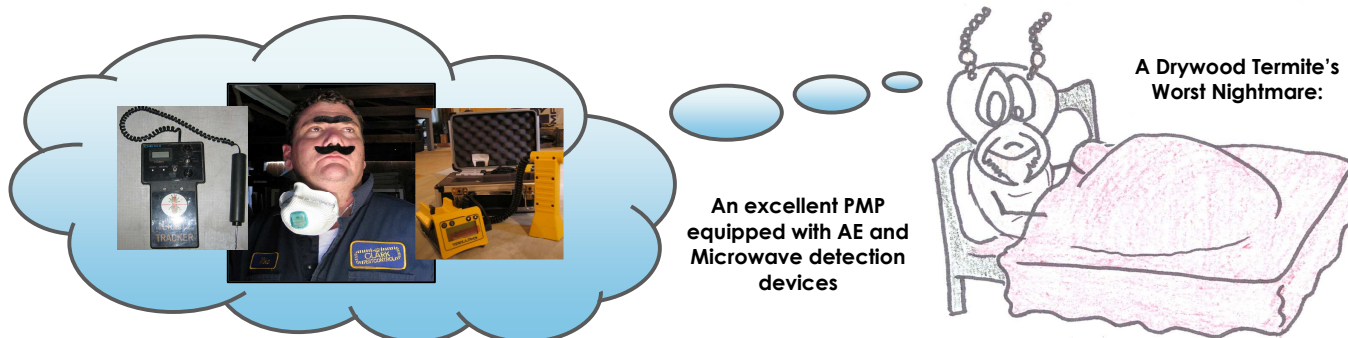




## Structural Pest Control Board Research Projects Complete

Good news! Pest Management Professionals (PMPs) will not be out of a job any time soon. We found that a PMP is the best detection tool for drywood termite inspections, but strongly recommend that their inspection diagnosis be backed up with use of a portable Acoustic Emissions (AE) device, followed by a microwave device. The use of AE technology is key to assessing if a board is active, and if any adjacent boards are also active. The microwave device can be used to identify termite-travelled tunnels or galleries for a pinpointed local treatment. If a post-treatment inspection is necessary, the AE device can then be used to document treatment efficacy by showing a lack of termite activity. The other devices (boroscope, X-ray, and infrared camera) were found to be lacking for inspection.



Our results from monitoring termite feeding and wood temperature showed that both are highly correlated, throughout the day and seasonally. Even in winter months, there are spikes in activity during heat waves. Considering termites are ectothermic, these results are not surprising. However, if AE or microwave devices are being used during inspection, these results do confirm that inspections should be done between mid-morning and 6 PM when termites are most active. And, if an inspection takes place in winter: crank up the heat for a couple hours prior to using your detection devices!

The Lewis Lab has figured out the scientific way to age pellets. We found 19 chemical hydrocarbons on pellets that change in amounts over time. Soon, this method may be used to assess whether or not an infestation is active, if a treatment was successful, and how long the colony has been active. Activity and age of a colony, and efficacy of a treatment can also be answered by molecular genetics, which can also determine termite breeding structure. The Lewis Lab in conjunction with North Carolina State University took a look at the genetic make-up of drywood populations in urban and agricultural areas, and found that the majority of colonies (45%) have a simple breeding structure whereas only 30% have an extended-family breeding structure and 25% with a mixed-family breeding structure. Breeding structure is related to age of a colony; for instance, a simple-family colony is up to or a little over 5 years old and in comparison, an extended-family colony is at least 10 years old. Thus, breeding structure has significant implications to the extent of structural damage. Depending on breeding structure a least-toxic treatment could be an effective strategy for drywood termite control.

For more juicy drywood termite biology information, please read the SPCB full report. This report can be found online at the UPMC website (<http://nature.berkeley.edu/upmc>).

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