

Armed Forces Pest Management Board

Technical Guide No. 2

Integrated Pest Management in Child Development Centers and Schools



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AFPMB Technical Guide No. 2: Integrated Pest Management in Child Development Centers and Schools

This is a complete revision and update of a document prepared by the U.S. Army Environmental Command in 2007. It assumes the number of former Technical Information Memorandum No. 2, *Diazinon*, which was obsoleted after the loss of registration for Diazinon products. The original document was written by Mr. Frederick J. Harrison, Jr. from the U.S. Army Public Health Command–West (USAPHC-W). Dr. William B. Miller from the Army Environmental Command revised, rewrote and updated the guide. Dr. Denise DeBusk from the Navy Facilities Engineering Command, Mr. James Butler from the U.S. Army Public Health Command–North (USAPHC–N), Mr. Frederick J. Harrison, Jr., and Mr. William E. Pittman from the Army Medical Department Center and School provided editorial assistance. Dr. Dawn H. Gouge, Integrated Pest Management (IPM) Specialist from the University of Arizona and Ms. Janet Hurley, Extension Specialist from Texas A&M Agrilife Extension Service provided additional assistance.

Dr. DeBusk initially wrote the sample plan for the Kings Bay Child Development Center in Appendix F. Dr. Miller edited the plan for this technical guide.

LTC Brian Evans and Mr. Terry Carpenter of the Armed Forces Pest Management Board provided comprehensive editing and coordination of review comments.

Access the AFPMB site at <http://www.acq.osd.mil/eie/afpmb/> for related information.

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Chapter 1. Introduction

- 1-1. This user's guide is designed for the integrated pest management coordinator (IPMC), Child Development Center (CDC) director, and/or school administrator to:
- a. Understand integrated pest management (IPM) in order to limit pesticide exposure risks in school or preschool institutional environments, and
 - b. Describe how to establish IPM programs and effectively operate with the least administrative effort. Parents and administrators will immediately see the rewards of successful programs of this type - often referred to as "IPM-in-Schools" or "IPM-in-CDC" programs. This guide addresses:
 - WHY an IPM-in-Schools program is important,
 - WHAT pest management issues to address,
 - HOW to address them, and
 - WHO should address the pest management issues?

This guide outlines procedures to reduce pesticide exposure in CDCs and schools while still providing a satisfactory level of pest control.

- 1-2. All states have IPM programs and strategies for schools and/or CDCs (nurseries and day care centers). The goal is to minimize pesticide exposure to children. Many states have a School Environmental Protection policy which requires local educational agencies and schools to implement IPM programs to minimize the use of pesticides in schools and to provide parents, guardians, and employees with notice of the use of pesticides in schools.
- 1-3. IPM uses and promotes pest management practices which either eliminate or reduce the potential for property damage and human disease carried by pests. IPM practices minimize risks from pesticides to human health and the environment. IPM has been the foundation of pest management policies and practices within the DoD for many years. The DoD Pest Management Program has been recognized nationally for its leadership in the promotion of IPM. This commitment was recognized in 2004, 2005, and 2006 by the U.S. Environmental Protection Agency's (USEPA) Pesticide Environmental Stewardship Program (PESP) "Champion" award to DoD for its successful reduction of pesticide use by more than 50% from levels in the early 1990s. In 2009, the DoD IPM Program received the PESP Sustained Excellence Award.
- 1-4. In recent years, many states have passed legislation to reduce pesticide exposure risks for school age and preschool age children. Although DoD installations are not required to meet state requirements, DoD IPM Programs either meet or exceed most state requirements. In accordance with DoD Instruction 4150.07, paragraph 5.4.15, DoD components will cooperate with state and local government agencies involved with pest management and pesticide regulation.

- 1-5. The IPM-in-CDCs and schools initiative is built upon long-established DoD IPM principles including:
- a. Planning and Professional Oversight. Planning documents describe all installation pest management operations and DoD pest management consultants review them annually. These pest management consultants visit installations periodically to review and advise installation pest management personnel about their IPM programs.
 - b. High Training Standards. Only certified (either DoD or state certifications) are allowed to apply pesticides at DoD installations and facilities. DoD training and certification standards, which include a 1-year apprenticeship period and 3 weeks of resident classroom training, are among the most comprehensive in the nation.
 - c. Recordkeeping and Reporting. DoD installations keep permanent records for all pest management operations, including both pest surveillance and pesticide applications. Annually, installations summarize and forward records of pesticide use to their pest management consultants for evaluation and trend analysis.
 - d. Strategies for reducing pesticide use. For CDCs and schools, IPM policy requires that certified applicators apply the least toxic pesticides by methods and at times when children are not directly exposed.

1-6. Definitions

- a. Bait - a pesticide formulation containing an ingredient that serves as a feeding stimulant, odor, pheromone, or other attractant for a target pest.
- b. Child Development Center (CDC) - includes any DoD-sponsored child care facility and the surrounding area, including lawns, playgrounds, and sports fields. May include other property or facilities that are controlled, managed, or owned by the CDC for the purpose of temporary care for children (6 weeks to 5 years of age).
- c. Emergency Pest Management Situation - a situation requiring immediate action to mitigate or eliminate a pest that threatens human health or safety.
- d. Fenced Area - an area completely enclosed by a fence, wall, or other natural or artificial barrier preventing unauthorized entry.
- e. Notification List - a method to document those parents or guardians who request to be notified in advance of a pesticide application at a CDC or school.

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- f. Pesticide - any substance or mixture of substances, including biological control agents, that may prevent, destroy, repel, or mitigate pests and is specifically labeled for use by the EPA.
- g. Pesticide Applicator - any individual who applies pesticides or supervises the use of pesticides by others, and who has been authorized to do so by successfully completing a training program approved by the EPA and formal certification by the DoD or a state; for DoD locations overseas, applicators are approved by their command certifying official.
- h. Point of Entry - a location designed or generally used for entry onto the property by pedestrians or motor vehicles.
- i. Posting - the placement of signs in conspicuous places at CDCs and schools to notify the public of pending pesticide applications or current applications.

Chapter 2. Risk to Pre-School and School-Aged Children from Pests and Pesticide Exposure

- 2-1. Pests can adversely affect humans. However, children are more susceptible to diseases and illnesses transmitted or caused by insects than most adults.
- 2-2. Pests may impact the health of children in a variety of ways. Some of the more common examples include the following:
 - a. Hairs, cast skins, and other body parts from insects (e.g., grain beetles, cockroaches and moths) may cause asthma or produce allergic reactions.
 - b. Toxins from fire ant, bee and wasp stings may lead to conditions that are significantly more severe than that experienced by adults.
 - c. Urticating and toxic plants (e.g. poison ivy and poison oak) may cause skin reactions.
 - d. Cockroaches and flies mechanically spread bacteria that cause human illness such as diarrhea. Additionally, children may also be exposed to pathogens from rodent saliva, urine and excrement.
- 2-3. Various factors can increase the risk of pesticide exposures among children. These factors include, but are not limited to, the following:
 - a. Children absorb greater concentrations of pesticides per pound of body weight through inhalation, ingestion, and skin contact.
 - b. Play habits place children into direct contact with pesticide-treated floors and outdoor grounds. More commonly, children make mouth contact with unwashed hands or eat food before hand washing.
 - c. Since the majority of pesticides are heavier than air, minute particles carrying the chemical can become suspended in the zone of air that children breathe. Pesticides applied to floors can be re-suspended after walking on treated floor surfaces. As children generally have higher respiratory rates than adults, their levels of exposure are higher relative to adults.
 - d. Children may not read, understand, or pay attention to pesticide application warning signs.
 - e. Children are extremely vulnerable to classes of synthetic pesticides that mimic naturally-occurring hormones or enzymes.
 - f. Small doses of neurotoxins can drastically impair the learning processes in children.

Chapter 3. IPM Principles and Practices

- 3-1. Guiding IPM Principles. These principles and goals guide the development and understanding of the need for IPM in Schools and in CDCs.
- a. Knowledge. Work to understand IPM principles and practices. Learn to identify important pests and describe life cycles, habits, and conditions that increase populations of these pests.
 - b. Monitoring and inspection. Use monitoring and inspection to identify pest populations and conditions that can lead to pest problems.
 - c. Action only when necessary. Routine application of pesticides is not IPM.
 - d. Documented performance. Document performance of every pest operation and justify pesticide applications with surveillance.
 - e. Least-toxic options. Use non-chemical approaches as the first line of defense against pests. Participants evaluate all pest management options for risks to health, the environment, and beneficial organisms.
 - f. Effective pest management. Work to solve pest problems including insects, weeds, vertebrates, and microbes with effective, long-term strategies. Address and work to resolve structural design and maintenance issues that contribute to pest problems.
 - g. Continuous improvement. Use best management practices and IPM techniques. Recognize that improvement involves staying abreast of new technologies and concepts.
 - h. Communication and outreach. Communicate the IPM approach to your school and CDC communities. Ensure applicators (DoD or Contractors) use posting and notification requirements.
- 3-2. IPM Practices - Select IPM treatment practices, methods, and products that are:
- a. Least hazardous to human health - choose baits over aerosols.
 - b. Least disruptive of natural controls - choose a pesticide that has minimal adverse effect on natural pest enemies.
 - c. Least toxic to non-target organisms - choose pesticides that select for the targeted pests and that are least toxic to non-target organisms.
 - d. Prevent recurrence of the problem - reduce conditions that support pests. Eliminate entry to and harborage in the building, improve facility sanitation, and

change equipment layout and storage for effective and efficient surveillance and control.

3-3. Keys to Effective IPM Practice Decisions.

- a. Educate - explain beneficial IPM practices to staff, teachers, and students. Emphasize good housekeeping, eliminate food and water for pests, report pest sightings to maintenance personnel, and maintain building integrity (close doors and windows when not in use).
- b. Modify the Habitat - eliminate sources of food, water, and shelter for pests.
 - 1) Eliminate Sources of Water for Pests - eliminate drips and standing water in the kitchen, break rooms, bathrooms, sink areas in classrooms, and janitorial supply rooms.
 - 2) Eliminate Pest Habitats - caulk or fill cracks and crevices. Remove empty boxes and unused equipment to eliminate harborages for pests.
- c. Design or Redesign of the Structure - incorporate design changes that are least favorable to pests. For example, using wire racks, shelves, and baskets instead of boards and boxes can eliminate harborage for household pests.
- d. Keep areas clean - keep all food in closed containers when not in use. This applies not only to the kitchen and food preparation areas, but also to arts and crafts areas where items such as paste are used by the children for art projects. Empty trash cans daily. Remove all uneaten food from classrooms and break areas immediately. Keep book shelves clean as they are favorite hiding areas for cockroaches in day care centers.
- e. Modify Horticultural Activities - keep shrubs and trees properly fertilized and trimmed. Healthy plants do not support as many pests as do damaged plants. By maintaining healthy plants, the need for pesticide applications is reduced.
- f. Design or Redesign of Landscape Plantings - keep shrubs away from building perimeters to reduce rodent and insect habitat. In CDCs, plant shrubs and trees outside of the fenced area where children play. This practice reduces the need to use pesticides in play areas.
- g. Maintain Physical Controls - use non-toxic methods to discourage pests from entering buildings or to remove pests once inside. Many of these methods are quick and require no certification or pesticide use to control pests. Common physical controls include: (1) vacuuming, (2) trapping, (3) barriers, (4) heat and cold, and (5) removing pests by hand.

- h. Use Biological Controls - use the pest's natural enemies for control. Types of biological control include the following:
- 1) Promote Enhancement/Conservation - involves selecting pesticides and application methods that are specific for the target pests. These chemicals decrease harm to potential predators or parasites of the pests. Examples include using baits that do not attract non-target organisms and spot treating to reduce adverse effects to non-target organisms.
 - 2) Foster Pest Predator Populations - use of outdoor pest predators and parasites that can be purchased from nurseries and garden centers. These can be placed on desirable shrubs and trees for control of specific pests. Examples include ladybird beetles and lacewings for the control of soft-bodied plant pests. The use of predators can reduce the need for pesticides over time.
 - 3) Use Microbial Controls - bacteria, fungi, and viruses provide control of selected pests. Products using the *Bacillus* group for mosquito control are examples of commonly used biopesticides.
- i. Use Least-Toxic Chemicals and Pesticides - the use of least-toxic chemicals and pesticides, when necessary, are fundamental to IPM programs. Such products are effective against the target pests, have a low acute and chronic toxicity to mammals, biodegrade rapidly, kill a narrow range of target pests, and have either no or minimal impact on non-target organisms. Least-toxic pesticides include:
- 1) Pheromones and other attractants to attract pests to sticky traps.
 - 2) Insect growth regulators (IGRs) to disrupt the growth of pests subsequently causing death to the pests.
 - 3) Chemicals that repel pests. Note: Schools and CDCs usually do not provide repellents. However, the use of repellents by staff, teachers, and students for protection from biting insects such as mosquitoes is a personal matter.
 - 4) Desiccating dusts for use in cracks and crevices to disrupt the integument of insects and cause pest death. These products are a good choice over pesticides that are generally more toxic.
 - 5) Pesticidal soaps and oils for use on trees and shrubs for pest control. These materials are relatively non-toxic to mammals.
 - 6) Botanical pesticides which have relatively low mammalian toxicities. These products are usually broad spectrum insecticides that kill a wide range of insects (both good and bad). With low toxicity, these pesticides are a good choice for indoor use.

- 3-4. Select a Pesticide for an IPM Program using the following factors:
- a. Safety – choose pesticides with low toxicities to protect the children in the CDC or school.
 - b. Species Specificity – consider selecting pesticides that are specific to the target species and not beneficial species. This is more applicable to outdoor pesticide applications than for indoor applications. Indoor applications typically target a specific pest while outdoor applications typically target one pest with multiple non-target pests.
 - c. Prevent Resistance – seasonally, choose pesticides that use different modes of action from the prior season. This will help ensure the target pest does not develop resistance.
 - d. Speed – Use a quick knockdown, short-lived pesticide for an emergency pest management treatment; however, for non-emergency pest control, the application of a less- toxic, slower-acting pesticide that provides longer control is more desirable.
 - e. Cost – many of the older and more persistent pesticides appear to be less expensive than the newer pesticides. However, newer pesticides are generally applied at much lower rates of application yet provide the same or greater level of control.
 - f. Pesticide Application Guidelines – Trained and certified pesticide applicators (Either DoD or State Applicator per DoDI 4150.07) may only apply pesticides at DoD Schools and CDCs. These applicators are trained to apply pesticides according to the labels and maintain complete records. They use professional knowledge in selecting the proper pesticide to be used in each situation based on the considerations presented above.
 - g. Notification and Posting Considerations – Always notify and post routine procedures for application of all pesticides in CDCs and schools. An Emergency, such as paper wasps on the playground is the only exception for prior notification. However, in such situations, take all precautions to prevent or reduce exposure to staff, teachers, and students. Make notification of this kind of emergency application after the fact in the same manner as prior notification methods.

Chapter 4. Parental Notification Letter and Registry

- 4-1. The CDC or School establishes a parent notification registry to alert parents to pesticide applications. DoD mandates the application of pesticides in accordance with EPA label directions. A good business practice is not allowing applications when children or facility staff are present. The exception is in the case of an emergency (e.g., using a wasp spray due to the health risk of stinging insects).
- 4-2. Parents or guardians of children, the staff, and teachers in any CDC or school may register for prior notice of pesticide applications at their facility. Each CDC and school should maintain a current registry of persons requesting such notice. Specific information on the contents and delivery of prior notice are addressed in Chapter 5 of this Technical Guide, "Notification and Posting of Pesticide Application."
- 4-3. CDC and school administrators should make every effort to inform parents, guardians, staff, and teachers of the registry program. In schools, this is to be done at the beginning of the school year, after the mid-season break, and before each summer session when the school is in operation. Administrators should make provisions to notify the parents and guardians of newly enrolled students and to notify any staff members that are newly hired or transferred into the school system during the school year. See Appendix A for a sample notification letter and registry form. Appendix B is an example brochure provided in either CDCs or schools to promote the IPM program to staff, parents, and students.
- 4-4. CDCs and schools should post registry program information where parents, guardians, staff, and teachers will see the information.

Chapter 5. Notification and Posting of Pesticide Application

- 5-1. Notification is the method by which timely information about applications is funneled to parents and the public on military installations. The notification also provides information about pests and the methods, including pesticide use, to be used to control these pests. Notification is an integral part of the IPM-in-CDCs and Schools program.
- 5-2. Prior to making any application, administration notifies parents on the registry. CDC or school staff that have registered for notification are informed by any means practicable. The notice should include:
 - a. The name of the active ingredient of the pesticide to be applied.
 - b. The target pest.
 - c. The location of the application on the CDC or school property.
 - d. The date of the application.
 - e. The name of the school administrator, or a designee who may be contacted for additional information.
- 5-3. Pesticide applications should begin after students, teachers and staff have left the buildings or grounds. Emergency pesticide use (wasp control) is an exception to this rule.
- 5-4. The school administrator will:
 - a. Maintain information about the schedules for pesticide applications for each CDC or school.
 - b. Act as a contact for inquiries and disseminate information requested by parents or guardians about the CDC or school pest management plans.
 - c. Maintain and make available to parents or guardians, as requested:
 - 1) Copies of safety data sheets (SDSs) for pesticides applied at the CDC or school, or copies of the SDSs for end-use dilutions of pesticides applied at the CDC or school.
 - 2) Copies of labels and fact sheets approved by the administrator for all pesticides that may be applied at the CDC or school.
 - 3) Any other official information related to the pesticide provided to the local CDC or school by Federal and State agencies.

- 4) All pesticide application data for each pesticide application made at the CDC or school as permanent historical records IAW DODI 4150.07 and appropriate service regulations.
- 5-5. Notification Method. A CDC or school may provide notifications to parents and staff by:
 - a. Written notices sent home with the students or children attending the CDC or school and given to staff members.
 - b. Telephone calls.
 - c. Direct contacts.
 - d. Notices delivered electronically through email or facsimile.
 - e. Text alert systems.
 - 5-6. Notification reissuance. If the date of the pesticide application needs to be changed beyond the period required for notification, the CDC or school should issue a second notice that contains only the new date and location of the application.
 - 5-7. Exemptions to Notification. Certain pesticides are exempted from notification due to their low toxicity and localized applications reducing the risk to children. These pesticides include:
 - a. Germicides, disinfectants, bactericides, sanitizing agents, water purifiers and swimming pool chemicals used in normal cleaning activities.
 - b. Personal insect repellents.
 - c. Human or animal ectoparasite control products administered by qualified health professionals or veterinarians.
 - d. Manufactured bait stations, paste, or gel bait insecticides placed in areas where human access is limited.
 - e. Aerosols used as a contact spray to remove site-specific pests such as wasps or spiders.
 - 5-8. Emergency Pest Management Situation.

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- a. The local CDC or school administrator may direct that an emergency pesticide application be made without prior notification in the event of an immediate threat to human health.
 - b. Subsequent Notification. The CDC or school administrator should provide to parents or guardians listed in the registry, staff members listed on the registry, a notification of the pesticide application for an emergency pest management situation either 24 hours after the CDC or school made the pesticide application or the morning of the next business day, whichever is earlier. The notification should include:
 - 1) The information required for a notice under subparagraph 5-6.
 - 2) A description of the emergency pest management situation that required the pesticide application.
 - 3) The potential threat to the health or safety of students or staff.
 - c. Method of Notification. The CDC/school may provide the notice required by any method of notification described in subparagraph 5-5 above.
- 5-9. Posting of Pesticide Application. Any pesticide applicator in a CDC or school or on the property outside of the facility should post a sign notifying the public of the pesticide application; this should be not less than 24 hours prior to application. The sign should be posted at a conspicuous location at the point of entry to the CDC or school and at the CDC registration desk or in the school office. Criteria and example for signs are provided in Appendices C and D.

Chapter 6. Recording and Reporting Pest Management Activities

- 6-1. CDC and school staff personnel will request pest management services in accordance with the installation's IPM plan. Following the submission of a work order, the servicing pest management technician will call the CDC or school staff to arrange for a time to do the work. After completing the pest management service, the pest management technician records all work performed.
- 6-2. Record information on all pest management operations and pesticide applications performed on DoD property using the Pest Management Maintenance Record (DD Form 1532-1) or computer-generated equivalent. Provide copies of the monthly pest management maintenance records to the IPMC. The IPMC can answer questions about recordkeeping policies.
- 6-3. Keep the DD Form 1532-1, or similar form approved by the command entomologist, at each school or building in which the pests are controlled. These forms provide a permanent historical record of pest management operations for each building, structure or outdoor site under the control of the CDC or school.
- 6-4. The DD Form 1532-1 provides a standard method for recording pesticide operations and applications and complies with Federal Regulation 40 CFR 171.11c (7).
- 6-5. Information required to populate the DD Form 1532-1, as well as an example of a completed record, is in Appendix E.

Chapter 7. Developing an IPM Program

- 7-1. Use this guidance to develop the CDC or school IPM program and decide whether to use either non-chemical control methods or pesticide applications. The first choice in preventing or eliminating pests from CDCs and schools should be non-chemical methods.

Consider pesticides when all non-chemical options have not controlled the problem. When using a pesticide, always select the pesticide with the lowest toxicity and the shortest persistence in the environment. Use baits and gels first, arranging in such a way as to prevent exposure to children.

Review the IPM principles and strategies found in Chapter 3 and visit the web sites found in the references for more information and choices for non-chemical and least-toxic pesticide alternatives. Incorporate these strategies into the IPM plan.
- 7-2. Find a sample IPM Plan for CDCs and schools in Appendix F. Prepare a CDC or school IPM plan that reflects the facilities' individual circumstances and IPM program. Use the school IPM plan as an appendix to the installation's integrated pest management plan. Keep a copy of the IPM plan at each CDC or school.
- 7-3. All pesticide applicators applying pesticides in CDCs or schools shall be certified according to DoD policies and guidance. This requirement applies to contractors as well as government personnel. All pesticide applicators will provide the IPMC with a copy of their certification documents and categories. The IPMC will maintain a file of the certificates and will also furnish duplicate records to each CDC/school on the installation.
- 7-4. Pest management personnel who conduct surveys in the CDC or school's facilities will fully document the presence of and type of pests prior to any pesticide application. This information will be recorded on DD Form 1532-1 or applicable reporting system.
- 7-5. While working on CDC/school property, pest management personnel will wear uniforms identifying them as pest management technicians and should sign in and register at the visitor's desk upon entering the building. An exception to this policy is for CDC employees who are certified pesticide applicators and who apply pesticides as part of their duties.
- 7-6. Except in emergency situations (wasps or stinging insects) do not apply pesticides when children, students or staff are present. Ensure non-emergency applications are made after prior notification to staff, teachers, and parents in accordance with the provisions for notification contained in this document in Chapter 5.
- 7-7. Do not leave pesticides or pesticide application equipment unattended on CDC or school property. Secure pesticides when not attended. Properly mark all vehicles containing pesticides. Keep specimen labels and SDSs for those pesticides in the vehicle when at the CDC or school.

Chapter 8. References

The references below contain extensive information and educational materials on IPM-in-Schools. Nearly all states have their own Web sites on this topic, and the reader is encouraged to visit the appropriate state site where the CDC or school is located.

- IPM for Schools: A How-To Manual - <http://www.epa.gov/pesticides/ipm/>.
- National School IPM - for Administrators
http://schoolipm.ifas.ufl.edu/admn_nfo.htm.
- Pest Control in the School Environment: Adopting Integrated Pest Management
<http://www.epa.gov/pesticides/ipm/brochure>.
- School Integrated Pest Management: <http://schoolipm.tamu.edu/>

Appendix A

Sample IPM Program Notification Letter and Sample Integrated Pest Management Registry Form

Dear Parents:

[*Name of Child Development Center or school*] is implementing a preventive Integrated Pest Management program (IPM) within our facilities. This letter is notification that [*installation name*] may use pesticides within the [*center or school*] when needed throughout the school year. The [*center or school*] will post notification twenty-four (24) hours in advance of general pesticide applications. General pesticide applications may include spraying baseboards for insects, playgrounds for weeds, or kitchens for cockroaches. Applications of gels or baits, germicides (e.g., bathroom cleaners, sanitizers, etc.), and aerosols for wasp control are not considered general applications. You can also be notified of pesticide applications by completing the attached registration form. We will use this registry to ensure that those families who feel the need to be advised of pesticide applications will receive at least 24-hour advance notification. An exception to the 24-hour notification will be for emergency pest management situations that present an immediate threat to human health. Following any emergency pesticide applications, we will send a notification either 24 hours after a [*center or school*] applies a pesticide or on the morning of the next business day, whichever is earlier.

A brochure/policy is available at the [*center or school*] that explains the details of the IPM program. All pesticide applications for the [*center or school*] will be made by DoD- or state-certified individuals. As part of the [*center or school*] plan and the installation's Integrated Pest Management Plan, pesticide applications will be made after hours or on weekends, when children are not present in the area of the application. A complete list of pesticides, pesticide labels, and Safety Data Sheets are available from the [*center or school*] staff upon request.

Maintaining a safe, pest free environment for our children is our priority.

Further technical questions may be addressed to [insert name], Integrated Pest Management Coordinator, at (XXX) 456-7890. All questions concerning administration of this program may be addressed to the [*center or school*] office at (XXX) XXX-XXXX).

Dependent Domestic Child Development Center

Elementary and Secondary Schools

Integrated Pest Management Registry

[2014-2015]

Please return this completed form to the [*child development center or school*] if you would like to participate in the Integrated Pest Management Program Registry. You will receive 24-hours' notice* of pesticide applications in your child's school.

Teacher: _____

Grade or Class Name: _____

Student's Name: _____

Parent's Name: _____

Parent's Daytime Telephone: _____

Parent's Work Telephone: _____

Cell Phone: _____

Parent's Address: _____

Parent's E-mail: _____

Additional Notes:

**An exception to the 24-hour notification will be for emergency pest management situations that present an immediate threat to human health. Following such an emergency pest management situation, we will send you a notification 24 hours after a school applies a pesticide under this section or on the morning of the next business day.*

Appendix B

Sample Brochure for IPM in Child Development Centers and Schools

IPM IN CHILD DEVELOPMENT CENTERS AND SCHOOLS

Army IPM Principles

Planning and Professional Oversight
All pest control operations are incorporated into planning documents reviewed annually by professional pest management consultants.

High Training Standards
Only individuals who meet Department of Defense (DoD) standards for certification as pesticide applicators apply pesticides at our installations and facilities. DoD certification standards include a one-year apprenticeship and three weeks of classroom training, and are among the highest in the nation.

Records and Reporting
Permanent records are kept for all pesticide application and reported annually to USAEC for evaluation and trend analysis.

Pesticide Application Strategies
Pesticides are applied only when necessary and only at times when children are not present or directly exposed. Pesticide application sites are clearly posted before and after each application.

Protecting the **HEALTH** and **SAFETY** of our Children

USAEC
Pest Management Team
Point of Contact:
Sandra Alvey (410) 436-1568

Integrated Pest Management (IPM) reduces childhood pesticide exposure

The brochure includes two circular inset images showing children in a classroom setting. The top image shows a child sitting at a table, and the bottom image shows a child standing at a table. The background of the brochure is decorated with illustrations of ants and a cockroach.

Appendix C

Posting Requirements for Pesticide Application

- C-1. This Appendix describes the type and style of signs recommended for posting pesticide applications in and around schools and CDCs. The criteria conform to proposed Federal guidelines for posting pesticide applications in schools and many of the states. States may have more stringent requirements. Verify requirements with your State "IPM in Schools" POC. A copy of the sign described below can be found at the end of this Appendix.
- C-2. Signs for proposed pesticide applications should conform to the following requirements:
- a. The sign should be a minimum of 8 1/2 inches high by 11 inches wide.
 - a. The sign should be of a rigid material that is substantial enough to be easily read for at least 24 hours prior to the pesticide application despite the effects of adverse weather conditions.
 - c. The sign should contain the following information:
 - 1) The statement, "PESTICIDE APPLICATION WITHIN NEXT 24 HOURS" in bold letters at least 3/4 inches high.
 - 2) The statement, "A Pesticide Application is planned for the location(s) listed on this sign for: __[Date/Time]__ " in bold print of at least 20- point type.
 - 3) The statement, "Do Not Enter Treated Area from _____[Date and Time]____until _____[Date and Time]____in bold print of at least 20-point type.
 - 4) The statement, "For more information contact: _____" in bold print of at least 20-point type. The blank space should contain the name or names of the person or persons at the school/CDC to contact for more information on the pesticide application.
 - 5) "Pesticide name(s): (the common name of each pesticide applied)" in bold print of at least 20-point type.
 - 6) The statement, "For emergency pesticide applications this sign must be posted at the time of the application and remain in place for at least 48 hours from the conclusion of the application. To be removed by authorized personnel only" in bold print of at least 12-point type. [Note: A sample of this type sign can be found in Appendix D.]

- C-3. When pesticide applications are made outdoors, signs should be posted in the area as described below:
- a. Pesticide applicators making outdoor pesticide applications within school or CDC property should post signs that notify the public of the pesticide application. The signs should be posted at conspicuous locations no farther apart than every 100 feet of road frontage of the treated property.
 - b. These signs should be posted by the person applying the pesticide at the time of the pesticide application.
 - c. Signs posted along road frontage should face the road. Signs posted at a point of entry should face the direction that people walk as they enter the property.
 - d. The bottom of each sign should be at least 12 inches above the ground and the top no higher than 48 inches above the ground. Signs should be posted (1) at the property boundary between 2 and 5 feet from the sidewalk (2) or, if there is no sidewalk, between 2 and 5 feet from the road, (3) or, if there is also no road, between 2 and 5 feet from the property boundary. When landscaping or other conditions would make a sign inconspicuous or difficult to read if the sign were posted within the distances specified in this paragraph, the sign should be posted in a similar manner such that it is conspicuous and easily read by any adult or child entering or passing the property on foot.
 - e. No person should remove or render difficult to read any posted pesticide application sign within 24 hours after the pesticide application to which it applies.
 - f. Signs to be posted at the time of outdoor pesticide applications should conform to the following requirements:
 - 1) The sign should be a minimum of 4 inches high by 5 inches wide.
 - 2) The sign should be of a rigid material that is substantial enough to be easily read for at least 24 hours after the pesticide application despite the effects of adverse weather conditions. If the application occurs on Saturday or Sunday, and it rains, it must be visible on Monday.
 - 3) The sign should contain the following information in black lettering on a bright yellow background in the format specified below:
 - a) The words, "PESTICIDE APPLICATION" in bold letters of at least 36-point type.
 - b) The symbol of a circle at least two inches in diameter with a diagonal slash over a person, child, and dog.

TG 2, Integrated Pest Management in Child Development Centers and Schools

- c) The statement, "Pesticide applied on (date) by (name and telephone number of the pesticide applicator) in at least 12-point type.
 - d) The statement, "This sign must remain for 24 hours after pesticide application" must be in at least 12-point type.
- 4) Except for the date of the pesticide application and the name and telephone number of the pesticide applicator, the information required on the sign should be professionally printed. The remaining information may be handwritten provided it is written in permanent ink and in a print that is easy to read.

Appendix D
Pesticide Posting Notification Sign Example

**PESTICIDE APPLICATION
WITHIN THE NEXT 24 HOURS**

A Pesticide Application is planned for an area within the Child Development
Center on _____ at _____.

Do Not Enter Treated Area from _____ until _____.

Pesticide name(s): _____

For more information contact: John Doe, Integrated Pest Management Coordinator,
E-Mail and Phone Number

For emergency pesticide applications this sign must be posted at the time of the application and
remain in place for at least 48 hours from the conclusion of the application. To be removed by
authorized personnel only.

Appendix E

Pest Management Maintenance Record, DD Form 1532-1

- E-1. On the top of the DD Form 1532-1, in the space marked "Bldg/Area", enter the building or structure number when a maintenance record is needed. This number may be found on the installation in the facilities inventory that is usually available from the Public Works Office. Similarly, for outdoor areas to be cited on the record, enter a general description or area number, if available. In the next space, enter the size of the area that is receiving pest management operations including surveys and pesticide applications. A legend at the bottom of the DD Form 1532-1 gives standard measurement units. In the space marked "Type of Construction", enter the code letters from the legend to designate the major type of construction. More than one set of code letters may be used, if applicable. In the last space marked "Use Designation", enter information to identify the major use of the building, structure, or area.
- E-2. Enter the following information for each pest management operation conducted at the building or outdoor area.
- a. Date. Enter the date of the operation in the date column as year, month, and day.
 - b. Units Serviced and Work Origin. Enter the part of the building involved, such as a room or apartment number, or in the case of outdoor areas, a site designation such as "soccer field" or "trees". Also, enter the work origin using the symbols in the legend to show how the work was initiated.
 - c. Units of Measure. Enter the size of the treated or protected area using the measurement units in the legend.
 - d. Target Pest. Enter the name of the target pest. Be as specific as possible.
 - e. Control Operation. Enter information to identify how the control operation was performed (e.g., misting, hand spraying, fogging, trapping, etc.).
 - f. Pesticide Use. If pesticide was used, enter the pesticide common name and EPA registration number in the first space; enter the concentration of the finished formulation in the middle space, and the amount or quantity used in the last space. If no pesticide was used, leave this section blank.
 - g. Labor Time. Enter the time required to complete the pest control operation in this space. Include all time associated with the job including travel preparation, job execution, and cleanup time. Do not include the pretreatment inspection or post-treatment survey time. Surveillance, pretreatment inspection and post-treatment times should be entered as separate entries.

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h. Application Initials. Enter the initials of the individual responsible for performing the work. If more than one person was involved, the crew leader should initial the record.

i. Remarks. Using the date as a cross reference, enter any remarks in this space which pertain to a pest control operation reported on the record. If a diagram of areas treated is desired for clarity, it may be placed in this space or on a separate card and attached to the record.

E-3. Example of a completed DD Form 1532-1.

1532-1 Log Sheet										Pesticide					
Building /Area	Size	Type of Constr	Use De sig	Date	Units Svc'd	Work Origin	Unit of Meas	Target Pest	Control Operation	Name	EPA Reg #	% Conc	Amount (3000oz)	Ma n-Hrs	Applic Init/#
Cam p Pest	1500	NA	OPG	6/10/1999	1000	SC	AC	MOSQUITO	FOGGING	Res m ethrin	432-716	4.14	2.34 SLN ZGAL	3	CS
Cam p Pest	1500	NA	OPG	6/10/1999	1000	SC	AC	MOSQUITO	FOGGING	Res m ethrin	432-716	12.42	2.34 SLN ZGAL	3	CS
Cam p Pest	200	NA	WAW	6/10/1999	0.25	SW	AC	MOSQUITO	SPHAND	Altos id	2724-446-64833	20	(0.5oz) 0.004 SLN ZGAL	3	LS
Dining Facility Bldg 19	2000	CO BL	FHB	6/10/1999	8000	SC	MSF	RATS	EXBAIT	Anticoag, Diphacinon e	56-23	0.005	2 BTS PDW	1	MS
Cam p Pest	2	NA	IMP	6/11/1999	2	SW	MSF	MOSQUITO	DGHAND	Altos id	2724-392-64833	5	(20 ea) 1.6 BQT PWD	3	LS
Cam p Pest	2	NA	REC	6/12/1999	25	SW	EA	MOSQUITO	RECEPTREAT	Bacthuring	6218-47	10	(10 ea) 1.6 BQT PWD	2	LS
Refuse Dump Site	0.25	NA	LDF	6/12/1999	0.25	SW	AC	FILTHFLIES	EXBAIT	Apache	270-255	1	2 GRN PDW	1	MS
BRQ	2000	CO BL	FHB	6/12/1999	800	SW	MSF	ANTS	SPHAND	Durs ban	26-46	42	0.5 EML ZGAL	1	JC
Cam p Pest	1500	NA	OPG	6/12/1999	200	SW	AC	FLEAS	DGHAND	Sevin	10107-42	5	200 PDW	4	GC

Appendix F

IPM Plan for Child Development Centers and Schools

The following is an example of an IPM plan for use at CDCs and schools on military installations. Modify the plan to better satisfy local conditions at the CDC or school of interest. This plan template reflects the overall concepts and themes described in this technical guide.

Integrated Pest Management Plan for Naval Submarine Base Kings Bay Child Development Center

July 2014



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- A. POLICY AND NOTIFICATION EXAMPLE
- B. IPM PEST SIGHTING LOG AND PESTICIDE APPLICATION RECORD
- C. POSTING REQUIREMENTS
- D. PEST MANAGEMENT RESOURCES (includes a pest ID guide and inspection checklist)

EXECUTIVE SUMMARY

Naval Submarine Base Kings Bay, Georgia is a diverse military community with base housing. There is one child development center (CDC) consisting of four buildings and which has the capacity for 282 children.

This facility has installation maintenance support to provide the best facility possible. One aspect of maintenance is the performance of pest management activities. Naval Submarine Base Kings Bay uses integrated pest management practices (IPM) in all campus facilities where children are in class or on the playground. Integrated pest management is defined as, "a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks." Basically, IPM uses a comprehensive approach to minimize the amount of pesticides used in day care centers to adequately control pests.

The implementation of IPM-in-CDCs program fulfills the requirements for the Rules of the Georgia Structural Pest Control Commission, section 620-7-.03, which restricts pesticide applications near students and requires notification signs during some applications. A primary goal of Naval Submarine Base Kings Bay's CDC plan is to notify parents of any application of pesticides in the center area and comply with the Georgia rules. The CDCs will notify parents by letter at the beginning of the school year and if parents wish to be notified in advance of pesticide applications, they can complete a request during the enrollment process. Pest management personnel will coordinate with center personnel prior to any pesticide applications to ensure that notification was completed and that pest management operations adhere to this plan.

BACKGROUND

Purpose

- a. Implement the integrated pest management program in the Child Development Center.
- b. Provide information to staff and parents on pest management and pesticide use.

Authority

The authority for this IPM plan is Department of Defense Instruction 4150.07, DOD Pest Management Program, 29 May 2008.

RESPONSIBILITIES

Public Works Department

- a. Provide pest management services for the child development centers according to the base contract;
- b. Complete facilities maintenance services as requested according to the contract; and
- c. Modify the contract to include any additional requirements from this plan, if needed.

Morale, Welfare, and Recreation Department

- a. Provide information to staff pertaining to this plan.
- b. Notify parents about the IPM program. When pest control activities are to be conducted in the facilities, provide notification to parents and staff 24 hours prior to any pesticide applications.
- c. Maintain pest-free facilities for child and youth activities through sanitation and exclusion. Eliminate pest entry points and conditions that would attract or support pest infestations. An example of an IPM inspection checklist is in appendix D.

Pest Management Service Providers

- a. Conduct pest control activities according to the Regional Base Operating Services contract.
- b. Coordinate notification requirements with facility directors prior to applying any pesticides.

Integrated Pest Management Coordinator

- a. Review and update the Integrated Pest Management Plan for Child Development Centers.

IPM Committee

- a. The IPM Committee will be made up of the following personnel:
 - 1) Installation Pest Management Coordinator;
 - 2) Child Development Center Representative(s);
 - 3) Pest Management Performance Assessment Representative; and
 - 4) Pest Management Contractor.

- b. The IPM Committee will meet quarterly, or as needed, to discuss the IPM strategy and program for the Child Development Center. Pest problems will be evaluated; prevention and control methods will be reviewed and adjusted as necessary. The committee will review pesticide usage to ensure implementation of all nonchemical control options.

General

1. In a collaborative effort between the EPA, Regional IPM centers, USDA, and many others, have developed a strategic plan for the use of IPM in schools and child development centers. The premise is that children are more sensitive to pesticides and the presence of pests. Additionally, the Rules of the Georgia Structural Pest Control Commission, section 620-7-.03, contains language that restricts pesticide applications near students and requires notification signs during and after some pesticide applications. The Naval Submarine Base (SUBASE) Kings Bay intends to adopt the fundamentals of the strategic plan by implementing integrated pest management (IPM) for the child development center. It would involve education and collaboration between administration, pesticide applicators, childcare providers, food preparation staff, and facilities maintenance.

2. This installation plan provides basic concepts for implementation. Installation IPM personnel will use a comprehensive approach to control pests in and around child development centers. Cultural, mechanical, physical and chemical controls will be implemented to manage pests. As a last resort, chemical controls will be used to the least extent possible. The CDC will notify parents prior to pesticide applications 24 hours prior to the application. Parents requesting to be notified shall receive written notification through various mechanisms outlined below. This plan provides for exemptions to notification for the certain classes of pesticides that are outlined in the plan.

EDUCATION

Staff, pest management service providers, and parents will be educated about potential school pest problems and the IPM policies and procedures to be used to achieve the desired pest management objectives.

1. Parents will be informed annually about the IPM policy (appendix A);
2. Staff will receive information and/or training on their role in pest management.
3. Service providers receive continuous education as required by the state.

RECORD KEEPING

Log Book

Surveillance is one of the most valuable components of a child development center IPM program. The staff will use a log to immediately document any pest problems. The pest management contractor will identify actions taken for each pest issue. The log book will contain the following:

- a. Pest Sighting Log – The staff and the pest management applicator will use this to track pest problems. A sample log is in appendix B. The Child Development Center Pest Identification Guide can aid in identification of pests (Appendix D).
- b. Pesticide Application Record – The pest management applicator will use this to record pesticide applications, so that the staff or parents can see what the applicator used at any given time. A sample pesticide application record is in appendix B.
- c. Current list of approved pesticides used, pesticide Safety Data Sheets (SDSs), and pesticide product labels.

Pesticide Records

Records of pesticide use shall be maintained on site via the Pesticide Application Record and online using the NAVFAC Online Pesticide Reporting System (NOPRS). Records must be current and accurate and maintained indefinitely.

NOTIFICATION PROCEDURES

Initial Notification

The CDC will initially notify parents by providing an information letter when a participant is enrolled in the program (appendix A). This letter requests that parents read the provided information concerning the IPM program and pesticide use in the CDC. If parents want to be notified prior to pesticide applications, they must return the signed IPM registry form (appendix A). The forms should be kept in the students' files.

Notification prior to Pesticide Applications

After a pest control problem has been identified which requires use of a non-exempt pesticide application, the CDC will use one or more of the notification procedures below to notify parents of planned pesticide applications.

- a. The CDC can notify parents who request notification via a letter carried home by their child.
- b. The CDC can place a general announcement on the CDC bulletin board and internet to ensure all interested parties receive the information.

Signage during Pesticide Applications

Twenty-four hours prior to planned pesticide applications, signs will be posted by installation pest control personnel providing notice of the planned application. The signage will be removed no earlier than 24 hours after completion of pesticide application. The signs will contain the following information:

- a. Site or area to be treated;
- b. Pesticide to be applied;
- c. Time and date of treatment; and
- d. Re-entry times.

Find additional requirements for indoor and outdoor notification signs in appendix C.

EXEMPTIONS TO NOTIFICATION

This plan provides for exemptions to notification for the following classes of pesticides:

1. Germicides, disinfectants, bactericides, sanitizing agents, water purifiers and swimming pool chemicals used in normal cleaning activities.
2. Personal insect repellents.
3. Human or animal ectoparasite control products administered by qualified health professionals or veterinarians.
4. Manufactured bait stations, paste, or gel bait insecticides placed in areas where humans do not have reasonable access to the bait.
5. Aerosols used as a contact spray to remove site specific pests such as wasps or spiders.

EMERGENCY NOTIFICATION

General

The local Child and Youth facility administrator may direct an emergency application to control an immediate threat to human health. Follow up this use with notification to those concerned.

Subsequent Notification of Parents, Guardians, and Staff Members

Provide notification no later than 24 hours after application or on the morning of the next business day. The facility administrator will provide to parents, guardians, or staff member listed on the registry, notice of the application of the pesticide in the emergency that includes:

- a. The information required for a notice under paragraph F.3, above; and
- b. A description of the problem and the factors that required the application of the pesticide.

PEST CONTROL PRIORITIES

Medical

- a. Disease Vectors: ticks and mosquitoes when determined by medical authorities, rabid animals, rodents
- b. Poisonous Stinging/Biting Organisms: wasps, bees, snakes, black widow and brown recluse spiders
- c. Nuisance Biters: mosquitoes (non-vectors), fleas, chiggers, biting flies
- d. Mechanical Disease Transmitters: cockroaches, filth flies.
- e. Stored Products Pests: arthropod pests in food products
- f. Poisonous Plants: poison ivy and other injurious plants
- g. Nuisance Household Pests that cause psychological stress to personnel

Structural Pest

Wood-damaging termites, wood borers, and wood destroying fungi

Wild or Feral Animals

Feral cats, skunks, raccoons, opossums, groundhogs, squirrels, birds, bats

Weeds and Undesirable Plants

- a. Safety and Fire Protection: adjacent to areas where flammable materials and electrical equipment are stored or maintained

- b. Security: along fences and other high security areas
- c. Protect Real Property: roadway "Right-of-ways" (parking lots, access roads)
- d. Beautification of high visibility areas by selective weed control

Ornamental Plant, Tree and Turf/Soil Pests

- a. Safety: e.g., mole and gopher control in athletic areas where uneven surfaces could cause injuries, caterpillars that have urticating hairs, such as tussock and Io moths
- b. Plant Destroying: e.g., mites, borers, leaf beetles, bark beetles, plant diseases in landscaped areas
- c. Beautification of high visibility areas

Household and Nuisance Pests

- a. Indoor Breeding: cockroaches in nonfood areas and other crawling pests.
- b. Outdoor Invaders (admin and offices): crickets, ants, spiders, millipedes, moths, and over-wintering bugs, beetles, and flies.

Other Pests

- a. Pests in open grassy areas: grubs, ants, ticks, fleas, and flies breeding in animal feces.
- b. Ornamental Plant, Tree and Turf/Soil Pest Control in non-high visibility areas.
- c. Weed Control in non-high visibility areas.

RESOURCES

IPM in Schools: A How-to Manual.

Provides a detailed guide on implementing a school IPM program, as well as extensive information on common pests; produced by the U.S. Environmental Protection Agency, <http://www.birc.org/SchoolManual.pdf>.

IPM Learning Modules

Created by the University of Nebraska-Lincoln, this site includes over 30 learning modules about pests and IPM strategies: <http://pested.unl.edu/web/pested/modules>

School IPM

Hosted by Texas A&M Agrilife, and funded by the EPA, To provide the best professional integrated pest management training and advice for school districts and other environmentally sensitive institutions in Texas and the Southwest: <http://schoolipm.tamu.edu/>

REFERENCES

Department of Defense Instruction 4150.07, DOD Pest Management Program

(<http://www.dtic.mil/whs/directives/corres/pdf/415007p.pdf>)

United States Code, title 7, section 136r-1, Integrated Pest Management

(<http://www.law.cornell.edu/uscode/text/7/136r-1>)

Appendix A – Policy and Notification Examples

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- A-1 Pest Management Policy Statement
- A-2 Example of Initial Notification Letter
- A-3 IPM Registry

A-1. Pest Management Policy Statement

Policy

It is the policy of the Naval Submarine Base Kings Bay Child Development Center (CDC) to implement Integrated Pest Management (IPM) procedures to manage structural and landscape pests and to minimize exposure of children, faculty, and staff to pesticides.

Pests

It is the policy of the CDC to manage pests in the center environment. Pests such as cockroaches, fleas, fire ants, stinging wasps, termites and rodents are annoying and can disrupt the learning environment in schools. Pests are known to bite, sting, or transmit diseases, and may also cause allergic responses.

Pesticides

It is the policy of the CDC to reduce unnecessary exposure to pesticides in the school environment. When pesticides are used to manage pests in schools, there is potential for human exposure. Excessive exposure may result in adverse health effects in sensitive individuals. Children are more susceptible to pesticides than adults due to their smaller size and rapid growth and development. Their behavior may expose them to more pesticide residues.

Integrated Pest Management

To balance the risk of pests and pesticide use, it is the policy of CDC to employ principles of integrated pest management. Some of the major principles include,

- Communication with the CDC community about pest problems, conducive pest conditions, and pest management strategies.
- Monitoring and identification of pests to verify a pest problem.
- Prevention of pest populations using such methods as sanitation, exclusion, and mechanical control.
- Targeted application of "least hazardous" pesticides only "as needed" and in inaccessible areas to correct verified problems.

Success

The success of IPM in CDCs is dependent upon the full cooperation of administrators, faculty, maintenance/custodial staff, parents, and students as well as timely communication with pest management service providers. To that end, the IPM program will include:

- Development of a written Integrated Pest Management Plan for the CDC;
- Establishment of an IPM committee; and
- Designation of a CDC staff member to coordinate the IPM program and maintain the logbook.

A-2. Example of Initial Notification Letter



Name of Child Development Center or School

[insert installation name, state, zip code]

Office of the Director
Phone: XXX-XXX-XXXX
[insert date]

Dear Parents:

[Name of Child Development Center or school] is implementing a preventive integrated pest management (IPM) program within our facilities. Integrated pest management uses a comprehensive approach to minimize the amount of pesticides used in day care centers to adequately control pests. This letter is notification that *[installation name]* may use pesticides within the *[center or school]* when needed throughout the school year. The *[center or school]* will post notification twenty-four (24) hours in advance of general pesticide applications. General pesticide applications may include spraying baseboards for insects, playgrounds for weeds, or kitchens for cockroaches. Applications of baits or gels, germicides (e.g., bathroom cleaners, sanitizers, etc.), and aerosols for wasp control are not considered general applications. You can also be notified of pesticide applications by completing the attached registration form. We will use this registry to ensure that those families who feel the need to be advised of pesticide applications will receive at least 24-hour advance notification. An exception to the 24-hour notification will be for emergency pest management situations that present an immediate threat to human health. Following any emergency pesticide applications, we will send a notification either 24 hours after the *[center or school]* applies a pesticide or on the morning of the next business day, whichever is earlier.

A pest management policy is available at the *[center or school]* that explains the details of the IPM program. All pesticide applications for the *[center or school]* will be made by DOD- or state-certified individuals. As part of the *[center or school]* plan and the installation's Integrated Pest Management Plan, pesticide applications will be made after hours or on weekends, when children are not present in the area of the application. A complete list of pesticides, pesticide labels, and Material Safety Data Sheets are available from the *[center or school]* staff upon request.

Maintaining a safe, pest free environment for our children is our priority.

Further technical questions may be addressed to *[insert name]*, Installation Pest Management Coordinator, at (XXX) XXX-XXXX. All questions concerning administration of this program may be addressed to the *[center or school]* office at (XXX) XXX-XXXX).
[insert name of Director] *[Center or School]* Director

A-3. IPM Registry

Child Development Center

[insert installation name]

Integrated Pest Management Registry [20__-20__]

Please return this completed form to the [child development center] if you would like to participate in the Integrated Pest Management Program Registry. You will receive 24-hours notice* of pesticide applications in your child's center.

Teacher: _____

Grade or Class Name: _____

Student's Name: _____

Parent's Name: _____

Parent's Daytime Telephone: _____

Parent's Work Telephone: _____

Cell Phone: _____

Parent's Address: _____

Parent's E-mail: _____

Additional Notes:

**An exception to the 24-hour notification will be for emergency pest management situations that present an immediate threat to human health. Following such an emergency pest management situation, we will send you a notification 24 hours after a center applies a pesticide or on the morning of the next business day.*

Appendix B – Policy and Notification Examples

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- B-1 IPM Pest Sighting Log
- B-2 IPM Pesticide Application Log

Appendix C – Posting Requirements

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C-1	Posting Requirements for Pesticide Applications
C-2	Pesticide Posting Notification Sign Example

C-1 – Posting Requirements for Pesticide Application

1. This appendix describes the type and style of signs recommended for posting pesticide applications in and around schools and CDCs. The criteria described here for signs conform to proposed Federal guidelines for posting pesticide applications in schools and those guidelines already in place in many of the states. A copy of the sign described below can be found at the end of this appendix.
2. Signs for proposed pesticide applications should conform to the following requirements:
 - a. The sign should be a minimum of 8 1/2 inches high by 11 inches wide.
 - b. The sign should be of a rigid material that is substantial enough to be easily read for at least 24 hours prior to the pesticide application despite the effects of adverse weather conditions.
 - c. The sign should contain the following information:
 - 1) The statement, "PESTICIDE APPLICATION WITHIN NEXT 24 HOURS" in bold letters at least 3/4 inches high.
 - 2) The statement, "A Pesticide Application is planned for the location(s) listed on this sign for: __[Date/Time]___" in bold print of at least 20- point type.
 - 3) The statement, "Do Not Enter Treated Area from ____[Date and Time]_until _____[Date and Time]_____in bold print of at least 20-point type.
 - 4) The statement, "For more information contact: _____" in bold print of at least 20-point type. The blank space should contain the name or names of the person or persons at the school/CDC to contact for more information on the pesticide application.
 - 5) "Pesticide name(s): (the common name of each pesticide applied)" in bold print of at least 20-point type.
 - 6) The statement, "For emergency pesticide applications this sign must be posted at the time of the application and remain in place for at least 48 hours from the conclusion of the application. To be removed by authorized personnel only." in bold print of at least 12-point type.

[Note. A sample of this type sign can be found at the end of this Appendix.]
3. When pesticide applications are made outdoors, signs should be posted in the area as described below:

- a. Pesticide applicators making outdoor pesticide applications within school or CDC property should post signs that notify the public of the pesticide application. The signs should be posted at conspicuous locations no farther apart than every 100 feet of road frontage of the treated property.
- b. These signs should be posted by the person applying the pesticide at the time of the pesticide application.
- c. Signs posted along road frontage should face the road. Signs posted at a point of entry should face the direction that people walk as they enter the property.
- d. The bottom of each sign should be at least 12 inches above the ground and the top no higher than 48 inches above the ground. Signs should be posted (1) at the property boundary between 2 and 5 feet from the sidewalk (2) or, if there is no sidewalk, between 2 and 5 feet from the road, (3) or, if there is also no road, between 2 and 5 feet from the property boundary. When landscaping or other conditions would make a sign inconspicuous or difficult to read if the sign were posted within the distances specified in this paragraph, the sign should be posted in a similar manner such that it is conspicuous and easily read by any adult or child entering or passing the property on foot.
- e. No person should remove or render difficult to read any posted pesticide application sign within 24 hours after the pesticide application to which it applies.
- f. Signs to be posted at the time of outdoor pesticide applications should conform to the following requirements:
 - 1) The sign should be a minimum of 4 inches high by 5 inches wide.
 - 2) The sign should be of a rigid material that is substantial enough to be easily read for at least 24 hours after the pesticide application despite the effects of adverse weather conditions.
 - 3) The sign should contain the following information in black lettering on a bright yellow background in the format specified below:
 - a) The words, "PESTICIDE APPLICATION" in bold letters of at least 36-point type.
 - b) The symbol of a circle at least two inches in diameter with a diagonal slash over a person, child, and dog.
 - c) The statement, "Pesticide applied on (date) by (name and telephone number of the pesticide applicator)" in at least 12-point type.

- d) The statement, "This sign must remain for 24 hours after pesticide application" must be in at least 12-point type.

- 4) Except for the date of the pesticide application and the name and telephone number of the pesticide applicator, the information required on the sign should be professionally printed. The remaining information may be handwritten provided it is written in permanent ink and in a print that is easy to read.

C-2 – Pesticide Posting Notification Sign Example

**PESTICIDE APPLICATION
WITHIN THE NEXT 24 HOURS**

**A Pesticide Application is planned for an area within the Child Development
Center**

on _____ at _____.

Do Not Enter Treated Area from _____ until _____.

Pesticide name(s): _____

For more information contact: Jane Doe, CDC Director, 239-0006

For emergency pesticide applications this sign must be posted at the time of the application and remain in place for at least 48 hours from the conclusion of the application. To be removed by authorized personnel only.

Appendix D – Pest Management Resources
Table of Contents

D-1	CDC Pest Identification Guide
D-2	CDC IPM Inspection Checklist

D-1 – Child Development Center Pest Identification Guide

German Cockroach



Small cockroaches that are commonly found close to food and water, such as kitchens, bathrooms, and pantries.

American Cockroach



Large cockroaches found in warm, damp places such as sewers and laundry areas; capable of flight. Feces tend to look like coffee grounds.

Silverfish



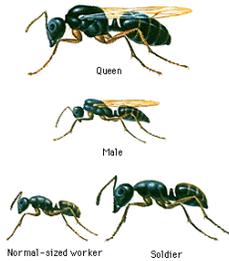
Silverfish are often found in boxes or in dusty book files and do not cause much damage.

Fire Ant



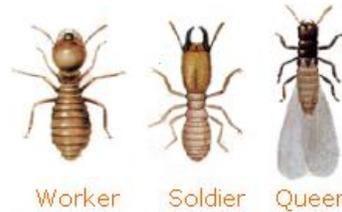
A shiny reddish brown that varies in size although mainly medium-sized. Very aggressive when mound is disturbed. Mounds typically located in grassy areas, at base of trees, in sidewalk cracks, and under foundations.

Ant



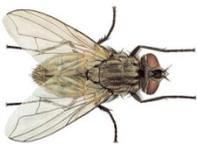
Many species of ants will invade buildings and are attracted to food. Some adults can be winged.

Termite



Subterranean termites eat wood and form mud tubes from the soil to the wood. Swarmers (winged termites) can enter buildings through small openings during mating season in the spring.

House Fly



These flies often come in from opened doors and windows and are attracted to food. They can potentially spread disease mechanically. They regurgitate on food material and sponge it up.

Drain Fly



Drain flies can be found near drains in kitchens and bathrooms. Larvae live in the sludge in the drain and it is difficult to kill them with just bleach, often the pipes need cleaning.

Fruit Fly



Fruit flies are attracted to rotting fruit and can be an indicator of a sanitation issue.

Hornets



These insects are large with vivid markings. They build large grayish-brown teardrop shaped paper carton nests. Can be very aggressive when disturbed.

Paper Wasp



These wasps create large colonies and can sting viciously and repeatedly. Often build nests high on outside of buildings.

Mud Dauber



These are solitary wasps that build organ pipe-shaped mud nests on the outside of buildings. These wasps seldom sting.

Earwig



Enter buildings through openings around doors and windows and crawl about at night. They are primarily scavengers and will hide during the day. They do not pinch or sting.

Cricket



Crickets commonly invade buildings and are an annoyance due to their chirping.

Bedbug



Bedbugs feed on blood and are introduced by the movement of infested items. Signs of an infestation include fecal spots, shed skins, and a sweet odor.

Centipede



Centipedes have one pair of legs for each body segment and flattened bodies. They can bite and place poison in the wound. They are an occasional pest although house centipedes can live full-time in structures.

Millipede



Millipedes have two pairs of legs for each body segment and have a cylindrical body shape. They are slow moving, eat organic materials, and found in damp places. They occasionally invade buildings after heavy rains.

Pillbug



Also known as "rollie-pollies," these land crustaceans are found outside, often in damp areas. They roll into a ball when they are disturbed and may wander into buildings.

Black Widow

Brown Widow

Tick



These venomous spiders have a globular shiny abdomen with a characteristic red or orange hourglass mark on the underside. Their egg sacs are often round and smooth.



Similar to black widows, these are brown spiders with distinct markings. Their egg sacs are bumpy and often found under playground equipment.



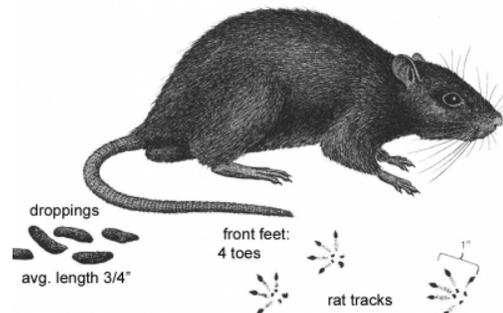
Ticks feed on blood and are often found in wooded areas. Ticks should be removed with tweezers and not burned off.

Norway rats are the most common and largest of the domestic rats. They usually nest outdoors in burrows in the ground or under foundations of buildings. They are known to travel up sewers and into dwellings through toilets. They feed on everything and need water daily.

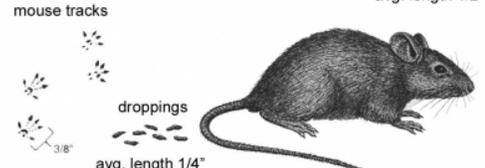
Roof rats are smaller than the Norway rats and are agile climber. They prefer to nest above ground, and indoors, will nest in attics, between floors and ceilings, in walls, and in other enclosed spaces such as cabinets. They prefer vegetables, fruits, and grains.

House mice are small with brown or black fur. They prefer to nest indoors in spaces between walls, in cabinets and furniture, and in stored products. They typically stay close to their nests. They prefer cereal grains and obtain water from their food.

Norway rat



Roof Rat



House Mouse

D-2 – CDC Integrated Pest Management Inspection Checklist

Child development centers can reduce the likelihood and extent of pest problems through simple procedures and preventive maintenance. The following practices will help keep pests out of center buildings and hinder their establishment, thereby minimizing pest and pesticides risks.

Kitchen and cafeteria

- Seal cracks and crevices in walls and floors and around permanent fixtures.
- Seal openings around electrical conduits, pipe chases, and ducts.
- Cover floor drains with screens.
- Clean floor drains regularly with a long-handled brush and cleaning solution.
- Keep floor drain traps full of water.
- Keep plumbing in good repair (no dripping pipes, faucets, or plugged drains).
- Sewer lines are in good repair.
- Clean and dry all surfaces and used utensils, trays, and dishes by the end of the day.
- Regularly clean all surfaces of grease deposits in food preparation and serving areas.
- Dispose or launder wiping cloths daily.
- Properly store mops and mop buckets (e.g., mops hung upside down, buckets emptied).
- Clean and empty overflow water trays in refrigeration units as often as necessary to prevent water leaks.
- Thoroughly clean areas around and under appliances and furnishings that are rarely moved (e.g., refrigerators, freezers, shelving units) to remove accumulated grease, dust, and other debris at least monthly.
- Purchase new kitchen appliances and fixtures that are a pest-resistant design (e.g., open design, few or no hiding places for roaches, freestanding and on casters for easy, thorough cleaning).
- Remove out-of-date charts or paper notices from walls monthly.
- Maintain vending machines in clean condition inside and out.
- Wash recyclable containers with soapy water before storage.
- Store food waste from preparation and serving areas in sealed, leak-proof plastic bags before removal from school grounds.
- Drain waste with liquid food residues (e.g., milk cartons, juice boxes) of excess moisture before discarding.
- Ensure weather stripping and door sweeps on exterior doors are present and in good condition.

Food Storage Areas

- Inspect incoming shipments (e.g., food products, paper supplies) for pests and reject if infested.
- Ensure food products are delivered in non-pest-proof containers (e.g., paper, cardboard boxes). Immediately store product not used in refrigerated or pest-proof containers.
- Promptly dispose or recycle packing and shipping trash (bags, boxes, pallets).
- Rotate stored products on a "first in, first out" basis to reduce potential for pest harborage and reproduction.
- Do not allow bulk stored products to make direct contact with walls or floors, thereby allowing access for inspection and reducing pest harborage.
- Maintain inspection aisles (> 6" x 6") around bulk stored products.
- Inspect food storage areas twice monthly for evidence of pests.
- Consider food that has come in direct contact with pests (such as ants, mice, cockroaches, mealworms or other stored product pests) contaminated and discard promptly.
- Use shelf paper.
- Store paper and cleaning products separately.

Classrooms, Offices and Hallways, Teachers Rooms

- Seal cracks and crevices in walls and floors.
- Clean floors regularly.
- Wash recyclable beverage and food containers prior to disposal or seal in pest-proof container and move off-site regularly.
- Remove food or food wrappers daily.
- Maintain refrigerators, microwave ovens, and vending machines in clean condition inside and out.
- Keep sink areas clean and dry.
- Allow food and beverages in limited designated areas only and clean daily.
- Store materials away from walls to allow for regular pest inspection.
- Collect and dispose of waste materials in a dumpster, compactor or designated pickup location daily.
- At least annually, clean around and under rarely-moved furniture (e.g., staff desks, bookcases, filing cabinets) in classrooms and offices to remove accumulated lint, dust or other debris.

Restrooms

- Clean restrooms and remove trash daily.
- Clean drains regularly with long-handled brush.

- ❑ Seal cracks and crevices in walls and floors.
- ❑ Ensure plumbing to be in good repair (e.g., no leaks, drips, clogged drains).

Custodial and Maintenance Areas/Duties

- ❑ Dry and properly store mops and mop buckets (e.g., mops hung upside down, buckets emptied).
- ❑ Inspect trash/recycling rooms, compactors and dumpsters regularly; clean spills; and repair leaks promptly.
- ❑ Keep indoor garbage in lined, covered containers and empty daily.
- ❑ Dispose of packing and shipping waste promptly.
- ❑ Collect and move stored waste off-site at least once weekly.
- ❑ Rinse or store recyclables in pest-proof containers and move off site weekly.
- ❑ Clean or replace vent or heater filters as per manufacturer's recommended interval or more frequently.
- ❑ Inspect the inside of vents and ducts at least every three years and have a certified contractor clean when needed.
- ❑ Correct moisture sources (e.g., ventilate areas where condensation forms frequently, repair plumbing, roof leaks, dripping air conditioners).

Pest and Pesticide Risk Management

- ❑ Never apply pesticides (including 'weed and feed' products, mold and mildew control products, disinfectants, rodent baits, ant baits, insecticides, plant disease control products, weed-killers and any other chemical intended to kill living organisms) in or on school grounds except by persons licensed and certified in the appropriate category except when used for routine cleaning.
- ❑ Keep pest monitoring and pest management records in the school in an accessible location.
- ❑ Use lesser risk options for pest management first when action is required.

If baits or traps of any kind are used:

- ❑ Assign each bait station or trap an assigned identification number
- ❑ Prepare a map showing the location and identification number of each trap or bait placement.
- ❑ Mark each trap or bait station with appropriate warning language.
- ❑ Check bait stations at least monthly
- ❑ Check rodent traps daily and remove captured rodents immediately.
- ❑ Properly store all pesticides (including disinfectants) in original containers in secured locations according to appropriate hazardous chemical safety protocol (e.g. flammables stored in fire-resistant cabinet, acids stored separately from bases, chlorine-containing chemicals not stored near acids or ammonia)

- ❑ Maintain Safety Data Sheets (SDS) and labels for each pesticide and other hazardous chemicals in an accessible location.
- ❑ Manage pesticide (including disinfectants) inventory to track current stock use and to ensure proper disposal of unused materials and empty containers.

Outdoors

- ❑ Trim tree limbs at least 6 feet away from building
- ❑ Keep vegetation, shrubs, and bark mulch at least 12 inches from building.
- ❑ Shut exterior doors when not in use.
- ❑ Screen or filter windows and vents and keep screens in good condition.
- ❑ Maintain weather stripping and door sweeps on exterior doors in good condition.
- ❑ Ensure building eaves, walls, gutters and roofs are sound. No evidence of water leaks or holes.
- ❑ Seal cracks in foundation or walls, and openings around conduit, plumbing, and doorways.
- ❑ Place garbage containers, compactors, and garbage storage away from building entrances.
- ❑ Place dumpsters on hard, cleanable surfaces.
- ❑ Keep dumpsters closed with tight-fitting lids.
- ❑ Empty dumpsters weekly and clean regularly.