BLUEBERRY GALL MIDGE, *Dasineura oxycoccana*, (Diptera: Cecidomyiidae) CONTROL TRIALS 2006

J. Umble[1], G. Fisher, A. Dreves
Oregon State University, Department of Crop and Soil Science
Corvallis, OR 97330, 541-737-5502
[1]Fall Creek Farm & Nursery, Inc. Lowell, OR
541-937-2973

Three trials were conducted in the spring and summer of 2006 in rabbiteye blueberries (*Vaccinium ashei* Reade) at Fall Creek Farm and Nursery. Trials were targeted at egg-laying blueberry gall midge, *Dasineura oxycoccana* Johnson, (BGM) adults and/or larvae present in buds. The first trial focused on first generation adults and resultant larvae (mid-April when first adults were found) using foliar sprays. Larval populations in buds were very low in the 2 months following this application (including the control plots), therefore it was difficult to accurately assess the effect of these treatments following treatment. Plots were assessed in late June (Table. 1) at which time populations in the treatments were not statistically different ($P > 0.05$ using Tukey multiple comparison procedure). Although it is possible that midge migrated into our plots and obscured the treatment effects, we interpreted our data (Table 1) to indicate the treatments were not successful in controlling the midge. Plots were re-treated in early July with the same products and rates (Table 2).

Table 1: Trial 1, Plot Size = 30 x 30', GPA = 45, Treatment date = 17 APR 2006, Evaluation date = 30 June 2006

Product	Percent AI	Rate/A	Larvae/Bud
Provado 1.6	17% Imidacloprid	4 Fl. Oz	0.21 a
Success	22.8% Spinosad	6 Fl. Oz	0.18 a
Actara	25% Thiomethoxam	4 Fl. Oz	0.40 a
Asana XL	8.4% Benzeneacetate	9.6 Fl. Oz	0.21 a
Imidan	70% Phosmet	1.33 lb/A	0.34 a
Diazinon AG 500	48% Diazinon	8 Fl. Oz.	0.32 a
UTC			0.22 a

Table 2: Trial 2, Plot Size = 30 x 30', GPA = 45, Treatment date = 27 JUN 2006, Evaluation date = 6 JUL 2006

Product	Percent AI	Rate/A	Larvae/Bud
Provado 1.6	17% Imidacloprid	4 Fl. Oz	0.78 ab
Success	22.8% Spinosad	6 Fl. Oz	1.2 b
Actara	25% Thiomethoxam	4 Fl. Oz	0.87 ab
Asana XL	8.4% Benzeneacetate	9.6 Fl. Oz	0.60 ab
Imidan	70% Phosmet	1.33 lb/A	0.22 a
Diazinon AG 500	48% Diazinon	8 Fl. Oz.	0.56 ab
UTC			0.87 ab

Populations were statistically lower ($P > 0.05$ using Tukey multiple comparison procedure) in the Imidan treatment, compared to the Success treatment. However, overall control was not considered acceptable. The poor control noted may have been due to any of a number of factors including inappropriate timing, GPA, surfactant, rate and product selection. For the third trial we tried to improve on methods of application including: i) increasing GPA, ii) decreasing droplet size, iii) using a surfactant, and iv) increasing insecticidal rates. For this trial we focused on systemic products, and added soil treatments (Table. 3). Populations were statistically lower ($P <$

Table 3: Trial 3, Plot Size = 30 x 10', Treatment date = 20 JUL 2006, Evaluation date = 27 JUL, Foliar = 100 GPA, Soil = 350 GPA, Surfactant Added.

Product	Percent AI	Rate/A	Larvae/Bud
Provado 1.6	17% Imidacloprid	8 Fl. Oz	0.50 a
Imidan	22.8% Spinosad	1.33 lb/A	0.73 ab
Actara	25% Thiomethoxam	4 Fl. Oz	0.78 ab
Alias (Soil)	21% Imidacloprid	32 Fl. Oz	1 ab
Platinum (Soil)	21.6% Thiomethoxam	8 Fl. Oz	0.75 ab
UTC			1.35 b

0.05 using Tukey multiple comparison procedure) in the Provado treatment, compared to the UTC. However again, control was not considered acceptable. Based on these trials we feel that acceptable control of larvae in buds during mid-season is not likely with the registered products, rates and timing that we screened. However, we feel that several alternative approaches and properly-timed and placed treatments may offer control, including treating for the pupae in the soil, and applying systemic insecticides in the early spring. Probably the greatest success of these trials was the development of a salt extraction method that allows for quick in-field assessment of larvae in buds (70% extraction efficiency), and provides a tool for studying numerous other facets of midge biology/occurrence.