Annual Report to the Oregon Raspberry & Blackberry Commission for 2005

Project Title: Assessing the contribution of biological control for leafroller management programs in caneberries.

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Abstract:
Intense sampling of insect larvae in 123 caneberry fields in Oregon from April through September 2005, resulted in a total of 4,004 samples collected and reared in a controlled environment growth chamber. Over three thousand of these were leafrollers: 2,228 orange tortrix (OT), 1,276 oblique banded leafroller (OBLR), 130 carnation tortrix, and 40 other leafroller species. Data was also collected on the use of pesticide spray applications in the fields farmed conventionally (75%) and those farmed organically (25%). The percentage parasitism was consistently higher for all leafroller types in the organic and no spray fields, and OBLR infestations were higher in the organic and no spray fields. The highest parasitism in OT and leafrollers overall was by *Apanteles aristoteliae* Viereck, representing 48.9% of the parasitized OT specimens and 31.8% of all parasitized leafroller specimens (Table 2). The taxa *A. aristoteliae*, *Meteorus argyrotaeniae* Johanson, and species in the tribe Campoplegini comprised 87.9% of the parasitized OT specimens, and 73.2% of all parasitized leafroller specimens. Various methods were tested in seeking sampling efficiency, with 15-minutes per field being the most practical and efficient. The next step for processing the leafroller parasitoid data from the 2005 season will involve analysis of the peak times of leafroller and parasitoid activity as they relate to caneberry management activities, particularly pesticide applications. This information will then be used to produce a calendar of recommended scouting activities and updated guidelines for leafroller management in caneberries.