

EcoWise Certified

Standards for IPM Certification
in
Structural Pest Management

for
Structural Pest Control Board Branch 2 Licensees

Version 1.32 Adopted ~~February~~ January ~~126~~, 2006

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INTRODUCTION

The following standards will form the core of the EcoWise Certified pilot certification program in structural IPM that will begin in January 2006 in the nine San Francisco Bay Area counties and Sacramento County. The organizations overseeing this pilot include the Association of Bay Area Governments (ABAG), the Bio-Integral Resource Center (BIRC,) the Sacramento Stormwater Program, and the Natural Resources Defense Council (NRDC). During the pilot, ABAG will house the certification program at their offices in Oakland.

These standards were developed by BIRC under a grant funded by the State Water Resources Control Board. We expect that the content of the standards and the design of the certification process will continue to evolve over the next year as we gain practical experience.

Summary of the EcoWise Certified IPM Certification Program

- The pilot program will certify an IPM service within a pest control company or branch office. Businesses may offer traditional services alongside certified IPM services, as long as the required records are separated.
- The program will also certify individual Branch 2 field representatives and operators through a written exam. Each company or branch office must employ at least one certified individual to oversee its IPM service.
- After submitting an application that includes written IPM protocols for specific pests, companies or branch offices will be provisionally certified. Within a year, applicants must perform 20 IPM service visits for at least 7 different customers or sites. These IPM service visits must be overseen by the company's certified IPM Practitioner, must follow the standards, and record the required information on appropriate forms.
- After applicants perform the required service visits, a certification program evaluator will review their records and perform field evaluations to determine if applicants qualify for full certification. The certification program manager will make the final decision on granting certification.
- Both company and individual certificate holders must renew their certification after 3 years. Individuals must complete 27 approved continuing IPM education hours every 3 years.

Guidelines Covered in the Standards

- Requirements for company or branch office certification
- Knowledge requirements for individual certification
- How to provide an IPM service
- Recordkeeping in an IPM service
- Applying a pesticide in an IPM service, when necessary

Balancing Rigor and Paperwork

Perhaps the greatest challenge in writing the standards has been to balance the rigor of the program with the amount of work required of pest control businesses to become certified. We may not have struck the right balance yet, and it will be important in the coming months to gather input from pest management professionals on where that balance might be. We do not want to produce such a rigorous certification program that we only certify the few companies we already know are practicing IPM.

The certification program must allow pest management professionals to exercise their professional judgment while performing certified services. At the same time, certified pest management professionals must acknowledge the need for reasonable program oversight to maintain credibility and integrity.

Use of an Approved List of Pesticides in the Certification Program

We have included an approved list of pesticides as part of the standards.

The program is aware that IPM should not be equated with mere application of a reduced-risk pesticide on an approved list. Although a list of approved materials is not needed to perform IPM, we recognize that pest management professionals may need guidance on which pesticides are considered “reduced-risk”. We also recognize that a pesticide screening process is part of San Francisco's and Santa Clara's IPM programs and that this has led many environmentalists to expect that an approved pesticide list be part of any IPM program.

Although we are including an approved pesticide list as part of the certification standards, we want to make sure that pest management professionals are not being handicapped or denied materials needed to control pests when non-chemical methods are ineffective. To facilitate this, we will be soliciting help from the industry in developing our approved list.

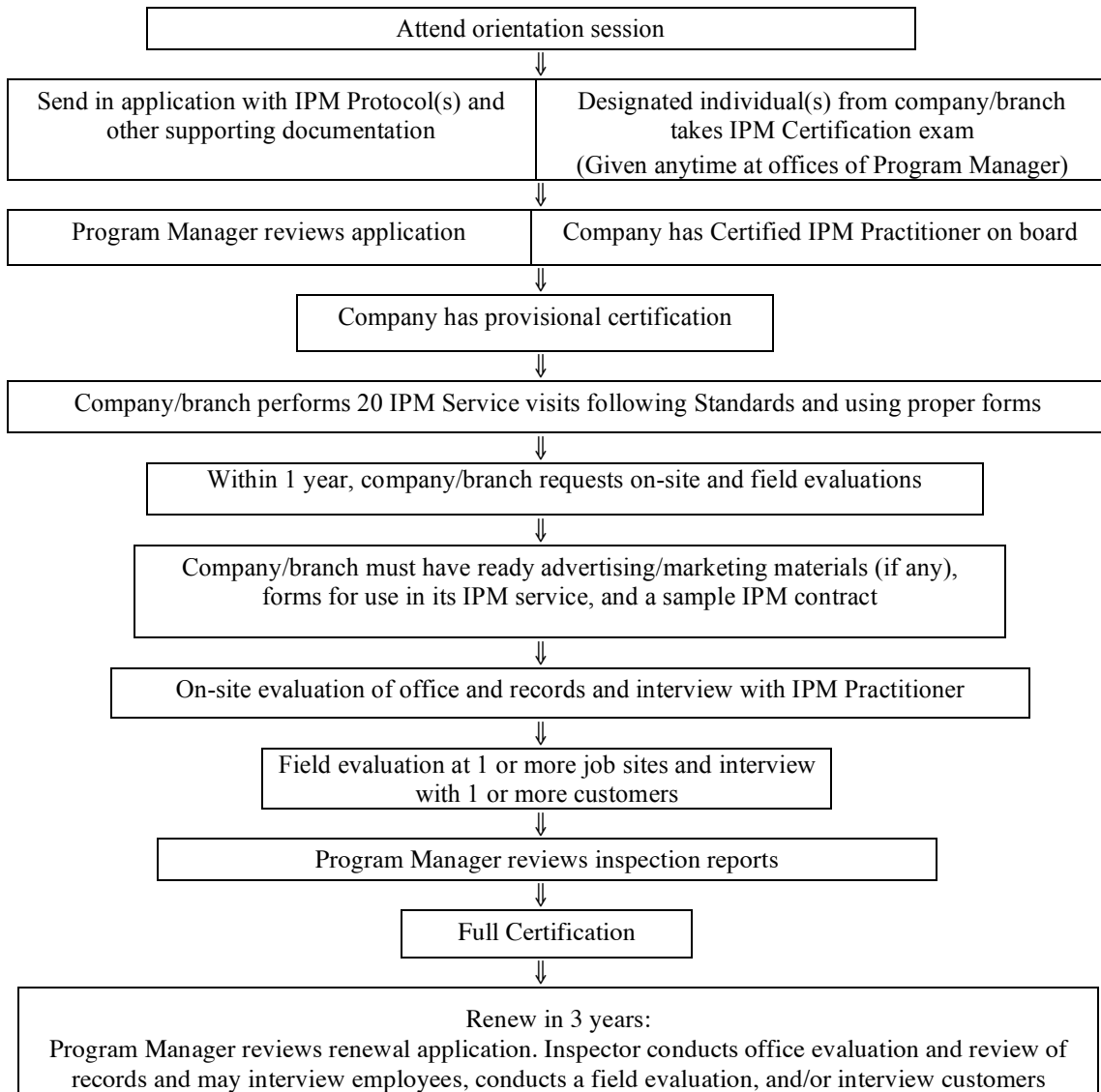
Employing Pesticide Use Data to Determine Program Success

Although pesticide reduction is one benefit of IPM, we caution against relying too heavily on pesticide use data to determine the success or failure of the IPM certification program. Low pesticide use figures can be advantageous in a public relations campaign, but a campaign that merely highlights pesticide reduction encourages a simplistic idea of IPM. Pesticide use data do not measure a pest management professional's understanding of the IPM process, nor do they measure effectiveness of pest reduction and exclusion, customer satisfaction, customer education, experimentation with alternative strategies, or other non-chemical aspects of IPM.

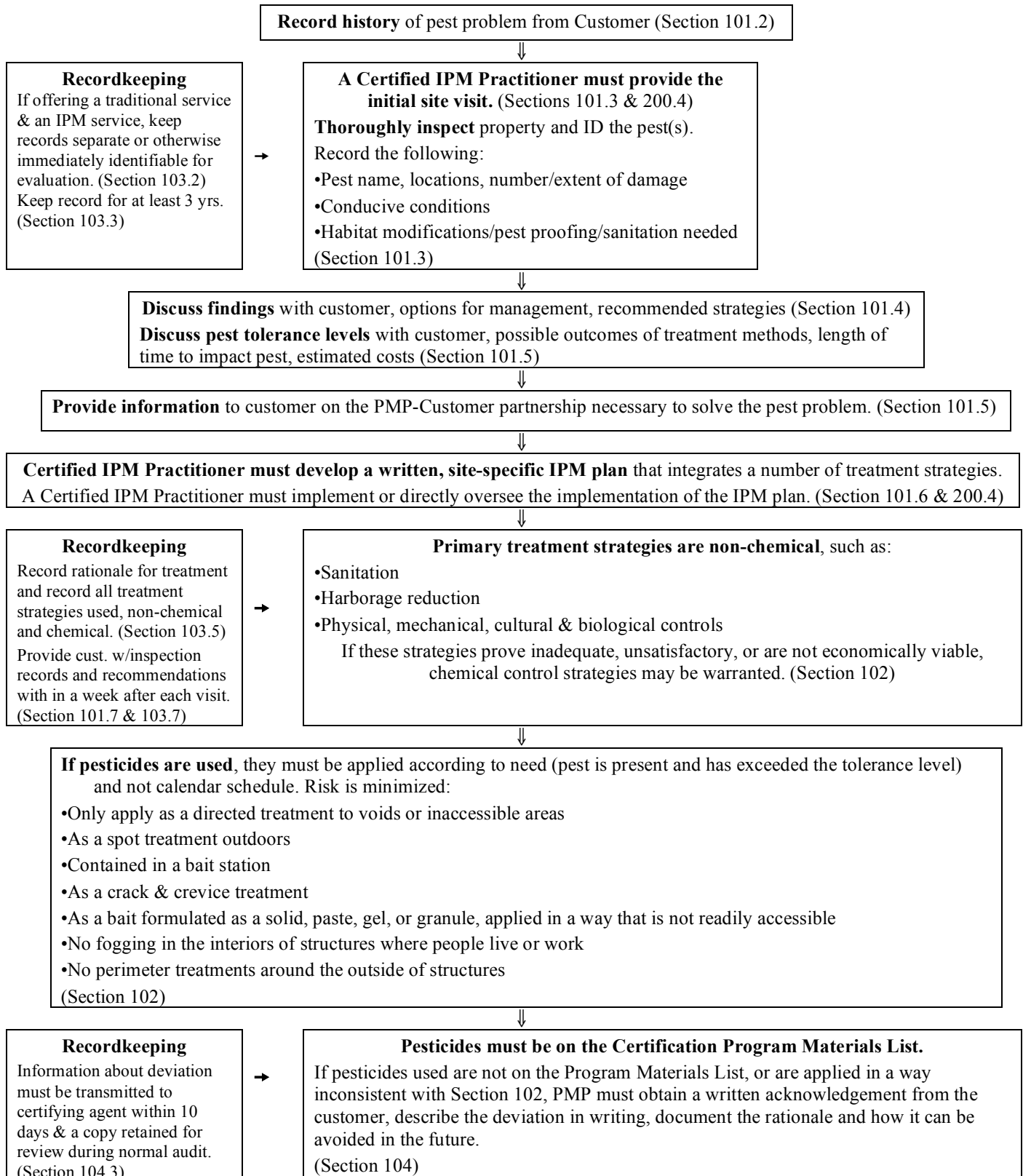
Reviewing the Standards

We invite you to comment on the Standards. Specific suggestions will be invaluable to us. In the coming months, information from IPM customers, certified practitioners, regulatory agencies, and the certification program manager will help us to hone the standards into a practical and effective document.

OUTLINE OF ECOWISE STRUCTURAL IPM CERTIFICATION PROCESS



OUTLINE OF PROPOSED IPM SERVICE



↓
Monitor, evaluate, fine-tune the treatment process. (Section 101.6.d)

Recordkeeping
Retain monitoring records.
(Section 103.5)



↓
For on-going accounts, establish a regular, periodic monitoring program, appropriate to the site, to gather info to guide the pest management process.
For on-going accounts, a Certified IPM Practitioner must visit the site at least once a year. (Section 101.7)



Recordkeeping
Information about change of service must be transmitted to certifying agent within 10 days & a copy retained for review during normal audit.
(Section 105.3)



Switching a customer from a certified IPM service to a non-certified service:
•Obtain written acknowledgement from customer
•Describe reasons for change in service.
(Section 105)

DEFINITIONS

Integrated pest management (IPM): IPM is a science-based strategy and decision-making process that provides effective, long-term pest control while emphasizing pest prevention and the use of non-chemical pest management practices. At its core, IPM includes the following activities:

- Inspection, monitoring and record-keeping are used to determine if thresholds for acceptable pest levels have been exceeded and to select the location, timing, and type of management strategies needed to successfully manage pests.
- A partnership is formed with the customer to facilitate management of pests.
- Appropriate and site-specific treatments are selected from educational, cultural, manual, mechanical, physical, biological, and chemical strategies. They are used within an integrated program to achieve long-term solutions that minimize hazards to human health and the environment.
- Reduced-risk chemical controls are included in the treatment program when non-chemical methods are insufficient to solve the pest problem in an effective and affordable manner.

Action level: the number of pests or amount of damage that triggers action to manage a pest in order to prevent pest numbers or damage from exceeding the tolerance level

Bait: any combination of a pesticide active ingredient with other inert materials, designed to induce a target pest to ingest or otherwise interact with the combination

Calendar scheduled treatments: treatments that are scheduled on a regular, calendar basis regardless of whether pests are present or their numbers have exceeded the action level

Certified IPM Practitioner: any person who has fulfilled the requirements set out in the Standards and has passed the certifying exam

- Each operation or branch office offering a Certified IPM Service must employ at least one Certified IPM Practitioner
- The Certified IPM Practitioner must implement or directly supervise the implementation of the IPM service
- The Certified IPM Practitioner must provide the initial site assessment and IPM plan for the customer
- The Certified IPM Practitioner must implement the IPM plan or directly supervise the plan's implementation

Certified IPM Service: a pest management service that complies with the Standards and is offered by an operation or branch office that has fulfilled the requirements for certification set out in the Standards

Certifying agency: this certification program is a pilot project funded by a grant from the State Water Resources Control Board to the Association of Bay Area Governments (ABAG); in this pilot phase, ABAG will act as the Certifying Agency.

Certifying agent: any person or entity accredited by the certifying agency for the purpose of overseeing the certification program and making final decisions on certifying operations, branch offices, or individuals; during the pilot phase, a consultant to ABAG will represent the program and serve as the certifying agent

Crack and crevice treatment: application of small amounts of pesticides into cracks and crevices in which pests hide or through which they may enter a building. Such openings commonly occur at expansion joints in a structure, between different elements of construction, and between equipment and floors. These openings may lead to voids such as hollow walls, equipment legs and bases, conduits, motor housings, and junction or switch boxes. These treatments shall not be readily accessible after application.

Direct supervision: technicians are directly assigned tasks and presented with treatment protocols produced by a Certified IPM Practitioner; the Certified IPM Practitioner monitors completion of tasks, time needed for completion, tools and materials used, and records kept; the Certified IPM Practitioner must be available to communicate by phone when technician is performing an IPM service; the Certified IPM Practitioner must conduct the initial site assessment and for on-going accounts, must visit the site at least once a year

Directed treatment: use of equipment and techniques to limit pesticide applications to a defined target area

Field inspector: any person accredited by the certifying agency for the purpose of performing inspections of an applicant's records and field work in order to evaluate the applicant and make recommendations to the certifying agent on eligibility for certification

Fogging: a pesticide application technique in which a pesticide is released as an omni-directional aerosol spray of very fine particles that is designed to optimize coverage of surfaces throughout the treated environment

Insect growth regulator (IGR): a compound that can disrupt normal growth and development processes in insects. Currently there are 2 classes of IGRs:

- Juvenile hormone analogs which can prolong larval or nymphal stages, prevent or curtail pupation, or create sterile adults
- Chitin synthesis inhibitors which disrupt the normal molting process in insects

Orientation meeting: an introductory meeting to familiarize prospective applicants for certification with the Standards and the certification process

Pest(s): a general term that includes problem insects, mites, birds, mammals, weeds, and other organisms. Organisms become "pests" when their numbers are high enough to be damaging or to be a serious nuisance

Pest conducive conditions: conditions that allow or encourage pests to enter a building and then to remain there

Pest control: mitigating or eliminating pests by a variety of non-chemical and/or chemical techniques

Pest management: see pest control

Pest tolerance level: the number of pests or amount of damage the customer or the site can tolerate determined in consultation with the Certified IPM Practitioner; this level may also be determined by laws and regulations

Perimeter treatment: a treatment of the exterior perimeter of a building where the structure is completely or nearly completely encircled by a continuous pesticide application.

Pest management professional (PMP): a pest control operator, a field representative, or applicator

Pheromone: a chemical secreted by an animal that affects other animals of the same species

Space spray: see fogging

Spot treatment: an application of a pesticide to a discrete, relatively small area limited to the immediate vicinity of a clearly identified pest problem, such as the pest itself, an entry point, or a nest. A spot treatment shall be no larger than necessary to be effective, and in any case shall be no larger than 2 feet square.

Tamper-resistant bait station (for rodents): Tamper-resistant bait stations are of durable fabrication and meet the following criteria:

1. resistant to weather
2. strong enough to prohibit entry by large non-target species
3. equipped with a locking lid and/or secured rebaiting hatches

4. equipped with entrances that readily allow target animals access to baits while denying access to larger non-target species
5. capable of being anchored easily and securely to resist efforts to move the container or to displace its contents
6. equipped with an internal structure for securely containing baits
7. made in such a way as not to be an attractive nuisance
8. capable of displaying proper precautionary statements in a prominent location

Treatment: applications of materials *or* procedures designed to alleviate pest problems

Void: the enclosed, empty space inside hollow elements of equipment or between walls, between ceiling and floor, between floor and cabinet and other similar structural elements

WHAT IS CERTIFIED BY THIS PROGRAM

1. This program certifies an IPM Service within a pest control business. Pest control businesses are encouraged to offer only IPM services to their customers, but operating a separate IPM Service along side traditional pest control services is permitted, as long as the required records are separated.
2. This program certifies IPM services only for Branch 2 (general) pests. This does not include Branch 1 (fumigation) or Branch 3 (termites).
3. This program also certifies individual Branch 2 Field Representatives or Operators as Certified IPM Practitioners.

PART 1. PEST MANAGEMENT STANDARD

Preamble

Integrated Pest Management (IPM) is a decision-making process that guides pest managers toward efficient, effective, and sustainable pest management that emphasizes pest prevention and non-chemical methods. There are many conflicting definitions of IPM; however, it is the decision-making process backed up by thorough monitoring and record keeping and the integration of a variety of control strategies that defines IPM.

❖ 100. General

A structural IPM program emphasizes 3 fundamental elements:

1. **Pest Prevention.** IPM is a preventive maintenance process that seeks to suppress pest reproduction and to identify and eliminate potential pest access, shelter/habitat, and availability of food and water. In long-term accounts, regular, periodic monitoring for pests and pest conducive conditions is conducted in order to identify problem areas and prevent small infestations from becoming large ones.

Pest management professionals (PMPs) must use management practices to prevent pests including, but not limited to

- a. Customer education
- b. Removal of pest habitat, sources of food and water, and breeding areas
- c. Prevention of access to structures
- d. Management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction and serve as a deterrent to pest infestation.

2. **Integration of Multiple Management Strategies and Tools.** A variety of pest control strategies and tools are integrated into a comprehensive program to manage the pest.

Management strategies may include, but are not limited to, the following:

- a. Providing the customer with information about behaviors, conditions, and policies that allow pests access to the site, food, water, and habitat
 - b. Mechanical or physical controls including, but not limited to, traps, vacuuming, steam cleaning, or physical barriers
 - c. Horticultural controls including, but not limited to, changing irrigation practices, treatment or removal of plants attracting pests and/or providing access to structures
 - d. Biological controls including the use of predators, parasitoids, or pathogens to control the pest
 - e. If preventive measures along with the practices in paragraphs a through d directly above are insufficient to prevent or control pests, chemical controls may be used. Chemical controls must be applied according to the Pesticide Application Standard set forth in ❖102.
3. **Systems Approach.** Pest management must take into account and be effectively coordinated with other relevant activities and programs that operate in and around a building. Whenever possible, a pest management perspective should be incorporated in procedures and plans involving cleaning, waste management, food service and handling, storage, repair and alteration, and design and construction. In order to accomplish this, the PMP must form a partnership with the customer to provide education on pest management issues and to gain cooperation.

❖101. IPM Performance Standard

The PMP shall demonstrate the following practices at each site:

1. **Establish a partnership** with the customer that facilitates customer education, participation in problem solving, and feedback; PMP should take all opportunities to continue communication with the customer and to provide on-going education for the customer.
2. **Record a detailed history** about the pest problem(s) from the customer, either on the phone or in person:
 - a. Type of problem(s) and/or pest(s)
 - b. Evidence of problem(s) and/or pest(s)
 - c. Location of problem(s) and/or pest(s)
 - d. Actions already taken by the customer (or prior PMP) and results
 - e. Incidents, actions, weather conditions, etc. that occurred prior to or around the time the pest problem was first noticed that might be linked to the pest infestation
3. **Thoroughly inspect the property.** The initial site assessment must be performed by a Certified IPM Practitioner.

Inspections must, at a minimum, include the following:

- a. **Identify pest(s);** if pest is unfamiliar, research and understand the pest's biology and habits and how they impact management of the pest and keep a specimen for reference; mis-identification can result in wasted and ineffective treatments.
- b. **Prepare a written list/map** of
 - i. Key pest(s) (using both common and Latin names) discovered and locations
 - ii. Number of pests, extent of problem, and/or amount of damage
 - iii. Conditions conducive to pest infestations

- iv. Habitat modifications required
 - v. Pest-proofing/repairs needed inside and outdoors
4. **Discuss inspection findings with customer** including pest/problem, location, severity, options for management, and proposed strategies for management.
 5. **Provide information to the customer** about IPM and discuss the PMP-customer relationship that will be necessary to solve a pest problem
 - a. Discuss the responsibilities of the PMP and the responsibilities of the customer
 - b. Discuss pest tolerance levels and the action levels that trigger treatment; if appropriate, discuss how regulations, aesthetics, budgets, and public health may affect tolerance levels
 - c. Discuss the advantages (if applicable) of higher thresholds relative to pesticide use
 - d. Discuss the possible outcomes (if known) of the treatment methods, how long they might take to impact the pest, what to expect, estimated cost
 - e. Discuss the emphasis of IPM (e.g., long-term solutions, using knowledge of pest biology, monitoring, trapping, baiting, pest exclusion, all of which lead to effective pest control and minimal pesticide use)
 6. **Develop a written site-specific IPM Plan** that integrates a number of treatment strategies. The plan must be developed by a Certified IPM Practitioner. The Certified IPM Practitioner must implement the plan, or the Certified IPM Practitioner can directly supervise the implementation of the plan.
 - a. Focus on solving pest problems using prevention, other long-term solutions, and lowest risk strategies and products
 - b. Select, integrate, and apply appropriate IPM treatments to limit availability of food and habitat, reduce pest reproduction, limit pest access to the structure, and directly suppress the pest
 - i. Choose treatment strategies that are appropriate to the pest and the site and that include an appropriate mix of customer education, physical/mechanical controls, horticultural controls, biological controls, and when necessary, appropriate chemical controls.
 - ii. Fit treatments to the customer's needs, the site, and the surrounding environment
 - c. Apply treatments at the proper time in the pest's life cycle for maximum effectiveness
 - d. Monitor, evaluate, and fine-tune the treatment process
 7. **Provide customer with inspection records and recommendations** within a week after each visit.
 8. **For on-going accounts, establish a regular, periodic monitoring program**, appropriate to the site, to gather information used to guide the pest management process; subsequent monitoring may be less detailed but shall at minimum cover the following:
 - a. An evaluation of the success of actions taken by the customer and the PMP
 - b. A check of problem areas
 - c. An inspection for new problems
 - d. Communication to update the customer
 - e. Assessment of customer's satisfaction with treatment

For on-going accounts, a Certified IPM Practitioner must visit the site at least once a year.
 9. **Maintain written records** of the pest management process (see ❖103. Recordkeeping Standard)

❖ 102. Pesticide Application Standard

The primary methods of pest management are non-chemical strategies such as sanitation, harborage reduction, and physical, mechanical, cultural, and biological controls. If these strategies are deemed insufficient, unsatisfactory or are not economically viable, chemical control strategies may also be warranted.

1. All pesticides shall be applied according to the label and in compliance with U.S. Federal and California State Laws and Regulations, including acquiring and maintaining the proper licenses.
2. Application by need
 - a. Pesticide application shall be according to need and not by calendar schedule.
 - b. Application of pesticides shall not occur unless all of the following conditions are met:
 - i. Visual inspection or monitoring devices indicate the presence of identified pests;
 - ii. The pest numbers have exceeded the action threshold established with the client; and
 - iii. Non-chemical management strategies, such as those mentioned above, cannot or have not achieved adequate control.
3. Minimization of risk
 - a. When a pesticide is necessary, it shall be applied with a precise application technique, in the smallest area, using the minimum quantity of pesticide necessary to achieve control. Except for unrestricted materials on the Program Materials List, a pesticide shall only be applied
 - i. As a directed treatment to a void or other inaccessible area, or to other areas humans would not normally contact;
 - ii. As a spot treatment outdoors;
 - iii. Contained in a bait station;
 - iv. As a crack and crevice treatment; or
 - v. As a bait formulated as a solid, paste, gel, or granule applied in a way that is not readily accessible.
 - b. An applicator, prior to and while applying a pesticide, shall evaluate the equipment to be used, meteorological conditions, the property to be treated and the surrounding properties to determine the likelihood of harm or damage. Notwithstanding that substantial drift will be prevented, no pesticide application shall be made or continued when
 - i. There is a reasonable possibility of contamination of the bodies or clothing of persons not involved in the application process;
 - ii. There is a reasonable possibility of damage to non-target plants, animals, or other public or private property;
 - iii. There is a reasonable possibility of contamination of non-target public or private property, including water running off or running near a treated area; or
 - iv. There is a reasonable possibility of creation of a health hazard, preventing normal use of such property. In determining a health hazard, the amount and toxicity of the pesticide, the type and uses of the property and related factors shall be considered.
 - c. Fogging with pesticides in the interior of structures where humans live or work shall not be used. Note that the point-source application of insect growth regulators is not categorized as fogging.
 - d. Perimeter treatments around the outside of structures shall not be used.

- e. If rodenticides are necessary, they shall be placed in tamper-resistant bait stations that are anchored to the substrate *except* when used for baiting in secure or locked areas, inaccessible voids, or sewer lines.
- 4. Pesticides used in a Certified Service
 - a. Pesticides used in a Certified IPM Service shall be selected from the Program Materials List (See Appendix A).
 - b. If a product to be used is not on the Program Materials List, the Certified IPM Practitioner must notify the customer and certifying agent in writing according to ❖ 104 below.
 - c. If a government agency has an approved materials list, the customer's list will take precedence over the Program Materials List

❖ 103. Recordkeeping Standard

1. Records must be maintained to disclose activities of the certified operation in sufficient detail as to be readily understood and audited and to demonstrate compliance with the Standards for IPM Certification described in this document.
2. When an IPM service is offered alongside a traditional service, records must be kept separately or be otherwise immediately identifiable for evaluation.
3. Records must be maintained for a minimum of 3 years.
4. Records covering pest management must document the practices in ❖ 100 through ❖ 102 and any additional information the certifying agent deems necessary. If control measures are necessary, records must indicate a rationale for the control measure. Type and number of pest control devices (e.g., snap traps, glue boards) and type and amount of pesticide must be recorded.
5. Records must be available for inspection and reproduction during normal business hours by authorized representatives of the certifying agent.
6. Copies of inspection records and recommendations must be provided to customers within a week after each visit.

❖ 104. Deviation from Pesticide Application Standard

In rare instances, a business offering a Certified IPM Service may enter into an IPM Service contract with a customer and then, in consultation with the customer, choose to offer methods of pesticide application inconsistent with the Pesticide Application Standard, ❖ 102. In this event, the business must do the following:

1. Obtain from the customer written acknowledgement of the deviation from the Pesticide Application Standard (see Appendix B for an example of a written acknowledgement form)
2. Describe the deviation in writing and document a rationale for the deviation and how it can be avoided at the site in the future
3. Transmit the above information to the certifying agent within 10 business days and maintain a copy for review by the field inspector during the normal audit period

Continuous and/or unreasonable deviations from the Pesticide Application Standard, as determined by the certifying agent, may present grounds for revocation of certification.

In an officially declared emergency or under State- or Federally-mandated control programs, when PMPs must comply with State and Federal laws that may be in conflict with the Pesticide Application Standard, ❖ 102, their certification will not be affected.

❖ 105. Discontinuation of IPM Service

If a business offering a Certified IPM Service decides, in consultation with the customer, to discontinue the IPM service and begin a non-certified service, the business must do the following:

1. Obtain from the customer written acknowledgement of the discontinuation of IPM service (see Appendix B for an example of a written acknowledgement form)
2. Describe reasons for discontinuation of IPM services
3. Transmit the above information to the certifying agent within 10 business days and maintain a copy for review by the field inspector during the normal audit period

PART 2. CERTIFICATION OF STRUCTURAL IPM SERVICES

❖ 200. General Requirements for Businesses for IPM Service Certification

Businesses seeking to receive or maintain IPM certification must:

1. Comply with the Pest Management Standard, ❖100 through ❖104
2. Be licensed for Branch 2 work by the Structural Pest Control Board
3. Be registered with the County Agricultural Commissioner in the counties in which the applicant intends to offer IPM services and in good standing with each Agricultural Commissioner
4. Employ at least one IPM-certified field representative or operator (Certified IPM Practitioner—see ❖300 through ❖306, for qualifications) to implement or directly supervise the implementation of the IPM service. The Certified IPM Practitioner must provide the initial site assessment and IPM plan for the customer and implement the plan or directly supervise the plan's implementation. For on-going accounts, the Certified IPM Practitioner must visit the site at least once a year. Businesses with multiple offices must employ at least one Certified IPM Practitioner in each branch office applying for certification.
5. Successfully complete a period of provisional certification not longer than one year.
6. Permit on-site inspections of place of business to review records
7. Arrange field evaluation of the IPM Service at the customer site and arrange interviews with customers
8. Renew certification every 3 years
9. Pay renewal fees every 3 years
10. Maintain separate records pertaining to certification and the IPM service for a minimum of 3 years

❖ 201. Application for Provisional IPM Certification

1. The applicant must attend the orientation session(s) provided by the certifying agency. Persons required to attend include the field representative(s) or operator(s) wishing to become a Certified IPM Practitioner and either the business owner or branch manager.
2. The applicant must submit an application form and all necessary supporting documentation, along with appropriate fees. For a list of supporting documents see Appendix C.
3. The applicant must submit a specified number of IPM protocols demonstrating knowledge of the IPM process.
4. For businesses with multiple offices, the applicant must submit a separate application for each branch office; each branch office will be separately certified
5. The certifying agent is responsible for reviewing the application and responding to the applicant within a reasonable amount of time. The response to the application must communicate whether

the applicant appears to comply with the Standards for IPM Certification and is qualified for provisional certification.

6. Provisional certification will last no longer than 1 year from the date of application. During this time, the applicant must perform at least 20 IPM service visits for at least 7 different customers or sites following the Standards for IPM Certification.
7. When the applicant has completed the above-mentioned service visits, the applicant must notify the certifying agent who will schedule an on-site inspection and field evaluation to determine whether the applicant qualifies for full certification.
8. The applicant may withdraw application at any time, but will forfeit fees incurred up to the time of withdrawal. An applicant who voluntarily withdraws application prior to the issuance of a notice of non-compliance with certification standards will not be issued a notice of non-compliance. Similarly, an applicant that voluntarily withdraws application prior to the issuance of a notice of certification denial will not be issued a notice of certification denial.

❖ 202. On-Site Inspections and Field Evaluation

1. A qualified IPM Certification Program inspector will perform the on-site inspection and field evaluation. All inspections and field evaluations must be conducted with the applicant's Certified IPM Practitioner. In addition, the owner or branch manager is strongly encouraged to be present.
2. Additional announced inspections, field evaluations, or interviews with customers may be conducted at the discretion of the certifying agent.
3. The inspection and field evaluation must gather information to determine the level of compliance with the Standards for IPM Certification.
4. The inspection and field evaluation must verify that the information submitted in the application accurately reflects the practices used by the applicant.
5. At the conclusion of the inspection, the inspector must conduct an exit interview with an authorized representative of the company's IPM service who is knowledgeable about the inspected operation. The purpose of the exit interview is to confirm the accuracy and completeness of the inspection observations and information gathered during the field evaluation and to discuss issues of concern regarding the application for IPM certification.
6. The certifying agent must provide a copy of the inspection report to the inspected operation within a reasonable time.

❖ 203. Full Certification

The certifying agent is responsible for reviewing the inspection reports, making a final determination regarding full certification, and responding to the applicant within a reasonable amount of time.

❖ 204. Denial of Certification

When an applicant is not in compliance or not able to comply with the Standards for IPM Certification, the certifying agent must issue a notification of non-compliance that provides 1) a description of each non-compliance, 2) the facts upon which the notification of non-compliance is based, and 3) the date by which the rebuttal or correction of the non-compliance must occur.

1. Upon receipt of the notice of non-compliance, the applicant may 1) correct the non-compliance and submit supporting documentation, 2) submit information to rebut the non-compliance, or 3) withdraw the application.
2. The certifying agent will be available to make suggestions for improvement.

3. If correction of the non-compliance results in the need for an additional on-site inspection or field audit, additional fees will be charged.
4. A notice of denial of certification is issued when a correction of non-compliance is not possible, when an applicant fails to respond to a notice of non-compliance, or when the corrective actions are not sufficient to qualify for certification.
5. A notice of denial of certification must state the reasons for denial and include information about the applicant's right to re-apply for certification or file an appeal of the denial to the certifying agency.
6. An applicant may be denied certification for willfully making a false statement or misrepresenting the applicant's operation.

❖ 205. Renewal of Certification

1. To renew certification, an operation must submit a certification renewal form every 3 years, pay renewal fees, and provide information on how pests are being managed in the IPM Service. An applicant for certification renewal must submit a certification renewal form that describes the following:
 - a. What has been done to improve the IPM Service and the management of specific pests over the past 3 years
 - b. Which alternative pest management strategies, methods, products, and/or devices have been particularly useful and which have not worked well
 - c. What has been done to improve customer education and communication with customers; renewal applicant must also submit any new or altered informational materials, fact sheets, etc. that are being provided to customers
 - d. Successes and problems regarding customer satisfaction with the IPM process
 - e. Marketing materials used in conjunction with the IPM Service
 - f. Training activities attended by technical, administrative, and clerical staff involved in providing the IPM Service
 - g. An update on the correction of minor non-compliance issues previously identified by the certifying agent as requiring correction for continued certification
 - h. Other information as deemed necessary by the certifying agent to determine compliance with the Standards
2. Certifying agent will review renewal application, responding to the applicant within a reasonable amount of time. The response to the application must communicate whether the applicant appears to comply with the IPM Standards.
3. If applicant appears to be in compliance, the inspector will perform an on-site inspection of records and may conduct interviews with employees, a field site visit, and/or customer phone interviews.
4. When a certified operation is not in compliance with the Standards for IPM Certification, the certifying agent must issue a notification of non-compliance that specifies 1) each non-compliance and 2) the date by which the rebuttal or correction of the non-compliance must occur.
5. Upon receipt of the notice of noncompliance, the applicant may 1) correct the non-compliance or 2) submit information to rebut the non-compliance, or 3) withdraw from the Certification renewal process.
6. When applicant is not in compliance, the certifying agent will be available to make suggestions for improvement.

7. A notice of proposed revocation of certification is issued when a certified operation fails to take the corrective actions within the prescribed time period.
8. A notice of proposed revocation of certification must state the reasons for the proposed revocation, the proposed effective date, and the right to appeal to the certifying agency.

❖ 206. Loss of Certified IPM Practitioner

If an operation loses its only Certified IPM Practitioner, the operation must notify the certifying agent within 7 business days. The operation can complete already contracted work under an IPM plan developed for a site, but may not take on any new work until the operation can replace the Certified IPM Practitioner.

PMPs seeking certification to replace a Certified IPM Practitioner in a company or branch office shall contact the certification program manager to arrange to take the exam, be identified as a candidate for the position, and obtain program information. The replacement can postpone their attendance at the required orientation meeting until the next scheduled session.

Replacement should occur within 1 year in order not to lose certification. To facilitate this, the certifying agency will maintain a list of certified individuals. The Certified IPM Practitioner can be replaced temporarily (up to 1 year) by a Board Certified Entomologist or by a field representative or operator who has a record of being trained by a Certified IPM Practitioner for at least 30 hours. These temporary replacements allow the operation to continue to take on new work.

❖ ~~207. Quality Assurance~~

~~Applicant must provide a quality assurance plan before the end of the provisional certification period that demonstrates how the quality of the IPM service will be monitored within their business operations.~~

❖ 2078. Use of Certificates and Logo

The certifying agent shall exercise proper control over ownership, use, and display of certificates and certification logo. Incorrect references to the certification system or misleading use of certificates or certification logo shall be dealt with by suitable action, including but not limited to, corrective action, or revocation of certification and ~~, if necessary, other legal action.~~

Logos, decals and other marketing materials will be given to the company only after full certification is achieved. Advertising as a certified company is not allowed under provisional certification status.

❖ 2089. Marketing EcoWise Certified IPM Services

1. All marketing claims must comply with state and federal laws and regulations.
2. Only fully certified businesses or branch offices may represent their services to be certified.
3. If the business or branch office offers both certified and traditional services, the service provider may advertise only *certified services* and may not represent the entire company as certified.
4. A certified operation may not advertise IPM certification without intent or capacity to provide certified IPM services.

PART 3. CERTIFICATION OF INDIVIDUALS AS CERTIFIED IPM PRACTITIONERS

❖ 300. General Requirements for Certified IPM Practitioner

1. Individuals must be licensed at the level of Field Representative or Operator in Branch 2 for at least 2 years.
2. Individuals may petition the Certifying Agent to waive the experience requirement.
3. Individuals must pass (grade of at least 70%) a written exam designed to evaluate knowledge of IPM. Certifying Agent will provide applicant with a written report on the number and types of questions missed and will be available to make suggestions for further study. The exam may be taken up to 3 times in one calendar year. The exam will cover the knowledge requirements listed in Appendix D.
4. Individuals must complete 27 approved continuing IPM education hours every 3 years.
5. On the job, the Certified IPM Practitioner must
 - Provide the initial site assessment and IPM plan for the customer
 - Implement the plan or directly supervise the plan's implementation
 - Visit the site at least once a year for on-going accounts

❖ 301. Application for Certified IPM Practitioner

1. Applicant must attend the orientations meeting(s) required by the certifying agency.
2. Applicant must submit an application form and all necessary supporting documentation along with appropriate fees.
3. The certifying agent is responsible for reviewing the application and responding to the applicant within a reasonable amount of time. The response to the application must communicate whether the applicant qualifies to take the individual certification exam. If the applicant qualifies, the response must also communicate dates and times when the applicant may sit for the exam.
4. Applicant may withdraw application at any time, but will forfeit fees incurred up to the time of withdrawal.

❖ 302. Denial of Certification for IPM Practitioner

1. An applicant may be denied certification for willfully making a false statement or misrepresenting the applicant's qualifications or experience.
2. A notice of denial of certification must state the reasons for denial and include information about the applicant's right to re-apply for certification or file an appeal of denial with the certifying agency.

❖ 303. Renewal of Certification for IPM Practitioner

1. To renew certification, an individual must submit a certification renewal form every 3 years, pay certification fees, and forward documentation of continuing education hours.
2. Certifying agent will review renewal application, responding to the applicant within a reasonable amount of time. The response must communicate whether the applicant qualifies for renewed certification.

❖ **304. Revocation of Certification for IPM Practitioner**

1. Individual certification can be revoked for failure to comply with the *Standards*, failure to complete and report continuing education hours, for willfully making a false statement, or for incurring serious complaints from customers.
2. A notice of revocation of individual certification must state the reasons for revocation, the proposed date of revocation, and information on filing an appeal of the revocation.

❖ **305. Use of EcoWise Certified Certificates and Logo by Certified IPM Practitioners**

The certifying agent shall exercise proper control over ownership, use and display of certificates and the EcoWise Certified logo. Incorrect references to the certification system or misleading use of certificates or certification logo shall be dealt with by suitable action, including but not limited to, corrective action, revocation of certification, and, if necessary, other legal action.

❖ **306. Requirements for Advanced Level IPM Practitioner Certification**

1. Journeyman Level IPM Practitioner
 - a. Successful completion of Purdue University’s “Intermediate Industrial and Urban IPM” correspondence course.
 - b. 3 years experience as a Certified IPM PractitionerA Certified IPM Practitioner may petition the certifying agent to accept alternate credentials for promotion to Journeyman Level IPM Practitioner.
2. Master Level IPM Practitioner
 - a. Certification as an Associate Certified Entomologist (ACE) *or* completion of Purdue University’s “Intermediate and Advanced Industrial and Urban IPM” correspondence course
 - b. 6 years of experience as a Certified IPM Practitioner
 - c. Experience giving presentations on pest management, or experience providing formal training to peers in IPMA Certified IPM Practitioner may petition the certifying agent to accept alternate credentials for promotion to Master Level IPM Practitioner.

PART 4. ACCREDITATION OF CERTIFYING AGENTS

NOTE: This section has not been completed.

❖ **400. Duration of Accreditation**

❖ **401. General Requirements for Accreditation (expertise, confidentiality, prevent conflict of interest, etc.)**

❖ **402. Applying for Accreditation**

❖ **403. Evidence of Expertise and Ability**

❖ **405. Granting Accreditation**

❖ **406. Denial of Accreditation**

❖ **407. Annual Report, Recordkeeping and Renewal of Accreditation.**

❖ **408. Non-compliance Procedure for Certifying agent**

Sources

USDA National Organic Program Final Rule (NOP)

Marin Organic Certified Agriculture (MOCA) Certification Program

San Francisco Department of the Environment

Albert Greene, National Capitol Region IPM Program

Albert Greene: Guidelines for Structural Pest Control Operations for Federal buildings operated by the
U.S. General Services Administration, National Capital Region

University of California Statewide IPM Project

APPENDIX A. PROTOTYPE ECOWISE CERTIFIED PROGRAM MATERIALS LIST

Introduction to the Prototype EcoWise Certified Program Materials List

Between 1996 and 2005 a number of California municipalities adopted integrated pest management (IPM) ordinances and policies that mandate the use of IPM on public property. Many of these policies include a requirement that, when pesticides are used, they be selected from a list of pesticides that are deemed by the agency to be compatible with IPM. Most of these lists seek to restrict or eliminate the use of specific pesticides identified by government agencies as being carcinogens, reproductive toxicants, endocrine disruptors, pesticides with high acute toxicity and pesticides that pose a significant risk to water quality.

Following this model, the EcoWise Certified Program Materials List is derived from structural pest control products that have been screened by the City and County of San Francisco, Santa Clara County, or the IPM Institute of North America. Future revisions to the EcoWise Certified list will be made using hazard ranking criteria developed by San Francisco.

Screening Process

San Francisco, Santa Clara County, and the IPM Institute screen pesticide active ingredients by comparing them to lists of carcinogens, endocrine disruptors, reproductive toxicants, and other risk categories maintained by the federal Environmental Protection Agency (EPA) and other regulatory entities or organizations. The list comparison is slightly different in each case, but the results are similar.

Only active ingredients are screened for most of the risk categories because the identities of inert ingredients in the formulation are often not available. The exception is acute toxicity, where the EPA requires that the full formulation be tested for lethal effects in animals, usually rats. The testing includes the single dose required to cause death in test animals via ingestion, inhalation, and skin absorption. The testing also considers the degree of skin and eye irritation or damage. Results are then classified as Category I danger, Category II warning, and Category III caution. The highest hazard and greatest mammalian toxicity is associated with Category I.

Exemptions

All three organizations have a process for exemptions in cases where the pesticide has not passed the screening process, but is needed for pest control. In San Francisco, users can petition the IPM Coordinator and a Technical Advisory Committee (TAC) for a time-limited exemption to use a pesticides not on the list. There is also a process through which a City Department can petition the IPM Coordinator for a time-limited emergency use of a material not on the Approved List.

The IPM Institute evaluates exemptions on a case-by-case basis in consultation with the pest control company being evaluated for certification. If the company establishes that a particular pesticide is needed that has not passed the screening process, it may be exempted. For example, the IPM Institute has exempted some spray formulations of deltamethrin, and bait formulations of fipronil.

For the Santa Clara County case, formulations such as ant baits that contain small, toxicologically insignificant levels of active ingredients or that are confined in bait stations inaccessible to humans and pets are automatically exempted. The Santa Clara County list of Approved Materials was prepared by a consultant. The IPM Coordinator and a Technical Advisory Group review the list each year. The list can be amended by the IPM Coordinator at any time. County Departments can petition for 1-year exemptions and for emergency exemptions.

EcoWise Certified Screening Process

EcoWise Certified will use the San Francisco screening process. Products that pass toxicological screening, or which are exempted by our Technical Advisory Committee, can be added to the list. On an ongoing basis, PMPs interested in certification can petition the Program Manager to consider additions to the list. PMPs will also play a meaningful role on the TAC and in evaluating the need for adding, removing or restricting pesticides on the list.

The Role of Pesticides in an EcoWise Certified Service

EcoWise Certified means that a PMP applies a pesticide, when needed, as part of a complete IPM program. The primary methods of pest management are non-chemical strategies such as sanitation, harborage reduction, and physical, mechanical, cultural, and biological controls. If these strategies are deemed insufficient, unsatisfactory or are not economically viable, chemical control strategies may also be warranted. Pesticides are applied according to relevant laws, instructions on the product label and EcoWise Certified *Standards for IPM Certification in Structural Pest Management*. Certified individuals and companies should consult Section 102 of the *Standards* for guidance on pesticide use.

Not an Endorsement

Listing of a product does not constitute an endorsement; it only reflects that the active ingredient or formulation passes a set of toxicological screening rules. Pesticides are intended to be toxic and all pesticides may pose a risk to human health or the environment.

References

- San Francisco Board of Supervisors. 1996. *Amending the San Francisco Administrative Code by adding Chapter 39 thereto to Require City Departments to Minimize the use of Pesticides and Develop Integrated Pest Management Policies*. 10 pp. [San Francisco Administrative Code. 1997. San Francisco Integrated Pest Management Program. Chapter 39, Sec. 39.1-39.8. 8pp.]
- Santa Clara County Board of Supervisors. 2002. *An Ordinance of the Board of Supervisors of the County of Santa Clara Adding Division B28 of the Santa Clara Ordinance Code Relating to Integrated Pest Management and Pesticide Use*. Ordinance No. NS-517.70, May 21, 2002. 13 pp.
- Green, T. 2005. *IPM Institute Method of Screening Pesticide Products*. Personal Communication Tom Green, IPM Institute, Madison, WI. November 29, 2005.
- Levitan, L. 2004. Recommended Approved List of Pesticides for use on County of Santa Clara Properties, County of Santa Clara, California. Environmental Risk Program, Cornell University, April 9, 2004. 29 pp. <http://www.environmentalrisk.cornell.edu>
- San Francisco Department of Environment. 2005. *2005 San Francisco Reduced-Risk Pesticide List for City Operations*. 5 pp. <http://www.sfenvironment.org>
- San Francisco Department of the Environment. 2005. *Guide to the City of San Francisco's Reduced-Risk Pesticide List*. 5 pp. <http://www.sfenvironment.org>

Prototype EcoWise Certified Program Materials List

All materials used in an EcoWise Certified IPM service must be used according to label directions, Section 102 (the Pesticide Application Standard) in the *Standards*, and the “Use Annotations” below.

Another useful reference is the *Directory of Least-Toxic Pest Control Products* containing over 2000 pest control products such as traps, pheromones, biological controls, microbials, and other products, which is published each year by BIRC, PO Box 7414, Berkeley, CA 94707; www.birc.org.

KEY

Source	Category	Type
SF product came from San Francisco	A original source approved the product without any additional restrictions to the product label	I insecticide
SC product came from Santa Clara County	L original source listed product with additional restrictions	V vertebrate control product,
G product came from the IPM Institute	E product did not pass screening by original source but was included as an exemption	R repellent
		M molluscicide

Note that the “Use Annotations” column contains notes or restrictions taken verbatim from the original source. Some of the original source annotations reiterate requirements of the EcoWise Certified *Standards*.

List is in alphabetical order by active ingredient

Source	Category	Type	Pest	Active Ingredient	Product Name	Use Annotations from Original Source	CA EPA Reg No
SC	A	I (pressurized bait)	Cockroaches	abamectin 0.01%	Avert Pressurized Cockroach Bait Formula 1		499-322-ZA
SF	A	I (Bait)	Cockroaches	abamectin 0.05%	Avert Cockroach Gel Bait Formula 3		499-410-AA
SF	A	I (Bait Station)	Cockroaches	abamectin 0.05%	Avert Cockroach Bait Station Formula 1		499-467-AA
SC	A	I (Bait)	Cockroaches	abamectin 0.05%	Avert Gel Bait Formula 2		499-406-AA
SF	A	I (Bait)	Ants	borax 1.3%	Advance Liquid Ant Bait		499-491-AA
G	A	I (Bait)	Ants	boric acid 5%	Drax Ant Kill Gel PF		9444-135-AA (2/23/90)
G	A	I (Borate)	Cockroaches	boric acid 1%	Exterminators Choice		40849-20202-ZA
G	A	I (Bait)	Ants, cockroaches	boric acid 33.3% paste or gel	MRF 2000 (Stapleton’s)		54452-2-ZA
G	A	I (Bait)	Ants	boric acid 5%	Drax Ant Kill Gel		9444-131-AA (11/13/89)
G	A	I (Bait)	Ants, cockroaches, silverfish	boric acid 5%	Snuffer Niban FG	Granular, place in areas away from children	64405-2-ZB (2/18/04)

Source	Category	Type	Pest	Active Ingredient	Product Name	Use Annotations from Original Source	CA EPA Reg No
G	A	I (Bait)	Ants, cockroaches, silverfish	boric acid 5%	Niban FG	Granular, place in areas away from children	64405-2-ZA (10/04/96)
G	A	I (Bait)	Ants, cockroaches, silverfish	boric acid 5%	Niban Granular Bait	Granular, place in areas away from children	64405-2-AA (8/14/05)
G	A	I (borate)	Crawling insects	boric acid dust 64%	Zone Defense	Dust, apply to voids sealed after use	44757-3-ZA
G	A	I (Borate)	Crawling insects	boric acid dust 99%	Roach Kill	Dust, apply to voids sealed after use.	9444-130-AA
SC	A	I (broad-spectrum)	Many insects	cyfluthrin 20%	Tempo 20 WP		432-1302-AA
G	A	I (Bait)	Ants, cockroaches	disodium octaborate tetrahydrate 6%	Gourmet Ant Bait Gel		73766-1-AA (12/01/03)
SF	A	I (Bait)	Ants	disodium octaborate tetrahydrate 1%	Uncle Albert's Super Smart Ant Bait		73340-1-AA
G	A	I (Bait)	Ants, cockroaches	disodium octaborate tetrahydrate 1%	Gourmet Ant Bait Liquid		73766-2-AA (12/08/3)
G	A	I (Borate)	Wood pests, carpenter ants	disodium octaborate tetrahydrate 40%	Bora-Care		64405-1-AA
G	A	I (borate)	Ants, cockroaches	disodium octaborate tetrahydrate 98%	Mop Up	Follow label directions for cleanup of powder	9444-132-AA (11/13/89)
SC	A	I (liquid)	Ants	d-limonene 5.8%	Orange Guard		61887-1-AA
SC	A	I (liquid)	Fire ants	d-limonene 5.8%	Orange Guard		61887-2-AA
G	A	I (Botanical)	Broadspectrum	eugenol	EcoPCO Aerosol		exempt 25b
G	A	I (Botanical)	Broadspectrum	eugenol	EcoPCO Dust		exempt 25b
G	A	I (Botanical)	Wasps	eugenol	EcoPCO Wasp Spray		exempt 25b
SF	A	M (Bait)	Slugs, snails	ferric phosphate 1%	Sluggo Slug and Snail Bait		67702-3-AA-11656
SC	A	M (Bait)	Slugs, snails	ferric phosphate 1%	Escargo		67702-3-AA-56872
SF	A	I (Bait Station)	Ants	fipronil 0.01%	Maxforce FC Professional Insect Control Ant Bait Stations	Minimize use through prevention, possible concern over active ingredient	432-1256-AA
G	A	I (IGR)	Cockroaches	hydroprene 0.36%	Gentrol Aerosol		2724-484-ZA (4/30/99)
SF	A	I (IGR)	Cockroaches	hydroprene 9%	Zoecon Gentrol IGR Concentrate		2724-351-ZA
SC	A	I (IGR)	Cockroaches	hydroprene 90.6%	Gentrol Point Source Roach Control Device		2724-469-ZA
G	A	I (Bait)	Cockroaches	imidacloprid 2.15%	Pre-Empt Professional Cockroach Gel Bait		432-1365-AA
SC	A	I	Broadspectrum	lambda-cyhalothrin 9.7%	Demand CS (9.7%) and		100-1066-AA
SC	A	I (IGR Bait)	Fire ants	methoprene 0.5%	Extinguish Professional Fire Ant Bait		2724-475-ZA
G	A	I (IGR)	Fleas	methoprene 1.2%	Zoecon Precor IGR Concentrate		2724-352-ZC

Source	Category	Type	Pest	Active Ingredient	Product Name	Use Annotations from Original Source	CA EPA Reg No
SC	A	R	Vertebrate repellent	methyl anthranilate 14.5%	Rejex-It-Migrate		58035-9-ZA
SC	A	R	Vertebrate repellent	methyl anthranilate 40%	Rejex-It Fog Force		58035-7-ZA
G	A	I (Botanical)	Ants, cockroaches	mint oil	Earth Care Naturals		exempt 25b
G	A	I (aerosol)	Ants, cockroaches	mint oil 4%, 1 % sodium lauryl sulfate	Victor Poison Free Ant and Roach Killer		exempt 25b
SF	A	I (aerosol)	Wasps	mint oil 4%, sodium lauryl sulfate 1%	Victor Poison Free Flying Insect Killer		exempt 25b
SC	A	I (aerosol)	Wasps	mint oil, soap	Victor Poison Free Wasp and Hornet Killer-M604		exempt 25b
SF	A	I (Bait Station)	Cockroaches	oxypurinol 1%, xanthine 1%	Cleary Roach Terminal		1001-73-AA
G	A	I (Botanical)	Broadspectrum	phenethyl proprionate	EcoPCO Aerosol		exempt 25b
G	A	I (Botanical)	Broadspectrum	phenethyl proprionate	EcoPCO Dust	Dust, apply to voids sealed after use.	exempt 25b
G	A	I (Botanical)	Broadspectrum	phenethyl proprionate	EcoPCO Wasp Spray		exempt 25b
SC	A	I (aerosol)	Stinging insects	phenothrin 0.12%, D-trans allethrin 0.129%	PT Brand Wasp-Freeze Wasp and Hornet Killer Formula 1		499-362-ZA
SC	A	I (pheromone trap)	Stinging insects	pheromone	Sterling Rescue Yellowjacket Attractant and Trap		exempt
G	A	I (Trap)	Cockroaches	pheromone	Victor PCO Roach Pheromone Trap and Lure		47629-8-AA
G	A	V (Bait Station)	Rodents	plastic bait station	Protecta Bait Station		exempt
G	A	R	Bird repellent	polybutene 49%	JT Eaton 4 the Birds		8254-3-ZA-56
SC	A	R	Bird repellent	polybutene 93%	JT Eaton 4 the Birds		8254-5-AA-56
G	A	R	Bird repellent	polybutene 97%	Tanglefoot Bird Repellent		1621-17-ZA
G	A	I (soap)	Insects	potassium laurate 49.5%	Safer Insect Killer		42697-1-ZR
SC	A	I (IGR Bait)	Fire ants	pyriproxifen 0.5%	Distance Fire Ant Bait		1021-1728-AA-59639
SC	A	I (IGR)	Fleas	pyriproxifen 1.3%	Archer Insect Growth Regulator		100-1111-AA
SF	A	I (aerosol)	Insects	rosemary oil 10%	EcoExempt IC		exempt 25b
SC	A	I (Bait)	Fire ants	spinosad 0.015%	Conserve Professional Fire Ant Bait (0.015%)		62719-329-AA
SC	A	I (Bait)	Fruit flies	spinosad 0.02%	GF-120 Naturalyte Fruit Fly Bait		62719-359-AA
SC	A	I (microbial metabolite)	Insects	spinosad 0.5%	Bull's-Eye Bioinsecticide		62719-314-AA-56872
SC	A	I (microbial metabolite)	Insects	spinosad 11.6%	Conserve SC Turf and Ornamental		62719-291-AA

Source	Category	Type	Pest	Active Ingredient	Product Name	Use Annotations from Original Source	CA EPA Reg No
SC	A	I (microbial metabolite)	Insects	spinosad 80%	Entrust		62719-282-AA
G	A	I (Bait)	Ants	sulfluramid 0.5%	Advance Dual Choice Ant Bait Stations		499-459-AA
G	A	I (Bait)	Ants	sulfluramid 0.5%	Fluoguard Ant Control Bait	Granular, place in areas not accessible to children.	1812-348-AA-279
G	E	I (spray formulation)	Many insects	deltamethrin		spot treatments, bedbugs	
SC	E	I (Bait Station)	Cockroaches	fipronil 0.03%	Maxforce FC Professional Insect Control Large Roach Bait Stations	Used in containerized bait stations. Retrieve after use if possible.	432-1258-AA
SC	E	I (Bait Station)	Ants	hydramethylnon 1%	Maxforce Professional Insect Control Ant Killer Bait Stations	Used in containerized bait stations. Retrieve after use if possible.	432-1252-AA
SC	E	I (Bait)	Ants	hydramethylnon 1%	Maxforce Professional Insect Control Granular Insect Bait		432-1255-AA
SC	E	I(Bait)	Ants	hydramethylnon 1%	Maxforce Professional Insect Control Fine Granule Insect Bait		432-1262-AA
SC	E	I (Bait Station)	Cockroaches	hydramethylnon 2%	Maxforce Professional Insect Control Roach Killer Small Bait Stations	Used in containerized bait stations. Retrieve after use if possible.	432-1251-AA
SC	E	I (Bait)	Cockroaches	hydramethylnon 2.15%	Maxforce Professional Insect Control Roach Killer Bait Gel		432-1254-AA
SC	E	I (Bait)	Flies	imidacloprid 0.5%	Maxforce Granular Fly Bait		432-1375-ZA
SC	L	V (Bait)	Birds	4-aminopyrine 0.05%	Avitrol Mixed Grain	Avoid use in places and times that the product is at risk of being consumed by non-target wildlife or domestic animals. Use as a last resort	11649-4-AA
SC	L	I (Bait)	Ants	borax 5.4%	Terro Ant Killer II Liquid Ant Baits	Use in containerized bait stations	149-8-ZA
SC	L	I (Bait)	Ants	boric acid 1%	JT Eaton Presents Dr. Moss's Liquid Bait System	Use in containerized bait stations	56-72-AA
SC	L	I (Bait)	Ants	boric acid 1%	Drax Liquidator Ant Bait	Use in containerized bait stations	9444-206-ZA
SC	L	I (Borate)	Cockroaches, crawling insects	boric acid 35.5%	Perma-Dust		499-384-AA
SC	L	I (Borate)	Cockroaches, crawling insects	boric acid 99%	Borid		9444-129-ZA
SF	L	V (Bait)	Rats	bromadiolone 0.005%	Maki Mini Blocks	High concern over 2nd poisoning	7173-202-AA
SF	L	V (Bait)	Rats	bromadiolone 0.005%	Conrac All Weather Blocks	High concern over 2nd poisonings	12455-79-AA

Source	Category	Type	Pest	Active Ingredient	Product Name	Use Annotations from Original Source	CA EPA Reg No
SF	L	V (Bait)	Rats	bromethalin 0.01%	Top Gun All Weather Bait Block	Limited use to avoid rodent aversion to one specific bait. High concern over 2nd poisoning of birds	67517-66-ZA-56
SC	L	V (Bait)	Rats, mice	cholecalciferol 0.07%	Quintox Rat and Mouse Bait		12455-39-AA
SF	L	V (Bait)	Rats	difethialone 0.0025%	Generation Mini-Blocks	Unknown effects on 2nd poisoning, single feed.	7173-218-AA
SF	L	V (Bait)	Rats	diphacinone 0.005%	Ditrac Supersize Blox	Concern over 2nd poisoning	12455-14-ZA
SF	L	V (Bait)	Gophers	diphacinone 0.005%	JT Eatons Answer for Control of Pocket Gophers		56-57-ZA
SF	L	V (Bait)	Rats	diphacinone 0.005%	JT Eatons Bait Blocks	Concern over 2nd poisoning	56-41-ZA
SF	L	I (borate)	Beetles, carpenter ants	disodium octaborate tetrahydrate 98%	Timbor		1624-39-ZC
SF	L	I (borate)	Fleas, dust mites	disodium octaborate tetrahydrate 98%	Flea Nix (Ecology Works)	For flea and dust mite control when mechanical methods are impractical in conjunction with prevention. Limit human exposure to dust.	67419-1-ZB
SF	L	I (bait)	Ants	fipronil 0.001%	Maxforce FC Professional Ant Bait Gel	Minimize use through prevention. Possible concern over active ingredient	432-1264-ZA
SF	L	I (bait)	Carpenter ants	fipronil 0.001%	Maxforce IBF4 Carpenter Ant Bait Gel	Minimize use through prevention. Possible concern over active ingredient	432-1264-AA
SF	L	I (bait)	Cockroaches	fipronil 0.01%	Maxforce FC Professional Roach Killer Bait Gel	Minimize use through prevention. Possible concern over active ingredient	432-1259-AA
SF	L	I (Bait Stations)	Cockroaches	fipronil 0.05%	Maxforce FC Professional Roach Killer Bait Stations	Minimize use through prevention. Possible concern over active ingredient	432-1257-AA
SF	L	I (soap)	Africanized bees, insects	potash soap 49%	M-pede		53219-6-ZC
SF	L	I (IGR)	Whiteflies	S-kinoprene 64.1%	Enstar II Insect Growth Regulator		2724-476-AA

APPENDIX B. WRITTEN ACKNOWLEDGEMENT FORMS FOR DEVIATION FROM ❖ 102: PESTICIDE APPLICATION STANDARD AND DISCONTINUATION OF IPM SERVICES

Form A: Deviation from ❖ 102. Pesticide Application Standard

INFORMED RELEASE FOR DEVIATION FROM THE ECOWISE CERTIFIED PESTICIDE APPLICATION STANDARD

To the customer—please read and sign the following statement:

In consultation with my pest management professional, I have requested the use of a pesticide or pesticide application method that is not in compliance with the Pesticide Application Standard of the *EcoWise Certified Standards for IPM Certification in Structural Pest Management*.

I authorize my pest management professional to perform the service as described below.

Customer name _____ Signature _____ Date _____

^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^

To the Certified IPM Practitioner—please complete the following form and return a copy of this Informed Release within 10 business days to the EcoWise Certified Program Manager.

Requested pesticide or pesticide application method:

Describe why this pesticide or pesticide application method was necessary:

How could this kind of pesticide use be avoided in the future?

Certified IPM Practitioner name: _____ Certification# _____

Certified IPM Practitioner Signature: _____ Date: _____

Company/Branch Office name: _____

Address: _____

Company Certification#: _____

Form B: Discontinuation of IPM Services

INFORMED RELEASE FOR DISCONTINUATION OF ECOWISE CERTIFIED IPM SERVICE

To the customer—please read and sign the following statement:

In consultation with my pest management professional, I have decided to terminate my EcoWise Certified IPM service (or to convert from a certified service to a non-certified service).

Customer name _____ Signature _____ Date _____

^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^

To the Certified IPM Practitioner—please complete the following form and return a copy of this Informed Release within 10 business days to the EcoWise Program Manager.

Reason for termination:

Certified IPM Practitioner name: _____ Certification# _____

Certified IPM Practitioner Signature: _____ Date: _____

Company/Branch Office name: _____

Address: _____

Company Certification#: _____

APPENDIX C. LIST OF SUPPORTING DOCUMENTS FOR BUSINESS CERTIFICATION APPLICATION

Documents to be filed with application form

- a. Sample IPM Protocol forms
- b. Examples of the company's/branch office's current inspection, monitoring and treatment record forms
- c. Examples of any fact sheets, door hangers and other written material used to provide information to your customers about IPM, sanitation, pest exclusion, habitat modification, or other issues
- d. Examples of any brochures or other written information for customers explaining the business or the services offered by the business
- e. Signed copy of "IPM Guiding Principles"

Documents to be filed at the end of the Provisional Certification period

- f. Forms company will be using for the IPM Service including at minimum
 - i. Examples of IPM service inspection forms
 - ii. Example of an IPM site plan form
- g. Sample IPM contract the company/branch office will use for the IPM Service
- h. Materials that will be used to advertise the IPM service (if any)
- i. Any new or altered fact sheets, door hangers and other customer education materials

APPENDIX D. KNOWLEDGE REQUIREMENTS FOR CERTIFIED IPM PRACTITIONER

Knowledge Expectations for Certified IPM Practitioner

I. Knowledge of the Branch 2 Structural IPM Standards

1. Be familiar with the Standards and be able to answer questions using a copy of the Standards

II. General Pest Knowledge

1. Understand that animals are scientifically classified into Kingdom, Phylum, Class, Order, Family, Genus, and Species, that the Latin names of pests in pest management and scientific literature will be written with the name of the genus first and the name of the species following, e.g., *Rattus rattus* (roof rat) or *Rattus norvegicus* (Norway rat), and that the most important classifications for a pest manager to know are the genus and species so you can look up information about pest biology
2. Describe the benefits of knowing both common and scientific names of pests
3. Describe the importance of proper pest identification and proper identification of signs of pests when selecting management strategies.
4. Identify the drawbacks of relying only on symptom identification for pest identification.
5. Know the Latin and common names for the following classes of animals: Class Insecta (insects), Class Arachnida (spiders, ticks, and mites), Class Diplopoda (millipedes), Class Chilopoda (centipedes)
6. Identify the listed pests to class and order when given a name, specimen or photo of the adult or immature forms
7. Describe basic biology (food requirements, life cycle, habitat, reproduction, and damage symptoms) for the listed pests
8. Explain pest status (why they are considered pests) for the listed pests
9. Describe the major components of an IPM program, in given sites or situations, for each listed pests with an asterisk
10. Know where to access (books, websites, people) information on pest identification and pest biology

The Certified IPM Practitioner must be familiar with the following pests (class, order, basic biology, pest status and for those with asterisks, major components of an IPM program for the pest):

Biting and Stinging Pests

Class Insecta

1. Bed bugs (Order Hemiptera, *Cimex* spp.)*
2. Cat flea, (Order Siphonaptera, *Ctenocephalides felis*)
3. Social wasps and bees (Order Hymenoptera)
 - a. Honey bee, *Apis mellifera*
 - b. Yellowjacket wasps, *Vespula* and *Dolichovespula* spp.
 - c. Paper wasps, *Polistes* spp.

Class Arachnida

4. Tropical rat mite (*Ornithonyssus bacoti*)
5. Black widow (hourglass) spiders (*Latrodectus* spp.)
6. Brown dog tick (*Rhipicephalus sanguineus*)

Flies (class Insecta, order Diptera)

7. Drain (moth, filter, sewer) flies (family Psychodidae)
8. Fungus gnats (families Fungivoridae and Sciaridae)
9. Blow flies (family Calliphoridae)
10. Cluster fly (*Pollenia rudis*)

Ants (class Insecta, order Hymenoptera, family Formicidae)

11. Argentine ant (*Linepithema humile*)*
12. Pharaoh ant (*Monomorium pharaonis*)*
13. Carpenter ant (*Camponotus* spp.)

Cockroaches (class Insecta, order Blattaria)

13. German cockroach (*Blattella germanica*)*
14. Field cockroach (*Blattella vaga*)
15. American cockroach (*Periplaneta americana*)*
16. Oriental cockroach (*Blatta orientalis*)*

Stored product and fabric pests

Class Insecta, order Coleoptera

17. Carpet beetles (*Anthrenus* and *Attagenus* species)
18. Cigarette and drugstore beetle (*Lasioderma serricorne* and *Stegobium paniceum*)

Class Insecta, order Lepidoptera

19. Indian meal moth (*Plodia interpunctella*)
20. Angoumois meal moth (*Sitotroga cerealella*)

Other common commensal pests (non-arthropod)

1. Rodents (class Mammalia, order Rodentia)
 - a. Roof rat* (*Rattus rattus*)
 - b. Norway rat* (*Rattus norvegicus*)
 - c. House mouse* (*Mus musculus*)
2. Birds (class Aves)
 - a. Pigeon (rock dove) (*Columba livia*)
 - b. Cliff swallows (*Hirundo pyrrhonota*)

III. Insect Biology and Morphology

1. Demonstrate a basic understanding of insect development (stages of development and types of metamorphosis)
2. Identify basic morphological features and terms used to describe the body parts of insects and spiders
3. Define: invertebrate, vertebrate, arthropod, molt, metamorphosis, exoskeleton, nymph, larva, pupa

IV. The Integrated Pest Management Concept

1. The Purpose of Pest Management
 - a. Compare/contrast preventive, suppressive, and eradicated approaches to pest management
 - b. List the factors to be considered in pest management decision-making
 - c. Recognize that pest species can exist at tolerable levels
2. What Is Integrated Pest Management?
 - a. Define: integrated pest management
 - b. Compare/contrast traditional pest control with IPM

- c. Describe/define the major categories of control strategies in IPM and give examples of each: habitat modification, biological control, horticultural control, mechanical/physical control
 - d. Recognize the relationship between pest population levels and damage
 - e. Explain the concept of injury level and describe the 3 types of injury in IPM, economic injury, medical injury, and aesthetic/nuisance injury
 - f. Explain the relationship between injury level and action level
 - g. Recognize the relationship between personal preferences and aesthetic/nuisance injury levels and their effect on pest management decisions
 - h. Understand the factors affecting aesthetic/nuisance injury levels:
 - i. The pest species and its appearance and/or damage it causes
 - ii. The customer
 - iii. Individual pest tolerance
 - iv. The specific urban environment
 - v. The type of business or structure
 - vi. The specific area within the structure
 - i. Explain the importance to successful pest management of developing a partnership with the customer
 - j. Explain the idea of a “systems approach” to pest management
 - k. Identify the uses and application methods of the following types of monitoring techniques or tools:
 - i. Visual inspections
 - ii. Night inspections
 - iii. Light traps
 - iv. Sticky traps
 - v. Pheromone traps
 - vi. Mirrors
 - vii. Binoculars
 - viii. Moisture meters
 - ix. Digital cameras
 - x. Hand lenses
 - xi. Spatulas/thin-bladed knife
 - xii. Motion detectors
 - xiii. Infrared video
 - l. Explain the importance of a thorough site inspection
 - m. List the information that should be recorded on a site inspection
 - n. Explain the importance of a written IPM plan for the site
 - o. Differentiate between site inspection and monitoring and explain the importance of monitoring in an IPM approach
 - p. List the main objectives for monitoring in a pest management program
 - q. Explain the importance of recordkeeping in an IPM approach
 - r. List the information that should be recorded when monitoring a site after the initial inspection
3. Treatment Strategies in IPM
- a. Explain why integrating a number of treatment strategies into a comprehensive IPM program can be more effective than relying on a single treatment

- b. Define and describe the principles behind the following non-chemical IPM tactics:
 - i. Sanitation
 - ii. Exclusion or pest proofing
 - iii. Denial of harborage
 - iv. Environmental manipulation
 - v. Trapping
 - vi. Monitoring
 - vii. Vacuuming
- c. List factors of the physical environment that impact pest populations
- d. Describe prevention methods for each listed pest with an asterisk
- e. Biological control
 - i. Understand that biological control has, to date, had limited application in structural IPM, but is used extensively in agricultural IPM and is a natural phenomenon occurring outside every day
 - ii. Define: natural enemies, parasitoid, predator
 - iii. Understand the importance of conserving or enhancing the activities of beneficial arthropods, especially those that feed on honeydew producing insects
 - iv. Describe how the following practices can be used to conserve or enhance the activities of beneficial insects (bees and insect natural enemies):
 - 1. Selection of pesticide
 - 2. Timing of application of pesticide
 - 3. Placement of pesticides
 - 4. Ant control
- f. Mechanical and Physical control
 - i. Explain the appropriate uses and advantages and disadvantages of the following traps for rats and mice:
 - 1. Snap traps
 - 2. Glue boards
 - 3. Live traps
 - ii. Describe the uses of a vacuum in pest management
 - iii. Describe the uses of barriers in managing pests
- g. Chemical control
 - i. Understand that in IPM, chemical controls are applied
 - 1. Only after visual inspection or monitoring devices indicate the presence of pests in that specific area, the pest numbers have exceeded the action threshold, and adequate control cannot be achieved with non-chemical methods within a reasonable time and for a reasonable cost; and
 - 2. With the most precise application technique, in the smallest area, and using the minimum quantity of pesticide necessary to achieve control.
 - ii. Understand that regular, calendar scheduled perimeter treatments are not a part of IPM
 - iii. List the information you may need when making a pesticide recommendation that may not be found on the label.
- h. Describe how the following can help reduce your potential liability: using IPM strategies, the pesticide label; the MSDS, back-up documentation; knowledge of hazards around the property; local regulations and restrictions; state and federal regulations

V. Pesticides and Water Quality

1. Understand that the effects of pesticides on humans and on other creatures and the environment can be completely different. Substances that are relatively non-toxic to humans can be quite toxic to aquatic organisms.
2. Understand that the nature of the surface to which the pesticide is applied affects how much pesticide washes off when it rains. If all factors are equal, the amount that can wash off a solid “impervious” surface, like a sidewalk or driveway, is substantially greater than the amount that can wash off a landscaped area or farm field.
3. Understand that only a tiny fraction of the pesticide used in an urban area needs to wash off into creeks or storm drains or contaminate water that flows into sewage treatment plants to cause water quality problems.
4. Understand that the formulation of a pesticide affects how much washes off with irrigation or rain.
5. Understand that the location of the application affects how much pesticide washes off.
6. Describe where the water in a storm drain flows.
7. Describe where the water in a sewer flows. Understand that pesticides can get into sewers from application, cleanup, and washing of treated surfaces.
8. Understand that sewage treatment plants are not designed to treat pesticides. Understand the consequences of pesticide contamination of water flowing into sewage treatment plants.
9. Describe how to find out if a pesticide is a water quality concern.
10. List the water quality problems pesticides can cause in a creek, river, lake or bay.
11. Understand that gaps in EPA and state regulatory procedures allow pesticides to be registered that can cause water quality problems.

Recommended Study Materials

Familiarity with information in most or all of these references, along with solid hands-on experience in the pest control industry, and participation in ongoing continuing education should adequately prepare prospective candidates to take the certification exam.

Bennet, G., J. Owens, and R. Corrigan [eds.]. 1997. *Truman’s Scientific Guide to Pest Management Operations*. 6th ed. Advanstar Publications, Cleveland, OH.

Ebling, W. *Urban Entomology*. 1975. <http://www.entomology.ucr.edu/ebeling/>. This classic text is out-of-print, but can be read on the World Wide Web.

Gold, R. E., and S. C. Jones [eds.]. 2000. *Handbook of Household and Structural Insect Pests*. Entomological Society of America, Lanham, MD.

Hedges, S. A. 1996. *Field Guide for the Management of Structure-infesting Flies*. G.I.E. Publishing, Cleveland, OH.

Hedges, S. A. 1998. *Field Guide for the Management of Structure-infesting Ants*. G.I.E. Publishing, Cleveland, OH.

Hedges, S. A., and M. S. Lacey. 1996. [*Field Guide for the Management of Structure-infesting Beetles*](#). Vols. I (Hide and carpet beetles/ wood-boring beetles) and II (Stored product beetles/occasional and overwintering beetles). G.I.E. Publishing, Cleveland, OH.

Kramer, R. 1998. [*PCT Technician's Handbook*](#). G.I.E. Publishing, Cleveland, OH.

Mallis, A. 2004. *Handbook of Pest Control*, 9th edition. Pest Control Technology, Cleveland, OH.

This is not needed as a study guide, but it is a very useful reference:

Ware, G. W. 2000. *The Pesticide Book*. [Thomson Publications](#), Fresno, California.