



# PEST MANAGEMENT & CROP DEVELOPMENT

## BULLETIN

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### Diagnostic Help Available Locally

Now in its second year of statewide service, Extension's Distance Diagnostics system continues to help rural and urban Illinois residents get quick and accurate diagnosis of their plant and pest problems. Since last June, 1,100 samples have been posted to the system.

The system uses digital cameras and microscopes that have been placed in all Extension field offices and a web-based management system. Extension staff in the local offices will take digital images of the problem or pest with the camera and microscope and post them to the system's website. University of Illinois Extension educators and specialists can then make a diagnosis.

The process is similar to sending a sample to the plant clinic. You fill out a background sheet of information about the problem, but instead of packing it up for shipping, you send the information and images electronically. Our goal is a 1-day response time. So far about 70% of samples are diagnosed within 1 day, and 80% within 2 days. One remarkable statistic is that 25% have been diagnosed within 2 hours.

Weed and insect identifications are some of the principal types of samples received; sick, damaged, and stressed plants are also submitted.—*Dennis Bowman*

## INSECTS

### Illegal Insecticide Applications Reported in Wheat

Late last week, I learned that the National Grain and Feed Association informed its members that the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA), in cooperation with Illinois Department of Agriculture officials, were investigating reports of illegal applications of an insecticide to wheat. Investigations are occurring in as many as eight states where armyworm infestations have caused injury to wheat, corn, and pasture. The investigations are concentrated primarily on the suspected use of Fury, a synthetic pyrethroid (*zeta-cypermethrin*), manufactured by FMC Corporation. Fury 1.5EC is a restricted-use insecticide and is labeled for certain insect pests of cabbage, lettuce, pecans, and cotton. In August 2000, FMC Corporation submitted an application for registration of this insecticide for selected insect pests of cereal crops such as wheat. *However, this request has not been considered or approved by the EPA.* Officials with the EPA and FDA have informed the National Grain and Feed Association that if wheat contains any detectable residues of Fury, the shipment will be considered adulterated. The FDA may seize any wheat that enters interstate commerce that contains illegal residues of this insecticide.

Producers who have illegally treated wheat with Fury are advised to keep their wheat on their farm until it can be tested for residues of Fury. Until wheat is harvested and begins to enter interstate commerce, suspected incidents are being treated as a state issue that requires state action. The

National Grain and Feed Association reported that illegal applications of Fury to wheat may have occurred in eight states. Illegal applications have been confirmed in Arkansas and Mississippi. Separate investigations are occurring in Alabama, southern Illinois, Louisiana, Missouri, Tennessee, and Texas.

If you are aware of any illegal applications of Fury that have been applied to wheat in Illinois, please notify the Illinois Department of Agriculture, Illinois State Fairgrounds, P.O. Box 19281, Springfield, IL 62794-9281. The general information hotline telephone number is (800)273-4763.—  
*Mike Gray*

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### Second Armyworm Flight Under Way in Southern Illinois

Ron Hines, senior research specialist, Dixon Springs Agricultural Center, continues to catch true armyworm moths in southern Illinois. These moths represent migrants from more southern states or the adult stage of armyworms that were recently feeding in pastures, cornfields, or wheat fields of southern Illinois. Following mating, female moths will begin to seek out suitable egg-laying sites. True armyworm eggs are white and deposited in rows or clusters on the lower surfaces of grass leaves. Egg laying occurs during the evening hours. Because armyworms pass through two to three generations each year, pastures will remain at risk to economic infestations for the duration of the summer. Wheat remains at risk up to harvest because of the potential threat of head clipping.

According to the *Handbook of Corn Insects*, published by the Entomological Society of America, armyworm outbreaks are generally curtailed in warm and dry weather by natural enemies (parasitoids and predators). Unfortunately, for much of Illinois, the weather has been cool and wet. Let's hope we see some sunshine in the near future.—*Mike Gray*

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### Burrower Bugs Perplex Producers in Southern Illinois

Kevin Black, Growmark, has received many reports of burrower bug activity in cornfields and soybean fields south of Interstate 70 in Illinois and Indiana. Ron Hines, senior research specialist, Dixon Springs Agricultural Center, also has received many calls concerning these insects in southern Illinois. Ron indicates that as many as 10 to 15 burrower bugs per plant can be found in some soybean fields. In heavily infested areas of fields, plants are turning yellow.

*What are burrower bugs?*

These small insects (less than 8 mm in length) look somewhat like stink bugs. They are slightly more oval than stink bugs and also have very small spines that protrude from their tibiae (lower legs). Most burrower bugs are black and found beneath objects such as stones, boards, and tufts of grass. They also may be observed commonly around porch lights in the evening.

*How do they injure plants?*

Like stink bugs and chinch bugs, they may injure plants by removing plant fluids with their piercing and sucking mouthparts. Damage is more likely to result if plants are under drought stress.

*Are there any suggested economic thresholds or labeled insecticides for burrower bugs in corn and/or soybeans?*

No. Because this insect is not a common pest, no thresholds have been established for either crop. In corn, injury to plants may resemble chinch bug feeding. No insecticides are labeled for burrower bug control in corn or soybeans.

*Why are burrower bugs more numerous this year?*

Like many of the relatively obscure insect pests that we've reported on in recent years, economic infestations of burrower bugs may be linked to earlier

planting dates, milder winter conditions, cooler and wetter spring weather, a lack of natural enemies, or, more likely, a combination of these factors. I've never reported on burrower bug infestations, and it remains to be seen if these insects will become yearly pests.—*Mike Gray*

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### Variegated Cutworms Clipping Stems in Soybean Fields

John Fulton, Extension unit leader, Logan County, reported on June 5 that variegated cutworms were causing economic stand reductions in some soybean fields. Thus far, in Logan County, approximately 1,000 acres of soybeans have been replanted due to variegated cutworm damage to emerging soybean seedlings. John indicates that most of the cutworm injury has occurred in fields that lacked any fall tillage and where chickweed infestations were present.

As we've indicated in previous issues of the *Bulletin*, rescue treatments should be considered in soybean fields if 20% of the plants have been cut, the stand has gaps of 1 foot or more, and cutworms are present and continue to feed. Insecticides that are labeled for use on soybeans against cutworms include \*Ambush, \*Asana XL, \*Lorsban 4E, \*Pounce 3.2EC, and \*Warrior. All of these products are restricted-use insecticides and can be applied only by a certified applicator. Please read and follow the instructions on the product label for more complete application procedures.—*Mike Gray*

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### Reports of Grape Colaspis Damage Continue

Reports of grape colaspis damage continue to come in from the western portion of Illinois. Mike Roegge indicated grape colaspis larvae have damaged roots in a number of producers' fields in the Quincy area. In fields showing aboveground symptoms, Mike dug plants and found several

larvae near the root system of these plants.

The cool, wet weather has slowed evaluation of many of the research trials currently being conducted by the University of Illinois. John Shaw, research scientist, Illinois Natural History Survey, is conducting a number of insecticide evaluation trials, and we will provide a summary of data as they become available. Early reports from Don Rhodes, Burrus Seeds, indicate good results from some insecticides in their evaluation trials. Randy Wright, research assistant, University of Illinois, has been sifting through pre-plant soil samples he collected in late April and early May looking for larvae. Recently, he has been back in these fields, assessing aboveground and belowground symptoms. Early next week, Randy will deploy different colored sticky traps to evaluate their attractiveness to grape colaspis adults.—*Sue Ratcliffe*

## PLANT DISEASES

### Update on Soybean Diseases and Diagnosis in Illinois

After a period of dry and warm weather in many parts of Illinois, various diseases of soybean in the V1 to V2 stages are being reported as the weather has become wet and cool. We have received reports of damping-off as well as root and foliar disease symptoms on soybean. Robert Bellm, Extension educator, Edwardsville Extension Center, reported two farms in Shelby County with soybean leaves developing brown spots, turning yellow, and falling off. To date, most reports have come from the central and western parts of the state.

A common symptom being reported is brown lesions and discoloration of soybean roots. Depending on the type of lesion and discoloration, this may be associated with several fungal pathogens, including *Rhizoctonia*, *Fusarium*, *Pythium*, and *Phytophthora*. Wilting, damping-off, and rot of the roots and hypocotyls also have

been reported and may be caused by these pathogens. These pathogens can also cause sub-lethal infections that result in stunted plants with inferior root systems. For more information on these pathogens and their management, see issue no. 2 (April 6, 2001) and issue no. 6 (May 4, 2001) of the *Bulletin*. The cool weather may make plants more vulnerable to infection and may be preventing plants from outgrowing some infections. A return to normal warmer temperatures may significantly reduce the development and impact of lesions that are developing on roots. Continued wet or cool conditions will likely result in damping-off and stand reduction.

Various foliar lesions and symptoms have also been reported on soybean. Several pathogens can cause soybean foliar diseases at all stages of plant development. Examples include bacterial blight, which prefers cool and wet weather, and bacterial pustule, which prefers warm and moist weather. Brown spot, anthracnose, and frogeye leaf spot are fungal diseases that prefer warm and moist conditions. These fungal diseases are initiated by primary inoculum (spores and mycelium) that overwinters on stem and leaf tissues or seeds. Infections at the early stages of plant development may provide secondary inoculum to spread the disease later in the season if weather conditions are favorable. Spread and development of these and most other foliar diseases should be slowed or halted when dry and warm weather returns.

In some locations, root and foliar disease of soybean has raised the issue of the value and need for replanting and seed treatments. Remember the three conditions required to have a disease problem: presence of a pathogen, environmental conditions favorable for disease, and susceptible plants. You know that all of these conditions are being met in a field if you are seeing disease now. If you are thinking about replanting, you may want to consider seed treatments for diseases affecting roots and hypocotyls or a different cultivar for foliar

diseases. Resistance is not available for some foliar diseases, however, so be sure to check with your seed dealer for information on available cultivars.

There is no definite answer for whether you should replant using seed treatments or a different cultivar. These decisions depend in part on the pathogens causing the problem and the expected risk of favorable weather for disease. Most seed treatments are generally only effective for 10 to 14 days after planting. Seed treatments or different cultivars may provide minimal benefit if you have a tilled field and the weather turns warm and dry. On the other hand, if the weather stays wet or cool and you have a no-till field, seed treatments will reduce the risk of reoccurrence of a root rot problem, and there is a greater chance that seed treatments will provide a yield advantage.

We have been receiving calls about diseases along with requests for information about how to manage them. Although we often can narrow the possibilities about what may be occurring based on the verbal descriptions we receive, more information is usually needed to make definite recommendations. The best recommendations are based on a thorough disease diagnosis that can be conducted for a small fee at the University of Illinois Plant Disease Clinic (see issue no. 5, April 27, 2001, of the *Bulletin*). If you have a serious concern regarding a potential disease problem, call the clinic at (217)333-0519 and arrange to send a sample for diagnosis as soon as possible after the sample is collected. Another option for disease diagnosis is the University of Illinois Extension Digital Distance Diagnostics Imaging (DDDI) system. With the DDDI system, you can take samples to regional Extension offices equipped with microscopes and digital cameras and have digital images of plant and pest samples produced that are sent to plant pathologists, entomologists, or agronomists for diagnosis (see article on the DDDI system in this week's issue of the *Bulletin*).—*Dean Malvick*

## Choose the Proper Gloves When Handling Pesticides

As every applicator knows, gloves (among other personal protective equipment) should be worn to protect against contact with pesticides. However, choosing the right glove for the job may be a bit confusing, especially when using a variety of pesticides. All pesticide labels give options for the type of glove material to wear. These options are not random selections but are based on the ability of that material to withstand the pesticide formulation for the longest time.

Pesticide active ingredients are dissolved in carrier solvents, such as water, alcohols, and petroleum distillates. All solvents (except water) are able to penetrate glove materials faster than the pesticide active ingredient alone. In other words, the solvents carry the pesticide through the glove material and into contact with your skin. Glove materials differ in their resistance to particular solvents—the ones that hold the solvent at bay the longest, protect from pesticide contamination the longest. Solvents are classified as part of the inert ingredients and, in most cases, are not disclosed on the label.

Although some pesticide labels may specify the exact type of glove to be used, other labels may simply indicate the general type of glove that is appropriate, such as waterproof or chemical resistant, and then provide acceptable options. In addition, some labels provide chemical-resistance category letters, which indicate the type of solvents used in the pesticide formulation. Where specific information is given, use only the glove materials listed on the label for that product. Do not assume that one type of glove will work for all the pesticides you may use. In addition, if you are tank-mixing pesticides, follow the most restrictive pesticide label when selecting gloves and other personal protective equipment.

### Categories (A–H) on Pesticide Labels and the EPA Glove Chart

The letter designation refers to the carrier solvent and its concentration in the pesticide formulation, not the type of pesticide. The letter designation, if provided, is found on the pesticide label under Precautionary Statements. There usually will also be several choices of glove materials listed on the label. Listed below are the letter designations for various pesticide solvents.

- A Any dry or water-based pesticide formulation
- B Any pesticide with acetate as the carrier solvent
- C Any pesticide with alcohol as the carrier solvent
- D Any pesticide with halogenated hydrocarbons as the carrier
- E Any pesticide with ketones (such as acetone) as the carrier solvent
- F Any pesticide with a ketone and aromatic petroleum distillates mixture as the carrier solvent
- G Any pesticide with aliphatic petroleum distillates (such as kerosene, petroleum oil, or mineral oil) as the carrier solvent
- H Any pesticide that has aromatic petroleum distillates (such as xylene) as the carrier solvent

### USEPA Chemical Resistance Category Selection Chart

Use when the Personal Protective Equipment (PPE) section on the pesticide label lists a chemical resistance category (refer to Table 1).

### Glove Materials

*barrier laminate* (foil type)—the most chemically resistant but uncomfortable, with poor dexterity because of design limitations. Common brand names include Silver Shield and 4-H. Chemical resistance: High for categories A–H (\$7/pair).

*butyl rubber* (at least 14 mils)—a synthetic rubber that is resistant to gas and water vapors. A good choice for certain fumigants. Good dexterity. Chemical resistance: High for categories A–D and F; slight for E, G, and H (\$20/pair).

*natural rubber (latex)* (at least 14 mils)—good only for dry or water-based formulations (\$12–\$19/pair).

*nitrile rubber* (at least 14 mils)—resists punctures better than other materials. Good dexterity and slip-proof grip. Comes in a range of lengths, thicknesses, and lined or unlined. Chemical resistance: High for categories A, C, E, and F; moderate for D; and slight for B, G, and H (\$3–\$9/pair).

*neoprene rubber* (at least 14 mils)—a synthetic rubber with good dexterity; remains flexible at low temperatures. Some versions have a two-color process, allowing you to tell when the coating material is wearing thin. Chemical resistance: High for categories A, C, and E (\$2–\$3/pair).

*polyethylene*—No information available.

*PVC* (at least 14 mils)—liquid-proof PVC-coated gloves can be used for protection against anhydrous ammonia. Chemical resistance: High for categories A and C; moderate for E; slight for B and F (\$4/pair).

*Viton* (at least 14 mils)—the most chemically resistant “rubber” glove available. Thick but very flexible and comfortable to wear. Chemical resistance: High for categories A, C, and E–H; slight for B and D (\$150–\$175/pair).

### Glove Use Tips

Keep one set of gloves for pouring and mixing concentrates and another set for spraying. The 4-H glove is so named because it is able to keep out most solvents for at least four hours. Because the 4-H and other barrier laminates are the most chemically resistant gloves, realize that other

**Table 1. USEPA Chemical Resistance Category Selection Chart.** (For use when the Personal Protective Equipment [PPE] section on the pesticide label lists a chemical resistance category.)

Chemical resistance category	Type of personal protective material							
	Barrier laminate	Butyl rubber	Nitrile rubber	Neoprene rubber	Natural rubber*	Polyethylene	PVC	Viton
A	high	high	high	high	high	high	high	high
B	high	high	slight	slight	none	slight	slight	slight
C	high	high	high	high	moderate	moderate	high	high
D	high	high	moderate	moderate	none	none	none	slight
E	high	slight	high	high	slight	none	moderate	high
F	high	high	high	moderate	slight	none	slight	high
G	high	slight	slight	slight	none	none	none	high
H	high	slight	slight	slight	none	none	none	high

**High:** Highly chemical resistant. Clean or replace PPE at end of each day's work period. Rinse off pesticides at rest breaks.

**Moderate:** Moderately chemical resistant. Clean or replace PPE within an hour or two of contact.

**Slight:** Slightly chemical resistant. Clean or replace PPE within 10 minutes of contact.

**None:** No chemical resistance. Do not wear this type of material as PPE when contact is possible.

\* Natural rubber type includes natural rubber blends and laminates.

glove materials are likely to keep out some solvents with their pesticides for even shorter periods. Reduce the exposure time by washing your gloves and other personal protective equipment after each use. Allow them to dry before they are placed in a storage area.

Since the manufacturers label the glove packages with the name of the material but not the gloves themselves, write the name of the glove material on the inside of the glove cuff with a permanent marker. This will save confusion later.

Finally, don't use gloves that contain a lining because the lining will absorb pesticides. Gloves that contain a thin lining of flocking are acceptable. These gloves will have a thin, white coating, making the gloves more comfortable to wear. (Adapted from Mississippi State University Extension.)—*Bruce Paulsrud and Phil Nixon*

### Pesticide Record-Keeping Requirements

Although most applicators keep pesticide application records because it

makes good agronomic sense to do so, there are legal reasons to keep these records as well. The purpose of this article is to sift through the gossip and guessing about the record-keeping requirements and get to the facts. As you will see, the type of information you are legally required to keep depends on your type of business and the type of pesticide you use. Many folks view their pesticide records as "a good insurance policy" against false accusations. Although it is not required in Illinois, it is a good idea to record (on-site) wind direction and speed during the application should you find yourself in the middle of a drift complaint.

#### Private Applicators

According to the 1990 Farm Bill, all private applicators (those who apply pesticides to their own land) must maintain records of restricted-use pesticide (RUP) applications. The following information must be recorded within 14 days of the RUP application (Note: WPS exception below) and maintained for 2 years.

1. Certified applicator's name and certification number

2. Date of application (M/D/Y)
3. Pesticide product name and its U.S. EPA registration number
4. Amount of chemical concentrate applied (e.g., pints, quarts, gallons, pounds)
5. Crop, commodity, stored product, or site treated
6. Size of the area treated (acres, bushels, animals, etc.)
7. Location of application (any identification system that accurately identifies the location of the application). For spot applications, simply enter "spot application" and a short description of the location. Greenhouses and nurseries must still give complete descriptions for spot applications (e.g., which bench, row, block, plant).

#### Commercial Applicators

According to the Illinois Pesticide Act, all commercial applicators must maintain records of RUP applications they make. The following information must be recorded and retained for 2 years

from the date of application. In addition, federal regulations require all commercial applicators to furnish a copy of either the state or federally required records to the customer within 30 days of the RUP application (Note: WPS exception below).

1. Pesticide product name and its U.S. EPA registration number
2. Amount of chemical concentrate applied per unit (e.g., pounds or ounces per acre)
3. Date of application (M/D/Y)
4. Use site(s)

### Pesticide Dealers

According to the Illinois Pesticide Act, pesticide dealers must retain a record of each individual RUP sale for 2 years. The record must include the following information:

1. Purchaser's name, address, and certification number and type of certification if appropriate
2. Quantity and kind of pesticide sold
3. Date of sale

### What About WPS Record Keeping?

For producers who must comply with the Worker Protection Standards (WPS), the record-keeping requirements are a bit different. Following is a combined list of information required by the WPS and the private RUP record-keeping laws. The information preceded by an asterisk (\*) is only required when a RUP is used. Keep in mind, however, that there is nothing wrong with keeping more detailed records than is required by law!

1. \*Certified applicator's name and certification number
2. Time and date the pesticide is scheduled to be applied *and* when it is safe to reenter the site (e.g., list the pesticide's restricted-entry interval, or REI)
3. Pesticide product name, active ingredient(s), and its U.S. EPA

registration number

4. \*Amount of chemical concentration applied (e.g., pints, quarts, gallons, pounds)
5. \*Crop, commodity, stored product, or site treated
6. \*Size of the area treated (acres, bushels, animals, etc.)
7. Location of application (any identification system that accurately identifies the location of the application). For spot applications, simply enter "spot application" and a short description of the location. Greenhouses and nurseries must still give complete descriptions for spot applications (e.g., which bench, row, block, plant).

### Other Key Items for WPS Employers

- To protect WPS employees (farm workers, scouts, and applicators) who might enter treated areas, it is critical that all WPS employers communicate information about planned pesticide applications and those that have already been made. Decide beforehand how such messages will be delivered (e.g., by phone, a note in mail box). When a custom application will not be, or was not, applied as scheduled, the producer must be informed of the corrected time and date before the application takes place or as soon as practicable thereafter (within 24 hours).
- Records for *all* pesticide applications (including general-use pesticides) must remain available to employees for 30 days beyond the REI.
- The WPS requires more than just record keeping!

Since there are no standard forms required for any of these records, you can use any system you like, as long as the required information is included and it is legible and accessible to those who have a legal right to see it. Many pesticide companies, personal protec-

tion equipment suppliers, and other organizations offer record-keeping sheets or notebooks. In addition, there are many companies offering software (some are free) for computerized record keeping. The University of Nebraska lists several software packages on their website (<http://pested.unl.edu/pestbkmk.htm>, under "Laws & Regs" section). Again, regardless of how you keep records, just be sure you meet the requirements as outlined.

For more information about any of these laws, contact the Illinois Department of Agriculture at (217)785-2427, or your local University of Illinois Extension office. In addition, you can find a good deal of information about these laws at our Pesticide Safety Education website (<http://www.pesticidesafety.uiuc.edu>).—  
*Bruce Paulsrud*

## WEEDS

### Syngenta Receives Callisto Registration

Callisto 4SC (mesotrione) recently received a label for use in corn. The active ingredient belongs to the callistemone herbicide family and controls susceptible species by inhibiting the 4-HPPD (4-hydroxyphenylpyruvate dioxygenase) enzyme. This enzyme is essential in the biosynthesis of carotenoids, making this herbicide's mode of action a pigment inhibitor. Symptoms observed on susceptible species are bleached or whitened leaf tissue. Callisto may be used as a soil-applied or postemergence herbicide on field corn, production seed corn, and corn grown for silage. Soil-applied Callisto rates range between 6 and 7.7 fluid ounces per acre alone and may be tank-mixed with preemergence grass herbicides for grass control. Postemergence applications of Callisto should be made at 3 fluid ounces per acre and must always include a crop oil concentrate (*do not use methylated seed oil*) and a spray-grade nitrogen source (either 2.5% v/v of 28% UAN or 8.5 lb per 100 gal of AMS). Corn

may be treated up to 30 inches tall or up to the 8-leaf stage. Callisto may be used more than once a year. However, do not make the second application of Callisto within 14 days of the first application. Do not apply more than 10.7 fluid ounces of Callisto per season per acre.

Callisto has good activity on a number of broadleaf weed species; however, it is not effective for the control of most grass weeds. Table 2 contains Callisto efficacy ratings on various broadleaf weed species taken from research trials conducted at the University of Illinois and other Midwest universities. Precautions that should be observed include the following: (1) do not apply Callisto postemergence if the crop was previously treated with Counter or Lorsban insecticide, as severe injury may occur; (2) do not make postemergence applications of Callisto in a tank mix with any organophosphate or carbamate insecticide, or any emulsifiable concentrate grass herbicide, or injury may occur; and (3) do not make a postemergence application of any organophosphate or carbamate insecticide within 7 days before or 7 days after a Callisto application, or severe injury can occur.—  
*Christy Sprague and Aaron Hager*

## REGIONAL REPORTS

Extension center educators, unit educators, and unit assistants in northern, west-central, east-central, and southern Illinois prepare regional reports to

provide more localized insight into pest situations and crop conditions in Illinois. The reports will keep you up to date on situations in field and forage crops as they develop throughout the season. The regions have been defined broadly to include the agricultural statistics districts as designated by the Illinois Agricultural Statistics Service, with slight modifications:

- North (Northwest and Northeast districts, plus Stark and Marshall counties)
- West central (West and West Southwest districts, and Peoria, Woodford, Tazewell, Mason, Menard, and Logan counties from the Central district)
- East central (East and East Southeast districts [except Marion, Clay, Richland, and Lawrence counties], McLean, DeWitt, and Macon counties from the Central district)
- South (Southwest and Southeast districts, and Marion, Clay, Richland, and Lawrence counties from the East Southeast district)

We hope these reports will provide additional benefits for staying current as the season progresses.

### East-Central Illinois

Cool conditions have continued to slow crop development and in some cases aggravated other problems. Crop herbicide tolerance is more often a concern during hot, humid weather,

but cool conditions have proved to slow down a plant's ability to detoxify some herbicides. Some no-till soybean fields with heavy winter annual cover have been hit hard by cutworms.

With postemergence herbicide applications under way, drift complaints are starting to come in.

### Northern Illinois

Cool temperatures and frequent rainfall remained again this week, severely limiting corn and soybean growth. Also, soybeans remain to be planted in far northwest Illinois. Producers are waiting for a rain-free forecast to mow first cutting hay in many areas.

Reports of armyworm infestations continue. However, only a limited number of cornfields and wheat fields warrant treatment.

Some soybean "damping-off" is occurring due to the prolonged cool, wet conditions, delaying emergence.

### West-Central Illinois

Wet weather continues across the entire area, with reports of high populations of slugs in some fields.

Armyworm damage has finally slowed down.

Large numbers of corn borer moths have been reported.

As soon as soils dry out sufficiently, some fields will need to be replanted.

**Table 2. Callisto efficacy ratings on various broadleaf weed species.**

Callisto	cocklebur, common	jimsonweed	kochia	lambsquarters, common	morningglory	nightshade, eastern black	pigweed	ragweed, common	ragweed, giant	smartweed, Pennsylvania	velvetleaf	waterhemp
Preemergence	4	<b>8</b>	7	<b>9</b>	6	<b>9</b>	<b>8+</b>	<b>8</b>	6	<b>8+</b>	<b>9</b>	<b>8+</b>
Postemergence	<b>9</b>	<b>9</b>	7	<b>9</b>	7	<b>9</b>	<b>8+</b>	<b>8</b>	7+	<b>8+</b>	<b>9</b>	<b>8+</b>

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