Integrated Pest Management
Margaret Murphy, Regional Foods Coordinator/Horticulture Educator

As we make our way through the growing season, it’s a good time to talk about pest management, specifically Integrated Pest Management, or IPM. The goal of IPM is to provide safe, effective, economical and environmentally sound pest management. It involves using a combination of techniques to keep pests from overtaking your garden.

There are four basic steps to IPM. The first is to identify the pest that is the source of the problem. Correct identification allows you to find the best approach to the problem. It is important to gather as much information as possible about the pest in order to arrive at an appropriate solution.

The second step is to set an action threshold. This basically means how many pests can you tolerate before needing to treat the problem? IPM works on the premise that most crops can tolerate a certain amount of damage. Thresholds will vary by type of pest as well as by situation. For example, a commercial grower who is concerned with selling blemish-free product may have a lower threshold than a home gardener who finds some chewed leaves to be acceptable.

The third step involves selecting an appropriate management strategy, which may include one or more of the following:

1) Cultural controls: Preventative measures such as selecting disease resistant cultivars, employing good sanitation practices, rotating crops, and promoting plant vigor with proper fertilization and irrigation.

2) Physical controls: Techniques that exclude pests from crops such as row covers or traps, and may involve manual removal of pests.

3) Biological controls: The use of natural predators to reduce pest populations.

4) Chemical controls: The use of synthetic or botanical pesticides, insecticides, or horticultural oils. Keep in mind that natural doesn’t mean non-toxic. When using pesticides always follow the instructions on the product label carefully and check to ensure it is intended for the target pest and can be used on your crop. Choose low-toxicity products and try to spot treat instead of broadcasting the treatment whenever possible.

The final step in practicing IPM is to take notes and evaluate your results. It is helpful to keep track of your management strategy together with your successes and any failures.

IPM is a process that is designed to solve pest problems while minimizing risks to people and the environment. It allows for flexibility to fine-tune your approach as needed and can easily be practiced in your home garden.

Summer is time to Scout for Corn Rootworm Damage
Joel DeJong, Crops Field Agronomist

Corn rootworm has been a bigger problem in recent years for several reasons. First, we have had increased corn after corn acres due to economic reasons. Second, we have evidence that in some fields a couple of the Bt rootworm traits have not performed very well, sometimes due to the development of resistance to these traits by the rootworms. A severe corn rootworm larval infestation can destroy nodes 4 to 6 of the corn root system, and each node has approximately 10 nodal roots. Root pruning can interfere with water and nutrient uptake and might allow the plant to lodge later in the season. A recent analysis showed a 15 percent yield loss for every node pruned.

Rootworms in northwest Iowa were hatching in mid-June, and by about July 10 these larvae will likely begin to emerge as adult beetles in this region. That means these fields should be evaluated...
for root injury to better understand the effectiveness of your management program during the last couple of weeks in July.

Crop rotation or the use of Bt corn should decrease populations in most fields. Regardless of the agronomic practices, every field should be scouted for corn rootworm injury (i.e., dig and rate corn roots even if Bt proteins are used). Continuous cornfields and areas with Bt performance issues are the highest priority for inspection.

Some producers determine they had rootworm issues when they see lodging of corn late in the season, which is one common outcome of severe larval feeding. However, it is important to confirm that feeding from corn rootworm was the cause of lodging and that it did not result from other factors such as strong winds.

It is also important to remember that rootworm damage can occur without having lodged plants – that is why we need to dig and evaluate root systems each year.

The most common scale for rating root injury is the 0-3 scale developed at Iowa State University:

- 0 = no injury
- 1 = one complete node (approximately 10 roots) is pruned to within 1.5 inches of the stalk
- 2 = two complete nodes (approximately 20 roots) are pruned to within 1.5 inches of the stalk
- 3 = three complete nodes (approximately 30 roots) are pruned to within 1.5 inches of the stalk

Root injury that exceeds 0.25 is likely causing economic loss. For Bt hybrids, any injury ratings that exceed 1.0 would be considered unexpected. Resistance to Cry3Bb1 and mCry3a has been confirmed in Iowa since 2011. Consider diversifying corn rootworm management to delay resistance and improve larval management. Examples to consider include crop rotation, rotation of Bt traits, and rotations to soil-applied insecticide without a Bt trait.

Adult corn rootworm will feed on leaves and cause some scarring; however, this does not cause any real yield loss. Adults can cause yield loss if emergence occurs when corn is silking, and therefore, this is a critical time period to scout fields. Adults that trim silks during pollen shed will interfere with optimal pollination.

Weather plays an important role in determining how plants respond to silk feeding. Plants do not tolerate as much feeding during pollination in hot and dry weather. For example, under ideal moisture conditions, plants could tolerate 15 beetles per plant, but that number is reduced to just five per plant under drought stress.

Late-planted fields or late-flowering hybrids are generally attractive to adult corn rootworm. Silks will still be developing in these fields when older fields have brown or drying silks. Adults may migrate and aggregate in this later-maturing fields.

Farmland Leasing and Land Value Workshops - Updates on 2014 Farm Bill Decisions

Melissa O’Rourke, ISU Extension Farm & Agribusiness Management Specialist

More than half of Iowa farmland is rented. In some Iowa locations, as much as 70 percent of the land is farmed by farmers who don’t own the land. At the same time, northwest Iowa farmland values continue to stay strong, and so have farmland cash rental rates.

These are just a few reasons why Iowa State University Extension and Outreach offers workshops designed to answer questions that land owners and tenants have about farmland leasing and land values.

These workshops will be held across northwest Iowa counties during the week of July 28 through August 1.

And, as farmland owners and producers anticipate changes with the new federal farm bill, these meetings will include updates regarding roll-out of the new bill and decisions that will need to be made.

Melissa O’Rourke, ISU Extension Farm & Agribusiness Management Specialist will present information about a wide range of topics related to farmland values and leasing – including the new farm bill.

O’Rourke is a licensed attorney with extensive experience in working with farm, ranch and agribusiness interests.

“Each year I receive numerous contacts from persons who have questions about farmland values and rental rates,” says O’Rourke.

“Over the years, I’ve continued to see increased interest in farm leasing arrangements,” O’Rourke noted. “We expect significant attendance at these meetings.”

O’Rourke noted several other trends in farmland ownership and leasing.

“Due to the volatility of land and commodity markets, we have seen had increased inquiries regarding flexible cash lease methodologies. For this reason, we have more focus on these kinds of arrangements. We will work through examples of various strategies for flexible cash leases.”

Another area O’Rourke noted is the increasing age of farmland owners.

“ISU Extension research indicates that the average age of farmland owners continues to rise,” stated O’Rourke. “Fifty-five percent of Iowa’s farmland is owned by people over the age of 65, while 28 percent of the land is owned by individuals over age 75. We also find that children and surviving spouses of farmers are less likely to continue operating the farm themselves. That’s a major reason why farmland leasing continues to increase.”

O’Rourke encourages anyone with an interest in farmland rental rates to attend these meetings. “Both farmland owners and producer-tenants should attend. In fact, the ideal situation is for
Iowa Pork Producer Association Environment and Swine Health Conference
Matt Swantek, Swine Program Specialist

Free seminars to address current environmental issues and the Porcine Epidemic Diarrhea Virus (PEDV) that has decimated the Iowa and U.S. swine herds will be held in July for Iowa hog farmers at five different sites across the state. Iowa hog farmers are encouraged to attend one of these valuable meetings. Meeting sites and dates in Western Iowa are Le Mars at the Convention Center Tuesday July 15 or the Swan Lake Conservation Education Center south of Carroll July 17 from 1 to 4:30 p.m.

Featured presenters are Iowa Pork Producers Association (IPPA) legal counsel Eldon McAfee and Rodney “Butch” Baker, DVM, director of the Iowa Pork Industry Center.

McAfee will discuss practical aspects of compliance with Iowa Department of Natural Resources’ regulations, as well as other environmental compliance and protection. He will talk about state and federal regulatory efforts and provide current Iowa nuisance case information. McAfee also plans to cover details of the work plan between the Iowa DNR and EPA while offering considerations for farmers to be best prepared for on-site inspections.

Dr. Baker will be updating the current research and status of the PEDv knowledge base. The IPPA has committed to nearly $350,000 toward research for Iowa pork producers and most recently the USDA has received $26.2 million towards understanding and researching solutions to this swine virus. Included in Dr. Baker’s discussion will be how the USDA mandatory reporting will affect producer and help reduce the spread of this devastating virus.

Remember this is not a human health risk or a food safety issue but rather the virus’ impact is on newly born piglets and because of the diarrhea they die from dehydration. Older pigs may get the virus but should recover within a few days.

Updates:
In the state of Iowa the number of positive cases reported per week has dropped from a high of over 90 this past February to 20 and less the last 3 weeks in June.

The United States Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS) yesterday issued a conditional license to Harrisvaccines, Inc., of Ames for a vaccine that may aid in the control of Porcine Epidemic Diarrhea Virus (PEDV) in swine.
Hotlines Available For All
Iowa Concern (800-447-1985)
Farm On (877-BFC-1999)
Teen Line (800-443-8336)
BETS OFF (800-BETS-OFF) (800-238-7633)

Hotlines Available to Iowa Residents Only
Families Answer Line (800-262-3804)
Hortline (515) 294-3108
Iowa Healthy Families (800-369-2229)
PORKLine (800-808-7675)

Mark Your Calendars
July 7 IDALS Pesticide Testing • Primghar
July 15 Iowa Pork Summer Conference • Le Mars
July 18 Field Day - West Branch of the Floyd River Demonstration Plot • Maurice
July 29 Pork Quality Assurance Plus™ and Transport Quality Assurance • Sheldon

Beef Quality Assurance Certification and Assuring Cattle Care
July 7 Emmetburg & Sheldon
July 14 Moville & Sac City

Livestock Producer Water Quality Workshops
July 8 Le Mars
July 9 Spencer
July 10 Pocahontas
July 10 Sac City

Don’t miss your county fairs!
Sioux County Youth Fair July 12-17
Osceola County Fair July 16-19
Cherokee County Fair July 17-20
Lyon County Fair July 21-24
O’Brien County Fair July 19-24
Dickinson County Fair July 19-24
Plymouth County Fair July 23-27
Emmet County Fair July 24-27