

# Insect pest control, the natural way

**BACULOVIRUS:** Safe and effective in controlling major insect pests that damage crops

**AZLAN ABU BAKAR**

KUALA LUMPUR  
alan@nstp.com.my

**B**IOLOGICAL control is a component of an integrated pest management strategy.

It is defined as the reduction of pest population by natural enemies and typically involves an active human role.

Keep in mind that all insect species are suppressed by naturally occur-

ring organisms and environmental factors, with no human input.

This is frequently referred to as natural control. Natural enemies of insect pests, also known as biological control agents, include predators, parasitoids, and pathogens.

Biological control of weeds includes insects and pathogens.

These control agents of plant diseases are most often referred to as antagonists.

Predators, such as lady beetles and lacewings, are mainly free-living species that consume a large number of prey during their lifetime.

Universiti Putra Malaysia (UPM) came up with a cost-effective and scalable process for producing a biopesticide using insect larvae to grow baculovirus.

UPM researcher Dr Lau Wei Hong said the virus is safe and effective in

controlling major insect pests widely known to damage crops.

"Field trials conducted in Malaysia have produced promising results by increasing the crop yield by up to 30 per cent," he said.

He said the baculovirus is safe to use, scalable and showed no multiple serial passages of the virus in the process that could affect viral stability.

Dr Lau said several factors are important for the production of baculovirus on a commercial scale.

These include optimisation of conditions for growth in host insect cells propagated in large-scale bioreactors and development of improved insect cell culture media.

"In many respects, these factors are highly interdependent and optimisation of one may limit the available ranges for other factors that have bearing on the overall goal of maximising viral growth," he said.

New types of insect cell culture media optimised for particular cell lines are also a key factor in achieving the goals of many commercial processes and are not widely available.

"Optimised media formulations and prolific cell lines, which lead to high yields and perform at all scales of production, are all critical factors for success," Dr Lau said.

The process can be optimised for large-scale production of the virus for commercial application.

He said the baculovirus target market will be food crop farming, organic farming, herbal farming, ornamental crops farming, flower nurseries and other valuable crop farming.

**For more information, Dr Lau can be reached at 03-8947 4847 or email to [lauweih@upm.edu.my](mailto:lauweih@upm.edu.my).**



*The **baculovirus target market** will be food crop farming, organic farming, herbal farming, ornamental crops farming, flower nurseries and other valuable crop farming.*