Guidelines for Insect Pest Control in Blueberries

What Should I Look For?

The insect pest complex on blueberries is extensive, attacking all parts of the plant. In New Jersey, blueberries are host to over 17 species of insect pests. It is worth noting, however, that not all insects are considered pests. For example, many insects are beneficial to plants such as ladybeetles and pollinators. Becoming familiarized with different insect pests and their life histories is critical to properly monitor and control them. For instance, it is important to know the pest’s feeding habits. Pests can be classified depending on where they feed as direct and indirect pests. A direct pest is one that feeds on flowers, buds, and/or fruit and can potentially reduce blueberry yield. Direct pests can cost severe losses if unmanaged. Examples of direct pests in blueberries include **blueberry maggot**, **plum curculio**, and **cranberry fruitworm**. Blueberry maggot damages the fruit. This insect is the most significant blueberry pest in New Jersey (as well as in several other blueberry-growing states in the US) because there is zero tolerance for maggot-infested fruit that is exported to Canada. Plum curculio has become an increasing problem in blueberries. This insect feeds and oviposits on young unripe fruit. Cranberry fruitworm adults oviposit in young fruit and larvae feed inside the fruit, damaging several fruit within a cluster. Indirect pests feed on leaves, stems, or roots and can also have some impact on yield by reducing the plant vigor or by the transmission of diseases. Examples of indirect pests include **oriental beetle**, **leafrollers**, **aphids**, and **sharp-nosed leafhoppers**. Oriental beetle grubs feed on blueberry roots. Leafrollers feed mainly on young shoots and leaves, but can also feed on flower clusters. Aphids are vectors of the blueberry scorch virus. Sharp-nosed leafhoppers transmit blueberry stunt disease caused by a phytoplasma.

You may find more information on how to identify these pests and on their biology and life cycles in:

- Blueberries For Growers, Gardeners, Promoters. 2006. N. F. Childers and P. M. Lyrene, editors. Dr. Norman F. Childers Publications.

When and How Should I Scout?

Highbush blueberries can suffer major yield losses due to insect pests. Thus, understanding insect pest’s activity is key for making appropriate management decisions. Different pests are present in blueberries at different times of the plant’s phenological stage. Thus, it is important to scout your blueberry farm throughout the growing season. Growers (or IPM scouts) need to visit their farm on a regular basis to monitor pest populations. In this website, I provide information on the times, based on plant phenology, when most important blueberry pests are expected in
commercial farms. The intention of this information is to give blueberry growers an idea on when to scout and when to treat, if pest populations exceed economic levels, for the different pests. This information should not be used as a guide on when to treat in a calendar basis. A scouting guide is also provided in this website. This scouting guide provides information on how to monitor for the most important pests in blueberries.

What Should I Do?

In case a pest exceeds the economic threshold, treatment is recommended. Since passage of the Food Quality Protection Act (FQPA) in 1996, environmental risks associated with the use of non-selective broad-spectrum insecticides have been a major concern among regulators. As a consequence, several broad-spectrum insecticides have been cancelled, scheduled for cancellation, or being restricted for use in blueberries. This tolerance reassessment will likely impact the blueberry industry more than others because of its minor crop status. On the bright side, more reduced-risk insecticides and organophosphate alternatives are becoming registered for use in blueberries. Here, I am providing a list of recommended reduced-risk insecticides and organophosphate alternatives for insect management in blueberries. Reduced-risk insecticides are those insecticides with low impact on human health, low toxicity to non-target organisms, low potential for groundwater contamination, low use rates, low pest resistance potential, and that are compatible with integrated pest management practices (http://www.epa.gov/opprd001/workplan/reducedrisk.html). Consult a county agent or an extension specialist about best treatment options for particular pests.