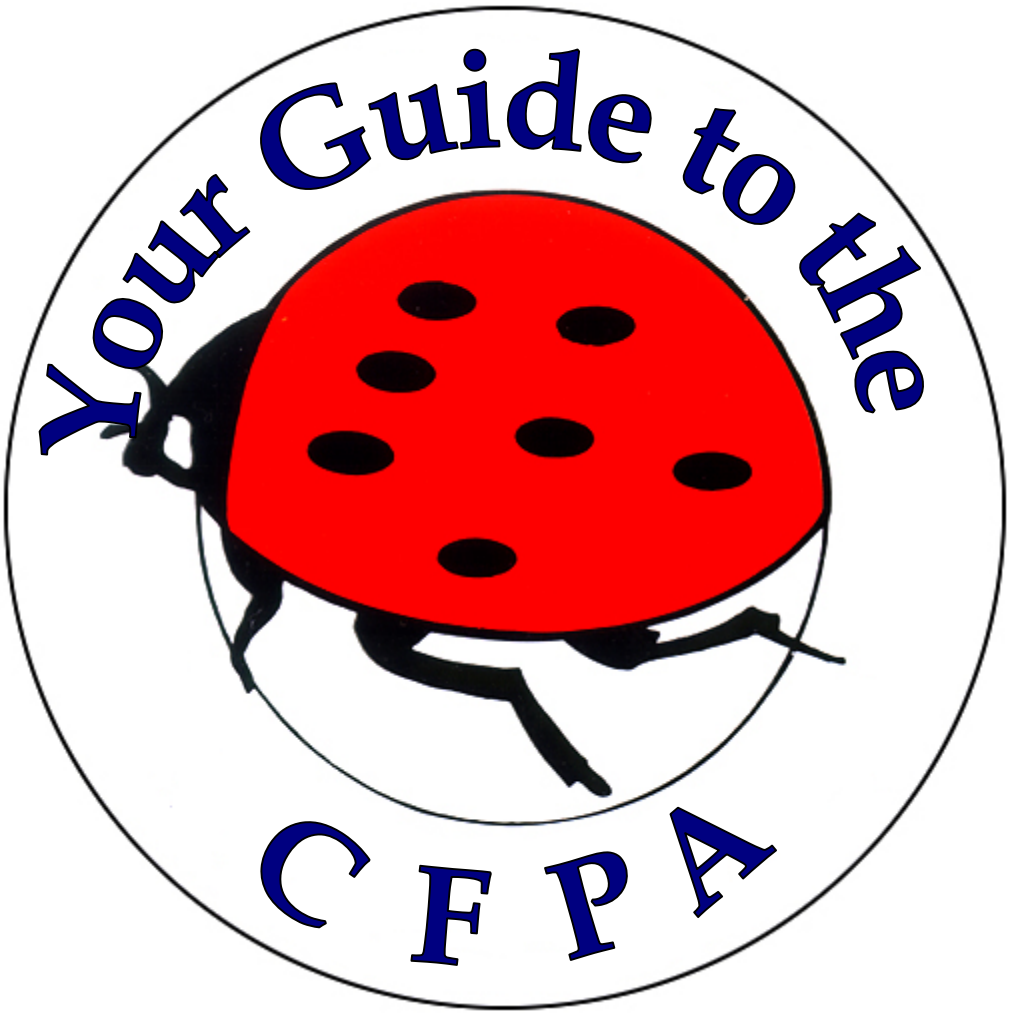
# THE CHILDREN'S AND FAMILIES' PROTECTION ACT

## Implementation Guide




## A Citizens Guide to Ensure Pesticide Use Reduction in Massachusetts

# Citizens' Guide:

## Implementing the Children and Families' Protection Act to Reduce Pesticide Exposure in Massachusetts Schools

A Report by Toxics Action Center

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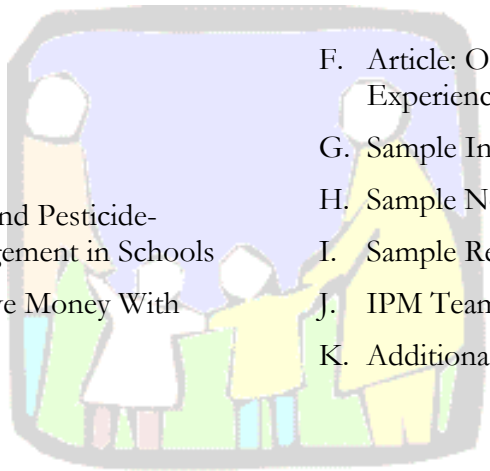


# AN ACT TO PROTECT CHILDREN AND FAMILIES FROM HARMFUL PESTICIDES

## Introduction

In May 2001, Massachusetts governor Paul Cellucci signed into law "An Act to Protect Children and Families from Harmful Pesticides" positioning Massachusetts at the forefront of a national movement to reduce children's exposure to harmful pesticides. The Children and Families' Protection Act (CFPA) falls under the regulatory jurisdiction of the Massachusetts Department of Food and Agriculture and affects all private and public schools, day care centers, and school-aged childcare programs. The main provisions of the law fall under three general themes: restricting pesticide use, honoring the public's right-to-know, and incorporating safer, non-toxic alternative methods of pest management. A copy of the actual legislation can be found in the appendix of this guide.

## The Purpose of this Guide

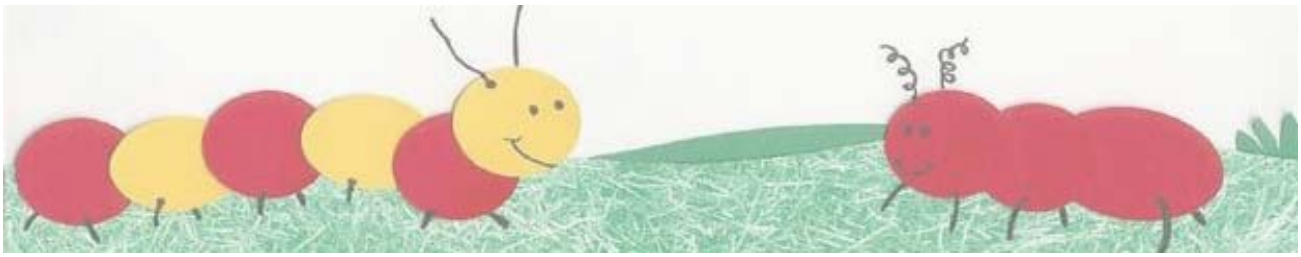
The goal of this guide is to give Massachusetts citizens the knowledge and tools they need to protect children from harmful exposure to pesticides through the proper implementation of CFPA. There are three main reasons why people concerned about pesticide-use in school and child-care settings need the information presented in this guide.

- **First,** pesticides are poison, which are designed to kill. Lethal to more than just pests, pesticides pose a health threat to children. Though a good deal is known about the risks of short-term, high-dose exposure to pesticides, little substantive research has been conducted on the health impacts of pesticide breakdown products, the synergistic affects of multiple pesticide combinations, and the impact of chronic low-dose exposure to pesticides. Given children's special vulnerability to toxins, a precautionary preventative approach to pest management that reduces reliance on pesticides is vital to protect children's health.

- **Second**, there are differing levels of expertise concerning IPM and non-toxic pest prevention alternatives among pest management professionals. Parents and citizens need to be equipped with the right questions in order to navigate the maze of Integrated Pest Management (IPM) and properly evaluate their school pest management program.

- **Third**, the intention of CFPA is more than just a simple reduction in the use of pesticides; ultimately, it calls for a change in attitudes and procedures regarding pest control. As children's natural advocates, parents may prove to be the best means of ensuring that the true spirit of the law is honored. With more than 300 school districts in the state, the proper implementation and enforcement of CFPA depends on the active engagement and oversight by concerned citizens.

This guide is intended to provide citizens with the basic information and resources needed to launch a positive partnership with local school and town officials. This guide can help you get started and Toxics Action Center staff can provide assistance throughout the process.

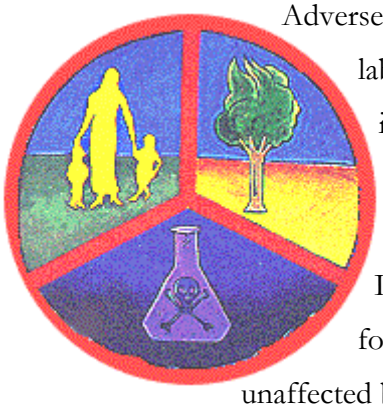


# I. THE PROBLEM:

## Pesticides Pose a Threat to Health and Safety in Schools

Every day in Massachusetts, children are exposed to toxic pesticides. Pesticides are regularly used in school classrooms and on playgrounds and athletic fields, often needlessly and without regard to public health. Recent surveys conducted in both Massachusetts and New York found that approximately 80% of schools used pesticides on a regular basis – often in anticipation rather than in response to the presence of pests. Furthermore, despite frequent pesticide use, less than 20% of schools surveyed prevented exposure to children and staff through simple actions such as posting warning signs around treated areas during applications.[1,2]

The most common pesticides used in schools today have been linked to both acute ailments (headaches, dizziness, and muscle cramps) and long-term health problems (neurotoxicity, organophosphate poisoning, hormone disruption, chemical sensitization, reproductive disorders, and cancer).[3,4,5,6,7,8,9*] Of the forty-eight commonly used pesticides in schools, twenty-two can cause cancer, twenty-six can adversely affect reproduction, thirty-one are nervous system poisons and sixteen can cause birth defects.[10] Despite a growing body of literature on health effects, a paucity of research continues to exist on chronic low-dose exposure to pesticides, particularly with regard to their immunologic, learning, memory, and potential psychological consequences.[11] Lastly, little is known concerning the combined impact of these pesticides when they come into contact with one another.

Adverse health affects can occur even when pesticides are applied according to label directions. Recent studies indicate that individuals vary dramatically in their ability to process many common pesticides.[11] For example, in one instance, a physician accidentally poisoned by chlorpyrifos suffered permanent cognitive damage, resulting in a substantial drop in IQ to below normal. Conversely, a number of study participants were found to have a resistant phenotype for the same pesticide and were thus unaffected by exposure.[11]

*More information and specific studies can be provided upon request

Student and staff poisonings are not uncommon. The General Accounting Office documented 2,300 pesticide poisonings in schools between 1993 and 1996.[12] Given that many of the short-term effects of pesticide exposure (headaches, nausea, skin rashes, etc.) mimic common illnesses, the actual incidence of pesticide-related illness is assumed to be much higher.

Another problem inherent in pesticides is that their toxins can linger for hours, days, and even months after an application depending on the type of chemical applied and the environmental conditions. Pesticides designed for outdoor-use persist longer in indoor environments, without sunlight and rain to facilitate their degradation process. A 1998 study found that Dursban (chloryrifos) one of the most commonly used pesticides on school grounds, accumulated and lingered up to two weeks on toys, furniture, and other sorbant surfaces.[4]

Recent cancer statistics on children from the National Cancer Institute show that in children 0-4 years old the incidence of cancer increased dramatically between 1973 and 1995.[13]

- 53% rise in brain and other nervous system cancers
- 37% rise in soft tissue cancer
- 32% rise in kidney and renal pelvis cancers
- 18% rise in acute lymphoid leukemia

National Cancer Institute statistics also show a dramatic increase in the incidence of cancer among teenagers aged 15-19 during the same period.[13]

- 128% rise in non-Hodgkin's lymphoma
- 78% rise in ovarian cancer
- 65% rise in testicular cancer
- 30% rise in bone and joint cancer
- 29% rise in thyroid cancer

## The Special Risk to Children

Numerous human health studies illustrate that pesticides can cause irreparable harm to a child's developing brain and body. The following conclusion was reached in a report by the United States Congress Office of Technology Assessment:

> Research demonstrates that pesticide poisoning can lead to memory [loss]; inability to focus attention; poor performance on tests involving intellectual functioning, academic skills…and motor skills; and deficits in intelligence, reaction time, and manual dexterity. [14]

Below are five reasons that **children, in particular, are at risk** from pesticides:

- **Children's bodies are still developing.** From birth to adolescence children move through several stages of rapid growth. During these critical developmental years, children's tissue and organ systems are not suited to repair damage caused by toxic chemicals. As a result, toxic assaults on children's developing brain, immune, reproductive, and endocrine systems will likely result in permanent and irreversible dysfunction.[15]

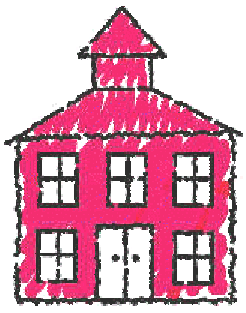
- **Children are less able to process toxins.** Due to their immature organ systems, children absorb, metabolize, detoxify, and excrete poisons differently than adults. Depending on the organ damaged, consequences can include lowered intelligence, immune dysfunction, or reproductive impairment. In some instances, children are actually better able to deal with environmental toxins. More commonly, they are less able and thus more vulnerable.[15]

- **Children have higher metabolic rates.** As a result, they incorporate toxins into their bodies faster than adults. Children also consume more calories, drink more water, and breathe more air per pound of body weight than adults. Differences in body proportions between children and adults means children have proportionately more exposure.[16]

- **Children behave like children.** Children's natural curiosity, tendency to explore, and inclination to place their hands in their mouths can expose them to health risks adults readily avoid. In addition, because children are more frequently outdoors and physically active, they breathe in and are exposed to a larger amount of airborne pollutants.[17]

- **Children have more time to develop disease.** Exposure to carcinogens during childhood, as opposed to adulthood, is of particular concern since cancer can take decades to develop.[15] The earlier in life a person is exposed to carcinogens, the more likely he or she is to develop the disease later in life.

Exposure to toxic pesticides can only hinder children's mental and physical development. We entrust schools with the task of developing the minds of our children, but the widespread use of toxic pesticides in playgrounds, cafeterias, and classrooms blatantly contradicts this directive and can only undermine the ultimate mission of education.



# II. THE SOLUTION:

## Restricting Pesticide Use

There are four common misconceptions concerning pesticides.

- **Pesticides are safe simply because they are registered and approved for sale.** Although pesticides must be registered by the US Environmental Protection Agency (EPA) in order to be sold and distributed, the registration process does not imply that the product is harmless. When approving a pesticide for market consumption, EPA relies on test data provided by pesticide manufacturers. EPA then 'balances' the risks of pesticide exposure to human health and the environment against the perceived societal and economic benefits of pesticide use. Ultimately, EPA refuses to classify any pesticide as 'safe'.
- **Pesticides are safe when used as directed**. Despite the best of intentions, pesticides are frequently over used and over applied. The method by which a pesticide is applied can also affect the risk it poses. For example a toxic pesticide is more dangerous when applied as a spray than when it is enclosed in a bait station.
- **Pesticides disappear and dissipate harmlessly into the environment.** As pesticides come in contact with the air, soil, sunlight and water, they breakdown into other substances called metabolites. While testing is not typically performed on pesticide breakdown products, recent studies reveal that they can be even more hazardous than the original pesticide.[18]
- **Pesticides are toxic only to the targeted pest.** Unfortunately, other creatures, such as birds, fish, bees, earthworms etc., often become unintended victims of chemical applications. Frequently, predator species that help keep down pest populations are more adversely affected by pesticides than the pest itself, thereby undermining natural environmental controls and worsening pest problems in the long term.

To protect children's health, CFPA eliminates the use of pesticide products that pose the most risk in both the short and long term. The Act outlines regulations regarding pesticide restrictions in order to eliminate the most dangerous pesticides and mitigate exposure to less toxic alternatives. The regulations are broken down into the geographic scopes of the indoor and outdoor environment.

*The Indoor Environment*

Under CFPA, only lower risk formulations of pesticide products are allowed indoors, such as:

(a) Anti-microbial pesticides (bleach);
(b) Rodenticides and insecticides placed in tamper-resistant bait stations or placed in areas inaccessible to children and the general public;
(c) Ready-to-use dust, powder, or gel formulations of insecticides applied in areas inaccessible to children and the general public;
(d) Termiticides used only in the presence of an active termite infestation and when non-chemical alternatives have been determined to be ineffective;
(e) Pesticides classified by the United States Environmental Protection Agency as exempt materials under 40 CFR 152.25, such as mint oil and baking soda. (See: www.epa.gov/oppbppd1/biopesticides/otherdocs/25blist.htm)

*The Outdoor Environment*

Outdoors, CFPA prohibits the use of certain pesticides, such as:

(a) Pesticides applied for purely aesthetic purposes;*
(b) Pesticides classified by the EPA as known, likely or probable human carcinogens. (See www.state.ma.us/dfa/cpa/toxic/carcinogens.htm);
(c) Pesticides with ingredients categorized by the EPA as "inerts of toxicological concern." (See www.epa.gov/opprd001/inerts/lists.htm).

If used, pesticides must be applied **at least 150 feet** away from any area that children are located in, on, or adjacent to. Children are not allowed on a treated area for **at least eight hours** after the application.

## Honoring the Public's Right to Know

The law requires Standard Written Notification of outdoor pesticide applications at schools or day care centers to all parents, staff and students **at least two working days** before application. CFPA stipulates notification for only outdoor pesticide-use, because regulations concerning the indoor school environment should prohibit all but the least hazardous pesticides.


The notice must include:

a) Approximate dates when application shall commence and conclude;
b) Specific location of application;
c) Description of purpose of the application;
d) Product name, type, and EPA registration number of pesticide;
e) Pesticide Bureau Standard Written Notification form;
f) Information sheets from EXTOXNET about the health risks associated with specific pesticides (See: http://ace.orst.edu/info/extoxnet/);
g) The Pesticide Bureau's Consumer Information Sheet about ways to reduce exposure (See: www.state.ma.us/dfa);

* Provisions in the Act allow for a waiver of some pesticide use for aesthetic purposes.

In addition to being mailed, the written materials listed above must be posted in a conspicuous common area **two days before** and left in place for **at least 72 hours** following the application of any pesticide outside of a school or childcare center. The perimeter of the treated area must also be posted with warning signs that must remain in place for at **least 72 hours** after an application.

*Record Keeping*

On-site records of all pesticides used on school grounds must be maintained for **at least five years**. These records must be made available to the public upon request. Due to their extreme persistence, records of termiticides must be kept on file for the life of the property.

## Introducing Safer Pest Control Methods: Integrated Pest Management


Equally important to eliminating the use of dangerous pesticides is the adoption of alternative pest management practices. Non-toxic means of pest prevention are a safe and sustainable way of ensuring the health and safety of the school environment by preventing pest infestations as well as hazardous chemical use.

To ensure schools adopt alternative strategies, CFPA requires that schools create Integrated Pest Management (IPM) plans that outline non-toxic techniques for pest control. Taking a holistic approach to pest management, IPM involves the coordinated use of physical, biological, and cultural controls to prevent pest problems from occurring in the first place. By understanding the cause of the problem, long-term solutions for pest management are created and the need for reactive chemical applications is dramatically reduced.

The creation of an IPM plan is not a 'fill in the blank' exercise; it will take some time and planning to pull together. Essentially, the IPM plan documents how schools will effectively manage pests and at the same time reduce exposure to pesticides, by providing a snapshot of the 'who, what, when, how, and why' for pest control decisions.

While IPM, as defined by the Act, does not explicitly prohibit the use of all chemical pesticides, it does establish the goal of making toxic pesticide-use in the school environment unnecessary. [19] Unfortunately, the term IPM has varied definitions. School districts and

parents need to be wary of inadequate Integrated Pest Management programs (IPM) that constitute little more than 'sticky trap and spray' services, which may be overpriced and not protective of children's health.

*IPM Program Essentials*

It is important for children, parents, teachers, and staff to understand the principles of non-toxic pest control as they all play a part in its success. Education in the form of workshops, training sessions, and written materials for everyone from administrators to students is an essential component of an IPM program. Guidance and materials for the creation of IPM plans and programs is available on UMASS extension's website (www.umass.edu/umext/schoolipm). In addition, samples of both an indoor and outdoor IPM plans are included in the appendix.

Below are five essential components of any effective **school IPM plan**:

1. The **IPM Coordinator** is an appointed person who facilitates and implements all activities regarding pest management, maintenance, and education of staff and parents. The IPM coordinator is a facility member who is generally in charge of pest control activities for the school. This person should have the backing of the school administration or management. (See Appendix J– IPM Team)

2. The **IPM Committee** is a representative body of the relevant stakeholders in the school's pest management program (cafeteria staff, custodial staff, administrators, teachers, parents, etc). The committee uses its shared knowledge to create the parameters of the school IPM program. Usually the committee needs to meet frequently in the initial stages of implementation, then only occasionally as the program becomes more established. (See Appendix J– IPM Team)

3. Ongoing **Monitoring** through regular site inspections should be conducted to determine the types and infestation levels of pests at each site. This data will inform the pest 'action thresholds' – the levels at which pest populations constitute a serious problem and are no longer tolerable.

4. In order to **prevent pest infestations**, information should be gathered on specific pest survival needs – in terms of food, water, and habitat – that appropriate adjustments in the school environment can be made. Structural changes that prevent problems, including occupant education, careful cleaning, pest-

proof waste disposal, and structural maintenance, should be included in the IPM plan. Remember that it can take some time for these methods to be effective.

**Pest Treatment Strategies should be:**

- ✓ Least toxic to human health
- ✓ Least disruptive to natural pest controls (outdoors)
- ✓ Most likely to prevent recurrence of the problem
- ✓ Most cost-effective (short/long-term)
- ✓ Most appropriate to the site and maintenance system

5. **Habitat modification, mechanical, biological and least toxic controls** are sometimes necessary when all other methods have failed and monitoring indicates that your pest population is still above tolerance levels. Mechanical traps (sticky traps) and biological controls (pheromones and parasitic insects) can be employed. Failing those, then and only then, should chemical treatment be considered, favoring spot treatments of least-toxic pesticides. Least toxic pesticides can be determined through comparing ratings given on product Material Safety Data Sheets.

*Emergency Waiver*

In the case of a human health emergency, CFPA allows a school official or day care operator to apply for a single-use waiver permitting the use of a pesticide otherwise prohibited under the law. Waivers can be decided by an agent of the Board of Health or Department of Food and Agriculture personnel and should be approved only in cases where no viable alternative to chemical application exists.

As a condition of the waiver's approval, the school must commit to identifying and addressing the pest problem in order to prevent future occurrences, post signs near the site prior to and for at least 72 hours after application, and provide Standard Written Notification immediately prior to or, if necessary, immediately following the emergency treatment.

# III. CITIZEN ACTION


## Steps to Ensure Implementation of CFPA

The circumstances around CFPA's implementation will be different for every school and every town throughout the Commonwealth. However, there are some general campaign principles that are helpful in advocating for children's health. A few of these principles are outlined below.

**Step One: Build Your Group**. A good place to start your campaign to reduce school pesticide use through the proper implementation of CFPA is by organizing a core group of parents and community members. It is more effective to work as a team. Not only can you get more done, but local officials and school administrators also generally give more credence to the concerns of a broad group as opposed to an individual.

Identify and contact people who would care about or will be impacted by school pesticide use, such as parents, students, teachers, school personnel, unions, doctors, environmentalists, and health advocates. Outreach could be conducted among your neighbors, friends, and family and to organizations like PTAs/PTOs, local environmental groups, children's health groups, and religious institutions. If you are concerned about pesticides, it is likely that others will be also. Start with a small core of five to eight people that you trust.

**Ask the School Superintendent's Office:**

- ✓ Are you familiar with the CFPA?
- ✓ Who is currently responsible for decisions regarding pest management in the school system?
- ✓ Who is responsible for carrying out pest management activities in school buildings? On school fields?
- ✓ Does the school have an IPM Coordinator?
- ✓ Does the school have an IPM Committee? Consisting of whom?
- ✓ Does this school district contract out the work of IPM and/or pesticide application for inside school facilities? For outside facilities?
- ✓ Does this school district contract out the work of IPM and/or pesticide application for inside school facilities?

**Step Two: Research your School's Pest Management Decision Makers**. The goal of this step is to determine the agents responsible for school pest control in your municipality and those in charge of CFPA implementation. Schedule a meeting with your school superintendent and pose the questions listed in the adjacent text box.

**Step Three: Evaluate Your Municipality's Progress**. The goal of this step is to understand the pest issues in your school and find out how implementation of CFPA is progressing. Request to meet with the person responsible for pest management (or the IPM coordinator) and work through the questionnaire in the appendix. (See Appendix A – Questionnaire)

Before the actual meeting, determine whether representatives from your school district attended the state's training workshop on CFPA (Listed at http://www.umass.edu/umext/schoolipm/school_ipm_attend.htm) and whether your school has submitted their IPM plan to the DFA (http://www.state.ma.us/dfa/cpa/toxic/index.htm). A few representatives of your group should attend the meeting and have information on hand to answer additional questions regarding the Act, Integrated Pest Management, and harmful effects of pesticides. The appendix contains information that can help in that capacity. (See Appendix B, C, D & E).

Contact Toxics Action Center with the results of your questionnaire. Our staff will help you analyze how your municipality is progressing and discuss your next steps.

**Step Four: Ensuring Proper Implementation**. Toxics Action Center will help tailor your efforts to the specific needs of your community. If your municipality is moving ahead with implementation, Toxics Action staff will help you develop and implement plans to ensure that the implementation continues in the proper manner. If your municipality is not taking proper steps, staff will help you develop a plan to put appropriate pressure on town officials to implement the law.

After forming your group, conducting research, determining a platform, and having resources to offer, meet again with school staff responsible for pest management to offer assistance in implementing the true spirit of the law. If the administration is indifferent to your offer of participation and has done little to implement the law, your efforts will need to take a more organized approach.

Determine the key individuals whose support you will need to make implementation of the CFPA in your school a reality. "Power Map" your decision-makers by plotting out the areas of influence that shape their decisions and actions. Brainstorm interventions or "tactics" that can tap into or swing these areas so that their influence can be brought to bear in support of your goals. This will depend upon their personalities, values, political support, and the political climate in your area.

You will need to choose among these tactics to influence decision makers in the context of your campaign goals and organizational resources. It is best to maintain focus and do a few things well rather than trying to do it all.

## Some campaign tactics to consider include:

1. Create an **evaluative report** of your school's CFPA progress, speaking as a constructive problem-solver and concerned citizen. Focus on the facts – these are the current practices in schools and these are the recommended improvements;
2. Create and distribute persuasive **fact sheets and flyers** to publicize the issue and request specific action;
3. **Obtain media coverage of your efforts**, both successes and obstacles; place articles and letters in appropriate newspapers and newsletters; hold a press conference in front of the school or responsible agency;

4. **Build Coalitions** among parents, teachers, health care professionals, custodians, etc.;
5. **Lobby** community leaders, VIPs, and key persons/agencies, such as the principal, school administrators, Board of Education, Board of Health, etc, to join your campaign and exert their influence on your behalf;
6. Get voters and the general public to participate in campaigns through **petitions and letters** to town officials and school administration;
7. **Publicize and hold community meetings** to discuss the issue and gather support; PTA meetings are excellent forums to arouse interest and encourage parent participation;
8. Propose the program incorporate **IPM into the science curriculum**;
9. **Use the influence** of school board members' friends, family, neighbors, or religious ties.

Keeping people involved and motivated is as important as getting them involved. Make sure to always acknowledge those who have supported the campaign's efforts, including your activists, coalition partners, and decision makers. Media coverage should be positive when appropriate. Awarding your school or school district if their CFPA progress improves or reaches a certain bench mark can help keep them motivated to improve their pest practices.

**What Makes a 'Good' Tactic**

- ✓ Is it doable?
- ✓ Will it influence the decision maker?
- ✓ Does it match the group's skills and resources?
- ✓ Is it fun and will in involve a lot of people?

## IV. CONCLUSION

Whether in the classrooms or on the athletic field, toxic pesticides threaten the health and safety of our children. The Children's and Families Protection Act (CFPA) was created to protect Massachusetts school children from the harmful effects of pesticides so that they can realize their full potential. However, public participation is vital to ensuring that the true spirit of CFPA is implemented in schools and childcare programs throughout the Commonwealth. In order to make the law's intention a reality, citizen groups and parents need to advocate for the health of their children by educating local school and town officials about the dangers of toxic pesticides and the benefits of IPM. The information and resources in this guide can help you develop a positive partnership with local school and town officials to effectively implement CFPA. Toxics Action Center will be available to assist you in the process of ensuring safe and healthy learning environments for your own and future generations of school children.

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