CULTURE

Dr. Gary C. Pavlis, Ph.D.
Atlantic County Agricultural Agent

I have recently been asked to visit numerous farms where the grower is hoping to renovate an old blueberry field. In most cases the blueberries have not been cared for in decades thus no spraying, pruning, or fertilizing has occurred. In some cases the grower hopes to cash in on the organic movement that is currently so strong or the grower feels that the site would be a good candidate for a pick your own operation. Renovation of a neglected blueberry field entails a lot of work and may in the long run not be a viable. In many cases the best thing to do is to just clear the land and start over with a new planting. In any case, there are some guidelines that should be taken into account when embarking on this kind of renovation.

My first concern is viruses and virus like diseases. If the plants have not been cared for in many years there is a very good chance that the planting has slowly succumbed to disease of this kind. There are many virus and virus like diseases that can infect highbush blueberries such as stunt, shoestring, leaf mottle, necrotic ringspot and blueberry mosaic. There are no controls for these diseases so if the planting has them, then all the infected plants must be rogued out. I would always advise the grower to bring in a plant pathologist who is versed in virus detection on blueberry and make a determination if the planting is infected. In many cases this will involve taking plant samples and having them tested by a laboratory. I would do this before I would spend any time or money on the planting.

My next concern is to find out what blueberry varieties are present in the growers field. Realize that many of the varieties that were grown forty years ago are not that attractive to consumers today. Many had very small berries and were very dark in color which is not true of the varieties that are marketed today. Hopefully the records still exist with the field plan so that the variety map can be determined. Without that, the grower will never really know what he/she has. It is not possible to determine the variety by looking at...
the plant, even for someone who has many years’ experience with highbush blueberries.

If the virus concerns have been met and the varieties are known and considered marketable, the next step is the actual renovation. A soil test would be appropriate at this time. Trying to bring back a blueberry field when the pH is not in the correct range of 4.5 to 4.8 is not going to work. When the field has been cleared of the brush, trees and weeds, an application of lime or sulfur to change the pH must be done as soon as possible. Realize that weeds will compete with the blueberry plants for water and nutrients and in most cases, outcompete the blueberries. Weed control must be a top priority as well as the installation of an irrigation system. Years ago irrigation was in the form of overhead sprinklers. A trickle system is much more efficient and can also be used to apply fertilizer, and some pesticides.

A standard fertilizer recommendation would be to apply 600lbs./A of a 10-10-10 fertilizer to the field. This will be adequate until a leaf analysis can be taken in mid-summer. Future applications of fertilizer should be based on the leaf analysis.

Lastly, plants that have not been pruned in decades will need to be cut down to the ground to force new canes to develop. Many growers who are taking on this renovation will balk at this step wanting to get a crop right away. It should be realized that when an old planting is cut down, the new canes will develop very fast and in most cases the field will be in full production in two to three years but if some fruit is desired the first year I would advise pruning a portion of the field each year until all the planting has been renovated. Taking on the renovation of a neglected blueberry field requires a lot of work, time and money and may not be the best decision for the prospective grower. It is wise to follow the above steps before investing.

**INSECTS**

*Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University; Dean Polk, IPM Agent, Rutgers Cooperative Extension; Amy Raudenbush, Fruit IPM Program Associate, Rutgers Cooperative Extension*

**Aphids:** Despite the colder weather last week aphid counts increased with 90% of the sampled sites having aphids present and 56% of sites having over 10% of the shoots infested. The average percent of shoots with aphids was 18% per 50 shoot sample. If you didn’t already control aphids, then they are still your primary insect to control. Growers should consider treatment options such as: Assail, Actara, Admire Pro and Sivanto. Sivanto is not a neonicotinoid, and is a bee safe product. It acts systemically against the aphids with a mode of action similar to the neonicotinoids. Many growers have asked about Lannate against aphids - Lannate has moderate control against aphids, but IS NOT the material of choice when aphids are the primary insect target.

**The general insecticide strategy should be “0” out aphids as much as possible, so you can concentrate on SWD as they start to emerge.**

**Cranberry Fruitworm (CBFW):** Trap counts have been minimal, but the timing has not changed. Even though we started with a late spring, temperatures have caught up. The extremely low trap counts were likely a product of a low overwintering population. Any post pollination insecticide already applied should have controlled CBFW.

**Blueberry Maggot (BBM):** Traps have been set for BBM and we have been monitoring for BBM over the past week. So far our trap counts for BBM are zero.

**Spotted Wing Drosophila (SWD):** Some SWD traps were placed earlier in the week, and others continue to go up.
**Oriental Beetle (OB):** Our first OB were caught in traps in Atlantic County this week. The average number of OB per trap was 9.7. OB will continue to emerge over the next 4-6 weeks, and treatments should be applied where needed over the next 3-4 weeks if not already done so.

*Life cycle.* OB completes a single generation per year. Adults (see picture) start to emerge in early June, and flight peaks in early July. 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 (see picture) 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.

**OB ADULT**

**OB 3\textsuperscript{rd} INSTAR LARVA**

**Monitoring.** Japanese beetle sex pheromone traps (Trécé, Adair, OK), baited with septa lures containing the sex pheromone are used to monitor OB populations and initiation of male flight (see picture).

**Japanese beetle trap used for monitoring OB populations.**

**Control.** Admire Pro (imidacloprid) (4.6 lb ai/gal) is recommended to manage OB grubs infesting blueberries in New Jersey. Other formulations are also available in generic brands. Most of these are 2 lb ai/gal. These include Alias, Nuprid, Couraze, and others. 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 1\textsuperscript{st} and 2\textsuperscript{nd} instars, and while still close to the soil surface. Imidacloprid has little effect on 3\textsuperscript{rd} instars and older larvae. Older 3\textsuperscript{rd} instars start to appear by early to mid August. Therefore, applications should be made well in advance of that date. Applications will degrade if exposed to the sun. Therefore, imidacloprid should be immediately irrigated into the soil to form a layer of insecticide just below the soil surface. 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 as eggs hatch 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. If the soil is dry, then also water just previous to application. Begin applications late in the evening hours because this insecticide is sensitive to breakdown by UV radiation. No more than one application of Admire Pro can be used per season. However, Admire Pro (and other generics) 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 (see picture), 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. Below are instructions on how to space the disruptors through blueberry fields.

The price of each dispenser is $2.45 or $61.25 for a package of 25.

**Plum Curculio (PC):** No new PC damage was seen over the last week. We observed only minimal PC damage, and did not find any adult PC in the field. The average fruit damage in the field was 0.1% out of 1000 fruit sampled.

**Leps. and other larvae:** Similar to the previous week, the number of leafrollers and other leps. found in the field this week was minimal. Only 0.2% of the sites sampled had leafrollers and the average number of leafrollers observed was 0.3% out of a 50 shoot sample.

### Blueberry Trap Counts

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<th>County</th>
<th>Week ending</th>
<th>CBFW</th>
<th>OB</th>
<th>BBM</th>
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If you have any comments about this newsletter, please make them in the space below and mail to:

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I would like to see an article on the following subjects:

I would like to comment on the following articles:

Title: _______________________________ Date: _______________________________
Comment: ____________________________________________________________________

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