COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana - Champaign
Illinois Natural History Survey, Champaign

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Modified Growing Degree Days (Base 50°F, March 1 through June 14)

Station Location	Actual Total	Historical Average (11 year)	One-Week Projection	Two-Week Projection
Freeport	876	678	1025	1182
St. Charles	883	639	1023	1173
DeKalb	842	733	995	1156
Monmouth	1068	796	1221	1381
Peoria	1082	840	1240	1408
Champaign	1145	868	1309	1482
Springfield	1320	950	1490	1669
Perry	1319	886	1476	1640
Brownstown	1262	1022	1434	1616
Belleville	1331	1048	1494	1673
Rend Lake	1407	1135	1586	1774
Carbondale	1311	1075	1478	1653
Dixon Springs	1366	1142	1537	1715

Insect development is temperature dependent. We can use degree days to help predict insect emergence and activity. Home, Yard, and Garden readers can use the links below with the degree day accumulations above to determine what insect pests could be active in their area.

GDD of Landscape Pests
GDD of Conifer Pests

Degree day accumulations calculated using the Illinois IPM Degree-Day Calculator (a project by the Department of Crop Sciences at the University of Illinois and the Illinois Water Survey). (*Kelly Estes*)

Flying "Brown Moths" Near Flowering Trees

Lots of questions about the "brown moths" that have been very active around sunset across several central Illinois towns this week. These are armyworm moths. Armyworm moths migrate from the south each spring. They mate and lay eggs in grass and weedy areas. Primarily agricultural pests, their offspring feed in corn, wheat, and other plants. The larvae progress through several larval stages before pupating and emerging (what everyone is seeing now). We generally have 2-3 generations of this insect pest in Illinois. They primarily feed on grasses, but you might see them on a few vegetables. Adults feed on nectar of various flowers. (*Kelly Estes*)

Japanese Beetles on Ornamental Plants

Adult Japanese beetles (*Popillia japonica*) have emerged in Illinois and are beginning to feed on ornamental plants. Japanese beetle adults have a broad host range, feeding on over 100 plants including linden, buckeye, rose, crabapple, apple, grape and raspberry. They may feed on the foliage, flowers and fruits of their host plants, skeletonizing leaves so only the leaf veins remain. Beetles tend to feed on and damage the upper portions of plants which can lead to heavy damage in the tops of trees. In some cases, this means that the damage can go unnoticed by passers-by and may not require treatment. While the damage can be unsightly, it does not usually result in dieback or the death of the plant.

Japanese beetle adults are conspicuous in the landscape and can be easy to identify. They are about 1/3 inch long with a metallic green head and pronotum, copper-brown wing covers and six white tufts of hair that run down each side of their body.

Early control can help reduce future damage from these voracious herbivores because Japanese beetles are attracted to plants with previous feeding damage. Early control can also help reduce populations in the following year by killing adults before they deposit eggs.

Japanese beetles can be controlled by hand-picking. Beetles tend to drop off plants when they are threatened so they can be collected and removed by holding a cup of rubbing alcohol or water and soap beneath the beetles and knocking them into the liquid. This can be done every few days to control population if a chemical-free control method is preferred. However, this is time consuming and if populations are heavy, this method is not practical.

Some chemical controls that can be effective in treating adult Japanese beetles include carbaryl (Sevin), bifenthrin (Talstar), cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), or permethrin (Astro) foliar sprays. These foliar sprays can be effective in controlling adult beetles for about two weeks. Since Japanese beetle adults are active for about six weeks, more than one application may be required for control. Identify and treat susceptible plants that are focal points in the landscape rather than spraying a broad area. Because Japanese beetles are unlikely to feed enough to cause dieback or kill the plants, this can be effective in reducing aesthetic damage while reducing the use of insecticides in the landscape and protecting pollinators.

Japanese beetle larvae can be controlled by applying imidacloprid (Merit) to soil or turfgrass. This can be effective in controlling the soil-dwelling larvae for the whole summer. Imidicloprid is a systemic insecticide, meaning it is taken up by plants and transported to different plant tissues, including flowers and pollen. This can leave pollinators at risk for exposure to these toxins, so it is important to avoid applying imidicloprid or other systemic insecticides to flowering plants, including linden trees.

Remember to avoid Japanese beetle pheromone traps. Pheromone traps release attractant chemicals that are intended to lure beetles into a trap where they are killed. Unfortunately, in landscapes with attractive host plants, the traps tend to attract more beetles to the area, resulting in additional feeding and aesthetic damage. (*Sarah Hughson*)

Brown Patch

Weather conditions in many parts of Illinois have been conducive to the development of brown patch on turf. This is a fungal disease caused by *Rhizoctonia solani*. Brown patch outbreaks occur during hot, muggy weather when night temperatures are above 68°F, overnight dew periods exceed 8 hours, and daytime temperatures are in the 80s and 90s. The disease is capable infecting all cool-season turfgrass species. Tall fescue and perennial ryegrass are the more severely damaged landscape turgrasses. The disease tends to be most damaging on dense, highly fertilized turfgrasses.

Brown patch symptoms appear as patches ranging from a few inches up to 2 or 3 feet across. These patches appear

dull tan to light brown. When the attack is severe, the crowns, rhizomes, stolons, and roots may turn brown and rot, causing turf to be thinned or killed in large areas. Distinctive, small, elongated to irregular shaped lesions occur on individual grass blades. The lesions have tan centers with dark, jagged margins. The pathogen spreads radially via fungal mycelium. You can observe this mycelium if you scout early in the morning, before the morning dew dries.

Most turf will generally recover in 2 or 3 weeks following a light infection. For a severe infection in a home lawn, rake and remove the dead areas, and re-seed with a blend of resistant turf grasses suitable for the light requirements of the lawn. Avoid high nitrogen fertility during periods conducive to disease development. Schedule irrigation for early morning hours to help avoid extended periods of leaf wetness. Numerous fungicides are registered for brown patch control. Azoxystrobin (Heritage), fluoxastrobin (Disarm), flutolanil (Prostar), pyraclostrobin (Insignia) or trifloxystrobin (Compass) are some options. Fungicide use is usually limited to high-value turfgrasses such as those found on golf courses. Several appropriately timed applications will be required throughout the summer. Effective fungicides are not always available in quantities suitable for homeowner use. Homeowners should contact a professional lawn care service for the application. (*Travis Cleveland*)

Making Pesticide Applications in School/Community Gardens

Nothing tastes better than produce you have grown. Before you can harvest and share your bounty, you may have to manage pests which can reduce your yields. Insects, diseases, and weeds can be controlled by various methods. Pesticides are an important tool in pest management; in order to use pesticides legally and safely, there are a few things you must know. You may need to obtain a license to apply pesticides from the Illinois Department of Agriculture per the Illinois Pesticide Act. This fact sheet will help guide you to determine if you need one.

Is a license needed?

Whether you need a license or not depends on two things: what type of pesticide you are applying and where you are applying it.

If you are applying pesticides on land that you do NOT own such as a school or park, you must have a license. If you own the land or if you rent/lease the land such as a community garden plot, you need a license only if the pesticide you apply is a Restricted Use Pesticide (RUP). Restricted Use Pesticides will be clearly marked at the top of the product label on the container; you must be licensed to buy RUP products.

General Use Pesticides (GUP's) such as most of the products sold in garden centers or home improvement stores do not require a license unless they are applied to someone else's property.

What about organic pest killers?

These products are still classified as pesticides by the US-EPA. If a product makes pesticidal claims, it needs to be registered with the EPA and will have a registration number on the label.

Certain minimum risk pesticides do not require Federal registration. EPA's "25b

list", which includes garlic and garlic oil, can be found at https://www.epa.gov/sites/production/files/2018-01/documents/minrisk-active-ingredients-tolerances-jan-2018.pdf.

Illinois has the right to require registration of these products regardless of whether the US-EPA has required registration. If it does, you may still need a license to apply depending on where it is applied. You can search for active ingredient registration at https://agr.state.il.us/sharepoint/usaplantsproductsearch.php or call the Illinois Department of Agriculture (numbers given below).

What about home remedies?
While home remedies may sometimes work, many have not been tested for effectiveness or safety. They commonly cost more than labeled, registered pesticides which have been tested for human health and environmental safety. To avoid potential problems, stick to approved pesticide products.

What about fertilizers?
Fertilizers are not pesticides and do not require any type of license to be applied. Keep in mind that weed and feed products contain herbicides which are pesticides.

What type of license is needed?
Below are some situations:
*If you own the land, a Private license is needed only if you apply a restricted use product.

*If you do not own the land and pesticides are applied for hire (the exchange of money), a Commercial license is needed.

*Where no money is exchanged for application, a Commercial "not-for-hire" license is needed; this probably is the case for most community gardens.

Licenses are tied to a specific type of application, or category. For example, someone could have a Commercial not-for-hire license to apply pesticides to vegetable crops. These types or categories are explained later in this factsheet.

Why is licensing needed?
It is necessary to demonstrate to the public that you know how to apply pesticides safely and effectively. Plus, it's the law.

Do I need to get a license or can someone else do it?
Many municipalities, schools and park districts already have personnel licensed for landscape or indoor pest control and they might be willing to add the appropriate category to their license. If there is any question about who can legally spray a garden or the areas around it, contact the Illinois Department of Agriculture for clarification.

How do I get licensed?
You will need to take the General Standards exam (100 multiple-choice questions) and score at least a 70%. This will qualify you to become licensed as a pesticide "operator". Once you qualify, you must submit a completed license application form along with the appropriate licensing fee. However, at least one person from your school or community garden will need to go one step further and become licensed as a pesticide "applicator". Operators work under the direct supervision of the applicator. An operator can become an applicator by scoring at least a 70% on

an appropriate category exam (50 multiple-choice questions) and applying for licensure. There are various categories including Turfgrass, Ornamentals, Fruit, Vegetables, and Rights-of-Way; each is a separate exam. Because your entire range of pesticide use must be covered by the categories on the applicator's license, this could mean taking several exams. Also, consider having several gardeners licensed as applicators. If one applicator is out of town or not available, the operator/s may not legally apply pesticides. You must be in daily contact with each other. In essence, the applicator must be able to arrive at the scene in a timely fashion should an accident occur.

What's this going to cost?

There is no charge to take any exam, however study materials and training clinics, which can aid in passing the exams, are offered by University of Illinois Extension for a fee. There are fees for the actual license. For more information, please visit www.pesticidesafety.illinois.edu or call 800-644-2123 (commercial) or 877-626-1650 (private).

There is no on-line testing. You can take tests in Springfield at the Illinois Department of Agriculture's building (800-641-3934) or their Dekalb office (815-787-5476). You must call ahead to arrange for an appointment to take any tests. Testing is also offered at training clinics. Testing is required every 3 years. There is a license fee of approximately $30-60, depending on license type, for the actual license. Licenses cover a three year period. The costs of applying without a license are much greater: expensive fines, potential risks to your health and the environment, tarnished reputation for you and your organization, and mistrust from the ones you are feeding. Get licensed and demonstrate that you know how to handle and apply pesticides safely.

Commercial License Categories

This can appear complicated because it depends on what areas or crops you are applying the pesticide. Depending on how the garden is configured, the Applicator may need more than one category.

Vegetable/Fruit Gardens

These areas fall under the Fruit and Vegetable categories. The Applicator would need to pass the General Standards test and either the Fruit or Vegetable Category test, whichever applies.

Grassy Area around the Garden

These areas fall under the Turfgrass category. The Applicator would need to pass the General Standards test and the Turfgrass Category test. Flagging (posting) that a pesticide application has occurred is required by Illinois law.

Flower Garden, Native Prairie Garden or Ornamentals

These areas fall under the Ornamentals category. The Applicator would need to pass the General Standards test and the Ornamentals Category test.

Sidewalks, Playgrounds, Parking Lots, Walking Paths

These areas fall under the Rights-of-way category. The Applicator would need to pass the General Standards test and the Rights-of-way Category test.

Safety in the Garden

Pesticides used within an Integrated Pest Management Program can be an

important tool for pest control. Caution should be used anytime pesticides are applied to produce being consumed by others, particularly produce donated for programs such as "Plant-a-Row". It is always wise to check with your insurance company to determine the right coverage for the activities occurring in the garden. Currently, flagging (posting) an area treated with a pesticide is only required for lawns, but is a good idea for any public garden.

Community Garden Policies

Those working in Community Gardens are encouraged to review their lease agreements to address pesticide applications. Lessors managing their garden plots can apply GUP pesticides to their plots. However, issues of pesticide drift onto neighboring plots or runoff from one plot to another can occur if applications are not made correctly. Some Community Gardens have a licensed Applicator make all pesticide applications within the entire garden.

For further information

Contact the Illinois Dept. of Agriculture for questions concerning testing and licensing or check out their website at https://www2.illinois.gov/sites/agr/Pesticides/Pages/Certification-and-Licensing.aspx.

Study materials are recommended and can be ordered by calling the University of Illinois Pesticide Safety Education Program office at 800-644-2123 or 217-244-2123. To learn more about study options, license categories and requirements, go to www.pesticidesafety.illinois.edu and click on "training schedule." (*Michelle Wiesbrook*)

Home Pesticide Remedies--Use with Caution

Home horticulture remedies come in all kinds of special recipes passed down from one gardener to the next. Some of these recipes include coffee grounds to repel ants, mint to keep mice away, dawn dish soap to remove aphids, and even using coyote urine to repel raccoons from a sweet corn patch. And if you want to know, it can be bought on Amazon! These might be considered snake oil to some and to others a saving grace. I recently read a social media post about an old time remedy for slug control for Hostas. The procedure is to bury a container to the lip, and fill ½ with beer. This is supposed to attract the slugs in and as they fall into the beer, drown. Why must it be beer? Would another liquid work? I do remember my grandpa trying this and as a kid I thought it was pretty skunky beer.

As a lawn care applicator, when a homeowner suggest something like this for you to try in their landscape, there is a moment that we must step back and think. If you want to give it a try, here are your ramifications: as a licensed commercial applicator, you can conduct this home remedy on someone else's lawn, but you are responsible. Let me repeat- you are COMPLETELY responsible. You can be held liable for any/all damages that can occur with using home remedies that are not researched, studied, and registered through the EPA. This includes accidental deaths of other animals, species or any environmental impacts. This is associated with fees or fines as well as other loss damages. Is conducting a home remedy worth the risk or should one just use an EPA regis-

tered product that is labelled to control slugs?

Another home remedy that has been mentioned was actually using a registered pesticide but not for its labeled use. It was using mothballs as a deterrent for rodents and snakes in the landscape. I can honestly say that if you have ever opened a drawer, closet or container that had moth balls in it you would think that the smell would repel almost anything. Mothballs contain high concentrations of naphthalene or paradichlorobenzene as active ingredients. The label use directions read that they are meant to be used in closed, airtight containers so that the fumes they produce are trapped. These fumes build up and kill any clothes moths that might be inside the container. If they are out in the open they can harm people, pets or wildlife that may touch or eat the mothballs or breathe the vapors. If you are asked to apply mothballs to a lawn area or even around a home to ward off vermin, this is not labeled use. If it is not stated on the label, then this is against the law. This means that you are subject to fines and fees. You will also held responsible if there are other things impacted in the yard due to the mothballs. This doesn't apply to licensed lawn care applicators only, since moth balls are a GUP (general use pesticide) registered EPA pesticide. Anyone that uses this product and doesn't follow the label is in violation of the law and is subject to the same penalties.

Home remedies make for a great story to share and they could work but they are not researched, have not gone through rigorous testing and are not registered by the EPA. As a commercial applicator you are assuming all risk when you choose to use a pesticide inconsistent with the label or choose to use a home remedy with a product that is not labelled for any use as a pesticide, i.e. beer. *I can think of a better thing to do with a cold one on a hot day? Can't you?* It is your best interest as a licensed operator/applicator to stick with products that have been registered with the EPA as pesticides and leave the home remedies at home. (*Maria Turner*)