Field Corn IPM Elements
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Edited by Jim Jasinski
Contributing Authors: Ron Hammond, Andy Michels (Entomology); Mark Loux, Mark Sulc, Peter Thomison (Horticulture & Crop Science); Robert Mullen (Natural Resources); Anne Dorrance, Pierce Paul (Plant Pathology), Jim Jasinski (Extension)

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 field corn - Primary concerns are insects, diseases, weeds

Insects	**Diseases**	**Weeds**
European corn borer	Seedling blights	Annual grasses
Black cutworms	Northern corn leaf blight	Annual broadleaf weeds
Corn rootworms	Stewarts wilt	Biennial weeds
Corn flea beetle	Anthracnose leaf blight and stalk rot	Perennial weeds
Corn leaf aphid	Virus - MDMV, MCDV	Herbicide resistant biotypes
Stalk borer	Gray leaf spot	
Webworms	Common Rust and Southern corn rust	
Western bean cutworm	Common smut	
Slugs	Gibberella and Fusarium ear and stalk rot	
	Diplodia ear and stalk rot	

Educational IPM Considerations

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

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
Join local or state grower associations that handle this commodity, e.g. Ohio Corn 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 Corn Disease Management in Ohio bulletin 802	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.

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd 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.

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
If compost or manure is applied, the nitrogen contribution is taken into account and the application of synthetic nitrogen fertilizer is reduced accordingly.	10				
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 the nitrogen fertilizer application between pre-plant application (starter application) and the remainder as a side-dress application.	15				
Conserve organic matter by using no-tillage or minimum tillage	10				
Do not plant continuous corn; rotate to another crop other than corn (e.g. soybeans, wheat, alfalfa, etc.).	15				
Plant Bt corn hybrids with Cry proteins capable of controlling rootworm larvae or use a soil insecticide if the Western corn rootworm variant has been confirmed in your area.	10				
Plant Bt corn hybrids with Cry proteins capable of controlling caterpillars in areas with a history of European corn borer damage or for late plantings.	10				
When planting any Bt crop, plant the required non-Bt refuge according to the label guidelines.	15				
Plant in well drained fields	10				
Improve soil drainage in fields by adding tile or other drainage measures.	15				
Select hybrids with high levels of resistance to leaf blights and stalk rots.	15				
Plant hybrids of different maturity to reduce damage from different diseases, insects and environmental stresses.	10				
Herbicide programs and rates are selected on a field-by-field basis, based on tillage, soil factors, and knowledge about weed species composition and	15				

severity.					
Rotate herbicide site of action annually to minimize the risk of developing herbicide-resistant weed populations.	15				
Your section total is	200 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.

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
Plant high-quality fungicide treated seed.	10				
Increase seeding rate for early planted fields according to university or seed company recommendations.	10				
Steam clean or power wash tillage, planting, or spray equipment between fields.	10				
Use appropriate tillage or herbicide burn down to plant into weed free seed bed.	15				
Your section total is	45 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.

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
Scout no-till fields after emergence for slug damage; treat if threshold is exceeded	10				
Scout no-till fields after emergence for cutworm damage; treat if threshold is exceeded	10				
Scout fields for stem boring insects such as stalk borers; treat if found over threshold.	10				
Monitor Western bean cutworm using a pheromone trap to determine if scouting for eggs and larvae is necessary	10				
If Western bean cutworm has caused economic damage in your area; use a hybrid with Bt Cry proteins known to control the insect.	10				
Scout fields at early tasselling/silking stage to determine if rootworm beetle and Japanese beetle silk clipping and pollen feeding warrants insecticide application to prevent reduced kernel set.	10				
Use the corn flea beetle index in your area to determine the risk of Stewarts wilt and guide selection of hybrids with the appropriate resistance or use an insecticide seed treatment.	10				
Scout for corn flea beetle in pre-whorl corn, treat if beetles exceed the threshold.	5				
Remove Johnson grass and other weeds that act as reservoirs for overwintering of corn pathogens.	10				
Scout fields for incidence of leaf blight disease at tasseling; fungicide applications may be justified only if susceptible hybrids are used and the lower leaves are infected.	10				
Scout fields beginning 3-4 weeks after planting 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 competition in localized areas.	10				
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				
Your section total is	140	pts.	pts.	pts.	pts.

Harvest IPM Considerations

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

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
Scout fields for stalk rot; determine which fields have the highest percentages and harvest them first to minimize yield losses.	15				
Scout fields to assess visible mold growth on ears, if found on >5% of ears, harvest, dry, and test the grain for mycotoxins immediately.	15				
Your section total is	30 pts.	pts.	pts.	pts.	pts.

Post-Harvest IPM Considerations

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

		IPM Score			
Activity	Points	Baseline	1st Yr	2nd Yr	3rd Yr
Lightly bury corn residue in fields with high incidence of leaf spot and stalk rot to effectively reduce the numbers of disease organisms surviving in the field.	15				
Maintain cool and dry storage conditions (13-14%) of grain to prevent storage molds from developing; cribbed ear corn should be dried to 20 percent moisture.	15				
Evaluate and identify successful practices, incorporate them into next years crop.	10				
Use probe traps and monitor bins monthly for stored grain insects	10				
Update field weed maps during harvest to make treatment decisions next season.	15				
Scout fields in late October / early November to determine if winter annual or perennial weed populations warrant herbicide control for next spring's planting.	15				
Your section total is	80 pts.	pts.	pts.	pts.	pts.

Total Points Possible for the Field Corn IPM Element = 655
60% of Points = 395
80% of Points = 525

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 _____