BLACK VINE WEEVIL (OTIORHYNCHUS SULCATUS) MONITORING IN FIELD GROWN ORNAMENTALS

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The black vine weevil (BVW), *Otiorhynchus sulcatus* (F.) (Coleoptera: Curculionidae) is a serious pest of nursery crops. Trials were performed at field-grown wholesale nurseries in 2008 to test plant derived attractants of the BVW. A number of plant-based compounds were tested in the field and their attractiveness determined.

Summary of 2008 Results:
In April 2008 Dr. van Tol visited Oregon visiting different nurseries and developing together suitable field trial set-ups. During the field trials Plant Research International provided test odors for field testing the attractiveness to the black vine weevil. Field trials were conducted at three wholesale nurseries in 2008. One of the odors tested consistently captured 2-3× as many black vine weevil (BVW), *Otiorhynchus sulcatus* L. (Coleoptera: Curculionidae) adults as the untreated control plots throughout the growing season (Figure 1 and 2). Another odor was attractive to preovipositional adults (2-3×), however, once egg laying commenced, it was no longer attractive. We also identified an odor that potentially acts as a repellent. We conducted a limited number of trials with this odor as our primary objective was to attract weevils. However, a repellent odor would also have practical implications in situations were growers were trying to exclude weevils from areas of the nursery. For those odors that were attractive, we observed adult weevils congregating in the plant canopy around odor sources in the field but not increased numbers of weevils in our traps. We are using the Exosect® trap which is commercially available to growers in conjunction with odors for monitoring for BVW in the field. We had hoped that not only could we identify odors attractive to BVW but that an increased number of weevils would be captured in the Exosect® trap. Capturing weevils in traps serves several purposes. Most importantly it simplifies monitoring weevil presence and activity in the nursery. We hypothesize that the lack of increased trap captures in plots containing odors attractive to weevils was do to a behavioral dichotomy between the attractive odors and the trap design. The Exosect® trap is designed to capture weevils as they search for a dark space to hide during the day. On the other hand, the odors are attractive to weevils at night as they feed. At night, normal BVW behavior is to crawl up the plant canopy to feed. We have obtained additional funding from the Oregon Association of Nurseries to develop trap designs that work in conjunction with attractive odors. The advent of effective adult attractants and traps for capturing adults attracted to the odors will revolutionize BVW management. Not only will the goal of this project be realized with spray timing vastly improved, but this research will help lead

to the potential development of new management tactics such as mass trapping and attract and kill strategies.

Figure 1

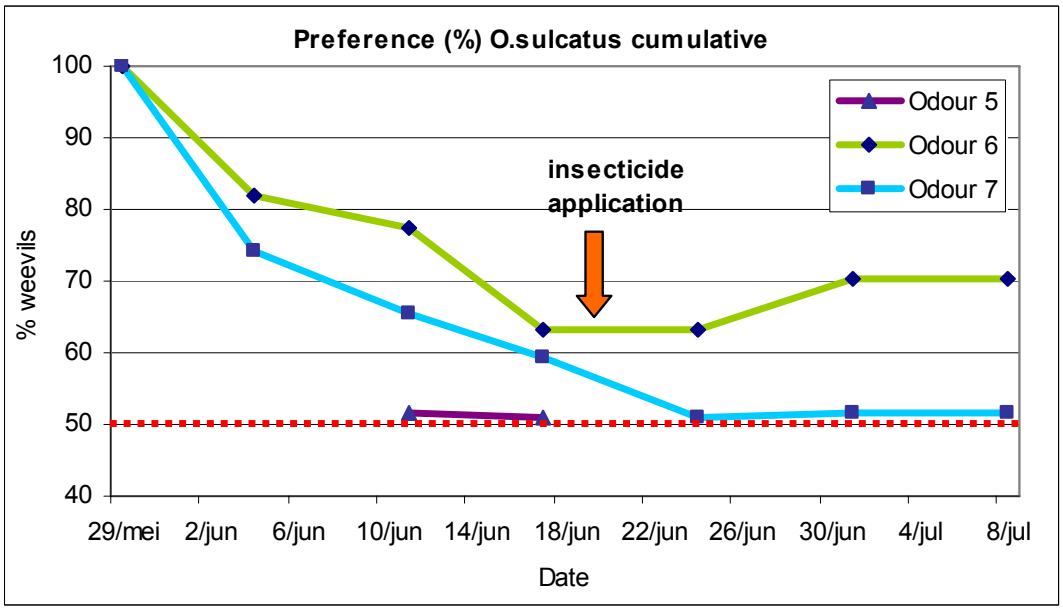

Figure 2