# A Global Framework for Pest Management Standards



**Global** Pest Management Coalition



If you would like to use this framework to work with your country, e-mail <u>info@pestmanagementcoalition.org</u> for an editable version.

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### INTRODUCTION

The professional pest management industry protects homes, businesses, and people from risks associated with both pests and pesticides. In October 2019, the Global Pest Management Coalition created a task force to create a set of standards that can serve as a framework all around the globe and give the Global Coalition members a tool that can be used to promote legislation in their countries and professionalize the pest management industry around the world. To call ourselves professionals, we must define what that term means for our industry. These standards detail a system that can be used to ensure pest management professionals around the world are prepared to do their important work through training, experience, and the support of an employer that must also meet certain criteria. The levels described below give professionals career milestones to aspire to. They can also be used as credentials that the industry can use to define and celebrate professionalism.

If you are reading this document and are not familiar with the Global Pest Management Coalition, please visit <u>www. pestmanagementcoalition.org</u> and reach out to the current Chair with any questions. The Global Pest Management Coalition operates with the mission to act as a unified voice and promote the value of professional pest management, ensuring the protection of health, home, and businesses. While the Global Pest Management Coalitions, including existing standards developed by pest control industry associations. This framework should not be construed as standards of the Global Pest Management Coalition, or its member organizations.

For countries that have established legislation, regulation, practice, and certification programs in place, this document can serve as a reference. All numbers such as years or hours are meant to be a minimum. If a country has higher requirements, that is commendable. This document should be read with interest, looking for opportunities for alignment. The standards presented here are not intended to replace existing systems.

All countries that have a regulatory framework in place require training. This document can help specify what the content of that training should be, who should deliver it, and what needs to be done to ensure professionals stay informed of changes in the industry. The Global Coalition hopes that associations and companies alike will use this information to create high-quality training to educate the next generation of professionals.

Most importantly, this document is for countries that do not have any regulation over their structural pest management industry. This document gives industry leaders a full framework with which to *start* working with regulatory agencies to put a system in place that defines the competency/experience, minimum training, knowledge, and continuing education/training and re-certification required of pest management professionals; the basic requirements a company should meet; and what should be included in the documentation of services performed. It is important to define professionalism through a system like the one presented here so that customers can make informed choices and trust the companies protecting their homes and businesses.

### COMPANY REQUIREMENTS

#### The company must

- Provide a service agreement to the customer detailing responsibilities and warranties (if any) before beginning service
- Not make false or misleading claims in sales and marketing
- Only use products and processes that are approved in country of use and comply with all applicable laws
- Employ at least one Level 3 (defined below)
- Commit to public health responsibility, sustainability, minimization of risk, and the environment
- Retain copies of all service documentation following any service for a minimum period of five years
- The company should act with high integrity; setting expectations and doing what they say they will do

### SERVICE DOCUMENTATION REQUIREMENTS

- Each service is documented
- Documentation is available to the customer for a minimum of five years
- Digital document management is recommended
- National policies on securing service documentation against changes and loss (e.g. blockchain) is evolving and these changes are encouraged
- If using a pesticide that has a restricted re-entry time, notification is given to the customer in advance of the treatment with acknowledgment of receipt
- Documentation must include:
  - Service address
  - The applicator's name, business address, and pesticide applicator certification number (if applicable)
  - Service date, time of day, and weather conditions (for exterior service)
  - Signs of pests found and identification of target pest using the common or scientific name
  - General location of application and approximate size of area treated
  - Product name & concentration (government registration number if applicable)
  - Rate of material applied and total amount applied
  - Number of devices installed and maintained (traps, stations, etc.)
  - The data of each numbered monitoring device in the service
  - A map of the service area with a key for symbols showing where pesticides were applied, devices installed, signs found, infestation levels, and pest conducive conditions In a residential setting, a list of room names and notes per room is sufficient (rather than a diagram)
  - A space for recommendations for the account manager/homeowner including pest conducive conditions
  - A description of the content of the service, key findings, and recommendations
  - Observance of the recommendations: a space to comment on progress (or not) made on previous
    recommendations or challenges raised during the last service been effectively followed up If meetings with
    supervisors have occurred, note agreements on what repairs will be made, a timeline, and who will do the
    repair (PMP or customer)
  - Entry time
  - Exit time
  - Specific medical conditions/sensitive conditions present at the account
  - Telephone number in case of intoxication and hospitals where the poisoned are attended
  - Printed name and signature of the contact person designated by the customer following service (electronic acknowledgment is acceptable).
- Pictures, videos, and other electronic data is encouraged
- Recommend trend analysis report be sent to the customer at least annually

### **REQUIREMENTS FOR INDIVIDUAL PROFESSIONALS**

- Professionals are properly trained and equipped pest managers acting in compliance with the best practice of pest management based on a balanced approach to health, environmental, economic, and biological principles of treatment, in accordance with Integrated Pest Management (IPM)
- All pest management professionals, regardless of level should
  - Be 18 years old or older
  - Carry identification including a picture, company contact information, and emergency contact information
  - Wear clean clothes that meets PPE requirements
  - Work for a business that employs at least one Level 3
  - Be able to pass an exam that proves literacy and math is sufficient to understand and follow pesticide label directions

#### LEVEL 1: NEW-EXPERIENCED

- Experience
  - A person should not be practicing pest management for-hire without attaining Level 1
  - A Level 1 must work under the direct supervision of a Level 2 or 3 "Direct Supervision" means that immediate communication between the Level 1 and Level 2 or 3 is possible
  - A person must be accompanied by a Level 2 or 3 until he/she has met the training requirements and passed the exam
  - The supervising Level 2 or 3 and the Level 1 must work for the same company
- Training
  - Minimum of 25 hours of training led by a Level 2 or 3 within the first 30 days of employment that covers the topics below. These hours do not have to be all classroom-style/theoretical–it is appropriate to combine theoretical and on-the-job training.
    - Pesticide application techniques
    - Pesticide label comprehension
    - Integrated Pest Management (IPM)
    - Understanding the need for and use of the common formulations such as granules and dusts or microgranules, emulsifiable concentrate, wettable powder, soluble (liquid) concentrate, soluble powder, suspension concentrate, capsule suspensions, water dispersible granules, baits, and flowables
    - Pest identification & management options
      - Common vertebrate pests (birds, rodents, and other commensal/non-wildlife species)
      - Common arthropod pests
      - Wildlife (if scope of job includes work with wildlife)
    - Practice calibrating all equipment used in service protocols
    - Practice maintaining all equipment used in service protocols
    - Limiting pesticides in the environment
    - Safety (including a sign-off acknowledging receipt of company safety policies). Safety topics include, but are not limited to
      - Vehicle safety
      - Guidance on using a respirator (fit test, care & maintenance)
      - Guidance for heat exposure
      - Guidance for trips/falls (including ladder safety)
      - Guidance for carrying weight
      - Guidance for preventing diseases encountered as a PMP
      - Practice using, removing, and maintaining PPE for the services performed
      - Practice executing emergency response procedures including pesticide spills

- Soft skill training including customer service, how to treat people, how to show empathy, and handling customer complaints
- Food hygiene
- Invasion investigation
- Effect evaluation and introduction to trend analysis (how the data you collect will get used)
- Legal elements of pest management (if a regulatory scheme is in place for the country)
- Examinations
  - Pass a closed-book exam for Level 1 that covers the training concepts included here
  - Recommended, not required: physical assessment by a doctor to make sure the individual is fit for the job
    including fitness, vision, and suitability for respiratory protection performed every two years
- To maintain Level 1
  - Eight hours of continuing education required per year covering safety (including signing off on company policies each year), structural pest ID and control, and relevant public health topics
  - If the country has a regulatory framework, an additional two hours of regulatory update training is required
  - Forms of continuing education include attending training, reading books, or reading industry publications

#### LEVEL 2: EXPERIENCED/TEAM LEADERS

To reach this level one should not only be competent to do the job, but also be competent to guide others to do the job. This Level is for supervisors or team leaders.

- Experience
  - Attained Level 1
  - A minimum of one year working experience in the structural pest management services industry OR hold a degree in entomology or a related science
- Training and Involvement with Company Coaching
  - Level 2 training should include a leadership program covering
    - Emotional intelligence
    - Communication
    - Managing conflict
    - Coaching/mentoring
    - Group dynamics
    - Management of people
  - Property pest audit: trend analysis on account data, client education, compliance with country's regulations and certification schemes, and escalation options for when control tactics are not working
  - Continuous evaluation and updating of standard operating procedures (SOPs) for services, training of employees, safety, etc.
  - Review of safety concepts presented in Level 1
  - Suggest new SOPs and update current ones
- Examinations
  - Pass a closed-book core exam demonstrating basic knowledge of IPM, pests, pesticides, safety, and customer service
  - Pass at least one closed-book specialty exam
    - Restricted Use: Fumigation Agricultural Products use of pesticides for the fumigation of agricultural products in storage or transit AND Structural Fumigation
    - Mosquito Control (not aerial)
    - Aerial Pest Control (airplanes and drones)
    - Landscape, Ornamental and Turf Pest Control in the maintenance of ornamental trees, shrubs, flowers, and turf
    - Aquatic Pest Control/Aquatic Weeds to standing or running waters
    - Wood Destroying Organisms

- (Public Health Products) Industrial, Institutional, Structural, and Health Related Pest Control in, on, or around food-handling establishments, human dwellings, institutions such as schools and hospitals, industrial establishment including warehouses, grain elevators and food-processing plants; and any other structures and adjacent areas; and for the protection of stored, processed, or manufactured products
- Wildlife
- Vector Control: Disinfection, Advanced Public Health Concepts, Emerging/Reemerging Diseases
- To maintain Level 2
  - Every 5 years the person must prove completion of 40 hours of continuing education on the topics listed in the training sections of Level 1 or 2 above\* OR pass the current version of the exams. Forms of continuing education include attending training, reading books, reading industry publications, etc.
     \*At least 20 of the hours must be on the Level 2 training topics.

#### LEVEL 3: TECHNICAL DIRECTORS

The Level 3 oversees operations for the company. This person takes responsibility for anything that the company does including being a spokesperson (to media, auditors, etc.) and being an authorized signatory for the company.

- Experience
  - University degree and one year of experience OR proof of four years of experience working in structural pest management with two of those years being as a Level 2
  - Proof of experience may include
    - A current certificate of completion for the NPMA Pest Management in Food Processing & Handling Facilities exam
    - ACE or ACE-I or BCE certification
- Training and Involvement with Company Leadership
  - Making work schedules
  - Organizing people, machines, materials, and methods to perform work
  - Preparing protocols, building client-specific programs, doing trend analysis, writing training programs, ensuring compliance, and demonstrating commitment to customers
- Examinations
  - Level 3 passes a closed-book exam that demonstrates ability to
    - Create documentation
    - Prepare control plans or protocols
    - Supervise how the control plans are being done
    - Organize the transport and storage of products
    - Control security and environmental measures in protocols
    - Manage people
    - Deal with customers
    - Perform trend analysis
    - Understand IPM concepts
- To maintain Level 3
  - Maintain Associate Certified Entomologist, Associate Certified Entomologist International, or Board-Certified Entomologist (ACE, ACE-I, or BCE) certification
  - Hold a current certificate of completion for the NPMA Pest Management in Food Processing & Handling Facilities exam
  - Prove completion of 40 hours of continuing education on the topics listed in the training sections of all levels above every five years\* OR pass the current version of the exams Forms of continuing education include attending training, reading books, or reading industry publications \*At least 20 of the hours must be on the Level 3 training topics.

### MASTER LEVEL

Master level professionals are the influencers of our industry that bring knowledge and strategy to others. This is not a college degree. It is an honor that distinguishes professionals as innovators, thought leaders, and change makers. These professionals have extensive experience that others can learn from, but also a history of service to the industry where they can be called upon as mentors and presenters at industry events. There is no exam to earn this title, it is an honor granted by a pest control association.

Qualifications are:

- If the person's career is within pest management, answer pest control questions from level 1/2/3 and related subjects OR hold a PhD in entomology
- If the person's career is outside of pest management, hold a PhD or recognized experience in a related field outside of pest management (e.g. heat, dog training, medical doctor, and technology)
- The person who is presented with this honor will agree to a code that includes
  - When working for the industry, I will put personal affiliations aside and cooperate for the greater good of the industry
  - I will only present science-based, applicable material
  - As a presenter, I will present material objectively and in an engaging way following best practices for teaching adults
  - I will be honest and will not be swayed by sponsorship or product promotion

#### INTRODUCTION TO SPECIALTIES

Level 2 references "specialty exams." These exams would cover the knowledge needed to do specialized work. In the future, the Global Coalition may develop recommendations for best practices, training, and experience for these specialty areas as well. Having those will help create consistent examinations and specialty licensing processes.

What follows is an example of what that would look like for the fumigation specialty.

#### SPECIALTY: FUMIGATION

The Fumigation Specialty is intended to improve the level of competence and understanding about infestation, pest control, sterilization and fumigants in traded combinable crops and animal feed materials, laboratory operations and the food supply chain.

Only use fumigants that are approved for use on agricultural commodities by the relevant authorities in the countries and ports where the commodities are treated.

This standard does not replace any local legislative or health and safety requirements in place. For fumigation, the following covers the chemicals and how they are categorized:

- Classical Fumigants
  - Phosphane, PH<sub>3</sub>
  - Sulfuryl fluoride, SO<sub>2</sub>F<sub>2</sub>
  - Hydrogen cyanide, HCN
  - Ethanedinitrile (Cyanogen, Dicyanogen), NCCN
  - Bromomethane (Methyl bromide) CH<sub>3</sub>Br
  - Nitrogen dioxide NO<sub>2</sub>
  - Nitric oxide N<sub>2</sub>O
- Sterilization Procedures
  - Methanal (Formaldehyde) HCHO, used e.g. medical sector, laboratories
  - Ethanal (Ethylene Oxide) C<sub>2</sub>H<sub>4</sub>O used e.g. medical sector
- Hermetic Atmospheres
  - Nitrogen, N<sub>2</sub>, reduced Oxygen atmosphere
  - Carbon Dioxide, CO<sub>2</sub>

- Experience (In Addition to Requirements Specified in Level 2)
  - Countries should have a license for fumigation that ensures individuals are compliant with regulations on environmental contamination and ensure the individual is non-criminal.
  - To earn the license, an individual must complete the following for each chemical (detailed below)
    - Theoretical training
    - Closed book written exam
    - Observe fumigations being performed
    - Demonstrate proficiency during a fumigation
  - To perform fumigation using classical fumigants or sterilization procedures a company must employ a minimum of two licensed fumigators who also hold this specialty
  - Two people must be present for the treatment—at least one holds both the country license and the license for the application type (this specialty) and the other can be Level 2 with the fumigation specialty (no license)
  - To perform fumigation using SO<sub>2</sub>F<sub>2</sub> a company must employ a minimum of four licensed fumigators who also hold this specialty and at least two of these individuals must be present for the treatment
  - To perform fumigation using hermetic treatments for pest control (as opposed to food conservation) a company must employ a minimum of one licensed fumigator who also holds this specialty, but the fumigator does not need to be present at the treatment
- Theoretical Training (1 teaching unit (LE) = 45 minutes)
  - 40 hours (53 LE) of specialty fumigation training (including the time it takes to pass the examination for at least one fumigant) on the following topics
    - Properties and mode of action of the fumigants
    - General (2h15m / 3 LE)
      - Basics of material and stock protection and other applications for fumigants
      - Introduction to the behavior of gases mass, diffusion, adsorption, desorption, permeation, and convection
      - Factors influencing gases such as temperature, pressure, humidity, and wind
      - Basic concepts such as icing point, solubility, explosion limit, ignition temperature, and terms and their abbreviations (i.e. ppm)
      - Limit values (e.g. workplace limit value)
      - Explanation of the basic concepts of fumigation and toxicology
      - Conditions to avoid infestation
      - Food law (e.g. residue levels)
      - Environmental law (e.g. air pollution control)
      - Transport law concerns and differences with the different fumigants
    - Characteristics and mode of action of fumigants (1h30m / 2 LE per fumigant)
      - Characterization of the active substance and the product
      - Physical and chemical properties of fumigants
      - Dosage form in the application product
      - Biological effectiveness of the fumigant on target organisms
      - Impact on goods and materials, residues in goods (e.g. food)
      - Impact on the environment
    - Effect on humans (1 fumigant: 2h15m/3 LE; multiple fumigants: 3h/4 LE)
      - Toxicological effect of the fumigant on humans and animals
      - Symptoms of poisoning and the antidote
      - Special first aid for handling of fumigants
      - First Aid by laymen or by the doctor
      - Equipment, medicines, resuscitation measures, and organizational measures (e.g. transport routes, telephone)
      - Basics of personal protective equipment including specifics for different fumigants

- Legislation of the respective countries governing applications (if applicable)
  - Legal bases (EU: 6h/8 LE, outside, according to the legal situation, at least 4h30m/6 LE)
  - Legal hierarchy such as Regulation, Technical Rule, etc.
  - Occupational health and safety and hazardous substances law
  - Registration law (e.g. Plant protection and biocide law)
  - Criminal law and administrative offenses
  - Specific rules and regulations for fumigation activities considering the rules in the respective countries of application (e.g. permission for the company, legitimation for the staff, and qualification requirements for the personnel)
  - Obligation to notify competent authorities
- Principles in Fumigation Technology
  - Checking before fumigation (3h/4 LE)
    - Accurate information about the infestation
    - Structural and material-related aspects
    - Connections of objects to other objects (e.g. supply lines, tubes, etc.)
    - Evacuation of structurally connected buildings
    - Calculation of required materials
    - Gas-tight sealing materials and sealing processes
    - Leakage test
    - Setting up a danger zone >/ buffer zone
    - Assessment of dangers for residents and appropriate protection (uninvolved persons)
    - Labelling of gassed objects (e.g. warning signs)
    - Temperature and humidity control
    - Planning of safe ventilation (start ventilation from the outside if possible)
    - Provision of appropriate protective equipment
  - Insertion of fumigant (1h15m/2 LE)
    - Safe procedures for the application or insertion of the fumigant
    - Observe dosing regulations (manufacturers)
  - Monitoring during fumigation (1h15m/2 LE)
    - Accessibility of the person responsible
    - Gas concentration measurements inside and outside the object
      - Selection of suitable equipment and procedures manual digital online
      - Handling, calibration, and maintenance
      - Sources of error
      - CT product (product of concentration and time (exposure time))
      - Exposure time
    - Measurement Report
  - Ventilation of objects under fumigation (1h15m/2 LE)
    - Consideration of the impact on the environment, recapture systems
    - Consideration of legal concerns
    - Checking fumigation success (45m/1LE)
  - Activities after fumigation (45m/1 LE)
    - Removal and safe disposal of fumigant carrier materials in accordance with local country requirements disposal of carrier materials (if necessary)
    - Cleaning the equipment used
  - Release of gassed objects and goods (45m/1 LE)
    - Problem of post-gassing
    - Documentation of the measure
  - Clearance Certificate (or Gas Free Certificate)

- Discussion of fumigation accidents including, but not limited to the complexities of fumigating moving vessel (45m/1 LE)
- Practice the components or steps of fumigation under the guidance of an experienced specialist (example: sealing, notification, etc. but not performing the fumigation itself) (4h30m/6 LE)
- Each additional fumigant requires 15 hours/20 LE of additional training and passing the chemical's exam
  - On-the-Job Training
    - For each fumigant used, participate in at least four fumigations with a licensed fumigator
    - Experience must include all steps of a fumigation
      - 1. Visual inspection
      - 2. Preparation, sealing, and application fumigant
      - 3. Monitoring
      - 4. Ventilation and clearance
      - 5. Waste disposal
    - If the individual will perform fumigation on a moving vessel (train, boat, etc.) and any part of the fumigation is managed by another individual (e.g. port-to-port fumigation) the individual must participate in at least four ventilations on an equivalent moving vessel
  - Examinations (2h15m/3 LE)
    - Pass an examination for each fumigant used
      - Closed-book, written examination covering all theoretical topics above
      - The practical exercises are completed with the practical examination during training practice
  - To Maintain Specialty
    - Yearly training on respirator use and fumigation-specific first aid and new regulations (8 hours)
    - After 5 years participate in an advanced training course 21 hrs with a closed-book examination, each additional fumigant 7 hrs

### EXAMPLE

In many countries, most of the pest management companies are small. The industry continues to grow and thrive with entrepreneurs. The three levels presented here are not meant to put barriers to those who wish to start their own small business, rather they are meant to prepare every employee, manager, and future owner for success by requiring verifiable training, experience, and knowledge.

An example of progression of an individual with no pest management experience going from their first job to owning a company as fast as possible follows. A faster route is available to those with an entomology degree, but the scenario below is a more common path, albeit faster than many will take.

- First year: she gets hired by a company that employs at least one Level 3. For the first month, she is trained and always accompanied by a Level 2 or 3 coworker. She has a physical assessment for job readiness and passes a written exam. Once she passes the exam, she can run a route on her own if she is under the direct supervision of a Level 2 or 3 coworker. "Direct Supervision" means that immediate communication between the Level 1 and a Level 2 or 3 is possible.
- 2. Second Year: she has had valuable experiences and has been involved in more advanced tasks like trend analysis and helping her supervisors update SOPs. She has also had 8 hours of continuing education on safety (including signing off on company policies each year), structural pest ID and control, and relevant public health topics. Because she lives in a country with a regulatory framework, she also completed 2 hours of training on regulatory updates. She feels ready to advance her career to the point where she is supervising others and taking more of a leadership role in her company so she passes the Level 2 exams: one on core concepts and one a specialty exam for which she chooses the most general category: Industrial, Institutional, Structural, and Health Related Pest Control. She is now a Level 2.
- **3.** Third Year: she has another physical assessment for job readiness (her company does them every two years) and continues to work as a Level 2. She is not required to but chooses to take more specialty exams so she can perform more services. She also gets 8 hours of continuing education each year by attending a day-long training led by Master Level trainers.
- **4.** Fourth Year: she continues to work as a Level 2, knowing that she wants to earn her Level 3 as soon as possible. She also gets 8 hours of continuing education each year by attending a day-long training led by Master Level trainers.
- 5. Fifth Year: as soon as she has her 4th anniversary she takes the Level 3 exam which verifies her knowledge of creating documentation, preparing control plans or protocols, supervising how the control plans are being done, organizing the transport and storage of products, controlling security and environmental measures in treatments and control protocols, managing people, dealing with customers, analyzing trends in accounts, and all IPM concepts. She would have had to re-take the Level 2 exam next year and felt ready for the next step. At the end of her fifth year she applies for her ACE certification from the Entomological Society of America (which requires 5 years of experience). As always, she gets 8 hours of continuing education each year by attending a day-long training led by Master Level trainers.
- 6. Sixth Year: having earned her ACE and gained 5 years of experience with her Level 2 and 3 coworkers and trainers, she earns her Level 3 and then goes out on her own and starts a pest control company. She is now in charge of operations for the company and takes responsibility for anything that the company does including being a spokesperson (to media, auditors, etc.) and being an authorized signatory. She hires and trains new people until they earn their Level 1 and is so successful the first year that she can hire a Level 2 to help her manage people and prepare protocols and safety training.



### 2021-2022 MEMBER ORGANIZATIONS:

Asociación Nacional de Controladores de Plagas Urbanas, A.C. (ANCPUAC) - Mexico

Asociation De Profesionales Del Centro (CONINPLAG) - Argentina

Association of Pest Control Companies of Catalonia (ADEPAP) -Spain (Catalonia)

Brazilian Federation of Synanthropic Vector and Pest Control Associations (FEPRAG) - Brazil

British Pest Control Association (BPCA) - Great Britain

Confederation of European Pest Management Associations (CEPA) - Europe

Federation of Asian & Oceania Pest Managers Associations (FAOPMA) - Asia

Indian Pest Control Association (IPCA) - India

National Pest Management Association (NPMA) - US

Orkin

The mission of the Global Pest Management Coalition is to provide a unified voice across the globe promoting the value of pest management in ensuring the protection of health, home, food and businesses.

www.pestmanagementcoalition.org