FLORAL LONGEVITY, NECTAR PRODUCTION, POLLEN RELEASE, AND STIGMA RECEPTIVITY IN HASKAP

by S. Danae Frier, Christopher M. Somers, and Cory S. Sheffield

Haskap (*Lonicera caerulea* L.: Caprifoliaceae) is a cold hardy, early flowering shrub that is grown commercially throughout northern areas of North America, Europe, and Asia. It produces edible blue fruit that have a sweet, tart flavour and are now being used in a variety of food products in addition to being eaten fresh. As a result, its popularity as a crop is on the rise, particularly within the Canadian prairies. Haskap needs insect pollinators in order to produce fruit, but very little is currently known about its pollination biology. Floral characteristics such as nectar production and pollen release are important for our fundamental understanding of cultivated crops, and can also give us hints about what types of insects pollinate the flowers.

We analysed the duration of flowering, nectar production, pollen release, and stigma receptivity in Haskap (cultivar 'Tundra') in greenhouse conditions at the University of Saskatchewan in Saskatoon, Saskatchewan, Canada. We found that the individual flowers, which bloom for several days, are receptive to pollination and begin to release pollen as soon as they open, and produce abundant nectar throughout their lifespan. We also noted that the flowers open throughout the day, and potentially overnight as well, suggesting the possibility for visitation by nocturnal as well as diurnal insects.

Syrphid flies (Eristalis sp.) visiting Haskap flowers (Photo by A. Crosby).

Together, these traits suggest that Haskap flowers use a generalist pollination strategy, and may be visited by a variety of diurnal and nocturnal insects. Since the flowers bloom at a time of year when the weather is unpredictable and insects are relatively scarce, this would give the flowers the best possible chance of being successfully pollinated.