



1997 Report to AAPCO - Spring Meeting

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PESTICIDE REGULATION AND PESTICIDE EDUCATION

Mary L. Grodner, Ph.D.
Pesticide Coordinator
LSU Agricultural Center
Cooperative Extension Service
P. O. Box 25100
Baton Rouge, LA 70894-5100

Thank you for asking me to address you as a representative of AAPSE. AAPSE and AAPCO are in a partnership to promote pesticide safety. To the members of AAPSE, Pesticide Safety means several things, *viz.*, always understanding and practicing Integrated Pest Management, applying pesticides effectively (carefully, following all label directions), and applying pesticides safely in order to protect human and environmental health. We, the members of AAPSE are firmly committed to the goal of every applicator applying pesticides practicing all aspects of pesticide safety.

The author James Thurber said, "It is better to know some of the questions than all of the answers." I come today with a large number of questions and a few suggested answers.

Regulations are not usually anticipatory or preventative, they are usually reactive or responsive or curative. I would like to share some thoughts about regulations and education with you, in sort of a historical overview.

We humans have no divine right to our food supply nor to an environment free from disease transmitting organisms, or to a pleasant life. We have to fight for them. Since humans started practicing agriculture and trying to store food for future use, it has been a fight to protect our "bed and board" from the ravages of insects and other vermin.

As long ago as 7000 BC the people of Jericho cultivated a grain related to wheat and they also domesticated goats, pigs, and gazelles. The inhabitants of Northern Thailand at that time had domesticated beans, peas, gourds, and water chestnuts. At this same time Mexico had domesticated pumpkins and gourds. In the Near East the people were practicing irrigation, planting nitrogen fixing crops, and building silos and granaries.

However the first record of pesticide use is not until 1200 BC when it is recorded that Biblical Armies sowed the fields of the conquered with salt and ashes. Therefore, a non-selective pre-emergent herbicide is the first recorded use of a pesticide. In 1000 BC Homer refers to the use of sulfur in fumigation and other forms of pest control. The Greek philosopher, Pliny the Elder, in the First Century AD wrote *Natural History* in which he recorded all the methods of pest control used up to that time. Included was the use of gall from the green lizard to protect apples from worms and rot. The Chinese were using arsenic to control garden insects in 900 AD. Marco Polo wrote in 1300 AD of using mineral oil against mange of camels. The Black Death epidemic occurred in Europe during the years 1348 - 1396 AD, this disease is transmitted by the rat flea but that was not known by the population and in some areas two out of every three people in some communities died. It has been estimated that Arthropod transmitted diseases have killed more people than **all** wars.

With a sword at his neck, King John of England signed the Magna Carta in June 1215 AD but it was not until 1265 AD that the first Parliament was elected. Prior to the election of a Parliament, Guilds made the rules necessary for a civilized society, in about 1236 AD a rule was passed that forbade the addition of anything to the food supply which was "not wholesome." This is probably the first rule regulating the food supply, especially food additives.

Some other dates, which are significant in the history of the development and regulation of pesticides, are:

1649	Rotenone used to paralyze fish in South America (an easy way to have a fish fry and invite all your friends!)
1690	Tobacco extracts were used as contact insecticides (the forerunner of nicotine sulfate?)
1800	Persian louse powder (pyrethrum) known to the Caucasus (Napoleon must not have known about it or else he would have used it in his siege of Moscow in 1812, history could have been drastically changed if he could have protected his troops from body lice!).
1858	Pyrethrum first used in the U. S.
1867	Paris Green first used as an insecticide.
1883	Millardet discovered the value of the Bordeaux mixture in France (for the control of downy mildew on grapes).
1896	Copper sulfate used to selectively kill weeds in grain fields.
1905	Upton Sinclair's novel, <u>The Jungle</u> was published, an expose of the abuses in the meat packing industry. (There were many abuses in all aspects of the food industry at that time, not just the meat packing industry. There were reports of arsenic being used to keep canned green beans greens and formaldehyde being added to milk as a preservative which gave the milk a bluish color.)
1906	Passage of the Pure Food Law (Federal Food, Drug, and Cosmetic Act). Passage of this Act was, in large measure, a response to the publication of <u>The Jungle</u> . It said that food (fresh, canned, or frozen) shipped in interstate commerce must be wholesome.
1910	Passage of the Federal Insecticide Act which mainly protected the farmer from substandard or fraudulent products.
1921	Airplane first used for spreading insecticide dust for the control of the catalpa sphinx at Troy, Ohio.
1922	First aerial application of an insecticide to cotton, Tallulah, LA. (Company eventually became Delta Airlines).
1938	Amendments to the Pure Food Law (FFDCA) provided for coverage of pesticides on food, primarily the arsenicals such as lead arsenate and Paris Green. It required that color be added to the formulations to prevent their misuse and <i>set tolerances for pesticide residues, viz., arsenic and lead</i> , in food where these materials were necessary for production of a food supply.

1939	DDT discovered to have insecticidal qualities by Paul Muller in Switzerland. (It had been first synthesized in 1873 by a German graduate student - Oh! The life of a graduate student!) Muller received a Nobel Prize.
1942	First batch of DDT shipped to the U. S. for experimental use.
1942	Introduction of 2,4-D, the first of the hormone (or phenoxy) herbicides.
1947	The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA = Future Income for Regulatory Attorneys?) becomes law, since this time all pesticide products (not just insecticides) have been subject to Federal regulations. Among other things, it required all pesticides to be registered with the U. S. Department of Agriculture.
1954	Passage of the Miller Amendment to the Federal Food, Drug, and Cosmetic Act (FFDCA), which set tolerances for all pesticides, not just lead and arsenic, on raw food and feed products.
1958	Passage of the Delaney Amendment to the FFDCA, provided that a chemical shown to cause cancer in animals or man could not be added to the food supply.
1959	FIFRA (1947) was amended to include <u>all economic poisons</u> , <i>i.e.</i> , desiccants and nematocides.
1962	Publication of <u>Silent Spring</u> by Rachel Carson. (A book whose time had come!)
1970	Formation of the Environmental Protection Agency (EPA), which becomes responsible for the registration of pesticides (instead of the USDA).
1972	Passage of the Federal Environmental Pesticide Control Act (FEPCA or FIFRA amended.) These amendments to FIFRA broadened Federal regulatory authority by making the "label the law." They also required the certification of applicators in order to use Restricted Use Pesticides (RUPs), <i>i.e.</i> , the applicator must demonstrate competence in order to buy, use, or supervise the use of RUPs. The amendments also authorized EPA to provide regulations to carry out FIFRA. In essence, these amendments changed the emphasis of FIFRA from product performance to human and environmental safety

It has been said, perhaps by Victor Hugo, that nothing is as strong as an idea whose time has come ó please note that two of the most significant pieces of legislation were enacted by Congress after the publication of two books. The Federal Food Drug and Cosmetic Act was passed in 1906 after the publication of Upton Sinclair's novel, The Jungle (in 1905) and the formation, in 1972, of the Environmental Protection Agency after the publication of Silent Spring in 1962.

There followed additional amendments to and "fine-tuning" of FIFRA in 1978, 1988, and 1996 (Food Quality Protection Act). And, here we are in 1997 and there are individuals "out there" who have little or no respect for these chemicals. These people still haven't gotten the message or choose to ignore the regulations.

Regulations are not a product of 20th Century American government ó check and reread the first five books of the Bible. The total life of the early Hebrew was almost totally circumscribed by, in some instances, very severe regulations.

Regulations are not usually anticipatory but are responsive to some problem, perceived or an actual occurrence. The story is told that when "Bear" Bryant started coaching football the NCAA rule book was a very slim volume but by the time he retired it had grown to be quite a tome ó most of the

regulations written to forbid something he did. It was not illegal when he did it but everyone thought it should be so they wrote a rule against whatever he had done. (I suppose if he had been a losing coach, no one would have cared!)

However, let me offer you this thought ó education is a much less invasive and much more cost effective solution to problems than regulations are. People being human, however, are, by their very nature, imperfect organisms and sometimes it takes more than an idea to get their attention. Therefore, there are times when we need regulations and an enforcement agency. However, **we cannot solve all of our problems by regulations alone, we need a strong educational program!**

We, the members of AAPSE, are educators and are firmly committed to a full Pesticide Education Program, in which Pesticide Applicator Training plays but one role. Let me reiterate some of the points I made last year . . .

As the English author Francis Bacon said, "He that will not apply new remedies must expect new evils, for time is the greatest innovator."

Pesticide Applicator Training may have begun as an EPA program, but it is no longer just an EPA program nor is it just applicator training in order to use RUPs. It has become an Extension program and has evolved onto a broad-based pesticide education program and deserves to be recognized as such, involving homeowners and other consumers, *i.e.*, the Master Gardener program and Urban Pest Control/Management Program. There are a large number of non-ag categories with which we are involved, *viz.*, Right-of-Way & Aquatic Pest Control, Public Health Pest Control, Ornamental & Turf as well as Structural Pest Control (including in some states, school employees). We also deliver a pesticide educational program to the public through, for example, service clubs, 4-H Clubs, and Homemakers. We can deliver a quality educational program to the inner city and the lower socio-economic segment of society which is often overlooked through the Extension Service's Expanded Foods & Nutrition Extension Program.

It is our belief that this program - the Pesticide Education Program - reaches more adult individuals than any other single Extension program, either through workshops, conferences, *etc.*, sponsored by the Extension Service for the purpose of certification or recertification or through the use of educational materials developed and published by Extension or by individuals trained by Extension. Without this program production agriculture and human & environmental health would suffer. We must continue the program to assure responsible pesticide use by all segments of society and it deserves to be funded at a level which makes this possible!

The Pesticide Education Program **should** and **must** be a joint effort by the Environmental Protection Agency, the U.S. Department of Agriculture, the State Lead Agencies, and the Cooperative Extension Services. In spite of significant downsizing, the Cooperative Extension Services still reaches into every county in the U.S. and, I dare say, with some effort we can reach into "every nook and cranny" of the U.S.

We would like for all divisions of the EPA and the USDA, when they think "education," that they will automatically think of the Certification & Training Program (not that I am trying to overwhelm you, Cathy & John). We are first and foremost **educators!**

It is my sincere belief, and I think the members of AAPSE also, that all persons who work closely with the natural resources of this country and this includes anyone in any aspect of production agriculture (I daresay say everyone in this room) share an absolute awesome wonder of the natural world and consider the conservation and preservation of this natural world a high priority. The same can be said for the protection of public health.

We believe we need to use agricultural chemicals to produce the food and fiber necessary to feed, clothe, and house the ever expanding human population. However, we seem to be opposed by a group which does not believe us ó they believe that food and fiber can be produced without any help from farmers. They obviously accept without question the quote from the Gospel of Mark in the Christian Bible. It is found in Mark 4:26-29 ó " . . . A man scatters seed on the ground; he goes to bed at night and gets up in the morning, and meanwhile the seed sprouts and grows ó how, he does not know. The ground produces a crop by itself, first the blade, then the full ear, then full grain in the ear; ..."

American Association of Pesticide Safety Educators (AAPSE)

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Submit Comments or Suggestions to: mweaver@vt.edu

URL: <http://www.vtpp.ext.vt.edu:1080/mg97.html>

