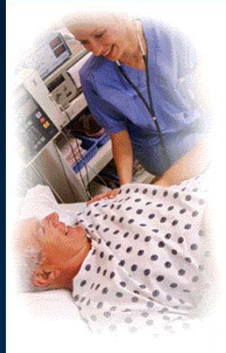


IPM for Sensitive Environments

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What are sensitive environments?

- All environments “sensitive”
- “Sensitivity” may depend more on human rather than environmental nature of account
- Margin of error often defines sensitive account



Sensitive environment

- Any account or location where the types of suitable pest control tactics may be greatly restricted for social, human health, or environmental safety reasons

Examples of sensitive environments

- Hospitals, nursing care facilities
- Schools, Child care, parks
- Aircraft
- Animal research facilities
- Zoos, pet stores and aquariums
- Museums
- Computer facilities

Why IPM for Sensitive Accounts?

- IPM focuses on safe *and* effective ways to control pests
- Multiple tactics proven most effective
- Thresholds and monitoring ensure pesticides are used only when necessary

Basics that contribute to effectiveness of IPM

- Pest identification
- Knowledge of pest biology
- Monitoring pinpoints where treatments are needed
- Non-chemical tactics reduce need for pesticides
- Low-impact pesticides ensure minimal risks

Foundational principles of IPM

- The IPM process



Foundational principles of IPM: Integrated control tactics

- Non-chemical controls
 - resistant plant varieties
 - cultural methods
 - physical/mechanical methods
 - biological controls



The IPM pyramid



How to start an IPM program for sensitive environments

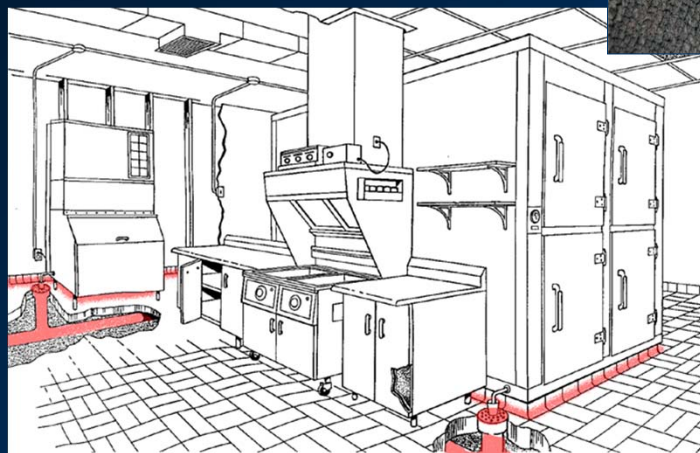
- Start with an inspection
 - Identify the pests
 - Origin of the pest problem
 - Identify the pest distributions
 - Identify conducive conditions
 - Learn the limitations

Cockroach distribution

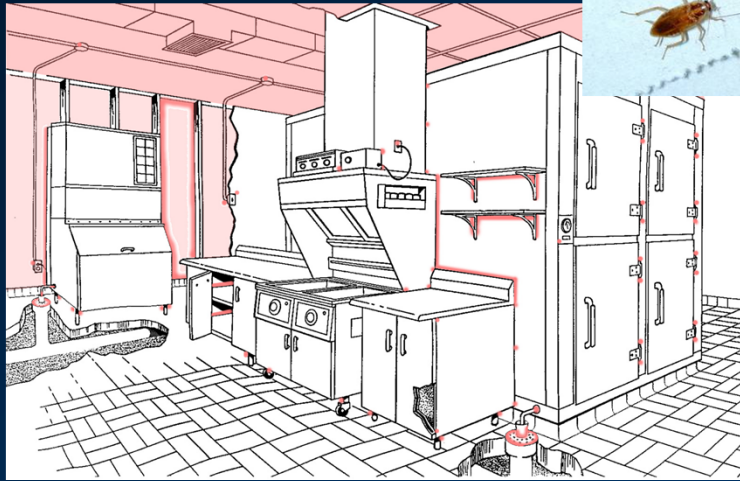
food and janitorial carts



Distribution of American cockroaches

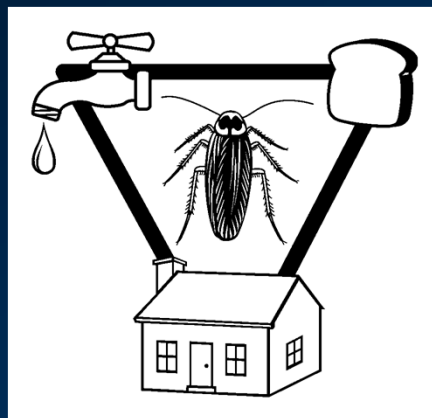


Distribution of German cockroaches



Conducive conditions

- The pest triangle



How to start an IPM program for sensitive environments

- Start with an inspection
- Establish excellent communications
 - Know management's and pest control expectations
 - Read all relevant policies
 - Get to know grassroots personnel

Grassroots staff can be your best ally or worst enemy...

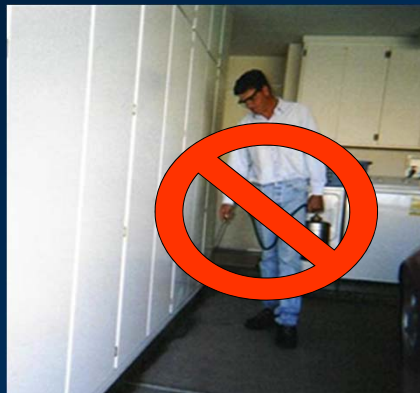


How to start an IPM program for sensitive environments

- Start with an inspection
- Establish excellent communications
- Develop a written plan
 - Scope of contract
 - Frequency of visits
 - Recordkeeping and reporting
 - Available products

Written plan should contain

- Statement that regular or routine pesticide applications will NOT be used
 - Service does not equal pesticides



Written plan should contain

- Statement that regular or routine pesticide applications will NOT be used
- Detailed description of the monitoring plan

Monitoring plan



Written plan should contain

- Statement that regular or routine pesticide applications will NOT be used
- Detailed description of the monitoring plan
- Plan for which chemical treatments will be given priority

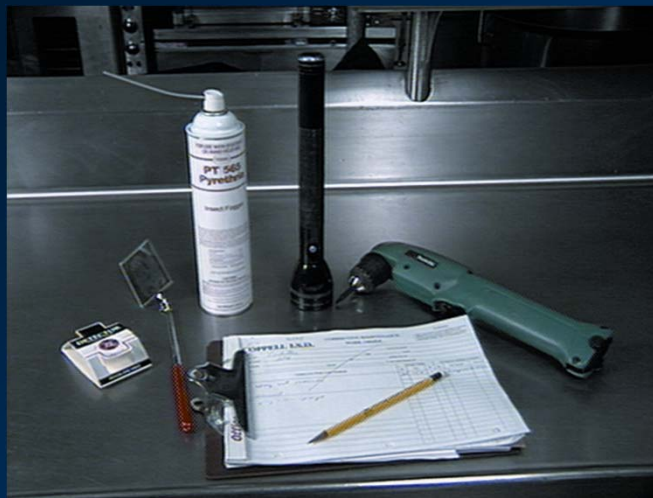
Look for low-impact products

- Baits
- Insect growth regulators
- Low-toxicity inorganics
- Soaps and oils
- Microbe-based products
- Botanicals
- Living biological control agents

Written plan should contain

- Statement that regular or routine pesticide applications will NOT be used
- Detailed description of the monitoring plan
- Plan for which chemical treatments will be given priority
- Formalized description of record-keeping

Recordkeeping



Records should be kept of:

- Pest and pesticide complaints
- Pesticide applications
 - Common name, Trade name, formulation
 - Approximate amount used
 - Where applied
 - What pest targeted
- Service activities
- Maintenance or sanitation needs

Written plan should contain

- Statement that regular or routine pesticide applications will NOT be used
- Detailed description of the monitoring plan
- Plan for which chemical treatments will be given priority
- Formalized description of record-keeping
- How various stakeholders will be involved

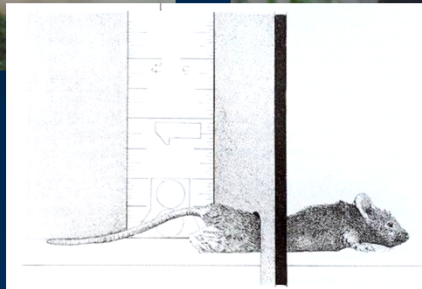
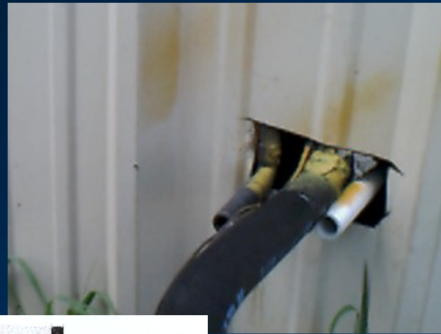
Indoor IPM in practice



Pest proofing

Probably 75% of pest problems
can be solved through pest-proofing

Pest proofing



Mouse can squeeze through a hole the size of a dime

Pest proofing

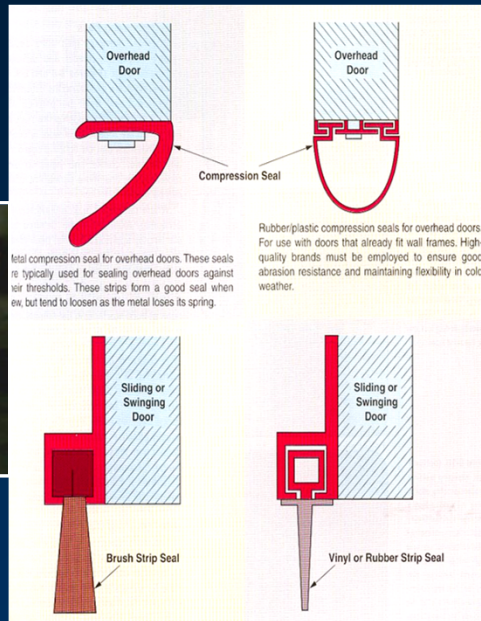


Expanding Foam



Concrete patch

Pest proofing garage doors

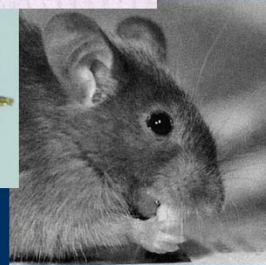


Monitoring pests indoors



Baiting

- One of most effective techniques for
 - COCKROACHES
 - RODENTS
 - ANTS

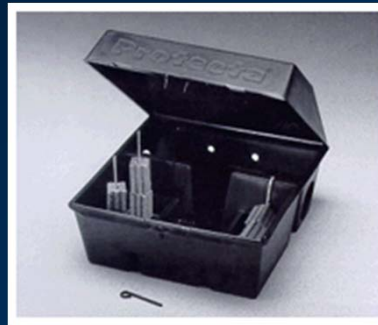


Apply baits to inaccessible areas: voids, cracks and crevices



Baits in tamper-resistant containers

Ant bait station



Rodent bait station

Baits are one of few effective and safe control measures for some sensitive accounts

- Government buildings
- Research laboratories
- Pet shops, aquariums
- Schools
- Hospitals

Sensitive outdoor environments



IPM starts with landscape design



Plan before you plant



Good horticultural practice

- The right plants in the right place
- Good watering plan
- Appropriate fertility program
- Aeration, topdressing
- Mowing schedule

Aesthetic thresholds

- When pest populations reach levels that become noticeable or objectionable to the average visitor



Low impact pesticides for landscapes



- Baits
 - Amdro
 - Logic
 - Extinguish
 - Distance
 - Justice
 - Over N Out

Low impact pesticides for landscapes



- Oils
- Soaps
- *Bacillus thuringiensis*
- Injection treatments

New low impact insecticides

- Fungal based products
 - Spinosad (Conserve SC)
 - Avermectin (Avid)
- Insect Growth Regulators (IGRs)
 - Tebufenozide (Confirm)
 - Halofenozide (Mach 2)
 - Azadirachtin (Azatin, Benefit)
- Botanicals
 - Neem oil

Summary

- Inspect
- Communicate
- Write out a plan
- Keep good records
- Use non-chemical methods where possible

IPM does work in TX Schools

- Since my district started using IPM we use . . .

Less Pesticides	74.9%
About the same	14.6%
More pesticides	1.4%
No program	.7%
Not Sure	8.3%

EPA funded survey to TX schools
2005-2006

Pesticides in TX Schools 2005

- The label on a pesticide product should be considered . . .

General guidelines	18.8%
Detailed Advertisement	.2%
Legally binding document	17.8%
Safety and use recommendation	61.2%
Not Sure	2.0%

For More Information

- Keep an eye on the *School Pest News* to subscribe send email to schoolIPM@tam.u.edu put ADD in the subject line
- 877-747-6872
- <http://schoolipm.tamu.edu>
- Check Us out on Facebook
 - School IPM Texas – Like Us
- Purchase a copy of the School IPM Manual or Videos
 - Materials can be purchased directly from the Texas AgriLife Bookstore <https://agrilifebookstore.org/>
 - B-6015 \$25 Manual
 - SP—292 and SP 292S \$40 DVD English and Spanish

