NEW ERA AGRICULTURE MAGAZINE

Why pollinators are in danger and needs protection?

Anubhav Kumar and Ashok kumar

Introduction:

Many different types of food, primarily horticultural crops, are produced for us as a result of pollination. The pollination of crops is essential to crop production in agriculture; without pollination, fruit production, particularly in cross-pollinated crops, is impossible. In fact, pollinators like bees, beetles, birds, and bats increase the yields of 87 of the world's top food crops (FAO) and a variety of plant-derived medicines, contributing to 35% of the world's crop production. Pollinators play an important part in the production of food worldwide, despite their relative insignificance. It closely connects wild habitats with agricultural production systems, which is important for human food production and livelihoods. Many interdependent species and ecosystem processes could cease to exist without this service.

Pollinators are under a lot of stress as a result of human activity, which both raises demand for them and destroys their habitat. Over the past few decades, horticulture has grown quickly while intensive agriculture has uniformed the landscape. Lack of pollination has raised awareness of this service's importance and management requirements. It takes resources, such havens of virgin natural vegetation, for effective pollination. Pollinators are becoming scarce in areas where they are being decreased or eliminated, and adaptive management techniques will be needed to maintain food supply.

Although we are aware that food producers do not always pay attention to these pollinators, they are aware of the significance of these pollinators. We often overlook the variety of butterflies and other insects that pollinate our plants in addition to bees, believing them to be the only pollinators.

Importance of pollinators:-

They increase food quantity: Two billion small farmers worldwide are currently increasing their food production thanks to bees and other pollinating insects, which is assisting in ensuring global food security.

They increase nutrition: Pollination is

Anubhav Kumar (Assistant Professor) Department of Seed Science and Technology, CSA University of Agriculture & Technology, Kanpur (UP)
Ashok Kumar, Research Scholar (Agronomy), Nandini Nagar PG College Gonda (UP), India

necessary for the production of the micronutrient-rich foods including fruits, vegetables, and seeds. A well-pollinated plant, or one that got a lot of pollen, will produce a fruit that is bigger and more uniform in size. For example, round apples would indicate adequate pollination, but apples with irregular shapes would indicate insufficient or uneven pollination. Generally speaking, pollinated fruits have higher quality and taste because plants devote more resources to them.

Their biggest threat:-

Pollination may continue to drop if bees and other pollinators don't have a suitable environment. Populations face issues from monoculture, pesticides, diseases, and greater temperatures brought on by climate change. Nutritional security may also be immediately threatened by declining pollination. In addition to killing all pests, strong chemical fertilisers, insecticides, herbicides, and growth hormones also kill helpful insects like pollinators.

Fig. 1: Pollinators

By transporting pollen from one bloom to another, bees, wasps, flies, butterflies, moths, beetles, birds, and bats assist plants in reproducing. Currently, disease, mites, habitat loss, and a lack of food sources are among the threats facing honey bee and other pollinator populations. The decline of pollinators and the significance of them must first be documented. Campaigns against the use of chemicals, decreased pesticide use, GMO use, and the use of agro-toxics are all crucial. It is crucial to promote the growth of naturally occurring, non-dangerous, flowering trees. It is beneficial to grow crops like sunflowers, watermelons, pumpkins, and pulses to draw in these pollinators. We also understand the necessity of water collection because these pollinators also require water.

Protection measures:-

In order to conserve these pollinators, certain precautions must be taken as pollinator protection has become a crucial component of contemporary agriculture. Protection measures to be used are as follows-

1. Reduce the usage of herbicides and highly toxic/carcinogenic chemicals on agricultural crops.
2. Use organic based plant protection which is eco-friendly to environment as well as insect diversity.
3. Practice growing crops like sunflowers and safflowers that have yellow flowers that draw pollinators. etc.; 4) Increase honey bee hives about 10

hives/ ha land so it increase the bee population.

4. Stop burning crop residues in the field since doing so will result in poisonous smoke that will harm honey bee activity and kill bee hives.
5. Expand the jaggery production facility to draw more pollinators and boost population.
6. To encourage honey bees to build their hives in higher altitudes on tree branches, it is more vital to establish forest tree species along the field's border.
7. Utilising ornamental plant species that are most enticing to pollinators, etc.