KANSAS STATE UNIVERSITY | Extension
Meadowlark District

April 10, 2026

David Hallauer
District Extension Agent, Crops & Soils

Poison Hemlock – Control Options

It's not uncommon for District Livestock and Natural Resources Agent Ross Mosteller and I to pick each other's brains about observations from field visits or questions we've received, particularly in the arena of pasture/range management. One of our discussions this week was about poison hemlock in pastures and potential livestock toxicity issues. I'll leave the toxicity details to Ross. He very nicely outlines them in a companion article on the Meadowlark Extension District Livestock and Natural Resources page: https://www.meadowlark.k-state.edu/livestock-natresource/ . I'll stick to a little on identification – and a bit more on control.

Poison hemlock looks kind of like a carrot plant. Leaves are triangular and made up of multiple smaller lance looking leaflets with 'lobes'. Often a rosette in year one, by year two you can get ten-foot-tall plants with erect flowering stems that are hollow, hairless, and distinctly purple spotted. Flowers/flower clusters will be an inch and a half plus in size and while appearing similar to wild carrot, the *purple*, *hairless* stems distinguish it as poison hemlock.

Control is most consistently achieved with chemicals, but timely mowing is an option and can help reduce seed production (plant elimination is unlikely), particularly as plants get too large for chemical control. If you find only a few plants, mechanical removal is an option, but it takes a lot of work *and* continued vigilance. The University of Missouri experimented with electrocution, and while not a viable option for most producers, it *was* relatively effective.

Chemical control options are numerous. A cross reference of pasture products with hemlock on the label in Kansas include 2,4-D, dicamba, picloram, triclopyr, metsulfuron, and aminopyralid - or combinations thereof. University of Missouri research helps narrow the list with work showing *multiple* active ingredient products (picloram plus 2,4-D/aminopyralid plus triclopyr) are most effective and that efforts should be focused on the rosette stage of the plant versus bolting plants or when stem elongation is occurring. University of Tennessee research suggests aminopyralid *may* have some efficacy at the early bloom stage as well. Bottom line: we have options, but early treatment is better than later, and control windows can close quickly.

If you have more questions about poison hemlock, drop Ross or I a line. We'd be happy to discuss management options further.

Prior to application of any herbicide, be sure to thoroughly read and understand the herbicide label, following all application directions and precautions. Products even containing the same active ingredients do vary greatly in allowable crop uses and use rates.

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Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Poison Hemlock

I've worn many hats in my two decades plus of being an Extension Agent, working in both the county and district structure. One benefit to the District is having a co-worker who focuses on "the other side" of many agricultural related topics. David and I often bounce things back and forth where it makes sense to do so. One example is weedy species. He can tell you how to control it, and as is the case today, my focus tends to be on why you might want to control it in a livestock operation. The plant of concern today is one that needs caution, not only for livestock, but people and pets as well.

Poison-hemlock (Conium maculatum) grows throughout the United States and is common in Northeast Kansas. It is very toxic to sheep, cattle, swine, horses, and other domestic animals. They become poisoned by eating small amounts of green or dried plant. It is also extremely poisonous to humans. Poison-hemlock is sometimes confused with western water hemlock, a more deadly species. Poison-hemlock is commonly called deadly hemlock, poison parsley, spotted hemlock, European hemlock, and California or Nebraska fern.

Poison-hemlock has white flowers that grow in small erect clusters. Each flower develops into a green, deeply ridged grayish brown fruit that contains several seeds at maturity. Poison-hemlock starts growing in early spring. It usually grows for 2 years, but in favorable locations it may be a perennial. Roots of poison-hemlock may easily be mistaken for wild parsnips. Poison-hemlock grows along fence lines, in irrigation ditches, and in other moist, waste places. It can grow to be 6 feet or taller. The hollow stem usually is marked with small purple spots. Leaves are delicate, like parsley, with a white taproot.

All parts of poison-hemlock (leaves, stem, fruit, and root) are poisonous. Leaves are especially poisonous in the spring, up to the time the plant flowers. Fresh leaves are unpalatable, so livestock seldom eat hemlock when other feed is available. The toxic compounds are coniine, g-coniceine, and related piperidine alkaloids. People may be poisoned by eating any part of the plant. Poisoning often occurs after confusing hemlock root with wild parsnips, hemlock leaves with parsley, or hemlock seed with anise. Whistles made from hollow stems of poison-hemlock have caused death in children.

Poison-hemlock ingestion frequently is fatal. Sheep may be poisoned by eating as little as 100 to 500 grams of green leaves. Cattle that eat 300 to 500 grams may be poisoned. Signs usually appear within an hour after an animal eats the plant. Animals die from respiratory paralysis in 2 to 3 hours. There are some treatment options for animals who are suspected to have eaten poison hemlock, contacting your veterinarian in a timely manner will be paramount.

Signs of poisoning include; nervous trembling, stimulation followed by depression, Ataxia - especially lower and hind limbs, salivation, lack of coordination, dilation of the pupils, rapid/weak pulse, respiratory paralysis, coma, death, convulsions are possible, occasionally bloody feces and gastrointestinal irritation. Skeletal birth defects occur in calves when cows eat poison-hemlock between 40 and 70 days gestation.

Information for this article came from the USDA Poisonous Plants Research publication. As mentioned earlier, take a look at our District website to search for more information on control of problematic plants from David Hallauer, Crops and Soils agent. Keep your eyes open for this plant and take the necessary steps to prevent ingestion of the toxins.

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Laura Phillips
District Extension Agent, Horticulture

Poison ivy in many forms

You may have heard the phrase “leaves of three, let it be” when looking out for poison ivy. While this is a handy saying, identifying poison ivy can be harder than that. While we mainly think of poison ivy as a shrub, we see growing in garden beds or in woodlands, it actually comes in various forms: erect woody shrub, climbing woody vine and as a groundcover. To further complicate identification, the leaves of poison ivy can also vary.

In the vining habit, aerial roots give the vines a fuzzy, rope-like appearance. These roots will be thin, hairy, and dense as they hold the vine to the tree. These vines will climb trees and go high into the air. As a groundcover, the leaves remain smaller and are sometimes overlooked. This form of poison ivy is often confused with Virginia creeper or Woodbine (both of which have 5 leaves). Poison ivy can also be a low, upright shrub. These shrubs can appear in fields, pastures, woods or even the home garden.

There is also some variation in the leaves of poison ivy. Leaf margins may be toothed, incised, lobed or smooth. The leaves start out shiny and green, but over the course of the growing season turn red or yellow.

This might make it sound impossible to identify, but there are a few key identifiers. The leaves, for example, follow the old saying and will always be in groups of three at the end of a stem. While the leaves vary, the middle leaf will have a longer stem and be a larger size. The other two leaves are closely attached to the petiole (leaf stem) and slightly smaller. In the summer and fall you may also see clusters of green-white berries. If you see a plant matching this description, you can assume it is poison ivy.

For vines, look for the hairy, aerial roots. Even after leaves die back in the fall, the vines can still cause an allergic reaction.

To eradicate poison ivy, begin by covering your body with pants, long sleeves and gloves. Once finished, wash all your clothing and your body to remove any traces of the plant's toxins. In the ground cover form, direct spray or grubbing (digging) are common strategies for removal. Make sure the soil is moist before grubbing out the plants including the root systems.

Direct spray is a common control method for poison ivy in the shrub form. Triclopyr (Brush-B-Gon Poison Ivy Killer, Brush Killer Stump Killer) is popular for poison ivy control. Glyphosate (Roundup; Killzall Weed and Grass Killer; Nutgrass, Poison Ivy and Vine Killer) or dicamba are also effective herbicides for this purpose. For woody vines of poison ivy, cut the plant off at the base and treat the emerging sprouts with herbicide when they appear.

Repeated applications of herbicide are usually necessary as this can be a tough plant.

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Teresa Hatfield
District Extension Agent, Family and Community Wellness

Family Caregiver Stress

Family caregivers face stress every day. Caring for a spouse, parent, or friend with a chronic health condition or disability can be both physically and emotionally challenging. Many caregivers experience ongoing stress with little or no time for rest or relief. Over time, this constant stress can take a serious toll on a caregiver's physical and mental health.

If you are a caregiver, recognizing the signs of stress early is essential. Identifying stress sooner makes it easier to take steps that protect your health. Waiting too long can make recovery more difficult. Start by paying attention to your personal warning signs. Are you more irritable than usual? Are you having trouble sleeping? Do you notice frequent muscle aches or headaches? Everyone experiences stress differently, so understanding your own early indicators is key to preventing more serious problems.

Common Warning Signs of Stress

- Feelings of tension or tight muscles
- Frequent headaches or body aches
- Irritability or mood changes
- Apathy or loss of interest
- High blood pressure
- Forgetfulness or difficulty concentrating

If you are experiencing signs of stress, take time to think about what may be causing them. Identifying your sources of stress can help you decide what changes may be possible.

Common Sources of Caregiver Stress

- Having too much to do
- Feeling unprepared or not up to the job
- Family disagreements
- Lack of support from other family members

Ignoring stress symptoms can lead to serious long-term consequences. Caregivers are at greater risk for developing health problems themselves. They are more likely to feel depressed, isolated, or overwhelmed. Chronic stress can also weaken the immune system, making caregivers more vulnerable to illness.

Stress is a reality of caregiving and cannot be completely eliminated—but it can be managed. While some situations may be beyond your control, consider what changes you *can* make to reduce stress in your daily life.

There are many ways to relieve stress, and it may take time to discover what works best for you. If your stress is physical, try a physical stress reliever. For example, if you have achy shoulders or tense muscles, activities such as taking a walk, swimming, or participating in other forms of exercise may help ease discomfort and improve your mood.

Caregiving is demanding work, and caregivers provide invaluable support to those they love. To continue being the best caregiver possible, it is essential to care for yourself as well. Your health matters too.

The Alzheimer's Association Heart of America Chapter, the Jackson County Senior Center, and K-State Extension—Meadowlark District will host a series of educational programs designed specifically for caregivers. These sessions will focus on practical tools, strategies, and resources to help caregivers navigate their roles more effectively. Participants are welcome to attend all four sessions or select the ones that best meet their needs. All sessions are free and will be held at the Jackson County Senior Center in Holton.

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Wednesday, April 29-10:00 a.m.
Session One: Building Foundations of Caregiving
Wednesday May 6—10:00 a.m.
Session Two: Communicating Effectively
Wednesday May 13—10:00 a.m.
Session Three: Dementia Related Behaviors.
Wednesday May 20—10:00 a.m.
Session Four: Supporting Independence and Exploring Care and Support Services

To sign up for session or for more information about these and other Extension programs please contact Teresa Hatfield at www.thatfield@ksu.edu or call 785-364-4125.

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Cindy Williams
District Extension Agent, Food, Nutrition, Health and Safety

Exercise and Your Bones

Your bones are living tissue, just like muscle. Key bone-building years are those when your skeleton is growing---typically through your mid-20's. This is a critical period for bone health because what is built during these years will need to last a lifetime. After age 35, you gradually lose bone as part of the natural aging process.

While some loss of bone strength is common, even inevitable as people age, experts concur there are ways to counter bone loss. At the top of this list is exercise, especially weight-bearing activities. The goal of these activities is to stress the bone and cause it to become stronger. When you use your bones and muscles to hold a position against gravity, you are mechanically stressing the bone.

Bone in your body is constantly being broken down and replaced. The bone disease osteoporosis happens when the creation of new bone cannot keep up with the loss of old bone. Osteoporosis means "porous bone." It is a "silent" disease as you can't feel your bones weakening. The first signs of osteoporosis you may notice are a stooped or hunched posture, loss of height, or a broken bone.

Movement is medicine for your bodies, especially your bones. Walking is an excellent exercise that promotes bone health, strengthening the spine and hips, in particular. Strength training also develops strong bones, and it doesn't mean you need to lift super-heavy loads or follow a complex routine. Start at whatever level will challenge you slightly, even lifting a water bottle in each hand. Strive for good posture when sitting, standing, and doing any type of activity. Practicing good posture strengthens your core muscles, leading to better balance and steadiness.