Oriental Beetle

Life cycle. The oriental beetle completes a single generation per year. Adults start to emerge in the middle of June, peaking in early July (Picture 1). Females lay eggs in the soil at the base of bushes. Most larvae reach first and second instars by the end of July. Third-instar (Picture 1) appear by the end of August, they remain in the soil during winter, resume feeding the following spring, and enter the pre-pupal stage in late May.

Scouting and Control: Japanese beetle sex pheromone traps (Trécé, Adair, OK), baited with septa lures containing the sex pheromone are used to monitor oriental beetle populations and initiation of male flight (Picture 2). Imidacloprid is recommended to manage oriental beetle grubs infesting blueberries in New Jersey. Imidacloprid is most effective if targeted against early instar grubs. It should be applied in June to mid-July, at least 7 days before the first picking, or applied as a post harvest material. Grubs should be targeted at their youngest stage or as they hatch and are at the 1st and 2nd instars, and while still close to the soil surface. Imidacloprid has little effect on 3rd instars and older larvae. Older 3rd instars start to appear by early to mid August. Therefore, applications should be made well in advance of that date. Because the first oriental beetle eggs are not expected to hatch before late June, you should try to delay application as late as possible. For example, applications made in May simply degrade if exposed to the sun. However, imidacloprid has a long residual activity (>100 days) as long as the
insecticide is not exposed directly to the sun. Applications for early varieties like Weymouth can be made immediately after the last picking. If Duke picks by the 3rd week of June, then application should be conducted during the 2nd week of June or after harvest, between mid to the end of July. Applications for Bluecrop are recommended 7 days before the first picking, in late June or early July. Similarly, applications for late season varieties like Elliott should be conducted no later than end of July. Imidacloprid is most effective when applied before most eggs have hatched and grubs are still near the soil surface. Please read and follow all the conditions and restrictions on the container label for these insecticides. Remember to irrigate the field with at least .5 to 1” of water immediately after application. This moves the insecticide closer to the root zone, and removes it from the sun’s rays and consequent UV breakdown. If the soil is dry, then also water just previous to application. Begin applications late in the evening hours to avoid UV exposure. No more than one application of imidacloprid can be used per season. Soil and foliar applications of imidacloprid may be used in the same field as long as the total a.i. applied does not exceed 0.5 lb/A.

**Oriental Beetle Mating Disruption**

As an alternative to insecticides, we recommend the use of mating disruption for oriental beetle control. Dispensers (picture 3), containing the oriental beetle sex pheromone, are now available to growers. These dispensers are being sold by AgBio:

Mr. Jan Meneley, Ph.D.
AgBio Inc.
9915 Raleigh St.
Westminster, CO  80031
[www.agbio-inc.com](http://www.agbio-inc.com)
ph 303-469-9221
fx 303-469-9598

To use, simply attach the dispensers to a lower blueberry branch at a density of 20-40 dispensers per acre in a grid pattern, depending on the size of the area to be treated. Please see label for information on restrictions, spacing, timing, etc.