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# BENEFICIAL LAWN INSECTS

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Many insects which occur in lawns are beneficial insects. They provide a natural form of control for pest insects or assist in the breakdown of organic matter so nutrients can be returned to the soil.

## PREDATORS

Some insects are predators, relatively mobile insects that search out prey. Some predatory insects (like the assassin bug) have sucking mouthparts which penetrate the soft body of the victim and suck out the internal fluids, leaving only the outer shell behind. Other predatory insects (like ladybird beetles and ground beetles) have chewing mouthparts and feed on the entire body of the victim. Predators will feed on several victims during their lifetimes.

Some of the more familiar predators which occur naturally in New England lawns include:

- **Ladybird Beetles (Lady Bugs):** There are several hundred species of ladybird beetles in North America. Both the adult (beetle) and larval stages feed voraciously on aphids, thrips, and other soft-bodied insects. Adult ladybird beetles normally are small, oval shaped, and brightly colored with distinct spots scattered on the wing covers. The larvae usually are dark with bright spots and look rather intimidating.
- **Ground Beetles:** These may be the most common predators on lawns in New England. The most common species are slightly smaller than Japanese beetles and are generally a shiny bronze, tan, or green color. Both adults and larvae feed on soft-bodied insects and various caterpillars. Ground beetles usually are very quick moving and can “seek and destroy” their prey.
- **Rove Beetles:** Rove beetles may not be familiar to many people, but they do occur commonly in turfgrass areas. They are somewhat more elongated than other beetles, and the hindwings are not fully expanded. They feed on a variety of soft-bodied insects.
- **Spiders:** Spiders are surprisingly common and active in turf areas and are very efficient predators. While they are not true insects, many species of spiders are definitely beneficial in the garden or lawn, feeding on a wide range of immature insects and mites.
- **Ants:** Some species of ants are carnivorous, and seek out insects and other soft bodied organisms with which to provision the nest. In addition, ant activity often can help in the general breakdown of organic matter and the formation of soil. However, if ant activity becomes excessive, the ants may become a nuisance, especially if turf damage occurs.

## PARASITOIDS

Another general group of beneficial insects is the parasitoids. These are small insects (generally smaller than the host) which develop inside or on the body of a single individual. The adult female finds a suitable host and lays her eggs on the outside of the body or inserts the eggs through the skin into the internal tissue of the host. The immature parasitoids feed on the organs and fluids inside the victim and gradually weaken and kill the host.

There are many parasitic wasps which occur naturally in New England and are active in lawn settings. These wasps are adapted to lay eggs in soft-bodied insects and do not bite or sting people. Some of the more common groups include:

- **Ichneumon Wasps:** These wasps are about 1/2-inch long, often reddish or brown with a long string-like appendage on the tail end. This ovipositor is used to insert eggs into the victim. Adults feed on nectar and pollen, while the immatures feed inside various caterpillars and sawflies.
- **Braconid Wasps:** These wasps are somewhat smaller than ichneumon wasps, seldom exceeding 1/2-inch in length. The larvae parasitize caterpillars, beetle larvae, and aphids, all of which can be active in lawns.
- **Chalcid Wasps:** These wasps are the smallest of the parasitic wasps and may range from 1/5- to 1/8-inch long. Adults feed on pollen and nectar, while immatures feed on aphids and other small soft-bodied insects and mites which are active in lawns.

## SAPROPHYTES

Another group of beneficial insects is the saprophytes. These organisms feed on dead or decaying organic matter and help break down plant tissue as part of their natural cycle. A similar process occurs in forests. When a hiker turns over a stone or a log, large numbers of insects and other small arthropods are usually present. Many of these creatures are saprophytes, feeding on decaying leaves or wood. Several small, seldom noticed insects are very effective saprophytes in turf. One of the most common examples is *Collembola*, or springtails. These small (usually less than 1/25 inch) insects have a structure on the underside which can release like a spring, flipping the springtail up into the air, away from foraging insects. They often occur in very large numbers (20 to 30 in a 4 inch diameter core).

## FINAL THOUGHTS

Beneficial insects are very sensitive to insecticides, so whenever a general insecticide is applied to control a pest species (such as Japanese beetle grubs or chinch bugs), the material will sometimes have a detrimental effect on the population of beneficial organisms, often for at least a few weeks. Consider using alternate methods of pest management, biological control agents (if available and suitable) or providing optimum cultural conditions so that the lawn can tolerate higher levels of pest activity without visible loss of vigor. If an insecticide application is deemed necessary, make spot treatments rather than broad scale applications if at all possible. Remember that the statement, "The only good bug is a dead bug," could not be further from the truth. Be sure you have an accurate identification of the insects in question and only attempt to control those which really warrant attention. There are in fact many "good bugs" out there! Let them help!

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