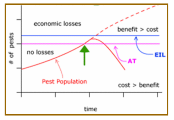
Corn Insects

Originally written February 1, 2006 | Last updated March 14, 2016

The foundation of an insect management program includes timely field scouting and knowing how and when to make insect-control decisions, based on insect numbers or plant damage, or both.

1. Cultural control
    1. Cultural control
        - crop rotation
        - tillage operations
        - timing of planting and harvesting activities
    2. Biological control
    3. Insect resistant crops
        - conventional plant breeding
        - biotechnology
    4. Insecticides
        - Decision to use an insecticide should be based on:
            - information from crop scouting
            - understanding of economic thresholds
            - knowledge about the potential for the occurrence of insect pests
        - Soil-applied insecticides
        - Foliar-applied insecticides



Economic threshold (Action threshold): The pest density or level of damage at which a control measure is needed to prevent economic loss.

Economic thresholds are not static; they change with fluctuating market values or control costs

- If the value of corn or soybean increases, the economic threshold declines
- If the cost of control increases, the economic threshold increases.

Economic loss: Occurs when the cost of insect damage in terms of yield or quality exceeds the cost of control.

Insect Groups

1. Below ground insects
2. Above ground insects

3. Stored grain insects
4. Occasional insect pests

Gallery of Corn Insects Clemson University

Often more of a problem than corn diseases in the Midwest

Basic Plan for Scouting Corn in the Corn Belt

- Shortly after crop emergence: early season insects like cutworms, white grubs, wireworms
- mid-June: first generation European corn borer
- July: corn rootworm adults and corn leaf aphids
- late-July and early August: second generation European corn borer

Scouting calendar for corn insects

Corn growth	Corn stage	Insect	Calendar	Comments
preemergence	seed-VE	seedcorn maggot	May	most common during cool, wet spring or in fields with animal manure or recent green vegetation
emergence and early whorl	VE-V3	true white grub	May	most common in areas adjacent to willow and cottonwood trees
emergence and early whorl	VE-V3	wireworm	May	most common following pasture or CRP grasses
emergence and early whorl	VE-V3	corn flea beetle	May	
emergence and early whorl	VE-V3	hop vine borer	May through early June	found on lighter soils
emergence and early whorl	VE-V5	black cutworm	300 degree days (base 50 F) after significant moth flight; often mid-May to early June	
emergence and early whorl	VE-V5	stink bug	May	uncommon; mostly likely in weedy fields
emergence and early whorl	VE-V5	chinch bug	May	uncommon; mostly following dry summer
early whorl	V1-V6	stalk borer	late May through June; egg hatch (575-750 degree days base 41 F); begin migration from grass (1300-1400 degree days base 41 F)	most common in fields with grassy weeds or giant ragweed; in clean fields, larvae will migrate from brome terraces and ditches
mid-whorl	V6-V10	corn rootworm larva	early to mid-June	mostly in continuous corn
mid-whorl	V6-V10	armyworm	late May to early July	most common following no-till sod or in fields with grassy weeds, such as foxtail
mid- to late-whorl	V8-V14	European corn borer (first	June through early July; begin when corn reaches "knee height" or 200 degree days (basse 50 F) after	most common in earliest planted fields

		generation)	first moth flight	
tassel	VT	corn leaf aphid	July through August	
tassel to milk stage	VT-R3	grasshoppers	July through early September	most common along field margins and grassy areas
silk	R1-R2	European corn borer	late July through August	most common in latest planted fields
silk	R1-R2	corn rootworm adult	late July through August	

Below ground Insects

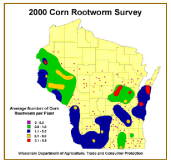
Wireworms and Cutworms - are a problem early in the season

Corn rootworms - major problem in Midwest

- Western corn rootworm
- Northern corn rootworm
- Southern corn rootworm (cucumber beetle)
- Damage - root pruning (larvae)
- beetles cause silk damage
- Many corn growers band corn rootworm insecticide at planting (Counter, Furadan, Lorsban, etc)

Above Ground Insects

European corn borer



- Major Corn Belt problem
- 1st brood - leaf damage
- 2nd brood - Stalk breakage and ear drop
  - Greater effect on yield

Corn earworm - damages the ear; usually not a major problem

Aphids - corn leaf aphid

Grasshoppers - Common problem in Western US

- More prevalent in western half of Corn Belt

Fall armyworm

Flea beetle

Mites

Stored grain insects

Rice weevil - Most prevalent

Angoumois grain moth

Occasional insect pests

billbugs, chinch bugs, hop vine borer, sod webworm, southern corn leaf beetle, sugarcane beetle, western bean cutworm, white grubs

Further Reading

To purchase hard copies of these publiThe UWEX Learning Store

Handy Bt Trait Table (written by Chris DiFonzo, Field Crops Entomologist, Michigan State University, East Lansing, MI)

Pest Management in Wisconsin Field Crops .edu/Assets/pdfs/A3646.pdf">Pest Management in Wisconsin Field Crops UWEX Bulletin A3646

Scouting Corn--A Guide for Wisconsin Corn Production UWEX Bulletin A3547

Insect Resistance Management and Refuge Requirements for Bt Corn UWEX Bulletin A3857

Seed corn maggot UWEX Bulletin A3820

Corn earworm UWEX Bulletin A3655

Corn Rootworms UWEX Bulletin A3328

Corn Rootworm Pest ID UWEX Bulletin A3631

The European Corn Borer UWEX Bulletin A1220

Western Bean Cutworm: A Pest of Field and Sweet Corn UWEX Bulletin A3856

Two-spotted Spider Mite Management in Soybean and Corn UWEX Bulletin A3890

Moth Identification Guide for Blacklight Trap Catch in Wisconsin UWEX Bulletin A3855

Guidelines for Insecticide Resistance Management (IRM) for foliar, seed and soil-applied insecticides

Identifying Black Light Trap Catches

IPM Quickguide: Corn Insect Pests

Wisconsin Integrated Crop Management Manual: Intro | Alfalfa | Corn | Soybean | Wheat | Nutrients | Weeds | Complete manual

Pest Management Fast Facts

University of Wisconsin, 1575 Linden Drive - Agronomy, Madison WI 53706 (608) 262-1390