Implementation

A Preliminary Look at the Alternative Pollinator, *Osmia cornifrons*, in Michigan Tart Cherry

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**Abstract:** We investigated the effectiveness of the pollinator *Osmia cornifrons* (horn-faced bee [HFB]) in Balaton® tart cherry, as this variety produces low yields compared with the traditional Montmorency cherry, especially in cool, wet springs. Based on observational experiments, HFB behavior differed from that of honeybees in three primary ways: 1) HFB forage for a significantly longer amount of time per flower than honeybees, 2) HFB visit significantly fewer flowers per tree than honeybees and for fewer flowers per minute, and 3) HFB fly under slightly different conditions (solar radiation, wind speed, and temperature) than honeybees. From our preliminary data, we were unable to determine if one visit from one HFB resulted in the set of one cherry fruit. To quantify HFB’s pollinating capability, nesting buckets were placed within the orchards at a density of approximately 250 females/acre, 2 to 3 days before cherry bloom. Each orchard block was divided in half, and one side was stocked with HFB while the other half contained honeybees. Yield data were taken at harvest to determine if HFB increased the pollination rate, hence increasing the average amount of cherries produced. Some orchard blocks had higher Balaton fruit set percentages and yields in areas with HFB, but these results did not hold true for all orchard sites. However, these preliminary data suggest HFB may have the ability to pollinate as well as or better than traditional honeybees. Further research is warranted.