



Heating up Hawaii

Heat Treatment for Pest Management

By Scott Duzan

Why would you possibly want to heat up Hawaii? Perchance, your hotel, resort or restaurant has had complaints regarding cockroaches, bed bugs, fleas or termites. If so, you might want to consider what heat treatment can do for your property. The ThermaPure® heat treatment process is a new environmental remediation technology that uses superheated air to treat various environmental concerns.

Background

Heat has long been used by man to disinfect and sanitize. In the 1860s, Louis Pasteur developed the pasteurization process, which involves using heat to kill harmful microorganisms in milk, juice and other foods. That brings up cooking with heat. The main reason heat is used in cooking is to reduce the number of microorganisms present in the dish. Heat also is used in the creation of vaccines. Vaccines are composed of heat-killed strains of a specific virus that are then injected into a patient in order to boost antibody response. In summary, heat has a proven track record for disinfecting and sanitizing.

The ThermaPure® heat treatment process was developed by E-Therm, an environmental remediation company located in Ventura, Calif. In layman's terms, heat treatment is pasteurization applied to a building — the building is injected with superheated dry air, a process that kills various pests and microorganisms. The ThermaPure® heat treatment process has five basic applications: 1) pest management, 2) microbial remediation (mold, bacteria and virus), 3) volatile organic chemical elimination, 4) odor reduction and 5) construction dryout.

How Does it Work?

The initial work begins with an inspection of the property to determine if heat treatment would be an effective choice for the targeted environmental concern. Once heat treatment has been given the green light, the project site is prepared for treatment. Preparatory work typically involves removing heat-sensitive items and setting up the equipment and containment. This process can usually be completed in a few hours. Depending on the project and structure, the sprinkler system may need to be momentarily shut off and isolated. The equipment used in heat treatment is relatively simple: portable propane heaters, air blowers, Mylar ducting and digital thermometers. Treatment times vary depending on the scope of work and project size but usually range between one to four hours. Temperatures also vary depending on the targeted environmental concern, but usually range between 130-160 degrees. The entire heat treatment process often can be completed in eight hours or less.

Why use Heat Treatment?

To begin with, the ThermaPure® heat treatment process has proven to be successful and as a result has garnered industry support. It was recently awarded the Best New Product honor by the National Society of Professional Engineers. In addition, there have been multiple case studies supporting the success for each of the five main applications of heat treatment.

Heat treatment is a multifunctional technology, meaning that while treating a structure for bed bugs, for example, you also are improving the indoor air quality of the structure and eliminating other pests at the same time. Heat treatment can be completed in off-peak hours to minimize business interruption. It is also flexible in scale: treating an entire structure, specific areas or separate floors. If high temperatures are a concern for the structure, lower temperatures can be employed for longer durations. Heat treatment also has less of a “scare factor” compared to traditional remediation methods. Heaters and air blowers are less likely to raise questions from guests, versus workers wearing masks and Tyvek suits spraying chemicals. Perhaps the strongest advantage of the ThermaPure® heat treatment process is safety. No toxic chemicals are used, there are no lingering residues and there are no threats to pets, plants and, most importantly, people.

Fresh Baked Pests

Pests are a big problem for everyone in Hawaii. Recent research indicated that there are approximately 40 pest management companies on the island of Oahu alone. This clearly illustrates the severity of pest issues in Hawaii. Several historical studies have shown that increasing temperatures leads to shorter mortality times for insects. The ThermaPure® heat treatment process follows this same mantra. It has proven to be effective in treating multiple types of insect pests, including drywood termites, cockroaches, dust mites, bed bugs and fleas. All of these pests are present in Hawaii, and hospitality guests most definitely do not want to encounter them during their stay.

ThermaPure® heat treatment is effective in killing not only adult insects but also the eggs

and juvenile forms. This makes the ThermaPure® heat treatment process effective in wiping out entire colonies of pests. It is important to note that heat treatment can be used for small scale infestations or entire structure infestations. Another common concern in the pest management industry is resistance; because of the resistance issue, either higher dosages of the pesticide must be used, or the pesticide must be applied more frequently. None of the targeted pests have shown signs of developing resistance to heat application. No overnight move-out is required for heat treatment either, as most projects can be completed in less than one day. Heat also has better penetration through building materials than chemical sprays and fumigants. This translates into killing those hard-to-locate pests inside wall and ceiling cavities and in utility chases.

Heat Makes Sense in Hawaii

Guest complaints about bugs lead to bad reviews, and the word spreads via Internet sites like Expedia and Travelocity or through travel guides, from Lonely Planet to Frommer's. These bad reviews reflect negatively on a given property and may cast suspicion on areawide properties. With tourism as Hawaii's economic base, ThermaPure® offers the hospitality industry an effective alternative to pest management.

Scott Duzan is a former project manager with ENPRO Environmental. ENPRO is not a licensed pest applicator and is not affiliated with ThermaPure® (E-Therm) nor has any financial interest in ThermaPure® (E-Therm) but has acted as an independent party in evaluating the process on various applications.