



What Good Are Bugs?

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At Deer Valley Golf and Estates in Deer Valley, Saskatchewan, the prairie crocus (*Anemone patens*) is one of the first flowers of spring providing early season nectar for pollinating insects.

Anyone who has ever stepped on a bee hive, scratched multiple flea bites, had cluster flies in their home, squished potato beetles, or had bugs caught in their mouth, ears or eyes knows how annoying insects can be. From our earliest days, we are taught to dislike bugs—after all, the very word *bug* means to annoy, bother, or anger. And let's face it, insects have had a poor historic record of cooperatively coexisting with people.

Yet, there are 88,600 different species in North America, north of Mexico alone. They must serve some useful purpose in the chain of life. What is the value of all these tiny creatures?

- **Plant Pollination-** An estimated 80% of our food plants worldwide depend on pollination by animals—almost all of which are insects. Insects are the sexual glue that holds much of the plant world together. Millions of years of co-evolution has finely-tuned the relationships between particular plants and their insect pollinators. Research has documented numerous cases where the decline of certain insect species spells the decline in fruit production and even existence of the plants they pollinate.
- **Staple of the Food Chain-** The countless variety and number of insects in the world are a dietary staple for numerous wildlife species at all levels of the food chain, especially those that we consider to be more desirable. For example, birds rely on insects as a source of protein and feed copious quantities to their growing young each year. And what fly fisherman would be caught without careful study of mayflies, damselflies, and other aquatic insects?
- **Soil enrichment and aeration-** Insects that feed on decaying plants or on dead animals enrich soil by returning nutrients and organic matter that is readily used by living plants. Of particular importance in this task are earwigs, certain roaches, the larvae of many flies, bees and wasps, and several species of beetles. In addition, insects that spend all or part of their life cycle underground, especially ants, are valuable as earthmovers that help to aerate soil.
- **Control of other insects and noxious weeds-** Some bugs, by their very nature, are aggressive stalkers of their kin. Preying mantis, spiders, and lady beetles are among the best known *beneficial insects*, but predatory



mites, centipedes, lacewings, bees, wasps, and ants are among the additional species that also consume insects. These are encouraged in many gardens and farms because they help to naturally control more destructive insects.

- **Useful Products and Scientific Research-** Honey, beeswax, and silk are some of the most economically valuable insect products. But insects also have contributed enormously to our understanding of genetics, evolution, distribution of plants and animals, pollution, and sociology.

As we uncover the complexity and diversity within the world of insects, there is much to understand and appreciate. Environmental stewardship encourages us to strike a balance between the good and the bad, the benefits and costs of insects. Fortunately, using integrated pest management practices is an excellent way to take responsible action when needed, and retain and enjoy the beauty and richness of nature's complex relationships and species.

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