RED-HEADED FLEA BEETLE--2011

Systena frontalis (F.)
(Coleoptera: Chrysomelidae)

University of Massachusetts
Cranberry Experiment Station
Anne L. Averill and Martha M. Sylvia

The red-headed flea beetle is commonly found in low numbers in central and eastern cranberry regions in the latter part of the growing season. However, in Massachusetts, populations have recently increased on many beds, appearing in July and found as late as September. This greater incidence could be attributed to the final dissipation of chlorinated hydrocarbon insecticides that were used for white grub management until the 1970s. Alternatively, populations may have become resistant to insecticides, or more likely, because new, widely used late-season insecticides are less broad-spectrum, often being moth specific.

Figure 1. Adult flea beetle on cranberry, feeding on leaf underside

The species undergoes a single generation per year and most of the population overwinters in the egg stage. Larvae reside in the soil, are slender and white (Figure 2), and are ca. 8 mm long when mature. Some believe that the preferred hosts of the larvae are annual weeds, and in their absence, the larvae utilize cranberry.

Adults begin to emerge in July and feed on cranberry foliage. The beetle is 3.5-5 mm long and is shiny black with reddish portions of the head (Figure 1). The femur of the beetle's hind leg is enlarged for jumping (Figure 2).

Figure 2. Slender larva of flea beetle resides in the soil and feeds on roots. On right, arrow indicates enlarged femur of the adult's hindleg.

Figure 3. Feeding injury of the adult beetle. It is often patchy on the bed.

Injury may occur as a result of both larval and adult feeding. While we have not seen this in MA, in WI, girdled roots and vine death have been recorded. According to Mahr (2005), evidence of larval feeding is similar to cranberry girdler, but in the case of flea beetle, close examination of the vines shows that the root is calloused (Figure 4) and that weak upright growth may have occurred; these symptoms are diagnostic for flea beetle but not girdler. Adult populations of flea beetle are very patchy and prefer areas of lush cranberry growth. In areas of heavy feeding by adults, yield for the following year can be impacted because they destroy buds that are responsible for next year's growth. Sweep-net sampling carried out post-bloom picks up the adults and if counts are high, foliar insecticide sprays have been used successfully to manage populations.

Figure 4. In WI, larvae have been reported feeding on the roots and underground runners of the cranberry, causing the injured areas to callous.

Mahr, D.L. 2005. Red headed flea beetle. Wisconsin Cranberry Crop Library. Insect profiles. http://www.hort.wisc.edu/cran/

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