Looking Under the Hood:
IPM Performance at Pest Management Service Companies, Schools, Hospitals and other Facilities

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Harnessing marketplace power to improve health, environment and economics
Customers choosing green

Pesticides a top concern of 60%!

Water Pollution in URBAN streams

- From 2002-2011, pesticides above levels of concern for aquatics in 90% of URBAN monitoring sites, up from 53% in the prior decade.
- Fipronil was the most frequently found, followed by dichlorvros.
- Samples above levels of concern for human health way down in second decade. During the first decade, chorpyrifos and diazinon declined, with pyrethroids increasing.
- Changes in pesticides found driven by regulation and new products.
- Not the whole story: Neonicotinoids, fungicides not included.

IPM is a continuum!

I do IPM!

I do more IPM!
I’m the real IPM baby!

Ultimate IPM
So, how much IPM do you do?

Proper use of monitors?

Sanitation services such as removing vegetation too close to buildings?

Rodent, wildlife – proofing; termite, carpenter ant, honey bee damage repair?
IPM STAR

- Monitoring
- Sanitation
- Exclusion
- Pesticide use/storage

- 38% were out of compliance with own policy or legal requirements for applicator qualifications, posting, MSDS/labels, etc.
- 38% had unmanaged pest problems
- 21% had outdated/unregistered pesticides on the shelf
- More than 60 school systems and 2 million kids impacted to date.
Properly clean and maintain floor drains = Improved fly control and food safety!
Clean trash handling areas. Decaying organic matter = flies in as little as two days!
Seal gaps to eliminate pest harborage, trapped dust and allergens.
Beautiful commercial kitchen include excellent features including equipment on wheels, and good floor clearance for cleaning and inspection. Floor drains are generally easily accessible and retrofitted with plastic strainers for easy access.
• Must haves
  • Legal compliance
    • Applicator licensing, state certification
    • Employee right to know, MSDS/labels
    • Posting/notification
  • Safety
    • Proper PPE, spill kits
    • Organized, secure, ventilated pesticide storage
    • Emergency response plan
  • Professionalism
    • In business three years
    • Written protocol, written training plan
  • IPM
    • Site inspection, evaluation, testing, recommendations
    • Least-toxic chemical controls if reasonable non-chemical measures are not adequate (natural and synthetic)
    • Specific criteria for least toxic, reduced exposure

• Scored elements: meet minimum score
  • Advanced, experimental, variable practices
  • Not a “must” for a good green service
  • E.g., offering cleaning, maintenance services.
Certification Outcomes – Initial Evaluation/Certification

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Inspection is first step</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Written and verbal recommendations</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Application made only after diagnosis</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>No routine applications</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Pesticide labels &amp; MSDS sheets available</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>No fogging or residual sprays to exposed surfaces</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>Dusts sealed after application</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>Insecticide baits in tamper-resistant container or true crack or crevice</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Rodenticides used in ways that greatly reduce exposure potential</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Passing Scores on Least-hazardous Pesticides Criteria
Initial Evaluation/Certification

- Initial Evaluation
- Final Evaluation

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Initial Evaluation</th>
<th>Final Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>No &quot;Danger&quot; or &quot;Warning&quot; labels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No known or possible carcinogens</td>
<td>40%</td>
<td>100%</td>
</tr>
<tr>
<td>No reproductive or developmental toxins</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>No known or suspected endocrine disruptors</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>No cholinesterase inhibitors or neurotoxins</td>
<td>10%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Common deficiencies corrected...

- Regular applications of spray-applied insecticides, typically for cockroaches and/or ants.
- Routine maintenance of rodenticides in tamper-resistant bait stations, maybe some tracking powder.
- "No pest problems reported/observed" noted on invoice, but pesticide applications made anyway.
- No training beyond licensed applicator requirements.
- Generally cockroaches, mice, drain flies present, lots of conducive conditions.
“Green Shield Certification made us aware of areas in our green approach which required more attention. We became more aware, more enthusiastic, more focused, and more committed to green overall.”

- Lynn Frank, B.C.E. & Technical Director, Suburban Exterminating, Smithtown, NY

“The certification process helped us improve our IPM services and organization, and we are now more efficient and consistent in our approach to providing effective, prevention-based pest control. We're also better able to communicate that approach to our customers.”

- Rita Bonamo, President, Black Widow Termite & Pest Control, Valley Stream, NY
Green Shield Certification also available for:

Facilities

- Goldman Sachs Tower, Jersey City, NJ
- Natural Resources Defense Council, Santa Monica Office
- Jones Lang LaSalle Building, NY, NY
- Springfield Hospital, Sikesville, MD
- Spurlock Museum, Champaign, IL
- UBS, Shelton, CT

Programs

- NYC Rat Indexing Initiative
- Univ. of Florida Dept. of Housing/Residence Education IPM Program
- Univ. of Illinois University Housing IPM Program
Rated “Meaningful” by CU

**Label Search Results**

**Label Report Card**

<table>
<thead>
<tr>
<th>How meaningful is the label?</th>
<th>Is the meaning of the label consistent?</th>
<th>Are the label standards publicly available?</th>
<th>Is information about the organization publicly available?</th>
<th>Is the organization free from conflict of interest?</th>
<th>Was the label developed with broad public and industry input?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningful ^1</td>
<td>Yes ^2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1. The label would be considered “highly meaningful” if onsite inspections occurred annually rather than once every three years, if unannounced inspections were used, and if meeting standards could be verified more objectively.
2. However, on-site inspections only occur once every three years, and unannounced visits are rarely if ever used.
3. Many of the standards are qualitative; they depend on the judgment of the evaluator and on information provided by the company, both of which may vary.
4. Some “commercial” funding comes from certification fees, but the program is primarily funded by grants.

**Label Category:**

Pest Management

**What This Label Means:**

The Green Shield Certified program for Structural Pest Management Services was created to evaluate pest control companies that use integrated pest management (IPM), an approach to dealing with pest problems that reduces or in some cases, eliminates, the use of pesticides by correcting the conditions that can lead to an infestation. IPM focuses on non-chemical methods to prevent pests; pesticides are used only when considered necessary, and in those cases, least-toxic pesticides are selected and measures taken to minimize exposure.