Getting To Know ...

Impact of Global Warming on Pest Management

Scientists and experts at the Pest Summit 2008 confirmed what many pest management operators had long suspected – global warming has a profound effect on the management of pests!

Every degree added to our climate will cause the life cycle of most insect pests to be speeded up. This equates to shorter time from egg hatching to full grown adult, thus creating larger pest populations.

Dr Vichai Stimai from the Thailand's Bureau of Vector Borne Disease paid particular attention to the mosquito which has a high sensitivity to climate change and the likelihood of malaria, dengue fever and Japanese encephalitis becoming more prevalent.

Dr Lee Han Lim from the Institute for Medical Research, Malaysia agreed. He predicted that global warming will increase the distribution and incidence of dengue and in the continued absence of an effective vaccine and anti-viral, he believes that by 2055, 70% of the human population will be at risk from dengue infection.

Even the subterranean termites will be affected but they will adjust to the changing environment. Michael Lenz from Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia believes that under adverse conditions termites will simply retreat deeper into the soil and transport water from various sources to their feeding sites, thus creating their own favourable conditions for food exploitation (i.e. continuing to feed on your building timber structure and furniture).

Termite experts Professor Lee Chow Yang from Universiti Sains Malaysia and Dr Nan-Yao Su from University of Florida do not see the need to change the method of treating termite infestation at this stage. To them baiting will continue to be relevant.

A leading researcher on flies, Dr Nazni bte Haji Wasi Ahmad from Institute for Medical Research, Malaysia confirmed that there is a relationship between fly density and meteorological condition. She revealed that in a study they found that higher temperature in the highland resulted in higher fly counts. She concluded that the long-term and sustainable approach to combat fly infestation under these ideal conditions is not to depend solely on chemical control but to adopt an integrated control approach including environmental sanitation and hygiene.

No international pest management convention is complete without a paper on bed bug management. Dr Dini Miller from Department of Entomology Virginia Tech, US warned participants that her laboratory has tested many products that claim to repel and/or kill bed bugs and their eggs, and most do not live up to their marketing claims. In the US where the majority of pesticides registered for bed bug control are pyrethroids, there is evidence of resistance to these pesticides. She urged the pest management industry to start thinking "outside the bottle" in tackling the worldwide resurgence of bed bugs. Returning to basics like removing clutter and containing personal belongings should be considered.

Dr Donald Reierson from University of California, US raised the question of "Green Pest Management" as a consequence of global warming. He urged pest management professionals to use the Cost-Risk-Benefit Analysis to assess their methods and technology with the aim of using the lowest-impact materials on an "as needed" basis. The use of cockroach baiting is one example but for it to be successful, the practitioner must know how it works, its advantages and understand the limitations.

Even the tiny house dust mite was not spared. Associate Professor Anchalee Tungtrongchitr from Mahidol University, Thailand believes that house dust mites are susceptible to changing environmental conditions. Global warming will increase the bedding's ambient temperature and relative humidity. This will result in higher egg production, shorter development time, higher rate of allergen production and greater longevity from hatching to the death of the adult. The result is higher mite proliferation and infestation, and increased human suffering.

Finally at this Pest Summit, the message to pest management professionals is that in order for them to meet the challenges created by global warming they need to constantly update their technical know-how by constantly searching for better and more effective treatments, and up-to-date information on pesticides and equipment, without harming the environment.