

This short description was prepared in the framework of the EU FP7 project DROPSA - Strategies to develop effective, innovative and practical approaches to protect major European fruit crops from pests and pathogens (grant agreement no. 613678). This pest was listed in the DROPSA alert list for *Vaccinium* fruit.

***Systema frontalis* (Coleoptera: Chrysomelidae)**

Fruit pathway: adults feed on berries (Mahr et al., 2005; Averill and Sylvania, 1998; AgriReseauQuebec, 2015).

Other pathways: plants for planting, soil; adults also feed on leaves (Averill and Sylvania, 1998), larvae are in the soil and feed on roots, eggs are in the soil (Mahr, 2005).
Uncertain pathway: cut flowers.

Hosts: Over 40 host plants, including crops, native plants, weeds; crops include *Vaccinium macrocarpon*, *Vaccinium corymbosum*, *Medicago sativa* (Mahr, 2005; AgricultureCanada, 2013, AgriReseauQuebec, 2015; Averill and Sylvania, 1998), *Ipomoea batatas*, *Phaseolus vulgaris* (CABI CPC), ornamental plants, such as *Weigelia*, *Ilex*, *Rosa*, *Chrysanthemum*, *Salvia*, *Zinnia* (Hiskes, 2013).

Distribution: North America: Canada (AgricultureCanada, 2007); USA (CABI CPC). Native range is East of the Rockies; also present (not native) in the Pacific Northwest (Hiskes, 2013).

Damage: On cranberry, the pest causes root damage (larvae), as well as leaf browning and feeding damage to fruits (adults) (Mahr, 2005). Feeding by adults can impact bud development (Averill and Sylvania, 1998) and cause shoot death; feeding by larvae may lead to plant death (Mahr et al., 2005). On ornamentals, it causes damage to foliage (adults) and roots (larvae) (Hiskes, 2013). Populations large enough to cause damage are uncommon, but severe infestations may result in mortality (Mahr, 2005). *S. frontalis* became a pest in cultivated cranberry bogs of Massachusetts in the 1990s (Averill and Sylvania, 1998). In Eastern USA, it affects ornamental nurseries, as well as cranberry and blueberry; it emerged in 2013 as a pest of many ornamental species in nurseries in Connecticut (Hiskes, 2013). In Wisconsin, it rarely causes significant damage on cranberry (Mahr, 2005), while it is considered a secondary pest in Quebec (AgriReseauQuebec, 2015).

Recorded impact: Moderate	Intercepted: Not known	Spreading/invasive: Yes
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References:

- AgricultureCanada. 2007. Crop profile for cranberry in Canada. <http://www.agr.gc.ca/pmc-cropprofiles>
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- Averill AL, Sylvania MM. 1998. Cranberry Insects of the Northeast: A Guide to Identification, Biology, and Management. UMass Extension. 112 pp.
- Hiskes R. 2013. Redheaded flea beetles (*Systema frontalis*) (Coleoptera: Chrysomelidae). The Connecticut Agricultural Experiment Station.
- Mahr DL. 2005. Redheaded flea beetle. University of Wisconsin