

# Alfalfa IPM Elements

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The primary purpose of this document is to list current Integrated Pest Management (IPM) practices or tactics for a specific crop that are relevant to Ohio, 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

<b>Insects</b>	<b>Diseases</b>	<b>Weeds</b>
Aphids	Phytophthora root rot	Annual grasses
Alfalfa weevil	Sclerotinia crown & stem rot	Annual broadleaf weeds
Potato leafhopper	Lepto leaf spot	Perennial weeds
	Verticillium wilt	Canada thistle
	Spring black stem	Dandelion
	Aphanomyces root rot	Curly dock
	Anthracnose	
	Rhizoctonia root, stem, and crown rot	

## 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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr
Join local or state grower associations for this commodity, e.g. Ohio Forage and Grasslands Council	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. <a href="http://forages.osu.edu">http://forages.osu.edu</a> , <a href="http://corn.osu.edu">http://corn.osu.edu</a> , <a href="http://entomology.osu.edu/ag/">http://entomology.osu.edu/ag/</a> , <a href="http://agcrops.osu.edu/">http://agcrops.osu.edu/</a> , or <a href="http://www.oardc.ohio-state.edu/ohiofieldcropdisease/">http://www.oardc.ohio-state.edu/ohiofieldcropdisease/</a> 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. <a href="http://agcrops.osu.edu/">http://agcrops.osu.edu/</a>	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				
Producer possesses a recent copy of the Forage Field Guide produced by Purdue Extension ID-317	10				
Tri-State Fertilizer Recommendations for Corn, Soybean, Wheat, and Alfalfa, bulletin E-2567	10				
Research alternative markets that encourage less pesticide use, e.g. organic, eco label, IPM label, etc.)	5				
<b>Your section total is</b>	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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> 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 <a href="http://www.nysipm.cornell.edu/publications/eiq/">http://www.nysipm.cornell.edu/publications/eiq/</a>	10				
Among pesticides of comparable efficacy, use the one with the lowest Environmental Impact Quotient.	10				
<b>Your section total is</b>	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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> 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				
Clean, calibrate, and set forage seeder ensure accuracy in seeding rates.	10				
Rotate to corn, soybean, small grain, or a forage grass between alfalfa crops; do not follow alfalfa with alfalfa.	15				
Select winter-hardy varieties with resistance to bacterial wilt, Fusarium wilt, Phytophthora root rot, anthracnose, Verticillium wilt and Aphanomyces root rot.	15				
Use seed-treatment fungicides specific for Phytophthora and Pythium to reduce losses from damping off.	5				
Improve soil drainage via tiling or other means to prevent excess moisture accumulation for extended periods of time.	15				
Use potato leafhopper resistant varieties to reduce insecticide use and yield loss.	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 severity.	15				
Rotate herbicide site of action annually to minimize the risk of developing herbicide-resistant weed populations.	15				
During the fall prior to seeding a new stand/field, control dandelion, curly dock, and other perennial weeds.	15				
Spot herbicide treatments are based on available economic thresholds or concentrated weed competition in localized areas.	10				

<b>Your section total is</b>	160 pts.	pts.	pts.	pts.	pts.
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### **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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr
Plant in well drained and prepared field with adequate soil moisture.	5				
For late summer, no-till seeding, plant in early August to avoid seeding losses due to Sclerotinia crown and stem rot.	5				
Minimize weed spread through use of weed-free crop seed.	10				
Spray wash or steam clean tillage, planting, or spray equipment between fields.	10				
Use appropriate tillage or herbicide burn down to plant into weed free seed bed.	10				
<b>Your section total is</b>	40 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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr
Scout weekly for alfalfa weevil using the bucket method on first cutting; when populations exceed action threshold, cut early if within 7 days of normal harvest date otherwise apply insecticide treatment.	15				
Check alfalfa regrowth on second cutting for alfalfa weevil; treat when populations exceed action threshold.	10				
Sweep alfalfa weekly for potato leafhopper on second and third cuttings; when populations exceed action threshold, cut early if within 7 days of normal harvest date or treat with insecticide.	15				
When scouting potato leafhopper resistant alfalfa varieties for leafhopper, use a 3X threshold to initiate treatment in established stands.	10				
Minimize traffic over the field to reduce crown damage from heavy equipment and soil compaction.	10				
Scout fields beginning 3-4 weeks after planting to guide post herbicide application timing and selection.	15				
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				
<b>Your section total is</b>	90 pts.	pts.	pts.	pts.	pts.

### 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 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr
Harvest at late bud to early bloom stage to manage taproot storage reserves to accumulate while minimizing the buildup of disease organisms on leaves, stems and crowns.	15				
<b>Your section total is</b>	15 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.

Activity	Points	IPM Score			
		Baseline	1 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr
Evaluate and identify successful practices, incorporate them into next years crop.	10				
Update field weed maps during last cutting to make herbicide treatment decisions next season.	10				
Annually determine if the alfalfa field should be rotated to another crop prior to any herbicide application	15				
<b>Your section total is</b>	35 pts.	pts.	pts.	pts.	pts.

**Total Points Available for this IPM Element = 500**

**60% of Points = 300**

**80% of Points = 400**

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

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

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

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

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