Why we need pesticides to feed the world

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Credit: University of Hertfordshire

In recent weeks and days the use of pesticides has again been in the headlines.

From their potential impact on honey bees (and other pollinator species) to a steep decline in the number of UK butterflies, there is, again, a growing call for a total ban on pesticides from environmental groups.

But ahead of World Food Day (Sunday 16th October) food sustainability and agriculture experts at the University of Hertfordshire say pesticides have an important role to play in ensuring that there is enough safe and healthy food for the world's population. The number of people in the world is growing with numbers expected to reach 9.6 billion by 2050. To meet such a heavy demand, agriculture and food systems need to adapt to the adverse effects of climate change and other threats by becoming more resilient, productive and sustainable.

'The use of pesticides is imperative'

Professor Kathleen Lewis, Professor of Agricultural Chemistry at University of Hertfordshire's Department of Human and Environmental Sciences (HES) and Research Leader for the Agriculture and Environment Research Unit (AERU), says the use of pesticides is imperative to that goal. And that their continued use is one of the only ways that farmers can ensure the wellbeing of local ecosystems and rural populations.

She said: 'Without pesticides it has been estimated that global food production could fall by as much as 35-40%, increasing the cost of food and threatening food security. However, their use does involve potential risks to human health so pesticide policies, particularly those of the developed world, advocate the sustainable use of these chemicals to minimise the risks and maximise the benefits.

'And as well as their primary use, pesticides also deliver other benefits such as reducing the labour, fuel and machinery required for crop protection activities which have a wider, positive impact on the environment.'

Realistic and pragmatic

Prof Lewis argues that instead of a total ban on pesticides, a more realistic and pragmatic approach is in order. This includes continuing to heavily regulate the industry, having robust checks on the manufacturers and improving transparency whilst sharing knowledge on the different pesticides available, using tools such as the University of Hertfordshire's Pesticides Properties DataBase (PPDB).

She added: 'Evidence-based risk assessment is fundamental to protecting human health and ecosystems from the possible adverse effects of pesticide exposure. In recent years there have been considerable scientific advances in the way in which regulatory pesticide risk assessments are conducted which means they are safer than ever.'

These advances include the recent European Food Safety Authority (EFSA) guidance for undertaking risk assessments for honey bees, bumble bees and solitary bees following rising concerns over the global decline in pollinator populations.

Reducing food loses

Prof Lewis concluded: 'Growing food in a sustainable way means adopting practices that produce more with less in the same area of land and using natural resources wisely – the use of pesticides is fundamental for these practices. Using pesticides means reducing food losses and means better harvesting.

'Of course, there are always risks associated with using such chemicals, but the answer is to heavily regulate the industry and increase transparency, not to ban their use. The scientific evidence time and again demonstrates the benefits for using pesticides far outweighs the risks.'

Provided by University of Hertfordshire