Urban IPM:
An Historical Perspective of Urban Pest Management

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The practice of urban pest management is near 150 years old and in that time has seen some radical changes in the way it is approached. This presentation will discuss how materials used, techniques employed, and the concomitant skill set have changed in some aspects, yet in others have changed not at all. Modernity and its technology present a force of change on one side of urban pest management, but the pests give no quarter and pull hard the other way. Urban IPM is both the new answer and the old answer to the standing challenge from the pests.

Introduction

The affliction of pests has been with humans from antiquity and our struggle to suppress them is just as old. The term ***pest*** can be defined as an organism out of place; without the presence of humans, the word ***pest*** has no meaning. The pests of man are mainly a global cohort of invasive species and precious few pest species are indigenous. Many practices have been employed over the years to keep ahead of the pests, but several themes remain intact.

Pre-DDT practices

Early pesticides included diatomaceous earth, pyrethrum powder, and some rather hot naturally occurring compounds. Arsenic, strychnine, Thallium, etc. are examples. These bore one of two common liabilities; either they didn't work well or they offered considerable hazard to applicators and others. The concept of IPM while not yet elucidated as IPM was very much intact. The following is from Rats and How to Destroy Them by Mark Hovell published in Britain in 1924:

The opinion has been expressed recently, and on more than one occasion , that it is practically useless to destroy rats because the larger number killed, the better the food supply and housing accommodation for those who remain, and that with these improved conditions their number increases more quickly than before. Therefore, the best way to remedy the evil is to shut off the food supply by making stores rat proof, and burning edible refuse or keeping it in rat-proof receptacles until it can be got (sic) rid of.

The author very strongly dissents from this line of argument which mentions only one of the many methods which should be employed simultaneously to lessen the number of rats…"

Luther West in The Housefly (sic) 1951 said:

"Fly control is a responsibility in which an ounce of prevention is worth a several tons of cure."

"Long range planning thus resolves itself into nothing more or les than the elimination of those conditions which permit the insects to breed and multiply."

Arnold Mallis in 1953 in the Handbook of Pest Control 2nd edition addresses both harborage reduction and sanitation before chemical methods (including Chlordane and DDT) and writes:

"Keeping the premises spic and span whether it is a five room bungalow or a large macaroni factory is more than half the battle in roach control."

These and other early pioneers in urban pest management practiced and taught IPM in its purest form.

A Profusion of Pesticides

The introduction of DDT changed everything. The urban pest management industry had to assimilate the new products into their business and remain competitive. With the ease of application, absence of strict regulations, lack of observable side effects, and impressive long lasting results, the age of pesticides was born. The industry and public alike were unwilling to put more effort into pest management than was necessary for control and the technology of pest management became spray oriented.

In the late 40s with the advent of these ***wonder drugs***, pest control operators (as they were known) despaired of their prosperity as anyone could now effectively control pests with inexpensive materials and little training. Many diversified into other services as a hedge against the catastrophic loss of business they anticipated. Others urged calm and warned that chemical solutions would never permanently solve pest problems. Bill Buettner of the National Pest Control Association (now called the National Pest Management Association) went so far as to opine that "until chemicals learn to shovel $#!% (a crude term referencing manure)" we will have a job.

IPM emerges as a concept

In the 1960s several events occurred in concert to plant the seeds of change, the growing problem of wide-spread resistance to synthetic pesticides and the beginning of the environmental movement.

Rachel Carson published Silent Spring and concern about the use of pesticides grew. Since their introduction about the time of WWII, synthetic insecticides had been applied on large scale over wide areas for many years running. The natural reaction of biological systems to such pressures

is the appearance of resistance.

Integrated pest management was born of the necessity to control pests and produce crops with little or no reliance on an increasingly impotent array of insecticides. It was discovered that, as Mark Hovell had noted in 1924 "…many methods employed simultaneously.." would bring acceptable results.

From the Cornfield to the kitchen

Translating IPM from agricultural models to urban concepts was a natural. The old concepts were still being taught and the truly effective practitioners were still proficient in their use.

Significant events included the introduction of the Crack and Crevice method (by Blanton Whitmire) of pesticide application over the increasingly obsolete baseboard spraying that had come to characterize the entire industry.

Several companies began to build businesses on the concept of little or no pesticides. While they were successful and still exist today, they did not find a market large enough to support a national firm.

The pest management professionals of today face a different set of challenges than did their predecessors. They must now deliver pest free environments (or nearly so) and use a minimum of materials of low hazard with little to no exposure to occupants. Utilizing today's technology (such as gel baits), however, such results are often quite attainable with little to no exposure using materials with lower hazards than we've ever seen before.

Innovation is still the name of the game and urban pest management has taken on some unlikely tools. Using sticky traps, vacuum cleaners, and computers, pest management professionals are still developing new answers to age old questions.

The Saga continues

As urban pest management evolves into the 3rd millennium, technology is blossoming, yet the pests continue to turn up the heat. As it has always been in the urban arena the integrated approach is on the front lines. I invite you to listen to a series of presentations detailing urban IPM as it applies to some common pests.