

How important is our pollinators?

- ✦ Over 90% of the plants on this planet Earth depend on pollinators for pollination
- ✦ One out of three bite of food we eat comes because of pollinators
- ✦ Pollinators contribute over INR 15 Lakh Crores to global economy in terms of food production
- ✦ Apart from food, pollinators support healthy ecosystems

Important pollinators of crop plants

Vegetable crops

Brinjal: Solitary bees

Tomato: Solitary bees, bumble bees

Cucumber, pumpkin: honey bees, ants

Chillies: Solitary bees

Beans : Carpenter bees

Fruit crops

Apple: Honey bees, mason bees, bumble bees, hover flies

Mango: Honey bees, stingless bees, flies, ants, wasps

Guava: Honey bees, stingless bees, bumblebees, solitary bees

Grape: Honey bees, solitary bees, flies

Orange/Lemon: Honey bees, bumblebees

Field crops

Sunflower: Honey bees, solitary bees

Mustard: Honey bees, solitary bees

Cotton: Honey bees, solitary bees

Onion: Honey bees, solitary bees, flies

Pigeon pea: Honey bees, solitary bees, carpenter bees

How to conserve them?

- ➔ Providing artificial nesting shelters like cardboard blocks with holes, hollow bamboo stems, pithy stems etc.
- ➔ Identification of natural nesting sites of leaf cutting bees and conserving them in-situ.
- ➔ Planting flowering crops along the borders of main crop
- ➔ Establishing pollinator gardens using native flora so that continuous supply of pollen and nectar round the year
- ➔ Minimise the use of pesticides



Pollinators and their conservation



SHIVALINGASWAMY, T.M.
AMALA, U.
SHYLESHA, A.N.



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“Without the actions of pollinators, agricultural economies, our food supply, and surrounding landscapes would collapse”. *-Pollinators.org*

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ICAR–National Bureau of Agricultural Insect Resources
P.O. Box 2491, H.A. Farm Post, Hebbal, Bengaluru 560 024, India
Phone: +91 80 2341 4220 ✦ Fax: +91 80 2341 1961
Website: www.nbair.res.in Email: director.nbair@icar.gov.in
(ISO 9001: 2008 Certified Institution)

Pollinators

Pollination is the transfer of pollen from anthers (male part of flower) to the stigma (female part) of a flower. Since plants can not move around, they rely on other creatures to bring pollen to them. Pollinators carry pollen between different flowers and help to produce seeds and fruits.

There are several agents both abiotic (wind- Anemophily, water- Hydrophily) and biotic (insects, birds, bats and other animals) which helps in pollination of different plants. In this publication we introduce you to insect pollinators (Entomophily) in detail.

Different types of Pollinators

Only honeybees and solitary bees are efficient pollinators compared to other groups like wasps, butterflies ants and beetles.

Honeybee



Native bee



Wasp



Beetle



Butterfly



Moth



Ant



Fly

