

Plum 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 Plum - Primary concerns are insects, mites, diseases & weeds

Diseases	Insects & Mites	Weeds
Brown rot	Oriental fruit moth	Annual grasses
Black knot	Plum curculio	Perennial grasses
Leaf spot	Peachtree borer	Annual broadleaves
Phytophthora crown & root rot	Lesser peachtree borer	Perennial broadleaf
	Green peach aphid	Yellow nutsedge
	Plant bugs	
	San Jose scale	
	Leafrollers	
	Japanese beetle	
	European red mite	
	Twospotted spider mite	

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 Tree Fruit Spray Guide. The Midwest Tree Fruit Pest Management handbook and other commodity specific reports, bulletins, or 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.	15				
Adjust mineral soil pH to 6.0-6.8.	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				
Utilize fertigation rates at 50% less than soil applications.	10				
Before planting the orchard, pick a planting site with excellent soil drainage and full exposure to the sun. If drainage is not excellent, perform practices to improve drainage such as planting on ridges (burms) or tiling.	15				
Install micro-irrigation at orchard establishment (to prevent water other than rain from wetting fruit) and irrigate the orchard from bloom through harvest. Monitor soil moisture with tensiometers set at 12 to 18 inches deep. Maintain soil moisture (12 inch depth) at 20 to 25 centibars from bloom to August 15th.	15				
Use a water quality and placement plan that minimizes disease development, optimizes water use and minimizes erosion and runoff.	5				
Plant rows in the direction of prevailing winds to promote better air circulation and faster drying in the orchard.	10				
Prune to promote rapid drying of foliage, spray penetration, and reduced brown rot. Dormant pruning should be done just prior to bloom. Summer pruning two weeks before harvest increases flower buds and fruit color.	10				
Thin fruit, especially in clusters, to insure faster drying and complete fungicide coverage, as well as to promote fruit size and return bloom.	5				
Keep ground cover mowed and weeds suppressed to eliminate habitat for tarnished plant bug.	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
Apply a single fungicide spray in fall after leaves drop or in the spring before bud swell to control plum pockets, if disease is present.	15				
Use well-timed applications of fungicide to control brown rot and powdery mildew.	10				
Use fungicides or fungicide combinations that allow extended spray intervals (10-14 days) rather than a 7-day protectant program (i.e. sterol-inhibitor plus protectant or strobilurin fungicides) to reduce overall fungicide use. If other options are not available use a 7-day protectant program to insure adequate disease control.	10				
When using fungicides 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				
Select planting sites with excellent soil drainage to prevent problems with Phytophthora collar or root rot, or improve soil drainage with tile or by planting on ridges.	15				
Remove brown rot mummies from the orchard (trees and ground) annually.	15				
Remove brown rot mummies from the orchard (trees and ground) annually.	15				
Prune out all black knots during the dormant period with cuts made 6 to 8 inches below any knots. Remove the prunings from the orchard and destroy.	10				
Control perennial canker by combining cultural practices that promote winter hardiness and rapid wound healing with orchard sanitation.	10				

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
Place lesser peachtree borer pheromone traps by petal fall to monitor moth emergence and to aid in the proper timing of spray applications.	15				
Monitor peachtree borer with pheromone traps for the proper timing of spray applications.	15				
Hang pheromone traps April to monitor Oriental fruit moth. Time spray applications six days after peak flight of the first generation. Apply spray 3 days after the peak flight of the second generation.	5				
Mating disruption can be used to manage Oriental fruit moth, peachtree borer, and lesser peachtree borer in conjunction with pheromone traps. Consult Michigan Fruit Spraying Calendar 2000 for details.	10				
Survey European red mite populations on a weekly basis during the summer months and apply miticides only when populations exceed thresholds.	10				
Green peach aphid is difficult to control. Inspect trees weekly from petal fall until terminals are hardened off. Apply sprays if more than one colony per tree is found.	10				
Monitor plant bug and stink bug populations with the use of beating sheets. When necessary, use well-timed spray applications during the early season.	10				
Begin plum curculio sprays at petal fall and 14 days later in blocks where plum curculio has been a problem. Normally, this timing will be the equivalent of up to three sprays; petal fall, shuck-fall, and first cover.	15				
Scout for the first detection of Japanese beetle from mid June until mid July	15				
Scout weekly for European red mite and two spotted spider mite.	15				

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
For new orchards, eradicate perennial weeds and reduce the soil weed seed bank the year prior to planting by using herbicides, cultivation, and cover crops.	15				
Establish a non-competitive grass between tree rows prior to planting a new orchard to help control weeds	15				
Use an herbicide to establish planting strips in established sod.	10				
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				

Your section total is _____ pts. Total points in Element is 555.

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 _____