strike an appropriate balance between human health risks and the essential use of pesticides. The data may be presented to the U.S. Environmental Protection Agency to aid in its human exposure risk assessments.



Student Contributions to Stewardship Awarded

by Valerie Vann

On June 9, at the Annual FFA Convention held at the State Fairgrounds in Raleigh, State Agriculture Commissioner Jim Graham presented plaques to two agricultural education students. The awards were for their winning designs in the 1998 Pesticide Container Recycling Bumper Sticker Contest sponsored by the North Carolina Department of Agriculture and Consumer Services from its Pesticide Environmental Trust Fund (PETF). The PETF is supported by companies that register pesticides for sale in North Carolina.

Students were given a brief history and background of the state's container recycling program and then asked to develop a bumper sticker to be used in promotion of the program among grower and commercial applicators statewide. The creativity and young minds of FFA students yielded many potential bumper stickers, but after careful review, two were chosen as first and second place winners.



The first place winner was Matthew Howell from West Carteret High School, Newport. His bumper sticker states, "Wise farmers rinse and recycle pesticide containers. The land is our workplace as well as your home." Brianna Dunston of Southern Nash High School in Spring Hope claimed second place for her bumper sticker that warns "Don't get behind. Recycle empty pesticide containers." In December of 1998, both Matthew and Brianna were awarded U.S. Savings Bonds in the amount of \$1,000 and \$500, respectively. At the December awards presentation, both students were accompanied by their families and their agricultural education teachers. At the FFA Convention held in June, the winners received official plaques in recognition of their achievements and had their bumper stickers distributed to all FFA Convention attendees.

Another contest is in the works for N.C. agricultural education students during the 1999-2000 school year. In this year's contest, students will be asked to design a poster that will be used to advertise North Carolina's pesticide container recycling program in various agricultural publications and commodity association newsletters.

Congratulations to our 1998 winners for a job well done. Good luck to the students who will participate in this year's contest.



Commissioner Graham presents the 2nd place award to Brianna Dunston

Carrboro Using Hot Water to Control Weeds

by Kay Harris

Town leaders of Carrboro, North Carolina, have tested a *weed control machine* which uses hot water instead of herbicides to kill unwanted plants.

The equipment, made by Waipuna International Ltd. of New Zealand, superheats water and then dispenses it in a steady stream under low pressure. Weeds are killed when the waxy outer coating of their leaves is melted by hot water. The apparatus is self-contained and mounted on a small truck with insulated hoses connected to long-handled applicator wands. The water inside the machine is actually heated to a temperature as high as 220°F. Almost immediately upon contact, plants darken and wilt like cooked spinach. Within a few hours, sprayed plants turn brown, appearing similar to plants treated with a contact herbicide, however, with the added advantage of no pesticide residues being left behind.

“It’s important to understand that it is not a panacea. It has its limitations; it’s tethered to a truck, for one thing. But it is one of the tools, and it’s done a great job for us so far.”

leaders recognize that the cost of quality grounds maintenance will increase significantly due to the adopted policy, they feel that this approach is justified by a possible reduction in environmental contamination.

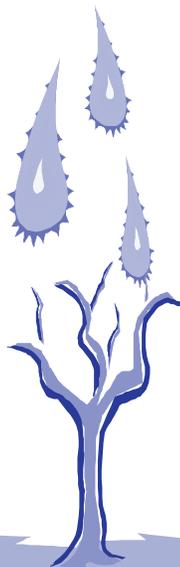
The hot water trials were conducted under the direction of Chris Gerry, Landscape and Grounds Supervisor of the Carrboro Public Works Department. Gerry concluded “everywhere we used it, it’s done a yeoman’s job. This is the least toxic approach to weeds that I can imagine. Our biggest weed problem is along miles of fences around sports fields and other facilities, and along roadsides where the grass encroaches onto the pavement. The flamer does a good job, but weather conditions have to be right; you can’t use it when things are very dry and there’s a risk of fire. This you can use just about any time.”

For information on this equipment, contact:

Chris Gerry, Landscape and Grounds Supervisor
Public Works Department
301 Main Street
Carrboro, NC 27510
919/968-7716

OR

Allen Spalt, Director
Agricultural Resources Center
115 West Main Street
Carrboro, NC 27510
919/967-1886



PESTICIDE
Update

Published By
Special Programs Unit

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Consumer Services**
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Pesticide Update is a quarterly report
of the Pesticide Section.



“Recycle this Paper”

NCPB Actions

The North Carolina Pesticide Board met in March, May and June of 1999, approving the following settlements totaling \$21,300 for alleged violations of the North Carolina Pesticide Law of 1971. Respondents agreed to settlement terms to avoid litigation. Consent to settlement terms by a respondent is not considered an admission of guilt to any of the alleged violations.

Thomas C. Black, Shelby and Mark A. Green, Waco, for alleged violation of making available for use to someone other than a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control licensee, a restricted use pesticide.

Lacy F. Currie, St. Pauls, Edward Allen Greer, II, Pink Hill, Kent E. Ledford, Franklin, for alleged violations of using a pesticide in a manner inconsistent with its labeling; and applying a pesticide under such conditions that drift from pesticide particles or vapors results in adverse effect.

Charles R. DeJarnette, Chase City, VA, for alleged violations of using a pesticide in a manner inconsistent with its labeling; failing to supervise and guide the activities of all personnel applying pesticides from the business location of the licensee; and applying a pesticide under such conditions that drift from pesticide particles or vapors results in adverse effect.

E.S.I, Inc., Bohemia, NY, for alleged violations of failing to supervise the activities of any employee or agent to prevent the making of deceptive or misleading statements about the pesticide; and distributing, selling or offering for sale within this State or delivering for transportation or transport in intrastate commerce or between points within this State through any point outside this state a pesticide that has been misbranded or has not been registered.

John F. Ferebee, Yadkinville, Richard M. Hinnant, Selma, Robert S. Sills, Jr., Dunn, Jesse E. Vaughan, Murfreesboro, for alleged violation of using a pesticide in a manner inconsistent with its labeling.

William Ross Fowler, Chapel Hill, for alleged violations of handling and storing pesticides in such a manner as to endanger man and his environment or to endanger food, feed, or any other products that may be transported, stored,

displayed, or distributed with pesticides; using a pesticide in a manner inconsistent with its labeling; failing to store pesticides in a manner in which to prevent leaking and facilitate inspection; storing pesticides in unlabeled containers; failing to store pesticides according to storage recommendations on their labeling and labeling on all other products held in the same storage area; and failing to store pesticides in an area that is dry and ventilated.

E.F. Greene, Jr., Shelby, for alleged violations of applying a pesticide without being certified as a private applicator; handling, transporting, storing, displaying, or distributing pesticides in such a manner as to endanger man and his environment or to endanger food, feed, or any other products that may be transported, stored or displayed with pesticides; using a pesticide in a manner inconsistent with its labeling; failing to store pesticides in a way that would prevent unauthorized access when unattended; and failing to store pesticides in an area that is dry and ventilated.

Charlie D. Griffin, Tarboro, for alleged violations of using a pesticide in a manner inconsistent with its labeling; depositing by aircraft on the right of way of a public road or within 25 feet of the road; depositing a pesticide within 100 feet of a residence; and depositing a pesticide onto a non-target area in such a manner that it is more likely than not that adverse effect will occur.

Paul R. Grigg, Lawndale, for alleged violations of failing to obtain private pesticide applicator recertification; and using a pesticide in a manner inconsistent with its labeling.

Dargan D. Haddock, Salters, SC, for alleged violation of applying a pesticide from an aircraft that had not been inspected prior to application.

Hubert Dane Harris, Jr., Monroe, for alleged violations of using a pesticide in a manner inconsistent with its labeling; applying a pesticide under such conditions that drift from pesticide particles or vapors

results in adverse effect; and depositing onto any non-target area in such a manner that it is more likely than not that adverse effect will occur.

Jimmy C. Huneycutt, New London, for alleged violations of making available a restricted use pesticide to a person other than a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control licensee; and making available restricted use pesticides to an employee under the supervision of a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control license without requiring the employee to sign his name, list the certification number of employer under whose direction and supervision the employee is acting, and record the name of the pesticide obtained and the date of purchase; and not having records available for routine inspection.

Daniel H. Lewis, Orrum, for alleged violations of disposing of pesticide containers in such a manner as may cause injury to humans, vegetation, crops, livestock, wildlife, or to pollute any water supply or waterway; using a pesticide in a manner inconsistent with its labeling; allowing open burning of pesticide containers; and several provisions of the Worker Protection Standard, including failing to post safety information and failing to provide specific application information and personal protective equipment.

Clifford H. Loflin, Jr., Denton, for alleged violations of using a pesticide in a manner inconsistent with its labeling; and refusing or neglecting to keep and maintain the records required, or to make reports when and as required.

K. Wayne Lutz, Hendersonville, for alleged violations of gross negligence, incompetence or misconduct in acting as a pesticide dealer; and providing or making available any restricted use pesticide to any person other than a certified private applicator, licensed pesticide applicator,

NCPB Actions (continued)

certified structural pest control applicator, structural pest control licensee or an employee under the direct supervision of one of the aforementioned certified or licensed applicators.

Edward L. Owens, Raeford, for alleged violations of using a pesticide in a manner inconsistent with its labeling; applying a pesticide aerially under such conditions that drift from pesticide particles or vapors results in adverse effect; depositing a pesticide within 100 feet of a residence; and depositing a pesticide onto a non-target area in such a manner that it is more likely than not that adverse effect will occur.

Johnny P. Payne, Hartsville, SC, for alleged violations of using a pesticide in a manner inconsistent with its labeling; applying a pesticide aerially under such conditions that drift from pesticide particles or vapors results in adverse effect; depositing a pesticide by aircraft on the right-of-way of a public road or within 25 feet of the road, whichever is the greater distance; depositing a pesticide labeled toxic or harmful to aquatic life in or near a body of water in such a manner as to be hazardous to aquatic life unless such aquatic life is the intended target; depositing a pesticide within 100 feet of a residence; depositing a pesticide onto a non-target area in such a manner that it is more likely than not that adverse effect will occur.

Joan D. Pike and Jimmy L. Pike, Pilot Mountain, for alleged violations of using a pesticide in a manner inconsistent with its labeling; and several provisions of the Worker Protection Standard including failing to post safety information and failing to provide personal protective equipment, specific application information and decontamination supplies.

John C. Reed, New Bern, for alleged violations of engaging in the business of pesticide applicator without having a pesticide applicator license; and failing to have at least one person at the business location who must be responsible for the application of pesticides for routine pest control situations.

Bunzl Richmond, Sandston, VA, for alleged violation of distributing, selling or offering for sale within this State or

delivering for transport in intrastate commerce or between points within this State through any point outside this State any pesticide which has not been registered.

Fernando L. Rios, Greenville, for alleged violations of using a pesticide in a manner inconsistent with its labeling; and failing to supervise and guide the activities of all personnel applying pesticides from the business location of the license.

Scot R. Sorget, Pinehurst, for alleged violations of handling, transporting, storing, displaying, or distributing pesticides in such a manner as to endanger man and his environment or to endanger food, feed, or any other products that may be transported, stored or displayed with pesticides; engaging in the business of pesticide applicator without having a pesticide applicator license; refusing or neglecting to keep and maintain the records required, or make reports when and as required; storing or disposing of pesticides or pesticide containers by means other than those prescribed by the labeling or by rule; failing to pay the renewal license fee and continuing to act as an applicator; failing to have at least one person at the business location who must be responsible for the application of pesticides for routine pest control situations; and failing to develop a prefire plan for the storage facility.

David A Strickland, Selma, for alleged violations of handling, transporting, storing, displaying, or distributing pesticides in such a manner as to endanger man and his environment or to endanger food, feed, or any other products that may be transported, stored or displayed with pesticides; using a pesticide in a manner inconsistent with its labeling; and making a restricted-use pesticide available for use to someone other than a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control licensee.

Charles H. Swing, Denton, for alleged violations of gross negligence, incompetence or misconduct in acting as a pesticide dealer; refusing or neglecting to comply with limitations or restrictions on or in a duly issued license or permit; making a restricted use pesticide available for use to someone other than a certified

private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control license; making available restricted use pesticides to an employee under the supervision of a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control licensee without requiring the employee to sign his name, list the certification number of employer under whose direction and supervision the employee is acting, and record the name of the pesticide obtained and the date of purchase; and not having records available for routine inspection.

Edna E. Wallace, Smithfield, for alleged violations of storing a pesticide or pesticide container in such a manner as may cause injury to humans, vegetation, crops, livestock, wildlife, or to pollute any water supply or waterway; and using a pesticide in a manner inconsistent with its labeling.

Robert R. Watkins, Louisburg and James M. Wright, Jonesborough, TN for alleged violations of engaging in the business of pesticide applicator without a pesticide applicator license; and failing to have at least one person at the business location who must be responsible for the application of pesticides for routine pest control situations.



Recycling Program Expands

by Valerie Vann

Since the onset of the pesticide container recycling program in 1995, North Carolina has proven to be one of the fastest growing programs in the country. In 1998, farmers and commercial applicators in 77 counties collectively recycled more than 500,000 containers. This is a remarkable increase from 51 counties recycling 152,000 containers in 1995.

On April 29, 1999, nearly \$100,000 from the Pesticide Environmental Trust Fund was disbursed by the North Carolina Department of Agriculture & Consumer Services to a total of 14 counties statewide to support the recycling of plastic pesticide containers. Beaufort, Cabarrus, Davidson, Durham, McDowell and Rockingham received grants to initiate recycling programs. The following nine counties received grants in order to expand existing programs: Ashe, Brunswick, Duplin, Halifax, Pamlico, Perquimans-Chowan-Gates and Wilson. With the addition of *six new programs*, North Carolina now has a total of 83 of its 100 counties supporting this environmental stewardship project.

Commissioner Graham has said, "I commend farmers, commercial applicators, the pesticide industry, local governments and the NC Cooperative Extension Service for their contributions to this program's success and working with our pesticide program to coordinate the details. Pesticide container recycling has grown significantly in the past five years, but there's still room for improvement. I strongly encourage all pesticide applicators to participate."

For more information on the nearest pesticide container-recycling site, contact your local Cooperative Extension Service or this office at (919) 733-3556.

If your area does not currently have a program, you should contact your local Cooperative Extension agent and request that a pesticide container recycling site be established in your county.

Use Of Stinger Herbicide In Apple Orchards Denied By EPA

by Lee Davis

On July 6, 1999, the North Carolina Department of Agriculture & Consumer Services (NCDA&CS) received notice from the U.S. Environmental Protection Agency (EPA) that its request for a FIFRA Section 18 emergency exemption to allow the use of the herbicide Stinger to control white clover in apple orchards has been denied. EPA officials did not agree with North Carolina's determination that the request meets the criteria of an emergency as defined by EPA regulations.

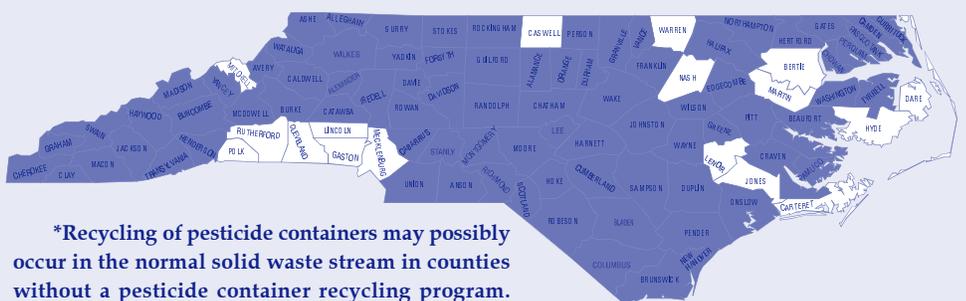
Earlier this year, the North Carolina Pesticide Board endorsed submission of an application to the EPA requesting that a specific exemption for the use of clopyralid, the active ingredient in Stinger, be granted for use in apple orchards. This package, which was developed by North Carolina State University (NCSSU) extension personnel, identified several ways, either directly or indirectly, that white clover can lead to decreased productivity of apple trees. It is, however, the attractiveness of white clover to the honey bee that most concerns extension personnel and was the primary basis of the emergency exemption request.

Since the early 1980's, beekeepers have been plagued with a number of new pests. Tracheal mites, varroa mites and, most recently, small hive beetles have all contributed to the demise of North Carolina's wild bee population. These pests have also reduced the state's managed bee colonies by one-third. In addition to the pressure felt from these pests, there is great concern regarding bee kills attributed to insecticide applications. Even when precautions are taken, insecticides applied to apple trees can drift on to flowering white clover and can kill visiting bees outright. Insecticides can also be inadvertently collected by bees and returned to the hive, many times destroying the entire hive as a result.

In response to what appears to be an emergency situation in regard to the demise of the bee population, NCDA&CS submitted the Section 18 application to allow the use of Stinger. It was reasoned that if the white clover could be controlled, bees would be less likely to visit the orchards. Research conducted by NCSSU extension personnel has shown Stinger to be a very effective tool for managing white clover plants and/or flowers. While there are other herbicide products and cultural methods (such as mowing) that suppress white clover, each has limitations and has produced marginal results. In its denial, EPA stated that the presence of white clover in apple orchards is a chronic problem, not "an urgent, non-routine situation that requires the use of a pesticide." EPA also indicated that the designated pest, white clover, is not harmful to bees; rather, it is the use of certain insecticides that is thought to be linked to bee kills.

Even though the emergency exemption for Stinger has been denied, North Carolina apple growers and beekeepers should not relax their efforts to reduce bee mortality. Growers can continue to use those products and cultural control methods that help reduce bee exposures to insecticides. As a reminder, an agreement is still in place between the North Carolina Apple Growers Association and the Beekeepers Association that limits the time frame in which certain insecticides may be used on apples. In February of this year, the EPA granted North Carolina an emergency exemption to allow the use of Confirm, considered by some to be a "bee friendly" product, to control tufted apple bud moth and codling moth. Also, in response to the devastating effects of varroa mites and small hive beetles, the EPA recently granted an emergency exemption to allow the use of Bayer Bee Strips (plastic strips impregnated with coumaphos) in certain areas of the bee hive.

Counties Participating in the Pesticide Container Recycling Program



- Counties Recycling Plastic Pesticide Containers
- Counties Not Recycling Plastic Pesticide Containers

Pesticide Disposal Collection Day Schedule Fall, 1999

Ashe County

Contact: *Scott Hurley*
By Appointment
336-246-3721
Call for Details

Cumberland County

Contact: *Charles Whittenton*
By Appointment
910-437-1907
Call for Details

Guilford County

Contact: *Debra Meurs*
By Appointment
336-373-2167
Call for Details

Hertford County

November 3, 1999
10:00 - 2:00
Contact: *Byron Simmons*
252-358-7822

Warren County

November 4, 1999
10:00 - 2:00
Contact: *Phillip McMilland*
252-257-3640

For more information on pesticide disposal,
contact Royce Batts, NCDA&CS at
(919)715-9023 or (919)733-7366.



It's Time Again for Cotton Defoliation

by Colleen Hudak

If you live or work in an area where cotton is produced, you probably are familiar with the smell of cotton defoliant. But if you are new to the area, the smell of these compounds may alarm you at first. Listed here are some frequently asked questions and answers regarding cotton defoliant:

Q. What is defoliation?

A. Defoliation involves the application of chemicals to force cotton leaves to drop from the plant, thereby leaving the cotton bolls easier to extract from the field with mechanical harvesting. Defoliation helps to increase both the quantity and quality of harvested cotton.

Q. When is cotton defoliated in North Carolina?

A. Defoliant are applied in the fall following the opening of the cotton bolls. Spraying of defoliant begins in late August and can continue through October in some parts of the state.

Q. What chemicals are typically used to defoliate cotton?

A. Active ingredients of some common cotton defoliant include tribufos, dimethipin, or endothal. These products are very widely used for defoliation because of their effectiveness and reasonable cost. Common brand names may include DEF 6, Dropp, Harvade, PREP, Folex and Accelerate*. If you have questions about the specific agricultural chemicals or materials which are used in your area, contact your local Cooperative Extension Service.

Q. What causes the unpleasant odor which often accompanies cotton defoliation?

A. Following application of tribufos-containing products, there is often a strong "rotten egg" odor due to the presence of very small quantities of two sulfur-containing compounds. These malodorous chemicals are not the active ingredient of the defoliant, but rather unavoidable by-products of the manufacturing process which enter the air during spraying. Chemical manufacturers have had some success in reducing the concentration of these unpleasant substances and have also added masking agents. Nonetheless, an odor may still be detected following application of a tribufos-containing product.

Q. Are there serious health hazards associated with cotton defoliation?

A. Other than noticing an unpleasant odor, most people will not experience any discomfort associated with the application of cotton defoliant. In some individuals, pre-existing conditions, such as asthma or allergies, may be slightly aggravated by inhalation of sulfur compounds.

Q. What can I do to reduce my exposure?

A. Try the obvious solutions first. During defoliant spraying season, avoid walking by or near cotton fields. Keep your car windows rolled up and your fresh air intake vents closed when driving by sprayed cotton fields. If you do happen to smell a strong sulfur odor, you may want to remain indoors for awhile. And remember, noticing an unpleasant odor does not necessarily mean that you have been exposed to the active ingredient itself.

Q. What should I do if I suspect that the active ingredient of a defoliant has drifted off target?

A. Damage to "non-target" plants can be a sign that drift of a defoliant's active ingredient has occurred. If you see evidence ("browning, leaf damage, or leaf drop") which suggests that the active ingredient may have drifted, you should contact the NCDA&CS Pesticide Section at (919)733-3556 to report the incident.

**Disclaimer: Information provided for educational purposes only. Reference to trade names or active ingredients of pesticides is made with the understanding that neither discrimination is intended nor endorsement implied.*

PESTICIDE CERTIFICATION EXAM SCHEDULE

The testing site for commercial license and private applicator certification examinations is the McKimmon Center, located at the corner of Gorman Street and Western Boulevard in Raleigh. These examinations are given twice a month. **Reservations must be made two weeks prior to test date.** Contact Mike Williams at (919) 733-3556 to make reservations or for further information.

PLEASE NOTE: Picture identification such as a driver's license must be shown at the time of an exam.

Exams are also given at the end of all pesticide schools conducted by the North Carolina Cooperative Extension Service. A schedule of these schools and training materials may be obtained from: Dr. Wayne Buhler, Dept. of Horticultural Science, Box 7609, NCSU, Raleigh, NC 27695. Telephone: (919) 515-3113.

For More Information

PESTICIDE SCHOOLS AND MATERIALS FOR CERTIFICATION AND RECERTIFICATION

CONTACT: Dr. Wayne Buhler, Dept. of Horticultural Science, Box 7609, NCSU, Raleigh, NC 27695. Phone (919) 515-3113

CERTIFICATION, LICENSING, AND RECERTIFICATION CREDITS OR TESTING

CONTACT: Mike Williams, Pesticide Section, NCDA&CS, P.O. Box 27647, Raleigh, NC 27611. Phone (919) 733-3556

PRIVATE APPLICATOR RECERTIFICATION CLASSES

CONTACT: Your local Cooperative Extension Service office

COMMERCIAL APPLICATOR AND DEALER RECERTIFICATION CLASSES

CONTACT: Pesticide Section Homepage www.agr.state.nc.us/fooddrug/pesticid

PESTICIDE CONTAINER RECYCLING

CONTACT: Valerie Vann, Pesticide Section, NCDA&CS, P.O. Box 27647, Raleigh, NC 27611. Phone (919) 733-3556

PESTICIDE WASTE DISPOSAL

CONTACT: Royce Batts, Food and Drug Protection Division, NCDA&CS, P.O. Box 27647, Raleigh, NC. 27611
Phone (919) 733-7366 or (919) 715-9023.

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