NBAIR director says natural enemies should be allowed to take care of insects

'Misuse of pesticides to blame for disappearance of pollinators'

NBAIR director says natural enemies should be allowed to take care of insects

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When Chandish R. Ballal, the Director of National Bureau of Agricultural Insect Resources, did her Ph.D on pigeon pea ecosystem, she found that Campoletis chlorideae, a parasitoid insect, destroyed 20% of the insect pests (parasitism) in plants.

"But today I am not at all finding them, even though in the 1960s, 1970s and in the 1980s, researchers from other centres had recorded between 70 to 80% parasitism. There is a clear reduction in the population of pollinators and parasitoids due to irresponsible use insecticides and chemicals," she said, addressing the Insect Diversity and Conservation-2020 organised by the Entomology Research Department (ERI), Loyola College, in collaboration with Indian Council of Agricultural Research-National Bureau of Agricultural Insect Resources (ICAR-NBAIR).

She said precise documentation and real quantification of the diversity of insects had to be done to explain to the world about what was happening due to the intensive agriculture practices and irresponsible use of chemicals and insecticides. "We have to do that at least from now. But I am not saying that chemicals should not be used. Use it in a judicious manner. In several cases, the nature is taking care of the parasites. If we understand and allow the insects to be taken care by the natural enemies, we do not have to impose chemical treatment more than what is required," she said. Ms. Ballal explained how the parasite, Goniozus, used as a biocontrol agent effectively controlled the black-headed caterpillar in coconut trees in Kerala and Tamil Nadu.

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> Director, National Bureau of Agricultural Insect Resources

Biocontrol agents

In Adat panchayat in Kerala, chemicals and pesticides were kept away and instead biocontrol agents were used in paddy on 3000 acres. "The natural ecosystem has come to the scene. Birds and animals are coming back. Otherwise it would have become a desert," she said.

Asked whether farmers could get the yield without using pesticides, she said if one calculated the amount spent for chemicals and insecticides unnecessarily, the usage of natural biocontrol and augmented biocontrol farmers could save money.

Loyola college produces bio-oil formulation

Repellent effective against major pests

SPECIAL CORRESPONDENT
CHENNAI

The Entomology Research Institute (ERI), Loyola College, has produced a plant-based pesticide to control fall armyworm, which caused widespread damage to 180 major crops in Tamil Nadu and cotton bollworm.

"It has proved more effective than chemical pesticides. We found its efficacy in the fields in Kancheepuram, Tiruvallur and Chengalpet districts," said Fr S. Maria Packiam, SJ, Director of the ERI, who has developed 'Ponneem', a natural oil formation for the control of agricultural pests, termites and mosquitoes.

Ponneem, a bio-pesticide developed by Loyola College.

Product patented

Ponneem is a patented product and has pungam and neem oil in equal ratio.

"We have added emulsifier. It has a strong repellent activity. We found after its application the pest insects are not able to eat and lay eggs. The formulation has a detrimental effect on survivors. The insects of the next generation have wing deformities," said Fr Maria Packiam. Pointing out that chemical pesticides had destroyed honeybees and spiders, the natural pollinators, Fr. Maria Packiam said the chemicals did not spare the bacteria responsible for the decomposition and human beings.

"Farmers who constantly use the chemicals have developed blisters and wounds. The residue of the pesticides found in agricultural products is harmful when consumed," he said.

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