Jefferson County Agriculture Newsletter September 2018

University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

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DID YOU KNOW?

Each year since 1944 the third week of September has been recognized as National Farm Safety Week. This year it is September 16-22!

Stay Safe at Harvest Time!

Harvest is a busy time for Kentucky farmers and their families. It also is a peak season for agricultural injuries and an especially important time for farm families to pay attention to safety.

If you have employees, take time to talk to them about safety. Make sure all workers are trained and physically capable of operating equipment and that they understand the safety procedures.

Long working hours can lead to fatigue and stress and that can make you less alert to potential safety hazards. Take breaks when operating equipment for an extended time. If possible, trade off with other workers for a change of pace.

Dress appropriately for the job. Avoid loose clothing, jackets with dangling strings and sweatshirts that could get entangled in moving equipment.

Entanglement in moving parts, especially power take-offs or other chain and belt drivers, is a major harvest hazard. Inspect machinery and equipment to be sure shields and guards on moving parts are in place and in good repair. Replace ineffective or missing safety equipment.

Before getting off equipment, disengage the power and wait for moving parts to completely stop. When possible, shut off the engine.

It is always a good idea to take the ignition key with you, so another person does not unexpectedly start equipment while you are performing maintenance or making a repair. If you are working under any piece of equipment, such as a header unit, always use the jack stand or hydraulic cylinder locks to prevent it from suddenly falling and pinning you. Be sure all safety locks are operational.

Always use paper or cardboard to check for hydraulic leaks. A pinhole-size hydraulic leak can cause severe tissue damage. If you are injected with oil from a hydraulic leak, immediately seek medical assistance. The oil must be surgically removed, and delays can result in serious infections and possible amputations.

Tractor overturns are the leading cause of farm deaths. To prevent these tragedies, equip older model tractors with a rollover protective structure. Most tractors manufactured after the late 1960s or early 1970s can be equipped with a ROPS for a reasonable price.

Make it a habit to use the seat belt to ensure you remain inside the zone of protection provided by the ROPS or safety cab. The seat belt also will keep you from being thrown off the tractor if you hit an obstacle. Being thrown off the tractor and run over is the second leading cause of tractor deaths in Kentucky.

Never allow any extra riders on tractors or equipment. Keep bystanders away from operating equipment. Also, be aware of people who may have come into the area. Always check around equipment before starting or moving it.

Carry a fire extinguisher on all tractors and self-propelled equipment, especially combines. Periodically check extinguishers to be sure they are pressurized and in good condition.

To prevent fires on combines, be sure equipment is clean and hoses and fuel systems are in good shape and not leaking. Remove trash and debris around engine components.

Check for clearances with overhead power lines when operating or moving tall machines, because contact with them may cause electrocution. Moving portable augers around overhead power lines is especially hazardous so always lower them first.

When filling silos, watch for the bleach-like odor that indicates silo gas. This yellowish-brown gas is heavier than air and will settle on the silage surface and may flow down the chute into adjacent livestock areas. Close any doors leading to livestock areas, keep the base of the silo chute well ventilated and do not enter a silo during the first two weeks.

Farm vehicles on public roads are annually involved in thousands of injury accidents in the United States, and more than 200 collisions involving farm machinery on public roads occur in Kentucky every year. Thus, people driving farm machinery and those driving vehicles should be especially careful and watchful.

Keep slow moving vehicle emblems and extremity markings clean and bright to help motorists notice equipment. Replace faded SMV emblems, and check headlights, taillights and flashing lights for satisfactory operation.

To alert oncoming drivers, use reflectors or reflective tape when the edges of towed equipment extend beyond the left side of a tractor. If a tractor has mirrors, keep them clean and adjusted for the driver to watch for approaching motorists. When possible, pull completely off the road to let a line of traffic pass.

Since it may be difficult to anticipate the operational intentions of farm machinery on the road, other drivers need to watch for unmarked field entrances or other places the driver might be planning to enter. A tractor may need to move to the right to complete a left turn so do not assume the driver wants you to pass when moving to the right side. Pass only in a designated passing zone or when the other driver signals and completely pulls off the road.

For more information on farm safety, contact the Jefferson County Cooperative Extension Service office.

Source: Mark Purschwitz, UK extension professor and agricultural safety and health specialist

Be Aware of Poison Hemlock Dangers to Livestock

In recent months, evidence of poison hemlock is widespread in Kentucky. Poison hemlock is toxic to a wide variety of animals including birds, wildlife, cattle, sheep, goats, pigs, horses and to humans.

People are usually poisoned when they eat hemlock mistaken for plants such as parsley, wild carrot or wild anise. Although, cattle seldom eat hemlock, they will if no other forage is available or if it is incorporated in hay or silage. A common question is how much do cattle need to eat to kill them. Unfortunately, the answer is not clear cut. There is considerable variation in the toxic alkaloid content of the plant depending on stage of growth, season, moisture, temperature, time of day and geographical region (southern plants are more toxic than northern plants). The alkaloids have two major effects: rapid, sometimes fatal effects on the nervous system, and birth defects in calves and pigs. Cattle have died by eating as little as 0.2-0.5 percent of their body weight in green hemlock.

Although this plant is often seen along roadways, abandoned lots, fencerows and other non-cropland sites, in more recent years, it has expanded out into grazed pasture lands and hay fields. 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. Flowers and new seed are typically produced in late May and June. Plants emerge as a cluster of leaves that form a rosette. Poison hemlock 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. The individual leaves are shiny green and triangular in appearance.

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. At maturity, the plant is erect, often with multi-branched stems, and it forms a deep taproot. Poison hemlock has smooth, hollow stems with random purple spots along the lower stem that help distinguish it from other similar plants. 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. Although poison hemlock is often associated with areas that have moist soil conditions, it can also survive in dry sites.

Symptoms of poisoning can occur within 30 minutes to two hours of ingestion depending on the animal, quantity consumed and other ecologic factors. Toxicity varies depending on stage of plant growth, location and environment. Poison hemlock foliage has an unpleasant mouse urine-like odor, detectable when near the plant or when a stem or leaf is crushed, so livestock generally avoid it. Signs of acute poisoning include:

- nervousness, trembling, muscle weakness, incoordination
- salivation (slobbering)
- initial stimulation or excitement followed by depression
- dilation of the pupils
- weak heartbeat
- musty, mousy odor to breath and in the urine
- prolapse of the third eyelid across the cornea may cause temporary blindness

- death by respiratory failure, due to paralysis of respiratory muscles

Although acute disease is a primary concern, an equally serious problem is subacute intoxication of pregnant livestock that causes deformed bones and joints in calves and pigs. For this to happen, cows must eat the plants for an extended period of time during the first trimester of pregnancy. The susceptible stage of gestation for maternal exposure for cattle is from 50-75 days for skeletal defects to occur. These alkaloids continuously reduce fetal movement during tissue formation, resulting in crooked legs, deformed necks and spines. Less commonly, cleft palate results from lack of fetal movement in the head and neck regions at 30-50 days gestation, resulting in the tongue preventing normal palate closure during embryo development.

All parts of the plant, including the seeds, contain the toxic alkaloids. Ingestion of fresh, green plant material may quickly produce signs of intoxication within an hour and last for several hours. Seeds and dried plant material contain the highest concentrations of the most troubling alkaloid. Toxicity may be somewhat reduced in dried plants due to volatility of the alkaloids, but the potential for toxicity still exists, particularly when a sufficient quantity is consumed in dried hay. Seeds are highly toxic and can be a source of poisoning when they contaminate cereal grains fed to livestock. Use extreme caution before feeding animals hay or grain known to contain poison hemlock.

Diagnosis is based on history of plant ingestion, clinical signs and chemical analysis for presence of alkaloids in rumen contents. No specific treatment for poisoning exists. If acute poisoning does not progress to respiratory failure and death, the prognosis for full recovery is good. Avoid overexcitement and stress that may exacerbate clinical signs and result in death.

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.

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

is too late to use herbicide control methods after plants have produced flowers. Therefore, you should use mechanical control efforts such as mowing or cutting down individual plants just before peak flower production to avoid or reduce the amount of new seed being produced.

Make note of areas heavily infested with poison hemlock and begin to look for emergence of new plants in the fall. During the late fall, November, or early spring, March, is the best time of year for herbicide treatment. In grass pastures and hayfields herbicide products containing 2,4-D can be effective when applied to young, actively growing plants that are in the rosette stage of growth. Spot treatments with products containing 2,4-D, triclopyr, or glyphosate can also be used depending on the location.

For more information on recognizing or controlling poison hemlock, contact the Jefferson County Extension office.

Source: Michelle Arnold, UK extension ruminant veterinarian; J.D. Green, UK extension weeds specialist

Dairy Calves Need Water, Too!

By their third day of life, calves need to have free-choice access to water in addition to their calf starter and milk or reconstituted milk replacer. Depending on the air temperatures and calf health, young calves may drink a quart or more of water daily.

As temperature increases, calves drink more water. Water intake also increases as calves eat more starter. Generally, calves drink four parts water to one part of calf starter consumed. Calves drink water more frequently than cows, so they need to have water available at all times. In the winter, calves will drink more water when provided warm versus cold.

Providing free-choice water is needed for hydration, but even more importantly, for rumen development. Water consumption increases starter intake and weight gain. In a research study, depriving calves of drinking water decreased starter intake by 31 percent and decreased weight gain by 38 percent over those calves provided water free-choice. Remember that weight gain, especially related to muscle and skeletal growth, during the first two months of life is positively correlated to first-lactation milk yield. Calves fed water free-choice also had a lower incidence of scours.

Free-choice water along with a high-quality calf starter results in rumen development, which allows the calf to transition to a diet containing primarily forages and other fibrous feedstuffs. When you feed milk to calves, the milk does not enter the rumen but rather the calf's true stomach or abomasum. When calves nurse or drink milk, a nervous stimulation results in the closure of the esophageal groove that allows milk to go directly from the esophagus into the abomasum, bypassing the rumen itself.

Milk or water added to the milk will not enter the rumen and provide a moist environment for the bacteria to grow in the rumen. These rumen bacteria produce volatile fatty acids that result in the development of the rumen papillae, which, in turn, absorb the volatile fatty acids that provide nutrition to ruminants.

There are several ways to provide water to your calves:

Calf hutches or individual stalls - Ideally, calves should be provided water away from buckets containing calf starter. When starter and water are located side-by-side, calves often drip water into the starter, and that increases the chances of wet feed that can mold. Also, when

you provide water at the front of the hutch, you can improve labor efficiency since the person replenishing water can walk in a straight line versus weaving through the hutches.

Automatic calf feeders - For calves fed through an automatic calf feeder, place an automatic water in each pen. Select and install these waterers such that the top is no higher than 28 inches from the floor and provide water that is at least 3 inches deep. Calves need to have unobstructed access to these waterers to allow unlimited access. Just like waterers for the milking herd, you should empty these daily and clean and scrub them with a brush using a weak bleach water (1/4 cup bleach in 1.25 gallons of water) at least weekly.

For more information about dairy calves, contact the Jefferson County Extension office.

Source: Donna Amaral-Phillips, UK extension dairy specialist

A Kentucky Thoroughbred horse farm is reaping the benefits of healthier mares and foals due to pasture renovations they made over the past year with guidance from personnel in the University of Kentucky College of Agriculture, Food and Environment.

In 2017, Mill Ridge Farm in Lexington experienced significant foaling problems that appeared to Marc Richardson, the farm manager, to be classic symptoms of fescue toxicity.

“Last year, we had multiple foalings that required veterinarians to come out,” Richardson said. “We also had mares that did not have any milk production.”

Under the advisement of the farm’s veterinarian Dr. Stuart Brown, Richardson contacted UK forage extension specialist Jimmy Henning and Krista Lea, program coordinator for UK’s Horse Pasture Evaluation Program.

“The Horse Pasture Evaluation Program really started to help horse farms better understand pasture management and look at fescue toxicity,” Lea said. “Over the years, we have increased the size and the scope of the program primarily due to demand.”

Henning and Lea met with the farm personnel at Mill Ridge. They took forage samples from pastures frequented by pregnant mares. The samples were analyzed, and the results confirmed that the tall fescue in some of the farm's pastures had high ergovaline levels. Ergovaline is a toxin produced by endophyte-infected tall fescue that affects pregnant broodmares.

Henning and Lea made recommendations that included completely killing off two fields with the highest ergovaline levels and reseeding them with bluegrass, orchardgrass and a little perennial ryegrass to help with forage establishment. This meant taking those two fields out of production for almost a year. They removed only the fescue in the other fields.

"We targeted the pastures that supported mares in the last third of gestation," Henning said. "It lent itself to a narrow range of options and a focused response."

Richardson and other Mill Ridge personnel have been pleased with the results.

"It is a complete 180 from last year," Richardson said. "This year, we lost no mares or foals. The pasture renovations are what turned our foaling season around."

Richardson said the farm plans to renovate one field each year until they remove fescue from all the fields through which pregnant mares rotate.

"It's a big investment, especially the pastures we totally killed off and reseeded, but when you compare it to the cost of one trip to the clinic with a mare and foal or the loss of a foal, it's not really very expensive," he said.

Horse farm owners and managers who are interested in learning more about pasture evaluation should start with their county extension agent for basic recommendations and help in taking soil samples. They can get more detailed recommendations and samplings through UK's Horse Pasture Evaluation Program.

Author, Katie Pratt, from Latest News in Ag, University of Kentucky College of Agriculture, Food and Environment, August, 2018

Contact: Jimmy Henning, 859-218-0749; Krista Lea, 859-257-0597

Please read below for important information regarding GRANTS for Small Scale Farms, SARE grants and Community Impact Grants.

Agribusiness Grant Facilitation Program

The following information is from Aaron Shapiro, Grant Facilitator, Kentucky Center for Agricultural Development. If you have questions, please call 859-550-3972 or email kcard@kcard.info

Kentucky State University (KSU) Small Scale Farm Grant

Deadline: October 1, 2018 and December 1, 2018

Funding Amount: Up to $5,000 for farmers and $15,000 for agriculture groups benefiting multiple farmers

Eligible Entities: Kentucky farmers and Kentucky agriculture groups including farmers markets

Link: http://kysu.edu/academics/cafsss/research-extension/small-scale-farm-grant-program/

Overview: The Kentucky State University (KSU) Small Scale Farm Grant was created with the small farmer in mind. The grant application is simple to complete, and the funds can be used to purchase needed equipment related to the proposed project. Applicants must be adding value to their product, be an organic farmer, live in a food insecure area, and/or be an aquatic farmer. Farmers markets are often eligible. Previously approved projects have included canning equipment, a water line to a hoop house, a root cellar, a display refrigerator, a cool-bot for vegetables, and freezers for keeping meat cool. There is also an educational component to this program that will help farmers with up to $500 in educational cost.

Southern SARE Producer Grants

Deadline: Expected to open early September, applications will be due November 16, 2018

Funding Amount: $10,000 for an individual & $15,000 for farmer groups. No match required!

Eligible Entities: Farmers or farmer organizations

Links: http://www.southernsare.org/ and SARE Producer Grant Link

Overview: Southern SARE Producer Grants support projects that help solve problems and use the results to help others facing the same challenges in areas such as research, marketing, and education. This program helps take the financial risk off farmers trying to find a solution to a problem. Funds can be used for labor, materials, supplies, sampling, travel, field days, and outreach expenses. If you have a good idea

for improving your farming operation this is a great opportunity to explore its feasibility.

Southern SARE On-Farm Research Grants

Deadline: Expected to open early September, applications will be due November 16, 2018
Funding Amount: Up to $15,000 for up to two years of research. No match required.
Eligible Entities: Agricultural professionals, extension professionals, university researchers, NRCS, and other non- government organizations.
Links: http://www.southernsare.org/ and SARE On-Farm Research Grant Link
Overview: Southern SARE On-Farm Research Grants are designed for agricultural professionals to conduct on-farm research projects that investigate sustainable agriculture practices. These grant projects require collaboration with at least one farmer. Funds can be used for labor, materials, supplies, sampling, travel, field days, and outreach expenses. If you are an agriculture professional with a good idea to help farmers improve their operations this grant is for you.

The Home Depot Foundation - Community Impact Grants Program

Deadline: Now open! Due by December 31, 2018
Funding Amounts: Up to $5,000 in gift cards to purchase tools, materials, or services
Eligible Entities: Non-profit 501c3 organizations and tax-exempt public service agencies including schools
Link: https://corporate.homedepot.com/grants/community-impact-grants
Overview: The Home Depot Foundation offers Community Impact Grants to provide support to non-profit entities that serves veterans and/or underserved populations. The funds are provided in the form of gift cards to use for projects in their local communities in various ways including community gardens.

Marketing for All

Adaptable Marketing Training for Small Farms

Marketing Basics
We'll talk Product, Price, Place, and Promotion as well as key variables specialty crop marketers should consider.

Social Media Basics
This intro course shows how small businesses can use social media to reach new customers and learn about what their clients want.

Basics of Web Design
Designing simple professional online content is now possible for even the most computer illiterate among us. We touch on principles and tools to get you going.

Hands-On Visual Merchandizing
We take a show-don't-tell approach to learning about display design. Participants can brainstorm and discuss the merits of different designs in a hands-on workshop.

Market Signs That Work
Whether you are getting people to your market or business or trying to communicate with them once they've arrived, this workshop can help.

Identifying and Exploring New Markets
There are pros and cons to every market channel. Learn how to find and compare opportunities to grow your business.

Understanding and Using Analytics
Big companies collect BIG data. Learn how you can leverage their technology for your business.

Record Keeping for Specialty Crops
It's not the most exciting course on the list, but record keeping tells you how your business is doing. We focus on basics and making small changes for big results.

Using Price Data to Make More Money
Once you've figured your costs, how do you set your price? We show how to use CCD price data to make sure the price is right.

Value-Added Product Development
Value-added production is one of the big steps many of our producers take. We make sure you know the lay of the land before you get started.

Accepting More Than Just Cash
Customers don't always carry cash any more. We take a look at how and why you may want to think about taking plastic.

CENTER FOR CROP DIVERSIFICATION

Each training lasts ~ 1 hour.
Mix & match topics to meet your group's needs.
To schedule: **email brett.wolff@uky.edu** or **call 859-218-4384**

Below are some Agricultural links you might find useful:

Kentucky Agriculture Water Quality:
http://www.uky.edu/bae/sites/www.uky.edu.bae/filesKentucky%20Agriculture%20Water%20Act%20Fact%20Sheet.pdf

https://kycattle.org

College of Ag

Agricultural Communication Services

Agricultural Information Center

KY Master Logger Program

KY Tobacco Research and Development Center

Division of Regulatory Services

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