

Wheat IPM Elements

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The primary purpose of this document is to list current Ohio Integrated Pest Management (IPM) practices or tactics for a specific crop, with the understanding that this list is not exhaustive and is intended to be modified over time. The second intent of this IPM Element is to be used as an evaluation instrument for growers applying to conservation programs such as the Environmental Quality Incentives Program. This document is intended to help growers identify areas in their current crop production operation 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 need to complete this checklist every year of their contract, and must acquire 60% of the total points to qualify for the basic IPM scenario, and at least 80% of the points to qualify for the enhanced IPM scenario, to remain contract compliant and eligible for future payments.

Major Pests of Ohio Wheat - Primary concerns are insects, diseases, weeds

Insects	Diseases	Weeds
Aphids	Powdery mildew	Yellow nutsedge
Cereal leaf beetle	Septoria tritici leaf blotch	Wild garlic
Common Armyworm	Sharp eyespot	Canada thistle
Hessian fly	Leaf rust	Winter annual broadleaf weeds
	Head scab	Summer annual broadleaf weeds
	Bunt or stinking smut	
	Loose smut	
	Wheat yellow mosaic virus	
	Barley yellow dwarf virus	
	Cephalosporium stripe	
	Take-all root rot	
	Stagonospora nodorum leaf and glume blotch	

Educational IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Join local or state grower associations that handle this commodity, e.g. Ohio Wheat Growers Association	5				
Attend winter or summer educational meetings and field days annually to keep current on pest management recommendations	10				
Producer accesses general and discipline websites e.g. http://corn.osu.edu , http://agcrops.osu.edu/ , http://entomology.osu.edu/ag/ , or http://www.oardc.ohio-state.edu/ohiofieldcropdisease/ for current pest information	5				
Producer receives or accesses the Crop Observation and Reporting Network (C.O.R.N.) newsletter weekly during the growing season. http://agcrops.osu.edu/	10				
Producer possesses recent copy of the OSU Extension Agronomy Guide – bulletin 472	10				
Producer possesses recent copy of OSU Extension Weed Control Guide – bulletin 789	10				
Producer possesses recent copy of OSU Extension Corn, Soybean, Wheat, and Alfalfa field guide – bulletin 827	10				
Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa, bulletin E-2567	10				
Producer possesses recent copy of Improving Wheat Profits in Ohio bulletin 938.	10				
Research alternative markets that encourage less pesticide use, e.g. organic, eco label, IPM label, etc.)	5				
Your section total is	85 pts.	pts.	pts.	pts.	pts.

Pesticides and Record Keeping

Check activities currently performed on your farm and add their associated points for a section total.

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 low drift 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. http://www.nysipm.cornell.edu/publications/eiq/	10				
Among pesticides of comparable efficacy, use the one with the lowest Environmental Impact Quotient.	10				
Your section total is	75 pts.	pts.	pts.	pts.	pts.

Pre-plant IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Soil test fields for nutrient analysis and pH levels every 2 years.	15				
For lime, use Tri State Fertility guide for recommendations and apply according to soil test results and realistic yield goal of the crop to maintain pH between 6.5 and 7.0.	10				
For general soil fertility, use Tri State Fertility guide (bulletin E-2567) for recommendations and apply according to soil test results and realistic yield goal of the crop.	10				
Split apply nitrogen; no more than 20 pounds of nitrogen applied in the fall with the remainder being applied in the spring	15				
Conserve organic matter by using no-tillage or minimum tillage.	10				
Select varieties with good straw strength, winter hardiness and resistance to the important diseases in your area.	15				
Rotate field to soybean, corn, or alfalfa; do not plant continuous wheat.	15				
Plant in well drained fields	5				
Improve soil drainage in fields by adding tile or other drainage measures.	15				
Plant within two weeks after the Hessian fly safe date for your county to reduce aphid populations, virus transmission, and early establishment of foliar diseases. http://entomology.osu.edu/ag/images/Small_Grains_Hessian_Fly.pdf	15				
Plant Hessian fly resistant varieties.	15				
Herbicide programs and rates are selected on a field-by-field basis, based on tillage, soil factors, and knowledge about weed species composition and severity.	15				
Rotate herbicide site of action in-season and annually to minimize the risk of developing herbicide-resistant weed populations.	15				
Minimize spread of weeds by steam cleaning or power washing tillage, planting, and spraying equipment between fields.	10				
Your section total is	180 pts.	pts.	pts.	pts.	pts.

At-planting IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Plant into a weed-free seedbed; use glyphosate or paraquat as necessary to control emerged weeds at time of planting.	10				
Plant well-cleaned, high quality (germination rate of 80% or higher), disease-free seed, treated with a fungicide that controls seedling blights, bunt, scab and loose smut.	15				
Your section total is	25 pts.	pts.	pts.	pts.	pts.

In-season IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Scout for aphids in the fall and spring; treat if threshold is exceeded	10				
Scout for cereal leaf beetle in the spring; treat if threshold is exceeded	10				
Scout in spring for cereal leaf beetle eggs and larvae; treat if threshold is exceeded.	10				
Scout for armyworms when large spring migrations from Kentucky are reported in the C.O.R.N. newsletter; treat if thresholds are exceeded.	10				
Scout fields from flag leaf emergence through flowering for powdery mildew, leaf rust, <i>Stagonospora nodorum</i> leaf and glume blotch; treat with appropriate fungicide if threshold is reached.	15				
Scout fields for head scab at flowering; treat with appropriate fungicide if disease is present or at high risk of infection.	15				
Monitor head scab using this model http://www.wheatcab.psu.edu/riskTool_2010.html ; apply a fungicide (a triazole) at flowering, if the risk of scab is moderate-high.	15				
Remove volunteer wheat, quackgrass, and other perennial grasses in nearby production fields to reduce inoculum of pathogens.	15				
Scout fields in early April for Canada thistle, garlic mustard, and other weeds to guide post herbicide application timing and selection.	15				
Scout field after herbicide application to determine percent control.	5				
Spot herbicide treatments are based on available economic thresholds or concentrated weed	10				

competition in localized areas.					
Control new or problem weeds in alleyways, ditch banks, fencerows, roadways, and adjoining non-crop land by chemical or non-chemical means to prevent them from going to seed.	15				
Control weeds (mowing or herbicide) in stubble to prevent weed seed production	10				
Your section total is	155 pts.	pts.	pts.	pts.	pts.

Harvest IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Management	Activity	Points
	None described	0

Post-Harvest IPM Considerations

Check activities currently performed on your farm and add their associated points for a section total.

Activity	Points	IPM Score			
		Baseline	1 st Yr	2 nd Yr	3 rd Yr
Lightly bury crop residues in summer or fall from heavily diseased fields, especially those affected by head scab, Cephalosporium stripe or take all.	15				
Use probe traps to monitor monthly for stored grain insects	10				
Evaluate and identify successful practices, incorporate them into next years crop.	10				
Update field weed maps during harvest to make herbicide treatment decisions next season.	15				
Scout early November for dandelion and winter annual broadleaf weeds; treat if outcompeting the crop.	10				
Your section total is	60 pts.	pts.	pts.	pts.	pts.

Total Points for the Wheat IPM Element = 580

60% of Points = 350

80% of Points = 465

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 _____