

## **Development of a New IPM Outreach Campaign: A Bold Website and IPM Messages on City Buses.**

### **PROJECT CATEGORY: IPM ISSUES**

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### **PROJECT SUMMARY**

The public can access structural pest information on numerous web sites. Their challenge is to determine which sites offer effective IPM solutions. The goal of this proposal is to reach underserved groups in inner cities and provide them with safe, viable IPM solutions that solve their pest problems. This project proposes an innovative, evidence-based approach through the use of pest specific posters on and in buses in New York City and Philadelphia. The first campaign will address the reemergence of bed bugs. These posters will direct inquiries to a new, easily remembered, structural IPM web site – [www.bughelp.org](http://www.bughelp.org). This site will provide linkages to university-based fact sheets and other web sites containing recommendations and suggestions on a wide range of household pests. Mirroring the efforts to educate the public utilizing posters in mass-transit buses by the NEIPM Community IPM Working Group (CIWG) in 2008, this program will offer valuable information to the public and will provide impact data on web traffic to [www.bughelp.org](http://www.bughelp.org) - a new and previously unused site.

### **BACKGROUND AND JUSTIFICATION**

#### *The return of the bed bugs.*

The common bed bug, *Cimex lectularius*, is a blood-sucking parasite that will attack humans, pets, bats, chickens and many other hosts – both wild and domestic (Usinger 1966). Although there is no evidence that they can act as vector to human pathogens, they are considered a public health pest because they can cause erythematous wheals that can cause (1) itching that may become infected if scratched, (2) insomnia due to itching, (3) stress from lack of sleep, and (4) worry and concern over finances and the associated stigma of having bed bugs.

*C. lectularius* is one of more than 92 species, worldwide, in the family Cimicidae. In North America there are 16 species, very few of which have been recorded to bite man. Prior to 2000, the majority of household bed bug infestations in Pennsylvania were by the eastern bat bed bug, *Cimex adjunctus* and occasionally the chimney swift bug, *Cimexopsis nyctalis*. Since 2001, greater than two-thirds of all bed bugs submitted to Penn State for identification belong to the species *C. lectularius* (Jacobs – unpublished data).

During the past decade there has been a resurgence of bed bugs in the United States (Kells, S.A. 2006, Potter 2005, Romero 2007) and many other locations worldwide (Boase 2001, Dogget 2004, Hwang 2005). Pest control companies have reported from 10 to 1,000 fold increase in bed bug activity over the past five to ten years (Dogget 2004, Pinto 2007). Recent research has determined that many bed bug populations are resistant to the most commonly used insecticides (Moore 2006, Yoon 2006, Romero 2007). Effective management of bed bugs is a complicated

procedure requiring specialized materials and equipment. Most lay people may not be able to recognize a bed bug infestation (Reinhardt 2008) and will not have the necessary experience, diligence or access to materials necessary for proper management.

Many of the world's largest cities are experiencing great increases in the number of bed bug complaints. In New York City, there were 8,830 bed bug complaints for fiscal year 2008 ending June 30 versus 1,839 registered in 2005 (Solomont 2008) – a 380% increase in three years. As the incidence of bed bug infestations increases there is an increasingly greater threat of transporting them into new locations. Although many of the early accounts of *C. lectularius* were from hotel/motel rooms, there are now increasing reports of apartments, condominiums and homes with infestation.

*The importance of structural IPM and the Internet.*

Bed bugs are but one of many kinds of pests (or perceived pests) found in and around homes for which homeowners seek information. According to Specialty Products Consultants, LLC (Nargo 2008), the structural pest control service industry generated \$6.628 billion in sales in the United States in 2007. In the Northeast, a rough estimate of the money spent on residential structural pest control is about \$1.037 billion.

Since the early 1990's there has been an increase in the amount of IPM information available on the Internet and an increase in the numbers of people seeking this info. At the College of Agricultural Sciences, Penn State University, the structural pest management web sites consistently register among the highest (or the highest) visited pages. As example, the entire Entomology web site (containing 3,280 web pages) had 2,098,022 page visits during 2007. The top 19 structural IPM sites accounted for 521,672 page visits or 24.9% of all page visits (WebTrends Analytics 8™). Clearly, even among those individuals seeking entomological information, structural pest management topics rank very high.

One of the greatest challenges for structural IPM specialists is how to reach our audiences. With many people relying on the Internet for information it is imperative that IPM solutions reach people seeking resolution for urban pests.

The question then becomes: 'How do we direct individuals to seek out NEIPM endorsed information?' Many laypersons perform key word searches to acquire information. The danger in this approach is that information found on the WWW may not be accurate and could provide recommendations that are not efficacious or safe.

This issue has been addressed by the NEIPM CIWG in the "Priorities 2007" ([http://northeastipm.org/work\\_commpriority2007](http://northeastipm.org/work_commpriority2007)) and in 2008 (NEIPM CIWG Meeting notes).

According to the NEIPM CIWG 2007 Priorities:

*"The Community IPM Working Group (IWG) met in October 2007 and agreed that the most important focus within all the areas covered by the Community IWG is IPM in residential settings. The following are this year's (2008) priorities:*

- 1. Expand communications and outreach through IPM based*

*educational materials targeting residents on issues that affect human health and water quality.*

2. *Develop a Pest Management Strategic Plan (PMSP) for turfgrass.*
3. *Develop a Pest Management Strategic Plan (PMSP) for structures.”*

At the CIWG meetings in June and September 2008, the committee members concluded that the structural IPM group should pursue funding sources to proceed with the development of structural IPM posters and web site.

Recent outreach efforts by the NEIPM CIWG demonstrated the feasibility of utilizing posters in mass-transit buses in the greater Washington, D. C. metropolitan area. This project will build on this effective approach to address one of the most pressing structural pest problems of the day – the increase in bed bug infestations – by placing posters on buses in New York City and Philadelphia. These posters will direct interested persons to the easily remembered Web site, [www.bughelp.org](http://www.bughelp.org) .

## **OBJECTIVES AND PROCEDURES**

**1. In consultation with the Community IPM Working Group, we will develop an outreach/communications plan utilizing mass-transit pest posters and a newly acquired web site to educate the public on the smartest, simplest and safest means to combat structural pests.**

**a. Development of 3-5 posters capturing core messages related to structural pest management.**

Structural pest management posters will be marketed to residents for common pest control issues in the home, such as rats, mice, cockroaches, ants, and bed bugs. The posters will contain the web address [www.bughelp.org](http://www.bughelp.org) that will be used to measure potential impact via site traffic, and to develop a relationship with the public by providing them with reliable information from Land Grants and other science-based sources. The process for developing posters with core messages is well defined and efficient by using the CIWG and its stakeholders as partners.

**b. Create a new web portal titled [www.bughelp.org](http://www.bughelp.org), which will be a hub of general audience IPM and pest information, linking back to consumer-friendly extension information for each state in the Northeast, and possibly the North Central region.**

Through marketing campaigns using the structural IPM posters, [www.bughelp.org](http://www.bughelp.org) will be advertised to help determine impacts of the posters. Ultimately, the goal is to have posters and advertisement of the website in mass transit ad spots in two or more metropolitan areas of the Northeast. We envision posters with ants, bed bugs, etc. wrapped on buses or walking down the middle aisle, leading to [www.bughelp.org](http://www.bughelp.org). By bringing the public to this IPM site we believe they will return for other pest information when the need arises thereby creating an IPM ripple effect.

This project will take about two years to develop, implement and evaluate. It is anticipated that additional funding will be sought in subsequent years to maintain and expand this type of mass advertising once the website is fleshed out and this pilot is evaluated. Additionally, this web site and the posters can be utilized by the other IPM regions to provide information for their stakeholders, in effect creating a national BugHelp program.

**c. IPM outreach campaign utilizing posters on mass-transit buses.**

When the [www.bughelp.org](http://www.bughelp.org) site is fully functional, posters will be placed on buses in designated high-impact areas such as Brooklyn, Queens and Philadelphia. We anticipate that 75 buses will carry exterior king posters, 30" x 144", and 325 buses will have interior posters, 11" x 46", on the bulkheads above the windows. Depending on the exact routes and number of posters and buses we expect to reach 10,412,000 pedestrians with the king posters and another 3,123,600 riders with interior posters. This equates to reaching approximately 480 people for each dollar of expenditure. Even if only 1 person per 480 go to the web site, we would still have 28,000 visits.

**c. Measuring impact by utilizing Web site evaluative tools.**

There are numerous programs available for determining the amounts of traffic to a Web site. Some of the more popular include 'Web Analytics', Google Analytics', 'GoStats', and 'WebTrends'. These programs can provide a variety of measures to probe temporal and geographic origins of visitors, the number of page views, page visits, exit pages, and other benchmarks that will indicate the level of potential impact.

**d. Cooperating Institutional Units and Key Personnel.**

The NEIPM CIWG is the primary cooperating entity with Jody Gangloff-Kaufmann (NYS IPM) as the collaborating representative. Other persons cooperating are: Lyn Garling (PA IPM), Lynn Braband (NYS IPM) and Don Rivard (Rivard's Resources: IPM).

**ANTICIPATED IMPACTS**

<b>Activity</b>	<b>Preliminary Impacts</b>
Outreach and communication plan	<p>Increased awareness of IPM, cooperative extension, and universities as science-based sources of helpful information.</p> <p>Reduction in the use of unnecessary or inappropriate pesticides.</p> <p>Public is informed regarding current and important structural pests.</p>
Structural IPM posters	<p>Place structural IPM posters on mass-transit buses to educate the public on important and current structural pests and IPM, and direct them to the <a href="http://www.bughelp.org">www.bughelp.org</a> web site.</p> <p>To reach approximately 90,000,000 pedestrians and riders with the goal of having at least 30,000 of them going to the web site.</p>
<a href="http://www.bughelp.org">www.bughelp.org</a> development	<p>Create an interface with the public that leads them to IPM Centers and cooperative extension information, doing so in an appealing and easy-to-read method.</p> <p>Gather a measure of impact through website views coming from the poster campaign which will provide us, and other IPM Regions with a measure of effectiveness for this type of outreach.</p> <p>We anticipate that once people come to <a href="http://www.bughelp.org">www.bughelp.org</a> they will return when they need information on other pest IPM solutions, thereby demonstrating a ripple effect of the origin outreach campaign.</p>

