

D's Notes

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Now is the time to scout for bagworms

A Kansas State University entomologist and a state forestry expert are urging patience and persistence when trying to manage bagworms, noting that caterpillars may emerge from eggs from late spring through early summer, depending on weather conditions.

Shad Hufnagel, forest health coordinator with the Kansas Forest Service, and Raymond Cloyd, professor and extension specialist in horticultural entomology with K-State Extension, advise that homeowners scout for bagworms from early- to mid-May and apply insecticides when young bagworms are present.

Once bagworms are detected, they said, homeowners might need to treat with an insecticide weekly for up to four weeks.

Cloyd said that in addition to emergence over time, young bagworms can 'blow in' -- called 'ballooning' -- from neighboring plants on silken threads, thus increasing the importance of treating multiple times during the growing season.

"Once the caterpillars emerge from eggs, they begin feeding on the host tree or shrub, creating a protective bag, hence the common name," Cloyd said. "The plant material fed upon is used to build a protective covering that provides protection from predators and insecticide treatments, which can influence the effectiveness of insecticide applications."

Hufnagel added: "The larger and more robust the caterpillars and their cases become, the more difficult they are to manage with insecticides."

Bagworm feeding is commonly associated with conifers, such as juniper, arborvitae, pine, and spruce, but Hufnagel said the caterpillars also feed on many deciduous host plants. Although defoliation of deciduous trees and shrubs typically does not result in long-term plant damage, defoliation of conifers can cause substantial plant stress and result in plant mortality.

He said insecticides can be effective in mitigating damage to trees and shrubs. However, bagworm infestations are often cyclical; consequently, bagworm infestations may be low enough that spraying an insecticide may not be warranted.

For increased effectiveness and to prevent bagworms from causing substantial plant damage, Hufnagel advises judicious treatment of windbreaks, Christmas trees, and ornamental landscape trees as soon as bagworms are present.

"Thorough coverage is important when treating for bagworms, including penetration into the interior plant canopy and upper branches," he said. "Commercial treatments may be more effective for large trees or established windbreaks where applications from common household sprayers cannot reach the upper canopy of trees."

Many insecticides are labeled for bagworms, but timing of application and thorough coverage will ensure the effectiveness of insecticides in managing bagworms. When bagworm caterpillars are 1/8 to 1/4 of an inch long, products containing *Bacillus thuringiensis* subspecies *kurstaki* (*Btk*) or spinosad as the active ingredient can be effective in managing bagworms, according to Cloyd.

He adds that the recommended insecticides have minimal direct impact on beneficial insects compared to broad-spectrum insecticides, which could lead to outbreaks of spider mites or scale insects that can cause damage to treated trees and shrubs.

“If insecticides are not applied when bagworm caterpillars are 1/8 to 1/4 of an inch in length, then broad-spectrum insecticides, including those containing malathion, acephate, or cyfluthrin as the active ingredients can be applied,” Cloyd said. “Be sure to read the product label and follow directions before making applications.”

Hand removing and destroying bagworm bags is an option for smaller infestations.

Why ants are drawn to peonies each spring

Consider this: Having flowers in a garden can provide curb appeal, boost home value and help benefit the environment, but what if they also symbolized imperial power, wealth and prosperity?

Peonies were once cherished by Chinese emperors, particularly during the Tang Dynasty, and are known as the “king of flowers” in China. But with these flowers that once grew in royal gardens comes a six-legged critter crawling over their buds: Ants.

These insects may cause concern for some, but a Kansas State University specialist said there is no need to worry.

“The presence of ants on peonies may alarm gardeners at first,” said Matthew McKernan, K-State Extension horticulture expert. “However, their abundance is perfectly normal and part of a mutually beneficial relationship.”

Peony buds develop specialized glands on the outside, known as extrafloral nectaries, that produce sugary nectar. That nectar provides a good energy source for ants.

“Ants feed on this nectar and emit a pheromone that alerts and invites other ants to the food source,” McKernan said.

As ants converge onto peony flower buds to consume this nectar, they also provide a benefit to the plant: indirect protection.

“The ants work to protect this high-value food source from other insects and, as a result, help defend the blossoms from floral-feeding insects that would damage the plant,” McKernan said.

This symbiotic relationship benefits both organisms. The ants receive a beneficial energy source, and the peony flower buds are protected from insects that would feed on the flower itself.

This relationship, McKernan said, disproves the common gardening myth that peonies require ants to bloom.

“While the peony does not need ants to bloom, it is to the plant’s benefit that the ants are present,” McKernan said.

Once peonies have finished blooming, the ants will naturally leave, seeking other energy sources from surrounding plants and food sources.

“Therefore, the use of insecticides is strongly discouraged,” McKernan said. “Ants on peonies are both temporary and beneficial.”

However, if gardeners would like to enjoy cuttings of the “king of flowers” indoors, McKernan provided some advice on preventing ants from entering homes.

“If you would like to enjoy cut peony flowers indoors, simply hold the stems upside down outdoors and gently shake the ants off or rinse them away with water before bringing the flowers inside,” McKernan said. “This will be most easily accomplished when the flower buds are beginning to show some color, but before they fully open.”

Down Time from Screen Time?

In the United States, screens are everywhere.

Televisions, laptops, tablets, electronic bulletin boards and – of course – cell phones.

“Yet, what we know about positive childhood development,” said K-State Extension child development specialist Bradford Wiles, “is that screens are not very helpful. Often, they are simply a mindless activity that doesn’t grow children’s brains or their social-emotional or physical development.”

Many healthcare authorities and pediatricians – among them the *American Academy of Pediatrics*, <https://www.aap.org/en/patient-care/media-and-children/>, – have published guidelines indicating children under age 2 should have no screen time, while everyone else should limit screen time outside of work or school to 1-2 hours per day.

Wiles, who has authored *Screen Time: Beyond TV and Into the Future* publication, <https://bookstore.ksre.ksu.edu/pubs/MF3248.pdf>, on the topic, says that there is an “opportunity cost” associated with screen time. “If you’re engaging in screen time, you’re not doing things that can help you with skill building in multiple domains – physical, mental and social.”

Screens, he said, are often substituted for babysitters, or a break for parents or other caregivers to get other tasks done.

“If that’s for a limited time, that’s fine; I understand the need to perform your household duties,” Wiles said. “You’re not harming your child by doing that, but be mindful of how much time is going by and do your very best to make up for that by being intentional in engaging with your children before and after screen time.”

Wiles is careful to indicate that technology, itself, is not the problem. “The problem is when you use that tool to isolate yourself or your children,” he said.

“If that tool is being used for engagement, then great. That is how children of all ages learn...through dialogue, discussion and shared experience. The ability to talk, and learn with and from each other is really a benefit to human development.”

Other things to keep in mind, according to Wiles, include:

Families with very young children - Screen time should be severely limited for those under age 2 – ideally they should have none. Wiles said screen time is not nearly as stimulating as interaction with other humans. Spend time playing with young children instead.

Families with children ages 6-17 - Establish “screen free” zones in the home, including bedrooms. It may seem like punishment – and difficult to enforce – but the payoffs are great. If families choose to incorporate more screens into their lives, seek ways to use them in active ways, such as singing or dancing along to a favorite music video.

Family fun - Tablets and smartphones may provide an opportunity for families to play interactive games, such as puzzles. Less-skilled family members learn more by asking questions, receiving instruction and getting feedback.

Whole family screen time - Decide in advance what you will view as a family. Avoid watching TV during meals or leaving the TV on for background noise. In addition, avoid texting or talking on a phone during meals or when outside with your family.

Cattle Chat: Growth implants' effect on efficiency

Kansas State University beef cattle experts say growth-promoting implants continue to be one of the most effective and researched tools available to beef producers.

On a recent episode of the *Beef Cattle Institute's Cattle Chat* podcast, <https://podcast.show/bci-cattle-chat/episode/153849545/>, the group said growth implants are small pellets placed under the skin of a calf's ear that release hormones to enhance muscle growth and improve nutrient use, resulting in increased weight gain and feed efficiency.

"Implants are a tool that can really improve performance when they're used correctly," said K-State beef cattle nutritionist Phillip Lancaster. "They've been around a long time, and we have a lot of data to support how well they work."

Research shows implants can increase average daily gain by 10% to 20% and improve feed efficiency by up to 10%, making them one of the most economically beneficial management practices available.

Despite these benefits, adoption is not universal. Lancaster noted producers who choose not to use implants must account for performance differences.

"If you're not using growth-promoting implants, you're going to have smaller carcasses," he said. "You need to be compensated for that, and typically that means about a 15% premium."

The discussion also addressed misconceptions about hormone use. K-State veterinarian Brad White emphasized that all cattle naturally produce hormones.

"There is no such thing as hormone-free beef because all cattle produce their own hormones," White said.

Lancaster added the difference in hormone levels between implanted and non-implanted beef is minimal.

"In a 4-ounce serving of beef from an implanted animal, there are about 2 nanograms of estrogen," Lancaster said. "In non-implanted beef, there's roughly 1 nanogram."

Experts emphasized implants are not a substitute for good nutrition and management.

"Implants won't overcome poor nutrition," Lancaster said. "Cattle still need to be on an adequate plane of nutrition to see the full benefit."

He added producers should focus on building frame and muscle before adding finish, while keeping efficiency and pricing in mind.

Ultimately, the BCI team encouraged producers to evaluate their goals and marketing strategies when deciding whether to use implants.

"Like any management decision, it comes down to what fits your system," Lancaster said. "But when used appropriately, implants are one of the most consistent tools we have to improve efficiency in beef production."

Listeners can hear the full discussion on the *Beef Cattle Institute's Cattle Chat* podcast, <https://podcast.show/bci-cattle-chat/episode/153849545/>. Questions on this and other topics may be sent to bci@ksu.edu.

GARDEN CALENDAR:

- Direct seed sweet corn, cucumbers, squash, beans, and other warm season vegetables.
- Mound soil around potato plants to encourage tuber formation along the stems.
- Plant container gardens and hanging baskets using a good quality potting mix. Replace potting mix in containers at least every 2-3 years.
- Begin pinching chrysanthemums for bushier, more well-branched plants.
- Withhold early summer waterings on lawns until irrigation is needed in order to promote more drought tolerant turfgrass this summer.
- Plant new trees and shrubs.
- Remove trunk wraps from trees for summer growth.
- Fertilize houseplants to promote summer development.

Delay Planting Pumpkins And Winter Squash:

Although early May is the ideal time to start planting most of our warm-season crops such as tomatoes and peppers, it may be better to delay the planting of pumpkins and winter squash until mid- to late June. In Kansas, squash bugs are a significant pest to these two crops. By delaying plantings, we can help protect plants from one of their biggest pests.

From late-May through June, squash bugs are in search of suitable host plants, including pumpkin and squash plants, on which to lay their eggs. By delaying planting until around June 20, this allows crops to potentially escape attack from the first generation of squash bugs. Delaying planting can also result in a pumpkin harvest that aligns closer to Halloween.

Visit our *Squash Bug publication* for more information on protecting pumpkins and squash from this insect pest: https://bookstore.ksre.ksu.edu/pubs/squash-bug-home-and-horticultural-pests_MF3308.pdf.

Deadhead Peony & Iris That Have Finished Blooming:

As peony & iris flowers fade from their springtime beauty, one important maintenance step is left – deadheading. Both peonies and iris benefit from deadheading, or the process of removing spent blooms after flowering is complete. Not only does deadheading improve the overall appearance of these plants, but it increases overall plant vigor. Deadheading prevents plants from spending energy on seed production and instead redirects that energy into developing next year's flowers.

Deadheading Peony: Peonies usually bloom with large individual flowers at the terminal ends of a stem, however, smaller flowers can sometimes develop on side stems. When peony flowers finish blooming, flowers quickly fall apart and petals drop to the ground. Peonies can be deadheaded when this occurs, or slightly before, when petals have dried and withered. To deadhead, follow the stem down below the spent flower to the first set of leaves, and use a sharp hand pruner to make the deadheading cut.

Deadheading Iris: Iris bloom on a tall flower stalk, with multiple flowers per stalk. Each flower stalk can produce multiple seed pods - one where each flower was previously attached. When deadheading, rather than removing individual seed pods, cut the entire flower stalk as low as possible. Ideally leave the leaf attached to the base of the flower stalk,

however, removing a leaf or two will not harm the plant, and may improve the overall appearance.

Deadheading the spent blooms should occur within two weeks after flowering ends. When deadheading, avoid the urge to prune back leaves as well. After flowering it is important to allow as much peony and iris foliage to remain intact as possible. This will also help the plants photosynthesize and produce energy for future growth and flower development.

Checking For Healthy Root Systems In Potted Plants:

When purchasing plants, it is easy to be convinced to buy a plant based on what it looks like. Leaves, stems, flowers, shape, and color all make a unique sales pitch to customers. What is most important about a newly purchased plant is not what you see, however, it is what is in the pot – the plant's root system.

The roots are the foundation of a plant. A healthy root system grows a healthy plant. It is nearly impossible to have one without the other. Yet evaluating the root system is often overlooked when it comes to purchasing plants.

To evaluate a plant's root system, start by gently removing the plant from the pot. Place your hand over the top of the pot, with the stem of the plant passing between two of your fingers. With your palm and fingers over the rootball, turn the pot upside down and gently squeeze or tap the sides of the pot. The rootball should release and the pot can be easily slid up and off the plant. Never remove plants from the pot by pulling on their stems. If you are not comfortable doing this step on your own, or need assistance, ask a store associate for help.

A healthy root system will typically have numerous white, fibrous roots, or at least roots with white tips. Some perennials and shrubs may naturally have darker colored roots (as opposed to white), however the roots should never be black, slimy, mushy or have a foul smell. These characteristics indicate an unhealthy root system, and a different plant should be selected.

On a healthy plant, the roots should be visible along the entire outside of the rootball and should reach the bottom of the pot. Some potting soil should still be visible in the rootball, however, otherwise the plant may be rootbound. If the root system is not visible or does not reach the bottom of the pot, this may mean the plant was recently transplanted into a larger pot and may need additional time for growth. Alternative plants should be selected if possible.

When bringing plants home and before planting, water by touch, not by calendar. If the soil feels dry an inch deep (down to the first or second knuckle on your finger), it is time to water. The time between waterings will vary tremendously between spring, summer, and fall growing conditions. When watering, be sure to water thoroughly enough that some water flows out the bottom of the pot. This will help wash out excess salts that tend to accumulate within the potting soil.

Fertilize Lawns in May:

May is an excellent time to consider fertilizing lawns. Fertilizer helps produce thick, green turf, but too much fertilizer, the wrong kind, or fertilizing at the wrong time may do more harm than good. Here is what you need to know about May fertilizations.

Many types of fertilizers are available. The only way to know which formulation is best for your lawn is to have your soil tested. In most cases, phosphorus and potassium should be applied only if indicated by the soil test results. Instead, focus on fertilizers high in nitrogen which will increase green color, density, and growth.

For Bermuda and Zoysia lawns (our warm season lawns), May fertilization is ideal to kickstart summer growth. By May most warm season grasses have emerged from dormancy, and are beginning active summer growth, making May an ideal time to fertilize (however, if the threat of frost or freeze looms, wait until mid to late May before fertilizing). May fertilizations allow fertilizers to translate into carbohydrates, root growth, and tillers, not just short-lived leaf growth. To fertilize, apply a quick-release nitrogen fertilizer. These quick-release fertilizers will provide a nitrogen source that is quickly available to the turfgrass, and support growth for the next four to six weeks.

For Buffalograss lawns (also a warm season lawn), fertilize in late May to early June after stolon growth begins. Buffalograss is grown as a low maintenance lawn and normally is only fertilized once per year. To fertilize, apply a slow-release nitrogen fertilizer. These slow-release nitrogen sources will prevent excess leaf growth and promote controlled growth throughout the summer months.

For Tall Fescue, Kentucky Bluegrass, and our cool season lawns, consider a May fertilization only if you plan to irrigate through the summer months, and hope to keep the grass green all summer. Low maintenance cool season lawns, or lawns with no summer irrigation, will often go through a period of summer dormancy because of the summer heat and drought. As a result, these types of lawns do not need a May fertilization, instead wait until September to fertilize next.

May is a good time to fertilize irrigated cool season lawns because the springtime flush of growth begins to taper off, so the fertilizer will be less likely to cause excessive shoot growth than if applied in April. To fertilize, apply a slow-release nitrogen fertilizer. These slow-release nitrogen sources promote controlled growth throughout the summer months, which is desirable as the stressful summer weather approaches.

For all turfgrasses, the amount of fertilizer used largely determines the level of turf maintenance. Less fertilizer requires less watering, less mowing, and a lower maintenance lawn. More fertilizer produces a darker green color with more growth but also requires more mowing and watering. Apply up to a maximum of 1 pound of Nitrogen per 1,000 square feet with any May fertilizer application.

Visit our *Fertilizing Kansas Lawns publication* for more information on making your May fertilizer applications: https://bookstore.ksre.ksu.edu/pubs/fertilizing-kansas-lawns_MF2324.pdf.

Prune Evergreens Now As Growth Expands:

Evergreen plants have leaves that persist year-round, and in Kansas commonly include pines, spruces, firs, juniper, arborvitae, holly, boxwood, and yew. Evergreens typically hold

two to three years' worth of needles at a time, and produce a flush of new growth each April to May, making now an ideal time to evaluate pruning needs.

In general, evergreens often need less pruning than most deciduous trees and shrubs. Pruning is often only needed to remove dead branches, direct growth, or to control overall shape or size.

Even though evergreens may not be frequently pruned, there are several important differences in how evergreens are pruned versus most plants. Unlike most deciduous trees and shrubs, most evergreens (especially junipers and pines) lack the ability to generate dormant buds on the interior of the plant. This means that if pruning is done too aggressively, and the center of the plant is exposed, no new growth is likely to occur from these areas (what is commonly referred to as the dead zone).

Pruning Pine: New growth occurs only once a year in pines from terminal buds at the ends of branches. As bud growth elongates in spring, the soft, new shoots with tightly clustered needles are referred to as candles. To control growth and increase plant density, pines can be pruned by cutting back 1/2 to 2/3 of the total candle length before the needles expand. Candles can be pruned using pruners or a knife, or pinched/snapped off with your fingers to avoid cutting the remaining needles (which can create a brown appearance on the tips). Pines produced limited side branching, so do not over-prune and avoid shearing.

Pruning Spruce & Fir: New growth occurs only once a year in spruces and firs from terminal buds at the ends of branches. Prune branches back to a side bud or side branch, without pruning past the needles. New growth can be pruned back by up to half the new growth. On larger trees, new growth occurs primarily in the upper portion of the tree, with minimal growth occurring in the lower levels. As a result, lower branches that are pruned heavily may keep this appearance for a long time. Dwarf and very slow-growing species are often intolerant of pruning and should be pruned only when necessary.

Pruning Juniper & Arborvitae: New growth may occur multiple times per year, beginning in April and often continuing through October. Growth emerges from terminal buds at the end of the branches. Pruning is best done in early spring, or as new growth emerges. Selectively prune individual branches back to an upward growing side branch. This helps hide pruning cuts and maintain a natural look. Remember, new growth only emerges from the growing tips at the ends of the branches. Do not prune back into branch wood without needles, as a permanent bare spot will likely remain.

Shearing evergreens, although common, is generally not recommended. It destroys the plant's natural shape and is labor intensive to maintain. If evergreens are pruned by shearing, ensure at least one inch of previous growth is left on the plant afterwards. This will help avoid exposing the dead zone on the interior of the plant and help the evergreen initiate new growth. Be sure to also ensure proper plant shape when shearing. The bottom portion of the plant should always be wider than the top portion of the hedge. This gentle pyramidal to gumdrop shape ensures light can reach the lower branches of the plant and reduces dieback of lower limbs.

It is best to prune evergreens annually in the spring to control growth. If pruning has been neglected and plants have become overgrown, it may be better to replace overgrown evergreens instead of pruning them heavily.

Some evergreens, such as arborvitae, holly, and yew, may have the capacity to develop some secondary buds if pruned back into the dead zone. This practice should still be avoided, however, as recovery from such pruning may be slow, even taking multiple years, depending on the health of the plant.

Avoid pruning all evergreens after mid-August, as this often stimulates new growth that will not have adequate time to harden off before winter.

Spring Gardening Tips For Increasing Drought Preparedness:

Everyday gardening decisions play a critical role in determining how well our lawns, landscapes, and gardens withstand dry conditions during the growing season. Simple, routine practices—from irrigation habits to mowing height and soil management—can either strengthen or undermine our landscape’s ability to tolerate drought. Knowing that periods of hot, dry weather, and even drought, occur regularly in Kansas, proactively building drought resilience is both practical and necessary. By making informed, intentional choices now, we can better prepare our landscapes for the inevitable challenges of dry conditions.

Here are eight steps that can be taken now to prepare our gardens for drought:

1. *Core Aerate Your Lawn:* Core aeration will help improve soil health by allowing moisture and oxygen to reach deeper into the soil, encouraging more extensive root growth. Aerate soils three inches deep, with cores spaced three inches apart.
2. *Prevent Weeds:* Weeding and applying pre-emergents now can prevent summer weeds from establishing which will compete for water with desirable plants in the lawn and garden.
3. *Apply Mulch:* Utilize a three inch thick layer of mulch to help conserve soil moisture & reduce weed competition.
4. *Raise Mowing Heights:* Increase the lawn’s mowing height to improve the drought tolerance of your turfgrass. Low mowing heights stress turf, and require more water use to promote regrowth.
5. *Decrease Fertilizer Use:* Reduce fertilizer use, as the more fertilizer applied, the more water is required to sustain the excess growth caused by fertilization.
6. *Apply Minimal Irrigation:* Minimize watering practices in the spring to help develop deep root growth. Do NOT overwater in the spring. Most lawns and gardens will thrive on watering just once a week or less. More frequent irrigation can limit deep root growth in the spring, making plants more sensitive to drought when temperatures increase.
7. *Inspect Irrigation Systems For Leaks:* When turning on irrigation systems for the growing season, inspect all zones for leaks, overspray, or wasted water. Repair issues now so that a uniform pattern of water can be applied, minimizing irrigation run times and the amount of water used.
8. *Water Deeply When Irrigating:* Begin your year using best watering practices. Water deeply, and infrequently, soaking the ground 6-12 inches deep with each watering, and providing “mini droughts” in between waterings to increase the depth of plant roots. Water slowly so that the maximum amount of water can be absorbed, and runoff can be minimized. *Matthew McKernan, Consumer Horticulture Extension Associate*

Remove tree suckers early to protect growth

Many trees across Kansas, including fruit and shade trees, are producing sucker growth this spring, a common issue that can impact overall tree health if left unmanaged.

“Suckers are vigorous, upright shoots that develop from dormant buds on a tree’s roots or along the trunk below the graft,” said Matthew McKernan, Kansas State University Extension horticulture expert. These shoots can emerge several inches to several feet away from the base of the tree and often grow rapidly during the spring and summer months.

“Sucker growth is most vigorous in the spring but will likely continue throughout the growing season,” McKernan said. While common, sucker growth may also be an underlying sign that the tree is under stress.

“More suckers are likely to be produced on trees under stress,” McKernan said. Trees that are planted too deeply, damaged by lawn equipment, affected by insects or disease, pruned too heavily or weakened by drought are more likely to produce suckers.

“Some species, particularly grafted trees, are prone to sucker growth regardless of overall health,” he said. Although suckers may appear harmless, they can negatively affect the original tree, including its appearance and growth.

“Sucker growth diverts water, nutrients and energy away from the desired tree, reducing overall vigor,” McKernan said. Suckers also may not share the same desirable characteristics as the original tree and may be prone to breaking.

“Sucker growth may also serve as a harbor for disease and insect pests,” he said.

To manage sucker growth, McKernan advises homeowners to take action as soon as they are spotted on the original tree.

“Use a sharp hand pruner to cut suckers back to their point of origin,” McKernan said.

Proper removal of suckers also may require digging, as the sucker’s original point of origin is connected to the tree’s root system.

“Cutting suckers at ground level will leave a stub that resprouts multiple shoots, creating even more sucker growth,” he said.

McKernan stressed that herbicides should not be used when trying to manage suckers.

“Using herbicides such as broadleaf herbicides or non-selective weed killers on suckers will damage and very possibly kill the original tree, since they share the same root system,” he said.

Lastly, McKernan said that when suckers are spotted, to not only remove them, but also try to identify the reason as to why they sprouted.

“Maintain overall tree health with proper maintenance and care,” he said. “Try to identify sources of tree stress and correct issues that may encourage sucker growth.”