

# Global Impacts of COVID-19 on the Pest Management Industry

Challenges and opportunities through these difficult times

**Chow-Yang Lee and Stephen L. Doggett**



**O**ver the last 18 months, every day we all probably give a thought to when the COVID-19 pandemic will end. During the FAOPMA-Pest Summit Virtual Conference 2020 last November, many of us were hopeful that 2021 would be a better year than 2020. Unfortunately, even though we are approaching the end of the second quarter of 2021, the situation remains grim in many countries, especially for India and Brazil. Furthermore, several new and more contagious variants of the virus have since made rounds in different regions. This includes the variants labelled as; B.1.1.7 (UK), B.1.351 (South Africa), P.1 (Brazil), B.1.617.1 and B.1.617.2 (India), and B.1.427, B.1.429 and B.1.526 (USA)[note; as from early June, the World Health Organization has simplified these names and the variants are now called after Greek letters; the UK variety is known as 'alpha', South African as 'beta', Brazil as 'gamma', and the Indian varieties are termed 'delta' and 'kappa'].

Many countries are now experiencing their second, third, or even fourth wave of COVID-19 infections. Despite there being a range of vaccines

now available (Pfizer-BioNTech, Moderna, Astra-Zeneca, Johnson & Johnson, Sinovac, Sinopharm, Soberana, Sputnik, etc.), the disproportional vaccine distribution to the more affluent and developed countries than to poorer countries who are not able to afford the prophylactic is glooming the clouds of normality anytime soon. Plus it will be sometime before every one of all ages will receive the vaccine. It is also unknown whether those vaccinated individuals will be fully protected against the current new variants and those that are likely to emerge. At the time of writing this article (25/June/2020), the number of reported cases is over 180 million, with almost four million deaths. By the time you read this article, the number of cases will sadly be many, many more.

Pest management professionals (PMPs) have always asked whether urban insect pests can transmit the SARS COV-2 virus. Based on earlier reports, blood-sucking arthropods such as mosquitoes, ticks and bed bugs, and crawling insects such as cockroaches and ants, do not and cannot transmit the COVID-19 virus. However, a

recent laboratory study demonstrated that house flies could acquire and harbour SARS-CoV-2 for up to 24 hours post-exposure. The infected flies were also able to transmit the viral RNA for up to 24 hours mechanically. A British government report stated that the risk of SARS-CoV-2 present in contaminated human waste to be infectious is very low (<1%). However, if a new variant could survive longer in the waste, the likelihood of crossover to a rat will be significantly increased (66–90%). In such a situation, those with higher interaction with rodents (e.g., PMPs), will have a higher risk than the general population. All these recent findings warrant further investigations.

So how has COVID-19 impacted the pest management industry over the last 18 months? In this paper, we divide the impacts into four categories: (1) pest activity and resurgence, (2) pest management business, (3) training, and (4) other issues.

Firstly, rat activities in major cities had been reported to have increased during this period. The closure of so many shops, restaurants, and other facilities, forced rats and mice to hunt for new food sources, making them more noticeable on the street and increasing the likelihood of coming into homes. There were also reports that rats were becoming increasingly aggressive due to the lack of food and fighting for their survival.

The pandemic caused many homeowners, especially those in low-income housing, not to be comfortable in allowing PMPs to carry out their monthly service. After more than a year, this resulted in a massive increase in German cockroach numbers in those apartments that were already infested in the past. Plus the number of newly infested apartments increased during this time.

Despite travel and hotel occupancy rates dropping significantly, many hotels were repurposed to allow for housing for quarantined travelers, medical workers, other front-line essential staff, and even homeless people. With new people coming into the rooms, there is always a chance that bed bugs could be brought in. These rooms are cleaned daily during regular times, and any bed bugs are reported quickly by

cleaning staff or guests. But with the COVID-19 pandemic, early detection became less likely as cleaning became less frequent. This in turn delayed treatments by a pest control professional. Such delays until treatment begins allow bed bug populations to proliferate.

Many health departments worldwide are presently channeling almost all of their staff and resources into managing the COVID-19 pandemic. This reduces the availability of funds to tackle vector-borne diseases such as dengue and malaria. With lockdowns and movement restriction, many people spent their time working and studying from home, which increased the chance of being bitten by *Aedes* mosquitoes during the daytime. Hence, it is imperative that amid battling COVID-19, it is important to sustain vector control efforts to prevent these deadly mosquito-borne diseases.

Interestingly, pest management businesses have been mostly unaffected by the COVID-19 pandemic. Most companies suffered less than a 5% drop in business, as sanitation and disinfecting services have been in great demand. However, how long the market for disinfecting service will remain is unknown. In some countries, most non-essential businesses that required pest management services were closed during lockdown periods. Most restaurants offered take-away only with no in dining available.



Business offices shut down, and staff mandated to work from home. Many shopping malls and department stores were closed.

The number of premises that pest management professionals per day could service was also reduced. Because of the mandatory safety measures set by the management of building premises to avoid transmission of COVID-19, many precautions that were not required before the pandemic were put into place. In some areas, service technicians were required to wear fresh PPE and bag it after they completed the job before moving to the next premise to avoid potential cross-contamination. The inadequate supply of PPE worldwide has posed a significant challenge to pest management companies to equip their service technicians properly.

Due to the fear of contracting COVID-19, the current pandemic also has created suspicion among people, plus we are warned to always maintain our physical distance from others. Many homeowners have been reluctant to allow PMPs to enter their homes to treat pests such as German cockroaches and bed bugs. Plus rising

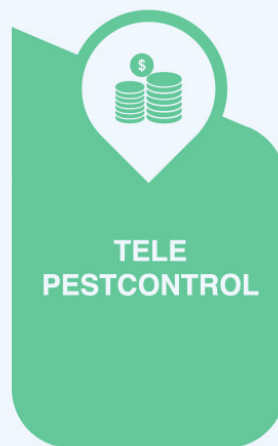
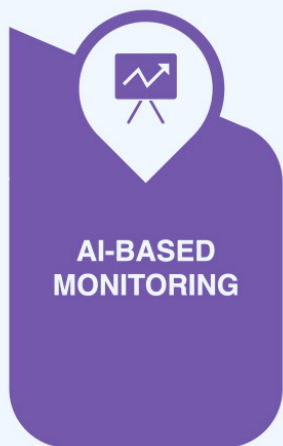
unemployment has led to the cancellation of many pest management accounts. The lack of treatments over several months could lead to an increase in the amount of indoor allergens, which could increase the risk of homeowners developing health issues such as allergies and asthma. Some pest management professionals have also complained that while there are jobs, it is hard to collect payments upon the services that have been completed.

The pandemic has also disrupted the training of PMPs. Most conferences and workshops have been either canceled or postponed to 2022. Due to the need for PMPs to fulfill their continuing education units, many meetings and training seminars have opted for online learning, but such programs lack any practical assessment. This will seriously impede the learning process of PMPs and will directly affect their professional development.

In ancient Chinese text, there is a saying; *whenever there is a crisis, there is opportunity*. It is a time of crisis that many business empires are built and territories are expanded. This

## PEST MANAGEMENT OPPORTUNITIES DURING COVID CRISIS

IN THE TIME OF CRISIS, THERE IS ALWAYS OPPORTUNITY



is probably the best time to re-strategize your business. Hotels, guest houses, airlines, transportation, and tourism-related industry are unlikely to be the same anymore. Pest management companies that rely heavily on business in these industries will have to change and innovate. As countries reopen, there is a serious need for a total clean-up job, e.g., in restaurants, offices, and shopping malls. This includes disinfection, cleaning, and pest management services (especially rodents and cockroaches). For homes, you can offer a bundle inspection and treatment service that covers general pests and a termite inspection.

Next, this is the best time to invest in artificial intelligence (AI) based monitoring technology. This will limit the visits to the treatment sites only in the event of pest sightings. This should reduce the need for frequent human-human contact.

Thirdly, pest management companies could work with insurance companies to offer termite control insurance policy to specific needs, e.g., termite treatment and damage repairs. Like car insurance for an accident or broken windscreen, every home is at risk of being attacked by termites. Every year, the homeowner pays a small premium for the insurance policy, and if there is no single claim after a designated number of years, a NCB (no-claim bonus) discount could be provided.

Fourthly, telemedicine has become increasingly popular the last 18 months due to two reasons: (1) patients want to avoid visiting healthcare facilities unless necessary, (2) healthcare facilities could resolve their patient's less urgent medical issues without putting the additional workload on the doctors already overloaded due to the pandemic. *What if we can offer a similar type of service for pest management?* Not all pest issues require an immediate visit by PMPs. As many people are not receptive to visiting their homes by strangers such as PMPs, the homeowners could resolve some of these pest issues themselves. The charged services provided must include the following: (1) identification of the problem (diagnosis, pest ID), (2) pest habitat identification, and (3) solutions. Simple solutions such as using baits can be delivered by mail to

the homeowners, while more thorough services requiring visits by PMPs would be charged separately. An investment in a web-based or mobile-based platform will be required.

Finally, we are using car e-hailing services such as Grab, Uber, Lyft, etc. Why can't we have pest management (and perhaps cleaning) e-requesting services? We need a good platform, and we could get as many pest management companies or independent technicians to participate. However, a few necessary conditions are required: (1) Only licensed PMPs can join the platform, (2) Response time within 30 min after service is ordered, (3) Electronic payment system (credit card, debit card, etc.), (4) Profit to be shared between the platform provider and PCO (e.g., 30:70), (5) Customers could rank the PMPs (e.g., 1–5 stars) for the quality of service. In the long run, the platform could indirectly help to set minimum and maximum prices for all pest management jobs for the industry.

In summary, the COVID-19 pandemic is a major crisis that has affected everyone. No one saw it coming, no one wants it to come, and it is no one's fault that it came. The pandemic will seriously change the landscape of the pest management industry. While it is a crisis to many, it is also an excellent opportunity for others who are willing to change. We are very optimistic that the future of the urban pest management industry is bright and promising to everyone receptive to change. ■

*This article is a summary of the presentation given by Prof. Lee at the 2020 FAOPMA-Pest Summit Virtual Conference.*

**Chow-Yang Lee** is a Professor and the Endowed Presidential Chair in Urban Entomology, Department of Entomology, University of California-Riverside.

**Email:** [chowyang.lee@ucr.edu](mailto:chowyang.lee@ucr.edu)

**Stephen L. Doggett** is the Director, Department of Medical Entomology, NSW Health Pathology (ICPMR), Westmead Hospital, Sydney, Australia, and the Chief Editor of the FAOPMA Magazine.

**Email:** [Stephen.Doggett@health.nsw.gov.au](mailto:Stephen.Doggett@health.nsw.gov.au)