

**Commodity Specific Definitions for IPM in Fruit Crops in New Jersey
Highbush Blueberries - Crop Year 2000**

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Background

Integrated Pest Management programs (IPM) represent a multidisciplinary approach to crop management. All available techniques are used to manage pest populations below economically damaging levels and to optimize plant health and crop quality. An integrated approach relies on a solid monitoring foundation. In order to be fully functional, monitoring results must be put into action and result in applied management practices. The resulting practices can be classified into different types, with specific practices for each crop grouped under each practice type. A fully integrated program will consist of the following types of practices:

Type Classification

IPM fruit programs are based on:

- 1) Cultural and irrigation practices.
- 2) Soil and nutrient management.
- 3) Proper pesticide application and record keeping.
- 4) Insect/Arthropod pest management.
- 5) Disease pest management.
- 6) Weather and crop monitoring.
- 7) Vertebrate pest management.
- 8) Weed and ground cover management.
- 9) Biologically intensive pest reduction strategies.
- 10) Education

Point Values

Not all practices have the same economic impact, influence fruit quality, or the levels of pesticides and fertilizers used. In other words, some practices have more impact than others do in a commercial program. In addition, some growers may wish to certify their fruit as having been produced under IPM practices. Therefore point values have been assigned to address these issues. Growers may not wish to or be able to follow all practices, but a majority of practices should be followed if the production method is to be defined as an IPM program. Where there is no point value assigned, the practice is considered mandatory.

Practices

Cultural and Irrigation Practices

- *Annual pruning is done to provide for optimal cropping as well as adequate spray penetration and air circulation.*
- Pruning is done to provide for optimal cropping and plant vigor. **10 pts**
- All prunings are removed or destroyed. **5 pts**
- Irrigation systems are designed for efficient water use, and the prevention of erosion and runoff. **10 pts**

Soil and Nutrient Management Practices

- Soil pH is annually or biannually monitored. **10 pts**
- A complete leaf tissue analysis is done annually. **10 pts**
- All lime, soil applied fertilizers and foliar nutrients are applied according to leaf tissue analyses and soil pH results. **10 pts**
- Nitrogen fertilizer is applied in split applications. **5 pts**

Pesticide Application and Record Keeping

- *Only registered pesticides are used, and at no more than label rates. Application records are maintained.*
- Pesticides applied based on scouting results. **20 pts**
- The airblast sprayer(s) is calibrated at the start of every growing season, and either recalibrated or the spray pattern checked again at mid-season. **20 pts**
- Pesticide materials are selected that are least toxic to beneficial arthropods. **10 pts**
- A resistance management plan is used for pesticides when appropriate. **10 pts**

Insect/Arthropod Pest Management

Monitoring

- *All major insect and mite pests are scouted in a scientifically valid manner.*
- Records are maintained of all scouting results and used for all insecticide and/or miticide applications. **20 pts**
- Monitored arthropods include: several species of leafrollers and leaf feeding larvae: redbanded leafroller, obliquebanded leafrollers, green fruitworms, and gypsy moths. Other arthropods include cranberry fruitworm, sawflies, cranberry weevil or blueberry blossom weevil, several species of aphids, scarab beetles, plum curculio, sharpnosed leafhopper, and blueberry maggot. Insect vectors of disease (leafhoppers and aphids) are monitored throughout the entire season if needed. **10 pts**

Actions

- No insecticides except B.t.s or tebufenozide (Confirm[®]) used during bloom. **10 pts**
- Pesticide applications are based on economic threshold levels, or action levels when known. **10 pts**
- Other pesticide applications are based on pest phenology. **10 pts**

- Use of border sprays for plum curculio and cranberry weevil when needed. **15 pts**

Disease Pest Management

Monitoring

- *All major disease pests are scouted in a scientifically valid manner.*
- Records of scouting results are maintained and used for all fungicide applications. **20 pts**
- Monitored diseases include: mummy berry, anthracnose, alternaria, blueberry scorch, and stunt disease. Other diseases which may be present include phomopsis dieback (twig blight), botrytis (botrytis blight), botryosphaeria (stem blight), and red ringspot. **10 pts**

Actions

- Cultivation prior to budbreak to reduce mummy berry. **10 pts**
- Anthracnose sprays applied according to levels found in individual fields. **10 pts**
- Fungicides applied according to disease stage and phenology. **10 pts**
- Roguing of bushes that were found to be infected with blueberry stunt or blueberry scorch disease. **10 pts**

Weather and Crop Monitoring

- Plant phenology is monitored and records maintained. **5 pts**
- A rain gauge is used and maintained on a regular basis. Records are kept on the accumulated amount of precipitation that occurs between pesticide sprays. **10 pts**

Vertebrate Pest Management

- Use of bird netting or scare devices if needed. **5 pts**
- Use of deer fencing if needed. **5 pts**

Weed and Ground Cover Management

- The herbicide sprayer is calibrated before the start of the growing season. **10 pts**
- Weeds are monitored and materials adjusted accordingly. **10 pts**
- Spot treatment is used if needed. **10 pts**
- Herbicide rates are matched to soil type and organic matter. **10 pts**
- Herbicide materials and rates used according to weed monitoring results. **10 pts**
- Cultivation used during the spring and fall to suppress weeds **10 pts**

Biologically Intensive Strategies

- Removal of wild or abandoned bushes or other wild hosts from the vicinity of the field in order to reduce blueberry maggot and sharpnosed leafhopper populations. **10 pts**
- Use of mating disruption for oriental beetle if a problem. **15 pts**

Bonus -

Education

- Attendance at cooperative extension fruit meetings. **10 pts**
- Attendance at commodity organization fruit meetings. **5 pts**

- Subscribes to county/state extension fruit newsletter.

10 pts

Total points = 385. Bonus points = 15