

PLAN FOR CERTIFICATION OF PESTICIDE APPLICATORS

STATE OF MAINE

I. STATE AGENCY RESPONSIBILITY

A. Lead Agency

1. Maine Department of Agriculture (MDA), State Office Building, Augusta, Maine, 04333
2. Joseph N. Williams, Commissioner -- 207-289-3871

Commissioner Williams has the primary responsibility for administering the state plan and will devote five percent of his time to this project.

- a. John R. Stevens, Supervisor of Feeds, Fertilizers, Seeds and Pesticides -- 207-289-3841

Mr. Stevens has been delegated responsibility for coordinating state plan activities and is responsible for registration of pesticides and the corresponding inspections program. He will devote twenty-five percent of his time to these activities.

- b. Donald F. Mairs, Supervisor of Board of Pesticides Control -- 207-289-2215

Mr. Mairs has responsibility for regulating pesticide usage and coordinates MDA and University of Maine Extension Activities. He will devote twenty-five percent of his time to these activities.

B. Cooperating Agencies

The Maine Board of Pesticides Control was established in 1965 for the purpose of assuring to the public the benefits to be derived from the safe, scientific and proper use of chemical pesticides while protecting the public interest in the soils, water, forests, wildlife, agricultural and other natural resources of the state. Authority was granted the Board to regulate both the sale of pesticides and all aspects of their usage including application, storage, transportation and disposal. The Board is composed of commissioners or directors of the eight state agencies having

responsibilities for using or regulating pesticides. These agencies should be considered as cooperating agencies since the Board's regulations will be the primary mechanism of requiring application certification. The eight agencies' responsible individuals, primary interests and telephone numbers are listed below. All correspondence should be routed via the state office address given in I. A. 1.

1. Department of Agriculture

See above (I. A. 2)

2. Department of Conservation - Richard E. Barringer, Commissioner - 207-289-2212

In addition to representation on the Board, the Department of Conservation's Bureau of Forestry administers the Arborist's law, which provides for licensing of individuals spraying shade or ornamental trees and shrubs. A memorandum of agreement (Appendix A) between MDA and the Bureau of Forestry stipulates that the Bureau will continue to have responsibility for licensing Arborists.

3. Department of Inland Fisheries and Wildlife - Maynard F. Marsh, Commissioner - 207-289-3371

This agency is involved with fish kills caused by pollutants, including pesticides. The Department has 140 wardens who also act as enforcement agents for the Board in prosecuting cases involving misuse of pesticides in ways that damage, or might damage the environment.

4. Department of Marine Resources - Vinal O. Look, Commissioner - 207-289-2291

Environmental contamination as it affects public health and economic value of marine life would be some of the primary pesticide concerns of this department.

5. Department of Transportation - Roger L. Mallar, Commissioner - 207-289-2551

This agency has extensive roadside vegetation control programs. Also, a "crop-dusting waiver" from Transportation is required before a spray pilot can apply agricultural chemicals in Maine.

6. Department of Human Services - David E. Smith, Commissioner - 207-289-2736

This department is concerned with public health aspects of pesticide usage. The Maine Pesticides Program, currently operating on federal funds and dedicated revenue, provides educational, epidemiological and analytical services in the areas of pesticide poisoning, safety and environmental contamination.

7. Department of Environmental Protection - William R. Adams, Jr., Commissioner - 207-289-2811

This department is concerned with all environmental pollutants. It works especially closely with the Board on aquatic concerns, since the Board's aquatic pesticide application permits must be accompanied by discharge licenses from DEP.

8. Public Utilities Commission - Leslie H. Stanley, Chairman - 207-289-2424

This commission regulates utilities, many of which carry on large scale brush control operations.

Although not a member of the Board, the Cooperative Extension Services (CES) at the University of Maine, Orono, Maine, 04473, will be the agency responsible for planning and carrying out the educational activities for training pesticide applicators who may wish to participate in such training before applying to MDA for certification. The director, Mr. Edwin H. Bates, 101 Winslow Hall, telephone 207-581-2211, and former Commissioner Dolloff of MDA signed a memorandum of agreement (Appendix B) to this effect.

C. Coordination of Agencies

The Board of Pesticides Control (BPC) as the use-regulation unit of the MDA meets at irregular intervals, usually eight to twelve times per year. Commissioner Marsh of Inland Fisheries and Wildlife serves as chairman of the Board and calls the meetings whenever there is business to be conducted or at the request of any Board member. Decisions are reached by a majority vote of the members.

The Board, through its statutory authority to promulgate regulations following public hearing, will develop the standards to be met in a program of applicator certification. All major policy decisions on applicator certification will be made by the Commissioner of MDA, with other departmental inputs assured through the hearings and meetings of the BPC. Information concerning the standards and other decisions by the Board will be disseminated by public media and special mechanisms, such as Extension Service mailing lists and current licensee lists. The proposed standards for applicator certification presented in Sections V.B. and V.C. of this plan have been endorsed by the entire membership of the Board as evidenced by their signed statement in Appendix C. As previously noted in Section I. A. 2. b., Mr. Mairs coordinates the training efforts conducted by CES, and their responsibilities for training programs are outlined under the memorandum of agreement in Appendix B.

II. LEGAL AUTHORITY AND QUALIFIED PERSONNEL

A. Legal Statement

A memorandum (appendix D) dated Aug. 4, 1975 from Sarah Redfield, Department of Attorney General, states that the MDA does have the basic statutory authority necessary to certify applicators of pesticides. This opinion was based on State of Maine Revised Statutes, Title 22, Chapter 258-A, Board of Pesticides Control, Section 1471 enacted in 1975. A copy of this document is found in Appendix G.

B. Current State Laws

1. Maine Pesticide Control Act of 1975 (Appendix E) Title 7 Maine Revised Statutes Amended Chapter 103, Subchapter II-A.
2. Board of Pesticides Control (Appendix F) Title 22 Maine Revised Statutes Amended Chapter 258.

3. Board of Pesticides Control (Appendix G) Title 22 Maine Revised States Ammended Chapter 258-A.

This new law repeals the current Board of Pesticides Control Law and contains all provisions required by Section 4 of the Federal Environmental Pesticide Control Act of 1972. The effective date is October 1, 1976, except for Section 1471-M which becomes effective October 1, 1975.

C. Specific References

References are cited below to sections from the recently enacted Board of Pesticides Control Law specifying legal authority to provide proper enforcement of a pesticide applicator certification system in Maine. The references are as follows:

1. Board of Pesticides Control Law (new) - Section 1471-D, Subsections 7 and 8.
2. Board of Pesticides Control Law (new) - Section 1471-D, Subsection 8-H.
3. Board of Pesticides Control Law (new) - Section 1471-H.
4. Board of Pesticides Control Law (new) - Section 1471-D, Subsection 1 and 2.
5. Board of Pesticides Control Law (new) - Section 1471-G.

D. Personnel

The following is a detailed listing by department of personnel that will be actively involved in administering the pesticide applicator certification program.

1. Maine Department of Agriculture

- a. Joseph N. Williams, Commissioner - 207-289-3871. See I. A. 2.
- b. John R. Stevens, Supervisor of Feeds, Fertilizers, Seeds and Pesticides - 207-289-3841. See I. A. 2. a.
- c. Donald F. Mairs, Supervisor, Board of Pesticides Control - 207-289-2215. See I. A. 2. b.

- d. Wesley C. Smith, Inspector - 207-289-3841

Mr. Smith is currently employed full time on the Maine Cooperative Pesticide Enforcement Program which is funded by a contract with EPA. His duties include inspection of pesticides, usage sites and pesticide producing establishments, collection of pesticide samples, and observation of pesticide application methods.

- e. James W. Bartlett, Inspector of Feeds, Fertilizer, Seeds and Pesticides - 207-289-3841

Mr. Bartlett will devote twenty-five percent of his time to inspecting pesticide products, pesticide producing establishments and pesticide sales outlets.

- f. F. Wayne Turner, Inspector of Feeds, Fertilizer, Seeds and Pesticides - 207-289-3841

Mr. Turner will devote twenty-five percent of his time to inspecting pesticide products, pesticide producing establishments and pesticide sales outlets.

- g. Joyce B. Beaulieu, Clerk-Typist - 207-289-2215

Mrs. Beaulieu will devote twenty-five percent of her time handling correspondence and filing state registrations for pesticides.

- h. Lorraine M. Gingrow, Clerk-Typist - 207-289-2215

Mrs. Gingrow will devote fifty percent of her time handling correspondence and filing records of certified pesticide applicators.

2. Department of Conservation

- a. Richard E. Barringer, Commissioner - 207-289-2212

Dr. Barringer will devote one percent of his time by serving on the Board.

- b. Fred E. Holt, Director, Bureau of Forestry - 207-289-2791

Director Holt will devote one percent of his time administering Bureau activities associated with certifying arborists.

c. Robley W. Nash, State Entomologist - 207-289-2791

Mr. Nash will devote two percent of his time in certification activities pertaining to arborists.

d. John H. Chadwick, Entomologist - 207-289-2791

Mr. Chadwick will devote three percent of his time by providing informational material to arborists and administering tests for certification.

e. Louis J. Lipovsky, Arborist - 207-289-2791

Mr. Lipovsky will devote three percent of his time by providing informational material to arborists and administering tests for certification.

f. Sara A. Walsh, Secretary - 207-289-2791

Mrs. Walsh will devote three percent of her time by handling correspondence and filing records of certified arborists.

3. Department of Inland Fisheries and Game

a. Maynard F. Marsh, Commissioner - 207-289-2741

Commissioner Marsh will devote one percent of his time by serving on the Board.

b. Lyndon H. Bond, Chief of Fisheries - 207-289-3651

Mr. Bond will devote less than one percent of his time by cooperating on any investigations of fish kills allegedly caused by pesticide contamination.

c. Charles S. Allen, Jr., Chief Warden - 207-289-3371

Mr. Allen will devote less than one percent of his time coordinating the activities of his Department's Game Wardens in enforcing regulations of the Board.

4. Department of Marine Resources

a. Vinal O. Look, Commissioner - 207-289-2291

Commissioner Look will devote one percent of his time by serving on the Board.

- b. Robert B. Dow, Director of Marine Research - 207-289-2291

Mr. Dow will devote one percent of his time by cooperating on any investigations of alleged pesticide contamination of marine life.

5. Department of Transportation

- a. Roger L. Mallar, Commissioner - 207-289-2551

Commissioner Mallar will devote one percent of his time by serving on the Board.

- b. Philip W. Simpson, Chief Aeronautics Inspector - 207-289-3185

Mr. Simpson will devote two percent of his time issuing crop dusting permits and investigating aeronautical violations or incidents.

- c. Theodore M. Stone, Chief Landscape Architect - 207-289-2151

Mr. Stone will devote twenty-five percent of his time directing his Department's highway vegetation management program.

6. Department of Human Services

- a. David E. Smith, Commissioner - 207-289-2736

Commissioner Smith will devote one percent of his time by serving on the Board.

- b. Robert I. Batteese, Jr., Pesticide Project Coordinator - 207-289-2727

Mr. Batteese will devote fifty percent of his time by cooperating with MDA personnel on activities associated with applicator certification. He has assisted in the preparation of new pesticide legislation and this plan, and will continue to assist in writing regulations and a dealer licensing system. He will also be available for helping to prepare state plans for experimental use permits and local use pesticide registrations.

- c. Ernest M. Richardson, Pesticide Residue Analyst - 207-289-2727

Mr. Richardson will devote fifteen percent of his time by operating a pesticide laboratory which will be available to handle enforcement samples

associated with applicator certification. He will also be available to assist in field and epidemiologic investigations that might be required in episodes involving certified applicators.

d. Thomas S. Crosby III, Pesticide Chemist - 207-289-2727

Mr. Crosby is currently employed full time on the Maine Cooperative Pesticide Enforcement Program which is funded by a contract with EPA. His duties include analyzing pesticide formulation and spray tank samples. His services will be available whenever analyses are required for determining if restricted use pesticides were being applied.

7. Department of Environmental Protection

a. William R. Adams, Jr., Commissioner -- 207-289-2811

Commissioner Adams will devote one percent of his time by serving on the Board.

b. Matthew Scott, Chief Aquatic Biologist - 207-289-3527

Mr. Scott will devote five percent of his time considering environmental aspects of aquatic pesticide permit requests and studying the effects of any approved aquatic applications.

8. Public Utilities Commission

a. Leslie H. Stanley, Chairman - 207-289-2424

Chairman Stanley will devote one percent of his time by serving on the Board.

9. Cooperative Extension Service, University of Maine

a. Edwin H. Bates, Director, Winslow Hall, Orono - 207-581-7200

Director Bates will devote less than one percent of his time administering the training activity.

b. Dr. John B. Dimond, Chairman, Entomology Department, Deering Hall, Orono, 207-581-7703

Dr. Dimond will devote one percent of his time administering the training activity.

- c. Arthur Gall, Extension Entomologist, Deering Hall, Orono, 207-581-7703
Mr. Gall will devote fifty percent of his time in planning and presenting the training program. He will be responsible for coordinating the efforts of the various extension crop specialists who will be assisting in training private applicators to become certified to purchase and apply restricted use pesticides.

III. Assurance of Funding

A. Salaries for the majority of personnel to be involved with pesticide applicator certification programs have been funded by the Maine legislature for the 1975-77 biennium. Due to severe economic conditions and a desire not to increase taxes, the legislature never considered the requests for additional positions and state funding for personnel currently hired on federal contracts. The status of these contracts and the associated personnel is as follows:

1. Maine Cooperative Pesticide Enforcement Program

- a. EPA \$65,000 Contract with MDA
- b. Time Period: July 1, 1974 - June 30, 1976
- c. Personnel Funded: Wesley C. Smith, MDA and Thomas S. Crosby, Department of Human Services.

Activities conducted to date have demonstrated the need for continuing this enforcement program in Maine. Upon initiation of our pesticide applicator certification system, these activities will be of even greater importance for determining if restricted use pesticides are being sold or used illegally. Beginning January 1, 1976, a new pesticide registration fee account will be implemented providing partial financing for this work. Funds will again be requested from EPA and the next special session of the Maine legislature to supplement the monies available in the dedicated revenue account.

2. Maine Pesticides Program

- a. EPA \$25,995 Contract with Department of Human Services
- b. Time Period: July 1, 1974 - June 30, 1975, with no-cost extension approved to December 29, 1975, approval of funds pending for one additional year.
- c. Personnel Funded: Robert I. Batteese, Jr. and Ernest M. Richardson.

This program was initiated in 1969 with federal funding which has been renewed annually up to this present time. State monies were used originally for equipping the pesticide laboratory and other small amounts have been provided during the past three years to pay up to one half of the residue analyst's salary. Funds for supplies and equipment have been generated through fees charged to users of the laboratory. Hopefully, the federal funding will be renewed for fiscal year 1976, and during this period, the Maine legislature will recognize the benefits of the Program and assume financial responsibility for it.

IV. Reports

The Commissioner will prepare and submit to the Administrator an annual report by January 30th detailing the activities of the previous calendar year. The report will contain the following information:

- A. Total number of applicators, private and commercial, by category, currently certified; number of applicators, private and commercial, by category, certified during the previous twelve months.
- B. Any changes in commercial applicator subcategories.
- C. A summary of enforcement actions related to use of restricted use pesticides during the last reporting period, showing number and types of actions taken.

- D. Any significant proposed changes in required standards of competency.
- E. Proposed changes in plans and procedures for enforcement activities related to use of restricted use pesticides for the next reporting period.
- F. Any other proposed changes from the State Plan that would significantly affect the state certification program.

The Commissioner will also furnish other reports during the year if requested by the Administrator of EPA.

V. Conformity to Standards - Commercial Applicators

All commercial applicators ^{operating in Maine} are required to be certified in one or more of the eleven categories outlined below which are applicable to their business operations. Successful completion of certification requirements will qualify an applicator to use or supervise use of any pesticides, including those classified by EPA as "restricted use".

Maine will use all 10 major categories described for commercial applicators in 40 C.F.R. 171.3 (b). In addition, Maine requests permission to add an eleventh category to be designated Aerial Pest Control. Maine feels this category is necessary after careful consideration of the potential large scale economic, environmental and health related problems that could result from misuse or other calamity involving aerial application of pesticides. Requiring knowledge of such subjects as nozzle selection, aircraft calibration, droplet size considerations, flagging methods and effects of weather and drift should insure that potential problems associated with aerial application will be minimized. The subcategories listed under both Aerial Pest Control and Agricultural Pest Control are designed to take into account the vastly differing requirements for proper pest control in the specific commodity or environmental situation encountered.

A. Categories of Commercial Applicators

1. Aerial Pest Control

a. Agricultural by Commodity

This category includes aerial applicators using or supervising the use

of pesticides for potato, apple, blueberry, vegetable and grain crops, as well as on non-food crop areas.

b. Forest

This category includes aerial applicators using or supervising the use of pesticides in the management and protection of forests, forest nurseries, and forest seed producing areas.

c. Right-of-Way

This category includes aerial applicators using or supervising the use of pesticides in the management of rights-of-way for public roads, electric power lines, pipelines, railroads or other similar areas.

d. Public Health

This category includes aerial applicators using or supervising the use of pesticides for the management and control of potential disease vectors or other pests having medical and public health importance.

2. Agricultural Pest Control

a. Animal

This category includes commercial applicators using or supervising the use of pesticides on animals and to places on or in which animals are confined. Doctors of Veterinary Medicine applying pesticides as pesticide applicators or in large scale use of pesticides are included in this category; however, these persons applying pesticides as drugs or medication during the course of their normal practice are not included.

b. Potatoes

This category includes commercial applicators using or supervising the use of pesticides in the production of a potato crop.

c. Apples

This category includes commercial applicators using or supervising the use of pesticides in the production of an apple crop.

d. Blueberries

This category includes commercial applicators using or supervising the use of pesticides in the production of a blueberry crop.

e. Vegetables

This category includes commercial applicators using or supervising the use of pesticides in the production of vegetable crops.

f. Grain

This category includes commercial applicators using or supervising the use of pesticides in the production of grain crops.

g. Non-Food Crops

This category includes commercial applicators using or supervising the use of pesticides in the production of forage and industrial crops, and for the management of pastures and other non-food crop areas.

3. Forest Pest Control

a. General

This category includes all commercial applicators practicing forest pest control except for those involved with timber stand improvement by selective use of herbicides.

b. Timber Stand Improvement

This category includes commercial pesticide applicators who selectively treat forest lands with herbicides in such a way as to improve growth conditions for the species being managed.

4. Ornamental and Turf Pest Control

a. Arborists

This category includes commercial applicators using or supervising the use of pesticides on control pests in the maintenance and production of shade and ornamental trees and shrubs.

b. Floral and Turf Specialists

This category includes commercial applicators using or supervising the use of pesticides to control pests in the maintenance and production of ornamental flowers and turf.

5. Seed Treatment

This category includes commercial applicators using or supervising the use of pesticides on seeds.

6. Aquatic Pest Control

This category includes commercial applicators using or supervising the use of pesticides purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in category 9 below.

7. Right-of-Way Pest Control

This category includes commercial applicators using or supervising the use of pesticides in the management of rights-of-way for public roads, electric power lines, pipelines, railroads or similar areas.

8. Structural and Health Related Pest Control

a. Structural Control

This category includes commercial and governmental applicators using or supervising the use of pesticides 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, vehicles, ships, aircraft, and adjacent areas; and for the protection of stored, processed, or manufactured products.

b. Outdoor Rodent Control

This category includes commercial and governmental applicators using or supervising the use of pesticides to control rodents on refuse disposal areas.

9. Public Health Pest Control

a. Biting Fly Pests

This category includes governmental employees using or supervising the use of pesticides in management and control of potential disease vectors or other pests having medical and public health importance, including, but not limited to, mosquitoes, blackflies, midges, and members of the horsefly family.

b. Other Pests

This category includes governmental employees using or supervising the use of pesticides in programs for controlling other pests of concern to public health and safety, including but not limited to ticks, and bird and mammal vectors of human disease. The wide variety of pests which could be included in this subcategory will probably necessitate some restriction of certification based on the species to be controlled.

10. Regulatory Pest Control

This category includes state, federal and other governmental employees who use or supervise the use of pesticides in the control of regulated pests.

11. Demonstration and Research Pest Control

This category includes all individuals who (1) demonstrate to the public the proper use and techniques of application of pesticides or supervise such demonstration, and (2) conduct field research with pesticides, and in doing so, use or supervise the use of restricted use pesticides. Individuals who conduct only laboratory type pesticide research are not included.

Appendix H contains a table outlining the eleven categories for commercial applicators, the subcategories where designated, the number of companies and

agencies currently licensed and an estimate of the number of people who will be requesting certification.

B. Standards of Competency

All commercial applicators will be required as a condition of certification to demonstrate by written examination in their appropriate language competence in the general standards and those specialty categories for which application is made.

1. General Standards of Competency for All Categories of Commercial Applicators

All commercial applicators will demonstrate practical knowledge of the principles and practices of pest control and safe use of pesticides. Testing will be based on examples of problems and situations applicable to all categories and subcategories, and will include the following areas of competency:

a. Label and Labeling Comprehension

- (1) The general format and terminology of pesticide labels and labeling.
- (2) The understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
- (3) Classification of the product, general or restricted.
- (4) Necessity for use consistent with the label.

b. Safety

- (1) Factors including pesticide toxicity and hazard to man and common exposure routes.
- (2) Common types and causes of pesticide accidents.
- (3) Precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
- (4) Need for, use and care of protective clothing and equipment, including respirators.

- (5) Signs and symptoms of pesticide poisoning.
- (6) First aid and other procedures to be followed in case of a pesticide accident, including spills.
- (7) Proper identification, storage, transport, handling, mixing procedures and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

c. Environment

The potential environmental consequences of the use and misuse of pesticides as may be influenced by such factors as:

- (1) Weather and other climatic conditions.
- (2) Types of terrain, soil or other substrate.
- (3) Presence of nontarget organisms, including fish and wildlife.
- (4) Drainage patterns.

d. Pests

Factors such as:

- (1) Common features of pest organisms and characteristics of damage needed for pest recognition.
- (2) Recognition of relevant pests.
- (3) Pest development and biology as it may be relevant to problem identification and control.

e. Pesticides

Factors such as:

- (1) Types of pesticides.
- (2) Types of formulations.
- (3) Compatibility, synergism, persistence and animal and plant toxicity of the formulations.

- (4) Hazards and residues associated with use.
- (5) Factors which influence effectiveness or lead to such problems as resistance to pesticides.
- (6) Dilution procedures.

f. Equipment

Factors including:

- (1) Types of equipment and advantages and limitations of each type.
- (2) Uses, maintenance and calibration.

g. Application techniques

Factors including:

- (1) Methods of procedure used to apply various formulations of pesticides, such as dusts, wettable powders, emulsions, solutions, and gases, together with a knowledge of which technique of application to use in a given situation.
- (2) Relationship of discharge and placement of pesticides to proper use, unnecessary use, and misuse.
- (3) Prevention of drift and pesticide loss into the environment.

h. Laws and Regulations

- (1) Understanding of the state and federal laws concerning pesticide use.
- (2) Understanding of BPC regulations concerning pesticide use.

2. Specific Standards of Competency for Each Category of Commercial Applicator

In addition to the general standards, referenced above, commercial applicators in each category shall be particularly qualified with respect to the practical knowledge standards elaborated below:

a. Aerial Pest Control

The MDA will depend upon the Federal Aviation Agency to determine the aeronautical competence of spray pilots and the airworthiness of their ships. Applicators will be required to demonstrate knowledge of

problems which are of special significance in aerial application of pesticides. Among the subjects involved will be weather and drift, chemical dispersal equipment, tank, pump and plumbing arrangements, nozzle selection and location, and ultra-low volume systems. In addition, aerial applicators will need a practical working knowledge of aircraft calibration, field flight patterns, droplet size considerations, flagging methods, and loading procedures.

Above and beyond these category requirements, the aerial applicator will be responsible for information on the specialty categories in which he proposes to work, such as agricultural, forestry, etc.; this information is described in the sections immediately following.

b. Agricultural Pest Control by Commodity

(1) Animals

Applicators applying pesticides directly to animals must demonstrate practical knowledge of such animals and their associated pests. A practical knowledge is also required concerning specific pesticide toxicity and residue potential since host animals will frequently be used for food. The applicator must know the relative hazards associated with such factors as formulation, application techniques, age of animals, stress and extent of treatment.

(2) Crops

Applicators must demonstrate practical knowledge of the crops grown and the specific pests of those crops on which they may be using restricted use pesticides. The importance of such competency is amplified by the extensive areas involved, the quantities of

pesticides needed, and the ultimate use of many commodities as food and feed. Practical knowledge is required concerning soil and water problems, preharvest intervals, reentry intervals, phytotoxicity, and potential for environmental contamination, nontarget injury and community problems resulting from the use of restricted use pesticides in agricultural areas. Further, they should demonstrate an understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.

c. Forest Pest Control

(1) General

Applicators shall demonstrate practical knowledge of the types of forest, forest nurseries, and seed production areas and the pests involved. They should possess practical knowledge of the occurrences of certain pests and their population dynamics as a basis for programming pesticide applications. They should demonstrate an understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods. Because forests may be large and frequently include aquatic habitats and harbor wildlife, the consequences of pesticide use may be difficult to assess. The applicator must therefore demonstrate practical knowledge of control methods which will minimize the possibility of secondary problems such as unintended effects on nontarget organisms. Proper use of specialized equipment must be demonstrated, especially as it may relate to meteorological factors and adjacent land use.

(2) Timber Stand Improvement

Applicators shall demonstrate practical knowledge of forest types and of the rationale behind timber stand improvement (TSI). They should demonstrate an understanding of the methods of TSI, and the reason for selecting one control method over another (e.g. chemical versus mechanical). Because forests contain many and diverse habitats, TSI workers must demonstrate knowledge of the effects of their work upon wildlife species and the general aesthetics of wooded areas.

d. Ornamental and Turf Pest Control

(1) Arborists

Applicators shall demonstrate practical knowledge of pesticide problems associated with the production and maintenance of ornamental trees and shrubs, including cognizance of potential phytotoxicity due to a wide variety of plant material, drift, and persistence beyond the intended period of pest control. Because of the frequent proximity of human habitations to application activities, applicators in this category must demonstrate practical knowledge of application methods which will minimize or prevent hazards to humans, pets and other domestic animals.

(2) Floral and Turf

Applicators shall demonstrate practical knowledge of pesticide problems associated with the production and maintenance of plantings and turf, including cognizance of potential phytotoxicity due to a wide variety of plant material, drift, and persistence beyond the intended period of pest control. Because of the frequent proximity of human habitations to application activities, applicators in this category must demonstrate practical knowledge of

application methods which will minimize or prevent hazards to humans, pets and other domestic animals.

e. Seed Treatment

Applicators shall demonstrate practical knowledge of types of seeds that require chemical protection against pests and factors such as seed coloration, carriers, and surface active agents which influence pesticide binding and may affect germination. They must demonstrate practical knowledge of hazards associated with handling, sorting and mixing, and misuse of treated seed such as introduction of treated seed into food and feed channels, as well as proper disposal of unused treated seeds.

f. Aquatic Pest Control

Applicators shall demonstrate practical knowledge of proper methods of application and a recognition of the effects which can be caused by improper application rates, incorrect formulations, and faulty application of restricted use pesticides used in this category. They shall demonstrate practical knowledge of various water use situations and the potential of downstream effects. Further, they must have practical knowledge concerning the causes of oxygen depletion and concerning potential pesticide effects on plants, fish, birds, beneficial insects and other organisms which may be present in or dependent on the aquatic environment. These applicators shall demonstrate practical knowledge of the principles of limited area application.

g. Right-of-Way Pest Control

Applicators shall demonstrate practical knowledge of a wide variety of environments since rights-of-way can traverse many different terrains, including waterways. They shall demonstrate practical knowledge of problems of runoff, drift, and excessive foliage destruction and ability to recognize target organisms. They shall also demonstrate practical knowledge of the nature of herbicides and the need for containment of these pesticides within the right-of-way area, and the impact of their application activities on the adjacent areas and communities.

h. Structural and Health Related Pest Control

(1) Structural

Applicators must demonstrate a practical knowledge of a wide variety of pests including their life cycles, as well as types of formulations appropriate for their control and methods of application that avoid contamination of food, damage and contamination of habitat, and exposure of people and pets. Since human exposure, including babies, children, pregnant women and elderly people, is frequently a potential problem, applicators must demonstrate practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. Because health related pest control may involve outdoor applications, applicators must also demonstrate practical knowledge of environmental conditions particularly related to this activity.

(2) Outdoor Rodent Control

Applicators must demonstrate some basic knowledge of the habits and biology of rodents living on or in the immediate vicinity of refuse disposal areas. Knowledge of the chemicals used for control of these animals will also be required, as well as an understanding of proper application methods and special precautions required in order to minimize exposure on the part of humans, pets, and nontarget wildlife.

(3) Biting Fly

Commercial applicators shall demonstrate practical knowledge of nuisance species and of vector-disease transmission and disease reservoirs as they relate to and influence the use of pesticides. Since a wide variety of pests and reservoir hosts are involved, it is essential that they be known and recognized, and appropriate life cycles and habitat be understood as a basis for control strategy. These applicators shall have practical knowledge of the great variety of habitats in which nuisance species and reservoir hosts of public health importance are found. They shall also have practical knowledge of the importance and employment of such nonchemical control methods (e.g., dredging, drainage, etc.) as are appropriate to particular situations.

(4) Other

Commercial applicators shall demonstrate practical knowledge of nuisance species and of vector-disease transmission and disease reservoirs as they relate to and influence the use of pesticides. Since a wide variety of pests and reservoir hosts are involved, it is essential that they be known and recognized, and appropriate life cycles and habitat

be understood as a basis for control strategy. These applicators shall have practical knowledge of the great variety of habitats in which nuisance species and reservoir hosts of public health importance are found. They shall also have practical knowledge of the importance and employment of such nonchemical control methods (e.g., exclusion, trapping, shooting) as are appropriate to particular situations; this will be of particular importance to those involved in the control of vertebrate nests.

i. Public Health Pest Control

(1) Biting Fly

Governmental employees in this category shall demonstrate practical knowledge of nuisance species and of vector-disease transmission and disease reservoirs as they relate to and influence the use of pesticides. Since a wide variety of pests and reservoir hosts are involved, it is essential that they be known and recognized, and appropriate life cycles and habitat be understood as a basis for control strategy. These applicators shall have practical knowledge of the great variety of habitats in which nuisance species and reservoir hosts of public health importance are found. They shall also have practical knowledge of the importance and employment of such nonchemical control methods (e.g., dredging, drainage, etc.) as are appropriate to particular situations.

(2) Other

Governmental employees in this category shall demonstrate practical knowledge of nuisance species and of vector-disease transmission and disease reservoirs as they relate to and influence the use of

pesticides. Since a wide variety of pests and reservoir hosts are involved, it is essential that they be known and recognized, and appropriate life cycles and habitat be understood as a basis for control strategy. These applicators shall have practical knowledge of the great variety of habitats in which nuisance species and reservoir hosts of public health importance are found. They shall also have practical knowledge of the importance and employment of such non-chemical control methods (e.g., exclusion, trapping, shooting) as are appropriate to particular situations; this will be of particular importance to those involved in the control of vertebrate pests.

j. Regulatory Pest Control

Applicators shall demonstrate practical knowledge of regulated pests, applicable laws relating to quarantine and other regulation of pests, and the potential impact on the environment of restricted use pesticides used in suppression and eradication programs. They shall demonstrate knowledge of factors influencing introduction, spread, and population dynamics of relevant pests.

k. Demonstration and Research Pest Control

Individuals demonstrating the safe and effective use of pesticides to other applicators and the public will be expected to meet comprehensive standards reflecting a broad spectrum of pesticide uses. Many different pest problem situations will be encountered in the course of activities associated with demonstration, and practical knowledge of problems, pests, and population levels occurring in each demonstration situation is required. Further, they should demonstrate an understanding of pesticide-organism interactions and the importance of integrating pesticide use with other

control methods. In general, it will be expected that applicators doing demonstration pest control work possess a practical knowledge of pesticides and pesticide safety at the "core" level detailed in the "General Standards" section. In addition, they shall meet the specific standards required for the categories of this section as may be applicable to their particular activity.

Persons conducting field research or method improvement work with restricted use pesticides should be expected to know the general standards detailed above. In addition, they shall be expected to know the specific standards required for categories of this section applicable to their particular activity, or alternatively, to meet the more inclusive requirements listed under "Demonstration".

3. Standards for Supervisor of Non-Certified Applicators

Individuals who are certified applicators and whose activities indicate a supervisory role must demonstrate a practical knowledge of federal and state supervisory requirements, including labeling, regarding the application of restricted use pesticides by non-certified applicators. The availability of the certified applicator will be directly related to the hazard of the situation. In many situations where the certified applicator is not required to be physically present "direct supervisor" will include verifiable instruction to the competent person, such instruction to include detailed guidance for applying the pesticide properly, and provisions for contacting the certified applicator in the event he is needed. In other situations, or as required by the label, the actual physical presence of a certified applicator will be required when application is made by a non-certified applicator.

4. Examinations and Procedures for Certifying Commercial Applicators

Upon implementation of the pesticide applicator certification system, all commercial applicators will be notified that they must become certified if they plan to continue operations in Maine. Individuals wishing to be certified must register by mail or in person with the BPC in Augusta and at that time indicate categories for which they wish to be certified. If they desire, they will be provided with a copy of the Northeastern Regional Pesticide Coordinators Core Manual to be used as a home study guide in preparing for the General Standards Test. They will also be supplied with home study manuals (as yet undeveloped) for the specialty categories in which they wish to be qualified.

The examinations will be given in Augusta on two or three dates to be specified. A minimum of three weeks study time will be available between the last day of the registration period and the first date for testing. The General Standards Test will be a closed book exam while the Specialty Categories Tests will be open book exams. These examinations have not been completely prepared but sample questions of the true and false and multiple choice types are provided in Appendices I and J. EPA will be notified when the questions have been prepared and a copy or a sample equivalent to 20 percent of the questions covering major areas of knowledge will be submitted for inclusion with Maine's State Plan. Personnel from the Pesticides Control Board, MDA, will administer all the examinations, with the exception that the Bureau of Forestry will handle both the General Standards and Specialty categories examinations for arborists. Persons failing to attain a yet to be determined passing grade on the examinations will be required to wait thirty days before reapplying to take the test. No one will be allowed to retake a given examination more than three times in a calendar year. If many are found to fail the General Standards Test, the MDA will arrange with CES to present a one day class on the material contained in the Core Manual.

5. Description of Current Licensing Program

The State of Maine, through the BPC, has operated a licensing system for custom (commercial) pesticide applicators since 1966. This system requires that each firm have at least one licensed individual, such individual to be responsible for any pesticide use within the state. In addition, the Board may require that additional members of a firm be licensed, as it deems necessary. For licensing, the Board requires that a written examination be taken, a fee of \$10.00 per firm be paid, and the company is required to show evidence of financial responsibility (liability insurance). If an individual holds a current license in another state with requirements equal to or more stringent than Maine's, the examination may be waived. A copy of any agreement for reciprocity with another state will be forwarded to EPA within 30 days after execution and will be incorporated into the State Plan.

VI. Conformity to Standards - Private Applicators

A. Number

An estimated 2,275 private applicators may need certification in this state. The exact number will depend upon which pesticides are included on the restricted use list, and could be much larger.

B. Competency Standards

A private applicator wishing to be certified must possess a practical knowledge of pest problems and control practices associated with his agricultural operations, proper storage, use, handling and disposal of pesticides and containers, and an understanding of laws and regulations relating to his use of pesticides. This knowledge should include the ability to:

1. Recognize common pests and their damage.
2. Read and understand labels and labeling information including the commonly used name of pesticides he has applied, pests controlled, timing and methods of

- application, safety precautions, any pre-harvest or re-entry restrictions, any specific disposal directions, and any specific hazards to the environment.
3. Apply pesticides as directed in labeling, including preparation of the proper concentration, and taking into consideration such factors as area to be treated, speed equipment will be driven, and quantity dispersed per unit of time.
 4. Recognize local environmental situations to be considered to avoid contamination of adjacent crops, water, wildlife, or other features.
 5. Recognize poisoning symptoms and to follow proper procedures in case of a pesticide accident.

C. Certification

All private applicators wishing to become certified to use restricted use pesticides will be required to either complete an approved training course, such completion to be verified by an agent of the MDA, or to pass an examination demonstrating satisfactory knowledge of the requirements described in Section V-C-2 above. The planned, small group training sessions should provide for a meaningful exchange of information between instructors and participants. For example, there should be ample opportunity through the question and answer process to determine the student's grasp of basic concepts and to correct erroneous impressions.

The CES will begin holding training sessions after December 1, 1975, to help prepare growers for certification. These sessions will be held in communities throughout the state so that educational assistance will be readily available to anyone desiring it. The Northeast Regional Pesticide Coordinators Core Manual will be utilized in this training effort along with CES Information Sheets for specific crops and pests. Training formats may vary from group to group, but classes will be conducted approximately as follows. A meeting will be held on the first day

of training when growers will register, receive their manuals, listen to a description of the objectives of the session, and view a film on pesticide safety. This meeting is anticipated to last up to two hours. A period of several weeks will then be provided for people to study their educational materials prior to the next meeting. The second session will include slide sets, films and lectures for the purpose of reviewing information contained in the manuals, and will take up to 6 hours. This would be followed by a question and answer period for both purposes of review and assessment and for answering questions of a specialized nature. In some situations, CES may deem it desirable to present the entire course in one day. In either case, a verifiable list of participants in attendance will be provided to the MDA by CES, or will be developed by MDA agents present at the course.

Persons feeling knowledgeable about pesticide laws and safety may elect not to attend the training sessions, but take a written examination covering the topics described above in Section V-C-2. All testing will be administered by agents of MDA. Individuals who fail under these circumstances will be required to attend a training session.

D. Certification of Private Applicators Unable to Read

Estimates indicate that there will be relatively few applicants for certification who cannot read in this state. Thus, MDA personnel will be able to provide individual attention to such people.

Certification will, however, be limited to the use and handling of a particular pesticide or class of chemicals in which the person can demonstrate competence. The person will have to be able to identify the container stored among other pesticides and will have to demonstrate that he knows the information contained on the label. This means he must know the common name of the chemical, the pests

to be controlled, the timing and methods of application, safety precautions, any pre-harvest or re-entry restrictions, any specific disposal procedures and any specific hazards to the environment. The person must also identify another qualified individual from whom he can seek advice and guidance necessary for the safe and proper use of each pesticide related to his certification.

E. Current Programs for Private Applicators

Under existing laws, private applicators are specifically exempt from licensing requirements.

VII. Conformity to Standards - Miscellaneous Considerations

A. At present no special state standards are anticipated. As certification procedures are implemented, the necessity for special standards may become apparent. Special state standards would be reported to the Administrator, EPA, by the Commissioner. Certified applicators subject to these new special standards would be required to have additional training.

B. Credentials

A sample of the credentials to be issued to all certified private and commercial applicators is included in Appendix K. These credentials will have to be presented to licensed pesticide dealers in order to purchase restricted use pesticides. Essential information will include, but not be limited to the following: name, signature, address, certificate number, category(s) or subcategory(s) covered by certification, any limitations on right to purchase, possess or apply restricted use pesticides, and expiration date of the certificate.

C. Government Agency Plan (GAP)

Federal applicators qualifying in accordance with the Government Agency Plan will be considered certified with respect to Maine Department of Agriculture requirements.

D. Applicators on Indian Reservations

Not applicable in Maine .

E. Reciprocity with Other States

In Section 1471-D (10) of the new Board of Pesticides Control Law (Appendix G), the Board is given authority to waive state certification requirements for applicators certified by other states with substantially the same standards, and to establish regulations and procedures for formalizing such arrangements on a reciprocal basis. Since state standards for certification must conform and be at least equal to those established by EPA, reciprocity agreements should not be difficult unless more restrictive or special standards are included in the plans of some states. Reciprocal agreements will be reported to EPA by the Commissioner as they become available.

F. Other Pesticide Regulatory Activities

The legislation (Appendix G) enacted in support of this plan authorizes the Board to promulgate regulations to control the distribution and use of restricted use pesticides, including the certification of commercial and private applicators. This legislation also gives the Board authority to prosecute violators in court and to suspend or revoke certifications. It should perhaps be noted that in the special case of arborists, who will be licensed under the terms of a cooperative agreement with the Bureau of Forestry (Appendix A), suspension or revocation of a certificate or license issued by either the BPC or the Bureau of Forestry would void any spray license issued by the other agency. An arborist who had lost his license to spray would not, however, be barred from continuing other arboricultural activities, such as pruning or tree cavity work.

VIII. Pesticide Accident Reporting

While not ready for full implementation, the importance of this phase of pesticide control is recognized. As progress is made in this area, the authority provided in the new Board of Pesticides Control Law, Section 1471-M, 1. E. (Appendix G) may be

invoked and a plan for reporting pesticide episodes to the Pesticide Episode Review System (PERS) could then be developed.

IX. Maintenance of State Plan

The BPC has authorization to promulgate whatever regulations might be necessary to maintain this state plan. Inspectors from MDA and BPC will be making spot checks of pesticide usage in the field and sales at dealers' premises to ensure compliance with the regulations. Wardens of the Department of Inland Fisheries and Wildlife will also continue to investigate misuses of pesticides having environmental significance. As in the past, the CES on its own and in cooperation with the many organizations whose membership includes both commercial and private applicators will continue its leadership role in providing new information. Conferences, lectures, lecture-demonstrations at meetings, films, slide sets, printed pest control guides, and other printed material will be used in a continuing effort to keep pesticide users abreast of the latest developments concerning pesticides and their uses. Commercial pesticide applicators will be required to renew their license annually by registering with the BPC and paying a fee. Re-examinations may be required at some later date when and if the BPC decides that advances in technology or some other circumstance necessitates such a course of action. In the meantime, commercial applicators will be required to attend trade meetings of the type conducted by the National Pest Control Association or the Northeast Aerial Applicators Association. If there are groups of commercial applicators in the state who do not belong to a professional organization having such meetings, the BPC and/or CES could organize and present seminars at appropriate intervals where these persons would be exposed to the latest technical information concerning pesticides in their respective fields. All private applicators will be required to renew their certification every two years. The BPC will notify growers six months in

advance of their expiration date: so they may make arrangements to attend appropriate sessions. These applicators will then be recertified upon presentation of proof that they have attended an approved training session, grower meeting or other approved educational program.

Once the applicator certification system is functioning, new entries into the commercial field of pesticide application will be required to register with the BPC and take the appropriate examinations. Home study manuals will be available to those desiring them. Persons wishing to become certified as private applicators will follow the procedures outlined above since certification courses will be offered each year by CES.

As the certification system is implemented, the BPC may recognize the need for changes in the procedures outlined in this plan. In this event, the Commissioner of MDA will so advise the EPA Administrator, and will request his approval for any substantial modifications which may be contemplated.

A P P E N D I C E S

- A - Memorandum of Agreement - Bureau of Forestry and MDA
- B - Memorandum of Agreement - MDA and CES
- C - Intrastate Agreement - Board Signatures
- D - Legal Opinion
- E - Maine Pesticide Registration Statute
- F - Maine Pesticide Use Statute (Current)
- G - Maine Pesticide Use Statute (Newly Passed)
- H - Commercial Applicator Categories
- I - Sample Examination Questions - General Standards Test
- J - Sample Examination Questions - Commercial Applicators - Specialty Categories
- K - Sample Examination Questions - Arborists' Test
- L - Credentials for Certified Applicators
- M - Regulations of the Pesticides Control Board