

Blueberry IPM Elements

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The purpose of this document is to consolidate current Ohio information on Integrated Pest Management (IPM) in the form of general working practices or tactics for a specific crop. The second intent is to use this checklist as an evaluation instrument for growers applying to conservation programs such as Environmental Quality Incentives Program (EQIP). This document is intended to help growers identify areas in their production system that possess strong IPM qualities and also point out areas for improvement.

Growers should review the seven sections of this document and indicate which practices they **currently use** on this crop in their operation. There is a point value associated with every IPM practice; the higher the number, the greater the relative importance of the practice. After going through the list, add the associated values for each section to get the **Baseline IPM Score**. Growers will complete this evaluation every year of their contract, and maintain at least 60% of the total points available each year of the contract to be considered in compliance and eligible for a payment.

Major Pests of Blueberry - Primary concerns are birds, insects, diseases & weeds

Diseases	Vertebrate Pest	Insects & Mites	Weeds
Leaf Spot, Leaf Scorch, Leaf Blight	Birds	Blueberry Maggot	Annual grasses
Powdery Mildew	Voles	Japanese Beetle	Perennial grasses
Angular Leaf Spot		Fruitworms (Cranberry and Cherry)	Annual broadleaves
Red Stele		Plum Curculio	Perennial broadleaf
Verticillium		Scale	
Black Rot		Gypsy Moth	
Botrytis Fruit Rot		Blueberry Maggot	
Leather Rot		Japanese Beetle	
Strawberry Anthracnose		Fruitworms (Cranberry and Cherry)	
Plant Parasitic Nematodes		Scale	
		Gypsy Moth	

Educational IPM Considerations

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Join local or state grower associations that handle this commodity.	5				
Attend winter or summer educational meetings or field days annually to keep current on pest management recommendations.	10				
Access University based fruit information websites for research based information	5				
Obtain the latest Ohio Commercial Small Fruit Spray Guide. The Midwest Small Fruit Pest Management handbook and other commodity specific reports/production guides	10				
Subscribe to the Ohio ICM Fruit or other newsletter for updates on disease, insect, and weed development, plus management options during the growing season.	10				
Research alternative markets that encourage less pesticide use either through specific use reduction requirements (organic, eco-, IPM labels) or simply by permitting more insect feeding, etc.	5				

Your section total is _____ pts.

Pesticides and Record Keeping

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Calibrate insecticide and fungicide sprayer at least once a year.	10				
Calibrate herbicide sprayer at least once a year.	10				
Use drift control nozzles for pesticide applications	10				
Maintain accurate and organized spray records.	15				
Maintain accurate records of planting dates, field locations, varieties, and fertilizer applications.	10				
Analyze spray records to determine Environmental Impact Quotient.	10				
Among pesticides of comparable efficacy, use the one with the lowest Environmental Impact Quotient.	10				

Your section total is _____ pts.

Soil and Nutrient Management and Cultural Practices

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Soil test; amend soil with fertilizer or compost according to guidelines and yield of crop. (Nutrient Management – 590)	15				
Adjust mineral soil pH to 4.5-5.2.	10				
Balance nitrogen with plant growth without promoting rapid growth and prolong succulence. (Conduct leaf analysis every year)	10				
Adjust N application to account for any N given by cover crop, compost or other sources of organic nitrogen.	10				
Choose a site that has good surface drainage; tile perennially wet fields. Prevent standing water between rows with a good layer of mulch or grassed alley way	15				
Use a water quality and placement plan that minimizes disease development, optimizes water use and minimizes erosion and runoff.	5				

Your section total is _____pts.

Disease Management

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Many plantings of blueberry in Ohio do not have serious disease problems and seldom require fungicide applications. Be aware of what disease are present and /or not present in you planting and spray fungicides accordingly. If diseases are not a problem, do not apply fungicide.	15				
When using fungicide with a high potential for fungicide resistance development use 2-spray block alternations of different fungicide chemistries to prevent or delay the development of resistant strains of pathogenic fungi.	10				
Use weather forecasts (principally for rain) to adjust (shorten or extend) fungicide spray intervals.	10				
Prune and remove infected or old canes and small twigs to reduce disease pressure and improve air circulation.	15				

Your section total is _____pts.

Arthropods Management (Insects and mites)

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Field is not located near fruit trees (to avoid plum curculio) fence rows (to avoid cranberry weevil) or near wild blueberries	15				
Prune branches damaged by tip borer or scales insects are removed	15				
Practice good weed control to reduce overwintering sites for fruitworm.	5				
Ripe and cull berries are promptly removed to reduce Japanese beetles	5				
Remove by hand berries infested with larvae and/or egg masses.	10				
Use netting, visual scare devices and/or other deterrents for birds.	10				
Baited yellow sticky traps are used to detect blueberry maggot flies.	10				
Sticky tape placed around branches is used to detect scale crawler.	15				
Buds are sampled for cranberry weevil before bloom. After bloom bushes are inspected for fruit worms, plum curculio, tip borer and leafrollers.	10				
Select insecticides based on minimizing toxicity to predatory and beneficial insects	15				
Prune branches damaged by tip borer or scales insects are removed	10				
Practice good weed control to reduce overwintering sites for fruitworm.	10				

Your section total is _____ pts.

Weed Management

Place a check mark in the right hand column for activities currently used or expected to adopt on your farm.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Eradicate perennial weeds and reduce the soil weed seed bank the year prior to planting by using herbicides, cultivation, and cover crops.	15				
Identify and list problem weeds and locations to tailor herbicide and floor management practices. If herbicides are needed, product choice, rate, and area to be treated are based on identified weed species and locations.	15				
If needed, apply soil active herbicide prior to weed emergence. Do not use herbicides of the same class in successive years.	15				
If perennial weeds are present, time herbicide applications to weed growth stage as specified on the product label.	15				
A permanent sod between rows is used to help control weeds	15				
Apply sawdust or other organic materials to physically control weeds	10				

Your section total is _____ pts. Total points in Element is 440.

Baseline IPM Score (Add the scores of the previous 7 sections) _____

End of Year 1 at least 60% of total IPM Element points _____

End of Year 2 at least 60% of total IPM Element points _____

End of Year 3 at least 60% of total IPM Element points _____