Urban Integrated Pest Management

Bed bugs have resurged as household nuisance pests in California. These parasites can be successfully managed following the central tenets of IPM: education / proper identification, preventive measures such as inspection of secondhand furniture, regular monitoring, use of nonchemical methods such as heat and steam, and, if necessary, responsible use of effective insecticides. *Image shows bed bug life cycle: egg, five nymphal instars, adults. Marks on bottom represent 1 mm scale bar. Photo credit: UCCE Specialist Dong-Hwan Choe, UC Riverside.*

Ants can be beneficial as predators and scavengers in most ecosystems, but can also antagonize natural enemies, such as this ladybird beetle, that might otherwise help urban gardeners by consuming pests, such as aphids (which supply ants with honeydew). Ants can be especially bothersome when they invade our homes and other structures. Using IPM, ants can be denied access to honeydew-producing pests and their natural enemies by using sticky barriers, and ants can be excluded from our homes by sealing cracks and crevices.

Urban areas in California are increasing in size and population. These areas of high population density are attractive to pests since peridomestic resources such as landscape plants, urban gardens, wooden structures, and the leavings of human consumption (food, water, and shelter) are abundant. Management of urban pests often involves pesticide applications, negatively impacting local environmental resources. For instance, recent research has determined urban surface waters may be contaminated with certain pesticides at up to three times the level typically found in agricultural tailwater. Potential factors contributing to this problem include very low pest tolerance thresholds, a history and convention of pesticide-based management regimes, public apathy and ignorance regarding proper pesticide use, storage, and disposal, a lack of knowledge regarding pest prevention tactics, and a lack of understanding regarding the principles of integrated pest management (IPM). Recently, UC ANR and UC IPM alike have begun the process of addressing these concerns, in hopes that positive economic and environmental impacts will follow, as evidenced by the creation of a new UCCE academic position: Area Urban IPM Advisor. This position was filled in April 2012 by Dr. Andrew Sutherland, serving the San Francisco Bay Area counties of Alameda, Contra Costa, San Francisco, San Mateo, and Santa Clara. Another Urban IPM Advisor will be hired in 2014 to serve southern California's urban counties, according to UC ANR leadership. Overall goals under this program are to increase IPM adoption and availability of IPM services, decrease the number and frequency of unnecessary pesticide applications, and to provide pest management professionals in urban areas with IPM information and resources through applied research, extension and outreach services.

Andrew's Projects / Programs

The overall program supports two UC ANR Strategic Initiatives: *Managing Endemic and Invasive Pests and Diseases* and *Improving Water Quality, Quantity and Security*

Dr. Andrew Sutherland: San Francisco Bay Area Urban IPM Advisor

Theme: Pest Management

- **Education and research serving Bay Area structural pest control operators**
- **Education and research serving Bay Area professional landscape managers**

Theme: Invasive Species

- **Extension of information to assist in invasive species avoidance and preparation for all Bay Area clientele**

Theme: Water Quality

- **Education and research to promote protection of urban surface waters from pesticide contamination**

Visit Andrew's urban IPM website: http://ucanr.edu/sites/urbanIPM/

Subterranean termites often swarm after the first autumn rains in California. Just because winged termites are found in or around a home doesn't mean that home is infested. Often times, these new termite kings and queens are attracted to lights on structures and may find their way indoors. The actual colony of origin may be far away. Also, winged termites and ants are often confused by the urban public, so proper identification, the first step in any IPM program, is necessary before determining whether further steps are necessary. Pest management professionals can then help to detect, confirm, and effectively manage subterranean termites.

Honey bee colonies often divide during spring by forming swarms, each containing a queen and thousands of workers. The swarm usually settles down as a 'swarm cluster' while 'scouts' search the area for a new nest site. These clusters can be unnerving in urban areas but don't usually require pest management: the swarm will fly off as soon as the scouts find a proper place. If the cluster needs to be removed, call an experienced beekeeper.

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