

# Making food production less harmful

I REFER to the media reports on June 22 about the high usage of pesticides in Cameron Highlands and the launch of biological control agents there by Agriculture and Agro-Based Industry deputy minister Sim Tze Tzin.

High usage of chemicals, especially pesticides, is an issue of grave concern among agriculture experts because of its negative impact on humans, animals, plants and the environment.

Pesticides are commonly used in crop production to reduce yield losses caused by pests and diseases. These chemicals are used due to their immediate and indiscriminate effects, relatively low cost and easy availability in the market.

In 2017, the total sales of pesticides were RM719mil. This amount has increased from RM563mil in 2012.

Of the total amount, herbicides accounted for the highest sales at RM396mil, followed by insecticides at RM194mil, fungicides at RM98mil and rodenticides at RM31mil, according to data from Malaysia CropLife and Public Health Association.

Due to the adverse effects of pesticides on living organisms, environment and food safety (a banned

pesticide was detected in rice), their usage must be monitored and guided by agriculture professionals.

Another concern is the rampant use of pesticides that are not registered with the Pesticide Board of the Department of Agriculture. Since they are not registered, the detrimental effects of these illegal pesticides on living organisms and the environment are unknown. When tested in the laboratory, these illegal pesticides were found to contain banned toxic contaminants.

The Pesticide Board regulates the registration of pesticides for applications in agriculture and also offers services such as providing advice on plant pest and disease control methods and pesticide use. However, farmers are most often advised by dealers and distributors of agrochemical companies who are not certified as agriculture professionals.

To address this issue, the Department of Agriculture is spearheading the enactment of a law called Agrolgist Act, which is expected to be tabled in Parliament soon. The department is assisted in this venture by the Agriculture Institute of Malaysia (AIM) and

Faculty of Agriculture, Universiti Putra Malaysia (UPM).

This law would give due recognition to agriculture graduates as professionals and make them credible enforcers among the agricultural community.

While pesticide use is necessary to increase yield to feed a growing population, it is considered a last option in the integrated pest management approach.

Non-chemical strategies for crop protection that are safe to living organisms and environment are available. They include biological-based methods, generally termed biopesticides, which involve the use of micro-organisms (biological control agents), plant extracts or natural compounds and RNA molecules; and ecological engineering methods such as maintaining natural enemies in the environment to control pests and diseases.

The Agriculture and Agro-Based Industry Ministry is moving in the right direction towards facilitating chemical-free and environmental-friendly agriculture in Malaysia in launching the biological control agents in Cameron Highlands.

But more needs to be done and all stakeholders must play their

respective roles. Political will is also needed.

Policymakers are wise to focus on encouraging the use of non-chemical inputs, including non-chemical fertilisers, in the agriculture sector by giving incentives to farmers who opt for non-chemical methods in their farms; imposing higher taxes on manufacturers of chemicals but giving incentives to producers of biopesticides, and assisting local start-ups or SMEs financially to focus on manufacturing bio-based agriculture inputs.

In the current scenario, biopesticides that are locally produced and commercialised are either very limited or non-existent.

However, research universities such as UPM have produced several biopesticides that are available for adoption and commercialisation by the government and SMEs.

Farmers play an important role in adopting chemical-free crop protection methods and integrated pest management approaches in their farm production systems. However, they need to understand how biopesticides and ecological engineering methods work because the effects are not immediately apparent. These methods take a

longer period of time compared to using chemicals, as they involve living organisms. Nonetheless, they are sustainable and safe to living organisms and the environment.

There are some modern farmers who are open to these alternative methods but such products are limited or not cost-effective because they are imported. In this regard, agriculture extension agents play an important role in educating farmers.

Consumers also play a critical role by pushing for chemical-free agricultural produce and products.

Chemical-free crop protection in agriculture is possible if there is a change in mindset of all stakeholders. This change must be led by the government.

This practice contributes to sustainable agriculture and food security and is also in line with several of the United Nation's sustainable development goals (SDGs), including zero poverty and hunger, good health and well-being, decent work and economic growth, and responsible consumption and production.

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