Tree Fruit IPM
Insect Identification Sheet No. 11
1980

rosy apple aphid

Dysaphis plantaginea (Passerini)


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INTRODUCTION

The rosy apple aphid (RAA) can be found throughout the apple growing regions of North America. In the spring, the aphids feed on apple leaves and fruits, and in the summer move to alternate hosts, such as narrow-leaved plantain. The RAA will attack all apple varieties, but varieties such as Cortland, Monroe, Rhode Island Greening, Ida Red, and Golden Delicious are particularly susceptible.

THE EGGS

The RAA produces eggs only in the fall and continues to do so until heavy frosts kill all the females. The aphid overwinters in the egg stage. The ovate eggs, which measure .4 mm in length, are laid in the fall on twigs, bud axils, or in crevices in the bark. The eggs are a pale green color when first laid and then turn shiny black (Fig. 1), and are impossible to differentiate from apple grain aphid and green apple aphid eggs. The eggs hatch between silver tip and half-inch green.

THE NYMPHS

The RAA passes through 5 nymphal instars, increasing in size from .4 to 2.0 mm (Fig. 2). As the aphids grow, their color changes from dark green to rosy brown or purple and they acquire a powdery white covering. In early spring, the RAA move to the developing fruit clusters and become reproductive adults during bloom. It takes 2 to 3 weeks for a RAA to mature.

THE ADULTS

The overwintering eggs give rise to only female aphids known as stem mothers (Fig. 3) which give birth to living young. A few winged adults are produced in the second generation and proportionately more are produced in the third and fourth generations. These winged adults, produced between May and mid-July, leave the apple trees and move to weed host plants to spend the summer. The winged migrant adults are colored brownish-green and black and are 2.0 - 2.5 mm in length. Narrow-leaved plantain and dock are two of the more important summer hosts for the RAA. They feed and produce wingless asexual forms until late summer or early fall when winged adults are again produced and the RAA migrates back to the apple trees. These adults produce offspring that in turn produce both male and female offspring. This is the only time male RAA are produced. When these males and females become adults, they mate and the females lay eggs to carry the species through the winter.

PLANT INJURY

RAA feeding causes apple leaves to curl (Fig. 4) and often turn a bright crimson. Leaf curling normally does not become obvious until about petal fall. Feeding on the leaves of fruit clusters often results in bunching, stunting, and malformation of the fruit (Fig. 5), which becomes noticeable as the fruit develops and renders it unmarketable. Honeydew produced by the aphids provides a media for the growth of a sooty mold fungus which can affect the fruit finish.

Actual Size

Egg	Nymphs		Adult	Winged adult
	1st	5th		

CONTROL

Although there are several predators or parasites of the RAA, they cannot be relied upon to provide acceptable biological control.

Chemical control must therefore be relied on to obtain commercially acceptable fruit. Coverage is essential in the chemical control of the RAA. Control is best achieved when the insecticide is applied dilute or at least no greater than 6X.

GUIDE TO STAGES

STAGE	TIMING	WHERE TO LOOK
Adults (wingless)	Pink to mid-July and again in the fall	Cluster or terminal leaves
(winged)	Petal fall through mid-July and again in late summer through frost	Leaves and twigs
Eggs	Fall to bud burst	Twigs, bud axils, bark crevices
Nymphs	Silver tip through June often found on apple several weeks after bloom	Cluster or terminal leaves

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