



Trapezoid

California Department of Pesticide Regulation @Pestec Public Health

Alameda County Department

of Healthy Homes



University of **California** Agriculture and Natural Resources

Office of Education

Serving Students = Supporting Communities = Leading Educators

Los Angeles County

Urban IPM Advisor?!

- Andrew Sutherland: SF Bay Area Urban IPM Advisor
 - Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties
 - Structural / industrial IPM
 - Professional / commercial landscape IPM
 - Urban agriculture producers
- <u>amsutherland@ucanr.edu</u>
- http://ucanr.edu/sites/urbanIPM/





In this course, you will learn about

- The Healthy Schools Act
- Health risks to children and staff
- IPM in schools/child care
- IPM as a business model





K-12 schools in California

- There are more than 5,000 elementary schools in California and 2,500 middle and high schools
- These schools serve over 6 million children
- Like child care settings, many report pest problems such as ants and rodents. Most have extensive outdoor playground and turf facilities that also require pest management





90% of California child care centers reported at least one pest problem!



Half of the child care centers used spray pesticides. Two thirds said that Pest Management Professionals (PMPs) were an important source of pest control information.



Pests cause potentially serious health problems

Bacteria spread by cockroaches and rodents:



cause infections and other illness.

Allergens from cockroaches and rodents:







trigger allergies and asthma attacks.

Rodents and raccoons



carry diseases in their urine or feces.



Pests damage buildings and landscapes

Exemplary pest problems

- Rodents chew through wiring, timber, pipes, and brickwork and can cause fires by chewing electrical wires
- Some scale insects can severely weaken trees and shrubs as well as produce infrastructure-damaging honeydew





- School and child care administrators need to understand and address the risks from pests
- PMPs can communicate to school and child care staff and promote IPM

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The Healthy Schools Act (HSA)

2001: established the rights of parents and staff to know about the pesticides used and required record keeping
2006: certain pesticides were prohibited
2007: HSA extended to include private child care centers
2015: All public schools and child care centers required to have IPM plans and training and must report pesticide use to DPR

- Regulates pesticide use in public K-12 schools and licensed child care centers
- Requires schools and child care centers to notify staff and parents and maintain records of pesticide use
- Requires that PMPs notify schools and child care centers when applying pesticides
- Pesticide use in schools and child care must be reported to the county and state.
- The Department of Education oversees the right to know provisions.
- The Department of Pesticide Regulation oversees the reporting requirements.



http://apps.cdpr.ca.gov/schoolipm/

What is the rationale for the HSA?

- Increased concern about the health effects of pesticide exposure on sensitive populations
 - Infants

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- Children
- Scientific studies linked pesticide exposure to health and environmental problems
- IPM reduces pest problems and pesticide use
 - Effective in urban areas
 - Reduces pesticide exposures to people and the environment

Least toxic pest management practices should be the preferred method of managing pests at schools and child care centers







Why should we be concerned about children?

Children have higher exposure to environmental contaminants compared to adults because they:

- Eat, drink, and breathe more per pound of body weight, compared with adults
- Have more skin surface relative to size; and their skin is more absorbent
- Have frequent contact with the ground or floor and put their hands in their mouths (infants eat a lot of dust)
- Get into stuff!

Children get more chemicals in their bodies than adults if the environment is contaminated





We know what a school is, but what is a child cerch care center?

- Licensed by the State of California **Community Care Licensing Division**
- Provide non-medical care and supervision for infant to school-age children in a group setting where no one lives on site
 - Child care centers

- Infant care centers
- Toddler programs
- School-age centers
- Child care centers for mildly ill children
- Can be found in school buildings, commercial buildings, and churches





What does a school or child care site include?

- Any indoor space or outdoor area that children visit or use
 - Attics, crawl spaces
 - Playgrounds, athletic fields
 - School vehicles

Note: If a school or child care program regularly uses a public park for school activities then the park is considered part of the school/child care site.





The HSA applies even if the program is not in session!



What facilities are exempt from the HSA?

- Family child care homes
 - Located in the licensed family care provider's own home
- Child care centers on military bases that do NOT receive state funding
- Child care centers on Native American Indian reservations
- Private K-12 schools
- Sunday schools, other *unlicensed* child care, colleges and universities



What are the key components of the HSA?

The school or child care program must

- Designate an IPM coordinator
- Have an IPM plan
- Notify parents annually of intended pesticide use
- Maintain a registry of parents or staff who want notification each time a pesticide is used.
- Post warning signs when pesticides are used
- Keep written records of pesticide use for four years





The PMP must

- Work with the school and child care center to facilitate compliance
- Notify the school and child care center when pesticides are to be used
- Report pesticide use to the county agricultural commissioner **and** to DPR
- Avoid use of prohibited or canceled pesticides



SB 1405: 2014 Revision to the Healthy Schools Act

- As of January 1, 2015, requires schools and child care centers to report pesticide use by their employees.
- Requires schools and child care centers to have an IPM plan when using pesticides. The IPM plan must be approved by DPR or based on a DPR template.
- Requires all school or child care employees applying pesticides to take an annual course approved by DPR that covers school site IPM and the safe use of pesticides around children, beginning July 1, 2016.



 Requires PMPs to take training on school site IPM and the safe use of pesticides around children as a CEU before applying pesticides in school or child care. The training must be taken during each licensing period.

What pesticides are subject to the HSA?

Use of any EPA-registered pesticide is subject to the annual training requirement of the HSA.

Application methods subject to all additional requirements (IPM plan, posting, notification, recordkeeping, reporting)

- Liquid sprays
- Gels and pastes NOT applied in cracks and crevices
- Uncontained powder, pellets, pheromones
- Foggers

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cerch Who is the IPM coordinator?

The Healthy Schools Act requires each school or child care center to have a "School Site Designee", or IPM Coordinator.

The IPM Coordinator is:

- The person assigned to ensure that the HSA requirements are carried out
- Often the center director or maintenance director
- A key contact for the PMP





what's required of the school or child care provider?

The IPM coordinator must provide all parents and staff written notification

- Annually about pesticide products expected to be used at each site that year (including DPR's web site <u>www.cdpr.ca.gov/schoolipm</u>)
- At least 72 hours in advance of an application if a pesticide not listed on the annual notification is to be used



Build your Business!

PMPs can provide all posting, reporting, parent notification, and record keeping as add-on services. \$\$



Schools and child care centers must maintain a registry of parents and staff who want notification of individual applications.

Those on the list must be notified at least 72 hours before an application with the following information:

- Product name
- Active ingredient
- Date of application
- DPR's School IPM web site <u>www.cdpr.ca.gov/schoolipm</u>

Sample notice for specific pesticide a	pplication
Dear Parent or Guardian,	
At your request, we are writing to notify you about a specific pesticide application school. Please see below for detailed information. If you would like to see the Ma Data Sheet for this chemical, it is available at	s) at your terial Safety
[SCHOOL LOCATION]	
If you have any questions, please contact	
[SCHOOL DISTRICT REPRESENTATIVE NAME] at [PHONE].	PLE
Sincerely,	
[NAME OF SCHOOL DISTRICT OFFICIAL]	
Notice of Pesticide Application	
Date Form Completed:	
School Name:	
Location of Planned Pesticide Application:	
Building Name/Number:	
Playground or Grounds Section:	
Name of Pesticide To Be Applied:	
Active Ingredient(s):	
Plannad Data/Tima of Particida Application:	



What are the posting requirements?

School and child care center staff must post signs around treated areas

- 24 hours before application
- 72 hours after application

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http://apps.cdpr.ca.gov/schoolipm/t ools_templates/warning_sign.pdf

Signs must prominently include

- The words "Warning: pesticide-treated area"
- Product name
- Manufacturer
- U.S. EPA's registration number
- Scheduled date of application
- Areas to be treated
- Reason for the application (i.e., target pest)



What are the posting requirements?

- Signs must be visible to anyone entering a treated area. The law does not specify text, color, or size of lettering.
- The word "Warning" on the sign does NOT refer to the pesticide toxicity signal words (danger, warning, caution), but is universal language for "Watch out!"

Download sample warning signs in English and Spanish from DPR's school IPM website <u>www.cdpr.ca.gov/schoolipm/</u>

Build your Business!

PMPs can provide warning signs as part of their business proposal. They should clarify who is posting the signs 24 hours prior to the application. \$\$



What are emergency conditions?



Emergency conditions exist when the school or child care staff or property owner conclude that the immediate use of a pesticide is necessary to protect the health and safety of children, staff, or other persons. Emergencies are rare! A yellow jacket nest in a playground is an example of an emergency.

- Advance notification is not required in emergency conditions, however the law requires the school or child care to make every effort after the emergency application to notify those on the pesticide notification registry.
- Posting of the site must be completed as soon as the decision to spray has been made, then left in place for 72 hours after the application



What is required of the PMP?

- PMPs must provide five days' (120 hours) notice to child care staff or the property owner or manager and three days' (72 hours) notice to school staff when they intend to apply pesticides at a school or child care site.
- When a school or child care center is part of a larger property, the PMP must notify the school or child care staff if pesticide applications are within 10 feet of their facility's boundary.



Example: You will be treating the grounds of a community college that includes a child care center. If your application is within 10 feet of the center's boundary, you must notify the staff five days before doing the work so that the staff can ensure all the requirements of the HSA are met.



What records do schools and child care centers have to keep?

- Each school and child care facility must keep records of applications on site for four years
- Records must include product name, active ingredient, manufacturer's name, US EPA registration number, date and areas of application, reason, and amount used
- DPR recommends that records be kept of all pest management practices, including those exempt from notification and posting
- Information must be readily available to the public



Pesticide Application Record							
	Product	Active		US EPA	Location		Amount
Date	Name	Ingredient	Manufacturer	Reg. No.	Applied	Reason	Used



What records do PMPs need to keep?

- Pesticide use reports must be submitted
 - Monthly Summary Pesticide Use Report (PUR) to the County Agricultural Commissioner (CAC)
 - Annual School Site Pesticide Use
 Reporting Form (PR-ENF-117) to DPR
 [California Code of Regulations 6624(a)(3).
 The form must be filed annually no later
 than January 31st the following year.
- PMPs must keep records of pesticide applications for two years





Pesticide use reporting form

	SS REGISTRATION/	ICENSE/CERTIFICAT	E # BUSINESS/	OPERATOR NAME		
BUSINESS ADDRESS				CITY	STATE ZIP CODE	BUSINESS PHONE NUMBE
School CDS #/Child Day Care I <u>OR</u> Name & Address AND Spe School or Child Day Care Facil	Facility # Coun cify if ty	ty Date & Time Application Completed	Location (# or name from list on back)	Manufacturer & Name of Product Applied	EPA/California Registration Number from Label (include alpha code, if possible)	Amount Used Coo (and check one unit (from of measure) on ba
	School Day Care					
	<u>School</u>					
	School					GA ML KG L GR
	Day Care School					GA ML KG L GR

www.cdpr.ca.gov/schoolipm/



What are the property owner obligations to the PMP?

Property owners must notify PMPs if a child care facility is located on that property.





What happens when you treat private or public property next to a school or child care center?

No notification is required unless the property is regularly used by the school or child care center.









What are exempt products?

- Pesticide products applied in the form of a selfcontained bait or trap
- Pesticide gels or pastes deployed as a crack and crevice treatment indoors
- Antimicrobials, including sanitizers and disinfectants
- Pesticides exempt from registration, such as food grade essential oils or 25b products

Exempt from

IPM plan, Notification, Posting, Recordkeeping, Reporting

NOT exempt from the HSA annual training requirement

Licensed PMPs hired to apply pesticides at schools and child care centers must continue to report ALL registered pesticides to DPR annually and the county monthly.









What pesticides are prohibited?

Some pesticides can NEVER be used in schools or child care centers

- Conditional, experimental use, or interim registration
- Contains a new active ingredient or is for a new use
- Has been cancelled, suspended, or phased out
- Check the DPR list of prohibited pesticides

List of Pesticide Products Prohibited From Use in Schools and Child Care Facilities

(AB 405, Chapter 566, Statutes of 2005)

Pursuant to Education Code section 17610.1, the pesticide products listed below are prohibited from use on "schoolsites." The term "schoolsite" is defined in Education Code section 17609 to mean any facility used for child care (other than family day care homes), or for public kindergarten, elementary, or secondary school purposes. The term included the buildings or structures, playgrounds, athletic fields, vehicles, or any other area of property visited or used by pupils. Schoolsite does not include any postsecondary educational facility attended by secondary pupils or private school facilities.

The following pesticide products meet the criteria of Education Code 17610.1(a), and therefore, are prohibited from use on schoolsites, effective October 1, 2013:

Product Brand Name	EPA Registration Number	
Capreno Herbicide	264-1063-AA	
Caramba Fungicide	7969-246-AA	
Celsius WG Herbicide	432-1507-AA	
CheckMate LBAM Dispenser	56336-58-AA	
Contego Pro SL Plant Growth Regulator	73049-462-AA	
Disarm 480 SC Fungicide	66330-64-AA	
DuPont Fontelis Fungicide	352-834-AA	
DuPont Velista Fungicide	352-835-AA	
Evito 480 SC Fungicide	66330-64-ZA	
Fresh Protect	86381-2-AA	
Gavel 75 DF Fungicide	10163-6414-AA	
0 1	04050 17 1 1	

http://apps.cdpr.ca.gov/schoolipm/school_ipm_law/



Section 2: IPM in Schools and Child Care Settings

This section of the course will present:

- The overall goals of IPM
- The advantages of adopting an IPM program
- The primary components of an IPM program





IPM has been defined in different way by various organizations

- Leads to confusion and a lack of brand recognition
- Common themes in definitions

IPM defined by the Healthy Schools Act

A pest management strategy that focuses on long-term prevention or suppression of pest problems through a combination of techniques such as monitoring for pest presence and establishing treatment threshold levels, using nonchemical practices to make the habitat less conducive to pest development, improving sanitation, and employing mechanical and physical controls.

Pesticides that pose the least possible hazard and are effective in a manner that minimizes risks to people, property, and the environment are used only after careful monitoring indicates they are needed according to preestablished guidelines and treatment thresholds.



What are the primary components of IPM?

- Education / identification
- Prevention
- Monitoring
- Treatment thresholds
- Multiple tactics
- Integration
- Evaluation











IPM: Education / identification

- Understand pest biology
- Identify pest species



Susceptible life stages must be present for tactics to succeed.

Examples:

• **Bark / ambrosia beetles** – only vulnerable to pyrethroid bark sprays during adult stage



 Many scale insects – only vulnerable to contact sprays during crawler stage





Prevent pests from establishing

- Proper landscape maintenance
- Moisture management
- Habitat modification
- Exclusion











IPM: Monitoring

Regular monitoring is crucial for decision making

- Visual inspections
- Monitors
 - Are pests present? Life stages?
 - Are natural enemies present?
 - Is pest density increasing or decreasing?









IPM: Thresholds

- Pest thresholds should always be considered
- A few pests may be tolerated, below and up to some threshold density
- Action is taken when the threshold is reached
- Usually applies in landscape situations
 - Some ants, aphids may be tolerated
- May not apply in some cases in schools/child care
 - Pests can contribute to illness, health issues
 - Pests considered vermin must be managed (state mandate)





Build your Business!

Lower thresholds mean more preventive measures are necessary...these can be billable PMP services.



Physical tactics

- Traps
- Vacuums
- Heat •







Physical tactics

- Traps
- Vacuums
- Heat

Cultural tactics

Sanitation, exclusion, preventive measures, avoidance









Physical tactics

- Traps
- Vacuums
- Heat

Cultural tactics

• Sanitation, exclusion, preventive measures, avoidance

Biological tactics

- Natural enemies
- Biopesticides
- Pheromone traps







Physical tactics

- Traps
- Vacuums
- Heat

Cultural tactics

• Sanitation, exclusion, preventive measures, avoidance

Biological tactics

- Natural enemies
- Biopesticides
- Pheromone traps



Chemical tactics

- Pesticides, repellents
- Used as a last resort
- IPM seeks to reduce any adverse impacts

Read labels thoroughly and follow guidelines!



Pest management tactics should work together

Example: Landscape IPM

- Natural enemies help to manage pests
- Broad-spectrum insecticides kill natural enemies
- Insecticides interfere with biological control
- Targeted applications conserve natural enemies







IPM: Evaluation

- Did my strategy/tactics effectively manage the pest?
- What might I change for next time?
- Keep use records
- Continue monitoring
- Implement changes

Build your Business!

Record keeping and data management help you manage pests and are billable services.





Ants: What to do

Pest problem: Argentine ants contributing to honeydew problems, disturbing soil in planting beds.

PMP

- Follow ant trail to locate nest
- Exclude ants from access to honeydew, if possible
- Consider sugar-based bait stations (must be child-proof, tamper-proof, self-contained)
- Know that any EPA-registered spray, uncontained bait, drench, or injection will require posting and notification under HSA
- Continue monitoring



School / child care center staff

 Ensure ants don't become problematic indoors by practicing proper exclusion and sanitation



Weeds: What to do

Pest problem: Annual weeds growing in hardscape cracks and joints create hazard and nuisance

PMP

- Practice regular monitoring
- Hand-pull weeds if possible
- Consider 25(b) contact herbicides (these are exempt from all HSA requirements)
- Know that any EPA-registered spray or granule will require posting and notification under HSA
- Continue monitoring



School / child care center staff

 Consider structural / landscape changes that prevent weeds from growing



Gophers: What to do

Pest problem: Pocket gophers damage turf and landscapes, create tripping hazards

PMP

- Practice regular monitoring
- Consider root barriers when planting, if practical and possible
- Use traps underground (cannot be visible nor accessible to children)
- Know that application of any bait or other toxicant will require posting and notification under HSA
- Continue monitoring



School / child care center staff

- Consider structural / landscape changes that prevent gophers
- Consider owl boxes, raptor perches

Increasing need and demand for IPM services



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- Increasing recognition and concern regarding adverse effects of pesticide exposure
- Wide access to information (and misinformation)
- Increasing globalization (international travel, multicultural demographics, invasive species)
- Effects due to climate change

Build your Business!

Market disruption creates an opportunity for PMPs! Offer the kinds of services your customer demands.

Search Engine





IPM as a business model

- Major changes are occurring in the pest management and landscape maintenance industries
 - Increasing restrictions on pesticides
 - New products and services are being developed
 - Health concerns
 - Increasing interest in IPM
- Opportunity to create new business models, attract new customers





Build your Business!

Protect your company by using appropriate pest management strategies, an arsenal of effective tactics, and good record keeping.



- Everyone is part of the IPM team
- Let others know what their responsibilities are
- PMP documents and reports what the client needs to know
- Clearly explain the client's responsibilities
- Communicate the science and logic of your findings and recommendations
- Consider more frequent services, change in tactics, or other pesticides



Monitoring and prevention

• Monitor for pest activity

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- Determine the conditions that cause pests to occur
- Demonstrate change over time
 - Baseline is established during the initial property inspection
 - Determined by the number of deficiencies reported and number of areas where pest activity was found





Build your Business!

Track the time you spend monitoring and inspecting and properly bill for these services.



Handling data

Record keeping is key!

- Record data
 - Paper forms
 - Pest management software systems
- Provide a landscape / site conditions report
 - Recommendations
 - Actions that need to be taken
 - Digital photos

Pest Inspection/Sanitation Report

Date	School
Building#/Location	
Inspector	Inspection Type Initial
Quality Control	Routine
Evidence of Infestation(s)	
Pest	Location
Pest	Location
🗆 Ants 🔅 Fleas 🔅 Cockroaches 🔅 Stored	Prod. Pests 🔲 Mice 🔲 Pigeons 🔲 Rats
Other	

Sanitation Survey

Food Preparation: Type Yes No Receiving: Ves No Equipment clean Floors clean Appliance drip pans clean Area neat and tidy; no clutter Floors clean Empty boxes stored in cold storage Floor drains clean Empty boxes stored away from kitchen Sink drains clean Public and Staff Areas Counters/Tables clean Restrooms clean Food stored pest-proof containers Plumbing in good repair; no leaks Perishables stored in refrigerator Locker room clean Garbage removed daily at end of day Locker room free of food and food waste Spillage cleaned regularly Employee lounge clean Floors and counters dry; no standing water Food stored properly in lounge Plumbing in good repair; no leaks Food stored properly in classrooms



Program evaluation

For clients

- Prepare informative reports outlining pest management success
- Increase participation
- Prioritize needed corrective actions





For PMPs

- Evaluate efficacy of pest management practices
- Track time and costs of service versus income
- Ensure work is properly compensated
- Increase service to compensate for poor client participation



Marketing IPM services

- Listen to the needs of the customer
 - Identify shortfalls and causes of pest problems
- Focus on information
 - Gathering
 - Documentation
 - Dissemination
- Be able to understand and communicate on the client's needs based on pest pressures, site conditions, and requirements of the HSA

IPM is

- Effective at preventing pests
- Cost-effective and safe
- Compliant with the HSA
- Validated by third-party certifiers
- An opportunity for PMPs and schools / child care providers to be branded as "Green" businesses



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