

Multicolored Asian lady beetle, *Harmonia axyridis* (Pallas)

Description and Life Cycle

The multicolored Asian lady beetle (MALB) was first introduced in California by USDA agricultural research scientists as a biological control agent. This introduction was deemed unsuccessful. However, it was reintroduced in the eastern United States in the late 1970's and early 1980's to control soft-bodied insects like the pecan aphid and pear psylla. Since its introduction it has spread throughout most of North America. Adult beetles are domed, and round to oval in shape like the typical lady beetle (Fig. 1). The name "multicolored" refers to the many color forms of the adult lady beetles. Coloration can vary between shades of yellow, orange, or red, with or without black spots present on the wing covers. This species can be recognized and distinguished from other lady beetles by the following characteristics: on the white pronotum (the middle body segment between the head and abdomen) there are several black markings, which tend to fuse into a regular to irregularly shaped "M" or "W" depending on your vantage point.



Figure 1. Multicolored Asian lady beetle with eggs

Life Cycle

The life cycle from egg to adult requires about a month or so, depending on the weather. Eggs (Fig. 1) hatch in 3 to 5 days. The larval stage lasts up to 14 days (Fig. 2), during which time they consume large numbers of aphids, scale insects and other soft bodied insects. Pupation lasts 5 to 6 days followed by adult emergence. The adults are 0.2 – 0.3 inches long and are rather long lived, with some beetles living up to 3 years. At least two generations with a partial to complete third generation occurs each growing season. In the fall when the host plants begin to dry and cooler weather approaches adult beetles begin to seek overwintering sites. They are attracted to vertical walls or cliffs where they seek shelter in cracks and crevices. Once one lady beetle lands, many others may follow in an aggregating behavior.



Figure 2. Multicolored Asian lady beetle larva

Behavior

Although MALB is considered a non-native invasive insect in North America, it remains true to its carnivorous nature and serves as a highly effective predator consuming aphids and other soft-bodied insects as well as scale insects on trees, shrubs, and agricultural crops. During the spring and summer, the immature and adult lady beetles consume large numbers of plant-feeding pests,

thereby reducing the need for insecticides. MALB has impacted pests that injure a wide range of commodities such as fruit orchards, Christmas trees, ornamentals, small grains, and many agricultural crops.



Figure 3. Multicolored Asian lady beetles on grape cluster

Unfortunately, MALB has proven to be a more serious pest of fruit products, particularly grape juice and wine made from the juice. The problem is associated with the MALB defense chemical IPMP. This defense chemical imparts a detectable and distinctly unpleasant taste, known as "lady beetle taint." MALB may be attracted to grape clusters as a possible overwintering site or as a food source if the grapes are damaged (Fig. 3). Thus, if beetles are present they may be accidentally "harvested" along with grape clusters leading to the incorporation of "lady beetle taint" into the juice and wine.

Control

Since MALB is not a native species, few diseases or parasites are known to reduce populations of this beetle naturally. There are currently several insecticides labeled for use against this insect in grapes. Scout vineyards several days before harvest to determine the abundance of MALB and spray accordingly. See the Midwest Fruit Spray guide for insecticide recommendations.