LEGISLATIVE

RESEARCH COMMISSION

PEST CONTROL

REPORT TO THE
1989 GENERAL ASSEMBLY
OF NORTH CAROLINA
1989 SESSION

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TABLE OF CONTENTS

STATE OF NORTH CAROLINA

LEGISLATIVE RESEARCH COMMISSION

STATE LEGISLATIVE BUILDING

RALEIGH 27611

December 14, 1988

TO THE MEMBERS OF THE 1989 GENERAL ASSEMBLY:

The Legislative Research Commission herewith submits to you for your consideration its final report on pesticides and pest control. The report was prepared by the Legislative Research Commission's Committee on Pest Control pursuant to Section 2.1(25) of Chapter 873 of the 1987 Session Laws.

Respectfully submitted.

Liston B. Ramsey

J. J. (Monk) Harrington

Cochairmen
Legislative Research Commission

1987-1988

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PREFACE

The Legislative Research Commission, established by Article 6B of Chapter 120 of the General Statutes, is a general purpose study group. The Commission is co-chaired by the Speaker of the House and the President Pro Tempore of the Senate and has five additional members appointed from each house of the General Assembly. Among the Commission's duties is that of making or causing to be made, upon the direction of the General Assembly, "such studies of and investigations into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner" (G.S. 120-30.17(1)).

At the direction of the 1987 General Assembly, the Legislative Research Commission has undertaken studies of numerous subjects. These studies were grouped into broad categories and each member of the Commission was given responsibility for one category of study. The Co-chairs of the Legislative Research Commission, under the authority of G.S. 120-30.10(b) and (c), appointed committees consisting of members of the General Assembly and the public to conduct the studies. Co-chairs, one from each house of the General Assembly, were designated for each committee.

The study of pest control and pesticides was authorized by Section 2.1(25) of Chapter 873 of the 1987 Session Laws. That act states that the Commission may consider House Bill 1752 in determining the nature, scope and aspects of the study. House Bill 1752 states that the Legislative Research Commission shall study the issue of pest control. The Legislative Research Commission grouped this study in its "Animals" area under the direction of Senator R.L. Martin. The Committee was chaired by

Senator Jim Speed and Representative Bertha ("B") Holt. The full membership of the Committee is listed in Appendix B of this report. A committee notebook containing the committee minutes and all information presented to the committee is filed in the Legislative Library.

SUMMARY

The LRC Committee on Pest Control met a total of eight times between December, 1987 and November, 1988. The Committee heard testimony from numerous state agencies and private groups on topics such as federal and state regulation of pesticides; environmental and health effects of pesticides; inspection, sampling, construction, and abandonment of domestic and public supply water wells; the certification and licensing programs for certified applicators, farmers, structural pest control applicators and others; chemical hypersensitivity; pesticide contamination of groundwater; aerial applications; integrated pest management practices; and several other topics concerning pesticides and their regulation and use.

During the course of the Committee's proceedings, there were also significant changes to and a reauthorization of the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), the primary federal statutory authority for the regulation of pesticides and their use. In addition, various federal regulations and guidelines concerning or affecting pesticides were under consideration or had been issued by the United States Environmental Protection Agency during this time, including farmworker field reentry intervals after pesticide spraying of fields, guidelines to protect wellhead areas from contaminants, sampling of public water supplies for additional chemicals, and a comprehensive groundwater strategy.

The seventh meeting of the Committee was devoted to accepting recommendations from the public and from state agencies concerning pesticides. Over thirty different

recommendations were submitted to the Committee for consideration. A summary of these recommendations by the public and state agencies is included in the "Committee Proceedings" section of this report under the October 28, 1988 heading. In addition, written copies of these recommendations are included in Appendix F of the report.

At its eighth and final meeting, the Committee made the following recommendations:

(1) That the University of North Carolina Board of Governors study and report to the General Assembly on the feasibility of an agrimedicine program.

(2) That the Pesticide Board study methods of obtaining data on pesticide sales and usage.

(3) That a program be created to assist in closing abandoned wells, with increased penalties for well contractors who fail to report the construction of new wells.

(4) That the buffer zone for the aerial application of pesticides around residences be increased from 100 to 300 feet.

(5) That warnings be provided for pesticide applications to certain types of turf areas and for pesticide treatments of occupied residential structures.

(6) That a health representative and a public member be added to the Structural Pest Control Committee.

(7) That all persons professionally applying pesticides (excluding a farmer's employees doing work on the farmer's land) and all employees applying pesticides on their employers' properties (excluding a farmer's employees doing work on the farmer's land) be certified for applications made beginning

January 1, 1991, and that training be required for uncertified persons until that time.

(8) That the General Assembly appropriate funds or additional funds, as indicated in the "Recommendations" section of the report, for groundwater monitoring for pesticides, agriculture cost-sharing for nonpoint source pollution control, university programs relating to integrated pest management and pesticide certification and use, structural pest control inspectors and administrative support, pesticide waste disposal, boll weevil eradication, and facilities for biological pest control and related support services.

The Committee's recommendations are discussed in detail in the "Recommendations" section of this report, and, except for Recommendations 2, 7 and 8 above, legislation drafted to implement these recommendations is contained in Appendix G.

COMMITTEE PROCEEDINGS

December 10, 1987

The Pest Control Committee held its initial meeting on December 10, 1987 for an overview of the regulatory structure of pesticides and their use. Mr. John Smith, head of the Pesticide Section of the North Carolina Department of Agriculture's Food and Drug Protection Division, addressed the Committee on the federal and state regulatory structure. Congress has enacted two laws that govern the use of pesticides -- the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") and the Federal Food, Drug, and Cosmetic Act ("FFDCA").

The Environmental Protection Agency ("EPA") is the federal agency responsible for enforcing FIFRA. Under FIFRA, every pesticide product must be registered with EPA. In order to be registered, a product must undergo an evaluation by EPA to determine its impact on human health and the environment. If the product is also intended for use on a food or feed crop, EPA must establish a raw agricultural commodity tolerance indicating the maximum level of residue from the pesticide product allowed on the food or feed crop. Once established by EPA, these tolerances are enforced by the Food and Drug Administration and the United States Department of Agriculture.

Certain pesticide products are labeled by EPA as "restricted use" products because the benefits of their restricted use outweigh the risk of their unrestricted use. These products may be used only by certified individuals. FIFRA gives the states authority to adopt their own plans to certify individuals to use restricted use pesticides, provided that the plans are consistent with the certification standards prescribed by EPA (7 U.S.C. §136b). North Carolina has adopted its own plan in accordance with these provisions.

The North Carolina Pesticide Law of 1971 (see Appendix C) regulates the use, application, sale, storage, disposal and registration of pesticides for the public health, safety, and welfare. The North Carolina Pesticide Board, a 7-member board appointed by the Governor, is the governing and policy-making board for the North Carolina Pesticide Law of 1971. Its statutory membership is composed of representatives from the following groups:

(1) Department of Agriculture;
(2) Department of Human Resources;
(3) State conservation agency;
(4) Agricultural chemical industry;
(5) Farmer;
(6) Nongovernmental conservationist; and
(7) At-large member who is neither a farmer nor an agricultural chemical industry representative.

The Board may consult a statutorily created, 19-member Pesticide Advisory Committee for technical assistance and assistance in developing regulations. Within the purview of the Pesticide Law of 1971 and the regulatory policies adopted by the Pesticide Board, the Commissioner of Agriculture is responsible for enforcing the pesticide laws. The Pesticide Section of the Food and Drug Protection Division is the administrative division within the North Carolina Department of Agriculture that provides the support to the Commissioner in enforcing and ensuring compliance with the pesticide laws.

The Pesticide Section requires the annual registration of each pesticide product that is to be sold, used, or distributed in North Carolina. A pesticide product that has been registered by EPA may be registered in North Carolina if it can be safely and effectively used in North Carolina in accordance with their label directions. There are approximately 50,000 pesticide products registered by EPA, of which approximately

11,000 are currently registered for use in North Carolina by nearly 1,000 different registrants.

In addition to registration of products, the Pesticide section certifies or licenses pesticide dealers, pest control consultants, public operators, private pesticide applicators, and non-structural commercial applicators. The section also investigates incidents of pesticide misuse and may bring enforcement actions for review before the Pesticide Board. Other functions of the Pesticide section include the operation of a disposal program for pesticide waste, sampling of pesticide products, inspections of products for proper registration, inspections of pesticide storage areas for compliance with the Board's storage regulations, involvement in the State Emergency Reaction Network for pesticide incidents, and related duties.

Mr. Ray Howell, head of the Structural Pest Control Division of the North Carolina Department of Agriculture, addressed the Committee concerning the regulation of structural pest control operators and applicators. The regulation of structural pest control activities falls under the Structural Pest Control Act, originally enacted in 1955 (G.S. §106-65.22 et seq.)(see Appendix D). The governing and policy-making body under the Structural Pest Control Act is a 5-member Structural Pest Control Committee composed of the following individuals:

(1) Board of Agriculture member, appointed by the Commissioner of Agriculture;
(2) Department of Agriculture employee, appointed by the Commissioner of Agriculture;
(3) NCSU entomologist, appointed by the dean of the NCSU school of agriculture;
(4) Pest control licensee licensed in at least two of the three phases of pest control, appointed by the Governor; and
(5) Another pest control licensee licensed in at least two phases of pest control, not from the same company as the other industry appointee, and appointed by the Governor. (G.S. §106-65).

The Structural Pest Control Act provides for licensing and certification in three phases of structural pest control work: (i) control of household pests, (ii) control of wood-destroying organisms, and (iii) fumigation. A license in a particular phase or phases of structural pest control is required of any individual or firm that wishes to own, operate, or manage a pest control business. In order to be licensed, an applicant must (i) qualify as a certified applicator for the phase or phases of structural pest control for which he is applying (i.e., pass an examination) and (ii) meet one of the following requirements: two years structural pest control experience in the appropriate phase, two years of appropriate college-supervised training (or a combination of training and experience), or a college degree with appropriate coursework (G.S. §106-65.26(c); §106-65.27(b)). Only a licensee or a certified applicator may use or supervise the use of a restricted-use pesticide. An unlicensed, uncertified employee may apply restricted-use pesticides as long as he or she is competent and is acting under the instructions and control of a certified applicator who is available when needed, even though the certified applicator is not physically present (G.S. §106-65.25(b); §106-65.24(24)). The employee must, however, be registered with the Department of Agriculture (G.S. §106-65.31), and must have completed the video training requirement recently imposed by the Structural Pest Control Committee. A copy of statistical information on the Structural Pest Control Division's inspection and enforcement activities is on file in the Legislative Library.

Mr. Carl Bailey, a hydrologist with the Groundwater Section of the Department of Natural Resources and Community Development, Division of Environmental Management, addressed the Committee on NRCD's enforcement responsibilities with respect to groundwater and how the agency's enforcement activities relate to

agricultural chemicals. Mr. Bailey explained the groundwater classification system and noted that there are groundwater quality standards for six pesticides. Mr. Bailey noted that legal and customary agricultural applications of pesticides are exempt from the groundwater quality regulations.

The Section also conducts groundwater monitoring in more than 600 wells throughout the State but does not monitor routinely for pesticides because the existing network of monitoring wells were not designed to provide groundwater quality information that can be related to pesticide use, pesticide monitoring is costly, and there are not enough lab facilities to analyze the samples that would be collected.

Mr. Allen Spalt, a public member of the Committee and Director of the Agricultural Resources Center and its Pesticide Education project addressed the Committee. Mr. Spalt noted that the last legislative study of pesticide issues was in 1971, and that pesticide use and resultant problems are more pervasive and less under control now than they were prior to the enactment of the North Carolina Pesticide Law of 1971 and FIFRA in 1972. Though there are no complete records, Mr. Spalt indicated that pesticide usage in this State may approach 50 million pounds (of active ingredients). He estimated that 90% of the houses in the State have been treated with chlordane or closely-related pesticides; that one-third of the State, according to EPA estimates, is highly susceptible to groundwater contamination from leaching pesticides; and that inadequate aerial buffer zones, the increase of chemical lawn care services, the increase in the number of chemically hypersensitive persons, and other factors are contributing to much wider exposure of the public to pesticides.

Mr. Spalt discussed three issues he felt were most important concerning pest control. First, the issue of inadequate health, safety, and environmental data for registered pesticides was discussed. Mr. Spalt briefed the Committee on the history of FIFRA and how the reregistration process instituted by the 1972 amendments to FIFRA has not provided answers to the health and environmental concerns for the 600-plus active ingredients that were to be tested as part of the reregistration process.

Second, Mr. Spalt noted that changes were needed in the State's pesticide administrative program. Mr. Spalt feels that the pesticide program should be transferred from the Department of Agriculture to a health or environmental agency, that the Pesticide Advisory Committee should be given additional environmental representation, that it should be given more pesticide policy issues to work with, and that the Structural Pest Control Committee's membership should be given conservationist representation. Mr. Spalt also indicated that the Pesticide Board routinely granted emergency exemptions for use of pesticides not fully registered and that there had been no follow-up on findings of groundwater contamination.

Third, Mr. Spalt suggested that alternatives such as integrated pest management, low-input agriculture, and biotechnological developments of pest-resistant crops should be examined and encouraged. Mr. Spalt submitted a number of recommendations for consideration by the Committee. These recommendations are included in Appendix F.

The Committee continued its review of State agencies by examining two agencies that use, rather than regulate, pesticides: NRCD's Forestry Division and the Division of Highway's Landscape Unit. Mr. Coleman Doggett of the Forest Service discussed the Forest Service's use of pesticides and other pest control practices to control forest insect infestations and disease infections. Mr. Doggett indicated that the Forest Service is currently involved with the control of the following pests: white pine blister rust, pales weevil, southern pine beetle, oak wilt, and several nursery and seed pests. The permanent Pest Control staff in forestry consists of an administrator, two pest control foresters, and a pest control technician. The Forest Service actively cooperates with NCDA, USDA, NCSU forestry extension personnel, the timber industry, universities, and other states, and it also gives pest control assistance to private landowners, industrial owners, state land managers, park managers, and urban homeowners.

Mr. W.D. Johnson, head of DOT's Landscape Unit, spoke concerning the use of pesticides along highways. The Landscape Unit manages over 300,000 acres and 76,000 miles of highways. The Unit uses herbicides and growth regulators for vegetation control. The Unit has 110 certified public pesticide applicators that use computer equipment to help regulate the application rates of pesticides used by the Unit. Highway right-of-ways and paved shoulders are among the areas treated with pesticides by the Unit.

Dr. John Freeman, head of the Environmental Epidemiology branch of the Division of Health Services (Department of Human Resources) addressed the Committee

concerning his branch's role in pesticides. Although his branch has no regulatory responsibility with respect to pesticides, the branch does test water supply wells for persons who suspect chemical contamination of their water supply and it investigates suspected contamination of homes from the application of termiticides. Dr. Freeman feels that there have been an inordinate number of persons who have had their homes sprayed with termiticides and are finding the termiticide contaminating their water supply. Dr. Freeman feels that the Committee should look at the fact that the person actually applying the termiticides is often not a certified applicator and the public is often not aware of this. Dr. Freeman felt that the Committee should also address funding for the exploration and use of alternative pest control measures that rely less on chemicals. Dr. Freeman submitted the following statistics on water well and home contamination from termiticides:

	1984	1985	1986	1987
Pesticide Cases	35	33	42	40
Pesticide Deaths	2	3	3	2
Private Wells Tested (Termiticides)	121	179	233	258
Private Wells Positive	20	22	28	31

*From 1985-87, 130 homes were tested for termiticide contamination with 20 homes determined to have levels above the National Academy of Science guidelines. The pesticide deaths reported above were all believed to be suicides.

February 17, 1988

The first presentation to the Committee for the February meeting was by Mrs. Anne Coan of the North Carolina Farm Bureau Federation. Mrs. Coan discussed some of the history behind FIFRA and noted that farmers want to use chemicals that are safe and do not pose a threat to the environment since farmers are the first to be affected by unsafe chemicals or improper use or disposal of the chemicals. Mrs. Coan stated that the Farm Bureau is supportive of strategies for better pest control management, including integrated pest management practices, and is concerned about the availability of disposal mechanisms for excess pesticides and empty pesticide containers and the availability of inexpensive tests for pesticides in rural groundwater supplies.

Mr. Marshall Grant, chairman of the Boll Weevil Eradication program and ASCS State Committee as well as a member of the Pesticide Advisory Committee, criticized the proposed changes under review by the Pesticide Board that would have imposed more stringent buffer zones and notification requirements prior to aerial application of pesticides and noted that the boll weevil eradication program, for example, would have never been effective had these proposed restrictions been in place. Mr. Grant also felt that up to ninety percent of the well contamination in the State is due to faulty well construction.

Dr. John McCarthy of the National Agricultural Chemicals Association addressed the Committee concerning testing of agricultural chemicals, risk assessment, risk

management, and the use of chemicals in agricultural production. Dr. McCarthy feels that more is known today about synthetic agricultural chemicals than we know about natural products in our food and environment. He stated that there are 150 tests required for registration of agricultural chemicals, some of which may take six months and some of which may take up to four years to conduct. Dr. McCarthy noted that the estimated 800+ million pounds of pesticides used annually have made a significant contribution to the productivity of our farmers. Dr. McCarthy stated that more training and education of applicators, handlers, and others involved with pesticides should be encouraged.

Mr. William Tesh, President of the North Carolina Pest Control Association, addressed the Committee concerning the structural pest control industry. Mr. Tesh questioned whether groundwater contamination was resulting from the proper application of pesticides by professional structural pest control operators. Mr. Tesh defended the use of noncertified employees in the application of pesticides under the supervision of certified applicators on grounds that there is State-mandated training for these employees and training and education are a part of the industry's own efforts to ensure the competency and workmanship of these employees. In response to a question about the composition of the Structural Pest Control Committee, Mr. Tesh indicated his support for the current 5-member composition. After discussions about chlordane and its substitutes, Mr. Spalt noted that the factor that prompted EPA to ban chlordane was not evidence of misuse, but evidence of measurably high levels of chlordane within the living areas of residences properly treated with the chlordane.

The March meeting of the Committee was devoted to presentations on medical recognition and treatment of pesticide-related illnesses, the need for more information on such illnesses with respect to migrant workers, and integrated pest management.

Dr. Ronald Kuhr, at the time Interim Director (and now Director) of the Agricultural Research Service at North Carolina State University, commented on the research and extension programs at North Carolina State University's School of Agriculture and Life Sciences. Dr. Kuhr noted that we have moved from the stage where we were almost exclusively dependent on chemicals to a stage today where chemicals are merely one phase of an integrated approach to controlling pests. Emphasis is now placed on using chemicals only when necessary, at minimum dosage levels, and, to the extent possible, on the target site.

Dr. Kuhr stated that the following IPM research and extension programs are now underway at NCSU:

(1) biology of a wide range of insects, mites, ticks, weeds, nematodes, rodents, etc.;
(2) cultural control methods, such as rotation, planting and harvesting time;
(3) biological control of all pest types using microbes, parasites, etc.;
(4) mechanical control methods including crop residue destruction, traps, barriers, etc.;
(5) chemical control methods;
(6) toxicology and environmental fate of pesticides;
(7) involvement of over 70 different commodities, with as many as 70 pests attacking one commodity in some instances;
(8) human exposure and safety;
(9) social and economic implications of various pest control methods;
(10) relationship of new agronomic practices to pest management, including double-cropping, minimum till, irrigation, etc.;
(11) relationship of weather to commodity and pest development;
(12) use of mathematical modelling to predict host/pest interactions;

(13) use of biotechnology and other scientific techniques; and
(14) integration of several or all of these areas into a unified approach to pest control, such as integrated pest management.

Dr. Kuhr stated that more funds are needed to continue the research, training, instructional, and extension efforts at NCSU concerning pest control.

Dr. Joseph Phillips, Assistant Director of the Agricultural Extension Service, spoke to the Committee concerning agricultural practices and groundwater quality. Dr. Phillips noted that the Extension Service addresses water quality at two levels: (i) educational programs to protect surface waters and groundwater and (ii) guidance to state and federal programs on implementing and monitoring water quality programs. In addition to their conventional education programs on campus and at the county level, the Extension Service also has a special water quality group in the Department of Agricultural Engineering that conducts data analysis and provides technical assistance to the rural clean water program and which is considered one of the foremost authorities on environmental monitoring design and data analysis.

The Committee heard two presentations concerning the need for more medical information and studies on pesticide illness. Dr. Jim Hartye, a family practitioner in North Wilkesboro, told the Committee of his recent efforts to become more knowledgeable on agriculturally-related illnesses, especially those arising from pesticide use or misuse and chicken house work. Dr. Hartye felt that many physicians, like himself, were uneducated about pesticide-related illnesses, leading to misdiagnoses in some instances. Dr. Hartye stressed that medical professionals need to be educated on agriculturally-related symptoms and illnesses. He has developed a seminar in his area to explain the adverse health effects of exposure to pesticides.

Ms. Christina Harlan, a graduate student who works with the University of North Carolina to coordinate health education programs with migrant farm workers, also commented on misdiagnoses by medical professionals of pesticide-related illnesses and stated that there is a need for coordinated research within migrant health to arrive at hard documentation as to hazards and health effects of pesticides.

Mr. Hugh Young, Director of the Edgecombe County Health Department, spoke to the Committee concerning problems the County was having with NRCD in an alleged lack of cooperation by and communication from NRCD with the County. Mr. Paul Wilms, head of the Environmental Division of NRCD, addressed these concerns to the satisfaction of Mr. Young and Senator Martin, whose legislative district includes Edgecombe County. The specific points of contention are outlined in the minutes of the committee meeting which are on file in the legislative library.

Portions of the April meeting, the last meeting prior to the General Assembly's 1988 short session, were videotaped for OPENNET, a presentation of the UNC-TV network, and were broadcast at a later time over the public television network. The cochairmen of the Committee, Senator Jim Speed and Representative Bertha ("B") Holt, as well as the LRC member in charge of the Committee, Senator R.L. Martin, participated in a live-in call in show immediately after the airing of the taped portions of the committee meeting.

Several speakers addressed the Committee at this meeting. Ms. Helen Moore, a chemically hypersensitive person who has founded Eco-Search, a research and consulting service for chemically-sensitive persons and other interested persons, spoke to the Committee about her personal symptoms and background, and then made several recommendations to the Committee concerning notification requirements of spraying, buffer zones for spraying, posting of notices, and related suggestions. Ms. Moore repeated these recommendations by letter to the Committee, and the letter is included with all the letters received from various groups at the October, 1988 meeting of the Committee concerning recommendations for the Committee to consider.

Mr. Jerry Coker, Vice President of the North Carolina Pesticide Board, explained why the Pesticide Board had decided not to make the changes in the aerial application regulations requested by the Chatham County Board of Commissioners as a result of an aerial spray incident in the Gorgas community in Chatham County. Existing Board regulations allow spraying by aerial application within 100 feet of a residence, and the

100' limit may be waived by the resident. The proposed regulations would have required a 1,000 foot buffer zone, with waivers allowed up to 300 feet, but in no event could aerial spraying occur within a 300 foot perimeter of a residence. The proposed regulations would also have required advance notice to nearby residents of any aerial spraying that was to take place. All proposed changes were rejected by the Board, but the Board did amend the rules to prohibit the waiver of the existing 100 foot buffer zone. Mr. Coker stated that it would be an economic hardship on farmers if these changes were accepted, and that strict enforcement of the current regulations is the best way to achieve safe aerial application of pesticides and avoid drift.

Dr. William Dow, an adjunct professor with the UNC School of Public Health, reiterated many of the comments of Dr. Hartye at the previous meeting concerning the lack of information for physicians on pesticide illnesses and their diagnosis. Dr. Dow also pointed out that most farmers get their pesticide information from pesticide salesmen, who are not health advisors. He recommended that we encourage our medical schools to do good agricultural medical research, and that relevant information be made more accessible to the public.

Mr. Glenn Jernigan, legislative representative for the Pesticide Association of North Carolina, briefly commented to the Committee on how the use of pesticides have increased crop productivity, public facility sanitation, and health standards. Mr. Jernigan introduced three speakers to the Committee: Dr. Stanley Schumann, Agri-Medicine Medical Director at the Medical University of Charleston, South Carolina; Mr. Charles Rock, Manager of Animal Health and State Regulatory Affairs for Ciba-Geigy's Agricultural Division; and Dr. James Stevens, Manager of Toxicology for Ciba-Geigy's Agricultural Division.

Dr. Schumann explained the agro-medicine program in South Carolina and noted that the South Carolina program is the only one in the country combining agricultural science and medical science between two universities. The other member of the program is an IPM Coordinator at Clemson University. Dr. Schumann, in addressing the question of health effects of pesticides, emphasized to the Committee that we need more information on both synthetic and natural chemicals, especially in terms of dosages and susceptibility to certain dosages. Dr. Schumann feels that other causes of chronic diseases are more likely to cause birth defects, cancer, etc. than are synthetic chemicals. (The agro-medicine program formed the basis of a later recommendation by the Pesticide Association of North Carolina for the establishment of a program in this State, with legislative funding). Dr. Schumann submitted charts concerning birth defects that are included in the minutes on file in the legislative library.

Mr. Rock presented an overview of the EPA pesticide registration process to the Committee, especially with respect to EPA regulations governing the testing and evaluation of chemicals prior to registration or reregistration. Mr. Rock stated that the regulation of pesticides is premised on balancing the risk of using a pesticide against its benefits to society. Mr. Rock felt that it was misleading to contend that testing of pesticides is inadequate: rather, continuing changes in the requirements for evaluating chemicals as science progresses account for this perception of inadequate testing. For example, advances in scientific technology have to a large extent generated concerns about groundwater contamination because laboratory sophistication has reached a point where traces of virtually every synthetic compound can be detected in soil, air, or water.

The primary focus of the September 23rd meeting was on groundwater quality, with three presentations featured on this issue: (i) a presentation by Dr. Jack Sheets, Chairman of the Pesticide Advisory Committee, on the proposed study of the potential impact of pesticides in groundwater in North Carolina; (ii) a presentation by Mr. Perry Nelson, chief of NRCD's Groundwater Section, on the proposed revisions to the groundwater classification regulations; and (iii) a presentation by Mr. Harry Peek, a professional hydrogeologist and retired chief of NRCD's Groundwater Section, on the Pesticide Board's proposal.

The proposed study of the potential impact of pesticides in groundwater in North Carolina is a cooperative effort between the Department of Agriculture, NRCD, and Human Resources, and was endorsed by the North Carolina Pesticide Board. The plan is a two-year plan to monitor selected groundwater sites in 39 counties for contamination by certain types of pesticides. The plan will monitor primarily agricultural sites, but also right-of-way sites, structural pest application sites, forest plantations, industrial sites, golf courses, landscaped sites, mosquito abatement areas, and nurseries. Within the 39 counties, specific sites will be chosen in part using a rating methodology developed by EPA to identify groundwater pollution susceptibility. The contents of the plan are included in full as Appendix E.

Mr. Perry Nelson discussed the proposed revisions to the groundwater classification regulations (Subchapter 2L.0100 - 2L.0319 of NRCD regulations). The proposed

revisions would make a number of changes, including the following changes that impact the use of agricultural chemicals:

(1) Deletion of the non-degradation standard and replacement with a statement limiting degradation to a defined area around permitted facilities. The application of pesticides, fertilizers, and other farm chemicals in accordance with label directions would be exempt from the regulations provided that concentrations of the chemicals in excess of water quality standards do not occur beyond the property boundary or below a depth of 10 feet below land surface; and

(2) The list of numerical standards has been increased from 31 parameters to 74 parameters. Many of the 74 substances are pesticides or have pesticidal uses.

One or two groups submitted written comments in response to these proposed regulations to the Pest Control Committee; written comments have also been submitted to the Groundwater Section in response to these proposed regulations by several individuals and groups at the hearings held on the proposed rules during the summer.

Mr. Peek questioned aspects of the proposed groundwater monitoring survey. He felt that a comprehensive survey would require sampling of thousands of wells in all 100 counties. Rather than drilling new wells, the groundwater monitoring program could select from NRCD's data files wells of various depths from every county for use in the program; wells built since 1972 have been built according to State standards, and many have been inspected. Mr. Peek felt that samples taken from wells that had been in use for several years would provide a much better indication of pollution than samples from new wells. Mr. Peek criticized the proposed study's failure to give adequate consideration to existing data and information already available from other states and from previous samples taken in this State. Mr. Peek suggested taking samples at the existing agricultural research stations since these stations are located to typify the different regional conditions of the State. He also felt that the proposal itself is without sufficient substance to justify the projected cost.

The final speaker for the September meeting was Mr. John Wilson, Pesticide Education Coordinator and Professor of Horticultural Science at North Carolina State University. Mr. Wilson pointed out that North Carolina produced the first training manual for applicator certification in the nation in 1973, only a year after the enactment of FIFRA and two years after enactment of the North Carolina Pesticide Law of 1971. Mr. wilson also pointed out that North Carolina went beyond the federal law by requiring the licensing of pesticide dealers, and requiring commercial pesticide applicators, public operators, and consultants involved only with general use pesticides.

North Carolina developed the first pesticide application training manual for farmers. In 1975, the North Carolina Agricultural Extension Service began offering 4 hours of Pesticide-Board approved classroom training to farmers, with over 54,000 farmers certified in the proper usage of restricted-use chemicals by 1985. The Board now requires recertification of these farmer, and the Extension Service is offering 2-hour classes that includes a slide presentation, manual, and test booklet. The recertification covers issues such as safe and proper use of pesticides, aerial application rules, worker reentry periods, groundwater and environmental concerns, safe storage and disposal, and various other issues.

Commercial pesticide applicators and dealers must pass a test administered by the Department of Agriculture in order to be licensed. Both groups must also be recertified every 5 years, with the accumulation of the required number of continuing education credits for the appropriate specialty. Mr. Wilson felt that most dealers and applicators were educating themselves beyond the minimum requirements imposed by regulation as a matter of professional pride and responsibility.

Mr. Wilson noted that county extension offices, during 1987 alone, provided information and assistance to over 100,000 homeowners, over 75,000 farmers, and thousands of commercial applicators and dealers. In addition, 143 of NCSU Extension specialists and researchers in the College of Agriculture and Life Sciences spent more than 50% of their time working with pest control matters last year. NCSU also has data on the performance of nearly every major pesticide used in North Carolina, and publishes an agricultural chemicals manual annually for farmers, dealers, commercial applicators, homeowners, and others containing information on the safe and proper use of pesticides.

Mr. Wilson noted for the Committee those portions of the manual for farmers dealing with groundwater, and pointed out additional sections concerning proper storage and disposal, handling, etc. Mr. Wilson felt that in most cases, the benefits of pesticides outweigh their risks, and that although we must continue to discourage the misuse and unnecessary use of pesticides, we must ensure that they are available to qualified persons to provide food and fiber and to protect the health of humans, our animals, and our environment.

Mr. Erick Umstead, Research Director of the Agricultural Resources Center, submitted written comments to and addressed the Committee on what he believed to be flaws in the proposed groundwater monitoring plan. Mr. Umstead stated that the proposed plan fails to rely on historical data already available to identify susceptible areas of contamination. He also stated that water samples should be taken more frequently than semiannually and that follow-up samples should be selected at random rather than just from those that test positive the first time. Mr. Umstead also questioned

the proposed cost of the study, stating that poor experimental design in the plan is partially responsible for the high cost.

The purpose of the October meeting was to accept from interested parties recommendations concerning pesticides and pest control activities, regulations, etc. The written recommendations of the groups following groups and individuals are included in Appendix F. Some of the recommendations included in Appendix F were submitted at earlier meetings of the Committee and some were submitted shortly after the October 28th meeting.

Agricultural Resources Center
Nancy Barnhardt
Clean Water Fund
Conservation Council
Environmental Defense Fund
John Freeman (DHS)
Gorgas Community Citizens Committee
Helen Moore
National Foundation for the Chemically Hypersensitive
North Carolina Department of Agriculture
North Carolina League of Women Voters
North Carolina State University
Pesticide Association of North Carolina
Pest Control Association of North Carolina

In addition, a summary of the recommendations presented at the October 28th meeting is provided below. Please consult Appendix F to determine the source(s) for these recommendations.

NOTICE OF PESTICIDE USAGE

(1) Post all areas (structures, lawns, roads, forests, agriculture areas, golf courses, etc.) with notices indicating the date of the pesticide application, next application, and name of pesticide used.

(2) Post notices of pesticide spraying of public buildings, highways, and recreational areas, indicating date of last application.

(3) Require prior notification of all people within one-half mile of the target spray area for aerial applications.

REGULATORY AND ADMINISTRATIVE MATTERS

(4) Remove responsibility for the pesticide regulatory programs from the department of agriculture.

(5) Retain responsibility for pesticide programs in department of agriculture and maintain current structure of pesticide board and pesticide advisory committee.

(6) Add two new inspectors, assistant director, and clerk position to the structural pest control division of the department of agriculture.

(7) Do not consolidate the Structural Pest Control Division with any other agency.

MEDICAL PROGRAMS AND MEDICAL INFORMATION

(8) Develop a state agromedicine program to educate health care professionals and others, to provide research, and to provide medical consultation and related functions with respect to pesticide-related illnesses and other agriculturally-related injuries and diseases.

(9) Have our medical community knowledgeable about the recognition and management of pesticide poisoning.

(10) Study ways to get information to chemically hypersensitive persons about pesticide exposure in public places.

(11) Require reporting of incidents of actual and suspected pesticide contamination and poisoning to a central agency.

DATA ON PESTICIDE USAGE

(12) Adopt regulations requiring manufacturers, registrants, dealers, and applicators to report the quantities and types of pesticides used in the state.

EDUCATION, TRAINING, AND EXPERIENCE OF APPLICATORS

(13) Require the certification and competency testing (or equivalent assurances of competency) for all persons who apply pesticides to structures.

(14) Expand the existing private applicator (farmer) training and certification program to educate applicators on preventive measures to lessen potential for groundwater contamination, including additional funding for the certification and training program.

(15) Fund the pesticide licensing, certification, recertification, and training program at a level to keep the program at a high-quality level.

GROUNDWATER AND SURFACE WATER QUALITY

(16) Implement a groundwater monitoring program for pesticides as proposed by the Interagency Task Force (DOA, NRCD, and DHR) for a 2-year period, at projected cost of approximately $1.5 million.

(a) Implement a groundwater monitoring program for pesticides only if changes in the methodology and sample analyses costs are made in the Inter-Agency Task Force's plan.

(b) Implement a groundwater monitoring program for pesticides, but provide legal protection for farmers in the monitoring areas whose groundwater is found to be out of compliance with groundwater standards or MCL's.

(17) Maintain the current nondegradation standard for groundwater, with no exemption for agricultural practices; however, require pesticide manufacturer to pay for clean-up of groundwater contaminated by pesticide applications done in accordance with label directions.

(18) Expand the agriculture cost-share program for nonpoint source pollution to include the remaining 44 counties in the state not currently included in the program.

(19) Initiate research project in agriculture research service to develop less expensive tests or indicators for pesticides in water, making these tests less expensive for farmers and enabling farmers to check their own water supply.

(20) Restrict from use those pesticides that leach into groundwater.

(21) Develop strict health-based standards to protect groundwater and ensure that pesticides remain in the root zone.

INTEGRATED PEST MANAGEMENT

(22) More concentration on IPM in farmer education programs, support research, and on-farm demonstration projects, and instructional workshops for ipm scouts.

(23) Develop cost-share program for IPM, in which farmers share portion of the costs.

(24) More research into sustainable or low-input agriculture.

(25) Require extension agents to include information about farming without chemicals in the information they give to farmers.

DISPOSAL OF PESTICIDES AND CONTAINERS

(26) Fund workshops to train landfill operators on accepting properly managed pesticide containers for disposal.

(27) Increase funding for the NCDA pesticide disposal program which assists farmers and others in the proper disposal of pesticide products.

(28) Enlarge NCDA pesticide disposal program, with possible monetary or resource help from the chemical manufacturers.

(29) Fund a pilot project in one county for the collection of unwanted pesticides, pesticide containers, and household hazardous waste.

BIOLOGICAL PEST CONTROL AND BIOTECHNOLOGY

(30) Fund construction of biological pest control facility and related support services center (at cost of approximately $2 million) and increase funding for biological pest control support (NCDA).

AERIAL APPLICATION

(31) Require liability insurance for aerial applicators.

(32) Eliminate the current exemption allowing pilots to fly over obstructions without regard to the amount of drift that may result.

(33) Require prior notification of all persons within one half mile of the spray area.

(34) Enlarge residential buffers to 1,000 feet, with provision for consent agreements to spray from 300 feet to 1,000 feet from the residence.

OTHER RECOMMENDATIONS

(35) Continue funding for the boll weevil eradication program and examine possibility of developing similar programs for other crops.

(36) Require state agencies adopting environmental regulations to recognize the application of pesticides according to label directions as being in compliance with the regulations.

(37) Increase registration fees for pesticides to raise money for better programs.

(38) Reinstate fines for sale and distribution of products that do not meet label specifications.

(39) Permit civil penalties for any violation of the Pesticide Law or regulations.

The Committee considered several recommendations, including general recommendations, draft legislation, and budgetary recommendations, at the November meeting, the final meeting of the Committee. The Committee approved eight recommendations -- five of which were incorporated into legislation adopted by the Committee, one of which required no legislation, one for which legislation was not prepared but will be required in order to implement, and one of which contained all the budgetary items recommended for funding by the General Assembly. The recommendations and a summary thereof are contained in the next section of this report. The legislation adopted by the Committee is contained in Appendix G of this report.

RECOMMENDATIONS

(1) THE COMMITTEE RECOMMENDS THAT THE UNC BOARD OF GOVERNORS STUDY AND REPORT TO THE GENERAL ASSEMBLY ON THE FEASIBILITY OF ESTABLISHING A STATE AGRIMEDICINE PROGRAM INVOLVING THE JOINT RESOURCES OF ONE OF THE STATE'S MEDICAL SCHOOLS AND ONE OF ITS AGRICULTURAL SCHOOLS.

The University of North Carolina Board of Governors is by statute responsible for assessing the need for new programs at its constituent institutions (G.S. §116-11(3)). This recommendation, as incorporated in Draft Bill 89-RN-011 (see Appendix G), would require the Board of Governors to study the feasibility and costs of establishing and operating an agrimedicine program involving the joint resources of a medical school of one of the constituent institutions of the University system (UNC-Chapel Hill or East Carolina University) and an agricultural school of one of the constituent institutions (North Carolina A & T State University or North Carolina State University). The agrimedicine program envisioned by the Committee would include service functions, educational functions, and research functions on agricultural health and safety hazards, including pesticide use and exposure. The Board of Governors would report to the Joint Legislative Commission on Governmental Operations no later than March 31, 1990.

(2) THE COMMITTEE RECOMMENDS THAT THE NORTH CAROLINA PESTICIDE BOARD STUDY METHODS FOR OBTAINING RELIABLE DATA ON

PESTICIDE SALES BY DEALERS AND/OR PESTICIDE USAGE BY MAJOR END-USERS.

The North Carolina Pesticide Board has authority under existing law to require the maintenance of records and the reporting of data on pesticide sales and usage in this State (G.S. §143-437(3), §143-459, §143-466)). The Committee, rather than requiring the Board to implement a legislatively-imposed reporting system, elected to "strongly recommend" that the Board review and report to the General Assembly on methods for obtaining data on the sales and usage of limited categories of pesticides. No legislation was approved on this topic. This recommendation does not require Board action on this issue, nor does it require a report back to the General Assembly.

(3) THE COMMITTEE RECOMMENDS THAT THE FINE FOR FAILURE OF A CONTRACTOR TO TIMELY REPORT THE COMPLETION OF A WELL BE TRIPLED, THAT WELL CONTRACTORS BE REQUIRED TO GIVE ADDITIONAL INFORMATION TO THE LANDOWNER UPON COMPLETING A WELL, AND THAT A PROGRAM BE ESTABLISHED TO PROVIDE FOR GRANTS TO LOCAL GOVERNMENTS TO ASSIST IN CLOSING ABANDONED WELLS.

Under existing law (G.S. §143-355(g)), well contractors are required to report certain information (location, size, depth, number of feet of casing used, etc.) on each new well they construct to the Department of Natural Resources and Community Development within 30 days of completion of the well. Failure to timely report is a misdemeanor, punishable by a $50.00 fine. The Committee's

recommendation, incorporated in Draft Bill 89-RN-006 (see Appendix G), would increase the amount of the fine from $50.00 to $150.00 per violation. This provision would become effective October 1, 1989.

Under existing law (G.S. §143-355(g)), well contractors must also provide to the landowner for whom the well is constructed the same information provided to the Department. The Committee's recommendation, included in Draft Bill 89-RN-006 (see Appendix G), requires the well contractor to also provide to the landowner a copy of the applicable State rules and/or local ordinances concerning well construction and a copy of a well construction diagram containing such information as specified by the Environmental Management Commission under its rule-making authority (G.S. §143-354(a)(8)). Failure to provide this information to the landowner would also be subject to the $150.00 fine discussed above. This provision would become effective October 1, 1989.

The Committee also recommends the establishment of a new abandoned well closure program. The program, as set out in Section 3 of Draft Bill 89-RN-006 (see Appendix G), would provide matching grants (1:1 ratio) to counties and municipalities for operation of local abandoned well closure programs. Each local program would be responsible for publicizing both its program and the dangers of abandoned wells to animals, humans, and the environment. Each local program would also provide financial incentives to landowners to close abandoned wells by extending grants to landowners for 25 to 50 percent of the cost of plugging a well, up to a maximum contribution of $100 per well. The program funds could also be used to locate abandoned wells.

The funding for the local share of the program could come from whatever source the local governmental entity could legally draw from for this program, including funds received under any State or federal programs that might be used for the program. The funding for the State's share of the program would come from a new "groundwater resources fee" -- a $20 flat fee levied on the construction of each new well -- in addition to any appropriations from the General Assembly and any monies from federal or private sources that are available. The well contractor would be responsible for collecting the fee and for remitting the fee to the Department of Natural Resources and Community Development. The Department would deposit the fee in the Abandoned Well Closure Grant Fund.

A Technical Review Committee consisting of representatives from various groups most affected by the program and groups knowledgeable about groundwater and well construction and abandonment standards would be created to provide input into the design of the plan and continuous review of the program and its requirements.

The abandoned well closure program would not begin operating until July 1, 1990 -- the beginning of the 1990-91 fiscal year. However, in order to begin generating revenue for the program prior to its implementation, the $20 assessment on new well construction would take effect October 1, 1989.

(4) THE COMMITTEE RECOMMENDS THAT THE BUFFER ZONE FOR THE AERIAL APPLICATION OF PESTICIDES AROUND RESIDENCES BE INCREASED FROM 100 FEET TO 300 FEET.

As of July 1, 1988, Pesticide Board regulations prohibit the aerial application of pesticides within 100 feet of a residence (2 N.C.A.C. 9L.1005(e)). Prior to July 1, 1988, aerial application of pesticides within 100 feet of a residence was permissable with written consent of the resident. The Pesticide Board's current aerial application regulations also prohibit the aerial application of pesticides within 300 feet of schools, hospitals, nursing homes, churches, or other non-residential structures used for social or business activities if either the premises or building is occupied by people (2 N.C.A.C. 9L.1005).

The Committee's recommendation, incorporated in Draft Bill 89-RN-007 (see Appendix G), would prohibit the aerial application of pesticides within 300 feet of a residence. The legislation would not establish a buffer zone for or otherwise prohibit the application of pesticides near residences by ground equipment. The legislation would become effective October 1, 1989.

(5) THE COMMITTEE RECOMMENDS THAT WARNING SIGNS BE POSTED FOR PERIODS OF 24 OR 48 HOURS AFTER THE APPLICATION OF PESTICIDES TO LAWNS, GOLF COURSES, PLAYGROUNDS, PARKS, AND SIMILAR TURF AREAS BY PROFESSIONAL APPLICATORS AND THAT WRITTEN NOTICES BE PROVIDED TO OCCUPANTS OF SINGLE-FAMILY AND MULTI-FAMILY RESIDENTIAL DWELLINGS AT THE TIME OF APPLICATION OF A PESTICIDE ON THE RESIDENTIAL PREMISES INDICATING WHO MAY BE CONTACTED FOR ADDITIONAL INFORMATION ABOUT THE PESTICIDE AND ITS APPLICATION.

The Committee's recommendation, incorporated into Draft Bill 89-RN-008 (see Appendix G), would require professional pesticide applicators, after treating turf areas (lawns, yards, parks, playgrounds, athletic fields, golf courses, etc.) to post warning signs for a 24 hour period following initial application (or 48 hours, if required by the Pesticide Board for a particular pesticide) containing the following information: (i) the name, address, and telephone number of the applicator, (ii) the brand name of the pesticide and the date applied, (iii) the EPA registration number of each pesticide used, and (iv) a warning to keep children and pets off the premises. The signs would be posted near the street or sidewalk for lawn treatments and would be posted near the entrance or next to the area treated for all other types of turf properties. The warning signs would not be required for agricultural lands or turf farms, nor for treatments applied directly by a homeowner to his own property.

The proposed legislation also incorporates the Committee's recommendation to require written notice concerning the application of pesticides on the premises of a residential dwelling. A structural pest control operator or his employee applying pesticides on occupied residential property would be required to leave a written notice at each residence treated. For treatments of a multi-family dwelling, notice would be provided to each residence within the dwelling. The notice would provide the name, address, and telephone number of the applicator's business, the date of application, and a statement concerning where additional information on the pesticide applied or its application can be obtained. These provisions would also apply to pesticide applications on occupied residential property by employees of the property owner, even though these employees will remain exempt under this particular bill from all other provisions of the Structural Pest Control Act. (Note,

however, that the Committee adopted a separate recommendation requiring the certification of most employees doing structural pest control work on their employers' properties).

(6) THE COMMITTEE RECOMMENDS THE ADDITION OF A HEALTH REPRESENTATIVE AND A PUBLIC MEMBER TO THE STRUCTURAL PEST CONTROL COMMITTEE.

The Structural Pest Control Committee, the policy-making agency for the Structural Pest Control Act, is currently composed of five members, representing the following: (i) the Board of Agriculture, (ii) the Department of Agriculture, (iii) NCSU School of Agriculture (entomologist), and (iv) two members representing the structural pest industry (G.S. §106-65.23).

The Committee's recommendation, incorporated in Draft Bill 89-RN-001 (see Appendix G), increases the membership of the Board to six members in 1989 by adding an appointee of the UNC School of Public Health (epidemiology faculty) to the Committee effective July 1, 1989. The membership would increase to seven in 1991 with the appointment of a public member effective July 1, 1991. The initial School of Public Health appointee would serve a two-year term, and subsequent appointees for this slot would serve at the pleasure of the School's dean, the appointing authority. The initial public member would be appointed for a two-year term, and subsequent public members would serve four-year terms. The initial public member and subsequent public members would be appointed by the

Governor. The public member position cannot be filled by a person affiliated with any of the other groups represented on the Committee.

(7) THE COMMITTEE RECOMMENDS DEVELOPMENT OF MANDATORY TRAINING PROGRAMS AND EVENTUAL CERTIFICATION FOR ALL PERSONS ENGAGED IN THE BUSINESS OF PROFESSIONALLY APPLYING GENERAL OR RESTRICTED-USE PESTICIDES, WITH A PROVISION FOR DIRECT SUPERVISION OF NEW EMPLOYEES FOR AN APPROPRIATE PERIOD PENDING THEIR CERTIFICATION; AND THE COMMITTEE FURTHER RECOMMENDS THAT EMPLOYEES TREATING THE PROPERTY OF THEIR EMPLOYER BE REQUIRED TO BE CERTIFIED FOR MOST TYPES OF PROPERTIES.

Currently, an uncertified person may apply restricted-use pesticides under the direct supervision of a certified applicator. Except with respect to the use of pesticides whose label requires otherwise, the term "under the direct supervision" does not require the actual presence of the certified applicator on the premises being treated, as long as the uncertified person knows how to contact and is capable of contacting the certified applicator or licensee (G.S. §106-65.24(24) and §106-65.25; G.S. §143-440).

Currently, the Structural Pest Control Act does not apply to regular employees doing structural pest work on the property of their employer (G.S. §106-65.25). The only exception is that if the work done by the employee involves restricted-use pesticides, the employee must qualify as a certified applicator or be under the direct supervision of a certified applicator.

The Committee recommends the following:

(a) that beginning January 1, 1991, all persons applying restricted-use or general use pesticides as part of a structural pest control operation be certified. A period of appropriate duration (for example, 30 or 60 days) should be established (beginning January 1, 1991) during which an uncertified new employee of a structural pest control operation, pending his or her certification, can apply pesticides only with a certified applicator or licensee physically present on the premises being treated to supervise the work of the uncertified person. Until January 1, 1991, these uncertified employees should be required to participate in a training program developed or approved by the Structural Pest Control Committee on the safe use of pesticides, and they should be required to participate in the training program prior to applying or further applying pesticides. The video training on the safe use of pesticides that is currently in place (by Committee regulation) for uncertified employees should be recognized as meeting the training program requirements for the phase or phases of pest control to which the video is applicable; and

(b) that beginning January 1, 1991, all regular employees doing structural pest control work involving the use of general use or restricted-use pesticides on the property of their employer be certified if the structure or property being treated is a food-handling establishment, school, hospital, human dwelling, or similar property, but excluding structures used in agricultural operations, and excluding the application of certain commonly-used household pesticides (for example, those general use pesticides with no more than 3 percent active ingredients, swimming pool supplies, insect repellents, disinfectants, and similar types of pesticides, as

defined and designated by the Structural Pest Control Committee). The LRC Study Committee on Pest Control did not address whether this group of uncertified applicators should also be subject to a training program requirement until January 1, 1991; and

(c) that beginning January 1, 1991, all employees of a pesticide applicator who apply general use or restricted-use pesticides as a part of a pesticide applicator's business be certified. A period of appropriate duration (for example, 30 or 60 days), pending certification, should be established (beginning January 1, 1991) during which an uncertified new employee of a pesticide applicator can apply pesticides with a licensed pesticide applicator physically present on the premises being treated. Until January 1, 1991, these uncertified employees should be required to participate in a training program developed or approved by the Pesticide Board on the safe use of pesticides, and they should be required to participate in the training program prior to applying or further applying pesticides. A farmer's employees should continue to be allowed to apply restricted-use and general use pesticides on the farmer's agricultural land without certification.

(Due to the number of options under consideration by the Committee concerning applicator certification, draft legislation on this issue was not presented to the Committee). Legislation will be required, however, to implement the recommendations.

(8) THE COMMITTEE RECOMMENDS FUNDING FOR THE FOLLOWING FACILITIES, PROGRAMS, AND ACTIVITIES RELATING TO PEST CONTROL

AND THE MANAGEMENT, USE, DISPOSAL AND MONITORING OF PESTICIDES.

(a) Expansion of the Agricultural Cost-Share Program for NonPoint Source Pollution to the remaining 44 counties not currently in the program;

(b) Funding for a groundwater monitoring study;

(c) Funding for three additional inspectors and administrative support for the NCDA Structural Pest Control Division;

(d) Continued funding for the Boll Weevil Eradication Program;

(e) Funding for the Biological Pest Control and Support Services Center and increased funding for the biological pest control program;

(f) Increased funding for the NCDA Pesticide Disposal Program;

(g) Increased funding for the following academic, research, and extension programs conducted through the School of Agriculture and Life Sciences at North Carolina State University (see Appendix G for detailed documentation of the NCSU proposal):

(1) Academic: Funding for incentive-stipends for certain undergraduate and graduate students completing the minor or concentration in Integrated Pest Management.

(2) Extension: Additional NCSU and county personnel; funds for county and specialist grants for IPM demonstrations and development of IPM techniques; funds for manuals, slides, videos, etc. to provide IPM information to growers.

Additional funds to hire additional personnel and to fund special groundwater education seminars for the pesticide certification, recertification, and training program; additional funds to provide more information on pesticide use to farmers, homeowners, and others.

(3) Research: Additional NCSU positions and related operating funds to supplement existing IPM program and activities.

Funding to support research on inexpensive water quality tests for farmers and on pest eradication programs similar to the boll weevil eradication program.

Note: Not all of the funding recommendations identified for the School of Agriculture and Life Sciences were initiated by NCSU; please consult the documents in Appendix F for the source(s) of various recommendations.

GENERAL ASSEMBLY OF NORTH CAROLINA
1987 SESSION
RATIFIED BILL

CHAPTER 873
HOUSE BILL 1

AN ACT TO AUTHORIZE STUDIES BY THE LEGISLATIVE RESEARCH COMMISSION, TO CREATE AND CONTINUE VARIOUS COMMITTEES AND COMMISSIONS, TO MAKE APPROPRIATIONS THEREFOR, AND TO AMEND STATUTORY LAW.

The General Assembly of North Carolina enacts:

PART I. TITLE

Section 1. This act shall be known as "The Study Commissions and Committees Act of 1987."

. . .

PART II.-----LEGISLATIVE RESEARCH COMMISSION

Sec. 2.1. The Legislative Research Commission may study the topics listed below. Listed with each topic is the 1987 bill or resolution that originally proposed the issue or study and the name of the sponsor. The Commission may consider the original bill or resolution in determining the nature, scope and aspects of the study. The topics are:

(1) Continuation of the Study of Revenue Laws (H.J.R. 13-Lilley).
(2) Acquired Immune Deficiency Syndrome--AIDS (H.J.R. 72 Jones).
(3) Applied Design School Feasibility (H.J.R. 118-Easterling).
(4) Continuation of the Study on the Problems of the Aging (H.J.R. 156-Edwards: S.R.J. 54-Hunt,W.).
(5) Continuation of Study of State Personnel System (H.J.R. 247-Stamey: S.J.R. 178-Hunt, W.).
(6) Farmland Preservation Techniques and Policy (H.J.R. 355-Beall).
(7) Day Care (H.J.R. 595-Colton: S.J.R. 360-Tally).
(8) State Schools for Hearing- and Sight-Impaired Children (H.J.R. 811-Jeralds).

(9) Modern Family (H.J.R. 964-Perdue).
(10) Types of High School Diplomas (H.J.R. 981-Chalk).
(11) Corporate Income Taxation (H.B. 999-Mothershead).
(12) Tourism's Growth and Effect (H.J.R. 1010-Perdue: S.B. 1328-Barker).
(13) Economic Development and Recruiting (H.B. 1097-Hightower).
(14) Control of Development around Small Public Water Supply Reservoirs (H.J.R. 1103-Hackney).
(15) Public School Teacher Career Development Pilot Program (H.B. 1183-McLaughlin).
(16) Unruly Students (H.B. 1221-Brawley).
(17) State Permitting of Septic Tank Systems (H.J.R. 1238-Redwine).
(18) Continuation of Study of Coastal Water Quality (H.B.1252-Stamey).
(19) Historic Preservation (H.J.R. 1257-Colton: S.J.R. 874-Walker).
(20) Military Justice Code for National Guard (H.B. 1265-Alexander).
(21) Need for a State Department of Housing (H.J.R. 1303-Fitch).
(22) Money Market Funds Treatment under the Intangibles Tax (H.B. 1344-Lineberry).
(23) Campaign and Election Procedures (H.B. 1533-Crawford,N.).
(24) State Buildings' Maintenance (H.B. 1606-Crawford,N.; S.B. 1012-Goldston).
(25) Pest Control (H.B. 1752-Holt).
(26) Attorney General's Staff (H.J.R. 1818-Anderson: S.J.R. 1157-Marvin).
(27) State Government Leasing of Office Space (H.J.R. 1819-Anderson: S.J.R. 1085-Marvin).
(28) Animal Welfare Act (H.B. 1850-Stamey).
(29) Housing Discrimination (H.B. 1965-Barnes).
(30) Sports Laws (H.B. 2093-Miller).
(31) Outdoor Drama Funding (H.B. 2107-Holt).
(32) Disadvantaged Business Contracts Financed by State Funds (H.B. 2130-Hardaway).
(33) State Contracts with Small Businesses (H.B. 2131-Hardaway).
(34) Continuation of Interest Rate Regulation Study (S.B. 203-Johnson, J.).
(35) Wellness Program for State Employees (S.J.R. 357-Sherron).
(36) Low-level Radioactive Waste Management (S.B. 359-Tally).
(37) Solid Waste Management (S.J.R. 362-Speed).
(38) Safe Roads Act Study (S.B. 509-Harris).
(39) Inactive Hazardous Sites Protection (S.B. 517-Smith).
(40) Interbasin Water Transfer (S.J.R. 855-Hardison).
(41) Care Provided by Rest Homes, Intermediate Care Facilities, and Skilled Nursing Homes (S.J.R. 856-Harris).
(42) Ombudsman Study (S.B. 857-Harris).
(43) Tax Collector Sell Auto Tags Study (S.B. 877-Swain).
(44) Emergency Care Volunteers Network (S.J.R. 880-Sherron).
(45) DHR Liability Insurance (S.B. 1009-Ward).

(46) State Publications' Need, Function, Effectiveness and Distribution (S.B. 1119-Martin,R.).
(47) Viability of Inland Waters and Severance Tax on Phosphate Rock Mining (S.B. 1167-Thomas).
(47A) Hunter's Safety/Wildlife Study.
(47B) The Acquisition of Abandoned Railroad Rights of Way or Easements by the State of N.C..
(47C) Child Support Enforcement.
(47D) Watershed Protection (H.B. 1203-Fussell).
(47E) Automobile Insurance (H.B. 2159-Beard).
(47F) Interstate Banking (H.B. 1924-Diamont).
(48) Ferries (S.B. 1174-Basnight), and
(49) Oregon Inlet Navigation, Dredging and Stabilization (S.B. 1176-Basnight).

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Sec. 2.6. Reporting Dates. For each of the topics the Legislative Research Commission decides to study under this act or pursuant to G.S. 120-30.17(1), the Commission may report its findings, together with any recommended legislation, to the 1989 General Assembly.

Sec. 2.7. Bills and Resolution References. The listing of the original bill or resolution in this Part is for reference purposes only and shall not be deemed to have incorporated by reference any of the substantive provisions contained in the original bill or resolution.

-----EFFECTIVE DATE

Sec. 31. This act is effective on July 1, 1987.

APPENDIX B

MEMBERSHIP OF LRC COMMITTEE ON PEST CONTROL

Pres. Pro Tem's Appointments

Sen. James D. Speed. Cochair
Route 6. Box 542
Louisburg. NC 27549
(919) 853-2167

Sen. R. L. Martin
Post Office Box 387
Bethel. NC 27812
(919) 825-4361

Mr. J. L. Parker. Jr.
Post Office Box 1021
Williamston. NC 27892
(919) 792-8274

Mr. Allen Spalt. Director
Agriculture Resources Center
115 West Main Street
Carrboro. NC 27510
(919) 967-1886

Sen. R. P. Thomas
Post Office Drawer 220
Hendersonville. NC 28793
(704) 692-3285

Speaker's Appointments

Rep. Bertha Holt. Cochair
Post Office Box 1111
Burlington. NC 27215
(919) 227-7333

Rep. Ed Bowen
Route 1. Box 289
Harrells. NC 28444
(919) 532-4183

Rep. George W. Brannan
Route 4. Box 134
Smithfield. NC 27577
(919) 934-8877

Rep. Herman C. Gist
241 East Market Street
Greensboro. NC 27401
(919) 275-3846

Rep. Joe B. Raynor
345 Winslow Street
Fayetteville. NC 28301
(919) 483-8711

APPENDIX C

ARTICLE 52.
Pesticide Board.

'143-434. Short title. This Article may be cited as the North Carolina Pesticide Law of 1971. (1971, c. 832, s. 1.)

§143-435. Preamble.

(a) The Legislative Research Commission was directed by House Resolution 1392 of the 1969 General Assembly "to study agricultural and other pesticides," and to report its findings and recommendations to the 1971 General Assembly. Pursuant to said Resolution a report was prepared and adopted by the Legislative Research Commission in 1970 concerning pesticides. In this report the Legislative Research Commission made the following findings concerning the use and effects of pesticides and the need for legislation concerning control of pesticide use, of which the General Assembly hereby takes cognizance:

(1) The use of chemical pesticides has developed since the 1940's into a major, new billion-dollar industry. Pesticides have bettered the lot of mankind in many ways and especially have assisted the farmer by their contribution to a stable and inexpensive supply of high quality food, fiber and forest products. The control of insects, fungi and other pests is essential to the public health and welfare and specifically to the prevention of disease, to the production and preservation of food, fiber, and forests and to the protection of other aspects of modern civilization.

(2) The use of pesticides for these important purposes is currently a matter of serious public concern and their use in some instances presents risks to man and the environment which must be weighed against the benefits of those uses in the overall public interest. Evidence is accumulating that extensive use of persistent pesticides poses hazards to health and the environment. Environmental problems resulting from the use, overuse and misapplication of some chemicals, and the disposal of unused chemicals and containers, have grown to the point where contamination of the environment is approaching significant proportions. There is concern among scientists and public health personnel about the long-term chronic effects of pesticide pollution on human health. Contamination by DDT has been shown to be global in extent. Moreover, recent experience in North Carolina and elsewhere has shown that the more toxic but less persistent pesticides cannot safely be substituted for the persistent "hard" pesticides without stringent safeguards.

(3) More extensive observation, study and monitoring of the effectiveness and the use of pesticides and of undesirable side effects on man and on the environment and of their relative importance for the overall public health and welfare are desirable in the public interest.

(4) Continued and strengthened control of the quality of pesticides and the control of labeling claims, direction for use and warnings are necessary for the protection of the purchasing public, including the household consumer, the farmer and other users.

(5) No existing legislation in North Carolina effectively limits or controls the use of pesticides. Misuse and misapplication of pesticides, while effectively controlled by law with respect to structural pest control operators, is not adequately controlled with respect to some other major groups of pesticide applicators. Careless disposal of unused pesticides and contaminated containers is not controlled by law, and no North Carolina legislation requires that pesticide dealers, who are the principal source of advice for many pesticide users, be qualified to give advice or be held responsible for their advice. These gaps in legal control of pesticides are important and should be remedied.

(b) The purpose of this Article is to regulate in the public interest the use, application, sale, disposal and registration of insecticides, fungicides, herbicides, defoliants, desiccants, plant growth regulators, nematicides, rodenticides, and any other pesticides designated by the North Carolina Pesticide Board. New pesticides are continually being discovered or synthesized which are valuable for the control of insects, fungi, weeds, nematodes, rodents, and for use as defoliants, desiccants, plant regulators and related purposes. However, such pesticides may be ineffective or may seriously injure health, property, or wildlife if not properly used. Pesticides may injure man or animals, either by direct poisoning or by gradual accumulation of poisons in the tissues. Crops or other plants may also be injured by their improper use. The drifting or washing of pesticides into streams or lakes can cause appreciable danger to aquatic life. A pesticide applied for the purpose of killing pests in a crop, which is not itself injured by the pesticide, may drift and injure other crops or nontarget organisms with which it comes in contact. In furtherance of the findings and recommendations of the Legislative Research Commission, it is hereby declared to be the policy of the State of North Carolina that for the protection of the health, safety, and welfare of the people of this State, and for the promotion of a more secure, healthy and safe environment for all the people of the State, the future sale, use and application of pesticides shall be regulated, supervised and controlled by the State in the manner herein provided. (1971, c. 832, s. 1.)

§143-436. North Carolina Pesticide Board; creation and organization.

(a) There is hereby established the North Carolina Pesticide Board which, together with the Commissioner of Agriculture, shall be responsible for carrying out the provisions of this Article.

(b) The Pesticide Board shall consist of seven members, to be appointed by the Governor, as follows:

(1) One member each representing the North Carolina Department of Agriculture, the North Carolina Department of Human Resources, and a State conservation agency. The persons so selected may be either members of a policy board or departmental officials or employees.

(2) A representative of the agricultural chemical industry.

(3) A person directly engaged in agricultural production.

(4) Two at-large members, from fields of endeavor other than those enumerated in subdivisions (2) and (3) of this subsection, one of whom shall be a nongovernmental conservationist.

(c) The members of the Pesticide Board shall serve staggered four-year terms. Of the persons originally appointed, the members representing State agencies shall serve two-year terms, and the four at-large members shall serve four-year terms. All members shall hold their offices until their successors are appointed and qualified. Any vacancy occurring in the membership of the Board prior to the expiration of the term shall be filled by appointment by the Governor for the remainder of the unexpired term. The Governor may at any time remove any member from the Board for gross inefficiency, neglect of duty, malfeasance, misfeasance, or nonfeasance in office. Each appointment to fill a vacancy in the membership of the Board shall be of a person having the same credentials as his predecessor.

(d) The Board shall select its chairman from its own membership, to serve for a term of two years. The chairman shall have a full vote. Any vacancy occurring in the chairmanship shall be filled by the Board for the remainder of the term. The Board may select such other officers as it deems necessary.

(e) Any action of the Board shall require at least four concurring votes.

(f) The members of the Board who are not officers or employees of the State shall receive for their services the per diem and compensation prescribed in G.S. 138-5. (1971, c. 832, s. 1; 1973, c. 476, s. 128.)

§143-437. Pesticide Board; functions.

The Pesticide Board shall be the governing board for the programs of pesticide management and control set forth in this Article. The Pesticide Board shall have the following powers and duties under this Article:

(1) To adopt rules and regulations and make policies for the programs set forth in this Article.

(2) To carry out a program of planning, environmental and biological monitoring, and of investigation into long-range needs and problems concerning pesticides.

(3) To collect, analyze and disseminate information necessary for the effective operation of the programs set forth in this Article.

(4) To provide professional advice to public and private agencies and citizens of the State on matters relating to pesticides, in cooperation with other State agencies, with professional groups, and with North Carolina State University and other educational institutions.

(5) To accept gifts, devises and bequests, and with the approval of the Governor to apply for and accept grants from the federal government and its agencies and from any foundation, corporation, association or individual, and may comply with the terms, conditions and limitations of the grant, in order to accomplish any of the purposes of the Board, such grant funds to be expended pursuant to the Executive Budget Act.

(6) To inform and advise the Governor on matters involving pesticides, and to prepare and recommend to the Governor and the

General Assembly any legislation which may be deemed proper for the management and control of pesticides in North Carolina.

(7) To make annual reports to the Governor and to make such other investigations and reports as may be requested by the Governor or the General Assembly.

(8) To exempt any federal or State agency from any provision of this Article if it is determined by the Board that emergency conditions exist which require exemption. (1971, c. 832, s. 1; 1977, c. 199; 1979, c. 448, s. 14.)

§143-438. Commissioner of Agriculture to administer and enforce Article.

The Commissioner of Agriculture shall have the following powers and duties under this Article:

(1) To administer and enforce the provisions of this Article.

(2) To attend all meetings of the Pesticide Board, but without power to vote (unless he be designated as the ex officio member of the Board from the Department of Agriculture).

(3) To keep an accurate and complete record of all Board meetings and hearings, and to have legal custody of all books, papers, documents and other records of the Board.

(4) To assign and reassign the administrative and enforcement duties and functions assigned to him in this Article to one or more of the divisions and other units within the Department of Agriculture.

(5) To direct the work of the personnel employed by the Board and of the personnel of the Department of Agriculture who have responsibilities concerning the programs set forth in this Article.

(6) To delegate to any division head or other officer or employee of the Department of Agriculture any of the powers and duties given to the Department by statute or by the rules, regulations and procedures established pursuant to this Article.

(7) To perform such other duties as the Board may from time to time direct. (1971, c. 832, s. 1.)

§ 143-439. Pesticide Advisory Committee; creation and functions.

(a) There is hereby authorized the establishment of the Pesticide Advisory Committee, which shall assist the Board and the Commissioner in an advisory capacity on matters which may be submitted to it by the Board or the Commissioner, including technical questions and the development of rules and regulations.

(b) The Pesticide Advisory Committee shall consist of 19 members to be appointed by the Board as follows: three practicing farmers; one conservationist (at large); one ecologist (at large); one representative of the pesticide industry; one representative of agribusiness (at large); one local health director; three members of the North Carolina State University School of Agriculture and Life Sciences, at least one of which shall be from the area of wildlife or biology; one member each representing the North Carolina Department of Agriculture, the North Carolina Department of Human Resources, and the North Carolina Department of Natural Resources and Community Development; one representative of a public utility or railroad

company which uses pesticides, or of the Board of Transportation; one member of the North Carolina Agricultural Aviation Association; one member of the general public (at large); one member actively engaged in forest pest management; and one member representing the Solid and Hazardous Waste Management Branch, Environmental Health Section, Division of Health Services, Department of Human Resources.

(c) Members of the Pesticide Advisory Committee shall serve at the pleasure of the Board. The members who are not officers or employees of the State shall receive regular State subsistence and travel expenses. (1971, c. 832, s. 1; 1973, c. 476, s. 128; c. 507, s. 5; 1975, c. 824; 1987, c. 559, s. 1.)

PART 2. Regulation of the Use of Pesticides.

§ 143-440. Restricted use pesticides regulated.

(a) The Board may, by regulation after a public hearing, adopt and from time to time revise a list of restricted use pesticides for the State or for designated areas within the State. The Board may designate any pesticide or device as a "restricted use pesticide" upon the grounds that, in the judgment of the Board (either because of its persistence, its toxicity, or otherwise) it is so hazardous or injurious to persons, pollinating insects, animals, crops, wildlife, lands, or the environment, other than the pests it is intended to prevent, destroy, control, or mitigate that additional restriction on its sale, purpose, use or possession are required.

(b) The Board may include in any such restricted use regulation the time and conditions of sale, distribution, or use of such restricted use pesticides, may prohibit the use of any restricted use pesticide for designated purposes or at designated times; may require the purchaser or user to certify that restricted use pesticides will be used only as labeled or as further restricted by regulation; may require the certification and recertification of private applicators and, charge a fee of up to ten dollars ($10.00), with the fee set at a level to make the certification/recertification program self-supporting, and, after opportunity for a hearing, may suspend, revoke or modify the certification for violation of any provision of this Article, or any rule or regulation adopted thereunder; and may, if it deems it necessary to carry out the provisions of this Part, require that any or all restricted use pesticides shall be purchased, possessed, or used only under permit of the Board and under its direct supervision in certain areas and/or under certain conditions or in certain quantities or concentrations except that any person licensed to sell such pesticides may purchase and possess such pesticides without a permit. The Board may require all persons issued such permits to maintain records as to the use of the restricted use pesticides. The Board may authorize the use of restricted use pesticides by persons licensed under the North Carolina Structural Pest Control Act without a permit. (1971, c. 832, s. 1; 1979, c. 448, s. 1; 1981, c. 592, s. 1; 1987, c. 559, s. 2, c. 846.)

§143-441. Handling, storage and disposal of pesticides.

(a) The Board may adopt regulations:

(1) Concerning the handling, transport, storage (which may include security precautions), display or distribution of pesticides, and concerning the disposal of pesticides and pesticide containers.

(2) Restricting or prohibiting the use of certain types of containers or packages for specific pesticides. These restrictions may apply to type of construction, strength, and/ or size to alleviate danger of spillage, breakage, or misuse.

(b) No person shall handle, transport, store, display, or distribute 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, or in any manner contrary to the regulations of the Board.

(c) No person shall dispose of, discard, or store any pesticides or pesticide containers in such a manner as may cause injury to humans, vegetation, crops, livestock, wildlife, or to pollute any water supply or waterway, or in any manner contrary to the regulations of the Board. (1971, c. 832, s. 1.)

§ 143-442. Registration.

(a) Every pesticide prior to being distributed, sold, or offered for sale within this State or delivered for transportation or transported in intrastate commerce or between points within this State through any point outside this State shall be registered in the office of the Board, and such registration shall be renewed annually before January 1 for the ensuing calendar year. Beginning in 1988, the Board may by rule adopt a system of staggered three-year registrations. The applicant for registration shall file with the Board a statement including:

(1) The name and address of the applicant and the name and address of the person whose name will appear on the label, if other than the applicant;

(2) The name of the pesticide;

(3) A complete copy of the labeling accompanying the pesticide and a statement of all claims to be made for it including directions for use;

(4) If requested by the Board, a full description of the tests made and the results thereof upon which the claims are based;

(5) In the case of renewal of registration, a statement with respect to information which is different from that furnished when the pesticide was last registered; and

(6) A Material Safety Data Sheet for the pesticide.

(b) The applicant shall pay an annual registration fee of twenty- five dollars ($25.00) for each brand or grade of pesticide registered. An additional one hundred dollars ($100.00) delinquent registration penalty shall be assessed against the registrant for each brand or grade of pesticide which is marketed in North Carolina prior to registration as required by this Article. In the case of multi-year registration, the annual fee for each year shall be paid at the time of the initial registration, provided that a pro rata refund of the registration

fee shall be made to the registrant in the event that registration is canceled by the North Carolina Pesticide Board or by the United States Environmental Protection Agency.

(c) The Board, when it deems necessary in the administration of this Article, may require the submission of the complete formula of any pesticide.

(d) If the pesticide is properly registered with the United States Environmental Protection Agency and is in compliance with the requirements of G.S. 143-443, the Board shall register the pesticide. Provided, however, that if it does not appear to the Board that the article is such as to warrant the proposed claims for it or if the article and its labeling and other material required to be submitted do not comply with the provisions of this Part, it shall not register the article and in turn shall notify the applicant of the manner in which the article, labeling, or other material required to be submitted fail to comply. The Board may suspend or cancel the registration of a pesticide when the pesticide or its labeling does not comply with this Part.

(e) The Board is authorized and empowered to refuse to register, or to cancel the registration of any of all brands and grades of pesticides as herein provided, if the registrant fails or refuses to comply with the provisions of this Part, or any rules and regulations promulgated thereunder, or, upon satisfactory proof that the registrant or applicant has been guilty of fraudulent and deceptive practices in the evasions or attempted evasions of the provisions of this Part, or any rules and regulations promulgated thereunder. The Board may require the manufacturer or distributor of any pesticide, for which registration has been refused, cancelled, suspended or voluntarily discontinued or which has been found adulterated or deficient in its active ingredient, to remove such pesticide from the marketplace.

(f) Notwithstanding any other provisions of this Part, registration is not required in the case of a pesticide shipped from one plant within this State to another plant within this State operated by the same person.

(g) Any pesticide declared to be discontinued by the registrant must be registered by the registrant for one full year after distribution is discontinued. Any pesticide in channels of distribution after the aforesaid registration period may be confiscated and disposed of by the Board, unless the pesticide is acceptable for registration and is continued to be registered by the manufacturer or the person offering the pesticide for wholesale or retail sale. Provided, however, this subsection shall not apply to any brand or grade of pesticide which the Board determines does not remain in channels of distribution due to method of sale by registrant directly to users thereof.

(h) A pesticide may be registered by the Board for experimental use, including use to control wild animal or bird populations, even though the Wildlife Resources Commission may not have concurred in the declaration of the animal or bird populations as pets under the terms of Article 22A of Chapter 113 of the General Statutes.

(i) The Board shall be empowered to set forth criteria for determining when a given product constitutes a different or separate brand or grade of pesticide.

(j) Each manufacturer, distributor or registrant of a pesticide shall supervise the activities of any employee or agent to prevent the making of deceptive or misleading statements about the pesticide. (1971, c. 832, s. 1; 1973, c. 389, ss. 1, 7; 1975, c. 425, ss. 1, 2; 1979, c. 448, ss. 2, 3; 1979, c. 830, s. 10; 1981, c. 592, s. 2; 1987, c. 559, ss. 3-7, c. 827, s. 39.)

§ 143-443. Miscellaneous prohibited acts.

(a) It shall be unlawful for any person to distribute, sell, or offer for sale within this State or deliver for transportation or transport in intrastate commerce or between points within this State through any point outside this State any of the following:

(1) Any pesticide which has not been registered pursuant to the provisions of G.S. 143-442, or any pesticide if any of the claims made for it or any of the directions for its use differ in substance from the representations made in connection with the registration, or if the composition of a pesticide differs from its composition as represented in connection with its registration: Except that, in the discretion of the Board, a change in the labeling or formula of a pesticide may be made within a registration period without requiring reregistration of the product.

(2) Any pesticide unless it is in the registrant's or the manufacturer's unbroken immediate container, and there is affixed to such container, and to the outside container or wrapper of the retail package, if there be one through which the required information on the immediate container cannot be clearly read, a label bearing:

a. The name and address of the manufacturer, registrant, or person for whom manufactured;

b. The name, brand, or trademark under which said article is sold; and

c. The net weight or measure of the content subject, however, to such reasonable variations as the Board may permit.

(3) Any pesticide which contains any substance or substances in quantities highly toxic to man, determined as provided in G.S. 143-444, unless the label shall bear, in addition to any other matter required by this Part:

a. The skull and crossbones;

b. The word "poison" prominently, in red, on a background of distinctly contrasting color; and

c. A statement of an antidote for the pesticide.

(4) The pesticides commonly known as standard lead arsenate, basic lead arsenate, calcium arsenate, magnesium arsenate, zinc arsenate, zinc arsenite, sodium fluoride, sodium fluosilicate, and barium fluosilicate unless they have been distinctly colored or discolored as provided by regulations issued in accordance with this Part, or any other white or lightly colored pesticide which the Board, after investigation of and after public hearing on the necessity for such action for the protection of the public health and the feasibility of such coloration or discoloration,

shall, by regulation, require to be distinctly colored or discolored; unless it has been so colored or discolored, provided, that the Board may exempt any pesticide to the extent that it is intended for a particular use or uses from the coloring or discoloring required or authorized by this section if the Board determines that such coloring or discoloring for such use or uses is not necessary for the protection of the public health.

(5) Any pesticide which is adulterated or misbranded, (or any device which is misbranded).

(6) Any pesticide in containers violating regulations adopted pursuant to G.S. 143-441. Pesticides found in containers which are unsafe due to damage or defective construction may be seized and impounded.

(b) It shall be unlawful:

(1) For any person to detach, alter, deface, or destroy, in whole or in part, any label or labeling provided for in this Part or regulations promulgated hereunder, or to add any substance to, or take any substance from a pesticide in a manner that may defeat the purpose of this Part;

(2) For any person to use for his own advantage or to reveal, other than to the Board or proper officials or employees of the State or federal government or to the courts of this State in response to a subpoena, or to physicians, or in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, any information relative to formulas of products acquired by authority of G.S. 143- 442.

(2a) Repealed by Session Laws 1981, c. 592, s. 3.

(3) For any person to use any pesticide in a manner inconsistent with its labeling.

(4) For any person who contracts for the aerial application of a pesticide to permit the application of any pesticide that is designated on its labeling as toxic to bees without first notifying, based on available listings, the owner or operator of any apiary registered under the North Carolina Bee and Honey Act of 1977 that is within a distance designated by the Pesticide Board as necessary and appropriate to prevent damage or injury.

(5) For any person to distribute, sell or offer for sale any restricted use pesticide to any dealer who does not hold a valid North Carolina Pesticide Dealer License. (1971, c. 832, s. 1; 1975, c. 425, s. 3; 1979, c. 448, ss. 4, 5; 1981, c. 547; c. 592, ss. 3, 4; 1987, c. 559, s. 8.)

§143-444. Determinations.

The Board is authorized:

(1) To declare as a pest any form of plant or animal life or virus which is injurious to plants, man, domestic animals, articles, or substances;

(2) To determine whether pesticides are highly toxic to man; and

(3) To determine standards of coloring or discoloring for pesticides, and to subject pesticides to the requirements of G.S. 143-443(a)(4). (1971, c. 832, s. 1.)

§143-445. Exemptions.

(a) The penalties provided for violations of G.S. 143- 443(a) shall not apply to:

(1) Any carrier while lawfully engaged in transporting pesticides within this State, if such carrier shall, upon request, permit the Board or its designated agent to copy all records showing the transactions in and movement of the articles;

(2) Public officials of this State or local subdivisions thereof and the federal government engaged in the performance of their official duties;

(3) The manufacturer or shipper of a pesticide for experimental use only,

a. By or under the supervision of an agency of this State or of the federal government authorized by law to conduct research in the field of pesticides, or

b. By others if the pesticide is not sold and if the container thereof is plainly and conspicuously marked "For experimental use only --Not to be sold," together with the manufacturer's name and address; (except that if a written permit has been obtained from the Board, pesticides may be sold for experimental purposes subject to such restrictions and conditions as may be set forth in the permit).

(b) No article shall be deemed in violation of this Part when intended solely for export to a foreign country, and when prepared or packed according to the specifications or directions of the purchaser. If not so exported, all the provisions of this Part shall apply. (1971, c. 832, s. 1.)

§ 143-446. Samples; submissions.

(a) The Board, or its agent, is authorized and directed to sample, test, inspect and make analyses of pesticides sold or offered for sale or distributed within this State, at time and place and to such an extent as it may deem necessary to determine whether such pesticides are in compliance with the provisions of this Article. The Board is authorized to adopt regulations concerning the collection and examination of samples (or devices), and to adopt regulations establishing tolerances providing for reasonable deviations from the guaranteed analysis.

(b) The official analysis shall be made from the official sample. Official samples shall be collected from material that has been packaged, labeled and released for shipment. A sealed and identified sample, herein called "official check sample" shall be kept until the analysis is completed on the official sample, except that the registrant may obtain upon request a portion of said official sample. If the official analysis conforms with the provisions of this Part, the official check sample may be destroyed. If the official analysis does not conform with the provisions of this Part, then the official check sample shall be retained for a period of 90 days from the date of the certificate of analysis of the official sample.

(c) The Board, of its own motion or upon complaint, may cause an examination to be made for the purpose of determining whether any pesticide complies with the requirements of this Part. If it shall appear from such examination that a pesticide fails to comply with the provisions of this Part, the Board may cause

notice to be given to the offending person in the manner provided in G.S. 143-464, and the proceedings thereupon shall be as provided in such section; provided that pesticides may be seized and confiscated as provided in G.S. 143- 447.

(d) The Board shall, by publication in such manner as it may prescribe, give notice of all judgments entered in actions instituted under the authority of this Article. (1971, c. 832, s. 1; 1987, c. 559, s. 9.)

§ 143-447. Emergency suspensions; seizures.

(a) The Board may order the summary suspension of the registration of a pesticide if it finds the suspension necessary to prevent an imminent hazard to the public, a nontarget organism, or a segment of the environment. In no event shall registration of a pesticide be construed as a defense to any charge of an offense prohibited under this Article.

(b) It shall be the duty of the Board to issue and enforce a written or printed "stop sale, stop use, or removal" order to the owner or custodian of any lot of pesticide and for the owner or custodian to hold said lot at a designated place when the Board finds said pesticide is being offered or exposed for sale in violation of any of the provisions of this Article until the law has been complied with and said pesticide is released in writing by the Board or said violation has been otherwise legally disposed of by written authority. The Board shall release the pesticide so withdrawn when the requirements of the provisions of this Article have been complied with and upon payment of all costs and expenses incurred in connection with the withdrawal.

The Board may issue a "stop sale, use or removal order" to prevent or stop the use of a pesticide in a manner inconsistent with its labeling or to prevent or stop the disposal of a pesticide or a pesticide container in violation of this Article or the rules of the Board adopted thereunder.

(c) Any pesticide (or device) that is distributed, sold, or offered for sale within this State or delivered for transportation or transported in intrastate commerce between points within this State through any point outside this State shall be liable to be proceeded against in superior court in any county of the State where it may be found and seized for confiscation by process or libel for condemnation:

(1) In the case of a pesticide,

a. If it is adulterated or misbranded,

b. If it has not been registered under the provisions of G.S. 143-442, or has had its registration suspended or revoked or is the subject of a stop sale, stop use, or removal order,

c. If it fails to bear on its label the information required by this Part,

d. If it is a white or lightly colored pesticide and is not colored as required under this Part.

(2) In the case of a device, if it is misbranded.

(d) If the article is condemned, it shall, after entry of decree, be disposed of by destruction or sale as the court may direct and the proceeds, if such article is sold, less legal costs, shall be paid to the State Treasurer; provided that the article shall not be sold contrary to the provisions of this

Part; and provided further that upon payment of costs and execution and delivery of a good and sufficient bond conditioned that the article shall not be disposed of unlawfully, the court may direct that said article be delivered to the owner thereof for relabeling or reprocessing or disposal, as the case may be.

(e) When a decree of condemnation is entered against the article, court costs and fees and storage and other proper expenses shall be awarded against the person, if any, intervening as claimant of the article. (1971, c. 832, s. 1; 1979, c. 448, s. 6; 1981, c. 592, s. 5; 1987, c. 559, s. 10, c. 827, s. 41.)

Part 3. Pesticide Dealers.

§ 143-448. Licensing of pesticide dealers; fees.

(a) No person shall act in the capacity of a pesticide dealer, or shall engage or offer to engage in the business of, advertise as, or assume to act as a pesticide dealer unless he is licensed annually as provided in this Part. A separate license and fee shall be obtained for each location or outlet from which restricted use pesticides are distributed, sold, held for sale, or offered for sale.

(b) Applications for a pesticide dealer license shall be in the form and shall contain the information prescribed by the Board. Each application shall be accompanied by a non-refundable fee of twenty-five dollars ($25.00). All licenses issued under this Part shall expire on December 31 of the year for which they are issued.

(c) The license for a pesticide dealer may be renewed annually upon application to the Board, accompanied by a fee of twenty-five dollars ($25.00) for each license, on or before the first day of January of the calendar year for which the license is issued.

(d) Repealed by Session Laws 1981, c. 592, s. 6.

(e) Every licensed pesticide dealer who changes his address or place of business shall immediately notify the Board.

(f) The Board shall issue to each applicant that satisfies the requirements of this Part a license which entitles the applicant to conduct the business described in the application for the calendar year for which the license is issued, unless the license is sooner revoked or suspended. (1971, c. 832, s. 1; 1981, c. 592, s. 6; 1987, c. 559, ss. 2, 11, 12.)

§143-449. Qualifications for pesticide dealer license; examinations.

(a) An applicant for a license must present evidence satisfactory to the Board concerning his qualifications for such license.

(b) Each applicant shall satisfy the Board as to his responsibility in carrying on the business of a pesticide dealer. Each applicant for an original license must demonstrate upon written, or written and oral, examination to be prescribed by the Board his knowledge of pesticides, their usefulness and their hazards; his competence as a pesticide dealer; and his knowledge

of the laws and regulations governing the use and sale of pesticides.

(c) The Board shall by regulation:

(1) Designate what persons or class of persons shall be required to pass the examination in the case of a pesticide dealer operating more than one location, and in the case of an applicant that is a corporation, governmental unit or agency, or other organized group;

(2) Provide for renewal license examinations at intervals not more frequent than four years. (1971, c. 832, s. 1; 1975, c. 425, s. 4.)

§ 143-450. Employees of pesticide dealers; dealer's responsibility.

(a) Every licensed pesticide dealer shall submit to the Board, at such times as the Board or the Commissioner may prescribe, the names of all persons employed by him who sell or recommend "restricted use pesticides."

(b) Each pesticide dealer shall be responsible for the actions of every person who acts as his employee or agent in the solicitation or sale of pesticides, and in all claims and recommendations for use or application of pesticides. (1971, c. 832, s. 1; 1979, c. 448, s. 7; 1987, c. 559, s. 2.)

§ 143-451. Denial, suspension and revocation of license.

(a) The Board may deny, suspend, modify, or revoke a license issued under this Part if it finds that the applicant or licensee or his employee has committed any of the following acts, each of which is declared to be a violation of this Part:

(1) Made false or fraudulent claims through any media, misrepresenting the effect of materials or methods to be utilized or sold;

(2) Made a pesticide recommendation not in accordance with the label registered pursuant to this Article;

(3) Violated any provision of this Article or of any rule or regulation adopted by the Board or of any lawful order of the Board;

(4) Failed to pay the original or renewal license fee when due, and continued to sell restricted use pesticides without paying the license fee, or sold restricted use pesticides without a license;

(5) Was guilty of gross negligence, incompetency or misconduct in acting as a pesticide dealer;

(6) Refused or neglected to keep and maintain the records required by this Article, or to make reports when and as required, or refusing to make these records available for audit or inspection;

(7) Made false or fraudulent records, invoices, or reports;

(8) Used fraud or misrepresentation, or presented false information, in making an application for a license or renewal of a license, or in selling or offering to sell restricted use pesticides;

(9) Refused or neglected to comply with any limitations or restrictions on or in a duly issued license or permit;

(10) Aided or abetted a licensed or an unlicensed person to evade the provisions of this Article, combined or conspired with such a licensed or unlicensed person to evade the provisions of this Article, or allowed one's license to be used by an unlicensed person;

(11) Impersonated any state, county, or city inspector or official;

(12) Stored or disposed of containers or pesticides by means other than those prescribed on the label or adopted regulations.

(13) Provided or made available any restricted use pesticide to any person other than a certified private applicator, licensed pesticide applicator, 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.

(b) Any licensee whose license is revoked under the provisions of this Article shall not be eligible to apply for a new license hereunder until such time has elapsed from the date of the order revoking said license as established by the Board (not to exceed two years), or if an appeal is taken from said order or revocation, not to exceed two years from the date of the order or final judgment sustaining said revocation. (1971, c. 832, s. 1; 1975, c. 425, ss. 6, 7; 1987, c. 559, ss. 2, 13, c. 827, s. 40.)

PART 4. Pesticide Applicators and Consultants.

§ 143-452. Licensing of pesticide applicators; fees.

(a) No person shall engage in the business of pesticide applicator within this State at any time unless he is licensed annually as a pesticide applicator by the Board.

(b) Applications for pesticide applicator license shall be in the form and shall contain the information prescribed by the Board. Each application shall be accompanied by a non-refundable fee of twenty-five dollars ($25.00) for each pesticide applicator's license. In addition, an annual inspection fee of ten dollars ($10.00) shall be submitted for each aircraft to be licensed. Should any aircraft fail to pass inspection, making it necessary for a second inspection to be made, the Board shall require an additional ten dollar ($10.00) inspection fee. In addition to the required inspection, unannounced inspections may be made without charge to determine if equipment is properly calibrated and maintained in conformance with the laws and regulations. All aircraft licensed to apply pesticides shall be identified by a license plate or decal furnished by the Board at no cost to the licensee, which plate or decal shall be affixed on the aircraft in a location and manner prescribed by the Board. No applicator inspection or license fee, original or renewal, shall be charged to State agencies or local governments or their employees. Inspections of ground pesticide application equipment may be made. Any such equipment determined to be faulty or unsafe shall not be used for the purpose of applying a pesticide(s) until such time as proper repairs and/or alterations are made.

(c) Repealed by Session Laws 1981, c. 592, s. 6.

(d) The Board shall classify licenses to be issued under this Part. Separate classifications or subclassifications shall be specified for (i) ground and aerial methods of application, and (ii) State and local government units engaged in the control of rodents and insects of public health significance. The Board may include such further classifications and subclassifications as the Board considers appropriate, including provisions for licensing of apprentice pesticide applicators. For aerial applicators, a license shall be required for both the contractor and the pilot. Each classification and subclassification may be subject to separate testing procedures and requirements.

(e) Every licensed pesticide applicator who changes his address shall immediately notify the Board.

(f) If the Board finds the applicant qualified to apply pesticides in the classifications he has applied for and, if the applicant files the bond or insurance required under G.S. 143-467, and if the applicant applying for a license to engage in aerial application of pesticides has met all of the requirements of the Federal Aviation Agency to operate the equipment described in the application, the Board shall issue a pesticide applicator's license limited to the classifications for which he is qualified. Every such license shall expire at the end of the calendar year of issue unless it has been revoked or suspended prior thereto by the Board for cause, or unless such financial security required under G.S. 143-467 is dated to expire at an earlier date, in which case said license shall be dated to expire upon expiration date of said financial security. The license may restrict the applicant to the use of a certain type or types of equipment or pesticides or to certain areas if the Board finds that the applicant is qualified to use only such type or types. If a license is not issued as applied for, the Board shall inform the applicant in writing of the reasons therefor.

(g) A pesticide applicator's license shall not be transferable. When there is a transfer of ownership, management, or operation of a business of a licensee hereunder, the new owner, manager, or operator (as the case may be) whether it be an individual, firm, partnership, corporation, or other entity, must have available a licensed pesticide applicator to supervise the pesticide application business prior to continuance of such business.

(h) Repealed by Session Laws 1987, c. 559, s. 15. (1971, c. 832, s. 1; 1973, c. 389, ss. 2, 5; 1977, c. 100; 1981, c. 592, ss. 6, 7; 1987, c. 559, ss. 14, 15.)

§143-453. (Effective January 1, 1987) Qualifications for pesticide applicator's license; examinations.

(a) An applicant for a license must present satisfactory evidence to the Board concerning his qualifications for a pesticide applicator license. The contractor and each pilot involved in aerial application of pesticides shall be licensed.

Those qualifications, in the case of a pilot, shall include at least 125 hours and one year's flying experience as a pilot in the field of aerial pesticide application. A pilot lacking 125 hours and one year's experience as a pilot in the field of aerial pesticide application shall be licensed as an apprentice aerial

pesticide applicator pilot. All aerial applications of pesticides by a licensed apprentice shall be conducted under the direct supervision of a licensed pesticide applicator pilot. The supervising pilot, while directly supervising an apprentice, shall operate out of the same airstrip as the apprentice and shall be available periodically throughout each day to provide advice and assistance to the apprentice.

(b) Each applicant shall satisfy the Board as to his knowledge of the laws and regulations governing the use and application of pesticides in the classifications he has applied for (manually or with various equipment that he may have applied for a license to operate), and as to his responsibility in carrying on the business of a pesticide applicator. Each applicant for an original license must demonstrate upon written, or written and oral, examination to be prescribed by the Board his knowledge of pesticides, their usefulness and their hazards; his competence as a pesticide applicator; and his knowledge of the laws and regulations governing the use and application of pesticides in the classification for which he has applied.

(c) The Board shall by regulation:

(1) Designate what persons or class of persons shall be required to pass the examination in the case of an applicant that is a corporation or governmental unit or agency;

(2) Provide for license renewal examinations at intervals not more frequent than four years, or more frequently if found by the Board to be required to be necessary in order to qualify North Carolina's State pesticide control plan for federal approval. (1971, c. 832, s. 1; 1973, c. 389, s. 4; 1975, c. 425, ss. 5, 9; 1977, c. 1125; 1985, c. 163.)

§143-453. (Effective January 1, 1987) Qualifications for pesticide applicator's license; examinations.

(a) An applicant for a license must present satisfactory evidence to the Board concerning his qualifications for a pesticide applicator license. The contractor and each pilot involved in aerial application of pesticides shall be licensed.

Those qualifications, in the case of a pilot, shall include at least 125 hours and one year's flying experience as a pilot in the field of aerial pesticide application. A pilot lacking 125 hours and one year's experience as a pilot in the field of aerial pesticide application shall be licensed as an apprentice aerial pesticide applicator pilot. All aerial applications of pesticides by a licensed apprentice shall be conducted under the direct supervision of a licensed pesticide applicator pilot. The supervising pilot, while directly supervising an apprentice, shall operate out of the same airstrip as the apprentice and shall be available periodically throughout each day to provide advice and assistance to the apprentice.

(b) Each applicant shall satisfy the Board as to his knowledge of the laws and regulations governing the use and application of pesticides in the classifications he has applied for (manually or with various equipment that he may have applied for a license to operate), and as to his responsibility in carrying on the business of a pesticide applicator. Each applicant for an original license must demonstrate upon written, or written and

oral, examination to be prescribed by the Board his knowledge of pesticides, their usefulness and their hazards; his competence as a pesticide applicator; and his knowledge of the laws and regulations governing the use and application of pesticides in the classification for which he has applied.

(c) The Board shall by regulation:

(1) Designate what persons or class of persons shall be required to pass the examination in the case of an applicant that is a corporation or governmental unit or agency;

(2) Provide for license renewal examinations at intervals not more frequent than four years, or more frequently if found by the Board to be required to be necessary in order to qualify North Carolina's State pesticide control plan for federal approval. (1971, c. 832, s. 1; 1973, c. 389, s. 4; 1975, c. 425, ss. 5, 9; 1977, c. 1125; 1985, c. 163.)

§143-454. Solicitors, salesmen and operators; applicator's responsibility.

(a) Every licensed pesticide applicator shall submit to the Board, at such times as the Board or the Commissioner may prescribe, the names of all solicitors, salesmen, and operators employed by him.

(b) Each licensed pesticide applicator shall be responsible for solicitors, salesmen, and operators in his employment to assure that pesticides are used in a manner consistent with the intent of this Article. (1971, c. 832, s. 1; 1979, c. 448, s. 8.)

§ 143-455. Pest control consultant license.

(a) No person shall perform services as a pest control consultant without first procuring from the Board a license. Applications for a consultant license shall be in the form and shall contain the information prescribed by the Board. The application for a license shall be accompanied by a non-refundable annual fee of twenty-five dollars ($25.00).

(b) An applicant for a consultant license must present satisfactory evidence to the Board concerning his qualifications for such license. The Board may classify consultant licenses into one or more classifications or subclassifications based upon types of consulting services performed or to be performed. Such classifications and subclassifications may reflect the crops involved in the consulting service, the discipline or training of consultant, the discretion or lack of discretion involved in the consulting service, and the site or location of the service. Each classification and subclassification may be subject to separate testing procedures and requirements, and may be subject to its own minimum standards of training in specialized subject matter from a recognized college or university, or equivalent specialized consulting experience or training. Qualifications for licensing may be less stringent if the licensee is restricted to making recommendations contained in publications recognized by the Board as appropriate for a specific consulting classification or subclassification.

(c) Each applicant shall satisfy the Board as to his responsibility in carrying on the business of a pesticide

consultant. Each applicant for an original license must demonstrate upon written, or written and oral, examination to be prescribed by the Board his knowledge of pesticides, their usefulness and their hazards; his competence as a pesticide consultant; and his knowledge of the laws and regulations governing the use and sale of pesticides.

(d) Pest control consultants shall be subject to the same provisions as pesticide applicators concerning penalties for late applications for license, changes of address, transferability of licenses, periodic reexamination, and examinations for corporate applicants. (1971, c. 832, s. 1; 1975, c. 425, s. 10; 1987, c. 559, s. 16.)

§ 143-456. Denial, suspension and revocation of license.

(a) The Board may deny, suspend, modify, or revoke a license issued under this Part if it finds that the applicant or licensee or his employee has committed any of the following acts, each of which is declared to be a violation of this Part:

(1) Made false or fraudulent claims through any media, misrepresenting the effect of materials or methods to be utilized;

(2) Made a pesticide recommendation or application not in accordance with the label registered pursuant to this Article;

(3) Operated faulty or unsafe equipment;

(4) Operated in a faulty, careless, or negligent manner;

(5) Violated any provision of this Article or of any rule or regulation adopted by the Board or any lawful order of the Board;

(6) Refused or neglected to keep and maintain the records required by this Article, or to make reports when and as required;

(7) Made false or fraudulent records, invoices, or reports;

(8) Operated unlicensed equipment;

(9) Used fraud or misrepresentation, or presented false information, in making an application for a license or renewal of a license;

(10) Refused or neglected to comply with any limitations or restrictions on or in a duly issued license or permit;

(11) Aided or abetted a licensed or an unlicensed person to evade the provisions of this Article, combined or conspired with such a licensed or unlicensed person to evade the provisions of this Article, or allowed one's license to be used by an unlicensed person;

(12) Made false or misleading statements during or after an inspection concerning any infestation or infection of pests found on land;

(13) Impersonated any state, county, or city inspector or official;

(14) Stored or disposed of containers or pesticides by means other than those prescribed on the labeling or by rule;

(15) Failed to pay the original or renewal license fee when due and continued to operate as an applicator, or applied pesticides without a license.

(b) Any licensee whose license is revoked under the provisions of this Article shall not be eligible to apply for a new license hereunder until such time has elapsed from the date of the order

revoking said license as established by the Board (not to exceed two years), or if an appeal is taken from said order or revocation, not to exceed two years from the date of the order or final judgment sustaining said revocation. (1971, c. 832, s. 1; 1975, c. 425, ss. 6, 8; 1987, c. 559, s. 17, c. 827, s. 42.)

§143-457. Repealed by Session Laws 1981, c. 592, s. 8, effective July 1, 1981.

§ 143-458. Rules and regulations concerning methods of application.

(a) The Board may adopt rules prescribing the method to be used in the application of pesticides and the times and places pesticides may be applied. The Board may adopt rules restricting or prohibiting the sale and use of pesticides in designated areas during specified time periods. In adopting rules under this subsection, the Board shall consider factors required to prevent damage or injury to the following by the drift or misapplication of pesticides:

(1) Plants, including forage plants, on adjacent or nearby land;

(2) Wildlife in the adjoining or nearby areas;

(3) Fish and other aquatic life in waters in reasonable proximity to the area to be treated; or

(4) Other animals, persons or beneficial insects.

In issuing such regulations, the Board shall give consideration to pertinent research findings and recommendations of other agencies of this State or of the federal government.

(b) The Board may by regulation require that notice of a proposed application of a pesticide be given to landowners adjoining the property to be treated or in the immediate vicinity thereof, if it finds that such notice is necessary to carry out the purpose of this Article. (1971, c. 832, s. 1; 1987, c. 827, s. 43.)

§ 143-459. Reporting of shipments and volumes of pesticides.

Every person selling pesticides directly to the consumer shall file with the Board, in such manner and with such frequency as the Board may prescribe, reports of purchases, sales and shipments of restricted use pesticides and other pesticides designated by the Board. Failure to file any report when due shall be cause for suspension or revocation of any license or registration issued under this Article, or for denial of the issuance or renewal of any such license or registration, and shall be a misdemeanor, punishable as provided by G.S. 143-469. The time for reporting may be extended for an additional 15 days for cause, upon written request to the Board. All reports provided under this Part are provided solely for the purposes of the Board. (1971, c. 832, s. 1; 1987, c. 559, s. 2.)

PART 5. General Provisions.

§ 143-460. Definitions.

As used in this Article, unless the context otherwise requires:

(1) The term "active ingredient" means

a. In the case of a pesticide other than a plant regulator, defoliant, or desiccant, an ingredient which will prevent, destroy, repel, or mitigate insects, nematodes, fungi, rodents, weeds, or other pests;

b. In the case of a plant regulator, an ingredient which, through physiological action, will accelerate or retard the rate of growth or rate of maturation or otherwise alter the behavior of ornamental or crop plants or the produce thereof;

c. In the case of a defoliant, an ingredient which will cause the leaves or foliage to drop from a plant;

d. In the case of a desiccant, an ingredient which will artificially accelerate the drying of a plant tissue.

(2) The term "adulterated" shall apply to any pesticide if its strength or purity falls below the professed standard or quality as expressed on labeling or under which it is sold, or if any substance has been substituted wholly or in part for the article, or if any valuable constituent of the article has been wholly or in part abstracted.

(3) Reserved.

(4) "Board" means the North Carolina Pesticide Board.

(5) "Commissioner" means the North Carolina Commissioner of Agriculture.

(6) "Committee" means the Pesticide Advisory Committee.

(7) The term "defoliant" means any substance or mixture of substances intended for causing the leaves or foliage to drop from a plant, with or without causing abscission.

(8) The term "desiccant" means any substance or mixture of substances intended for artificially accelerating the drying of plant tissues.

(9) The term "device" means any instrument or contrivance intended for trapping, destroying, repelling, or mitigating insects or rodents or destroying, repelling, or mitigating fungi, weeds, nematodes, or such other pests as may be designated by the Board, but not including equipment used for the application of pesticides when sold separately therefrom.

(10) "Engage in business" means any application of pesticide by any person for use upon lands of another, or any sale of pesticide by any person.

(11) "Equipment" means any type of ground, water or aerial equipment, device, or contrivance using motorized, mechanical or pressurized power and used to apply any pesticide on land and anything that may be growing, habitating or stored on or in such land, but shall not include any pressurized hand- sized household device used to apply any pesticide or any equipment, device or contrivance of which the person who is applying the pesticide is the source of power or energy in making such pesticide application.

(12) The term "fungus" means any non-chlorophyll-bearing thallophyte (that is any non-chlorophyll-bearing plant of a lower order than mosses and liverworts), as for example, rust, smut, mildew, mold, yeast, and bacteria, except those on or in living

man or other animals and those on or in processed food, beverages, or pharmaceuticals.

(13) The term "fungicide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any fungi.

(14) The term "herbicide" means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any weed.

(15) The term "inert ingredient" means an ingredient which is not an active ingredient.

(16) The term "ingredient statement" means

a. A statement of the name and percentage of each active ingredient, together with the total percentage of the inert ingredients, in the pesticide; and

b. In case the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic, each calculated as elemental arsenic.

(17) The term "insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class Insecta, comprising six-legged, usually winged forms, as, for example, beetles, bugs, wasps, flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, as, for example, spiders, mites, ticks, centipedes, and wood lice.

(18) The term "insecticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects which may be present in any environment whatsoever.

(19) The term "label" means the written, printed, or graphic matter on, or attached to, the pesticide (or device) or the immediate container thereof, and the outside container or wrapper of the retail package, if any there be, of the pesticide (or device).

(20) The term "labeling" means all labels and other written, printed, or graphic matter:

a. Upon the pesticide (or device) or any of its containers or wrappers;

b. Accompanying the pesticide (or device) at any time;

c. To which reference is made on the label or in literature accompanying the pesticide (or device) except when accurate, nonmisleading reference is made to current official publications of the United States Department of Agriculture or Interior, the United States Public Health Service, state experiment stations, state agricultural colleges, or other similar federal institutions or official agencies of this State or other states authorized by law to conduct research in the field of pesticides.

(21) "Land" means all land and water areas, including airspace, and all plants, animals, structures, buildings, devices and contrivances, appurtenant thereto or situated thereon, fixed or mobile, including any used for transportation.

(22) "Manufacturer" includes any person engaged in the business of importing, producing, preparing, formulating, mixing, or processing pesticides.

(22a) "Material Safety Data Sheet" or "MSDS" means a chemical information sheet which would satisfy the requirements of the Hazardous Chemicals Right-to-Know Act, Article 18, Chapter 95 of the General Statutes, or any law enacted in substitution therefor.

(23) The term "misbranded" shall apply:

a. To any pesticide or device if its labeling bears any statement, design, or graphic representation relative thereto or to its ingredients which is false or misleading in any particular;

b. To any pesticide:

1. If it is an imitation of or is offered for sale under the name of another pesticide;

2. If its labeling bears any reference to registration under this Article;

3. If the labeling accompanying it does not contain instructions for use which are necessary and, if complied with, adequate for the protection of the public;

4. If the label does not contain a warning or caution statement which may be necessary and, if complied with, adequate to prevent injury to living man and other vertebrate animals;

5. If the label does not bear an ingredient statement on that part of the immediate container and on the outside container or wrapper, if there be one, through which the ingredient statement on the immediate container cannot be clearly read, of the retail package which is presented or displayed under customary conditions of purchase except that the Board may permit the statement to appear prominently on some other part of the container, if the size or form of the container make it impractical to comply with the requirements of this subparagraph;

6. If any word, statement, or other information required by or under the authority of this Article to appear on the labeling is not prominently placed thereon with such conspicuousness (as compared with other words, statements, designs, or graphic matter in the labeling) and in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use; or

7. If in the case of an insecticide, nematicide, fungicide, or herbicide, when used as directed or in accordance with commonly recognized practice, it shall be injurious to living man or other vertebrate animals or vegetation, except weeds, to which it is applied, or to the person applying such pesticides or

8. In the case of a plant regulator, defoliant, or desiccant when used as directed it shall be injurious to living man or other vertebrate animals, or vegetation to which it is applied, or to the person applying such pesticides, except that physical or physiological effects on plants or parts thereof shall not be deemed to be injury, when this is the purpose for which the plant regulator, defoliant, or desiccant was applied, in accordance with the label claims and recommendations.

(24) The term "nematicide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating nematodes.

(25) The term "nematode" means invertebrate animals of the phylum nemathelminthes and class Nematoda, that is, unsegmented

round worms with elongated, fusiform, or saclike bodies covered with cuticle, and inhabiting soil, water, plants or plant parts; may also be called nemas or eelworms.

(25a) The phrase "packaged, labeled and released for shipment" means the point in the production and marketing process of a pesticide where the pesticide has been produced, and it is the intent of the producer that such product be introduced into commerce for direct retail sale.

(26) A "person" is any person, including (but not limited to) an individual, firm, partnership, association, company, joint-stock association, public or private institution, municipality or county or local government unit (as defined in G.S. 143-215.40(b)), state or federal governmental agency, or private or public corporation organized under the laws of this State or the United States or any other state or country.

(26a) The term "pest" means any insect, rodent, nematode, fungus, weed or any other noxious or undesirable microorganism or macroorganism, except viruses, bacteria, or other microorganisms on or in living persons or other living animals.

(27) "Pest control consultant" means any person, who, for a fee, offers or supplies technical advice, supervision, or aid, or recommends the use of specific pesticides for the purpose of controlling insects, plant diseases, weeds, and other pests, but does not include any person regulated by the North Carolina Structural Pest Control Act (G.S. Chapter 106, Article 4C).

(28) The term "pesticide" means:

a. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and

b. Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

(29) "Pesticide applicator" includes any person who owns or manages a pesticide application business which is engaged in the business of applying pesticides upon the lands or properties of another; any public operator; any golf course operator; any seed treater; any person engaged in demonstration or research pest control; and any other person who acts as a pesticide applicator and is not exempt from this definition. It does not include:

a. Any person who uses or supervises the use of a pesticide (i) only for the purpose of producing an agricultural commodity on property owned or rented by him or his employer, or (ii) only (if applied without compensation other than trading of personal services between producers of agricultural commodities) on the property of another person, or (iii) only for the purposes set forth in (i) and (ii) above.

b. Any person regulated by the North Carolina Structural Pest Control Law (G.S. Chapter 106, Article 4C).

(30) The term "pesticide dealer" means any person who is engaged in the business of distributing, selling, offering for sale, or holding for sale restricted use pesticides for distribution directly to users. The term pesticide dealer does not include:

a. Persons whose sales of pesticides are limited to pesticides in consumer-sized packages (as defined by the Board) which are labeled and intended for home and garden use only and are not restricted use pesticides, or

b. Practicing veterinarians and physicians who prescribe, dispense, or use pesticides in the performance of their professional services.

(31) Repealed by Session Laws 1973, c. 389, s. 3.

(32) The term "plant regulator" means any substance or mixture of substances, intended through physiological action, for accelerating or retarding the rate of growth or rate of maturation, or for otherwise altering the behavior of ornamental or crop plants or the produce thereof, but shall not include substances to the extent that they are intended as plant nutrients, trace elements, nutritional chemicals, plant inoculants, and soil amendments.

(33) "Public operator" means any person in charge of any equipment used by public utilities (as defined by General Statutes Chapter 62), State agencies, municipal corporations, or other governmental agencies applying pesticides.

(34) The term "registrant" means the person registering any pesticide pursuant to the provisions of this Article.

(35) The term "restricted use pesticide" or "pesticide classified for restricted use" means any pesticide or use classified as restricted by the Administrator of the United States Environmental Protection Agency or other pesticide or use which the Board has designated as such pursuant to G.S. 143-440.

(36) The term "rodenticide" means any substance or mixture of substances intended for preventing, destroying, repelling, attracting, or mitigating rodents or any other vertebrate animal which the Board shall declare to be a pest.

(36a) The phrase "to use any pesticide in a manner inconsistent with its labeling" means to use any pesticide in a manner not permitted by the labeling; provided that the phrase shall not include:

a. Applying a pesticide at any dosage, concentration, or frequency less than that specified on the labeling,

b. Applying a pesticide against any target pest not specified on the labeling if the application is to the crop, animal, or site specified on the labeling, unless the labeling specifically states that the pesticide may be used only for the pests specified on the labeling,

c. Employing any method of application not prohibited by the labeling, or

d. Mixing pesticides or mixing a pesticide with a fertilizer when such mixture is not prohibited by the labeling.

(37) The term "weed" means any plant or part thereof which grows where not wanted.

(38) "Wildlife" means all living things that are neither human, domesticated, nor, as defined in this Article, pests; including but not limited to mammals, birds, and aquatic life. (1971, c. 832, s. 1; 1973, c. 389, s. 3; 1975, c. 425, s. 11; 1979, c. 448, ss. 9, 10; 1981, c. 592, ss. 9-11; 1987, c. 559, ss. 2, 18-20.)

§ 143-461. General powers of Board.

In addition to the specific powers prescribed elsewhere in this Article, and for the purpose of carrying out its duties, the Board shall have the power, at any time and from time to time:

(1) To adopt from time to time and to modify and revoke official regulations interpreting and applying the provisions of this Article and rules of procedure establishing and amplifying the procedures to be followed in the administration of this Article. Unless the Board deems there are overriding policy considerations involved, any regulation of the Board, which will in the judgment of the Board result in severe curtailment of the usefulness or value of inventories or equipment in the hands of persons licensed under this Article, should be given a future effective date so as to minimize undue potential economic loss to licensees;

(2) To authorize the Commissioner by proclamation (i) to suspend or implement, in whole or in part, particular regulations of the Board which may be affected by variable conditions, or (ii) to suspend the application of any provision of this Part to any federal or State agency if it is determined by the Commissioner that emergency conditions require such action.

(3) To conduct such investigations as it may reasonably deem necessary to carry out its duties as prescribed by this Article;

(4) To conduct public hearings in accordance with the procedures prescribed by this Article;

(5) To delegate such of the powers of the Board as the Board deems necessary (other than its powers to adopt rules and regulations of any kind) to one or more of its members, to the Commissioner, or to any qualified employee of the Board or of the Commissioner; provided, that the provisions of any such delegation of power shall be set forth in the official regulations of the Board. Any person to whom a delegation of power is made to conduct a hearing shall report the hearing with its evidence and record to the Board for decision;

(6) To call upon the Attorney General for such legal advice and assistance as is necessary to the functioning of the Board;

(7) To institute such actions in the superior court in the county in which any defendant resides, or has his or its principal place of business, as the Board may deem necessary for the enforcement of any of the provisions of this Article or of any official actions of the Board, including proceedings to enforce subpoenas or for the punishment of contempt of the Board. Upon violation of any of the provisions of this Article, or of any regulation of the Board adopted under the authority of this Article the Board may, either before or after the institution of any other proceedings (civil or criminal), institute a civil action in the superior court in the name of the State for injunctive relief to restrain the violation and for such other or further relief in the premises as said court shall deem proper. Neither the institution of the action nor any of the proceedings thereon shall relieve any party to such proceedings from any other penalty or remedy prescribed by this Article for any violation of same;

(8) To agree upon or enter into any settlements or compromises of any actions and to prosecute any appeals or other proceedings. (1971, c. 832, s. 1; 1973, c. 389, s. 6; 1987, c. 827, s. 44.)

§ 143-462. Procedures for revocations and related actions affecting licenses.

In all proceedings, the effect of which would be to revoke, suspend, deny, or withhold renewal of a license issued under Part 3 or Part 4 of this Article, or to deny permission to take an examination for such a license, the provisions of Chapter 150B of the General Statutes shall be applicable. (1971, c. 832, s. 1; 1987, c. 827, s. 1.)

§ 143-463. Adoption and publication of rules.

Chapter 150B of the General Statutes governs the adoption of rules under this Article and the publication of those rules. (1971, c. 832, s. 1; 1975, 2nd Sess., c. 983, s. 84; 1979, c. 448, s. 11; 1987, c. 827, s. 45.)

§ 143-464. Procedures concerning registration of pesticides.

A denial, suspension, or cancellation of a registration of a pesticide shall be made in accordance with the procedures in Chapter 150B of the General Statutes for denying, suspending, or canceling a license. (1971, c. 832, s. 1; 1979, c. 448, s. 12; 1987, c. 827, s. 46.)

§143-465. Reciprocity; intergovernmental cooperation.

(a) The Board may issue any license required by this Article on a reciprocal basis with other states without examination to a nonresident who is licensed in another state substantially in accordance with any of the provisions of the Article, provided that financial security as provided for in G.S. 143-467 is met.

(b) The Board may cooperate or enter into formal agreements with any other agency of this State or its subdivisions or with any agency of any other state or of the federal government for the purpose of enforcing any of the provisions of this Article.

(c) In order to avoid confusion resulting from diverse requirements and to avoid increased costs to the people of this State due to the necessity of complying with such diverse requirements in the manufacture and sale of such pesticides, it is desirable that there should be uniformity between the requirements of the several states and the federal government relating to such pesticides. To this end the Board is authorized, after public hearing, to adopt by regulation such regulations, applicable to and in conformity with the primary standards established by this Article, as have been or may be prescribed with respect to pesticides by departments or agencies of the United States government. (1971, c. 832, s. 1.)

§143-466. Records; information; inspection; enforcement.

(a) The Board shall require licensees to maintain records with respect to the sale and application of such pesticides as it may from time to time prescribe. Such relevant information as the Board may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and shall be available for inspection by the Board or its agents at its request.

(b) The Board may publish information regarding injury which may result from improper application or use of pesticides and the methods and precautions designed to prevent such injury.

(c) The Board may provide for inspection of any equipment used for application of pesticides and may require repairs or other changes before its further use for pesticide application. A list of requirements that equipment shall meet may be adopted by the Board by regulation.

(d) The Board may provide for inspection of any place of business where pesticides are stored or sold and may require changes in methods of handling, displaying and storing of all pesticides. A list of requirements that places of business must meet may be adopted by regulation of the Board.

(e) For the purpose of carrying out the provisions of this Article, inspectors designated by the Board may enter upon any public or private premises at reasonable times, in order:

(1) To have access for the purpose of inspecting the premises and any equipment subject to this Article and such premises on which such equipment is kept or stored;

(2) To inspect lands actually or reported to be exposed to pesticides;

(3) To inspect storage or disposal areas;

(4) To inspect or investigate complaints of injury to humans, land or plants; or

(5) To sample pesticides being applied, or to be applied.

No person shall refuse entry or access to any authorized representative of the Board who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties. Should the Board or its designated agent be denied access to any land where such access was sought for the purposes set forth in this Article, the Board may apply to any court of competent jurisdiction for a search warrant authorizing access to such land for said purposes. The court may upon such application issue the search warrant for the purposes requested. (1971, c. 832, s. 1.)

§143-467. Financial responsibility.

(a) The Board may require from a licensee or an applicant for a license under this Article evidence of his financial ability to properly indemnify persons suffering damage from the use or application of pesticides, in the form of a surety bond, liability insurance or cash deposit. The amount of this bond, insurance or deposit shall be determined by the Board, in light of the risk of damage. The indemnification requirements may extend to damage to persons and property from equipment used (including aircraft).

(b) The Board may also require a reasonable performance bond with satisfactory surety to secure the performance of contractual obligations of the licensee, with respect to application of pesticides. Any person injured by the breach of any such obligation or any person damaged by pesticides or by equipment used in their application shall be entitled to sue on the bond in his own name in any court of competent jurisdiction to recover the damages he may have sustained.

(c) Any regulations adopted by the Board pursuant to G.S. 143-461 to implement this section may provide for such

conditions, limitations and requirements concerning the financial responsibility required by this section as the Board deems necessary, including but not limited to notice of reduction or cancellation of coverage, deductible provisions, and acceptability of surety. Such regulations may classify financial responsibility requirements according to the separate license classifications and subclassifications prescribed by the Board pursuant to G.S. 143-452 and the dealer category (Part 3 of this Article). (1971, c. 832, s. 1.)

§143-468. Disposition of fees.

All fees and charges received by the Board under this Article shall be deposited in the Department of Agriculture General Fund Budget for the purpose of administration and enforcement of this Article, with proper approved accounting procedures accounting for all expenditures and receipts. (1971, c. 832, s. 1.)

§ 143-469. Penalties.

(a) Any person who shall be adjudged to have violated any provision of this Article, or any regulation of the Board adopted pursuant to this Article, shall be guilty of a misdemeanor, and for each violation shall be liable for a penalty of not less than one hundred dollars ($100.00) nor more than one thousand dollars ($1,000) or shall be imprisoned for not more than 60 days, or both. In addition, if any person continues to violate or further violates any provision of this Article after written notice from the Board, the court may determine that each day during which the violation continued or is repeated constitutes a separate violation subject to the foregoing penalties.

(b) A civil penalty of not more than two thousand dollars ($2,000) may be assessed by the Board against any person who:

(1) Sells or offers for sale any unregistered pesticide in violation of G.S. 143-442;

(2) Uses a pesticide in a manner inconsistent with its labeling;

(3) Stores or disposes of a pesticide or pesticide container by means other than means prescribed on the labeling or regulations adopted pursuant to this Article;

(4) Makes false or fraudulent claims about the effect of any pesticide or method of application of a pesticide;

(5) Violates any stop sale, stop use, or removal order adopted under G.S. 143-447;

(6) Fails to provide names and addresses of recipients of pesticides which are the subject of stop sale, stop use, or removal orders when the person is the registrant of the pesticide or has sold or distributed the pesticide;

(7) Fails to make and keep records required by this Article, fails to make reports when required by this Article or refuses to make such records and reports available for audit or inspection by the Board or its agents;

(8) Falsifies all or part of any application for the registration of a pesticide or the issuance or renewal of any license under this Article;

(9) Makes false statements or provides false information in connection with any investigation conducted under this Article;

(10) Operates as a pesticide applicator, consultant or dealer without a license;

(11) Makes any restricted use pesticide available for use by any person other than a certified private applicator, licensed pesticide applicator, certified structural pest control applicator, or structural pest control licensee or an employee working under the direct supervision of such applicator or licensee.

(12) Distributes, sells or offers for sale any restricted use pesticide to any dealer who does not hold a valid North Carolina Pesticide Dealer License.

In determining the amount of any penalty, the Board may consider the degree and extent of harm caused by the violation and the cost of rectifying the damage caused by the violation.

(c) Proceedings for the assessment of civil penalties under this section shall be governed by Chapter 150B of the North Carolina General Statutes. If the person assessed a civil penalty fails to pay the penalty to the North Carolina Department of Agriculture, the Board may institute an action in the superior court of the county in which the person resides or has his principal place of business to recover the unpaid amount of said penalty. An action to recover a civil penalty under this section shall not relieve any party from any other penalty prescribed by law.

(d) Notwithstanding any other provision of this Article, the maximum penalty which may be assessed under this section against any person referred to in G.S. 143-460(29)a shall not exceed five hundred dollars ($500.00). Penalties may be assessed under this section against a person referred to in G.S. 143-460(29)a only for willful violations. (1971, c. 832, s. 1; 1981, c. 592, s. 12; 1987, c. 559, s. 21, c. 827, s. 1.)

§143-470. Repealed by Session Laws 1981, c. 592, s. 13, effective July 1, 1981.

§143-470.1. Report of minor violations in discretion of Board or Commissioner.

Nothing in this Article shall be construed to require the Board or the Commissioner to initiate, or attempt to initiate, any criminal or administrative proceedings under this Article for minor violations of this Article whenever the Board or Commissioner believes that the public interest will be adequately served in the circumstances by a suitable written notice or warning. (1979, c. 448, s. 13.)

APPENDIX D

ARTICLE 4C.
Structural Pest Control Act.

§106-65.22. Title.

This Article shall be known by the title of "Structural Pest Control Act of North Carolina of 1955." It is declared to be the policy of this State that the regulation of persons, corporations and firms engaged in the business of structural pest control in this State, as defined in G.S. 106-65.25, is in the public interest in order to ensure a high quality of workmanship and in order to prevent deception, fraud and unfair trade practices in the conduct of said business. The General Assembly finds that quality of structural pest control work is not easily determined by the general public due to the inaccessibility of the areas treated and the complexity of the methods of treatment. (1955, c. 1017; 1977, c. 231, s. 1.)

§ 106-65.23. Structural Pest Control Division of Department of Agriculture recreated; Director; Structural Pest Control Committee created; appointment; terms; quorum.

There is hereby recreated, within the North Carolina Department of Agriculture, a Division thereof, to be known as the Structural Pest Control Division of said Department. The Commissioner of Agriculture is hereby authorized to appoint a Director of said Division whose duties and authority shall be determined by the Commissioner. Said Director shall act as secretary to the Structural Pest Control Committee herein created.

There is hereby created a Structural Pest Control Committee to be composed of five members. The Commissioner of Agriculture shall designate one member of the Board of Agriculture who shall serve as an ex officio member of said Committee for such time as he is a member of the Board of Agriculture. The Commissioner of Agriculture shall designate an employee of the Department of Agriculture to serve on said Committee at the pleasure of the Commissioner. The dean of the School of Agriculture of North Carolina State University at Raleigh shall appoint one member of the Committee who shall serve for one term of two years and who shall be a member of the entomology faculty of said University. The vacancy occurring on the Committee by the expired term of the member from the entomology faculty of said University shall be filled by the dean of the School of Agriculture of North Carolina State University at Raleigh who shall designate any person of his choice from the entomology faculty of said University to serve on said Committee at the pleasure of the dean. The Governor shall appoint two members of said Committee who are actively engaged in the pest control industry, who are licensed in at least two phases of structural pest control as provided under G.S. 106-65.25(a), and who are residents of the State of North Carolina but not affiliates of the same company. The initial Committee members from the pest control industry shall be appointed as follows: one for a two-year term and one for a three-year term. After the initial appointments by the Governor, all ensuing appointments by the Governor shall be for terms of

four years. Any vacancy occurring on the Committee by reason of death, resignation, or otherwise shall be filled by the Governor or the Commissioner of Agriculture, as the case may be, for the unexpired term of the member whose seat is vacant. A member of the Committee appointed by the Governor shall not succeed himself.

The Committee shall make final decisions under this Article concerning licenses, certified applicator cards, and identification cards. The Committee shall report annually to the Board of Agriculture the action taken in the Committee's final decisions and the financial status of the Structural Pest Control Division.

The Director shall be responsible for and answerable to the Commissioner of Agriculture as to the operation and conduct of the Structural Pest Control Division.

Each member of the Committee who is not an employee of the State shall receive as compensation for services per diem and necessary travel expenses and registration fees in accordance with the provisions as outlined for members of occupational licensing boards and currently provided for in G.S. 93B-5. Such per diem and necessary travel expenses and registration fees shall apply to the same effect that G.S. 93B-5 might hereafter be amended.

Three members of the Committee shall constitute a quorum but no action at any meeting of the Committee shall be taken without three votes in accord. The chairman shall be entitled to vote at all times.

The Committee shall meet at such times and such places in North Carolina as the chairman shall direct; provided, however, that three members of the Committee may call a special meeting of the Committee on five days' notice to the other members thereof.

All members of the Committee shall be appointed or designated, as the case may be, prior to and shall commence their respective terms on July 1, 1967.

At the first meeting of the Committee they shall elect a chairman who shall serve as such at the pleasure of the Committee. (1955, c. 1017; 1957, c. 1243, s. 1; 1967, c. 1184, s. 1; 1969, c. 541, s. 7; 1973, c. 556, s. 1; 1975, c. 570, ss. 1, 2; 1977, c. 231, s. 2; 1987, c. 827, s. 26.)

§106-65.24. Definitions.

For the purposes of this Article, the following terms, when used in the Article or the rules and regulations, or orders made pursuant thereto, shall be construed respectively to mean:

(1) "Animal" means all vertebrate and invertebrate species, including but not limited to man and other mammals, birds, fish, and shellfish.

(1a) "Applicant for a certified applicator's identification card" means any person making application to use restricted use pesticides in any phase of structural pest control.

(2) "Applicant for a license" means any person in charge of any individual, firm, partnership, corporation, association, or any other organization or any combination thereof, making application for a license to engage in structural pest control, control of

structural pests or household pests, or fumigation operations, or any person qualified under the terms of this Article.

(3) "Attractants" means substances, under whatever name known, which may be toxic to insects and other pests but are used primarily to induce insects and other pests to eat poisoned baits or to enter traps.

(3a) "Branch office" means and includes any place of doing business which has two or more employees engaged in the control of insect pests, rodents, or wood-destroying organisms.

(4) "Certified applicator" means any individual who is certified under G.S. 106-65.25 as authorized to use or supervise the use of any pesticide which is classified for restricted use.

(5) "Commissioner" means the Commissioner of Agriculture of the State of North Carolina.

(6) "Committee" means the Structural Pest Control Committee.

(7) "Device" means any instrument or contrivance (other than a firearm) which is intended for trapping, destroying, repelling, or mitigating any pest or any other form of plant or animal life (other than man and other than bacteria, virus, or other microorganism on or in living man or other living animals); but not including equipment used for the application of pesticides when sold separately therefrom.

(8) Repealed by Session Laws 1975, c. 570, s. 4.

(8a) "Director" means the Director of the Structural Pest Control Division of the Department of Agriculture.

(9) "Employee" means any person employed by a licensee with the exceptions of clerical, janitorial, or office maintenance employees, or those employees performing work completely disassociated with the control of insect pests, rodents or the control of wood-destroying organisms.

(9a) "Enforcement agency" means the Structural Pest Control Division of the Department of Agriculture.

(10) "Fumigants" means any substance which by itself or in combination with any other substance emits or liberates a gas or gases, fumes or vapors and which gas or gases, fumes or vapors when liberated and when used will destroy vermin, rodents, insects, and other pests; but may be lethal, poisonous, noxious, or dangerous to human life.

(11) "Fungi" means wood-decaying fungi.

(12) "Insect" means any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class Insecta, comprising six-legged, usually winged forms, as for example, beetles, bugs, bees, flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, as for example, spiders, mites, ticks, centipedes, and sowbugs.

(13) "Insecticides" means substances, not fumigants, under whatever name known, used for the destruction or control of insects and similar pests.

(14) "Label" means the written, printed, or graphic matter on, or attached to, the pesticide or device or any of its containers or wrappers.

(14a) The term "labeling" means all labels and other written, printed, or graphic matter:

a. Upon the pesticide (or device) or any of its containers or wrappers;

b. Accompanying the pesticide (or device) at any time;

c. To which reference is made on the label or in literature accompanying the pesticide (or device) except when accurate nonmisleading reference is made to current official publications of the United States Department of Agriculture or Interior, the United States Public Health Service, state experiment stations, state agricultural colleges, or other similar federal institutions or official agencies of this State or other states authorized by the law to conduct research in the field of pesticides.

(15) "Licensee" means the designated person in charge of the business establishment or business entity, whether it be individual, firm, partnership, corporation, association or any organization, or any combination thereof, engaged in pest control work covered under the provisions of this Article. Each branch office of a business establishment is to be in charge of a person who has a license herein provided for.

(16) "Person" means any individual, partnership, association, corporation, or any organized group of persons whether incorporated or not.

(17) "Pest" means any living organism, including but not limited to, insects, rodents, birds, and fungi, which the Commissioner declares to be a pest.

(18) "Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

(19) "Registered pesticide" means a pesticide which has been registered by federal and/or State agency responsible for registering pesticides.

(20) "Repellents" means substances, not fumigants, under whatever name known, which may be toxic to insects and related pests, but are generally employed because of capacity for preventing the entrance or attack of pests.

(21) "Restricted-use pesticide" means a pesticide which has been designated as such by the federal and/or State agency responsible for registering pesticides.

(22) "Rodenticides" means substances, not fumigants, under whatever name known, whether poisonous or otherwise, used for the destruction or control of rodents.

(23) "Structural pest control" means the control of wood-destroying organisms or household pests (including, but not limited to, animals such as moths, cockroaches, ants, beetles, flies, mosquitoes, ticks, wasps, bees, fleas, mites, silverfish, millipedes, centipedes, sowbugs, crickets, termites, wood borers, etc.), including the identification of infestations or infections, the making of inspections, the use of pesticides, including insecticides, repellents, attractants, rodenticides, fungicides, and fumigants, as well as all other substances, mechanical devices or structural modifications under whatever name known, for the purpose of preventing, controlling and eradicating insects, vermin, rodents and other pests in household structures, commercial buildings, and other structures (including household structures, commercial buildings and other structures

in all stages of construction), and outside areas, as well as all phases of fumigation, including treatment of products by vacuum fumigation, and the fumigation of railroad cars, trucks, ships, and airplanes, or any one or any combination thereof.

(24) "Under the direct supervision of a certified applicator" means, unless otherwise prescribed by its labeling, a pesticide shall be considered to be applied under the direct supervision of a certified applicator if it is applied by a competent person acting under the instructions and control of a certified applicator who is available if and when needed, even though such certified applicator is not physically present at the time and place the pesticide is applied. (1955, c. 1017; 1957, c. 1243, s. 2; 1967, c. 1184, ss. 2, 3; 1973, c. 556, s. 2; 1975, c. 570, ss. 3, 4; 1977, c. 231, ss. 3-5.)

§106-65.25. Phases of structural pest control; license required; exceptions.

(a) Structural pest control is divided into the following phases:

(1) Control of wood-destroying organisms by any method other than fumigation,

(2) Control of household pests by any method other than fumigation,

(3) Fumigation,

and a license is required for each such phase, and it shall be unlawful for any person, firm, corporation, association or any organization or combination thereof to engage in or supervise work as a manager, owner, or owner-operator in any phase of structural pest control unless there shall first be secured a valid license therefor, issued by the Structural Pest Control Committee, and signed by the Commissioner of Agriculture.

(b) This Article shall not apply to any person doing work on his own property or to any regular employee of any person, firm or corporation doing work on the property of such person, firm or corporation, under the direct supervision of the person who owns or is in charge of the property on which work is being done unless a restricted use pesticide is being used. Any person, including agents or agencies of the federal, State or local governments, using a restricted use pesticide, whether it be on his own property or on the property of another in, on, or around food handling establishments, human dwellings, institutions such as schools and hospitals, industrial establishments including warehouses and grain elevators and any other structures and adjacent areas, public or private, or for the protection of stored, processed, or manufactured products in any phase of structural pest control, must (i) qualify as a certified applicator for that phase of structural pest control, or (ii) be under the direct supervision of a certified applicator possessing a valid identification card for that phase of structural pest control.

(b1) Persons who (i) demonstrate to the public the proper use and techniques of application of pesticides or supervise such demonstration and/or (ii) conduct field research with pesticides, and in doing so, use or supervise the use of restricted use pesticides must possess a valid certified applicator's

identification card. Included in the first group are such persons as extension specialists and county agents, commercial representatives demonstrating pesticide products, and those individuals demonstrating methods used in public programs. The second group includes local, State, federal, commercial and other persons conducting field research on or utilizing restricted use pesticides.

The above standards do not apply to the following persons for purposes of these regulations:

(1) Persons conducting laboratory type research involving restricted use pesticides; and

(2) Doctors of medicine and doctors of veterinary medicine applying pesticides as drugs or medication during the course of their normal practice.

(c) Any person issued an original license after October 21, 1976, for any one or any combination of the three phases shall be deemed to be a "certified applicator" to use or supervise the use of pesticides which are classified for restricted use so long as the pesticides are being used only in the phase of structural pest control for which the person is licensed. (1955, c. 1017; 1957, c. 1243, s. 3; 1967, c. 1184, s. 4; 1973, c. 556, s. 3; 1975, c. 570, s. 5.)

§106-65.26. Qualifications for certified applicator and licensee; applicants for certified applicator's identification card and license.

(a) An applicant for a certified applicator's identification card or license must present satisfactory evidence to the Committee concerning his qualifications for such card or license.

(b) Certified Applicator. -- Each applicant for a certified applicator's identification card must demonstrate that he possesses a practical knowledge of the pest problems and pest control practices associated with the phase or phases of structural pest control for which he is seeking certification.

(c) Licensee. -- The basic qualifications for a license shall be:

(1) Qualify as a certified applicator for the phase or phases of structural pest control for which he is making application; and

(2) Two years as an employee or owner-operator in the field of structural pest control, control of wood-destroying organisms or fumigation, for which license is applied; or

(3) One or more years' training in specialized pest control, control of wood-destroying organisms or fumigation under university or college supervision may be substituted for practical experience. Each year of such training may be substituted for one year of practical experience; provided, however, if applicant has had less than 12 months' practical experience, the Committee is authorized to determine whether said applicant has had sufficient experience to take the examination; or

(4) A degree from a recognized college or university with training in entomology, sanitary or public health engineering, or related subjects; provided, however, if applicant has had less than 12 months' practical experience, the Committee is authorized

to determine whether said applicant has had sufficient experience to take the examination.

(d) All applicants for license must have practical experience and knowledge of practical and scientific facts underlying the practice of structural pest control, control of wood-destroying organisms or fumigation. No person who has within five years of his application been convicted of or has entered a plea of guilty or a plea of nolo contendere to a crime involving moral turpitude, or who has forfeited bond to a charge involving moral turpitude, shall be entitled to take an examination or the issuance of a license under the provisions of this Article. (1955, c. 1017; 1967, c. 1184, s. 5; 1973, c. 556, s. 4; 1975, c. 570, s. 6.)

§106-65.27. Examinations of applicants; fee; license not transferable.

(a) Certified Applicator. -- All applicants for a certified applicator's identification card shall demonstrate practical knowledge of the principles and practices of pest control and safe use of pesticides. Competency shall be determined on the basis of written examinations to be provided and administered by the Committee and, as appropriate, performance testing. Testing shall be based upon examples of problems and situations appropriate to the particular phase or phases of structural pest control for which application is made and include where relevant the following areas of competency:

(1) Label and labeling comprehension.

(2) Safety factors associated with pesticides -- toxicity, precautions, first aid, proper handling, etc.

(3) Influence of and on the environment.

(4) Pests -- identification, biology, and habits.

(5) Pesticides -- types, formulations, compatibility, hazards, etc.

(6) Equipment -- types and uses.

(7) Application techniques.

(8) Laws and regulations.

An applicant for a certified applicator's identification card shall submit with his application for examination an examination fee of ten dollars ($10.00) for each of the phases of structural pest control in which he chooses to be examined. An examination for one or more phases of structural pest control may be taken at the same time. If an applicant fails to pass an examination for one or more phases of structural pest control, he shall be entitled to take one additional examination, at a regularly scheduled examination, without the payment of another examination fee. Frequency of such examinations shall be in the discretion of the Committee, consideration being given to the number of applications received, provided that a minimum of two examinations shall be given annually. The examination will cover the phase or phases of structural pest control for which application is being made. The ten dollar ($10.00) fee shall not apply to agents or agencies of the federal, State, or local governments.

(b) License. -- Each applicant for an original license must demonstrate upon written examination, to be provided and

administered by the Committee, his competency as a structural pest control operator for the phase or phases in which he is applying for a license. Frequency of such examinations shall be in the discretion of the Committee, consideration being given to the number of applications received, provided that a minimum of two examinations shall be given annually. The examination will cover the phase or phases of structural pest control for which application is being made.

An applicant shall submit with his application for examination an examination fee of twenty-five dollars ($25.00) for each of the phases of structural pest control in which he chooses to be examined. An examination for one or more phases of structural pest control may be taken at the same time. If an applicant fails to pass an examination for one or more phases of structural pest control, he shall be entitled to take one additional examination, at a regularly scheduled examination, without the payment of another examination fee. Agents or agencies of the federal, State or local governments are not exempt from this fee.

(c) A license shall not be transferable. When there is a transfer of ownership, management or operation of a business of a licensee hereunder, there shall be not more than a total of 90 days during any 12-month period in which any individual, firm, partnership, corporation or other entity, shall not have a qualified licensee to operate said business; and further provided, during each of the periods specified under this section, the use of any restricted use pesticide by any person representing said business agent or agency shall be by or under the direct supervision of a person possessing a valid certified applicator's identification card. A new licensee shall be responsible for correcting all discrepancies committed by the preceding licensee of said business or anyone working under his license during the 12-month period next preceding his becoming the designated licensee and he shall further be responsible for correcting discrepancies for all existing contracts. A discrepancy shall mean failure of the licensee to follow any rule and regulation concerning treating procedures adopted by the Committee under provisions of this Article.

(d) The Committee shall by regulation provide for:

(1) Establishing categories of certified applicators, along with such appropriate subcategories as are necessary, to meet the requirements of this Article;

(2) All licensees licensed prior to October 21, 1976, to become qualified as certified applicators; and

(3) Requalifying certified applicators thereafter as required by the federal government at intervals no more frequent than that specified by federal law and federal regulations. (1955, c. 1017; 1967, c. 1184, s. 6; 1973, c. 556, ss. 5, 6; 1975, c. 570, s. 7; 1977, c. 231, s. 6.)

§ 106-65.28. Revocation or suspension of license or identification card.

(a) Any license or certified applicator's identification card or operator's identification card may be denied, revoked or suspended by a majority vote of the Committee for any one or more of the following causes:

(1) Misrepresentation for the purpose of defrauding; deceit or fraud; the making of a false statement with knowledge of its falsity for the purpose of inducing others to act thereon to their damage; or the use of methods or materials which are not reasonably suitable for the purpose contracted.

(2) Failure of the licensee or certified applicator to give the Committee, the Commissioner, or their authorized representatives, upon request, true information regarding methods and materials used, or work performed.

(3) Failure of the license holder [or] certified applicator to make registrations herein required or failure to pay the registration fees.

(4) Any misrepresentation in the application for a license or certified applicator's identification card or operator's identification card.

(5) Willful violation of any rule or regulation adopted pursuant to this Article.

(6) Aiding or abetting a licensed or unlicensed person or a certified applicator or a noncertified person to evade the provisions of this Article, combining or conspiring with such a licensed or unlicensed person or a certified applicator or noncertified person to evade the provisions of this Article, or allowing one's license or certified applicator's identification card or operator's identification card to be used by an unlicensed or noncertified person.

(7) Impersonating any State, county or city inspector or official.

(8) Storing or disposing of containers or pesticides by means other than those prescribed on the label or adopted regulations.

(9) Using any registered pesticide in a manner inconsistent with its labeling.

(10) Payment, or the offer to pay, by any licensee to any party to a real estate transaction of any commission, bonus, rebate, or other thing of value as compensation or inducement for the referral to such licensee of structural pest control work arising out of such transaction.

(11) Falsification of records required to be kept by this Article or the rules and regulations of the Committee.

(b) Suspension of any license or certified applicator's identification card or operator's identification card under the provisions of this Article shall not be for less than 10 days nor more than two years, in the discretion of the Committee.

(c) If a license or certified applicator's identification card or operator's identification card is suspended or revoked under the provisions hereof, the licensee shall within five days of such suspension or revocation, surrender all licenses and identification cards issued thereunder to the Commissioner or his authorized representative.

(d) Any licensee whose license or certified applicator or operator whose identification card is revoked under the provisions of this Article shall not be eligible to apply for a new license or certified applicator's identification card or operator's identification card hereunder until two years have elapsed from the date of the order revoking said license or certified applicator's identification card or operator's

identification card or if an appeal is taken from said order of revocation, two years from the date of the order or final judgment sustaining said revocation.

(e) The lapsing of a State structural pest control license or certified applicator's identification card or operator's identification card by operation of law or the voluntary surrender of said license or said card shall not deprive the Committee of jurisdiction to proceed with any investigation or disciplinary proceedings against such licensee or card holder or to render a decision suspending or revoking such license or card. (1955, c. 1017; 1967, c. 1184, s. 7; 1973, c. 556, ss. 7, 8; 1975, c. 19, s. 30; c. 570, ss. 8-13; 1977, c. 231, ss. 7-9; 1987, c. 827, s. 27.)

§ 106-65.29. Rules and regulations.

In order to ensure that persons licensed and certified under this Article are capable of performing a high quality of workmanship, the Committee is hereby authorized and empowered to make rules and regulations with respect to:

(1) The amount and kind of training required of an applicant for a license and certified applicator's card to engage in any one or more of the three phases of structural pest control, and the amount and kind of training required of an applicant for an operator's identification card.

(2) The type, frequency and passing score of any examination given an applicant for a license and certified applicator's card under this Article.

(3) The amount, kind and frequency of continuing education required of a licensee and certified applicator.

(4) The methods and materials to be used in performing any work authorized by the issuance of a license and certified applicator's card under this Article.

(5) The business records to be made and maintained by licensees and certified applicators under this Article necessary for the Committee to determine whether the licensee and certified applicator is performing a high quality of workmanship.

(6) The credentials and identification required of licensees and certified applicators, their employees and equipment, including service vehicles, when engaged in any work defined under this Article.

(7) Safety methods and procedures for structural pest control work.

(8) Fees for reinspection following a finding of a discrepancy, as defined by the Committee.

(9) Fees for training materials provided by the Committee or the Division. Such fees may be placed in a revolving fund to be used for training and continuing education purposes and shall not revert to the General Fund. (1955, c. 1017; 1967, c. 1184, s. 8; 1975, c. 570, s. 14; 1977, c. 231, s. 9; 1981, c. 495, s. 3; 1987, c. 368, s. 2, c. 827, s. 28.)

§106-65.30. Inspectors; inspections and reports of violations; designation of resident agent.

For the enforcement of the provisions of this Article the Commissioner is authorized to appoint one or more qualified

inspectors and such other employees as are necessary in order to carry out and enforce the provisions of this Article. The inspectors shall be known as "structural pest control inspectors." The Commissioner shall enforce compliance with the provisions of this Article by making or causing to be made periodical and unannounced inspections of work done by licensees and certified applicators under this Article who engage in or supervise any one or more phases of structural pest control as defined in G.S. 106-65.25. The Commissioner shall cause the prompt and diligent investigation of all reports of violations of the provisions of this Article and all rules and regulations adopted pursuant to the provisions hereof; provided, however, no inspection shall be made by a representative of the Commissioner of any property without first securing the permission of the owner or occupant thereof.

Prior to the issuance or renewal of a license or certified applicator's identification card, every nonresident owner of a business performing any phase of structural pest control work shall designate in writing to the Commissioner or his authorized agent a resident agent upon whom service of notice or process may be made to enforce the provisions of this Article and rules and regulations adopted pursuant to the provisions hereof or any civil or criminal liabilities arising hereunder.

The Commissioner shall have authority to appoint personnel of the Structural Pest Control Division as special inspectors and said special inspectors are hereby vested with the authority to arrest with a warrant, or to arrest without a warrant when a violation of this Article is being committed in their presence or they have reasonable grounds to believe that a violation of this Article is being committed in their presence. Said special inspectors shall take offenders before the several courts of this State for prosecution or other proceedings. The provisions of this section do not apply to any person holding a valid structural pest control license, or a certified applicator's identification card, or an operator's identification card as issued under the provisions of this Article. Special inspectors shall not be entitled to the benefits of the Law Enforcement Officers' Benefit and Retirement Fund or the benefits of the Law Enforcement Officers' and Others Death Benefit Act as provided for in Articles 12 and 12A of Chapter 143 of the General Statutes, respectively. (1955, c. 1017; 1967, c. 1184, s. 9; 1973, c. 556, s. 9; 1975, c. 570, s. 15; 1977, c. 231, s. 10.)

§ 106-65.31. Annual certified applicator card and license fee; registration of servicemen, salesmen, solicitors, and estimators; identification cards.

(a) Certified Applicator's Card. -- The fee for issuance or renewal of a certified applicator's identification card for any one phase or more of structural pest control, as the same is defined in G.S. 106-65.25, shall be thirty dollars ($30.00). Certified applicator's identification cards shall expire on June 30 of each year and shall be renewed annually. All certified applicators who fail or neglect to renew their certified applicator's identification card issued under the provisions of

this Article on or before June 30 of each year in which they hold a valid certified applicator's identification card but make application before October 1 of that year shall be renewed without the applicant having to be reexamined unless under the provisions of this Article the applicant is scheduled for periodic reexamination (G.S. 106-65.27(e)(2) [106-65.27(d)(3)]). All applicants submitting applications for the renewal of their certified applicator's identification cards after June 30 and before October 1 of that year shall (i) not use or supervise the use of any restricted use pesticides after June 30 of that year until he has been issued a valid certified applicator's identification card and (ii) pay, in addition to the annual certification fee, the sum of five dollars ($5.00) for each phase of structural pest control in which he is applying for certification before his certified applicator's identification card is renewed. Any certified applicator whose employment is terminated with a licensee or agent prior to the end of said license year may at any time prior to the end of said license year be reissued a certified applicator's identification card for the remainder of the license year as an employee of another licensee or agency or as an individual for a fee of five dollars ($5.00).

Any certified applicator whose identification card is lost or destroyed may secure a duplicate identification card for a fee of five dollars ($5.00).

The fees for a certified applicator's identification shall not apply to agents or agencies of the federal, State, or local governments.

(b) License. -- The fee for the issuance of a license for any phase of structural pest control, as the same is defined in G.S. 106-65.25, shall be one hundred dollars ($100.00); provided, that when or any time after the fee for a license for any one phase is paid, the holder of said license may secure a license for either or both of the other two phases for an additional fee of fifty dollars ($50.00) per license phase. Licenses shall expire on June 30 of each year and shall be renewed annually. Any licensee who fails or neglects to renew any license issued under the provisions of this Article on or before August 1 of each year shall pay, in addition to the annual fee, the sum of ten dollars ($10.00) for each phase before his license is renewed.

Any licensee whose license is lost or destroyed may secure a duplicate license for a fee of five dollars ($5.00).

A license holder shall register with the North Carolina Department of Agriculture within 75 days of employment the names of all certified applicators, estimators, salesmen, servicemen and solicitors (not common laborers) and shall pay a registration fee of twenty dollars ($20.00) for each name registered, which fee shall accompany the registration. This registration fee shall not apply to a certified applicator. All registrations expire when a license expires. Each employee of a licensee for whom registration is made and registration fee paid shall be issued an identification card which shall be carried on the person of the employee at all times when performing any phase of structural pest control work. An identification card shall be renewed annually by payment of a renewal fee of twenty dollars ($20.00).

An identification card shall be displayed upon demand to the Commissioner, or his authorized representative, or to the person for whom any phase of structural pest control work is being performed. When an identification card is lost or destroyed, the licensee shall secure a duplicate identification card for which he shall pay a fee of one dollar ($1.00). This one dollar ($1.00) fee shall not apply to a certified applicator's identification card. The licensee shall be responsible for registering and securing identification cards for all employees who are estimators, salesmen, servicemen, and solicitors.

It shall be unlawful for an estimator, serviceman, salesman or solicitor to engage in the performance of any work covered by this Article without having first secured and having in his possession an identification card. It shall be unlawful for a licensee to direct or procure any salesman, serviceman or estimator to engage in the performance of any work covered by this Article without having first applied for an identification card for such employee or agent; provided, however, that the licensee shall have 75 days after employing a serviceman, salesman or estimator within which to apply for an identification card.

All registrations and applications for licenses and identification cards shall be filed with the North Carolina Department of Agriculture.

No person shall act as an estimator, serviceman, salesman, solicitor, or agent for any licensee under this Article nor shall any such person be issued an identification card by the Structural Pest Control Committee who has within three years of the date of application for an identification card been convicted of, plead guilty or nolo contendere, or forfeited bond in any court, State or federal, to a crime involving moral turpitude or to any violation of the North Carolina Structural Pest Control Act or to any regulation promulgated by the Structural Pest Control Committee. This provision shall not apply to any person whose citizenship has been restored as provided by law.

No person or business shall advertise as a contractor for structural pest control services nor actually contract for such services unless that person or business advertises or contracts in the name of the company shown on the license certificate of the licensee or identification card of the certified applicator who will perform the services.

(c) Notwithstanding any other provision of this law, the Committee may adopt rules to provide for the issuance of licenses, certified applicator's cards, and operator's identification cards with staggered expiration dates and may prorate renewal fees on a monthly basis to implement such rules. (1955, c. 1017; 1957, c. 1243, s. 4; 1967, c. 1184, s. 10; 1973, c. 47, s. 2; c. 556, s. 10; 1975, c. 570, s. 16; 1981, c. 495, s. 2; 1987, c. 368, s. 3.)

§ 106-65.32. Administrative Procedure Act applicable.

A denial, suspension, or revocation of a license, certified applicator card, or identification card under this Article shall be made in accordance with Chapter 150B of the General Statutes.

(1955, c. 1017; 1957, c. 1243, s. 5; 1967, c. 1184, s. 11; 1973, c. 556, s. 11; 1975, c. 570, s. 17; 1987, c. 827, s. 29.)

§106-65.33. Violation of Article, falsification of records, or misuse of registered pesticide a misdemeanor.

Any person who shall be adjudged to have violated any provision of this Article or who falsifies any records required to be kept by this Article or by the rules and regulations pursuant to this Article or who uses a registered pesticide in a manner inconsistent with its labeling shall be guilty of a misdemeanor, and for each violation shall be liable for a penalty of not less than one hundred dollars ($100.00) or not more than one thousand dollars ($1,000) or shall be imprisoned for not less than 60 days nor more than six months, or both. In addition, if any person continues to violate or further violates any provision of this Article after written notice from the Committee, the court may determine that each day during which the violation continued or is repeated constitutes a separate violation subject to the foregoing penalties. (1955, c. 1017; 1957, c. 1243, s. 6; 1967, c. 1184, s. 12; 1977, c. 231, s. 11.)

§106-65.34. Repealed by Session Laws 1967, c. 1184, s. 13.

§106-65.35. Repealed by Session Laws 1973, c. 556, s. 12.

§106-65.36. Reciprocity; intergovernmental cooperation.

The Committee may cooperate or enter into formal agreements with any other agency of this State or its subdivisions or with any agency of any other state or of the federal government for the purpose of enforcing any of the provisions of this Article. (1973, c. 556, s. 13.)

§106-65.37. Financial responsibility.

(a) The Committee may require by regulation from a licensee or certified applicator or an applicant for a license or certified applicator's identification card under this Article evidence of his financial ability to properly indemnify persons suffering from the use or application of pesticides in the form of liability insurance or other means acceptable to the Committee. The amount of this insurance or financial ability shall be determined by the Committee.

(b) Any regulation adopted by the Committee pursuant to G.S. 106- 65.29 to implement this section may provide for such conditions, limitations and requirements concerning the financial responsibility required by this section as the Committee deems necessary including but not limited to notice or reduction or cancellation of coverage and deductible provisions. Such regulations may classify financial responsibility requirements according to the separate license classifications and subclassifications as may be prescribed by the Committee. (1975, c. 570, s. 18.)

§106-65.38. Disposition of fees and charges.

All fees and charges received by the Division under this Article shall be deposited in the Department of Agriculture

General Fund Budget for the purpose of administration and enforcement of this Article, with proper approved accounting procedures accounting for all expenditures and receipts. (1977, c. 231, s. 12.)

§106-65.39. Judicial enforcement.

The commissioner may apply to either the superior or district court for an injunction to prevent and restrain violations of this Article and the rules and regulations adopted under this Article, provided however, that the district court shall have original jurisdiction to hear and determine alleged misdemeanor violations of the Article and the rules and regulations of the committee. (1977, c. 231, s. 13; 1981, c. 836.)

§106-65.40. City privilege license tax prohibited.

A city, as defined in G.S. 160A-1(2), may not levy a privilege license tax on persons engaged in a business licensed under this Article. (1983, c. 193.)

§ 106-65.41. Civil Penalties.

A civil penalty of not more than two thousand dollars ($2,000) may be assessed by the Committee against any person for any one or more of the causes set forth in G.S. 106-65.28(a)(1) through (11). In determining the amount of any penalty, the Committee shall consider the degree and extent of harm caused by the violation. No civil penalty may be assessed under this section unless the person has been given an opportunity for a hearing pursuant to Chapter 150B of the General Statutes. Assessments may be collected, following judicial review, if any, of the Committee's final decision imposing the assessment, in any lawful manner for the collection of a debt. (1987, c. 368, s. 1.)

APPENDIX E

NOTE: Appendix E contains the July 22, 1988 version of the Groundwater Monitoring Plan presented to the Committee. For more recent versions, please contact the North Carolina Pesticide Board or the North Carolina Department of Agriculture's Pesticide Section at (919) 733-3556.

PROPOSED STUDY OF THE POTENTIAL IMPACT OF PESTICIDES IN GROUNDWATER IN NORTH CAROLINA

PROPOSED COOPERATIVE INTERAGENCY PLAN AMONG NORTH CAROLINA DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES AND COMMUNITY DEVELOPMENT, AND DEPARTMENT OF HUMAN RESOURCES

Prepared by Interagency
Working Committee on
Groundwater Monitoring

Revised July 22, 1988

TABLE OF CONTENTS

I. Introduction

A. Purpose

The purpose of this proposal is to provide a comprehensive strategy for determining whether or not the groundwater in North Carolina is being impacted by the use of pesticides.

B. Scope

The proposed study will examine the impact of certain primary pesticide leachers including those used for agricultural, forestry, right-of-way, industrial, and structural purposes on the State's groundwater. The determination will be based on analytical laboratory data coupled with pesticide usage information acquired from people who are familiar with the usage during the last few years. Because the study cannot examine every site at which pesticides have been used, attention will focus on pesticide-use areas which are representative of the major hydrogeologic areas of the State including highly vulnerable areas of the state and those pesticides identified as primary leachers.

In order to sample from wells with uniform characteristics, the construction of 100 monitoring wells will be necessary. Existing private drinking water wells have been constructed at various depths and by different standards over time. Some of these wells may be more susceptible to leaching pesticides than others due to poor construction characteristics. Thus, if new wells constructed by a single set of standards are used, well integrity can be ensured.

The plan also includes the examination of 100 existing wells using NRCD's ambient groundwater monitoring wells where possible.

The plan has been developed by the cooperative efforts of the Departments of Agriculture, Human Resources, and Natural Resources and Community Development. To assist in project management the Board will secure cooperative agreements among the affected agencies to ensure the commitment of resources throughout the study.

C. Overview of Past or Current Pesticide Monitoring of Groundwater in North Carolina.

The committee has surveyed past or current pesticide monitoring of groundwater conducted in North Carolina (Appendix A). Although there have been studies on a limited basis, a comprehensive statewide study is needed to ascertain whether primary pesticide leachers that are used in the state are impacting groundwater resources.

II. Methodology

A. Identification of Counties and Pesticides for Monitoring

A process was developed for selecting counties in which water samples will be collected based on crop acreages. Thirty-nine counties have been selected for the construction of at least one monitoring well in each of those counties. Specific primary pesticide leachers were identified as target chemicals to check for in groundwater samples (Appendix B).

B. Selection of Sampling Sites

The sites at which 100 monitoring wells will be constructed in the surficial aquifer of the groundwater system will be selected by utilizing a hydrogeologic evaluation procedure combined with pesticide use information. The hydrogeologic evaluation methodology, known by the acronym DRASTIC, is a standardized system using hydrologic settings. The system considers depth to groundwater, net recharge, aquifer media, soil media, topography, impact of the vadose zone, and hydraulic conductivity of the aquifer in the calculation of a score that will allow groundwater pollution potential to be compared across areas of dissimilar hydrogeology. This will determine areas in which the surficial aquifers are most vulnerable to pesticide contamination. The monitoring wells will be constructed at various sites representing twenty-five crops and other areas such as forest plantations, industrial sites, rights-of-way, structural sites, mosquito abatement areas, golf courses, landscaping and nursery sites (Appendix C). Glossary of terms is located in the Appendix I.

C. Monitoring Well Questionnaire

A monitoring well questionnaire has been developed for this study (Appendix D). The questionnaire will provide information regarding past pesticide usage, pesticide spills, storage of pesticides, disposal sites, and abandoned or non-operating wells located in the vicinity of the monitoring well.

D. Collection and Transportation of Samples

Procedures have been developed for collecting samples and transporting them to the laboratories (Appendix E).

The monitoring wells will be sampled semiannually, for a total of 200 samples. This will allow a closer examination of the quality of groundwater because the occurrence of pesticides in groundwater has been shown to be associated with periods of greater rainfall due to the pesticides leaching to greater depths.

Approximately 100 existing wells will be used to obtain background data on the levels of pesticides in confined aquifers. As many of the NRCD's ambient groundwater monitoring wells will be used as possible.

E. Analytical Methods and Procedures

The six analytical methods along with quality assurance protocol are described in Appendix F. These methods are being used in the EPA National Pesticide Survey. According to the Environmental Protection Agency, 123 pesticides and metabolites can be detected with these methods in well water samples.

The analytical workload for the pesticide analysis of the water samples will be shared by the laboratories of the Dept. of Agriculture and the Dept. of Natural Resources and Community Development. By mutual agreement, the NRCD laboratory will conduct analytical methods 1, 2, and 3 and the NCDA laboratory will conduct methods 4, 5, and 6.

F. Follow-up Sampling and Analyses

Well sites will be resampled whenever a pesticide is detected. The second sampling date will be within four weeks of the laboratory's confirmation of a positive value from the first sampling. The second sample will be analyzed only for the pesticides that were detected in the first sample. If the second sample has detectable residues, the next step will involve downgradient sampling of drinking water wells by the Department of Human Resources. Positive results will be referred to DHR, NRCD or NCDA for appropriate action.

III. Project Management

The three agencies are committed to coordinating efforts for smooth operation of the study to ensure that various phases are completed in a timely and scheduled manner.

To ensure the success of the multi-agency approach, a steering committee of the Pesticide Board will continue to provide oversight and direction for the study. Through detailed cooperative agreements among the Agencies and the Board, component task and time tables will be defined. Each agency will designate an agency project coordinator to oversee the timely implementation and reporting of that agency's task components to a central project coordinator. The central project coordinator will be an agency employee designated by the Board's Steering Committee. The central project coordinator will be responsible for developing interim status reports for the Steering Committee, assembling and distributing data to facilitate interagency assessment, and developing any reports required by the Steering

Committee. It is anticipated that the central project coordinator function will be a full time position for the duration of the study.

Data management and joint access to the data for each of the three agencies will be accomplished through the cooperative utilization of the State Information Processing Services.

IV. Health-Based Guidance

EPA has developed 62 pesticide health advisories from information on physiochemical properties, uses, chemical fate, health effects, treatment, and existing criteria and guidelines. The Environmental Epidemiology Branch of DHR will be responsible for collecting and developing health-based guidance response information for all pesticides detectable in the analytical methodologies used in this project. Health-based guidance for detected pesticides will be in place before the analytical results are released.

V. Resources

Resources required by the agencies participating in the pesticide monitoring of groundwater study are described in the following section. The plan as projected requires temporary additional personnel for the Groundwater Section of the Division of Environmental Management and for laboratories in both the Division of Environmental Management and the Department of Agriculture. Several man years of existing staff time will be required to assist with the project. This projected workload will also require temporary additional laboratory physical facilities.

Cost summaries have been estimated for the study to be conducted by the State agencies with analyses conducted by State laboratories as shown below. The estimated cost is from $1.4 to $1.6 million. See Appendix G for more details.

Overview of Past, Present, and Future Pesticide Monitoring of Groundwater in North Carolina

Probably the first groundwater monitoring in North Carolina occurred in a research study around 1972. In this study by T. J. Sheets et al., shallow wells of 4, 6, 8, 10 and 12 feet depths were constructed in two cotton fields, one located near Rocky Mount and the other near Lewiston in Bertie County. Water samples were collected over a two-year period and were analyzed for methyl parathion, toxaphene, and trifluralin. These pesticides were not detected in any well water samples.

In 1982-83, the Pesticide Section, NCDA, conducted a pilot survey to determine if detectable levels of aldicarb occurred in drinking water wells. A total of 168 samples were collected from 104 wells in eight coastal plain counties. The results from the analysis of those samples indicated that detectable aldicarb residues were present in eleven samples from 8 wells. The wells which had positive results were located from 30 to 276 feet from cotton fields and ranged in depth from 20 to 50 feet.

The Food and Drug Protection Division, NCDA, monitors testing of bottled water samples from commercial plants that operate in North Carolina for the following pesticides: endrin, lindane, methoxychlor, toxaphene, 2,4-D, and 2,4,5-TP on an annual basis. The water quality standards for these pesticides have not been exceeded in any samples. Currently, there are ten plants operating in the State. At least four of these plants use spring water from two springs. The other plants use either private well water or city water.

At least three companies that register pesticide products in North Carolina have monitored groundwater for certain active ingredients. Rhone-Poulenc Ag Company has monitored for aldicarb, and their laboratory analyses revealed the presence of aldicarb in some samples from shallow wells. Ciba-Geigy has conducted limited monitoring since 1983. Three wells located in Franklin County were monitored monthly during 1983 and 1984. The wells were located adjacent to tobacco fields which were treated with Ridomil (metalaxyl). The wells were used primarily for irrigation with the estimated depth to the water table in the range of 40 to 50 feet. No residues of metalaxyl were detected in any of the wells. In July 1986, Ciba-Geigy began monitoring domestic supply wells in Edgecombe County for metalaxyl. No detectable residues of metalaxyl were found in the first round samples. Monsanto conducted a groundwater monitoring study for alachlor, metolachlor, and trifluralin in Hertford County in 1985. Water samples were collected from 34 drinking water wells in both July/August and October. Alachlor was found in the July/August samples obtained from two wells, but not in samples collected in October. One sample had 1.3 ppb of alachlor, and the other one had less than 0.21 ppb. The depth to the bottom of

these wells according to the owners are 225 and 170 feet respectively. In October 1985 (sampling #2), metolachlor was detected in one well at a level of 48 ppb. The depth to the bottom of the well, according to the owner, is 200 feet.

In 1985, the U. S. Geological Survey and the Guilford Soil and Water Conservation District initiated a study entitled the "Effects of Land Management Practices on Sediment and Chemical Transport in Guilford County". Water samples are being collected at two tobacco fields from 18 shallow water table wells. The wells range in depth from 20 to 40 feet. The groundwater is being monitored for acephate, diphenamid, ethoprop, fenamiphos, flumetralin, isopropalin, metalaxyl, and napropamide. Through 1987, none were detected.

The Department of Natural Resources and Community Development does not have any active projects involving pesticide monitoring of groundwater. NRCD has checked groundwater samples for pesticides on an incident response basis or when the Agency suspected the water was contaminated with pesticides. These investigations have dealt with point source and nonpoint source contamination. Since 1985, nine incidents of suspected pesticide contamination have been investigated. Five of these incidents had measurable amounts of pesticides in the groundwater. Three of the incidents had detectable levels of chlordane, heptachlor, or dieldrin. These pesticides have in the past been used in agricultural and structural insect control. A fourth incident had detectable levels of lindane found in four wells. The source was an abandoned dump site. The fifth incident had detectable levels of alachlor in one drinking water well and two monitoring wells. These investigations are continuing.

NRCD conducted two monitoring studies for ethylene dibromide (EDB) in 1983-84. In the first study, groundwater from 17 existing drinking water wells and 1 spring located at or near areas thought to have been exposed to EDB via pesticide use or gasoline spillage was sampled. Measurable amounts of EDB, 3.2 ppb were found in the water sample from the spring which had a gasoline odor. The users of the spring were advised not to consume this water.

In the second investigation, four wells were constructed on three agricultural research sites at which EDB was applied at a known application rate. EDB was found at 2.7 ppb in Rockingham County and 0.081 ppb in Lenoir County. The third test site in Johnston County was negative for EDB.

The Division of Health Services (DHS), Department of Human Resources, does not have any on-going monitoring projects for pesticides in groundwater. This Division participated in an interagency monitoring project specifically for ethylene dibromide (EDB) in 1984. Results were negative for approximately 20 domestic wells adjacent to known application sites. DHS, through it's local county health departments, the Environmental

Epidemiology Branch, and the Laboratory Section, does collect and analyze private water supply samples for pesticides from requesting individuals who suspect contamination. Such requests usually originate from the occurrence of an unexplained offensive taste or odor in the water. Most verified contaminations involve point sources such as a spill or back-siphonage of a product or inadequate application precautions during structural pest control treatment near an improperly constructed and/or located well. These incidents have involved homeowners, farmers, and structural pest control operators. Under this program, samples from 224 private water supplies were collected during 1987. Pesticide residues were detected in 31 incidents. The termiticides chlordane, heptachlor, aldrin, and dieldrin were responsible for 18 of the 31 positive cases. During the period from 1983 through 1987, Environmental Health Section reported that DHS analyzed 975 drinking water samples from surface water and groundwater sources in response to incidents suspected to involve pesticide contamination. Fifteen to twenty percent of these samples were positive for pesticides. During this same period, 300 samples from 150 surface public water supplies were analyzed for endrin, lindane, methoxychlor, toxaphene, 2,4-D, and 2,4,5-TP as required by 10 NCAC 10D .1624. Measurable amounts of these pesticides were not detected in any of these samples.

The Water Supply Branch, DHS, is enforcing a requirement that surface and groundwater public water systems be checked on a scheduled basis for EDB, DBCP, and 1,3-dichloropropene in addition to other VOC's. The new regulations are effective in 1988 and require that systems serving more than 10,000 be sampled in 1988, systems serving between 3,300 and 10,000 be sampled in 1989, and systems serving less than 3,300 be sampled in 1991. Also, the monitoring will be required for nontransient noncommunity water systems such as rural schools, day care centers, and industry.

In 1989, the EPA will initiate sampling of domestic and community water wells in North Carolina as a part of the National Pesticide Survey. In North Carolina, seven counties have been selected for the domestic well phase. They are Beaufort, Carteret, Cherokee, Henderson, Madison, Washington, and Yadkin. EPA emphasizes that the counties selected have not been determined to have pesticide contamination. The counties selected do not necessarily represent statewide agricultural pesticide use or groundwater conditions.

The community water well phase of the survey will involve 32 systems in North Carolina. The sampling will begin in September 1988 and will be completed by December 1989.

Appendix B

Identification of Counties and Pesticides for Monitoring

The process of selecting counties in which water samples could be collected was initiated by acquiring information on pesticide usage on various crops grown in North Carolina. The first step was to determine for which crops in the State one could obtain information on the number of acres planted or harvested. The reference containing this information was the annual report of North Carolina Agricultural Statistics for the 1985 crop year published by the N. C. Crop and Livestock Reporting Service. Some crop acreage estimates for 1987 used in this study were provided by North Carolina State University (NCSU) Extension specialists. Additionally, Extension specialists at NCSU were requested to supply information on pesticide usage on particular crops. Each specialist was specifically asked to provide statewide percentages of each crop treated with the top 10 most popular pesticides within a category. The four categories were fungicides, herbicides, insecticides, and nematicides. This information, coupled with crop acreage totals in the State, provided an estimate of the acreage that receives at least one treatment with a particular pesticide.

A decision was made to include structural treated sites into the overall monitoring plan. Chlordane and heptachlor are two pesticides that have been found in drinking water well samples, and they should be included in the study.

According to the Group, other sites should be monitored. These include forest plantations, industrial sites, and rights-of-way. Some pesticides of concern that are used on forest plantations include picloram, 2,4-D, dicamba, and hexazinone. On industrial sites, pesticides such as bromacil, pentachlorophenol, tebuthiuron, and terbacil are used. On rights-of-way, pesticides such as 2,4-D, dicamba, tebuthiuron, and hexazinone are used.

In step two, a database file was created to store pesticide use information on 30 crop sites. A total of 116 pesticide active ingredients were reported as being used on these sites. Thirty-one of these pesticides are on the primary leacher list developed by EPA dated February 4, 1987. EPA's primary leacher list which is composed of 70 compounds is shown in Table 1. Of these 31 pesticides, nine have metabolites that are considered leachers. Two other pesticides, pronamide and fenamiphos, did not make the primary leacher list, but three of their metabolites did. These metabolites will be detectable by the analytical methods utilized in the study.

The third step was to determine the top three counties for each of the crops based on acreage harvested or planted. Some information was obtained from the North Carolina Agricultural Statistics publication for the 1985 crop year and from the 1982

Census of Agriculture: Volume 1 Geographic Area Series Part 33 North Carolina State and County Data published by the U. S. Department of Commerce. Acreage information on 25 crops was obtained from these references. These crops and the 31 pesticides are found in Table 2.

In the final step, the three counties with the greatest acreage for each crop were identified on a separate map. By this procedure, 39 counties were identified (Figure 1). In these 39 counties, the vulnerability of groundwater will be evaluated using the Ag DRASTIC procedure.

Table 1.

The following are pesticides or metabolites the EPA considers to have the greatest potential for leaching into groundwater. An evaluation of the methodology to analyze for these compounds is part of the pilot study. Therefore, some compounds may subsequently be deleted from this list based on the evaluation.

Acifluorfen
Alachlor
Aldicarb
Aldicarb sulfone
Aldicarb sulfoxide
Ametryn
Atrazine
Atrazine, dealkylated
Baygon
Bromacil
Butylate
Carbaryl
Carbofuran
Carbofuran-3OH
Carboxin
Carboxin sulfoxide
Chloramben
alpha-Chlordane
gamma-Chlordane
Chlorothalonil
Cyanazine
Cycloate
2,4-D
Dalapon
DCPA
DCPA acid metabolites
Diazinon
Dibromochloropropane
Dicamba
5-Hydroxy Dicamba
3,5-Dichlorobenzoic acid
1,2 Dichloropropane
Dieldrin
Diphenamid
Dinoseb
Disulfoton
Disulfoton sulfone
Diuron
Endrin
Ethylene Dibromide
ETU
Fenamiphos sulfone
Fenamiphos sulfoxide
Fluometuron
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexazinone
Methomyl
Methoxychlor
Methyl paraoxon
Metolachlor
Metribuzin
Metribuzin DA
Metribuzin DADK
Metribuzin DK
Oxamyl
Pentachlorophenol
Picloram
Pronamide metabolite, RH24,580
Propachlor
Propazine
Propham
Simazine
2,4,5-T
2,4,5-TP
Tebuthiuron
Terbacil
Trifluralin

Table 2. The primary pesticide leachers listed below were commonly used on the stated sites.

PESTICIDE	SITE																					
	Apple	Barley	Bean, snap	Blueberry	Cabbage	Corn, field	Corn, sweet	Cotton	Cucumber	Grape	Hay (all)	Oat	Peach	Peanut	Pepper	Potato	Rye	Soybean	Strawberry	Structural	Sweet potato	Tobacco, burley
acifluorfen			X											X				X				
alachlor						X	X							X				X				
aldicarb								X						X		X		X			X	
ametryn						X																
atrazine						X	X															
butylate						X	X															
carbaryl	X	X	X		X		X		X	X	X	X		X	X	X		X	X		X	X
carbofuran						X			X					X		X						X
carboxin														X				X				
chloramben															X						X	
chlordane																				X		
chlorothalonil			X		X		X		X				X	X		X						
cyanazine							X															
2,4-D	X	X	X			X	X				X	X	X				X		X			
DCPA			X		X										X				X		X	
diazinon									X										X		X	X
dicamba		X				X						X										
diphenamid															X	X			X		X	X
disulfoton		X										X		X		X					X	X
diuron	X												X									
flumeturon								X														
heptachlor																				X		
hexazinone				X																		
methomyl			X		X		X		X				X	X	X			X			X	X
metolachlor			X			X	X							X		X		X				
metribuzin																X						
oxamyl									X												X	X
propachlor							X															
simazine	X			X		X	X			X			X									
terbacil	X			X									X						X			
trifluralin			X		X			X							X			X				

Revised July 22, 1988

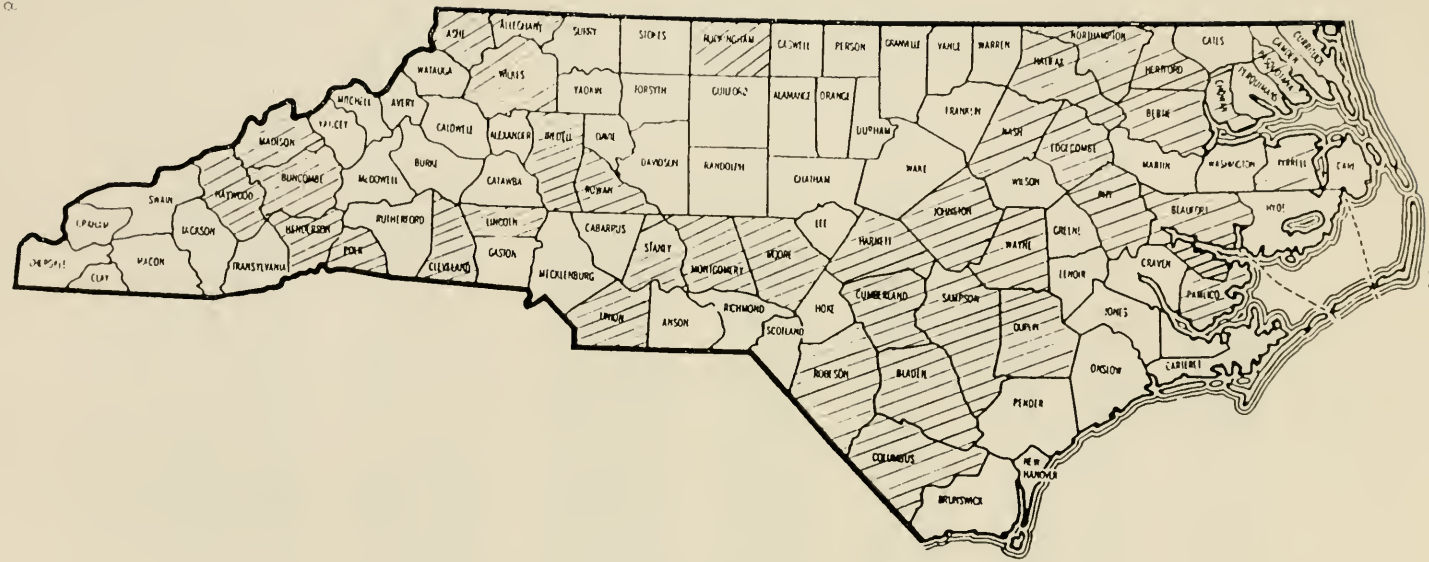


Figure 1. The counties with diagonal lines are those identified for Ag DRASTIC analyses.

Appendix C

Selection of Sampling Sites

The 39 counties that were selected will be evaluated for their groundwater pollution susceptibility using a rating methodology developed for the U. S. Environmental Protection Agency.

Areas which the Ag DRASTIC system rates as having high potential for groundwater pollution will be identified within the counties selected for greatest pesticide use. Pesticide use in areas of high pollution susceptibility will be reviewed to assure that all selected pesticides are included in the monitoring plan. If necessary, additional areas of pesticide use will be added and evaluated using the Ag DRASTIC methodology.

County Extension agents will be asked to assist by identifying farmers who grow the crops listed in Table 2 within the zones designated as having a high pollution potential. Then farms for each crop-pesticide combination will be randomly selected to eliminate bias.

Other potential sites for construction of monitoring wells will be selected with the assistance of county agricultural extension agents. Then site selection will be determined randomly. The counties for these sampling sites may be different from the 39 indicated in Figure 1.

Final selection of specific monitoring well sites will be made during field visits by a project hydrogeologist with assistance from a county agricultural extension agent and concurrence of the landowner. If a first site is not suitable, another site will be randomly selected within an area. If necessary, State owned property could be used as an alternate site.

A total of 100 monitoring wells will be constructed in the State to monitor for the pesticides that are listed in Table 2. At least three wells will be designated for each site identified in Table 2. The remaining 22 wells will be constructed at other sites, such as forest plantations, industrial sites, rights-of-way, mosquito abatement areas, golf courses, landscaping, and nursery sites.

In addition to the surficial aquifer wells that will be constructed for monitoring in areas that have high vulnerability ratings, the study will also include sampling from wells that are part of the State's existing groundwater monitoring network. This existing monitoring network includes approximately 500 wells that have been constructed specifically for groundwater resource monitoring purposes. Most of these wells are in the coastal plain of the State and many are located in confined aquifers that serve as primary drinking water sources. Approximately 100

broadly distributed and representative wells will be chosen from the existing groundwater monitoring network where possible. The development of the most representative statewide distribution for these 100 wells will be performed by hydrogeologists in NRCD. This monitoring will provide information about the general occurrence of pesticides in the principle groundwater aquifers used for drinking water supplies.

Appendix D

Monitoring Well Questionnaire

A.1. Which site is the monitoring well located on?

2. Have you ever stored any pesticides for more than one month near this well? For this question, pesticides include insecticides, herbicides, fungicides, nematicides, rodenticides, and other chemicals except fertilizers.

YES
NO
DON'T KNOW

3. Approximately how many feet was the pesticide storage site from this well?

_____
FEET

DON'T KNOW

4. Have you ever disposed of any pesticides or pesticide containers within 300 feet of this well?

YES
NO
DON'T KNOW

5. Approximately how many feet was the disposal site from this well?

_____
FEET

DON'T KNOW

6. Was there ever an accidental spill of any type of pesticide on this property or within 300 feet of this well?

YES — EXPLAIN: Pesticide/When/Describe

NO _____

DON'T KNOW _____

7. Approximately how many feet was the spill site from this well?

_____ FEET

DON'T KNOW

8. What crops, including gardens, were grown and are growing within 300 feet of the monitoring well from 1986 to the present?

9. What pesticides were used on each crop listed above within 300 feet of the monitoring well from 1986 to the present? Also, list beside each pesticide the rate used, the number of applications, and the method of application (i.e. preplant incorporated, preemergence, postemergence, etc.)

10. Is there a road, railroad, or power transmission line rights-of-way or forest plantation within 300 feet of the monitoring well?

YES
NO

11. If the answer to the above question is yes, have any pesticides been used on these areas from 1986 to the present?

YES
NO

12. If the answer to the above question is yes, list each pesticide used, the rate used, the number of applications and the method of application (i.e. preplant incorporated, preemergence, postemergence, etc.) on these sites from 1986 to the present.

vised July 22, 1988

13. Have any other noncropland areas, including residential premises, within 300 feet of the monitoring well had a pesticide application from 1986 to the present? If yes, please list each pesticide used, the target site, the rate used, and the number of applications.

_____

_____

_____

14. Are there any abandoned or non-operating wells within 100 feet of this well?

YES
NO
DON'T KNOW

15. How many abandoned wells are within 100 feet of this well?

_____
WELLS

DON'T KNOW

16. Please tell me if the hole of each of these wells is . . .

a. open or capped?

b. partially filled, totally filled, or not filled at all?

	WELL #1	WELL #2	WELL #3
a.	OPEN	OPEN	OPEN
	CAPPED	CAPPED	CAPPED
	DON'T KNOW	DON'T KNOW	DON'T KNOW
	**********	**********	**********
b.	ALL FILLED	ALL FILLED	ALL FILLED
	SPECIFY	SPECIFY	SPECIFY
	MATERIAL _____	MATERIAL _____	MATERIAL _____
	PART FILLED	PART FILLED	PART FILLED
	SPECIFY	SPECIFY	SPECIFY
	MATERIAL _____	MATERIAL _____	MATERIAL _____
	NOT FILLED	NOT FILLED	NOT FILLED
	DON'T KNOW	DON'T KNOW	DON'T KNOW

17. Does this monitoring well have any of the following characteristics:

	YES	NO	DON'T KNOW
a. Water has a color or odor			

b. The well pumps sand/grit . . . .

c. Interference from another well . .

d. The water is hard, that is, it contains a lot of iron or other minerals . . . . . .

e. Any other unusual characteristic?

SPECIFY _____

---

18. Circle the answer that describes the soil conditions within 100 feet of the well.

SANDY
SILTY
GRAVEL
CLAY
LOAMY
NO SOIL/EXPOSED ROCK
OTHER
SPECIFY _____
DON'T KNOW

---

19. Is there a drainage ditch or body of water within 100 feet of the well?

YES
NO
DON'T KNOW

---

20. Interviewer, list any observations which may be different from what you were told.

Appendix E

Collection and Transportation of Samples

GENERAL SAMPLING INSTRUCTIONS (FOR ALL SAMPLES)

Prior to Sample Collection

1. If a water quality meter is to be used, calibrate it prior to arriving at the site (follow manufacturer's instructions).

2. Once at the site, assemble all necessary samping supplies and locate the sample collection point.

   - Allow an adequate volume of water in the well casing to be purged. Sometimes this could take as long as 30 minutes depending on the casing diameter and static water level.

3. The use of monitoring equipment to measure the parameters of temperature (T), pH, and conductivity (C) can help to determine when a sufficient volume of water has been purged to permit a set of samples to be collected. Wait for all three parameters to stabilize before collecting the samples. (Conductivity will generally stabilize first followed by temperature and pH.)

4. Each large cooler will contain the following supplies for the six separate analytical methods:

   - Ten 1-liter amber glass storage bottles and Teflon-lined screw caps.

   - Ten styrofoam packers for the 1-liter bottles.

   - Two 60-mL amber glass storage bottles with Teflon-lined screw caps. A buffer will be added to these bottles before the laboratory ships them to the monitoring sites.

   - Two styrofoam packers for the 60-ml bottles.

   - One plastic packet containing the following items:

     - One red, permanent, fine point pen.

     - Extra screw caps.

     - Pre-stamped labels.

- Sampling instructions.

Please check at this time to be sure all of the above supplies are included in the cooler.

5. Fill out the sample labels while you are waiting for the water quality parameters (T, pH, C) to stabilize. Be sure to complete all portions of the label (especially the description of the sample collection point) and sign the blank marked "Sampler's Signature". A copy of a blank sample label is shown below:

North Carolina Pesticide Monitoring of Groundwater Study

Sample No._____ Date: _____
Source: _____ Time: _____
Address: _____

_____

pH _____ Temp _____ Cond. _____

_____
Sampler's Signature

6. Attach one filled out label to each sampling container before collecting the sample (they stick better that way).

METHOD SPECIFIC SAMPING INSTRUCTIONS

Methods 1, 2, 3, and 4 - Pesticides

1. Use 1-liter amber glass storage bottles.

2. Remove cap and slowly fill.

3. Replace cap to seal bottle.

4. Place filled bottle in styrofoam packer.

5. See "General Sampling Instructions - After Sample Collection".

CAUTION

Method 5 - Carbamates and Carbamoyloximes

1. Use 1-liter amber glass storage bottles.

2. Bottle contains a buffer (pH3).

   CAUTION

   - Do not rinse bottle.

   - Do not overfill.

3. Fill bottle slowly to the very (at least 90% full) top being careful not to flush out the buffer.

4. Replace cap to seal bottle and shake vigorously for 1 minute.

5. Place filled bottle in styrofoam packer.

6. See "General Sampling Instructions - After Sample Collection".

Method 6 - ETU

1. Use 60-ml amber glass storage bottles.

2. Remove cap and slowly fill.

3. Replace cap to seal bottle.

4. Place filled bottle in styrofoam packer.

5. See "General Sampling Instructions - After Sample Collection".

After Sample Collection

1. Repack all bottles in their respective coolers. (Additional instructions for return shipment can be found inside the top of the cooler. Please read.)

2. Add wet ice to the cooler as required to insure that the samples will reach their destination at a cool temperature.

3. Peel off the "old" address labels and apply the "new" address for the return shipment.

4. Ship the coolers through the State Courier System. Do not ship coolers on Thursday, Friday, or Saturday. Therefore, samples will only be collected on Monday, Tuesday, and Wednesday if the State Courier System is used.

Appendix F

Analytical Methods and Procedures

I. EPA METHODS FOR GROUNDWATER ANALYSIS

A. Method 1: Determination of Nitrogen and Phosphorous Containing Pesticides in Groundwater by Gas Chromatography with a Nitrogen-Phosphorous Detector (47 pesticides and metabolites)

Alachlor
Ametryn
Atraton
Atrazine
Bromacil
Butachlor
Butylate
Carboxin
Chlorpropham
Cycloate
Demeton-S
Diazinon
Dichlorvos
Diphenamid
Disulfoton
Disulfoton sulfone
Disulfoton sulfoxide
EPTC
Ethoprop
Fenamiphos
Fenarimol
Fluridone
Hexazinone
Merphos
Methyl Paraoxon
Metolachlor
Metribuzin
Mevinphos
MGK 264
Molinate
Napropamide
Norflurazon
Pebulate
Prometon
Prometryn
Pronamide
Propazine
Simazine
Simetryn
Stirofos
Tebuthiuron
Terbacil
Terbufos
Terbutryn
Triademefon
Tricyclazone
Vernolate

B. Method 2: Determination of Chlorinated Pesticides in Groundwater by Gas Chromatography with an Electron Capture Detector (29 pesticides and metabolites)

Aldrin
Chlordane-alpha
Chlordane-gamma
Chlorneb
Chlorobenzilate
Chlorothalonil
DCPA
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Etridiazole
HCH-alpha
HCH-beta
HCH-gamma
HCH-delta
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Methoxychlor
cis-Permethrin
trans-Permethrin
Propachlor
Trifluralin

Revised July 22, 1988

Endosulfan sulfate
Endrin
Endrin aldehyde

C. Method 3: Determination of Chlorinated Acids in Groundwater by Gas Chromatography with an Electron Capture Detector
(17 pesticides and metabolites)

Acifluorfen	Dichlorprop
Bentazon	Dinoseb
Chloramben	5-Hydroxydicamba
2,4-D	4-Nitrophenol
Dalapon	PCP
2,4-DB	Picloram
DCPA acid metabolites	2,4,5-T
Dicamba	2,4,5-TP
3,5-dichlorobenzoic acid	

D. Method 4: Determination of Pesticides in Groundwater by High Performance Liquid Chromatography (HPLC) with an Ultraviolet Detector
(19 pesticides and metabolites)

Atrazine dealkylated	Linuron
Barban	Metribuzin DA
Carbofuran phenol	Metribuzin DADK
Carboxin sulfoxide	Metribuzin DK
Cyanazine	Neburon
Diuron	Pronamide metabolite
Fenamiphos sulfone	Propanil
Fenamiphos sulfoxide	Propham
Fluometron	Swep
3-Ketocarbofuran phenol	

E. Method 5: Determination of Carbamates and Carbamoyloximes by Direct Aqueous Injection High Performance Liquid Chromatography (HPLC) with Post Column Detection
(10 pesticides and metabolites)

Aldicarb
Aldicarb sulfone
Aldicarb sulfoxide
Baygon
Carbaryl
Carbofuran
3-Hydroxycarbofuran
Methiocarb
Methomyl
Oxamyl

F. Method 6: Determination of Ethylene Thiourea (ETU) in Groundwater by Gas Chromatography with a Nitrogen-Phosphorous Detector
(1 metabolite)

Ethylene Thiourea

II. Extraction, Cleanup, and Detection

A. The primary methods used for the analysis of pesticides in groundwater shall be the six methods developed for the U. S. EPA National Groundwater Study.

B. Other multiresidue methods and specific pesticide residue methods published by the Association of Official Analytical Chemists (AOAC), by the FDA in the Pesticide Analytical Manual (Parts I and II), by the U. S. EPA, or by other methods development and validation organizations may be used as confirmatory methods.

C. Methods obtained from pesticide manufacturers may be used as confirmatory methods when no AOAC, FDA, or EPA method exists.

D. In-house methods may be used to supplement other methods of analysis only if other methods are unavailable and the methods can be demonstrated to be valid.

III. Quality Assurance/Quality Control

A. Laboratory Personnel

1. All analyses are to be performed under the direct supervision of chemists experienced in the techniques of pesticide residue analysis.

2. Each analyst must demonstrate the ability to generate acceptable results before assigned analysis of groundwater samples.

3. To establish the ability to perform a given method, each analyst must perform all operations specified in the method.

B. Quality Assurance/Quality Control (QA/QC) Each laboratory participating in the groundwater study will be required to operate a laboratory QA/QC program. The minimum requirements shall consist of the following:

1. An initial demonstration of laboratory capability for each method to be used by the laboratory.

2. Analysis of a surrogate standard in each group of samples as a continuing check on sample preparation (except Method 5).

3. The monitoring of internal standard area counts or peak heights in all samples as a check on system performance.

4. The analyses of laboratory control standards, QC samples, and check samples as a check on laboratory performance.

5. The analyses of spiked samples as a check on analyte recovery performance.

6. The analyses of method blanks as a check on laboratory cross contamination.

7. The analyses of instrument QC standards to assure acceptable instrument performance.

IV. Confirmation of Positive Values

A. All positive findings must be chromatographed on a minimum of two columns or two detectors, if possible.

B. Positive findings are to be confirmed by a second method of analysis, if available. If a second method is not available, the original method is to be repeated.

C. When a pesticide residue is confirmed by two independent analyses, a second sample of the water is to be obtained and analyzed on a priority basis.

Appendix G

Resources

I. NCDA - Pesticide Section

A. Headquarters staff

1. The Pesticide Section will have the following commitment of staff to the Pesticide Monitoring of Groundwater. The project will require a central project coordinator to coordinate the activities of the agencies involved and to ensure the timely collection, assembly, and dissemination of data and information. The NCDA will assign the CPC function to a Senior Pesticide Specialist. In order to maintain current programs it will be necessary to hire a replacement senior specialist. 2-man years $80,000.

2. Supervisor of pesticide inspectors -- to assist in the training of inspectors for sample collecting, packing, and shipping to laboratories and information collection. 0.1-man year $0

B. Regional staff

Ten inspectors across the State can assist in information collection and sample collecting, packing, and shipping -- 0.5-man year. $0

Travel and subsistence for the study $ 7,500 - $ 8,250

C. The ADP Section of NCDA will provide the programming for a joint access data base programming, data entry and operation. The 2 year project's cost is placed at $20,000 to $30,000.

Total requirements Pesticide Section and ADP Section $107,500-$118,250

II. NRCD-GROUNDWATER SECTION

Should the proposed survey be approved for implementation the annual work plans of the Groundwater Section will have to be revised.

In order for the Groundwater Section to perform the functions that would customarily be assigned to it, the following committment of staff and resources would be required.

Revised July 22, 1988

A. Headquarters staff

1. Senior hydrogeologist -- to train staff in Ag DRASTIC analytical method and supervise site selection process -- 2.0-man years $ 60,000

2. Hydrogeological technician -- to perform Ag DRASTIC analyses and compile and process data -- 2.0-man years $ 44,000

3. Operational expenses, supplies & travel $ 26,000

Headquarters Subtotal $130,000

B. Regional staff

1. Regional hydrogeologist -- to provide guidance and review work required of regions -- 0.14-man year for each of seven (7) regions. 1-man year from existing staff $0

2. Hydrogeologist technician I -- to assist in site selection and sampling -- 0.14- man year for each of seven (7) regions. 1-man year total from existing staff $0

Travel and subsistence for the study $6,864-$7,550

Regional Subtotal $6,864-$7,550

C. Kinston Field Office (Drilling)

To construct 100 shallow monitoring wells and collect samples, using a 2-man crew:

Labor: 10-man days/6 wells = 170-man days. Two-thirds man year (0.67) of existing staff $0

Avg. 20 ft. stainless steel casing/ well @ $15.80/ft. = $316/well $31,600

Avg. 5 ft. stainless steel well screen/well @ $195 ea. $19,500

3 bags Bentonite clay/well @ $9.50/bag = $28.50/well		$ 2,850
sand, @ $2/bag/well for packing medium around screen		$ 200
Construction cost of 100 wells (not including salaries)		$54,150
Travel and subsistence for 2 people for 21 weeks (4 days/week) = $416.00	$ 8,736 -	$ 9,610
Construction Subtotal		$62,886
NRCD-GROUNDWATER SECTION TOTAL	$199,750 -	$201,310

III. Estimated Costs for Pesticide Analyses

Analysis of groundwater samples for pesticides consists of six separate analytical methods developed by EPA for use in the national groundwater monitoring program. These methods will be used or modified as necessary to complete the pesticide analyses.

The analytical costs of state laboratories that are estimated below incluce the following items:

1. Salaries for additional personnel.
2. Utilities.
3. Supplies.
4. Analytical standards.
5. Maintenance.
6. Repairs.

If current programs are to continue at their present level, additional funds will be needed to cover these items in order to implement the proposed study consisting of about 400 samples.

Estimated Analytical Costs:

	400 Samples
State Laboratories Dept. of Agriculture Dept. of Natural Resources and Community Development Dept. of Human Resources	$837,000 -$ 987,000
Resample of positives	$ 63,000 -$ 78,000
TOTAL	$900,000 -$1,065,000

Revised July 22, 1988

It is proposed that the analytical workload for the study wells be shared by the NCDA and NRCD laboratories as follows:

	400 Samples
N. C. Dept. of Natural Resources and Community Development (Methods 1, 2, 3)	$270,000 - $330,000
Resample of positives	$ 27,000 - $ 33,000
SUBTOTAL	$297,000 - $363,000
N. C. Dept. Agriculture (Methods 4, 5, 6)	$360,000 - $450,000
Resample of positives	$ 36,000 - $ 45,000
SUBTOTAL	$396,000 - $495,000
N. C. Dept. of Human Resources (Samples from drinking water wells near monitoring wells with positive results)	
SUBTOTAL	$207,000 - $207,000

These analyses will be time consuming and will require extensive use of analytical instruments. Additional analytical instruments and upgrades to instruments at an one time cost of

SUBTOTAL	$170,000 - $200,000

IV. Estimated Costs of Field Sampling Equipment

TOTAL	$ 48,837 - $ 53,721

	Low	High
GRAND TOTAL	$ 1,426,087	$1,638,281

Revised July 22, 1988

Appendix H

Responsibility Flow Chart
For
Pesticide Monitoring of Groundwater
In
North Carolina

A.1. Ag DRASTIC performed on 39 counties N*

B. Supplies ordered A*,N,H*

C. Computer program identified Data Mgr., A, N

D. Lab methods practiced A, N, H

2. Selection of potential monitoring well sites with assistance from AES* A, N

3. Random numbers used for final site selection A, N

4. Initial contact with landowner of potential well site, signing of well construction consent form. A, N

5. Monitoring Well Questionnaire A, N

6. Construction of well N

7. Sample supplies prepared for shipment to field A, N

8. Sample collection
   A, N

9. Sample shipment to appropriate labs
   A, N

10. Labs receive, store, & process samples
    A, N

11.a. Data results recorded by labs
      A, N

b. Positive results confirmed by labs and reported to agencies

c. Sites with contamination resampled

d. Repeat steps 7-11 & go to 12.

E.1. Sites with positive results after 2 different sampling dates will be referred to DHR for monitoring of domestic wells nearby.
H

2. DHR coordinates with county health departments. Send sampling bottles to County Health Sanitarians.
H

3. Sample collection by County Health Sanitarians.
H

4. Sample shipped to DHR lab. H

5. DHR lab receives, stores, and processes samples. H

6. Data results evaluated in DHR. H

7. DHR sends a copy of lab results to each well owner, a technical health-based guidance report, and a recommendation as to whether they should continue using their wells. If they should not use the well, DHR should provide a list of options for the well owner.
H

8. Data added to database of Central Project Coordinator

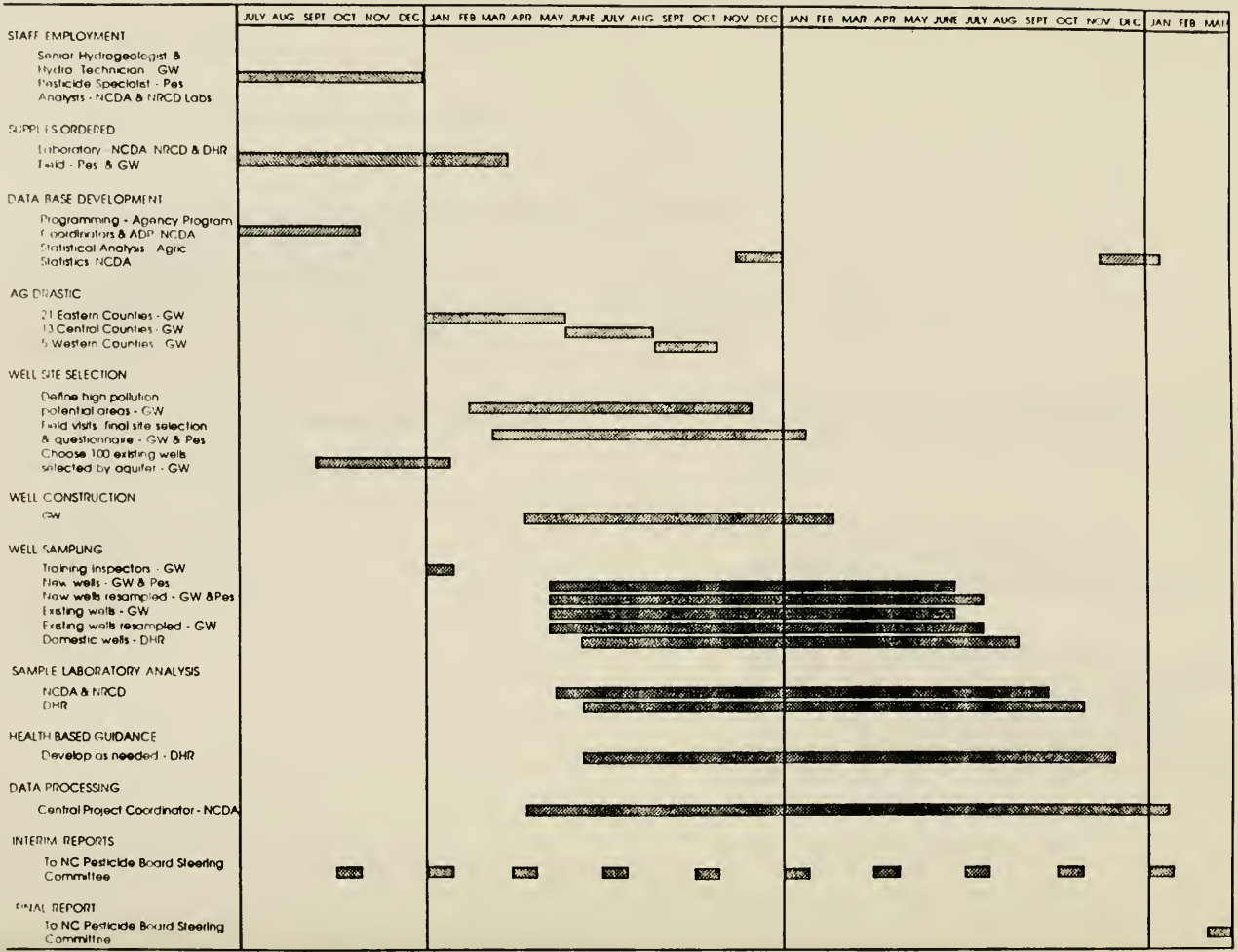
12. Data processing
A, N

13. Reports to the Steering Committee

14. Report to the North Carolina Pesticide Board

A = Department of Agriculture
AES = Agricultural Extension Service
H = Department of Human Resources
N = Department of Natural Resources and Community Development

PESTICIDE MONITORING OF GROUNDWATER IN NORTH CAROLINA



LG/Rev 7/88

Appendix I

Glossary

Aquifer - a permeable water-bearing geologic formation that will yield water in a usable quantity to a well or spring.

Groundwater - the water beneath the earth's surface that fills the natural voids in pore spaces, rocks, and sediments.

Hydraulic conductivity - a measure of the ability of water to move through subsurface material.

Net recharge - the amount of groundwater recharge that reaches the aquifer.

Surficial aquifer - the aquifer closest to the land surface.

Vadose zone - the unsaturated zone located above the water table.

Revised July 22, 1988

APPENDIX F

NCDA
North Carolina Department of Agriculture

James A. Graham • Commissioner
William G. Parham, Jr. • Deputy Commissioner

Ray Forrest
Assistant Commissioner

MEMORANDUM

TO: Linwood Jones

FROM: Ray Forrest RF

DATE: October 26, 1988

SUBJECT: Recommendations For the Pest Control Study Commission

We appreciate the Commission's interest and concern over the use of pesticides and the control of pest. The North Carolina Department of Agriculture does not promote the use of pesticides and is in favor of the use of alternatives when they are safer or feasible. Our support of integrated pest management and biological controls serve as testimony to this fact. In keeping with this position, we respectfully request the Commission to endorse the following recommendations in its report to the General Assembly:

1. Increased funding for the Biological Pest Control Program (Attachment 1).

2. Support for the Pesticide Groundwater Monitoring Study. This project has been proposed through and endorsed by the North Carolina Pesticide Board. The Commissioner of Agriculture, Secretary of Human Resources, and Secretary of Natural Resources and Community Development have endorsed this effort and have included requests in each of their respective expansion budget request to the upcoming session of the General Assembly to implement this program (Attachment 2).

3. Additional inspectors and training personnel in the Structural Pest Program (Attachment 3).

4. Support for the continuation and eventual expansion of the Pesticide Disposal Program when feasible.

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AGRICULTURAL RESOURCES CENTER
615 WILLARD PLACE
RALEIGH, N.C. 27603
(919) 839-0159

STATEMENT TO THE

PEST CONTROL STUDY COMMITTEE

ON THE PROPOSED PLAN FOR

MONITORING PESTICIDES IN GROUNDWATER

BY THE NORTH CAROLINA PESTICIDE BOARD

October 28, 1988

Co-Chairs Representative Holt and Senator Speed and members of the Study Committee.

I am Erick Umstead, Research Director of the Agricultural Resources Center (ARC) and its Pesticide Education Project (PESTed). ARC is a private, non-profit, public interest organization which conducts research and public education on agricultural and natural resource issues with a special interest in the effects of pesticides.

At the last meeting of the Pest Control Study Committee I presented comments for ARC outlining some of the concerns we had with the proposed groundwater monitoring plan developed by the Interagency Working Committee on Groundwater Monitoring. In their proposal the Interagency Working Committee estimated that it would cost $780,000.00 plus an additional $160,000.00 for instrumentation, for a total of $940,000.00, to analyze the initial 400 groundwater samples. Since that meeting we have sent a copy of Appendix F of the proposed plan which describes the pesticides and metabolites, the analytical methodologies, and the quality control procedures to two private labs for an estimate of the cost. One lab, The Webb Technical Group, Inc., which is a commercial lab located in the triangle area, has given us a rough estimate of $400,000.00 to $425,000.00 which is a savings of at least $515,000.00 to the tax payers of this state. The Interagency Working Committee estimated "the cost of analytical services by a commercial laboratory for this project to be $924,000.00-$1,056,000.00."

We strongly support testing for pesticide contamination in groundwater and believe that monitoring is essential to any pesticide regulatory program. However, the current plan is flawed in several important ways and we recommend that it not be funded unless it undergoes major design and budgetary revisions.

One very serious flaw in the proposed plan, in addition to our comments of September 23, 1988, is that it does not contain a plan of action if pesticide contamination is found.

The other recommendation that I would like to make at this time concerns the draft groundwater classifications and standards. 15 NCAC 2L. Subsection .0106(3) requires farmers who apply pesticides according to label directions and in accordance with all other federal and state regulations to "assess the cause, significance and extent of the violation of water quality standards and submit results of investigation and a plan for restoration and implement the plan in accordance with a special order." We believe that the state should be responsible for determining the cause, significance and extent of a water quality violation and if the investigation does not determine that the water quality violation resulted from a violation of state or federal law, then the cost of such investigation along with the cost of clean-up or remediation should be charged to the registrant or manufacturer of the pesticide. We believe the registrant or manufacturer of the pesticide should be held responsible for any restoration or remediation. If the use of their product under label directions and in accordance with federal and state regulations results in a violation of any water quality standard. This is consistent with state and federal law, which places the burden of proof on the registrant to show that their product can be used without unreasonable adverse effects. Holding the registrant or the manufacturer responsible will also provide needed incentive for them to develop products that do not leach. Having to clean up groundwater contamination from one pesticide alone would more than likely bankrupt any farmer.

Thank you for the opportunity to comment today on such an important issue.

AGRICULTURAL RESOURCES CENTER / PESTICIDE EDUCATION PROJE
115 West Main Street Carrboro, NC 27510 (919) 967-1896
615 Willard Place Raleigh, NC 27603 (919) 839-0159

PRELIMINARY RECOMMENDATIONS
TO THE NORTH CAROLINA LEGISLATIVE
STUDY COMMITTEE ON PEST CONTROL

--PROMOTE GREATER PUBLIC INPUT IN PESTICIDE REGULATION:

-Support balanced public representation in pesticide regulation including consumers, conservationists, farmworkers, alternative agriculture, and the general publ on the Pesticide Board and the Pesticide Advisory Committe

-Support moving the pesticide program from the Agriculture Department to an environmental or health agency. This is important even if other environmental programs are not reorganized under one roof.

-Rejoin the administration of structural pest control unde one regulatory board to reduce fragmentation and confusion

--PROMOTE ALTERNATIVES TO PESTICIDES;

-Support creation of an NC Integrated Pest Management (IPM) Commission to explore alternatives for pest control using least toxic alternatives on state property, buildings, parks, and rights of way. Benefits would include substantial cost savings as well as reduced risks to applicators, the public, and the environment.

-Support pilot projects and research on alternatives by university and non-university researchers.

-Explore and promote least toxic termite control alternati to routine chemical treatments with the phase out of Chlordane for termite control. Avoid the automatic substitution of one toxic chemical for another.

--PROTECT GROUND AND SURFACE WATER:

-Support a program of testing of ground and surface water pesticide contamination. More than one-third of NC is "highly susceptible" to ground water contamination.

-Support a state policy of "no further degradation of grou water". Iowa has recently adopted such a policy after a comprehensive survey of its groundwater showed extensive contamination from agricultural chemicals.

--INITIATE A "COST SHARE" PROGRAM FOR LOW INPUT AGRICULTURE:

-Fund a model cost-share program to help farmers meet expenses during the transition from chemically intensive agriculture to less dependence on synthetic inputs. It could provide insurance against temporary declines net income until profitable alternative methods are in place. It could be targeted to family farmers in environmentally sensitive areas. It could be modeled on the highly successful program for reducing non-point source pollutio in nutrient sensitive waters.

--RECOMMEND CHANGES IN THE NC PESTICIDE LAW:
Among needed changes are the following:

-Sales Reporting Required: Amend the Pesticide Law to require sales and use reports. No one knows how much pesticides are sold and used in North Carolina. Effective regulation is impossible without such basic information.

-Pesticide Incident Reporting: Required reporting of incidents of actual and suspected pesticide contamination and poisoning to a central health agency. This program is particularly important since the termination of the federal pesticide incident monitoring program.

-Liability Insurance: Require liability insurance for commercial pesticide applicators, including aerial applicators. None is now required.

-Civil Penalty for Any Violation: Permit civil penalties for any violation of the Pesticide Law or regulations. They are only available now for a limited number of violations. Enforcement is now uneven as most prosecutors will not bring criminal action in pesticide cases.

-Fees: Registration fees for pesticides are too low ($25/year per product). Fees should be higher, and progressive based on sales, and could raise money to support a better program.

-Product Deficiency Penalties: Reinstate fines for sale and distribution of products that do not meet label specifications. Revenue could support the enforcement program and fines would be an incentive against the sale of substandard products. Authorized under GS 143-447, they were repealed this year at the request of the NCDA.

--REVIEW PESTICIDE REGULATIONS:
Review current regulations adopted to carry out the intent of the NC Pesticide Law, as stated in its preamble, to promote "a more secure, healthy, and safe environment for all the people of the State". Specific concerns include:

-Emphasis on prevention of drift and contamination.
-Posting and notification of pesticide applications.
-Adequacy of the aerial application regulations;
-Protection of ground and surface water in the Chemigation regulations.

--ADOPT MODEL STATE PESTICIDE PROGRAM:
A model state pesticide reform program is under development by the National Center for Policy Alternatives in Washington. It will soon be available for review and is expected to be published in final form early in 1988. From preliminary indications, it could form a good blueprint for our state.

12/17/87

STATEMENT OF JOSEPH T. HUGHES JR.
CLEAN WATER FUND OF NORTH CAROLINA

PEST CONTROL STUDY COMMISSION
NORTH CAROLINA GENERAL ASSEMBLY

OCTOBER 28, 1988.

In order to determine the extent of the problem of groundwater contamination by agricultural pesticides in North Carolina, the Clean Water Fund of North Carolina has examined all of the well-testing results collected by the NC Division of Health Services' Pesticides Epidemiology Program between 1975 and 1985, which is the most recent year for which data is available.

During this eleven year period, 1,286 well water samples were collected through health departments in almost every county of the state from citizens who suspected that their wells were contaminated by some unknown toxic substances. Out of the 1,286 wells which were sampled, the Division of Health Services found 247 wells, or 19% of the total sampled, which contained identifiable amounts of specific agricultural chemical compounds. According to the data, there were over 46 different identifiable pesticides (and a number which could not be identified) in the well water samples from 67 different counties across the state, reaching from the mountains to the coast.

In the 247 drinking water wells which had detectable pesticide levels, the most common chemical contaminant was chlordane, a cancer-causing, restricted-use pesticide, which was found in 102 wells, or 41% of the contaminated samples. Eight out of the top ten most commonly detected pesticides in North Carolina's wells are classified as carcinogens by the Environmental Protection Agency (EPA). These pesticides also include lindane (in 24 wells), 2,4-D, which was used in Agen Orange, in 16 wells, aldrin in 16 wells, and atrazin, which was found in 15 wells.

Although there were 67 different counties with pesticide contaminated wells, the bulk of the positive samples were collected in Johnston County (27), which had the highest number of contaminated wells in the state, Wake County (25), and Durham County (19), which together accounted for over 30% of the state's pesticide-contaminated wells.

This sampling data, which has been collected by the state over the past decade, presents concrete evidence that the normal application of agricultural pesticides has already caused a statewide groundwater contamination problem that promises to be with us for decades to come. Although the levels detected in the state's sampling vary from trace amounts to severe levels of contamination, it should serve as a warning that the state of North Carolina needs to begin protecting its water supplies now, before they are irrevocably lost in the near future.

The good news for our state and its farmers is that only a relatively small number of agricultural pesticides has been detected in a relatively small number of wells across the state. Of course, only a small number of wells have ever been sampled. Since our state regulates its groundwater as a drinking water source, and since North Carolina has the greatest number of domestic supply wells of any state in the nation, it is necessary that we strictly regulate the major threats to this precious resource.

Regulation and enforcement of pesticides and their use should be placed with an agency whose mission is to protect public health and the environment. The specific pesticides which are found to leach into our groundwater should be restricted from use. Strict health-based standards should be promulgated to protect groundwater and ensure that pesticides stay where they are intended-- in the root zone. These three measures should ensure both good food--- and clean water.

Top Ten North Carolina Counties
With Pesticide-Contaminated Wells (1975-85)

Name of County	Number of Contaminated Wells
1. Johnston	27
2. Wake	25
3. Durham	19
4. Forsyth	10
5. Yadkin	10
6. Wayne	9
7. Surry	8
8. Nash	7
9. Moore	7
10. Lee	6

Most Common Pesticides Found
In North Carolina Wells (1975-85)

Pesticide	# of Positive Samples	Cancer-causing Substance
1. Chlordane	102	yes
2. Lindane	24	yes
3. Aldrin	16	yes
4. 2,4-D	16	yes
5. Atrazine	15	yes
6. Heptachlor	14	yes
7. Mocap	10	
8. Parathion	9	yes
9. Lasso	8	
10. Polychlorinated Biphenyls (PCB's)	5	yes

North Carolina Pest Control Association, Inc.

Promoting the Pest Control Industry in North Carolina

To: Linwood Jones

From: William A. Tesh, Legislative Chairman
N. C. Pest Control Association

Date: November 17,1988

Subject: Legislative Research Committee on Pest Control

The North Carolina Pest Control Association is concerned about the proper use of pesticides. We have been present at most of the hearings and were very surprised to hear some of the so-called facts presented before the committee. We must remember this is a fact-finding committee and not a committee for hearsay or myths. The facts the NCPCA submitted on February 15, 1988, state the importance of continued proper use of pesticide and that pesticides are absolutely necessary. Our industry protects the life and health of North Carolina residents through the use of pest control practices which use pesticides mechanical and physical methods as well as pesticides.

The North Carolina Pest Control Association is also very concerned about ground water issues and recommends further study but consideration must be given to proper well design and construction. Studies have indicated that termiticides remain in the top of the soil spectrum and do not readily leach out into the ground water.

Due to the specialization of the structural pest control industry, we cannot support any consolidation of the existing pesticide regulatory divisions. We feel such a consolidation would fragment regulation and consumer protection taking the state from the present situation of one division solely concerned with that mission to a super agency with many missions and without a focus on the proper use of pesticides as they pertain to the proper and safe uses in the structural pest control industry. As budgets are currently stretched, we must also look at how we will justify additional funding to obtain the same amount of effectiveness with one environmental health agency.

The fact is we can appreciate extended life and good health due to the use of pesticides in our environment.

I respectfully resubmit a brief profile of the pest control indsutry for your consideration of the facts.
Attachment

P. O. Box 36160 • Raleigh, North Carolina 27606 • (919) 362-0043

Remarks by Billy Tesh to the
Legislative Study Committee on Pest Control
February 17, 1988

A BREIF PROFILE OF THE PEST CONTROL INDUSTRY

The Structural Pest Control Industry is a profession which is engaged in the prevention, control and/or elimination of pests through the most scientific and proven safe methods available, utilizing the information and knowledge of the biology and habits of pests and the most effective control measures available through integrated pest management.

Insects and other pests destroy our homes and food, and transmit a wide variety of diseases. Malaria was eliminated in this country due largely to pest control. In the 1890's, over 10 million people in India died as a result of bubonic plague carried to India from Europe by rodent populations. The outbreak of the plague in Europe was not nearly so severe due to pest control programs which had been previously implemented.

In many other countries which do not have post-harvest pest control, harvest losses range from 40% to 50% annually. In the United States, such losses amount to 9%.

Termites cause more than $750 million in damage each year, more than the damage caused by all fires and storms combined, including earthquakes (see Exhibit A). It would be impossible to estimate the damage which would occur without proper treatment procedures.

Most people think of pest control in terms of residential problems (mice, termites, fleas, etc.) However, residential problems are just a part of pest control. The structural pest control industry also services 400,000 restaurants and 240,000 retail food outlets in addition to 55,000 hotels and motels, to insure guests and customers a clean and safe facility.

Pest control is a must in the food service industry and is mandated not only by the

Structural Pest Control Division and health and sanitation regulations but by the consumer who wants and demands a pest free environment when eating and staying away from home.

The pest control industry has made great strides over the past ten years with a higher level of mandated training standards. There has been a reduction of pesticides applied through the use of integrated pest management and increased knowledge of the biological habits of pests which have evolved through research at the state universities in cooperation with the Department of Agriculture.

I stand proud to be a part of an industry which serves 250 million Americans with only 57,000 service personnel.

Let me quote Dr. Paracelsus, who lived from 1493 to 1541 as he wrote, "All substances are poisons; there is none which is not a poison. The right dose differentiates a poison and a remedy." Paracelsus was right. All substances are poisonous. The gasoline that you put into your car becomes a poison if you drink it. The salt that you put into your food becomes a poison if taken in excessive quantities. Even water becomes a poison if you try to breathe it. It has been said: "There are no harmless substances. There are only harmless ways of using substances." This is a true and very important concept.

Oftentimes, perception can be far more dangerous than reality. For instance, in 1982, "Scientific American" asked business and professional people to rank the risks they perceived from thirty different health threatening sources. Pesticides ranked 15th among this group. Members of the League of Women Voters pegged pesticides as nineth and college students said pesticides were the fourth most serious health hazard. In terms of their actual hazards, "Scientific American" ranked pesticides as 24th. A copy of the magazine's findings can be found as Exhibit B in your handout. Please note that pesticides accounted for approximately 22 deaths per year, most of which were a result of homeowner misuse or improper storage by the homeowner. Scholastic Football, had 23 deaths while x-rays and surgery combined accounted for 5,100 deaths.

Another study of interest was conducted by the Poison Control Centers. For an

explanation of their findings, please refer to Exhibit C. You will note from this chart that pesticides rank below medicines, cleaners, plants and cosmetics in the list of poisonings.

Many people are concerned that there are excessive deaths due to cancer, more now than ever before but a recent study by Dr. John Totter of Tennessee Associated Universities, Oak Ridge, Tennessee, stated reported increases of cancer and cardiovascular disease are related directly to extended life and not necessarily to additional chemicals in our environment. At the turn of the century, the average life expectancy was 40 years of age while today it is 76 years.

We are one of the most highly regulated industries in the United States. On the federal level, we must abide by the rules, regulations and mandates set forth by the EPA, FDA, OSHA, HUD, FHA, VA, the Department of Defense, and the U. S. Department of Agriculture. At the state level, we work under the parameters set forth by the North Carolina Legislature, the N. C. Department of Agriculture's Pesticide Section, N. C. Structural Pest Control Division and the N. C. Structural Pest Control Committee. On the local level, we are regulated by many city and/or county ordinances as established by city councils and/or county commissioners.

Due to the highly specialized nature of our industry, we feel any consolidation of the Structural Pest Control Division would fragment the specialized information and data that contributes to the safe and effective services performed by the pest control industry. In conversation with state regulatory officials, it was noted that consolidation of this division into the Pesticide Division did not work in the past and they do not feel consolidating the Structural Pest Control Division into any other agency would be advantageous to the people of this state.

I would like to take a few minutes to address some issues which may be of importance to this study committee. According to the minutes of the last two meetings, I feel there were some concerns about studying alternatives to termiticides. Several alternatives have been researched. However, at this time, none of these alternatives have proved to be effective. As an example, metal termite shields were placed between the block foundation and wooden members. The termites tunneled around and over the shields

to attack the structure. Continuing studies by the Wood Protection Council of the National Institute of Building Sciences in Washington, DC, are on-going.

Another area of concern appeared to be groundwater contamination. At the present time, we have no indication of any ground water contamination due to the leaching of pest control chemicals when properly applied by professional pest control operators.

Well contaminations are generally a result of improperly installed wells, homeowner misuse or misapplication.

The issue of LD50 was raised at the last meeting. It was stated LD50 should not be used as a measure of chemical safety. We know of no other scientific method to express the toxicity level of compounds.

In July, 1986, the Center for Communications Dynamics was commissioned to study the attitudes of residential homeowners toward pest control operators. It was previously believed that PCOs held a negative image in the minds of homeowners. This study was designed as a benchmark to support or dispel this belief. The Center conducted a random, nationwide telephone survey of 1,008 adults (18 and older) during August 4-10, 1986. Overall, Americans had a positive image of the pest control operator. Nine out of ten homeowners had a positive attitude toward pest control operators and their services.

In closing, I would like to say that there have been some statements made before this committee which are somewhat vague and generalized. Pesticides, as with all chemicals, should be used with caution and with regard to safety. Just imagine yourself in a developing country which suffers from rampant disease and pest problems and you can appreciate the quality of living and extended life we have as a result of proper pest control and sanitation.

Billy Te
Legislative Chairm
N. C. Pest Control Associati

Exhibit B

Insurance actuarial estimates and actual deaths/year*

1	Smoking	150,000
2	Alcoholic Beverages	100,000
3	Motor Vehicle	50,000
4	Hand Guns	17,000
5	Electric Power	14,000
6	Motorcycles	5,000
7	Swimming	3,000
8	Surgery	2,800
9	X-Rays	2,300
10	Railroads	1,950
11	General Aviation	1,300
12	Large Construction	1,000
13	Bicycles	1,000
14	Hunting	800
15	Home Appliances	200
16	Fire Fighting	195
17	Police Work	160
18	Contraceptives	160
19	Commercial Aviation	130
20	Nuclear Power	100
21	Mountain Climbing	30
22	Power Mowers	24
23	Scholastic Football	23
24	Pesticides***	22
25	Skiing	18
26	Vaccinations	10
27	Food Coloring	**
28	Food Preservatives	**
29	Prescription Antibiotics	**
30	Spray Cans	**

* Information taken from *Scientific American* study, February 1982

** No specific data available

*** Specific Data National Safety Council 1983

NORTH CAROLINA
FARM BUREAU FEDERATION

TELEPHONE (919) 782-1705 / P. O. BOX 27766 / RALEIGH, NORTH CAROLINA 27611

October 28, 1988

The Honorable James D. Speed
The Honorable Bertha M. Holt
Cochairmen
Legislative Research Study Committee
on Pest Control
State Legislative Building
Raleigh, N.C. 27611

Dear Senator Speed and Representative Holt:

The North Carolina Farm Bureau Federation appreciates this opportunity to present to you the following proposals for recommendations by the Pest Control Study Commission to the 1989 Session of the General Assembly.

The first six recommendations expand on ideas that Farm Bureau presented when we appeared before the committee in February.

1. We recommend more concentration on Integrated Pest Management (IPM) in farmer education programs, support research and on-farm demonstration projects to show IPM effectiveness to farmers, and instructional workshops for IPM scouts. We further recommend consideration of an incentive program for farmers (such as a cost-share program) to encourage adoption of IPM techniques. These items may require continued, increased, or new funding.

2. We recommend increased funding for the NCDA Pesticide Disposal Program which assists farmers and others with disposal of excess and unwanted pesticide products (such as half-filled containers that must go to a hazardous waste facility). This program needs to be funded at a level adequate to meet current needs, and efforts should begin now to anticipate future funding requirements.

3. We recommend funding for workshops to be conducted for landfill operators on accepting properly managed pesticide containers for disposal and proper container management.

4. We recommend more concentration on utilization of biological pest control methods. We support the efforts in this area by NCDA. NCDA presented information to the Appropriations Subcommittee for Natural and Economic Resources showing that the current facility housing this program is inadequate to meet current and future needs, and that new or upgraded facilities are needed. We recommend that you favorably consider funding this request.

5. We recommend continued support for agricultural biotechnology in North Carolina. Biotechnology is important for developing pest-resistant varieties and more biological control alternatives.

6. We support the initiation of a research project in the Agricultural Research Service to develop less expensive tests or indicators for pesticides in water, making these tests more financially accessible for the farmer to check his own water supply.

The following recommendations have been developed since we appeared before the committee in February.

7. We support funding for the "Proposed Study of the Potential Impact of Pesticides in Groundwater in North Carolina". This is the joint study being proposed for funding in 1989 by the North Carolina Department of Agriculture, the North Carolina Department of Human Resources, and the North Carolina Department of Natural Resources and Community Development. Incorporated in the study legislation should be some protection from regulatory action for farmers in the areas being studied if groundwater is found to be out of compliance with groundwater standards or Maximum Concentration Levels. Otherwise, farmers are not likely to allow monitoring on their property.

8. We recommend that when state agencies write environmental regulations, that proper pesticide practices--conducted in accordance with U.S. Environmental Protection Agency approved label instructions and the North Carolina Pesticide Law and regulations--be recognized as being in compliance with those environmental regulations.

9. We recommend retaining the pesticide program and its programmatic and regulatory functions in the North Carolina Department of Agriculture. We support the current structure and authorities of the North Carolina Pesticide Board and the Pesticide Advisory Committee.

10. We recommend and urge funding for the statewide expansion of the North Carolina Agriculture Cost Share Program for dealing with the water quality impacts of agriculture from sediment, nutrients, pesticides, and animal wastes. The program is highly successful, and is considered a national model program. It is currently available in 56 counties.

11. We support the Boll Weevil Eradication Program and recommend that the program be continued. The eradication program has eliminated the need for numerous pesticide applications annually on cotton in North Carolina. We recommend that, where possible, similar programs be developed and implemented for other pests on other crops.

12. We recommend funding for the pesticide licensing, certification, recertification, and training program adequate for North Carolina to continue to have one of the best training programs in the country and to anticipate future needs in the pesticide training and education area.

We thank you for this opportunity to present our proposals to the Study Committee. If we can be of further assistance to you or your staff, please feel free to contact us.

Sincerely,

W.B. Jenkins
President

WBJ:afc

Conservation Council Of North Carolina
307 Granville Road Chapel Hill North Carolina 27514 (919) 942-7935

20th ANNIVERSARY

MEMORANDUM

To: Members, Pest Control Legislative Study Committee

From: Mary Beth Edelman, Pres., Conservation Council of North Carolina

Date: October 27, 1988

Re: 1988 Pesticide Resolution

At its October 16, 1988 Board of Directors meeting in Asheville, N.C., the Conservation Council of North Carolina passed a resolution on pesticides that is of direct relevance to the work of the study committee. We urge you to take this item into consideration as you prepare your recommendations to the 1989 General Assembly.

We welcome any opportunity to assist you in your efforts and look forward to working together on pesticide issues in the coming year. Should you wish to discuss these issues further, please contact me at 966-1301.

Help protect the magic of North Carolina

Pesticides

Whereas: the widespread exposure to toxic pesticides and the failure to regulate adequately is the number one environmental problem according to the U. S. Environmental Protection Agency (EPA); and

Whereas: it is inappropriate to have pesticides regulated by an agency whose primary mission is the promotion of agricultural production; nationally, the regulation of pesticides was shifted from the U.S. Department of Agriculture to the EPA in 1972, almost two decades ago; and

Whereas: pesticides are not primarily an agricultural issue but also involve widespread use and exposure in homes, schools, places of business, along rights-of-way on lawns and golf courses with urban and suburban exposures now often equal to or exceding rural levels; and

Whereas: The North Carolina Department of Agriculture (NCDA) has failed to adequately regulate pesticides or enforce the laws governing them in the interests of public health and safety, as, for example, by failing to follow up on known groundwater contamination, by failing to regulate problem pesticides such as chloridane, and by failing to provide adequate protection to nearby residents from such inherently dangerous practices as the aerial application of pesticides; and

Whereas: the current administrative structure provides wholly inadequate protection from pesticides from vulnerable resources such as groundwater, and for vulnerable sections of the population, including chemically sensitive people and farmworkers; and

Whereas: pesticide administration is fragmented and divided within the NCDA, with separate administration of structural pest control, without adequate public participation or reasonable justification and to the added confusion of the general public;

Therefore be it resolved that CCNC supports the transfer of pesticide regulation including structural pest control from the North Carolina Department of Agriculture to a health or environmental agency and that pesticide programs be included in any plans to consolidate environmental agencies in North Carolina.

North Carolina Department of Human Resources
Division of Health Services
P.O. Box 2091 • Raleigh, North Carolina 27602-2091

James G. Martin, Governor
David T. Flaherty, Secretary

Ronald H. Levine, M.D., M.P.H.
State Health Director

(919) 733-3410

October 27, 1988

MEMORANDUM

TO: Pest Control Committee

FROM: John I. Freeman, D.V.M., M.P.H., Head
Environmental Epidemiology Branch

SUBJECT: Recommendations

As I stated at the committee hearing, the Environmental Epidemiology Branch has investigated many incidents involving contaminations of private residences and water supplies with pesticides resulting from pest control operator applications. One common finding has been that the person who makes the application of pesticides to the private dwelling is a non-licensed applicator. While current regulations requires that such application be made under the direction or supervision of a person licensed by the Pest Control Board, the regulations do not require the license-holder to be on-site at the time such application is made. It is somewhat deceptive to display in large letters "NCDA Pest Control License No. XXXXX" on vehicles and the license-holder not be present during the actual pesticide application. I would recommend that the actual applicator of structural pest control materials be required to attend prescribed training and a licensure or certification program be initiated which is based on a competency test or other means to establish a level of competency adequate to apply to these pesticidal materials.

JIF:lp

Pesticide Association of North Carolina

Presented by Mr. Glenn Jernigan

Upgrade of State Certification and Training Program for Pesticide Applicators

The state already has a program for certifying and training those individuals in the state who apply pesticides. Under the direction of John Wilson, the NC State University Extension Service teaches applicators the most up to date techniques for applying pesticides safely, proper disposal procedures, current integrated pest management techniques and best management practices in it's certification and re-certification program.

The activities conducted by the Extension Service for certifying or recertifying pesticide applicators has been very adequate in the past. However, with the increasing concern over groundwater contamination there is now a need to expand the certification and training program to include additional groundwater issues.

The program should educate the applicators on preventive measures that can be taken to lessen the potential for groundwater contamination. Such measures might include; don't apply pesticides next to drinking water wells, don't mix/load agricultural chemicals near drinking water wells, and alter dosage and timing of application to fit topographic and climatic conditions. Applicators would be informed on various factors such as soil characteristics, land slope, depth of water table, and other conditions that could contribute to groundwater contamination.

The current budget for the certification and training program is barely adequate, therefore, to include the recommended upgrade in the program the state should appropriate additional funds from the Legislature.

DEVELOPMENT OF AGROMEDICINE PROGRAM

The state should explore the possibility of developing a state agromedicine program. The program would unite the skills of agricultural and medical sciences to promote more efficient, safer and healthier production of food and fiber. Emphasis would be focussed toward occupational and preventive medicine through the roles of NCSU, the NC Cooperative Extension Service, and a medical school (ECU). Funding for the program should be provided by the legislature.

Agromedicine would also bring an important human health dimension to integrated pest management (IPM). As technology and specialization increase it is important to maintain communication and teamwork between agricultural and health professionals serving the same community of clients.

A state agromedicine program would involve three major duties: public service, research and education.

As a public service the agromedicine program would provide medical consultation and pesticide residue laboratory services to the state's health care professionals for the diagnosis and management of pesticide associated illnesses and for other health related issues unique to agriculture.

Research is required to expand the knowledge of agricultural medicine. Results of on-site investigations, case-by-case medical consultations and applied research would be used to update educational programs. Some research interests would include: epidemiology of hospitalized pesticide poisoning; risk factors and benefits of agricultural life style; and protective clothing for pesticide exposure.

Seminars, lectures and workshops could be developed for health care providers, agricultural professionals, graduate and undergraduate students and community organizations. Topics could include: pesticide safety and medical aspects of pesticide associated illnesses, preventive aspects of skin cancer, heat illness, noise induced hearing loss, birth defects and pesticide allergies.

"AMNESTY DAYS" - PILOT PROGRAM

Pesticide and pesticide container collection and disposal projects have been conducted in several states already. The program's termed "amnesty days" has proven to be very successful.

The NC Department of Agriculture has a small scale collection and disposal program ongoing. The NCDA program is however very restricted in its ability to handle large volumes of waste that might be encountered in an amnesty day program. The NCDA program is mainly provided for individuals who run across an unused or discarded pesticide and don't know what to do with it.

Amnesty day programs provide an opportunity for residents within a community or county region to rid themselves of unwanted hazardous materials and containers in a safe and convenient manner.

The state should adopt a county in which to conduct a pilot "amnesty day" program. The program should be expanded to not only include pesticides and their containers but other unwanted hazardous materials such as: used motor oil, household cleaners/disinfectants, etc. The pilot program could serve as a goodwill gesture by the state to demonstrate its desire that hazardous materials be disposed of in a safe manner. It would also demonstrate the desire of the state to protect the health and safety of her citizens.

Lastly, the State Legislature should allocate funds in order to conduct this pilot project. After the project is completed, the state could then more effectively see how much a full scale "amnesty days" program would cost.

LEAGUE OF WOMEN VOTERS OF NORTH CAROLINA

STATEMENT TO THE PEST CONTROL STUDY COMMITTEE
RECOMMENDATIONS CONCERNING THE MANAGEMENT AND REGULATION OF PESTICIDE PROGRAMS IN NORTH CAROLINA

October 28, 1988

Co-Chairs Representative Holt and Senator Speed and members of the Study Committee: I am Margaret Holton, Natural Resources Chair and member of the Board of Directors of the League of Women Voters of North Carolina.

I appreciate the opportunity to present these remarks to you. The League of Women Voters has for many years been at the forefront of efforts to protect our environment, to clean up wastes and correct procedures that pollute, to reduce and eliminate pollution where possible by change in materials and operations at the source, including emphasis on sustainable agricultural practices. We attempt to educate ourselves, our members, and all citizens so that understanding of these complex matters grows. Understanding brings acceptance of such things as higher costs for products if that should be the consequence of effective environmental protection.

The League of Women Voters of North Carolina makes the following recommendations to the Pest Control Committee.

1. Because the Environmental Protection Agency has stated that pesticides represent the number one environmental problem in the United States, it is imperative that pesticide programs be consolidated with other environmental programs in a health or environmental agency. Pesticides are ubiquitous; they are found in our water, our food and the air we breathe. Difficult though it may be to measure the efffects of chronic exposure, considerable evidence of negative health effects are accumulating. The National Academy of Sciences reports that over a lifetime of dietary exposure the active ingredients in twenty-eight pesticides found in foods will contribute 1.5 million additional cancer cases.

2. The League of Women Voters recommends that the State of North Carolina maintain the nondegradation standard for groundwater. As you know, groundwater is the source of drinking water for 55% of the population of our state. Citizens are aware that groundwater is vulnerable to contamination by pesticides and many other pollutants that leach into the soil and filter down to the groundwater table. Yet sometimes persons handling pesticides and such pollutants are not careful. Farmers have become concerned that their own private drinking water wells may be in danger of contamination.

Carolyn S. Allen, President 215 North Dawson Street Raleigh, N.C. 27603 919/839-55

Agricultural practices should not be exempted from regulations related to groundwater standards. However, farmers who apply pesticides and herbicides according to label instructions should not be held responsible if ground water contamination results. If leachates from these materials do result in contamination, the manufacturers should bear the burden of remediation.

3. More research into sustainable or low input agriculture is greatly needed. The use of agricultural chemicals has contributed to widespread environmental contamination, weed and insect resistance to chemical controls, secondary pest outbreaks, and reduction of predator and beneficial insects. Reduced pesticide application would not only lessen these problems but would reduce the expensive and difficult problems of pesticide waste management.

4. In order to monitor for pesticides it is imperative to know the substances and volumes of pesticides that are being sold within North Carolina. Regulations should be instituted which would require reporting of this information by manufacturers, registrants, dealers, and applicators to State officials.

5. Proper disposal of pesticides is a critical component of managing chemical wastes. The small program that the North Carolina Department of Agriculture now has underway of responding to requests for disposal assistance must be adequately funded. (It is our understanding that this program is unable to help communities that undertake household collection day efforts because of the cost of pesticide disposal. This becomes yet another situation that reduces the credibility of all government activity.) It may be that manufacturers of agricultural chemicals could contribute funds or resources toward the management of these wastes. Further, as controls on solid waste landfills grow, the need for satisfactory management of household hazardous waste also increases. Help from industry with collection of pesticides from household hazardous waste collection programs is also needed.

The Committee should make strong recommendations that North Carolina maintain the groundwater nondegradation standard that is now in its rules and strengthen regulations on the reporting, handling, and use of pesticides.

Thank you for listening. We appreciate this opportunity to share with you our concerns regarding pesticide management in North Carolina.

4116 Arckelton Dr.
Raleigh, N. C. 27612

October 25, 1988

Mr. Lynwood Jones
Legislative Services Office
300 N. Salsbury Street
Raleigh, N. C. 27611

Dear Mr. Jones:

I am writing to remind you of the suggestions I made for changes in the N. C. Pesticide Law at the April 26, 1988 meeting of the Pest Control Study Committee. My suggestions were as follows:

1. Increase of buffer zones.

2. Prior notification to residents when spraying of any pesticide is to take place.

3. The posting of notices on public buildings, highways and recreational areas when spraying or chemical treatment is taking place and notice of date of last treatment should be indicated at all times.

4. The presence of hypersensitive must be considered when speaking of non-target species. IT should be the responsiblety of the hypersensitive to make themselves known to the proper state officials, but after doing so, their level of sensitivity to pesticides should be considered in any plans for pesticide use.

5. Pesticide injury conplaints must be taken very seriously and handled immediately with blood or property assays. There should be none of the typical bureaucratic delays. And, it might be well to take a close look at the agency which regulates pesticide.

6. Integrated Pest Management should be the first line of defense against pests and the use of pesticides should always be the last resort.

I would appreciate my suggestions being entered into the record.

Sincerely,

Helen V. Moore

Helen V. Moore

October 25.

To: Members, Legislative Research Study Committee on Pest Con
Rep. Bertha Holt, Co-Chairman; Sen. James D. Speed, Co-Ch

From: Billie Lee Rogers, Co-Chairman of Gorgas Citizens Committ

Subject: Recommendations Regarding Changes in Pesticides Regula

Since June, 1982, our community has sought changes in the curren regulations, and the various petitions are on file with the pest board. However, there has been no changes and no consideration to the members of the Gorgas Community. Therefore, as Co-Chairm the Gorgas Citizens Committee, I am recommending that the follow concerns be added to your recommendations of changes to be prese to the General Assembly.

1. Require Liability Insurance for Aerial Applicators, NON is required now.

2. Control Excess Drift by eliminating the current except allowing pilots to fly over obstructions without regard to the amount of drift that may result.

3. Require Prior Notification of all people within one ha mile of the spray area.

4. Enlarge Residential Buffers to 1,000 feet with provisi consent agreements for applications within 300 feet.

5. The Pesticide Control Division be moved from the Depar of Agriculture to Health or an Environmental Control Committee.

These specific changes would bring into better balance and need applicators, by doing so, protect the health and safety of citi

National Foundation For The Chemically Hypersensitive

A Chemically Induced Immune System Disorder

Post Office Box 9
Wrightsville Beach, NC 28480

Telephone
(919) 256-5391

Oct. 25, 1988

Co-Chair: Pesticide Control Study
Senator James Speed &
Representative Bertha Holt

Legislative Service Office
300 N. Salsbury St.
Raleigh, NC 27611

I would like to take this opportunity to thank all those who have worked so hard to improve the health risk ratio for those that have had pesticide exposure.

I can not attend this meeting because of the "residual pesticides" used by the state. I have a loss of my immune system due to a pesticide exposure. I am denied equal access to a government building because of my handicap.

Some of the things that would help the people of North Carolina reduce the harm caused by inappropriate use of inappropriate pesticides are:

#1. We need to have all our medical community knowledgeable about the recognition and management of pesticide poisoning. 98% of our doctors can not recognize pesticide exposure. To the uninitiated , it seems like a bad case of the flu. Death is not the worst damage caused by pesticides.

#2. We must post all areas that are pesticide treated with the date of the last application, next application and which pesticide was used. This should be on all structures, lawns, roads, forests, agriculture area, golf courses, etc.

#3. The state of North Carolina must place all pesticides and other toxic substances directly under the State Health Department. The Health Dept. should be health orientated. The Agriculture Dept. is profit orientated. What good will it do to maximize profits at the cost of the health of our childrens' children ? Our health costs are 10% of our gross national product. Something is terribly wrong.

We depend on your efforts to help solve these health problems. Many of the pesticides of the past have proven too toxic only after great harm and personal loss. Many of the current pesticides and herbicides will be classified as too harmful in the very near future. Let us take extreme caution with the rules of use, until we know which insect poisons are too toxic for human exposure.

Thank you for your sincere efforts. If I can be of any further help, please feel free to call me.

Best Regards

REQUESTS TO THE PEST CONTROL STUDY COMMITTEE

RALEIGH, NORTH CAROLINA OCTOBER 28, 1988

Representative Holt, Senator Speed and Committee:

My name is Nancy Barnhardt. I request that this committee consider three proposals.

1. That pesticides be put in a department other than the Agriculture Department since pesticides extend into areas besides agriculture.

2. That extension agents be required to include information about farming without chemicals in the information they give to farmers.

3. That study be done on the problem that chemically sensitive people have with pesticide exposure in public places and ways in which the state can help them get the information they need to protect themselves, information to which every person is entitled.

I am one of the people who have been medically diagnosed here in North Carolina as allergic to pesticides and other chemicals. I can give examples and information to the committee at any time you wish. Thank you.

Nancy Barnhardt
708 Coker Lane
Chapel Hill, N.C. 27514

North Carolina State University
School of Agriculture and Life Sciences
Agricultural Research Service
Box 7643 Raleigh, N C 27695-7643
7643 (919) 737-2718

November 8, 1988

Mr. Linwood Jones
Suite 545
Legislative Office Building
300 N. Salisbury Street
Raleigh, NC 27611

Dear Mr. Jones:

We appreciate the opportunity to respond to your request to identify some of our funding needs in Integrated Pest Management programs at North Carolina State University. The advantages of the IPM approach were presented to the Legislative Study Commission on Pest Control by several of our faculty members and others during your recent hearings. These programs often result in the application of fewer pesticides, are concerned with proper use of nutrients, and stress producer profits and environmental safety, including water quality.

The attached requests for the N. C. Agricultural Extension service ($620,000) and the N. C. Agricultural Research Service ($500,000) were put together with the assistance of Dr. H. Michael Linker and others at NCSU. We also considered the educational needs expressed by Dr. Blanche Haning.

You should be aware that the 1989-91 Budget Request by the Board of Governors of the University of North Carolina includes a section for Agricultural Programs at NCSU. In this section is a request of $4,506,677 for 1989-90 and $6,022,421 for 1990-91 to come to the N. C. Agricultural Research Service and the N. C. Agricultural Extension Service for program expansions and improvements. Part of these funds, approximately $750,000, will assist in research and implementation of IPM programs. However, these requests are minimal compared to our overall needs and the attached proposals will allow us to make a bigger, quicker impact on IPM.

It should be understood that the attached requests must not be confused with or be substituted for the Board of Governors Budget Request for Agricultural Programs at NCSU. If we can provide more information, please let us know.

Sincerely,

Ronald J. Kuhr,
Director, NCARS

Chester D. Black,
Director, NCAES

RJK:CDB:eh
Attachments
cc: D. F. Bateman
R. E. Cook

Request for Funding
to Supplement Programs in Integrated Pest Management
by the
North Carolina Agricultural Research Service
North Carolina State University

Integrated Pest Management is an approach to pest control on crops, domestic animals, structures and humans that incorporates a variety of tactics to maintain pest populations at levels that are economically and environmentally sound. Tactics include a variety of cultural practices, biological control agents, pest-resistant crops, chemicals, etc. Although the primary goal of IPM programs is not to eliminate chemicals from pest control practices, a large number of these programs have resulted in significant reductions in pesticide applications and/or have resulted in more judicious use of chemicals.

The success of these IPM programs is a result of an extensive long-term research program in a large number of departments in the College of Agriculture and Life Sciences at NCSU, including Entomology, Plant Pathology, Crop Science, Horticultural Science, Economics and Business, Biological and Agricultural Engineering, Poultry Science and Animal Science. Programs exist with crops such as tobacco, apples, peanuts, corn and soybeans, with animals, especially poultry, with turf, and with some structural and human health pests. However, our research must continue to improve upon these existing programs and expand into many other situations.

Although research in IPM will continue to have a high priority in the N. C. Agricultural Research Service agenda at NCSU, additional funds would allow acceleration of some of these projects to place more results in the hands of Extension specialists and our farmers and citizens. This should result in a decrease of chemical use in our environment. Below are some of the items required by NCARS to enhance our IPM research in the departments listed above

4 Postdoctoral Research Associates	$140,000
4 Agricultural Research Technicians	100,000
10 Graduate Student Research Assistantships	100,000
Operating Funds	160,000
TOTAL	$500,000

A Proposal to Strengthen the Extension IPM Program
at North Carolina State University

Total Estimated Cost: $620,000

Preamble:

An enhanced Integrated Pest Management (IPM) program will change the way in which farmers and urban citizens use pesticides and nutrients. IPM, in addition to a concern with pesticide use in pest management, is also concerned with the efficient use of nutrients. IPM seeks to reduce pesticide and nutrient use while maintaining or increasing output. The enhanced program would impact directly on the state's water quality (surface and ground) and on farm profitability.

1. Personnel, N.C. State University. One additional extension specialist position, 5 post-doctoral positions, two technicians and a computer programmer are needed at the university. The responsibilities of each position is described below.

a) The new crops specialist would have primary responsibility for vegetable crops. Three post-doctoral positions would allow the flexibility to respond as needs arise. However, these positions would be generally divided into the following areas of responsibility: 1) urban (lawns, gardens, structural pests, turf and golf courses), 2) vegetables and 3) low-input, sustainable agriculture. The current IPM coordinator would continue responsibility for overall program coordination and IPM in field and forage crops.

b) One post-doctoral position in the Entomology Department to support the Poultry and Livestock IPM program. The growth of the poultry and swine industries has been rapid. We have had a vigorous and effective program in poultry. However, this has limited the time available to develop swine. A post-doctoral position would be used to strengthen the swine program and develop new initiatives in this area.

c) One post-doctoral in Economics & Business to support the IPM programs in assessment of economic impacts and benefits of various strategies and programs.

d) Two technicians, one in the Crop Science Department and one in the Entomology Department.

On-farm demonstrations are a valuable part of the IPM promotional efforts. These technicians are used to support field work. Currently, there are no technicians working in the IPM program.

e) Computer programmer, Department of Crop Science.

Most of the new innovations in IPM are in the area of computer-based decision aids. For the program to make use of these advnacements requires the services of a programmer. Programs developed would be available to growers through their local county extension office.

Estimated cost: $300,000

2. County personnel. Five area IPM specialized agents. These agents would be responsible for delivering the IPM program in the state. They would work with area farm management agents in farm planning and budgeting for IPM activities.

Estimated cost: $220,000

3. Support for county and specialist grants. We have used a small amount of the federal IPM money to support grants to counties and specialists for development of IPM techniques and demonstrations. This system needs to be expanded to address more complex problems and provide multi-year funding.

Cost: $100,000

4. Support budget for publications, videotapes, slide sets, etc. Growers not only need to see demonstrations of IPM but need "how to" publications to reinforce what they have seen.

Cost: $10,000

November 8, 1988

Memorandum: Mr. Linwood Jones, Legislative Counsel
Legislative Research Committee (LRC) on Pest Control

From : Blanche C. Haning, Coordinator *Blanche C. Haning*
Academic Programs in Integrated Pest Management, NCSU

Subject : Recommendations for the LRC Committee

Thank you for inviting me to provide input into the LRC on Pest Control final report. I am gratified that the Committee was assembled to review the status and options of this far-ranging topic. I am also gratified that Committee members have had opportunity to see the need for Integrated Pest Management (IPM) understanding and implementation.

North Carolina State University (NCSU), as a land-grant institution, has obligations to conduct research, educate students, and extend IPM information to the general public via the Extension Service. Due to the unquestionable logic of the IPM approach, I furthermore believe that NCSU has an obligation to promote IPM because the underlying philosophy and technology benefit everyone over the long term. Adequate funding and incentives are indicated in all three phases off IPM activities. I am addressing some urgent needs in IPM education.

NCSU has had a B.S. degree-granting program in IPM since 1977. Sixty-four graduates are in the work force, equipped with information in biology, ecology, soil science, crop production, pesticide application technology, entomology, plant pathology, weed science, and three courses that consolidate this information into the systems approach that is called IPM. But the program is scheduled to be dropped soon due to declining under-enrollment, a trend that is occuring nationwide.

Trends, however, are fanciful, and many of us feel strongly that college students should be aware and knowledgeable about IPM principles and practices. In 1987, we instituted an IPM minor that can be taken by all NCSU undergraduates, regardless of their major disciplinary interests. Although less rigorous than the major, the minor can provide critical IPM information to more students (than the few who might elect the IPM major) who will be tomorrow's citizens, leaders, and educators in increasingly-complex times. Twelve copies of the IPM Minor Program of Study are attached for the benefit of the LRC Committee.

After being in place for over a year, there is little indication of student interest in the IPM minor, unfortunately. In fact, several IPM courses have not been taught in recent years due to inadequate enrollment. I, and certain other faculty and IPM-oriented students, feel this is an untenable situation for North Carolina State University. The academic programs, including a minor for Master of Science students, a concentration for non-thesis Master of Agriculture students, as well as the IPM courses will be discontinued unless incentives are provided to reverse this disturbing trend of disinterest in holistic approaches

Academic Programs - Integrated Pest Management
705 Bostian Hall, Box 7611, North Carolina State University, Raleigh, North Carolina 27695-7611

in favor of parochial disciplinary perspectives. The long term health of this planet depends on multidisciplinary and disciplinary knowledge as well as ethical use of the information and its technologies. --After attending most of the LRC meetings, I feel that the LRC Committee will recognize that the state o North Carolina has both a stake in this situation and an opportunity to help.

I am requesting the Committee to sponsor a proposal for $250,000 to be allocate as $2000 incentive-stipends for undergraduate students who minor in IPM, for Master of Science students who minor in IPM, and for Master of Agriculture students who complete the concentration in IPM.

This allocation should be ear-marked for the Academic Programs in Integrated Pest Management at North Carolina State University and must be viewed as additional to the requests made through the formal change-budget requests of th UNC system. This allocation by the North Carolina General Assembly will provide a much-needed stimulus to NCSU's educational efforts in IPM, and will be a mode for other states as well.

Another vital dimension of IPM education, however, resides in sharing this perspective with students in our state's grade schools, high schools, and other colleges and universities. Understanding the nature of pest species, threshold levels, food webs, natural controls, and the social, environmental, and economi interactions and consequences of all human activities must become part of science instruction at all levels. IPM workshops for high school teachers can be provided by faculty at NCSU, and, with administrative approval, I am willinc to organize this effort. These activities, over a two-year period, would require an additional allocation of $10,000. Other out-reach efforts in IPM education can be implemented if financial considerations do not prohibit them.

In summary, I feel that NCSU should be given every encouragement possible, including financial assistance and incentive, to optimize IPM activities in teaching, research, and extension.

Please extend my best wishes to Mr. Speed, Mrs. Holt, and other members of the LRC Committee as they deliberate and finalize their report. I regret that I cannot attend the November 17th meeting.

cc: Dr. Durward F. Bateman
Dr. James L. Oblinger
Dr. William L. Klarman
Dr. Earnest Hodgson

encl: 12

TESTIMONY BEFORE THE LEGISLATIVE RESEARCH STUDY COMMITTEE ON PEST CONT
ON THE PROPOSED INTERAGENCY PESTICIDE MONITORING PLAN

by

Ed Norman, Staff Scientist
North Carolina Environmental Defense Fund

October 28, 1988
Raleigh, North Carolina

Good Morning. My name is Ed Norman. I am a staff scientist with the North Carolina Environmental Defense Fund here in Raleigh. NCEDF is the newest office of the Environmental Defense Fund, a twenty-year old, national non-profit research and advocacy organization. EDF has six offices across the country and more than 60,000 members nationwide. Our scientists, lawyers, and economists work together to develop long-term solutions to our most pressing environmental problems. In all its efforts, EDF attempts not just to provide reactive opposition to a problem, but to propose constructive solutions, to find ways to meet society's economic needs while protecting the environment.

We are aware of the extraordinary importance of groundwater resources to our state. More than half the people of North Carolina rely on groundwater for their drinking water supplies. Many of our industries depend upon ample supplies of uncontaminated groundwater. And groundwater quality also has a significant impact on the quality of our surface waters.

We are fortunate in North Carolina that our groundwater is still of very high quality. However, this valued resource is increasingly under threat. NCEDF has commented at length on the proposed revisions to the state groundwater regulations. And at this time, I wish only to reiterate our continued support for the existing non-degradation policy as it relates to pesticide use as well as other potential threats to groundwater quality.

The primary reason for speaking this morning is to address the propose interagency pesticide monitoring plan. In particular, we are supportive of the need to monitor for pesticides across the state and we feel that such a plan for shallow groundwater monitoring in heavily agricultural areas is long overdue. However, we hesitate to give our full support to the proposed monitoring plan because of what we see as a major design flaw. The proposa calls for resampling of well sites whenever a pesticide is detected. While it is true that all wells will be sampled twice initially, only wells with a positive finding are to be subjected to this more intensive resampling scheme Furthermore, we understand that initially positive well sites which upon resampling detect no pesticides will be reported as negative.

We certainly understand the concern over the detection of pesticides an fully support follow-up investigations of any positive well sites, including sampling of downgradient drinking water wells. However, because of the seasonal character and continual changes in the groundwater environment, a well in an area of contaminated groundwater may test positive for pesticides at one time and negative the next. Quite the opposite is also true. A well which initially tests negative may later test positive if it too underwent a more intensive resampling program. However, the proposed monitoring plan d not call for resampling of any wells which test negative for the initial two samplings. Until this methodological flaw is resolved (e.g. by requiring resampling of randomly selected wells or by abandoning the resampling schem altogether) we cannot support the proposed monitoring plan which appears biased towards negative findings.

In conclusion, let me say that I realize that much work has gone into th proposed plan by the staff of all three agencies and I appreciate these diligent efforts. In fact, it is only with the expertise of pesticides, the environment, and health found in these three agencies, that such a monitorin plan can properly be developed. Such diversity of expertise has been consolidated at the national level in the U. S. Environmental Protection Agency, and ultimately we would like to see the same for North Carolina. Thank you for the opportunity to be heard this morning.

APPENDIX G

NOTE: Please consult Committee counsel prior to introducing Committee legislation for possible revisions and amendments.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1989

D

89-RN-001
THIS IS A DRAFT 30-NOV-88 10:24:30

Short Title: STRUCTURAL PEST COMMITTEE CHANGES (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO ADD A PUBLIC MEMBER AND A HEALTH REPRESENTATIVE TO THE STRUCTURAL PEST CONTROL COMMITTEE.

The General Assembly of North Carolina enacts:

Section 1. G.S. 106-65.23 reads as rewritten:

"§ **106-65.23. Structural Pest Control Division of Department of Agriculture recreated; Director; Structural Pest Control Committee created; appointment; terms; quorum.**--There is hereby recreated, within the North Carolina Department of Agriculture, a Division thereof, to be known as the Structural Pest Control Division of said Department. The Commissioner of Agriculture is hereby authorized to appoint a Director of said Division whose duties and authority shall be determined by the Commissioner. Said Director shall act as secretary to the Structural Pest Control Committee herein created.

There is hereby created a Structural Pest Control Committee to be composed of ~~five~~ the following members. The Commissioner of Agriculture shall designate one member of the Board of Agriculture who shall serve as an ex officio member of said Committee for such time as he is a member of the Board of Agriculture. The Commissioner of Agriculture shall designate an employee of the Department of Agriculture to serve on

said Committee at the pleasure of the Commissioner. The dean of the School of Agriculture of North Carolina State University at Raleigh shall appoint one member of the Committee who shall serve for one term of two years and who shall be a member of the entomology faculty of said University. The vacancy occurring on the Committee by the expired term of the member from the entomology faculty of said University shall be filled by the dean of the School of Agriculture of North Carolina State University at Raleigh who shall designate any person of his choice from the entomology faculty of said University to serve on said Committee at the pleasure of the dean. The dean of the School of Public Health of the University of North Carolina at Chapel Hill shall appoint one member of the Committee who shall serve for one term of two years, commencing July 1, 1989, and who shall be a member of the epidemiology faculty of said School. The vacancy occurring on the Committee by the expired term of the member from the epidemiology faculty of the School of Public Health shall be filled by the dean of the School of Public Health who shall designate any person of his choice from the epidemiology faculty of the School of Public Health to serve on the Committee at the pleasure of the dean. The Governor shall appoint two members of said Committee who are actively engaged in the pest control industry, who are licensed in at least two phases of structural pest control as provided under G.S. 106-65.25(a), and who are residents of the State of North Carolina but not affiliates of the same company. The initial Committee members from the pest control industry shall be appointed as follows: one for a two-year term and one for a three-year term. The Governor shall appoint one member from the Committee who is a public member and who is unaffiliated with the structural pest control industry, the pesticide industry, the Department of Agriculture, the School of Public Health of the University of North Carolina at Chapel Hill and the School of Agriculture at North Carolina State University at Raleigh. The initial public member shall be appointed for a term of two years, commencing July 1, 1991. After the initial appointments by the Governor, all ensuing appointments by the Governor shall be for terms of four years. Any vacancy occurring on the Committee by reason of death, resignation, or otherwise shall be filled by the Governor or the Commissioner of Agriculture, as the case may be, for the unexpired term of the member whose seat is vacant. A member of the Committee appointed by the Governor shall not succeed himself.

The Committee shall make final decisions under this Article concerning licenses, certified applicator cards, and identification cards. The Committee shall report annually

to the Board of Agriculture the action taken in the Committee's final decisions and the financial status of the Structural Pest Control Division.

The Director shall be responsible for and answerable to the Commissioner of Agriculture as to the operation and conduct of the Structural Pest Control Division.

Each member of the Committee who is not an employee of the State shall receive as compensation for services per diem and necessary travel expenses and registration fees in accordance with the provisions as outlined for members of occupational licensing boards and currently provided for in G.S. 93B-5. Such per diem and necessary travel expenses and registration fees shall apply to the same effect that G.S. 93B-5 might hereafter be amended.

~~Three~~ Four members of the Committee shall constitute a quorum but no action at any meeting of the Committee shall be taken without ~~three~~ four votes in accord. The chairman shall be entitled to vote at all times.

The Committee shall meet at such times and such places in North Carolina as the chairman shall direct: provided, however, that ~~three~~ four members of the Committee may call a special meeting of the Committee on five days' notice to the other members thereof.

Except as otherwise provided herein, all ~~All~~ members of the Committee shall be appointed or designated, as the case may be, prior to and shall commence their respective terms on July 1, 1967.

At the first meeting of the Committee they shall elect a chairman who shall serve as such at the pleasure of the Committee."

Sec. 2. This act is effective upon ratification.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1989

D

89-RN-006
THIS IS A DRAFT 30-NOV-88 10:32:46

Short Title: WELL CONSTRUCTION AMENDMENTS (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO REQUIRE ADDITIONAL REPORTING TO LANDOWNERS CONCERNING WELL CONSTRUCTION AND TO AUTHORIZE A PROGRAM FOR THE CLOSURE OF ABANDONED WELLS.

The General Assembly of North Carolina enacts:

Section 1. G.S. 143-355(g) reads as rewritten:

"(g) Reports of Each Well Required.-- Every person, firm or corporation engaged in the business of drilling, boring, coring, or constructing wells with power machinery within the State of North Carolina shall, within 30 days of the completion of each well, report to the Department of Natural Resources and Community Development on forms furnished by the Department the location, size, depth, number of feet of casing used, method of finishing, and formation log information of each such well. In addition such person, firm or corporation shall report any tests made of each such well including the method of testing, length of test, draw-down in feet and yield in gallons per minute. The person, firm or corporation making such report to the Department of Natural Resources and Community Development shall at the time such report is made also furnish a copy ~~thereof~~ of the report, a copy of the applicable State regulations and local

ordinances governing well construction, and a well construction diagram to the owner of the property on which the well was constructed."

Sec. 2. G.S. 143-355(i) reads as rewritten:

"(i) Penalty for Violation. -- Any person violating the provisions of subsections ~~(e),~~ (e) or (f) ~~and (g)~~ of G.S. 143-355 shall be guilty of a misdemeanor and, upon conviction, shall be punished by a fine of fifty dollars ($50.00). Any person violating the provisions of subsection (g) of G.S. 143-355 shall be guilty of a misdemeanor and, upon conviction, shall be punished by a fine of one hundred fifty dollars ($150.00). Each violation shall constitute a separate offense."

Sec. 3. Chapter 87 of the General Statutes is amended by adding a new Article to read as follows:

"Article 7A.

"Abandoned Well Closure Program.

"§ 87-97.1. **Findings; purpose.**-- The General Assembly finds that abandoned wells that have not been properly closed are a threat to the safety of children and animals and serve as direct channels for the entrance of contaminants into our groundwater. The purpose of this Article is to establish a program for the closure of abandoned wells and to provide matching grants to local governments that adopt and implement the program in accordance with the provisions of this Article.

"§ 87-97.2. **Definitions.**--Unless the context requires otherwise, the following terms as used in this Article are defined as follows:

(1) The term 'abandoned well' means a well whose use has been permanently discontinued, or which is in such a state of disrepair that continued use for obtaining groundwater or other useful purpose is impracticable.

(2) The term 'Commission' means the Environmental Management Commission.

(3) The term 'Department' means the Department of Natural Resources and Community Development.

(4) The term 'water well contractor' means any person, firm, or corporation engaged in the business of constructing wells.

(5) The term 'well' means any excavation that is cored, bored, drilled, jetted, dug or otherwise constructed for the purpose of locating, testing, or withdrawing groundwater or for evaluating, testing,

developing, draining, or recharging any groundwater reservoirs or acquifer, or that may control, divert, or otherwise cause the movement of water from or into any acquifer. Provided, however, this shall not include a well constructed by an individual on land which is owned or lease by him, appurtenant to a single-family dwelling, and intended for domestic use (including household purposes, farm livestock, or gardens).

"§ 87-97.3. **Abandoned Well Closure Grant Fund.**-- There is hereby created the Abandoned Well Closure Grant Fund, to consist of groundwater resources fees levied pursuant to G.S. 87-97.4, funds appropriated by the General Assembly, and all other monies made available to the Grant Fund from whatever source for the purpose of designing, implementing, or operating abandoned well closure programs.

"§ 87-97.4. **Groundwater Resources Fee.**-- (a) Amount.-- A fee of twenty dollars ($20) is hereby levied against a landowner for each well constructed on the landowner's property on or after October 1, 1989.

(b) Exemption for Prior Contracts.-- No fee shall be levied against a landowner who executed a written contract prior to October 1, 1989 for the construction of a well if the well is completed prior to November 15, 1989.

(c) Collection of Fees.-- The fee levied pursuant to this section shall be collected by the water well contractor.

(d) Submission of Monies.-- The water well contractor shall remit the fees collected pursuant to this section to the Department on a quarterly basis.

"§ 87-97.5. **Use of Funds.**--(a) Local Match Required.-- A county or municipality may apply for a matching grant from the Abandoned Well Closure Grant Fund to implement an abandoned well closure program within its jurisdiction. The county or municipality must pledge to provide at least fifty percent (50%) of the costs of the proposed program. The time and services of a county or municipal employee expended in locating abandoned wells may count towards up to sixty-seven percent (67%) of the local share requirements of the program.

(b) Administrative costs.-- A county or municipality may use up to ten percent of the total State and local funds pledged for its program for administrative costs associated with operating the program.

(c) Program Components.-- A county or municipality shall use the remaining funds after administrative expenses to publicize the program and the danger of abandoned

wells to humans, animals, and the environment; to locate abandoned wells; and to provide financial incentives, in accordance with the provisions of subsection (d) of this section, for the closure of abandoned wells by landowners.

(d) **Financial Incentives.**-- A county or municipality shall provide financial incentives to landowners to properly plug abandoned wells. A county or municipality may provide grants to landowners for no less than twenty-five percent (25%) and no more than fifty percent (50%) of the costs of plugging an abandoned well, up to a maximum of $100 per well.

"§ 87-97.6. **Review of Grant Applications.**--(a) The Commission shall review the applications for grants from counties and municipalities and shall approve, approve in part, or disapprove such applications. The Commission shall establish priorities for the receipt of funds by applicants based on the following factors and other factors the Commission considers relevant:

(1) the susceptibility of the groundwater to contamination through improperly plugged wells;

(2) the quantity and types of agricultural chemicals used in the area; and

(3) the number of abandoned wells estimated for the area.

"§ 87-97.7. **Technical Review Committee.**-- Prior to the implementation of the program by the Commission, the Technical Review Committee shall convene to discuss the implementation plans and to recommend to the Commission needed changes in the proposed plan. The Technical Review Committee shall consist of the Master of the State Grange, the President of the North Carolina Farm Bureau Federation, the North Carolina Commissioner of Agriculture, a representative of the North Carolina County Commissioners' Association, a representative of the North Carolina League of Municipalities, a representative of the Groundwater Section of the Environmental Management Division of the Department of Natural Resources and Community Development appointed by the Chairman of the Environmental Management Commission, a representative of the Water Resources Research Institute of the University of North Carolina at Chapel Hill appointed by the Director of the Institute, a representative of the North Carolina Ground Water Association, a representative of the North Carolina Society of Engineers, and a public member appointed by the Governor. The Technical Review Committee shall meet twice a year to discuss suggested changes to the abandoned well closure program.

"§ 87-97.8. Reports required.-- The Department shall report to the Joint Legislative Commission on Governmental Operations by March 31st of each year or more frequently as requested by the Joint Legislative Commission on Governmental Operations on the number of grants applied for, the number approved, the counties and municipalities receiving grants and the amounts they received, the number of abandoned wells closed and in the process of being closed, and the average amount of funds per well per local government being spent on administrative costs, abandoned well location, and financial incentive grants to landowners. The Technical Review Committee shall report to the Environmental Review Commission upon request on suggested changes in the design, implementation, or funding of the program and the program requirements."

Sec. 4. Sections 1 and 2 of this act shall become effective October 1, 1989. Section 3 of this act shall become effective July 1, 1990, except that the provisions of G.S. 87-97.4 authorizing the assessment and collection of a groundwater resources fee for the construction of a new well and the provisions of G.S. 87-97.3 creating the Abandoned Well Closure Grant Fund shall become effective October 1, 1989.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1989

D

89-RN-007
THIS IS A DRAFT 30-NOV-88 10:27:00

Short Title: AERIAL APPLICATION BUFFER (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO PROHIBIT THE DEPOSIT OF PESTICIDES WITHIN THREE HUNDRED FEET OF A RESIDENCE BY AERIAL APPLICATION.

The General Assembly of North Carolina enacts:

Section 1. G.S. 143-458 reads as rewritten:

"**§ 143-458. Rules and regulations concerning methods of application.**-- (a) The Board may adopt rules prescribing the method to be used in the application of pesticides and the times and places pesticides may be applied. The Board may adopt rules restricting or prohibiting the sale and use of pesticides in designated areas during specified time periods. In adopting rules under this subsection, the Board shall consider factors required to prevent damage or injury to the following by the drift or misapplication of pesticides:

(1) Plants, including forage plants, on adjacent or nearby land;

(2) Wildlife in the adjoining or nearby areas;

(3) Fish and other aquatic life in waters in reasonable proximity to the area to be treated; or

(4) Other animals, persons or beneficial insects.

In issuing such regulations, the Board shall give consideration to pertinent research findings and recommendations of other agencies of this State or of the federal government.

(b) The Board may by regulation require that notice of a proposed application of a pesticide be given to landowners adjoining the property to be treated or in the immediate vicinity thereof, if it finds that such notice is necessary to carry out the purpose of this Article.

(c) No pesticide shall be deposited by aerial application within three hundred feet of a residence."

Sec. 2. This act shall become effective October 1, 1989.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1989

D

89-RN-008
THIS IS A DRAFT 30-NOV-88 10:28:11

Short Title: PESTICIDE APPLICATION NOTICE (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO REQUIRE NOTIFICATION OF CERTAIN PESTICIDE APPLICATIONS.

The General Assembly of North Carolina enacts:

Section 1. Part 2 of Article 52 of Chapter 143 of the General Statutes is amended by adding the following new sections:

"**§ 143-447.1. Application to Turf Areas.** (a) General.--A pesticide applicator who applies a pesticide to a turf area shall post or affix warning signs approved by the Board on the property where the pesticides are applied in accordance with the provisions of this section.

(b) Warning Signs.--Warning signs must project at least 18 inches above the top of the grass line and must be at least 35 square inches in size. Each sign shall contain the following:

(1) The name and telephone number of the pesticide applicator:

(2) The brand name of the pesticide applied and the date it is applied:

(3) A warning, printed in contrasting colors and type as specified by the Board, to keep children and pets off the premises: and

(4) The EPA registration number of the pesticide applied.

(c) Posting requirements.-- Signs shall be posted for a period of 24 hours following initial application, provided that the Board may by rule require posting for 48 hours following the initial application of a pesticide containing an active ingredient that the Board determines for health or safety reasons should be subject to a longer posting period.

(d) Posting Location.-- The warning sign must be posted on a lawn or yard between two feet and five feet from the sidewalk, street, road or highway. For all other turf areas, the warning signs must be posted immediately adjacent to areas within the property where pesticides have been applied or at or near the entrances to the property."

Sec. 2. G.S. 143-460 is amended by adding a new subdivision to read:

"(36b) The term 'turf area' means lawns, yards, golf courses, athletic fields, playgrounds, parks, and similar recreational properties as defined by the Board, but does not include turf farms or property used for agricultural production."

Sec. 3. Chapter 106 of the General Statutes is amended by adding a new section to read as follows:

" **§106-65.42. Written Warnings Required.**-- A licensee, certified applicator, or employee of a structural pest control business and a regular employee doing work on the property of his employer who is otherwise exempt from this Article under the provisions of G.S. 106-65.25(b) shall provide at the time of application of a pesticide to an occupied residential dwelling, whether single-family or multi-family, a written notice at or within each residence containing the following information:

(1) the name, telephone number, and address of the structural pest control business or, in the case of an employee doing work on the property of his employer, the name, telephone number, and address of the owner of the treated property or the owner's agent responsible for the management of the treated property;

(2) date of application; and

(3) a statement concerning where additional information on the pesticide and its application may be obtained."

Sec. 4. G.S. 106-65.25(b) reads as rewritten:

"(b) This Article shall not apply to any person doing work on his own property ~~or~~ or, except as provided in G.S. 106-65.41, to any regular employee of any person, firm or corporation doing work on the property of such person, firm or corporation, under

the direct supervision of the person who owns or is in charge of the property on which work is being done unless a restricted use pesticide is being used. Any person, including agents or agencies of the federal, State or local governments, using a restricted use pesticide, whether it be on his own property or on the property of another in, on, or around food handling establishments, human dwellings, institutions such as schools and hospitals, industrial establishments including warehouses and grain elevators and any other structures and adjacent areas, public or private, or for the protection of stored, processed, or manufactured products in any phase of structural pest control, must (i) qualify as a certified applicator for that phase of structural pest control, or (ii) be under the direct supervision of a certified applicator possessing a valid identification card for that phase of structural pest control."

Sec. 5. This act shall become effective October 1, 1989.

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1989

D

89-RN-011
THIS IS A DRAFT 30-NOV-88 10:29:07

Short Title: AGRIMEDICINE FEASIBILITY STUDY (Public)

Sponsors:

Referred to:

A BILL TO BE ENTITLED

AN ACT TO REQUIRE THE UNC BOARD OF GOVERNORS TO STUDY THE FEASIBILITY OF AN AGRIMEDICINE PROGRAM IN NORTH CAROLINA.

The General Assembly of North Carolina enacts:

Section 1. The University of North Carolina Board of Governors shall study the need for and the feasibility and costs of establishing and maintaining an agrimedicine program involving the joint resources of a medical school of one of the constituent institutions and an agricultural school of one of the constitutent institutions. The study shall consider the following potential components of an agrimedicine program:

(a) Service functions, including providing lab analyses and consultations to physicians and other health care providers concerning the diagnosis and treatment of various diseases and symptoms related to the use of or exposure to agricultural chemicals;

(b) Research functions, including research activities on pesticide exposure, other agriculturally-related health concerns, and chemical hypersensitivity among farm and non-farm populations; and

(c) Education functions, including training of physicians and other health care providers on the recognition of pesticide-related health symptoms and the training of community and farm groups on the health effects of agricultural activities.

Sec. 2. The Board of Governors shall report its findings and recommendations in writing to the Joint Legislative Commission on Governmental Operations no later than March 31, 1990.

Sec. 3. This act is effective upon ratification.