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Ladybird Beetles

Larvae of a common **LADYBIRD BEETLE**. See color print, Fig. 24A, on publication B-1013.

Order:	Coleoptera (beetles)
Family:	Coccinellidae (ladybird beetles and leaf-feeding beetles)
Metamorphosis:	Complete (egg-larva-pupa-adult)
Mouthparts:	Chewing in larvae and adults

Ladybird beetles are distributed throughout the world. The many species vary in their feeding habits. They prey on aphids, mealy bugs, scales, mites, and other soft-bodied insects. Several species are common to the area including *Hippodamia convergens* and an introduced species – the seven-spotted ladybird beetle, *Coccinella septempunctata*. The seven-spotted ladybird beetle and other species have been released to control pest species in the region.

Body Form

Eggs: Eggs of ladybird beetles are generally oblong, oval, orange, and approximately 1/24 inch in diameter and about four times as long. Eggs are typically laid in clusters, with tapered ends adhered to a plant surface, often on the underside of leaves.

Larvae: Larvae are elongated and tapered at both ends. Coloration varies among species, often occurring in a combination of black, orange, red, white, or yellow. They are very active and have three pairs of strongly developed legs. They are approximately 1/8 inch to 3/8 inch in length.

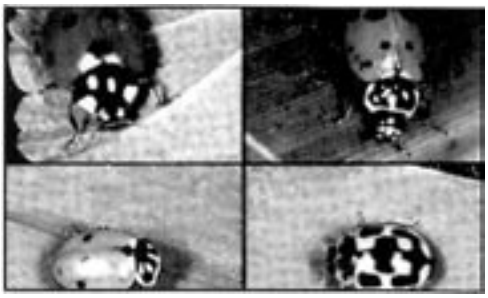
Pupae: The pupae are generally orange, red, or black with black, white, or red spotting. They are approximately 1/8 to 3/8 inch in length.

Adults: Coloration is variable as with the larval stage. The thorax of many ladybird beetle species is black with characteristic markings of white. Most species of ladybird beetles have spotted or mottled elytra (forewings) surrounded by a uniform background color (such as the black spots surrounded by red on the convergent ladybird beetle). Generally, ladybird beetles are oval, robust, and approximately 1/8 to 3/8 inch in length.

Life History

Adults overwinter in large aggregates under rocks, bark, grass, and plant debris. The adults become active in early spring. Females lay their eggs on the foliage of the host plants of their prey. Young larvae will merge three to six days later. The larvae begin to feed immediately on aphids and other soft-bodied in-

sects, depending on the species. Full-grown larvae will form puparia that are attached upside down to foliage or some other adequate substrate. Approximately 3 to 10 days later, young adult beetles will begin to emerge. Adults feed on the same prey as their young. Several generations can occur each year, and adults remain active into the fall.



Adults of a common **LADYBIRD BEETLE**. See color print, Fig. 24B, on publication B-1013.

Plant Benefit

Ladybird beetles are important predators of many pestiferous soft-bodied insects (such as aphids, scales, mealy bugs, and mites). They are often an integral part of natural plant protection in many cropping systems. Ladybird beetles do not feed on plant material. However, there are two related coccinellid species that are plant feeders and are considered serious economic pests. These are the Mexican bean beetle and the squash beetle. These species should be distinguished from the beneficial ladybird beetle.

Management

Ladybird beetles are naturally occurring biological control agents. Some species are available commercially and have shown benefits, particularly in enclosed greenhouse situations. The manipulation of these species in annual cropping systems has shown mixed success. Some species have been released to control crop pest species in the region, including aphids on alfalfa and Russian wheat aphids on small grains. Neither the larvae nor the adults are pestiferous to plants. The presence of naturally occurring species should be encouraged by the judicious use of insecticides.

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