

ROLE OF BENEFICIAL INSECTS IN AGRICULTURE

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Not all bugs are bad. Insects get labeled as "pests" when they start causing harm to people or the things we care about, like plants, animals, and buildings. Out of nearly one million known insect species, only about one to three percent are ever considered pests. What about the rest of them? Some insects actually help us by keeping the pests in check. Beneficial insects provide natural ecosystem services as biological control and pollination of plants of pests belong to the categories of predators, parasitoids, and pollinators like ladybird beetles, lacewing bug, Syrphid fly larvae, Praying mantids, Minute pirate bug, Aphid midge, Bigeyed bug, Honey bee, Bumble bee, Mason bee, Leafcutter bee and Butterfly. Awareness of management techniques bring the beneficial insects in the crop fields is a method forward to enhance agro ecosystems for grows crop production.

If we let them do their jobs, many types of insects can actually help us out:

✿ **By preying on pest insects.**

Spiders are predators of insects. So are some types of beetles, flies, true bugs, and lacewings.

✿ **By parasitizing pest insects.**

Parasitic insects, like some small wasps, lay their eggs inside insects or their eggs. This can help drive the pest population down.

✿ **By pollinating plants.**

Insects like native bees, honeybees, butterflies, and moths can provide this service, helping plants bear fruit.

✿ **Don't forget about non-insect beneficial animals!**

Birds and bats are examples of animals that can feed on pest insects.

List of beneficial insects in agriculture are given below:

1. LADYBIRD BEETLES:

The ladybird beetles used to control major insect pests of crops like aphids, whiteflies, scales, mites, mealybugs and other soft-bodied insects.

2. LACEWING BUG:

Lacewing bug control large number of insect pests aphids, spider mites, whiteflies thrips, leafhoppers, scales, mealybugs, psyllids, small caterpillars and insect eggs.

3. SYRPHID FLY LARVAE:

Syrphid fly larvae attacked on Aphids, scales, thrips and other small soft-bodied insects.

4. PRAYING MANTIDS:

Praying mantids control aphids, flies and beetle.

5. MINUTE PIRATE BUG:

To control spider mites, thrips, psyllids, whiteflies and small caterpillars

6. APHID MIDGE:

Aphid midge used for the management of aphid.

7. BIGEYED BUG:

Control of Flea beetles, mites, insect eggs, small caterpillars, other bugs.

8. HONEY BEE:

Honey bees play important role in pollinating oilseed crops. Pollination not only results in higher yields as well as better quality of produce, and the well organized pollination of flowers also serve to save the crops against pests.

9. BUMBLE BEE:

Bumble bee for pollination of various crops which are normally unable to be pollinated by honey bees. Bumble bee has more benefits than honey bee. They visit more flower per minute, performs buzz pollination.

10. MASON BEE:

Mason bees for commercial crops pollinators. A few species were identified in Europe, the United States, and elsewhere for crop pollination.

11. LEAFCUTTER BEE:

Leaf cutter bees that will contribute to crop pollination. This is important role in pollination of many cultivated and wild plants. Increasing the desirability of farm landscapes for native bees will also provide a diversified strategy for achieving good crop yields in pollination-dependent crops.

12. BUTTERFLY:

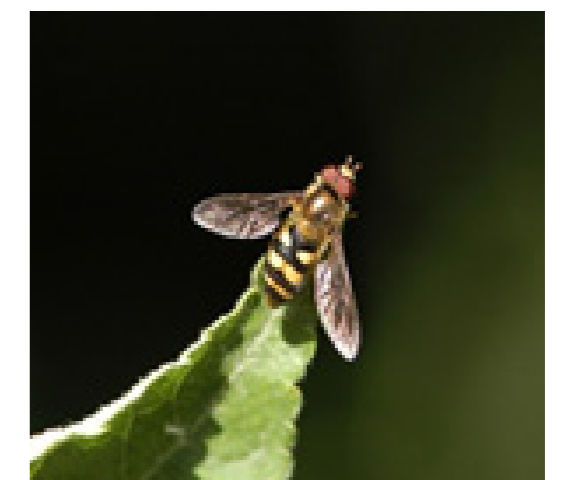
Butterflies are attracted to bright flowers and need to feed on nectar as well as pollen. They carry pollen on their body parts to other plants. Papilionidae are the effective pollinators. This helps fruits, vegetables and flowers to produce new seeds.



Ladybird beetles

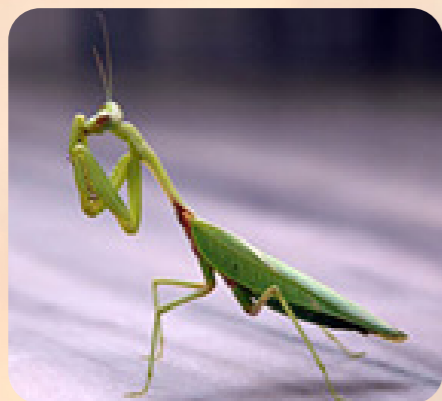


Lacewing bug



Syrphid Fly

Think about it this way: your backyard ecosystem is a cafeteria for all sorts of insects. The balance of that system depends on whether you cater to the "pest" insects or to the "beneficial" ones.



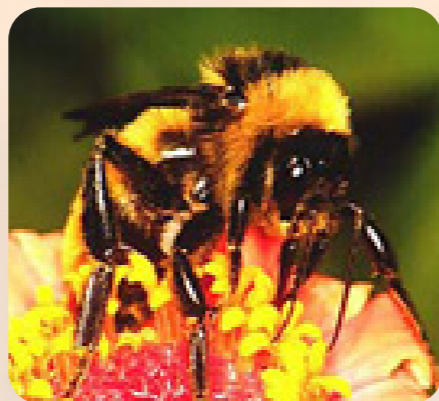
Praying Mantids



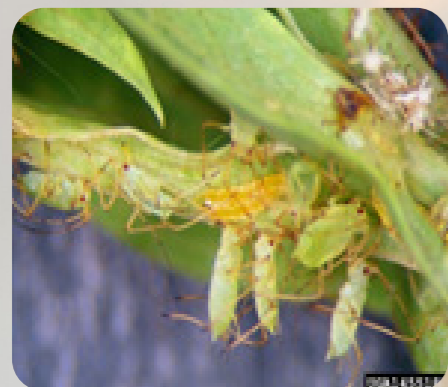
Honey Bee



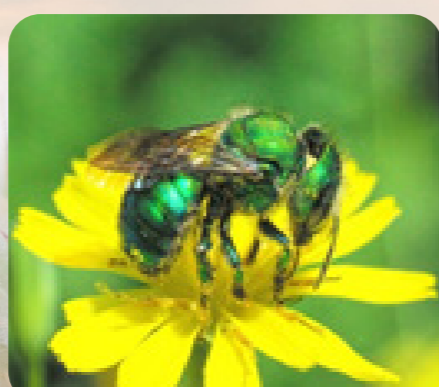
Minute Pirate Bug



Bumble Bee



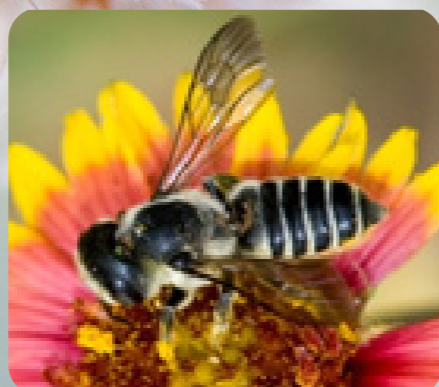
Aphid Midge



Mason Bee



Bigeyed Bug



Leafcutter Bee

