

*Report  
To*

*The Honorable Michael F. Easley,  
Governor of the State of North  
Carolina*

*from the*

*Governor's Task Force on Preventing  
Agricultural Pesticide Exposure*

**April 2008 (Revised)**

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April 30, 2008

The Honorable Michael F. Easley  
Governor, State of North Carolina  
The State Capitol  
Raleigh, North Carolina

Re: Pesticide Prevention Task Force

Dear Governor Easley:

Pursuant to your directive, the Governor's Task Force on Preventing Agricultural Pesticide Exposure has undertaken an examination of the current regulations and practices surrounding the safe and effective use of agricultural pesticides in North Carolina. On behalf of the Task Force, a report is hereby presented with recommendations for improving the overall system in regard to health protection.

It was impressive to see so many committed stakeholders participate in the deliberations of the Task Force. Their expertise and their voices were critical to the success of this effort. These recommendations provide strategic guidance for our continuing initiatives to improve the health of farm workers, growers and pesticide applicators by focusing on enhanced training, compliance and support of healthcare providers.

The Task Force members appreciate the opportunity to work on this important assignment and look forward to assisting in any way that is helpful with implementation of these recommendations. I also want to recognize and thank them for contributing so faithfully their time, expertise and collaborative participation in crafting this Report.

A special word of appreciation goes to Dr. Steve Cline, Chris Hoke, Sheila Higgins and Angela Green from the North Carolina Division of Public Health in the Department of Health and Human Services for their leadership in staffing the work of the Task Force. I also want to recognize the contributions of the North Carolina Agromedicine Institute located at East Carolina University for their support of the Task Force.

Respectfully submitted,

Leah Devlin, DDS, MPH  
State Health Director

**Governor's Task Force on  
Preventing Agricultural Pesticide Exposure  
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**Chris Hoke  
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## **Charge to the Governor's Task Force on Preventing Agricultural Pesticide Exposure**

### **Purpose:**

The **Governor's Task Force on Preventing Agricultural Pesticide Exposure**, composed of key North Carolina governmental stakeholders, will examine current regulations and practices in protecting the health of farmers, pesticide applicators, and farmworkers from harmful pesticide exposures resulting from agricultural use and make recommendations needed to improve health protection.

### **Objectives:**

- (1) Evaluate current agricultural practices to determine whether they provide adequate protection from pesticide exposure.
- (2) Identify best practices as found in current research and other state programs.
- (3) Make recommendations about system improvements for North Carolina, including changes to training, laws and regulations, compliance, and healthcare practices.

**Rationale:** While it is widely recognized that pesticides are important tools of successful modern agriculture, pesticides can pose serious health risks if not used with appropriate health, safety, and environmental precautions. Minimizing the risk of pesticide exposure in agriculture usage involves evaluating the current complex system of agencies, regulations, and farm operations to identify the best practices designed to protect individuals who work around these agents and then implementing system improvements. In North Carolina this system includes:

- Farmers
- Farmworkers and their family members
- Farmer support organizations
- Trainers of farmers, pesticide applicators, and farmworkers
- Pesticide regulation and enforcement agencies
- Primary and preventive health care services delivered to farmworkers and their families through local health departments, migrant and rural community health centers, and women's and children's health programs.

# *Governor's Task Force on Preventing Agricultural Pesticide Exposure*

## **Summary of Recommendations**

### Training Recommendations

- 1. Expand the Capacity for Agricultural Pesticide Safety Education at Cooperative Extension Service Centers throughout the state for ALL farm workers – Growers, Applicators, Crew Leaders, and Farmworkers.**

Funding: \$352,000 (R)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue

- 2. Increase the number of certified Worker Protection Standard (WPS) trainers in the NC Farmworker Health Program to educate farmworkers and their family members about the risks of pesticide exposure and safety precautions.**

Funding: \$197,152 (R)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue

- 3. Make Critical Improvements to the Worker Protection Standards (WPS) Training Curriculum and Educational Methodologies.**

Specific Improvements Include:

- Add Information on Reproductive Health Risks Associated with Pesticide Exposure
- Add Information on Long Term Pesticide Exposure Health Risks
- Expand Information on Health Risks for Spouses and Family Members of Farmers, Applicators, and Farmworkers
- Educate on How and When to Report Suspected Pesticide Use Violations including Anonymous Complaints
- Enhance Multiple Educational Methodologies for Delivering Timely and Effective WPS Training (videos, brochures, posters, novellos, and hands-on demonstrations)

Funding: \$28,752 Total - \$7,470 (R); \$21,282 (NR)

Regulatory Changes: This will require NC Pesticide Board approval to add new required training elements.

Implementation: Short Session Budget Issue; Begin the curriculum development.

- 4. Establish a Mechanism to Promote Training Opportunities for Agriculture Crew Leaders Known to be Working in NC Through Communications and Coordination with the NC Employment Security Commission.**

Funding: To Be Determined

Regulatory Changes: None

Implementation: Policy directives in the NC Department of Agriculture and the NC Employment Security Commission

- 5. Promote Community Partnerships for Safe and Healthy Farms, locally driven community-based organizations to identify and generate support for health-related improvements associated with farms. Such improvements could include incentives for farmworker access to dedicated washing machines, working telephones, emergency medical contact information, adequate showers at the worksite, and other farmworker supports.**

Funding: \$165,000 (R)

Regulatory Changes: None, however certain changes, if made to be a requirement, would need law or rule changes.

Implementation: 2008 Short Session Budget Issue

## Compliance Recommendations

- 6. Collect additional farm entity information on the Private Pesticide Applicator Certification/Attestation Form to better identify farm entities working in NC.**

Funding: None

Regulatory Changes: None

Implementation: Department of Agriculture to begin using the new form as soon as possible.

- 7. Improve Pesticide Use Recordkeeping by Requiring additional information that would record the specific time of day when each pesticide application is completed.**

Funding: None

Regulatory Changes: Rule making required

Implementation: Department of Agriculture to begin rule making process as soon as possible.

- 8. Extend the Retention Period for Pesticide Application Information for All Pesticides Covered Under the WPS from 30 days to two years.**

Funding: None

Regulatory Changes: This will require Pesticide rulemaking.

Implementation: Department of Agriculture to begin rule making process as soon as possible.

- 9. Funding to accelerate the Development of a Comprehensive Data Tracking System for Field Inspections in the NC Department of Agriculture.**

Funding: \$100,000 (NR)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue



**10. Assure the quality and capacity for Monitoring and Compliance Inspections in the NC Department of Agriculture.**

Funding: \$82,656 Total - \$54,256(R); \$28,400(NR)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue

**11. Enact Laws to Assure Non-retaliation for Individuals Reporting Suspected Violations.**

Funding: None

Regulatory Changes: This will require an amendment to the NC Labor Law (OSHA).

Implementation: 2008 Short Session Issue

**12. Consider Appointing a Farmworker as an At-Large member of the NC Pesticide Board.**

Funding: None

Regulatory Changes: None

Implementation: Governor's Appointment as Vacancy Occurs.

**13. Charge the NC Department of Agriculture to establish an ongoing proactive Interagency Pesticide Workgroup to meet regularly to improve interagency communication and coordination between government agencies and institute an annual report to the NC Pesticide Board and the Governor.**

Funding: None

Regulatory Changes: Governor's Executive Order

Implementation: Governor's discretion

**14. Evaluate on an ongoing basis as new science and technology emerges, the need for additional enhancements or changes in regulations using the data from health surveillance, compliance monitoring, and the annual report to the NC Pesticide Board and the Governor.**

Specific areas of concern to include but are not limited to:

- Establishing an Agriculture Crew Leaders Registration/Licensing Program
- Pesticide Violation Fines – Including fine structure and “willful” standard
- Enhanced Recordkeeping Requirements – Workers time of day when re-entering fields following pesticide application
- WPS Training Requirements – Annually vs. every three years

Funding: No additional funds

Regulatory Changes: None

Implementation: Ongoing responsibility of the NC Department of Agriculture and the Interagency Pesticide Workgroup.

**15. Restore funding to the Pesticide Disposal Assistance Program.**

Funding: \$197,570 Total - \$162,570 (R); \$35,000 (NR)

Regulatory Changes: None

Implementation: Department of Agriculture

## Healthcare Recommendations

**16. Strengthen the Acute Pesticide Illness and Injury Reporting, Surveillance, and Follow up Including Training for Healthcare Providers regarding Occupational and Environmental-related Illness and Screening for Pesticide Exposure in Clinical Settings**

Funding: \$278,360 Total - \$110,000 (R); \$168,360 (NR)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue

**17. Implement a Community Education and Awareness Campaign Regarding Pesticide Exposure Prevention**

Funding: \$247,576 (NR)

Regulatory Changes: None

Implementation: 2008 Short Session Budget Issue

## INTRODUCTION

North Carolina has a strong and viable agriculture industry that contributes an estimated \$65 billion a year to the state's economy. Safe and effective use of agricultural pesticides is critical to the success of most farm operations. Analysis of existing data on the health risks associated with agricultural pesticide use in NC suggests that the majority of farm operations are following current regulations designed to protect the health of farmers, their families, pesticide applicators, and farmworkers. However, continuing to improve the interagency system to protect human health from both acute and chronic health conditions that can result from pesticide exposure is vitally important. Growers, farmworkers, applicators and healthcare providers are not always fully aware of the potential health risks of pesticide exposure. The challenge for the Governor's Task Force on Preventing Agricultural Pesticide Exposure is to identify the opportunities where the existing interagency system can be strengthened to further prevent human exposure to pesticides during agriculture operations and make strategic recommendations to Governor Mike Easley.

The Task Force was made up of state and local leaders representing the main governmental agencies who promote and regulate the safe and effective use of agricultural pesticides. The full Task Force met three times from February to April 2008. The first meeting was devoted to hearing from the Task Force members to better understand their respective roles in the current agricultural pesticide system. The second meeting focused on the challenges to protecting health in the current system and possible improvements. This meeting also included a significant amount of time for the Task Force to hear public comment on their concerns and suggested solutions. Task Force members were asked to submit draft recommendations for improvement prior to the third meeting. At the third meeting, a draft of the final report was reviewed and recommendations approved. The Task Force Report recommendations are presented in three broad categories: Training, Compliance, and Healthcare. In addition, several worthy but longer term or more broadly focused initiatives are included as goals for future consideration.

These recommendations will serve as a guide for important actions that can improve the public's health through preventing harmful pesticide exposures in agriculture. Many of the recommendations will require legislative action for either regulatory changes or budget consideration. The Governor can undertake implementation for a number of these recommendations. Others require rule or policy changes that can be initiated by the North Carolina Department of Agriculture and Consumer Services.

The work of the Governor's Task Force on Preventing Agricultural Pesticide Exposure has been a collaborative and open process that was accomplished in a short timeframe. It is important to note that the Report includes a recommendation acknowledging that continued quality improvement in the governmental interagency system that protects the health of growers, applicators, farmworkers and their families is important. Toward that end an ongoing Interagency Pesticide Workgroup will continue to assure that best practices, new science and technology are appropriately implemented in North Carolina in the future.

# **Task Force Recommendations**

# Training Recommendations

## **1. EXPAND THE CAPACITY FOR AGRICULTURAL PESTICIDE SAFETY EDUCATION AT COOPERATIVE EXTENSION SERVICE CENTERS THROUGHOUT THE STATE FOR ALL FARM WORKERS.**

### **Rationale/Overall Justification:**

This recommendation supports new bilingual Cooperative Extension Service staff at the state and district levels to implement hands-on pesticide safety training (including all provisions of the Worker Protection Standard) targeting growers (both Certified Private Pesticide Applicators and non-certified growers), crew leaders, pesticide handlers, workers and spouses of workers. Training sessions will be offered in languages appropriate to the audience at Cooperative Extension Service Centers throughout the state.

Sustained state funding is requested for the following bi-lingual personnel: One experienced Extension Associate (minimum Master's Degree) and four Regional Extension Agents (one in the West and West Central districts; one in the North and South Central districts; one in the Northeast district; and one in the Southeast district). All staff will be supervised by Dr. Wayne Buhler, Coordinator of the NC Pesticide Safety Education Program within the College of Agriculture and Life Science at NC State University. The Extension Associates will conduct training and assist Dr. Buhler and other NCSU faculty in the development of commodity-specific training materials. Dr. Buhler will spend additional time administering this program.

The U.S. Environmental Protection Agency's Worker Protection Standard establishes provisions for the safe use of pesticides on farms, forests, greenhouses and nurseries. The agricultural employer is responsible for seeing that these provisions, including proper training, are carried out in order to protect workers from the potential adverse health effects from pesticides. It has come to the attention of the Governor's Task Force on Preventing Agricultural Pesticide Exposure that effective training in a language understood by the farm worker is not always provided. Of any state agency, the NC Cooperative Extension Service has the most direct contact with agricultural employers and conducts regular training programs for certified pesticide applicators. In spite of these efforts, it is possible that some farmworkers do not receive adequate training or receive responses to inquiries in a language they understand. This recommendation proposes to close this gap by expanding our pesticide safety training for growers, supervisors, farm workers, and their spouses exposed to pesticides and/or pesticide residues.

One component of the training will be to provide information to farmworkers about how to report any suspected violations of the pesticide use regulations and promote awareness that all reports, including anonymous reports, will be investigated. In addition, employees who make reports will be protected under proposed non-retaliation legislation.

### **Impact:**

An agricultural workforce and community that is knowledgeable and aware of how to protect themselves, their employees, co-workers, and family members from detrimental effects of pesticide exposure.

**Budget:**

Salaries and Fringe:

- a. Experienced, bilingual Extension Associate.....\$ 87,000
- b. Four bilingual regional Field Faculty (\$55,000 ea).....\$220,000
- c. Supplement for Statewide Pesticide Ed. Coordinator.....\$ 5,000

Recurring operating expenses:

(e.g., travel, supplies and equipment).....\$ 40,000

Total Recurring: .....\$352,000

**Regulatory Changes:** None

**Implementation:** 2008 Short Session Issue

**2. INCREASE THE NUMBER OF CERTIFIED WORKER PROTECTION STANDARDS (WPS) TRAINERS IN THE NC FARMWORKER HEALTH PROGRAM TO EDUCATE FARMWORKERS AND THEIR FAMILY MEMBERS ABOUT THE RISKS OF PESTICIDE EXPOSURE AND SAFETY PRECAUTIONS.**

**Rationale / Overall Justification:**

The majority of growers in NC experience a language barrier with their agricultural workers, making it difficult for the growers to provide the required WPS training and question and answer session to their workers in a language that can be understood by the workers.

The NC Farmworker Health Program within the Office of Rural Health and Community Care operates a very successful model of working through local health agencies to provide health and social services to farmworkers. In addition, the program has over five years experience coordinating the Pesticide Environmental Trust Fund-supported Americorps/SAFE initiative that placed six Americorps members with local agencies to provide WPS training to farmworkers. Currently, the outreach educators are not able to meet the training demands of the 100,000 farmworkers. Additional educators hired to focus on WPS would allow more workers and their families to receive education that could prevent illness and injury. To foster learning among the farmworkers who have varying literacy levels, these outreach educators can be trained in participatory, hands-on educational techniques and encouraged to use educational materials that target their particular audience. The “train the trainer” WPS education for these NC Farmworker Health Program trainers as well as coordination of training events will be coordinated by the NC Cooperative Extension Service.

**Impact:**

The NC Cooperative Extension has shown to be very effective at providing the WPS training to growers and applicators. Collaboration between the NC Cooperative Extension and the Office of Rural Health and Community Care would allow the two agencies to utilize their experience and established infrastructures to ensure the success of an expanded effort to better meet the training needs of NC’s growers and agricultural workers without duplicating efforts.

**Budget:**

Personnel:

5 WPS trainers (\$26,500 Salary and \$6,625 benefits @25% = \$33,125) .....\$165,625

Travel (12,000 miles x .50/mile = \$6,000 x 5 WPS trainers) .....\$ 30,000

Educational materials (\$300 x 5 WPS trainers) .....\$ 1,500

Total Recurring ..... \$197,152

**Regulatory Changes:** None

**Implementation:** 2008 Short Session

**3. MAKE CRITICAL IMPROVEMENTS TO THE WORKER PROTECTION STANDARDS (WPS) TRAINING CURRICULUM AND EDUCATIONAL METHODOLOGIES.**

- a) **Add Information on Reproductive Health Risks Associated with Pesticide Exposure**
- b) **Add Information on Long Term Pesticide Exposure Risks**

**Rationale / Overall Justification:**

In regard to reproductive health there is increasing evidence for reproductive and developmental health affects of both maternal and paternal pesticide exposures in human studies. Areas of particular concern include infertility and time to pregnancy, spontaneous abortion, neural tube defects, and limb reduction defects. It has been noted in the literature that there is a great need to increase awareness of workers who are occupationally exposed to pesticides about their potential negative influence on fertility and pregnancy outcomes. Incidents in our state with migrant farm women indicate a need for advising women of the reproductive health risks of pesticides especially during the pre conception and first trimester period. Spouses of farmworkers are potentially exposed also due to take-home residues, proximity of residences to fields, and frequent home use of pesticides.

In addition to reproductive health concerns, there is more evidence now that workers can develop diseases and cancer from long term, low level exposure. Pesticide applicators and handlers are at high risk due to the high volumes and concentrations of pesticides they work with. Field workers on any given day may have lower pesticide exposure compared to these groups but the frequency of exposure may be substantially greater, resulting in a relatively high cumulative exposure. Animal and human population studies of pesticides indicate that some pesticides may cause chronic health effects in humans including certain cancers, nervous system effects, and immunologic effects. Much of the current human research is being done as part of the Agricultural Health Study taking place here in NC and in Iowa.

The WPS is intended to protect workers and their families. It has limited information about reproductive health risks and long term exposure risks. It should be enhanced to include information that is based on current science that would allow for workers to make more informed decisions.

**Impact:**

Lower risk of pesticide exposure, lower risk of poor birth effects, and lower risk of chronic disease in farmworkers.

**Budget:** None

**Regulatory Changes:** Seek NC Pesticide Board approval to include these additional required elements of training.

**Implementation:** Begin curriculum development as soon as possible.

**c) Expand Information on Health Risks for Spouses and Family Members of Farmers, Applicators, and Farmworkers**

**Rationale / Overall Justification:**

Pesticide exposure is an occupational and environmental health risk for agricultural workers. Because there is often interaction in agriculture between the work and home environments, family members of agricultural workers are also at risk of direct or indirect exposure from take-home residues, proximity of homes to fields, aerial drift, and involvement with farm activities. Recent exposure studies indicate that children in farmworker homes have high urinary biomarker levels of pesticides compared to national reference data. Children are at particularly high risk for health affects due their high metabolic rate, hand to mouth activity, permeable skin and developing organ systems especially the neurologic system. Studies have shown children may experience the following health effects depending on the length of exposure, age, and developmental stage: decreased birth weight, abnormal reflexes, cognitive delays, and attention disorders.

Agricultural worker families should be trained to reduce their exposure to pesticides at home as well as at work. Efforts to train families and spouses should be aimed at education regarding the sources and dangers of exposure, reducing track-in of pesticides from the outdoors, proper handling and cleaning of work clothing, and basic integrated pest management strategies to reduce use of toxic pesticides in the home.

**Impact:**

Decrease risk of exposure and adverse health effects in spouses and children

**Budget:**

Develop as needed and pilot novellas or other educational materials that address the hazards of pesticides and pregnancy in appropriate languages

Translation and Printing .....	\$6000
Operating Expenses:	
Purchase training materials.....	\$ 800
Travel .....	\$ 670
Total Recurring .....	\$ 7,470

**Regulatory Changes:** Seek NC Pesticide Board approval to include this additional required element of training.

**Implementation:** 2008 Short Session Issue for Budget Requirement; Begin curriculum development.



**d) Educate on How and When to Report Suspected Pesticide Use Violations including Anonymous Complaints**

**Rationale / Overall Justification:**

Testimony before the Task Force stated that suspected pesticide violations are underreported. Anecdotal evidence and testimony of individuals who work with farmworkers suggested that farmworkers may not report problems with pesticide use because they do not understand the pesticide use rules well enough, they do not know the proper mechanism to make a report, or they do not fully understand what will happen once they make a report. There is fear that a complaint could result in a negative response toward the individual from their employer. Education for the farmworkers about how and when to report suspected violations as well as understanding the process will assure better reporting. This education will make farmworkers aware of the policy in the NC Department of Agriculture of accepting and investigating all complaints, even anonymous complaints. Reporting will also be strengthened with the adoption of the non-retaliation laws as proposed in this Task Force Report, Recommendation #11.

**Impact:** Increased education and a better understanding of how and when to report suspected violations will result in better and more accurate reporting. This will allow potential problems to be identified and investigated in a timely manner.

**Budget:** No additional funds

**Regulatory Changes:** Seek NC Pesticide Board approval to include this additional required element of training.

**Implementation:** NC Department of Agriculture to begin curriculum development and approval process.

**e) Enhance Multiple Educational Methodologies for Delivering Timely and Effective WPS Training (videos, brochures, posters, novellos, and hands-on demonstrations)**

**Rationale / Overall Justification:**

This recommendation fully develops multiple methodologies for WPS training delivery (hands-on demonstrations, interactive videos, low literacy/photo novella-style brochures, culturally sensitive posters, bilingual trainers) in order to increase effectiveness. Most farmworkers in N.C. are migrant and seasonal workers who are Hispanic and speak Spanish although there is a small percentage that is growing who speak non written dialects such as Mixteco, Otomi, Zapoteco, and Triqui. Some farmworkers may also be illiterate. Most new to the U.S. are from Mexico, but at least 20% come from other countries such as El Salvador, Guatemala, Honduras, Columbia, Peru, and Ecuador. The N.C. Agromedicine Center reports that workers are beginning to arrive from Thailand and Haiti.

In addition to language barriers, this population presents certain training challenges in the areas of literacy, education (average grade completed is 6), lack of safety training in country of origin and cultural beliefs about pesticides and health. All training must incorporate adult learning principles such as drawing upon farmworker experiences to explain important points and practice problem solving. Some farmers in N.C. have used safety fairs and hands-on show and tell venues to effectively train workers. Having bilingual trainers present assists in explaining

concepts and answering questions. It has been suggested to also consider making training commodity or industry specific due to the different pesticides and other activities needed for individual crops.

**Impact:**

Better quality training and decreased risk of exposure. Developing multiple methodologies to conduct WPS training will enhance the understanding and application of this important training.

**Budget:**

Project Coordinator (35 hours/mo x 12 mos) .....	\$10,000
Materials Development:	
-Printing for educational posters/teaching materials.....	\$ 3,100
-Interactive video production at ECU .....	\$ 2,500
-Translation services .....	\$ 5,000
Operating Expenses:	
- Travel for facilitator 250 miles x 3 groups @ .25/mile .....	\$ 187
- Gift cards for workers @ 15.00 each x 11 workers X 3 groups .....	\$ 495
	Total Non-recurring....\$ 21,282

**Regulatory Changes:** None

**Implementation:** 2008 Short Session Budget Issue

**4. ESTABLISH A MECHANISM TO PROMOTE TRAINING OF AGRICULTURE CREW LEADERS KNOWN TO BE WORKING IN NC THROUGH COMMUNICATIONS AND COORDINATION WITH THE NC EMPLOYMENT SECURITY COMMISSION.**

**Rationale / Overall Justification:**

The crew leader is in a unique position to help prevent harmful exposure of agricultural workers to pesticides. Identifying crew leaders through required registration is the first step. Requiring training on worker protection requirements and standards as a condition of registration will help ensure compliance with the law and better protect workers.

Currently, crew leaders are not required to be trained or certified in WPS and pesticide use although they may be directly responsible for day to day operations involving farmworkers and fields where pesticides have been applied. Crew leaders are also more likely to be bilingual and able to communicate effectively with farmworkers about the importance of preventing pesticide exposure. In many instances they have a powerful position and influence over the workers and are an important resource for the grower. North Carolina can learn from other states who have already implemented this approach. Maryland, Florida, Wisconsin, New Jersey and California have existing crew leader registration programs.

**Impact:** This communication and coordination between state agencies will help assure that the agricultural crew leader, a key to farmworker operations, is fully trained in WPS. This will ultimately lower the risk of exposure to workers, handlers and applicators.

**Budget:** Minimal, to be determined

**Regulatory Changes:** None

**Implementation:** NC Cooperative Extension and NC Employment Security Commission

**5. PROMOTE COMMUNITY PARTNERSHIPS FOR SAFE AND HEALTHY FARMS, LOCALLY DRIVEN COMMUNITY-BASED ORGANIZATIONS TO IDENTIFY AND GENERATE SUPPORT FOR HEALTH-RELATED IMPROVEMENTS ASSOCIATED WITH FARMS. SUCH IMPROVEMENTS COULD INCLUDE INCENTIVES FOR FARMWORKER ACCESS TO DEDICATED WASHING MACHINES, WORKING TELEPHONES, EMERGENCY MEDICAL CONTACT INFORMATION, ADEQUATE SHOWERS AT THE WORKSITE, AND OTHER FARMWORKER SUPPORTS.**

**Rationale / Overall Justification:**

This recommendation establishes community level partnerships in targeted counties to plan community based interventions to prevent pesticide exposure of growers, handlers, crew leaders, agricultural workers, their spouses and their children.

Funding would be used to provide support and incentives to growers and local community agencies for health related improvements on the farm such as washing machines, shower facilities, and health information. Project funding could be provided from state funds or a combination of state and non-state grant funding. For example, Health and Wellness Trust Fund or Golden Leaf Foundation Funds could be used to develop project funding for the partnerships at the local level. These organizations could be used to promote social marketing for pesticide exposure prevention and to conduct local projects such as providing washing machines to local farms. They could also link back to state level parent organizations for coordinated programming among regional groups. The organizations could become 501c3 organizations and apply for grant money to support larger projects.

Each targeted county has unique agricultural settings, commodities, and partners who care about preventing pesticide exposure within their community. Each county partnership is best able to assess what kinds of programming would work in their own community. By establishing a community partnership at the local level linked to a broader state – level organization, partnerships can be monitored and supported for developing strong evidence based plans for reducing risk of pesticide exposure.

An example of how these community partnerships could be of assistance is by developing incentive programs for safe practices such as farmworker access to dedicated washing machines for laundering pesticide exposed clothing. Local partnerships could coordinate businesses, volunteers, faith-based organizations, and other community groups to collect donated washing machines (new or used) to be placed at selected farm locations for farmworkers to wash clothes that may have been exposed to pesticides thus eliminating the risk of taking pesticides home.

**Impact:**

These groups would help raise public awareness for the problem of risks of pesticide exposure and build partnerships among non-farm groups and farming groups to help strengthen community support for agriculture.

The impact of the local partnerships would create an environment supportive for change at the local level. Every targeted county could have an organization that helps build awareness, provide education, provide needed resources, and monitor progress of local efforts to protect against pesticide death and pesticide- related illness.

**Budget:**

Program Coordinator (1 FTE) salary and benefits..... \$60,000

Grant funding to local county organizations for incentives to support health related improvements..... \$100,000

Printing, Supplies, and Communications..... \$ 5000

Total Recurring .....\$165,000

**Regulatory Changes:** None

**Implementation:** 2008 Short Session Budget Issue

# Compliance Recommendations

## **6. COLLECT ADDITIONAL FARM ENTITY INFORMATION ON THE PRIVATE APPLICATOR CERTIFICATION/ATTESTATION FORM TO BETTER IDENTIFY FARM ENTITIES WORKING IN NC.**

### **Rationale / Overall Justification:**

The Structural Pest Control and Pesticides Division (SPC&PD) will revise its private pesticide applicator certification/attestation form to require additional information to be provided by the applicant at the time of initial and renewal certification. The required information will include:

- disclosure of the specific service the individual provides to the agricultural establishment: owner, employee, contractor, other (family, manager, etc.);
- whether the individual or employer owns or operates a farm, greenhouse, nursery or timber operation in another state;
- whether the individual is/has been certified in any other state and, if so, which states;
- disclosure of a list of crops grown in North Carolina to which pesticides are applied and the approximate acreage for the top three crops; and
- disclosure of whether the individual or employer provides housing for farmworkers.

Presently, the Department has no way of differentiating applicants who apply pesticides on small farms with few or no additional employees from those who apply pesticides on larger farms which use additional employees, including temporary or seasonal workers. Similarly, although applicants are currently required to report the name of the farming establishment they are employed by, very little information regarding the size and nature of that establishment is required. By collecting the required data, the Department can better determine whether agricultural operations which potentially employ workers and handlers are operating in this State. The cropping and acreage information will help identify those operations which grow crops requiring hand labor. Determining whether the operations exist in other states will provide additional means for contacting our other State partners for enforcement history information on any applicant if necessary. Finally, collecting this information will enable us to better identify larger operations and their worker/handler employees for education, outreach and compliance monitoring with respect to worker and handler safety issues.

### **Impact:**

The Department will enhance its outreach, education, compliance monitoring and enforcement activities concerning worker protection. Better education and outreach will enhance worker training and knowledge, which will enhance worker safety and health.

### **Budget:**

The development and implementation of these revisions can be covered under existing Departmental funding.

**Regulatory Changes:** None

**Implementation:** Begin using new form as soon as possible.

**7. IMPROVE PESTICIDE USE RECORDKEEPING – REQUIRE ADDITIONAL INFORMATION TO RECORD THE SPECIFIC TIME OF DAY WHEN EACH PESTICIDE APPLICATION IS COMPLETED.**

**Rationale / Overall Justification:**

Amend Commercial Pesticide Applicator and Private Applicator record keeping requirements to include the specific time of day when each application is completed.

The North Carolina Pesticide Board is asked to revise its rules on pesticide record keeping under 02 NCAC 09L:

1. Amendment:

02 NCAC 09L.1002—General Requirements (*Note: this rule deals with aerial application records for both general use and restricted use pesticides.*)

(c)(6) The year, month, day, and ~~approximate time the pesticide was applied~~ the specific time of day when each pesticide application was completed.

2. Amendment:

02 NCAC 09.1402—Record Keeping Requirements (*Note: This rule deals with ground application of restricted use pesticides by all licensed pesticide applicators as defined in N.C. Gen. Stat. § 143-460, which includes public operators*):

(6) Date(s) pesticide(s) was applied and the specific time of day when each pesticide application was completed;

3. New Rule:

02 NCAC 9L.1807 would be added to North Carolina’s Worker Protection Standards which appear at 02 NCAC 09.1800 *et seq.*, entitled “Worker Protection Standards for Agricultural Pesticides.” The North Carolina Pesticide Board has adopted Part 170 of Title 40 of the Code of Federal Regulations, entitled the “Worker Protection Standard.” The proposed new rule (which might also be deemed an “amendment” to North Carolina’s Worker Protection Standards) contains a more specific methodology for recording specific application information than the Federal Worker Protection Standard.

02 NCAC 9L.1807—Additional Information required regarding Applications

For the purposes of the information that must be displayed in accordance with Sections 170.122 and 170.222 of the Worker Protection Standard, the Agricultural Employer shall display the date and specific time of day when each pesticide application was completed. This requirement supersedes the requirements set forth in Sections 170.122(c)(3) and 170.222(c)(3).

The current Federal Worker Protection Standards require that handlers record the following information: (1) The location and description of the treated area; (2) the product name, EPA registration number, and active ingredient(s) of the pesticide; **(3) the time and date the pesticide is to be applied;** and (4) the restricted-entry interval for the pesticide. The result of the proposed amendment would be that North Carolina’s Worker Protection Standards differ from the Federal Worker Protection Standards in that they require the **date and specific time of day when each pesticide application was completed.**

In order to protect workers and handlers from reentering treated areas prior to the expiration of a restricted entry interval, and to clearly determine when any pre-harvest interval restrictions expire, the applicator must record the “end time” of each pesticide application. The REI and PHI are calculated from that time, and cannot be accurately determined if only the approximate time the application took place, or began, is recorded.

**Impact:**

Workers and handlers will have accurate information about any reentry or harvest restrictions. Compliance monitoring and enforcement will be enhanced because the Department will be able to accurately determine from required records that period of time during which workers and handlers were not permitted into treated areas. Conversely, the Department will be able to determine when workers could legally be expected to reenter treated areas, as well as when harvesting activities could take place (in the case of pesticides which bear labeling statements describing appropriate pre-harvest intervals).

**Budget:**

The development and implementation of these revisions can be covered under existing Departmental funding. The costs for the rule making process will be minimal.

It is not anticipated that there will be any incremental costs to applicators for compliance, since records are required to be maintained currently, and the additional information required is easily determined and made part of the required records.

**Regulatory Changes:** Pesticide rule making would be required.

**Implementation:** Start rule making process as soon as possible.

**8. EXTEND THE RETENTION PERIOD FOR PESTICIDE APPLICATION INFORMATION FOR ALL PESTICIDES COVERED UNDER THE WPS FROM 30 DAYS TO 2 YEARS.**

**Rationale / Overall Justification:**

This recommendation requires written records related to information kept on the application of both restricted-use and general-use pesticides covered under the WPS to be maintained for two years. Currently only records for restricted-use pesticides are kept for two years. Better record keeping will better protect workers from exposures to pesticides by improving compliance with required restricted-entry intervals. Good records will also greatly assist any investigation of an acute health issue that may be related to pesticide exposure. Maintaining records for two years is consistent with record retention laws in the Department of Labor and for restricted use pesticides.

**Impact:**

This change will improve compliance with field re-entry intervals and assist in retrospective acute health issue investigations.

**Budget:** None

**Regulatory Changes:** The Pesticide Board currently has authority to establish such a requirement under G.S. 143-466 so this could be accomplished by rulemaking.

**Implementation:** Start rule making process as soon as possible.

## **9. FUNDING TO ACCELERATE THE DEVELOPMENT OF A COMPREHENSIVE DATA TRACKING SYSTEM FOR FIELD INSPECTIONS.**

### **Rationale / Overall Justification:**

This recommendation provides resources to improve the quality, effectiveness and efficiency of the Structural Pest Control & Pesticide Division's Pesticide Section Field Operations workforce. The Pesticide Section is in the process of developing an inspection data management system that will streamline inspections and its data entry. Through funding from the Pesticide Environment Trust Fund and from the USDA Pesticide Recordkeeping grant, the Section was able to contract Incentric Solutions, Inc. to develop data management system which would be sufficient to meet the Section's needs. This system will allow field staff to complete electronic checklist on their tablet personal computers. On a weekly basis, inspectors will upload the data file to the Department's secured web server. The Section's Field Operations Unit is currently conducting parallel testing of the system. The data flow appears to be working as well as projected. However, the contractual agreement with Incentric Solutions includes the development of only five (5) inspection forms.

The Department as a whole will realize an enterprise benefit among other Divisions who will be able to build their own systems based upon our experience and training.

Our clients will benefit from increased efficiency and effectiveness in all of our pesticide inspection, compliance monitoring, and investigative services field response programs.

### **Impact:**

The proposed data tracking system would have the following benefits:

- Eliminate the redundancy in data entry;
- Eliminate the need for a second or third party involvement with the inspection data entry;
- Increase accuracy of the information collected by inspectors;
- Converting and/or verifying information extracted from inspector checklist will be unnecessary;
- Decrease the time and cost of processing and analyzing record keeping inspection data;
- Integrating the license databases of pesticide applicators into the Inspection Tracking System will be seamless;
- Allow inspectors to access applicators license status during an inspection of private applicator record keeping inspection;
- Satisfy the needs of the Division and our cooperators, the 'online server' will host the inspection database that will be accessible to pertinent cooperators;
- Enhancing security and longevity of records, as database information will be secured and maintained by a qualified programmer;
- Capability to query the system to identify trends occurring within the State;
- Division's program managers will be able to access and query the inspection data information and set goals for targeting inspection;
- Inspector work performance evaluation will be enhanced;



- Will eliminate the need for inspectors to carry volumes of hardcopy inspection forms; also, updates to inspection forms can be accomplished and distributed instantaneously; and
- Transfer of technology to other Divisions will realize department-wide enterprise benefit.

**Budget:**

\$100,000 non-recurring is requested for the development of approximately forty forms to complete the electronic field data collection and reporting system.

This is an expansion budget request, although the Department requested only a portion of the funds required to complete the development of the program during this budget cycle. An appropriation of \$100,000 will allow the Department to accelerate the development of the comprehensive data tracking system, and that should result in lower expenses in future years and provide a hedge against rising development costs.

**Regulatory Changes:** No statutory or rules changes are necessary.

**Implementation:** 2008 Short Session Issue

**10. ASSURE THE QUALITY AND CAPACITY FOR MONITORING AND COMPLIANCE INSPECTIONS IN THE NC DEPARTMENT OF AGRICULTURE.**

**Rationale / Overall Justification:**

This recommendation provides funding to create a Quality Assurance Manager position for the Structural Pest Control & Pesticide Division (SPC&PD), who will be responsible for developing the Division’s Quality System, including the development of program Standard Operating Procedures (SOP’s). Implementation of SOP’s and the Quality Systems Concept of Operations will enhance our effective management and enforcement of the pesticide management and control programs under the North Carolina Structural Pest Control act and the N C Pesticide Law, including the Worker Protection Standard (WPS) regulation in North Carolina.

Through Federal Regulations, EPA requires that recipients of funds for work involving environmental data comply with the American National Standard ANSI/ASQC E4-1994, “Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs.” To demonstrate conformance to this standard, EPA requires two forms of documentation: a QUALITY MANAGEMENT PLAN (QMP) and one or more QUALITY ASSURANCE PROJECT PLANS (QAPP).

If any one of the critical functions outlined below is not accomplished, the continued eligibility of our Division to receive more than \$1M annually from the federal government in performance partnership funding to enhance our ongoing State mandated Pesticide and Structural Pest Control programs is jeopardized. In short, funding for a Quality Assurance Manager is imperative.

What is a Quality Management Plan? A Quality Management Plan (QMP) documents how an organization will plan, implement, and assess the effectiveness of its quality assurance and quality control operations. Specifically, the plan describes how an organization structures its “quality system.” A “quality system” is a structured system that establishes the policies and procedures for ensuring that work processes, products, or services satisfy stated expectations or specifications. One of the elements of quality would be to assure that language was not a barrier to effective inspections and those inspectors could communicate effectively with the farmers and

workers as needed. The elements of a quality system are documented in a QMP. Both EPA organizations and organizations performing data collection activities funded by EPA are required to document their quality systems. Put differently, non-EPA organizations funded by EPA are required to document their quality system in a QMP.

Compliance with these Quality Assurance mandates requires very specific performance by a QUALITY ASSURANCE OFFICER/MANAGER - the individual designated as the principal manager within the organization having management oversight and responsibilities for planning, documenting, coordinating, and assessing the effectiveness of the quality system for the organization. The Quality Systems requirements dictate that this is to be a qualified individual who is not in any management/supervisory or production role over a part of the organization directly performing and accountable for the work being assessed.

**Impact:**

The Quality Management Plan defines the acceptable level of quality, and describes how the program will ensure this level of quality in its deliverables and work processes. Quality management activities ensure that:

- Processes, projects, and deliverables are built to meet agreed-upon standards and requirements
- Work processes are performed efficiently and as documented
- Non-conformances found are identified and appropriate corrective action is taken

Quality Management plans apply to deliverables and project work processes. Quality control activities monitor and verify that project deliverables meet defined quality standards. Quality assurance activities monitor and verify that the processes used to manage and create the deliverables are followed and are effective. The quality assurance manager is responsible for the overall development, implementation, operation, and improvement of the quality system.

The development, implementation and auditing of Standard Operating Procedures (SOP) are critical components of the Quality Systems Concept. With respect to the administration and enforcement of the State's Worker Protection Standards for Agricultural Pesticides (WPS), SOP's serve as effective catalysts to drive performance improvement--both within our organization and among the regulated community. The presence of these quality documents will promote harmonization in inspections, compliance monitoring and investigation procedures. This will lead to a more economical, efficient and effective use of human and material resources and most importantly, will achieve more informed and uniform compliance among the regulated community in assuring vital safety protections under the WPS.

All agricultural employers, owners, and managers, as well as labor contractors, are required to comply with the WPS when pesticides with labeling that refers to the WPS have been used on an agricultural establishment. Most WPS requirements apply to agricultural workers or pesticide handlers, but there are some requirements that apply to all persons and some that only apply to certain persons such as those who handle pesticide application equipment or clean pesticide-contaminated personal protective equipment. Administering and enforcing the WPS is a key NCDA&CS strategy for reducing occupational exposures to agricultural pesticides. The development of SOP's and the quality systems concept will enhance our effective management and enforcement of the WPS regulation in North Carolina.

EPA works closely with its state pesticide regulatory and extension partners to communicate WPS requirements to the regulated community and assure the regulation is being adequately implemented and enforced. State pesticide regulatory agencies, which have primary jurisdiction over pesticide use enforcement, have conducted thousands of WPS inspections nationwide, resulting in numerous enforcement actions for WPS violations. Through the implementation of a quality system, the Pesticide Section and the entire SPC&PD will improve the efficiency, effectiveness, and consistency of its service to protecting the public health, safety and welfare of all people in North Carolina, and will enable the State to remain eligible and competitive in receiving critical federal funding necessary to augment and improve on our State funded programs for pesticide management and control.

**Budget:**

First year appropriations .....\$82,656

Salary/Fringes Pay Grade 74 (1 position): \$54,256 (recurring)  
Equipment/Supplies: \$28,400(non-recurring)

**Regulatory Changes:** No statutory or rules changes are necessary.

**Implementation:** 2008 Short Session Budget Issue

**11. ENACT LAWS TO ASSURE NON-RETALIATION FOR INDIVIDUALS REPORTING SUSPECTED VIOLATIONS.**

**Rationale / Overall Justification:**

This recommendation protects workers from retaliation for providing assistance to the Department of Agriculture to ensure that pesticide laws and rules are complied with. This will remove a major disincentive to workers cooperating with and assisting the Department of Agriculture in ensuring compliance with the pesticide law and rules.

**Impact:** This will improve compliance and better protect workers.

**Budget:** None

**Regulatory Changes:** Amend 95-241(a) to extend the non-retaliation provisions of the NC Labor law to the NC Pesticide law.

**Implementation:** 2008 Short Session Issue

**12. CONSIDER APPOINTING A FARMWORKER AS AN AT-LARGE MEMBER OF THE NC PESTICIDE BOARD.**

**Rationale / Overall Justification:**

The NC Pesticide Board, together with the Commissioner of Agriculture, is responsible for carrying out the provisions of the North Carolina Pesticide Law of 1971. Consider the appointment of a farmworker as one of the at-large members of the NC Pesticide Board. The

board shall consist of seven members, to be appointed by the governor. The current members include these representatives:

- One from NCDACS
- State Health Director or designee
- One from an environmental protection agency within DENR
- One from the agricultural chemical industry, and
- One directly engaged in agricultural production.
- Two at-large members from other fields of endeavor to include one nongovernmental conservationist.

**Impact:** Obtain input directly from those affected by laws and regulations.

**Budget:** None

**Regulatory Changes:** None

**Implementation:** Governor's discretion as vacancy occurs.

**13. CHARGE THE NC DEPARTMENT OF AGRICULTURE TO ESTABLISH AN ONGOING PROACTIVE INTERAGENCY PESTICIDE WORKGROUP TO MEET REGULARLY TO IMPROVE COMMUNICATION AND COORDINATION BETWEEN GOVERNMENT AGENCIES AND INSTITUTE AN ANNUAL REPORT TO THE NC PESTICIDE BOARD AND THE GOVERNOR.**

**Rationale / Overall Justification:**

The Interagency Pesticide Workgroup will continue the efforts of the Governor's Task Force on Preventing Agricultural Pesticide Exposure by creating an ongoing interagency coordination body through the NC Department of Agriculture and charge this group to develop and submit an annual report to the NC Pesticide Board and the Governor regarding pesticide use and safety in NC.

Membership to the Interagency Pesticide Workgroup would be limited to state and local governmental agencies. In addition to NC Department of Agriculture representatives, the Interagency Pesticide Workgroup would include at least one representative each from NCSU Cooperative Extension, NCSU College of Agriculture and Life Sciences, DHHS-DPH Health Surveillance, DHHS-DPH Occupational and Environmental Health, DHHS-Farmworker Health Program within the Office of Rural Health and Community Care, NC Department of Labor, Agricultural Safety and Health Bureau, NC Employment Security Commission, local public health, NC Department of Environment and Natural Resources, and the NC Agromedicine Institute at ECU. All meetings of the Interagency Pesticide Workgroup would be open to the public and subject to the Public Meetings Law and provide regular opportunities for discussion and identification of potential system improvements to protect health.

**Impact:** Improved coordination and communication between agencies and groups involved with pesticide regulation and safety.

**Budget:** None

**Regulatory Changes:** Governor's Executive Order

**Implementation:** Governor Action

**14. EVALUATE ON AN ONGOING BASIS AS NEW SCIENCE AND TECHNOLOGY EMERGES, THE NEED FOR ADDITIONAL ENHANCEMENTS OR CHANGES IN REGULATIONS USING THE DATA FROM HEALTH SURVEILLANCE, COMPLIANCE MONITORING, AND THE ANNUAL REPORT TO THE NC PESTICIDE BOARD AND THE GOVERNOR.**

**Rationale / Overall Justification:**

This recommendation addresses the need to stay current with science and best practice in regard to pesticide use and related health issues. Specific areas of concern for ongoing evaluation include but are not limited to:

- Establishing an Agriculture Crew Leaders Registration/Licensing Program
- Pesticide Violation Fines – Including fine structure and “willful” standard
- Enhanced Recordkeeping Requirements – Time of day when workers are re-entering fields following pesticide application
- WPS Training Requirements – Annually vs. every three years

**Impact:** Assure safe and effective use of pesticides.

**Budget:** No additional funds

**Regulatory Changes:** None

**Implementation:** NC Department of Agriculture to establish the Interagency Pesticide Workgroup as soon as possible

**15. RESTORE FUNDING TO THE PESTICIDE DISPOSAL ASSISTANCE PROGRAM.**

**Rationale / Overall Justification:**

Pesticide Disposal

The Pesticide Disposal Assistance Program (PDAP), the first of its kind in the nation, started collecting outdated, unwanted and obsolete pesticides for proper and lawful disposal from the agricultural community throughout North Carolina in 1980. From 2000-2007, the Program averaged over 140,000 pounds of pesticides collected. In 2007, the PDAP exceeded the 2 million pounds collected benchmark.

The Program's goal is to conduct a Pesticide Collection Event in every county of the State within a 2-year rotation. In addition to Pesticide Collection Events, the PDAP expanded in past years to also include homeowner assistance for pesticide disposal with Household Hazardous Waste (HHW) programs throughout the State. The PDAP currently assists with approximately 75 collection events per year including HHW events, private citizen assistance, and pesticide only collection events.

Overwhelmed by requests and striving to meet the needs of the agricultural community, the PDAP later expanded to assist the agribusiness community with pesticide mini-bulk product disposal and mini-bulk plastic recycling. These major obligations require three permanent, full-time positions in the PDAP to meet the needs and adequately serve all of North Carolina.

During the State Budget shortfall of 2005, the Legislature eliminated General Fund appropriations to the Pesticide Disposal Assistance Program, and amended the NC Pesticide Law of 1971 to require funding to come out of the Pesticide Environmental Trust Fund. The 2006 Legislative session restored General Fund appropriations to the Department's Disposal Assistance Program, however, there were no provisions for staffing or equipment needs. These have continued to be funded out of the Department's Pesticide Environmental Trust Fund, out of which, among other critical public health and environmental protection initiatives, the funding to provide assistance to county governments for their Plastic Pesticide Recycling programs has been taken.

#### Pharmaceutical Disposal

Now, in addition to fulfilling its original duties, the PDAP is again planning to meet the challenge and expand its mission to provide services for the proper disposal of private citizen's personal and veterinary pharmaceuticals. With a plan to concentrate on rural counties while serving all requests from all 100 counties, the PDAP will collect and properly dispose of pharmaceuticals that, without such services, continue to jeopardize the groundwater and water supply of the State. This expansion is contingent upon DEA approval.

The PDAP promotes a safer and cleaner North Carolina environment by reducing the amount of pesticides and pharmaceuticals that, without this program, could potentially contaminate the drinking water, groundwater, streams, rivers, and land across the state.

#### Plastic Pesticide Container Recycling

North Carolina has seen an impressive expansion of its plastic pesticide container recycling efforts in the past several years. To date, 90 counties have received grant money to support local plastic pesticide container recycling. The grants are used to purchase shipping containers to store empties, pressure rinse nozzles, personal protective equipment, bags, outreach materials, and other items. Statistics from US Ag Recycling, Inc., for North Carolina indicates that the estimated weight of plastic pesticide containers recycled during 2007 was more than 300,000 pounds. For the period covering 1993-2006, North Carolina ranked 8th in the nation for recycling of plastic pesticide containers with an Ag Container Recycling Council (ACRC) contractor. Also, North Carolina was the number one state on the Atlantic seaboard. Since 1993, North Carolina has recycled more than 3.3 million pounds of plastic pesticide containers with an ACRC contractor.

Agricultural interests in North Carolina are facing implementation of a little-known provision within the State's Solid Waste rules, under 2005 amendments to N.C. Gen. Stat. § 130A-309.10, entitled "Prohibited acts relating to packaging; coded labeling of plastic containers required;

disposal of certain solid wastes in landfills or by incineration prohibited.” This statute mandates that: “Effective October 1, 2009, no person shall knowingly dispose of the following solid wastes in landfills: . . . Recyclable rigid plastic containers that are required to be labeled as . . .HPDE and the number 2 [High density polyethylene]..., that have a neck smaller than the body of the container, and that accept a screw top, snap cap, or other closure....” N.C. Gen. Stat. § 130A-309.10(f)(11).

This prohibition will apply to the majority of pesticide containers in our State, and will certainly impact agricultural operations that may not have ready access to recycling programs. This requirement will likely increase the requests from counties who will now need to either begin or expand their local recycling efforts, which will in turn place additional demands upon our Pesticide Environmental Trust Fund.

**Impact:**

Recommitting the General Fund appropriations for the Pesticide Specialist II management position, as well as two Pesticide Specialist I operational positions will not only enable the Department to maintain this vital public service and environmental protection program, it will provide the needed personnel for this second major expansion in services to the citizens of the entire state of North Carolina inasmuch as we will be able to initiate the Pharmaceutical Disposal Program.

Without recommitting the three program positions, obligations to the citizens of the State would go unmet for pesticide disposal, HHW programs would suffer, mini-bulk pesticide containers would continue to become potential source problems, and a resolution to the statewide pharmaceutical predicament would go unresolved.

As noted above, much of the funding that could be provided from the Pesticide Environmental Trust Fund for projects that are important to public health is now being directed toward the PDAP. By restoring the full balance of the Pesticide Environmental Trust Fund, funding to projects designed to promote and protect the health and safety of farmers, farm workers, and their families could likewise be restored. Moreover, without additional funding for the PDAP, it is not likely that the PDAP will be able to meet the demands for increased support to Pesticide Container Recycling programs.

**Budget**

1 Pesticide Specialist II position	
Salary/Fringes pay grade 72.....	\$ 60,640
2 Pesticide Specialist I positions	
Salary/Fringes pay grade 69 - currently filled .....	\$ 56,680
Salary/Fringes pay grade 69 - new position at entry level rate.....	\$ 45,250
1 Truck with Tommy Lift and Cover (nonrecurring) .....	\$ 35,000
 Total .....	 \$197,570 - \$162,570 (R), \$35,000 (NR)

**Regulatory Changes:** No statutory or rules changes are necessary.

**Implementation:** NC Department of Agriculture

# Healthcare Recommendations

## **16. STRENGTHEN THE ACUTE PESTICIDE ILLNESS AND INJURY REPORTING, SURVEILLANCE, AND FOLLOW UP INCLUDING TRAINING FOR HEALTHCARE PROVIDERS REGARDING OCCUPATIONAL AND ENVIRONMENTAL-RELATED ILLNESS AND SCREENING FOR PESTICIDE EXPOSURE IN CLINICAL SETTINGS.**

### **Rationale/Overall Justification**

This recommendation provides funding to support continuation and enhancement of the NC Acute Pesticide Illness and Injury Surveillance Program to include recurring annual expenditures and non-recurring, one-time expenditures to support a campaign to teach medical providers to report cases of acute pesticide illness and injury and funds to support conversion of current surveillance database to NC Emergency Disease Detection System (NCEDDS).

N.C. must have surveillance capability to monitor the effects of pesticide use due to potential toxicity, the amounts of pesticides used in our state compared to other states, and risk to vulnerable groups. Pesticides are designed to be toxic and may be harmful to non-target species if not handled cautiously. According to 2002 Census of Agriculture statistics, N.C. uses certain categories of pesticides more than most states. Eighty percent of pesticides are used in agriculture and NC employs more farmworkers, especially migrant workers, than most states (Census of Agriculture, 2002). Farmworker families can be indirectly affected. In addition, NC has over 18,000 private pesticide applicators, 14,000 commercial applicators and 700 pesticide dealers. These groups are at higher risk of exposure due to quantities and concentrations handled.

In April 2006 the Rules Review Commission passed the rule Pesticide-Related Illness and Injury Surveillance NC 10A NCAC 41F .0101 - .0103 mandating that physicians, to include nurse practitioners and physician assistants, report cases of acute pesticide-related illness and injury to the NC Division of Public Health. To fulfill the requirements of this rule, DPH conducts surveillance activities that detect and respond to acute pesticide related illness and injury with a focus on occupational exposure. Analysis is done to determine the frequency of cases, identify at-risk populations, and understand risk factors for exposure. Information is used to make recommendations about exposure prevention. Data gathered from surveillance also supplies feedback on the effectiveness of our state's regulatory and training/prevention efforts. The program needs a staff person to conduct core functions and meet its goals. Surveillance is currently supported by a short-term grant from the EPA which will end in spring of 2009.

In 2006 the Carolinas Poison Center (CPC) completed a letter of agreement that stated it would serve as a case ascertainment source for acute pesticide injury and illness cases. This agency provides a significant number of cases and has expanded our capability to capture cases and conduct necessary investigations. A contract is in place to supply funding to the CPC for their activities but this will end in spring of 2009.

In order to enhance the capability of the system to capture cases of pesticide-related illness and injury, physicians need to be educated on the importance and process of reporting cases. Cases are commonly under reported due to lack of knowledge of reporting rule, perceived administrative burden, confidentiality concerns, and difficulty in making the diagnosis. A strong, targeted campaign will assist in increasing physician awareness and compliance.



This recommendation also develops and implements standardized occupational and environmental-related illness training for health care providers at targeted sites. It establishes standardized training for health care providers that will prepare them to recognize, manage and prevent pesticide-related health conditions (and other conditions) in their patients and in the community.

Pesticide exposure has the potential to cause both acute and chronic health effects. If growers, applicators, agricultural workers, or others, especially women of child bearing age or pregnant women present for care, health care providers (doctors, nurse practitioners, physician assistants and nurses) should be able to identify possible occupational or environmentally induced conditions and make the appropriate referral for follow up. Providers currently receive limited preparation to do this in medical training. While they do not need to become experts in order to fulfill this important role this recommendation seeks to provide essential skills such as:

- taking a brief and relevant environmental and occupational history
- possessing a basic awareness of environments in which the patients live, work and play
- recognizing possible signs and symptoms of pesticide exposure
- identifying possible sentinel cases
- accessing recommended referral lists of resources and contacts
- consulting with appropriate specialists or experts to assist them
- knowing when and how to report a case of pesticide illness or injury
- providing preventive guidance for patients

Finally, the Division of Public Health wants to ensure that all surveillance programs are using the most up-to-date informatics to ensure standardization and quick and efficient data management. To accomplish this goal surveillance system databases are being completely converted to applications that will be able to link to the N.C. Electronic Disease Surveillance System (NCEDSS). The state's programs are almost fully converted except for pesticides.

**Impact:**

Increase the state's ability to describe morbidity and mortality associated with pesticide exposure, identify populations at risk, identify emerging pesticide problems, increase awareness among workers and the public and reduce exposure.

**Budget:**

Recurring annual expenditures:

NC Acute Pesticide Illness and Injury Surveillance Program	
Public Health Epidemiologist I (Salary and Fringe) .....	\$ 67,870
Operating Costs .....	\$ 11,270
Teledanguage Interpretation Services .....	\$ 1,000
Carolinias Poison Center .....	\$ 6,000
Healthcare Provider Training Capacity	
Trainers .....	\$ 20,600
Travel and Operating .....	\$ 3,260
Sub Total .....	\$110,000

Non-recurring one-time expenditures

North Carolina Electronic Disease Surveillance System (NCEDSS) Conversion

Requirements gathering  
 Development of the module (Consilience Software, OEEB, DPH IT)  
 Implementation .....\$ 75,000

**Physician Training Campaign Materials**

Video production containing training content  
 On-line webcast trainings  
 Media briefing and marketing materials  
 Media campaign to include newspaper articles, professional newsletter articles, radio announcements, direct mailings, and one hour OPENnet  
 Cable broadcast discussing reporting requirements .....\$ 93,360

Subtotal .....\$168,360

Total .....\$278,360

**Regulatory Changes:** None

**Implementation:** 2008 Short Session Budget Issue

**17. IMPLEMENT A COMMUNITY EDUCATION AND AWARENESS CAMPAIGN REGARDING PESTICIDE EXPOSURE PREVENTION.**

**Rationale / Overall Justification:**

Pesticides are used in all areas of our lives: where we live, go to school, go to work, where we recreate and to ensure adequate food and fiber production. There are health risks associated with use. Pesticide-related illness and injury is preventable through increasing knowledge, awareness and behavior change in targeted groups and for the public. A social marketing campaign is an approach designed to reach all different populations segments at risk with the intent of changing a behavior that would put them at risk for unnecessary pesticide exposure.

The target audience sectors might include:

- Agricultural workers
- Growers/producers
- Farm family members
- Structural pesticide workers
- Pesticide dealers (restricted and general use e.g. Lowes, Home Depot)
- Other professions likely to be exposed (pesticide manufacturing, EMS, service workers in hotels, restaurants, hospitals)
- Home users
- Facility managers (schools, public buildings, recreation areas, apartment managers, business managers)
- Groups at high risk, increased susceptibility (women of child-bearing age, pregnant women, children, the elderly and those who care for them)
- Public policy and decision makers

Behavior changes for all groups would then be identified. Examples of behavior change include: pesticide dealers would be educated about being “ambassadors” for change, encouraging safe use by reading the label and only selling products for use intended on the label. Home users would be encouraged to follow instructions on label, store pesticides safely away from children, only use products as outlined on label, safely dispose of used containers, and develop relationships with farming neighbors to encourage notification before ground or aerial spraying for those who live in rural areas.

**Impact:** Reduced risk of exposure to pesticides

**Budget:**

Project Coordinator NC Agromedicine Institute 35 hrs/ mo x 12 months .....	\$ 10,000
Print, bind and duplicate .....	\$ 10,000
Media campaign	
Radio messaging all counties one week .....	\$ 136,000
Newspaper articles, all counties, one week .....	\$ 91,000
Travel (.48/mile at 100 miles per month x 12 month) .....	\$ 576
	Total Non-recurring .....
	\$247,576

**Regulatory Changes:** None

**Implementation:** 2008 Short Session Budget Issue

# Conclusions

The Task Force work and recommendations focused on improvements that could be made quickly either through governmental policy changes, rulemaking authority that already exists or legislative action in the upcoming short session of the NC General Assembly. Of the 17 recommendations, only one would require a law change to implement. Five recommendations can be accomplished through policy directives only and three through rulemaking. The remaining eight recommendations require budgetary action by the General Assembly. When taken together, these recommendations will result in greater protection for all those associated with agricultural use of pesticides in North Carolina.

In addition the Task Force identified a number of best practices from model farm operations and other state programs that would enhance farm safety and health but were beyond the scope of the charge to this Task Force. Examples of these issues include:

- **Implement the AgriSafe-NC comprehensive farm safety and health support program for assuring best practices.** - The AgriSafe Model is a collaborative partnership between public health centers, federally qualified migrant/community health centers, rural health clinics, and universities to provide comprehensive services designed to prevent pesticide exposure among agricultural workers using a socio-ecological public health model.
- **Reward safe farm operations through a model certification program - NC Certified Safe Farm Program** – This program enables farmers to participate in reviewing their farm operations for safe pesticide management and can be recognized by the larger community for their efforts to protect workers and family members. The Certified Safe Farm (CSF) model was developed in 1996 at the Iowa Center for Agricultural Safety and Health (I-CASH) by Kelley Donham, DVM. The CSF concept consists of three components: (1) a preventive health screening (2) an on-farm safety review, and (3) individualized education specific to farm hazards and identified health needs.
- **Promote farming methodologies that rely less on the use of pesticides such as Integrated Pest Management.** – While not a new concept, one of the most effective approaches to reducing the risk of pesticide exposures is to reduce the use of pesticides. Decreased use of pesticides while maintaining good farm production levels can reduce the potential for human exposure and harmful environmental impact.

The issue of confidentiality for individuals who report suspected violations to pesticide use regulations was discussed thoroughly by the Task Force. The practice in the NC Department of Agriculture is to consider all records associated with a complaint or report and the subsequent investigation confidential until they are made public when they come before the NC Pesticide Board for action. However, in the absence of specific laws protecting these documents, they are subject to the public records law and must be released upon request. Some Task Force members felt that this lack of confidentiality protection was a barrier for individuals to come forward with potential violations. Other Task Force members felt that the practice of investigating all complaints, including anonymous reports, and the proposed recommendation for non-retaliation protection for individuals who make reports was adequate to ensure good reporting. There was not consensus among the Task Force about how to move forward on this issue.

# **APPENDIX**

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For Release: **IMMEDIATE**  
Date: January 16, 2008

Contact: Seth Effron  
Phone: 919/733-5612

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**GOV. EASLEY NAMES TASK FORCE ON PREVENTING AGRICULTURAL  
PESTICIDE EXPOSURE**

**RALEIGH** – Gov. Mike Easley today named the Governor’s Task Force on Preventing Agricultural Pesticide Exposure and charged the group with making recommendations to him on how to better protect the health of those who work around pesticides. The task force, which includes key government leaders in the areas of health and agriculture, will examine current regulations and practices in protecting the health of farmers, pesticide applicators and agricultural workers.

“I am counting on this group to devise a plan that will make sure we protect the health of those who use and work around pesticides as they grow and harvest North Carolina crops,” Easley said. “We are bringing our top experts together to address this issue and their recommendations will make North Carolina a national leader in this area.”

State Health Director **Leah Devlin** will chair the group. Other members include:

**Kevin Beauregard**, Assistant Deputy Commissioner, N.C. Department of Labor;  
**Kristen Borré**, Interim Director, N.C. Agromedicine Institute, East Carolina University;  
**Wayne Buhler**, Department of Horticultural Science, N.C. State University Pesticide Education Safety Program;  
**Jeff Engel**, State Epidemiologist, Division of Public Health, N.C. Department of Health and Human Services;  
**Tom Melton**, Assistant Director and Associate State Program Leader, Agriculture and Natural Resources/Community and Rural Development, N.C. Cooperative Extension Service;  
**Jerry Parks**, Albemarle District Health Director;  
**John Price**, Acting Director, Office of Rural Health and Community Care, N.C. Department of Health and Human Services;  
**Steve Troxler**, Commissioner, N.C. Department of Agriculture and Consumer Services.

The group will evaluate current pesticide practices in North Carolina to determine whether they provide adequate protections from pesticide exposure and identify best practices from research and from other states. The task force will also make recommendations on how to improve pesticide application and use in North Carolina, including changes to regulatory, training and enforcement structures.

The first meeting of the task force will be in February. The group is expected to make recommendations to Easley in May.

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# Governor's Task Force on Preventing Agricultural Pesticide Exposure

*9am – 12 noon, February 14, 2008  
Cardinal Conference Room, NC Division of Public Health  
5605 Six Forks Road, Raleigh, NC*

## A G E N D A

1. Welcome and Introductions
2. Charge to the Group
3. Brief Overview of Participating Agencies (5-10 minutes presentations on the roles and relevant issues for Task Force deliberations)
  - Agriculture ..... Steve Troxler, Commissioner, N.C. Department of Agriculture
  - N.C. Agromedicine Institute, ECU ..... Kris Borré, Director
  - N.C. State University ..... Wayne Buhler, Pesticide Education Specialist  
Department of Horticultural Science, NC State University
  - Cooperative Extension ..... Tom Melton, Asst. Director and Assoc. State Program Leader  
Agriculture and Natural Resources/Community and Rural Development  
N.C. Cooperative Extension Service
  - Labor ..... Kevin Beauregard, Assistant Deputy Commissioner  
N.C. Department of Labor
  - Environment and Natural Resources ..... William G. Ross Jr., Secretary  
N.C. Dept. of Environment and Natural Resources
  - Health and Human Services ..... John Price, Director  
Office of Rural Health and Community Care  
Jeffrey Engel, State Epidemiologist  
Chief, Epidemiology Section, N.C. Division of Public Health
  - Local Public Health ..... Jerry Parks, Health Director, Albemarle District Health Services
4. BREAK
5. Proposed Work Plan:
  - Agenda for Next Meetings
  - Meeting Schedule
  - Meeting Format
6. Discussion
7. Adjourn

# Governor's Task Force on Preventing Agricultural Pesticide Exposure

*9am – 3pm, March 17, 2008  
Cardinal Conference Room, NC Division of Public Health  
5605 Six Forks Road, Raleigh, NC*

## A G E N D A

9:00 a.m. Welcome and Review of Agenda.....Leah Devlin, Chair

### 9:15 a.m. – 10:15 am. **Panel Presentation: TRAINING**

- Worker Protection Standards ..... Kay Harris  
Certification, Licensing and Outreach Manager  
NC Department of Agriculture and Consumer Services
- Applicator, Handler, Grower Training..... Julia Storm  
Cooperative Extension Specialist  
NC State University
- Farmers ..... Buddy Deal, Grower  
NC Growers Association
- Farmworkers ..... Elizabeth Freeman Lambar, Director  
NC Farmworker Health Program

10:15 a.m. – 10:30 a.m. B R E A K

### 10:30 am. – 11:30 a.m. **Panel Presentation: COMPLIANCE**

- OSHA Regulations..... Regina Luginbuhl, Chief  
Agricultural Safety and Health Bureau  
NC Department of Labor
- Enforcement of Pesticide Laws ..... Pat Jones, Field Operations Manager  
Pesticide Section  
NC Department of Agriculture and Consumer Services
- Worker Advocacy ..... Fawn Pattison, Executive Director  
NC Agricultural Resources Center
- Farmer Perspective..... Mitch Peele, Staff,  
Senior Director of Public Policy  
NC Farm Bureau



11:30 a.m. – 12:00 p.m. Overview of Pesticide Exposure Research ..... Thomas A. Arcury  
Professor and Research Director  
Department of Family and Community Medicine  
Wake Forest University School of Medicine

12:00 pm. – 12:30 p.m. NETWORKING LUNCH (Provided)

12:30 p.m. – 1:30 p.m. **Panel Presentation: HEALTH**

- Worker and Family Awareness.....Robin Tutor  
Education & Outreach Program Director  
NC Agromedicine Center
- Healthcare – Public Health ..... Deborah Norton, MD, Medical Staff  
Wake County Health Department
- Healthcare – Community Health Centers ..... Venkat Prasad, MD, Medical Director  
Tri-County Community Health Center
- Public Health Surveillance..... Sheila Higgins, RN  
Occupational Health Nurse  
NC Division of Public Health

1:30 p.m. – 1:45 p.m. B R E A K

1:45 p.m. – 2:45 p.m. Discussion and Public Comment

2:45 p.m. - 3:00 p.m. Task Force Discussion of Recommendations

3:00 p.m. Adjourn

## **Governor's Task Force on Preventing Agricultural Pesticide Exposure**

*1pm – 5pm, April 10, 2008  
Cardinal Conference Room, NC Division of Public Health  
5605 Six Forks Road, Raleigh, NC*

### **A G E N D A**

- 1:00pm      Welcome
- Review of the Agenda and Process
- Presentation and Task Force Discussion of Recommendations
- 3:00 – 3:15pm      B R E A K
- Presentation and Task Force Discussion of Recommendations (con't)
- Public Comment
- Action on Recommendations
- Action on Full Report
- Next Steps
- 5:00pm      Adjourn