

PLOWING AHEAD

AGRICULTURE & NATURAL RESOURCES

April 2024



CAIP COST-SHARE PROGRAM SIGN UP APRIL 8 - APRIL 26, 2024

Applications for 2024 CAIP program are available April 8 through April 26, at the Madison County Conservation District.

You can pick one up Monday-Friday 8:30 am to 4:00 pm at the USDA Service Center/Madison County Conservation District, located at 1024 Ival James Blvd., Richmond, or by regular mail. Electronic versions of the application are available on the district website: <https://www.mccdky.com/>, or by email at mccdky76@gmail.com

Completed applications must be returned to the USDA Service Center/Madison County Conservation District drop box to the left of the front door, scanned and emailed to the address above, or by regular mail at the address above. Applications must be turned in by April 26, at 4:00 pm or postmarked by then.

For 2024 the County Agricultural Investment Program (CAIP) standard guidelines for eligibility have been changed. Only one individual per household, regardless of county, is eligible to apply for CAIP funds within a program year. Proof of residency is required to verify that multiple individuals within the same household are not applying.

Additionally, all applicants must be a Kentucky resident. Residency is determined by a valid Kentucky driver's license or photo ID and one utility bill. The address on both the ID and utility bill must match the address provided on the CAIP application. A copy of both shall be submitted and placed in the file with the application.

For questions, please contact the Madison County Conservation District at 859-624-1981 ext. 3. If there is no answer, please leave a message and someone will return your call.

MCBCA BEEF CATTLE FIELD DAY APRIL 16TH

Make plans to attend our annual farm field day for information, food and fellowship!

Madison County Farm Bureau lease agent Eddie Warren and Madison County Ag & Natural Resources Agent Brandon Sears will demonstrate two new pieces of shared use farm equipment: 7' No-Till Drill and 500-gallon pasture sprayer. Also, Bo Tate and family will provide a stock herding demonstration with their dogs. Remember, hats and shirts with the MCBCA logo will be available for purchase! If you haven't renewed your membership for 2024, you can do that as well. **Don't forget to bring your lawn chairs!**



Tuesday April 16th at 6:00 pm, at the Dause Farm located at 330 Hensley Lane, Richmond KY 40475. Signs will be posted. This meeting is CAIP education eligible.

***A hamburger meal provided by the Madison County Beef Cattle Association will be served. Current members eat free or \$10 for non-members.**

Call the Madison County Extension Office at 859-623-4072 for your meal reservation or for information.



Brandon Sears
County Extension Agent
for Agriculture & Natural Resources
859-623-4072
brandon.sears@uky.edu



GRASSLANDS PARTNERSHIP PROJECT

The Madison County Cooperative Extension Service has been selected among a dozen counties in Kentucky to participate in a USDA funded, multi-state project referred to as the “Grasslands Partnership”. The goal of this project is to implement and demonstrate climate smart practices that improve grasslands management and, in turn, improve farm productivity, profits, and access to future markets that may expect enhanced environmental benefits.

This project is focused on documenting the impact of six grassland management practices on soil carbon storage, input costs, profitability, productivity, and, for some practices, responses of grassland birds and pollinators. Participants are required to install at least three of the designated practices and required to maintain them for a 5-year period. Support will be provided to implement practices.

During the 5-year period, participants will allow researchers access to their farms to collect data on the impacts made as a results of the practices. Participants will also be required to maintain detailed grazing management, fertilizer, herbicide, and seeding records. One or more field days will also be held on each participating farm.

The six grassland management practices included in this program are as follows:

Perennial Native Grasses- Participants will establish a minimum of 5 and up to 25 acres of big bluestem/ Indiangrass/little bluestem seed mix or switchgrass. Proper grazing management practices will be applied.

Perennial Grass/Forb Buffers- Participants will establish 60 feet wide buffers (2-10 acres total) around row crop fields to reduce runoff and encourage habitat for birds and pollinators.

Alternative N Sources- Participants will establish and maintain 5-30 acres of legumes. No nitrogen may be applied during the 5-year period. Acres enrolled will include grazing management practices.

Improved Grazing Management- Participants will implement improved grazing practices on 10 to 30 acres. Managed grazing heights will be implanted and grazing will begin when enrolled field reaches 10 inches and livestock will be removed when residue reaches 4 inches.

Silvopasture- Participants will establish 2-10 acres of silvopasture. Silvopasture, a sustainable agroforestry practice, involves the intentional integration of forage, trees, and livestock. Silvopastures offer potential for numerous environmental, economic, and social benefits, including improved soil health, increased biodiversity, enhanced livestock responses, and diversified income streams for farmers.

Novel Soil Amendments- Participants will apply biochar or gypsum, to slow soil N transformations and losses from the soil and increase rates of carbon sequestration. Measurements will be collected on forage productivity and nutritive value, as well as carbon sequestration and the mitigation of greenhouse gases in grasslands. Of the above listed six practices, a minimum of three practices must be implemented by the participant. In addition, the participant must have a field that undergoes their normal management. In other words, “business as usual”. Data will be collected from this field to further document improvement made from the practices implemented.

If you would like to know more about the Grasslands Project, contact Brandon Sears at the Madison County Cooperative Extension Service at 859-623-4072.

MADISON COUNTY BEEKEEPERS ASSOCIATION

Madison County Beekeepers Association will meet Monday, April 22 at the Madison County Extension Office. For more information, call Kent, 859-623-3576 or Paul, 859-582-6172.

PLATE IT UP! KENTUCKY PROUD!

Whether it's spring, summer, fall or winter, you can Plate It Up with recipes that put a new twist on your favorite Kentucky Proud foods.

Visit <http://fcs-hes.ca.uky.edu/piukp-recipes> to find all the Plate It Up recipes using Kentucky Proud products.

April 13th - 9:00 am to 3:00 pm
Madison Co Extension Office
230 Duncannon Lane, Richmond, KY



Predator Control & Guard Animal Management for Livestock Owners Workshop & Lunch

Who: Madison & Garrard County Extension Offices, the Southeast Kentucky Sheep Producers Association (SEKSPA), Kentucky State University, and University of Kentucky Forestry Extension

What: Learn how to protect your livestock from predators

When: Saturday, April 13, 2024. Registration 8:30-9:00. Luncheon starts at 12 noon

Where: Madison Co Extension Office at 230 Duncannon Lane, Richmond, KY 40475

Featured Speakers: UK Wildlife Specialist Dr. Matt Springer, KSU Veterinarian Dr. Jessie Lay, SEKSPA President Dr. Patrick Angel and experts in guard animal management, predator hunting/snaring and coyote/bobcat trapping from United Trappers of Kentucky

Registration Required. Please register by calling the Madison County Extension Office at 859-623-4072

\$10.00 per family. Your registration fee will include a delicious lamb burger and beef burger luncheon with sides and a One-Year Membership to SEKSPA

This workshop qualifies for CAIP education credits

See next page for Workshop Agenda...

Predator Control & Guard Animal Management for Livestock Owners Workshop

Including a Lamb Burger and Beef Burger Dinner

April 13 (Saturday), 2024

9:00 AM – 3:00 PM

(Registration starts at 8:30 AM – Luncheon starts at 12:00 noon)

Madison County Extension Office, 230 Duncannon Lane, Richmond, KY 40475

Brought to you by:

Madison and Garrard County Extension Offices

Southeast Kentucky Sheep Producers Association (SEKSPA)

Kentucky State University

University of Kentucky Extension Forestry

United Trappers of Kentucky

8:30 AM – Registration

9:00 AM – Field Demonstration Behind the Madison County Extension Office:

- **Predator hunting techniques** – Stacy White, Whitley Co. Extension ANR Agent
- **Coyote trapping** – Wesley Shoecraft, United Trappers of Kentucky
- **Bobcat trapping** – Stacy White, Whitley Co. Extension ANR Agent
- **Predator snaring** – Tim Grooms, United Trappers of Kentucky

12:00 PM – Luncheon at the Madison County Extension Office: Lamb burger and beef burger with sides luncheon provided by the Madison Co Extension Office and the Southeast Kentucky Sheep Producers Association.

1:00 PM – Classroom Instruction:

- **Introductions** – Brandon Sears, Madison County Extension Agent, Agriculture and Natural Resources, Richmond, KY
- **Nuisance Wildlife Laws, Exclusion Techniques, Vultures** – Dr. Matthew Springer, Wildlife Specialist, University of Kentucky Extension, Lexington, KY
- **Guard Animal Management** – Dr. Patrick Angel, President, Southeast Kentucky Sheep Producers Association, London, KY
- **Care of Guard Animals** – Dr. Jessie Lay, DVM, Assistant Professor, College of Agriculture, Community & the Sciences, Kentucky State University, Frankfort, KY
- **Closing & Update of Southeast Kentucky Sheep Producers Association** – Dr. Patrick Angel, President, Southeast Kentucky Sheep Producers Association, London, KY

PRACTICAL CONSIDERATIONS FOR MANAGING SPRING PASTURE GRASS

By Dr. Chris D. Teutsch, University of Kentucky Research and Education Center at Princeton

This time of year we often find ourselves wringing our hands waiting for grass growth to start and a short time later our pastures are growing so quickly that we can't seem to keep up with them. This time of the year can often be one of the most challenging for graziers. Grass growth goes from nonexistent to excessive in a matter of weeks and if you are properly stocked grazing livestock can have a hard time keeping up with it. The following suggestions can help you to control spring growth and get the most out of your spring pastures.

- Implement rotational grazing.** In order to fully utilize the spring flush of pasture growth **YOU** must be in control of grazing. In a continuous grazing system, the cows are in charge. By utilizing rotational stocking, you start to make the decisions. Implementing a rotational stocking system may be as simple as closing some gates. The key is to just get started!
- Start grazing before you think the pastures are ready.** One of the most common mistakes that graziers make is waiting too long to start grazing in the spring. If you wait until the first paddock is ready to graze, by the time you reach the last paddock it will be out of control. Starting early allows you to establish a "grazing wedge" (Figure 1).
- Rotate animals rapidly.** The general rule is that if grass is growing rapidly then your rotation should be rapid. This will allow you stay ahead of the grass by topping it off and keeping it in a vegetative state.
- Do not apply spring nitrogen.** This should not be a problem this year since nitrogen prices are off the charts. Applying nitrogen in the spring will make the problem of too much grass at once even worse. In many cases you are better off to save your nitrogen for stockpiling in the fall.
- Remove most productive paddocks from rotation and harvest for hay.** Graze all paddocks until the pasture growth is just about to get away from you and then remove those productive paddocks from your rotation and allow them to accumulate growth for hay harvest (Figure 2).
- Increase stocking rate in the spring.** If it is possible, a good option for utilizing spring growth is to increase your stocking rate. This will allow you to harvest more of the available forage and convert it into a saleable product. This can be done by adding some stockers or thin cull cows to your rotation and then selling them when pasture growth slows. If you are in a fall calving system, you are better positioned to take advantage of spring forage growth since the calves will be larger.

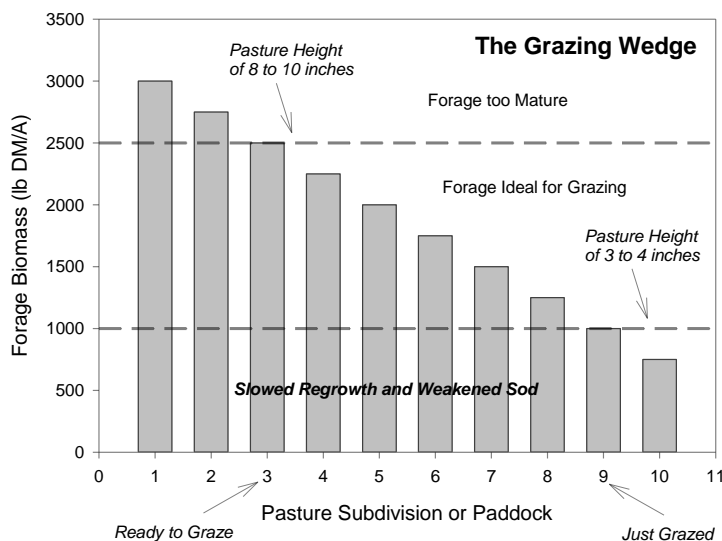


Figure 1. The "grazing wedge" simply refers to having pasture subdivisions or paddocks at varying stages of regrowth from just grazed to ready to graze.

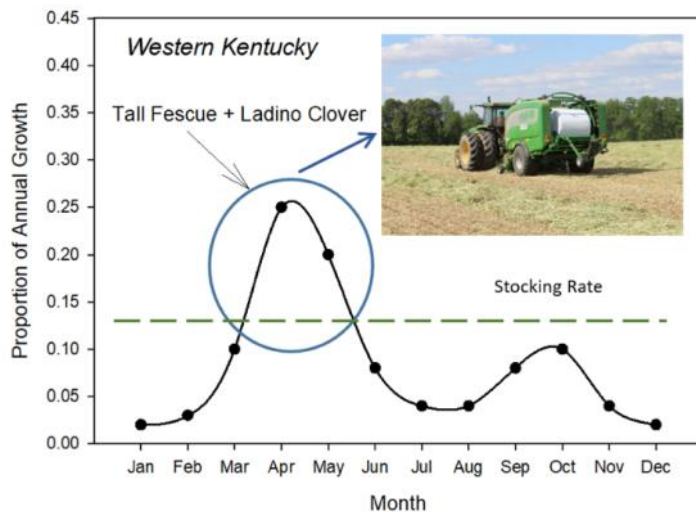


Figure 2. In the spring during periods of rapid growth, some paddocks can be removed from the rotation and harvested for conserved forage. Cutting at the late boot or early head stage will optimize yield and forage quality.

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PRACTICAL CONSIDERATIONS FOR MANAGING SPRING GRASS - CONTINUED

- **Even out seasonal distribution of forage by adding a warm-season grass.** Adding a well-adapted warm-season grass that produces the majority of its growth in July and August would allow you to concentrate grazing on your cool-season paddocks during periods of rapid growth (spring flush). After cool-season grass growth is slowed by higher temperatures in late spring and early summer, animals can be shifted in the warm-season paddocks for summer grazing.
- **Bush-hog out of control pastures.** The benefits of clipping include maintaining pastures in a vegetative state, encouraging regrowth, and controlling weeds. Clipping pastures costs money, so make sure that the primary reason for bush-hogging is pasture management, not aesthetics.
- **Stockpile out of control pastures for summer grazing.** Although forage quality decreases as the plant matures, the quality of spring stockpiled pasture is sufficient for dry cows and in some cases can result in reasonable gains on growing animals (Figure 4) during the summer months. This is especially true if using novel endophyte tall fescue and the pastures were clipped at the early boot stage to promote vegetative regrowth. This could be a cost-effective and simple way to provide additional grazing during the summer months.

One of the things that I enjoy the most about grazing operations is that there is no one size fits all. What works on your farm may not work on your neighbor's. One of the most important features to build into your grazing system is flexibility. This will allow you to adapt as conditions change!

For more information on grazing management contact your local extension agent or visit <https://forages.ca.uky.edu/> and <https://www.youtube.com/c/KYForages>.

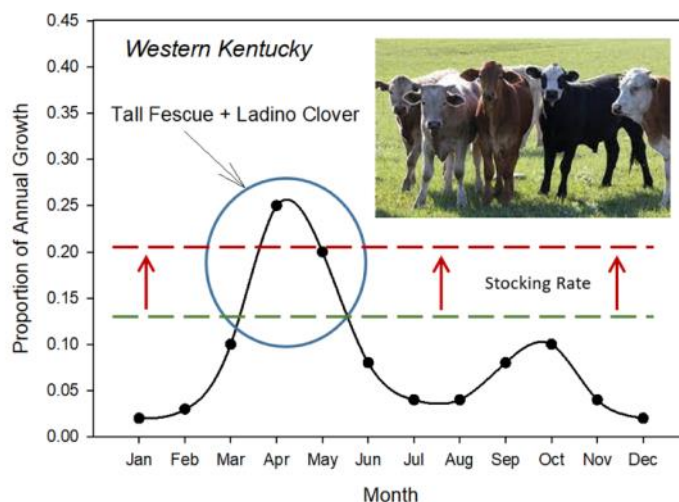


Figure 3. An alternative to harvesting excess forage as hay or baleage is to increase your stocking rate by adding more animal units in the spring and then decreasing animal numbers as plant growth slows due to higher temperature during the summer months. While this is a viable approach, it is not practical on smaller part-time operations.

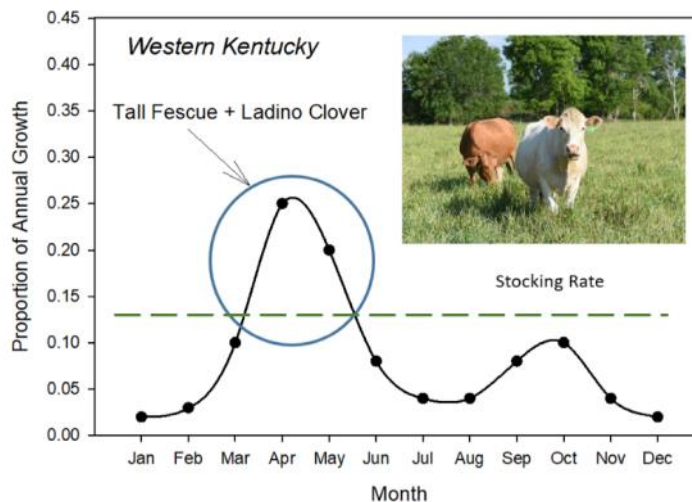


Figure 4. Excess growth in the spring could also be stockpiled for grazing during the summer months. This is accomplished by removing some paddocks from the rotation and allowing growth to accumulate during late spring and early summer. It is important to remember that only about the one-half of the available biomass should be grazed. The remaining residue will protect plant crowns from high temperatures and reduce soil moisture loss during the summer months.

FEATURED PUBLICATION FOR APRIL

This month's featured publication is: "[AGR-229: Warm Season Annual Grasses in Kentucky](http://www2.ca.uky.edu/agcomm/pubs/AGR/AGR229/AGR229.pdf)". Click on this link, <http://www2.ca.uky.edu/agcomm/pubs/AGR/AGR229/AGR229.pdf>, or visit your local extension office.

FEATURED PUBLICATION FOR APRIL

This month's featured video is: "[Summer Stockpiling: Thinking Outside of the Box](https://www.youtube.com/watch?v=FE3VPWqVqvA)". Click on this link, <https://www.youtube.com/watch?v=FE3VPWqVqvA>, or go to KYForages on YouTube.

FENCING TIP FOR APRIL

Connect wires that run in parallel at the end of runs. A good way to increase the ability of a fence to carry voltage is to connect all the wires at the beginning and end of runs of multi-wire fence. This allows the multiple strands of high tensile wire to function as one large wire that is capable of carrying higher levels of voltage.



ACT NOW TO CONTROL POISON HEMLOCK

By Dr. J. D. Green, Extension Weed Scientist, Dr. Megan Romano, UKVDL Toxicologist, Dr. Michelle Arnold, Ruminant Extension Veterinarian

During the early summer, the presence of poison hemlock (*Conium maculatum*) is more evident. Although this plant is often seen along roadways, abandoned lots, fencerows, and other non-cropland sites, in recent years it has expanded out into grazed pasture lands and hay fields. Poison hemlock is toxic to a wide variety of animals including man, birds, wildlife, cattle, sheep, goats, pigs, and horses. It contains several neurotoxic piperidine alkaloids; the two major ones are coniine (major alkaloid in the mature plant and seed) and the more toxic gamma-coniceine (predominate in green, vegetative growth). These alkaloids cause muscle paralysis by acting as a neuromuscular blocking agent, resulting in two major effects: 1) rapid, sometimes fatal effects on the nervous system and 2) they are teratogenic agents, meaning they are known to cause birth defects when consumed during certain times of gestation. Cattle seldom choose to eat poison hemlock unless no other forage is available or it is incorporated in hay, silage, or the seeds in grain. A commonly asked question is how much plant material must be consumed by cattle to kill them. Unfortunately, the answer is not clear cut as there is considerable variation in the toxic alkaloid content of the plant depending on its stage of growth, season, moisture, temperature, time of day, and geographic region. Cattle have died by eating 0.2-0.5% of their body weight in green hemlock.



Figure 1. Poison hemlock rosette.

Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. New plants emerge in the fall as a cluster of leaves that form a rosette which remains green throughout the winter in a semi-dormant state. It is most noticeable at this stage of growth in late fall through early spring with its parsley-like leaves which are highly dissected or fern-like with leaf petioles that have purple spotting and no hairs (Figure 1). The individual leaves are shiny green and triangular in appearance.



Figure 2. Mature poison hemlock plants growing in hayfield.

After resuming active growth in late winter, they form larger rosettes. As the plant begins to send up flower stalks, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock can grow upwards to about 6 to 8 feet tall (Figure 2). At maturity the plant is erect, often with multi-branched stems, and forms a deep taproot. The hollow stems are smooth with purple spots randomly seen along the lower stem that helps distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Poison

hemlock foliage has an unpleasant mouse urine-like odor, detectable when near the plant or when a stem or leaf is crushed. Although this weed is often associated with areas that have moist soil conditions, it can also survive in dry sites.

Fortunately, most animals avoid grazing poison hemlock if other forage is readily available. However, animals are more likely to consume green plants during the late winter and early spring when other forage species are limited or when dry lotted or starving animals gain access to an overgrown field. All parts of the plant, including the seeds, contain the toxic alkaloids coniine and gamma-coniceine. Gamma-coniceine is more toxic than coniine and is at its highest concentration in early growth. As the plant matures, gamma-coniceine undergoes chemical reduction to the less toxic alkaloid coniine. Seeds and dried plant material contain the highest concentrations of coniine. Although toxicity is reduced during drying due to volatility of coniine, animals will eat much more dried poison hemlock than fresh because palatability is greatly improved. Seeds are highly toxic and can be a source of poisoning when they contaminate cereal grains fed to livestock. Therefore, avoid feeding animals hay or grain known to contain poison hemlock.

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ACT NOW TO CONTROL POISON HEMLOCK - CONTINUED

Symptoms of acute poisoning can occur rapidly after ingestion of plant material anywhere within 30 minutes to 2 hours depending on the animal species, quantity consumed, and stage of plant growth. Initially the affected animal may develop nervousness, salivation, tearing, frequent urination, and signs of abdominal pain. There may be a detectable mousy odor to the breath and urine. Symptoms progress to muscle tremors, incoordination, and weakness, difficulty breathing, and death can result within hours due to respiratory failure. If acute poisoning does not progress to collapse and death, signs can begin to improve within several hours, with full recovery in as few as 6-8 hours.

Diagnosis is based on history of plant ingestion, clinical signs, and chemical analysis for presence of alkaloids in rumen contents. Activated charcoal may help bind alkaloids if administered prior to onset of signs. Avoid exciting or stressing symptomatic animals, as that may exacerbate symptoms and result in death. Poisoning is prevented by providing sufficient, good-quality forage and preventing livestock exposure. Public health is a concern when dealing with poisoned animals because of the possibility of alkaloid residues in meat. Elimination of plant toxicants through the milk is a minor route of excretion but may be important when consumed by a calf or a human. More importantly, people have been accidentally poisoned when they confused poison hemlock for plants such as parsley, wild carrot, or wild anise.



*Figure 3: Limb deformity due to ingestion of poison hemlock during 1st trimester of pregnancy.
Photo courtesy of Levi Berg, (Nov. 2018)*

Although acute poisoning is a primary concern, an equally serious problem is subacute intoxication of pregnant livestock that results in congenital birth defects. These defects are caused by inhibition of fetal movement by the plant toxin during critical fetal development. In cattle, the susceptible period of pregnancy is 40 to 100 days while in swine, sheep, and goats the susceptible period of gestation is 30 to 60 days. Defects possible include severe limb deformities (Figure 3), joint rigidity, rib cage anomalies, vertebral curvature, and cleft palate. Diagnosis of plant-induced congenital defects is only through known exposure during gestation since the alkaloids are long gone once the calf is born.

The principal strategy for poison hemlock control is to prevent seed production which can be a challenge since a fully mature plant can produce 35,000 – 40,000 new seeds.

It is too late to utilize herbicide control methods after plants have produced flowers. Therefore, mechanical control efforts (if feasible) such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the number of new seeds produced. **The best time for control using herbicides is generally when plants are in the younger rosette stages of growth in late October/ early November or February/ early March when daytime temperatures reach the 60°s.** Make note of areas heavily infested with poison hemlock (Figure 4) and begin to look there for emergence of new plants in the fall. Herbicide products containing 2,4-D, dicamba+2,4-D (e.g. Weedmaster, Brash, Rifle-D, etc.), and aminopyralid (e.g. DuraCor, GrazonNext) are the preferred choices for obtaining effective control. Effectiveness of chemical control can decrease as plants begin to elongate and become more mature. When using herbicidal control methods on larger plants, it is important to remove animals from treated areas since animals are more likely to graze poison hemlock plants following herbicide treatment.



Figure 4. Poison hemlock growing along fence line in December.