



Fall Season Pest Management Opportunities

Author: J. Keith Waldron, Dairy & Field Crops IPM Program Coordinator, Cornell University

Harvest time is well underway and soon this season will be but a memory. While this season is still fresh in mind, why not take advantage of this year’s successes and “educational moments” by pausing for a few moments to see that your field crop records are up to date. Doing so now may help enhance crop performance and pay dividends next season.

It’s been said that “A long pencil beats a short memory”. Record information on varieties, hybrids, planting dates, population counts, fertility, pest problems, timing of different activities, pesticide usage, yields, special situations or concerns, effectiveness of different practices, maintenance needs of specific farm machinery and equipment. Make some notes on what practices worked well?, which did not?, and what you would do differently next time? Keeping track of this type of information and referring to it will help optimize future management decisions.

From a pest management perspective, fall is also a great time to gather some last minute field information to help improve alfalfa and field corn production next year. Here are a few suggestions:

Alfalfa stand counts

Estimating alfalfa populations in the fall and spring provides an indication of potential field productivity. Common causes of thinning alfalfa include: age of stand, harvest management, diseases, insects, weed competition, fertility and soil pH. To check alfalfa populations, select 10 locations throughout the field that are representative of the stand. In each of these locations, select an area at random, and count the number of alfalfa crowns observed per square foot. NOTE: count crowns , not the total number of stems. Refer to the following chart.

Alfalfa Population Guidelines: New Seeding and Established Stands

Harvest Year	Crowns per square foot	
	Optimum Stand	Adequate Stand
New Spring Seeding	25-40	12-20
1st hay year	12-20	6-10
2nd hay year	8-12	4-6
3rd and older	4-8	2-5

For more detailed information see Cornell Recommendations for Integrated Field Crop Management.

Alfalfa fields should also be assessed for disease, insect, and weed problems prior to a hard freeze. Yellow to brown plants may indicate disease problems. Check leaves and stems for discolored areas indicating possible fungal diseases. If no above ground symptoms are obvious, dig plants up to examine their root system. Yellow, reddish-brown to black discolored or damaged roots may indicate disease problems such as Phytophthora Root Rot or Verticillium Wilt. If significant amounts of a field are affected, correct disease diagnosis is critical. Disease resistant alfalfa varieties are available for many common diseases.

Root feeding by certain insects may also affect alfalfa health. Alfalfa snout beetle (ASB) has been found in Oswego, Cayuga, Jefferson, Wayne, Lewis, St. Lawrence, Clinton and Essex counties. In areas where ASB is known or suspected to occur, visiting alfalfa fields now may help identify ASB infestation. Alfalfa plants stressed by ASB turn yellow in late August, die and turn brown during September. To check for ASB, dig suspect plants and 10-12 inches of their root systems. If ASB are present, the large grubs (about 1/2” long) or adult ASB beetles can usually be discovered. If ASB are observed, the field is at risk for overwintering damage and reduced productivity next season.

Weeds

Early season weather conditions and other factors often complicate effectiveness of weed control programs. Consider taking a fall weed inventory to identify and record significant weed types, such as annual grasses or perennial broadleaves. This information can help you plan next season's weed control program. Fall weed inventories can be collected from alfalfa and corn fields. In alfalfa, thick weed infestations can affect feed value and may indicate diseases or other problems have thinned the stand. Solid stands of common lambsquarters, common ragweed, or smooth pigweed, in corn fields receiving triazine herbicides such as atrazine, Bladex, or Princep, may indicate presence of a triazine resistant populations of these weeds.

In addition to direct competition for crop seedlings next season, weeds may also provide potential overwintering sites for several corn insect pests including common stalk borer, hop-vine borer, and potato stem borer. Black cutworm, another corn insect pest, does not overwinter in the egg stage, but lays it's eggs in weedy fields in early spring. Larvae of all these insect species will move from weed species to feed on crop hosts, such as young corn, in the spring. Some weeds preferred by these insects include:

While harvesting corn keep track of fields where yields were reduced and large areas of broken stalks, lodged plants, or foliar diseases were observed. Correct identification of the cause is necessary for taking appropriate action to avoid or manage the problem in next seasons crop. Is crop damage associated with soil compaction, stalk rot, corn rootworm, herbicide damage, or other factor?

Insects	Weeds
common stalk borer	ragweed and other large stemmed broadleaf weeds
potato stem borer	quackgrass, green foxtail, barnyard grass, and dock
hop vine borer	quackgrass and other grasses
black cutworm	grasses, annual broadleaves such as common chickweed

If European corn borer or stalk rots were a problem this season check hybrid standability ratings when selecting hybrids for next season. If lodging and root pruning due to feeding by corn rootworm larvae (CRW) was observed, consider crop rotation or use of a soil insecticide in fields affected.

Foliar diseases affecting large areas of fields can significantly reduce yields. Correct diagnosis often requires professional assistance. A corn disease of particular interest is gray leaf spot (GLS). The long, rectangular, grayish colored symptoms of GLS on foliage are very distinctive and remain evident even after corn is harvested. This disease caused significant losses in the midwest this season. In previous years, GLS has been found in isolated fields in the Delaware, Hudson, and Susquehanna River Valleys of New York and in Pennsylvania. If you find symptoms suggestive of GLS, please contact your Cornell Cooperative Extension field crop agent for positive identification and further information.

Each year presents it's own challenges and opportunities. Building on successes and learning from experience helps improve our crop and pest management efforts. Taking a few minutes now to collect some last minute field information will be quite helpful in developing next seasons crop production plans and optimizing next years profits. If you have questions regarding any topics presented in this article, please contact your Cornell Cooperative Extension field crops agent for further information.