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Forage News

Keeping Forage-Livestock Producers in Kentucky Informed

Dr. Ray Smith and Krista Lea, editors

March 2022

This issue of Forage News is sponsored by Growmark/FS Forage Seeds, now available at Southern States.



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Novel Tall Fescue Renovation Workshops

The Alliance for Grassland Renewal is proud to once again offer virtual and in-person workshops for producers, extension, conservation, and industry professionals.

The 2022 Novel Tall Fescue Renovation Workshop will be held virtually on March 8th, beginning at 6 pm (ET). Registration is just \$15 for the 3 hour program and includes a recording of the event. Topics and speakers include Toxicosis and Types (Joe Bouton), Improving Animal Performance (Gabe Pent), Establishment and Management (John Andrae), Seed Quality and Testing (Gene Schmitz), On-Farm Economics (Matt Poore), and a summary and discussion (Ray Smith).

The first of two in-person workshops will be held in Springhill, TN at the Middle Tennessee Research and Education Center on March 23rd 2022. This full day event begins at 8:30 CT; registration is \$65 and includes lunch, educational materials and hands-on demonstrations. Topics and speakers include: Toxicosis symptoms and causes (Craig Roberts), Toxicosis Management (Gary Bates), Establishment and first year management (John Andrae), Seed quality and testing (Nick Hill), Economics (Matt Poore) and Cost share and incentive programs (Tammy Swithart).

More information and registration for these events and others offered by the Alliance for Grassland Renewal can be found at <https://grasslandrenewal.org/workshops/>.

Looking for Grazing Articles and Videos?

"On Pasture" is an excellent online monthly publication that also has a big archive of pasture and grazing related articles - about 3,000 right now. They've also worked hard to find information and curate a collection that gives graziers what they need right away so they don't have to spend valuable time searching everywhere. Many of you have probably not even heard about **On Pasture** before. You can try it out by subscribing to the free option and take ten days to explore content to find out if you'd like to become a paying supporter. Find out more at <https://onpasture.com/>

Pub of the Month: Fundamental Principles of Plant Pathology for Agricultural Producers (PPA-41)

All crops grown in Kentucky have the potential to become diseased under the right conditions. A plant is diseased when it is affected by some agent that interferes with its normal development. Plant pathology, the study of plant diseases, can be a very confusing subject for many. This publication presents current basic concepts in plant pathology for growers.

Topics include: Infectious Organisms that Cause Diseases, The Disease Triangle, Managing Plant Diseases, Integrated Disease Management, and Sources of Information on Plant Diseases. This publication can be downloaded from UK Plant Pathology webpage at <http://www2.ca.uky.edu/agcomm/pubs/ppa/ppa41/ppa41.pdf>

Hope for the Best, But....Have an Applicator's Pesticide First Aid Kit Handy

For many, applying pesticides can be a routine task. But sometimes, unexpected events happen: a broken hose under pressure, a leaky tank, a hose popping off the backpack sprayer, or just blowback from the nozzles. When you are contaminated with pesticides, you need to quickly get cleaned up. I (Ray) know a producer that is blind today because of a hose leak when applying anhydrous ammonia. That day he had forgotten to bring along an eyewash bottle.

If someone has swallowed or inhaled a pesticide or gotten it in their eyes or on their skin, and the person is unconscious, having trouble breathing, or having convulsions, then call 911. Always check the pesticide label for directions on first aid for that product. For help with first aid information, call the Poison Control Center (800) 222-1222 or National Pesticide Information Center (800) 858-7378.

If pesticides are inhaled, remove the individual to fresh air immediately. Loosen the victim's tight clothing. If not breathing, provide artificial respiration, preferably mouth-to-mouth. Open doors and windows so no one else will be poisoned by fumes. Seek medical attention.

It is a good idea to have a pesticide first aid kit handy and to bring it with you when making applications. Keep in mind that first aid is not intended as a replacement for care administered by professional medical personnel; rather, first aid is the initial effort to help a victim until professional medical help can be provided. A pesticide's risk is a function of the toxicity of the material and a person's exposure to the material. Exposure can occur through the eyes, skin, nose, mouth, stomach, or lungs. But another aspect is the time of exposure; the quicker

the exposure can be interrupted, the better the exposure can be limited. Always check the label for pesticide-specific first aid procedures.

Components of a pesticide first aid kit:

Gloves – good all-purpose gloves, such as barrier laminate, to protect against a wide range of pesticides. Remember to protect yourself from pesticide exposure prior to and while giving assistance. Make sure you wear the appropriate personal protective equipment (PPE), including a respirator, before assisting someone in an enclosed area.

Coveralls – when a change of clothes are needed after contaminated clothes have been removed.

Liquid soap and clean water – a couple of gallons of clean water to decontaminate the victim. Avoid harsh scrubbing since this can increase pesticide absorption.

Saline eye-wash – hold the eyelid open and immediately begin gently washing the eye with clean running water or eye-wash solution. Continue washing for 15 minutes. Cover the eye with a clean piece of cloth and seek medical attention immediately. If contact lenses are worn, remove and discard the contacts before washing the eyes.

Disposable towels

Syrup of ipecac – used only with ingestion of certain pesticides. Read the first aid statement on the pesticide label carefully. Induce vomiting **ONLY** if emergency personnel on the phone or the product label tells you to do so. Never try to administer anything by mouth to an unconscious person.

Activated charcoal – used only with ingestion of certain pesticides when vomiting is not permitted. Read the first aid statement on the pesticide label carefully.

After giving first aid, call the emergency number listed on the label and/or the Poison Control Center at (800) 222-1222. Have the pesticide label on hand when you call. ~ Ric Bessin, Kentucky Pest News

Are Hay Preservative Applicators Worth It?

Weather during harvest can be the biggest challenge in putting up high-quality hay. If hay is still a bit wet but a storm is coming and you want to get it baled and stored before the rain, you might consider using inoculants and hay preservatives.

If used correctly, these additives can be beneficial. Ideal storage moisture depends on bale size. According to agronomy extension specialists at South Dakota State University, small square bales should be baled/stored at about 18%-20% moisture and larger bales about 3%-5% dryer to prevent heating and mold. When moisture levels exceed these ranges, a hay preservative or inoculant may be appropriate, but if moisture reaches more than 30%, these won't help.

There are several products designed to help keep hay from heating and spoiling. Bacterial inoculants add more "good" bacteria to aid fermentation and improve aerobic stability (stopping mold growth). These bacteria occur naturally in many plants; inoculants simply add more.

They work best on hay that is wetter than good baling conditions, but less than 25% moisture. Inoculants should be applied uniformly as hay is baled and before any rain gets on it. They help protect against small moisture changes (3%-5% higher than you would typically bale) to reduce or stop mold

Forage Timely Tips: March

- ✓ Continue pasture renovation by no-tilling seeding legumes.
- ✓ Place small seed at 1/4 to 1/2 inch deep and check depth several times during planting; slow down for more precise seeding.
- ✓ Continue feeding hay until adequate forage exists in the pasture for grazing.
- ✓ Spring seeding of grasses should be done in early to mid-March (but fall is preferred)
- ✓ Begin smoothing and re-seeding hay feeding and heavy traffic areas.
- ✓ Graze pastures overseeded with clover to reduce competition from existing grasses. Pull off before grazing new clover plants.
- ✓ Provide free choice high-magnesium mineral to prevent grass tetany on lush spring growth.

growth, improve hay quality and palatability, and maintain green color.

Hay preservatives are different than inoculants and different than desiccants, which are drying agents applied at cutting to increase drying rate. Preservatives are applied to hay as it is baled to minimize spoilage during storage. Both products are usually applied through a spray system, either on the mower (for desiccants) or on the baler (for preservatives).

A preservative can be applied through spray nozzles fastened above the pickup attachment on the baler, which is common for large round balers, or discharged directly onto the hay within the bale chamber for small or large square bales. Preservatives prevent heating of hay baled at higher moistures by inhibiting growth of aerobic microbes. They allow hay to be baled sooner, reducing the time it lies in the field exposed to precipitation risk.

Preservatives are cost-effective if used as needed to prevent rain damage, when applied uniformly to the windrow as it enters the baler. The most effective preservatives for alfalfa are organic acids, mainly propionate (propionic acid) and acetate (acetic acid).

Effective application relies on using proper rate (dependent on moisture content and size of bale) and quality of forage. Preservatives containing high amounts of propionic acid are generally effective in reducing spontaneous heating in moist hay, but ammonium propionate (buffered propionic acid) is often recommended because it's less caustic. The preservative should be sprayed using the most uniform application possible. (continued page 3)

Upcoming Events (see Forage website for details and to register, click on EVENTS)

Mar 8— Virtual Novel Tall Fescue Renovation Workshop
Mar 23—Novel Tall Fescue Renovation Workshop, Spring Hill, TN

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see blue.

Small bales ranging from 20%-25% moisture should be treated with approximately 0.5% propionic acid. A 1% increase in application rate may be needed for hay with 25%-30% moisture. Many studies have shown no benefit from preservatives used on hay that's over 30% moisture.

Research has shown that propionic acid, as well as buffered propionic acid, is not harmful to animals. Since propionic acid can be corrosive to equipment, buffered acids and salts of acids have been developed to help overcome some of these issues. Both propionic acid and buffered forms may cause some hay discoloration but help protect feed value.

Even though hay might be higher-quality/higher-value when preservatives are used judiciously, some producers are hesitant to invest in preservative applicators, thinking these are too expensive or too complicated. "They are more affordable and simpler than you may think," says Andrew Frankenfield, agronomy extension educator, Penn State Extension. "With challenges of making dry hay, this may be a change you can't afford not to make." Many times, hay is almost ready to bale but a little tough and you go ahead and bale it and hope it doesn't mold. "These are the times you wish you had a preservative applicator, so you could bale and not have problems." Yet you hesitate to buy one, thinking applicators are too expensive if you are only baling a couple thousand small square bales a year.

"You can buy a 25-gallon baler liquid applicator for around 500 dollars. These are not complicated – just a small electric sprayer you mount on the baler," he says. You also need a baler-mounted moisture tester so you can assess moisture of the hay as you bale it. "A moisture tester can be purchased for 350 to 500 dollars. For less than 1,000 dollars you can outfit your baler with ability to apply a hay preservative when conditions are not perfect and get the hay off the field before rain destroys quality."

If you want something fancier, you can spend several thousand dollars for fully automatic controls. These systems have a monitor that regulates flow of the preservative depending on moisture content of the hay, and with use of an electric eye, the applicator turns off and on when hay is flowing through the baler pickup. You can get the same results, however, with cheaper models.

"Consider the value of 5 acres of hay that you don't get baled because of rain. It could have been worth 2,500 dollars [\$250 a ton times 2 tons per acre times 5 acres], but now is only worth about half as much – maybe 125 dollars a ton and valued at 1,250 dollars. The 1,250 dollar lost could have paid for the applicator, moisture tester and preservative, and you'd still have money left in your pocket," says Frankenfield.

"You can buy various types of preservatives in multiple unit sizes. One product for example: If you buy a 50-gallon drum [450 pounds], [it] costs about 450 dollars or one dollar per pound. If you buy a 275-gallon tote [2,380 pounds], it costs about 2,000 dollars or 84 cents per pound," he says.

He gives examples, looking at stem moisture, application rates for small square or round bales and application costs per ton (based on \$1 per pound). When stem moisture is 22% and under, preservative should be applied at 4 pounds per ton, at a cost of \$4 per ton. Stem moisture of 23% to 25% would require 8 pounds per ton, or \$8 a ton. Stem moisture of 27% to 30% would require 16 pounds per ton, at \$16 per ton. Anything above 30% moisture should not be baled. For larger square bales: stem moisture of 22% and under requires 6 pounds per ton, or \$6; stem moisture of 23% to 26% requires 10 pounds per ton. If moisture is 27% or above, do not bale.

When calculating how much preservative to apply, he says it's like calibrating a sprayer, but instead of gallons per acre, you calculate pounds per ton. "Figure out how many tons per hour you bale. Count the number of small square bales you make in three minutes. Let's say it's 15 bales. Weigh several bales to get average weight. If they are 40 pounds and you bale 15 bales in 3 minutes, in an hour of baling you'd bale 300 bales with average weight of 40 pounds. 40 [pounds] times 300 [bales] equals 12,000 pounds per hour or 6 tons per hour."

In this scenario, to apply 4 pounds of preservative per ton, you'd need 24 pounds per hour. "If the preservative weighs 9 pounds per gallon, that's 2.7 gallons per hour or 0.045 gallons per minute. The preservative is slightly heavier than water," he says. "In this example we would use one TP110050 spray tip at 35-40 psi to achieve our desired 4 pounds of preservative per ton of hay. If we need 8 pounds per ton, we can turn on a second spray tip or replace the single TP110050 tip with a tip with twice the output, such as TP11001," says Frankenfield.

The applicator for your baler may pay for itself the first year you install it. ~ Health Smith Thomas for Progressive Forage. For recent issues of Progression Forage go to their website or sign up to receive regular issues at <https://www.progressiveforage.com/>



UK Specialists get their hands dirty!

Forage Specialists chose a lovely day for tornado debris clean up at the UK Research and Education Center in Princeton KY. Pictured left to right is Jimmy Henning, Chris Teutsch, Ray Smith and Tom Keene. For information on tornado recovery resources for the public or to volunteer for clean up at the UK research station, visit <https://wkrec.ca.uky.edu/>.