



Hosted by the Missouri & Illinois Forage & Grassland Councils

Workshops, the Heart of the Conference

Opening Session

**Temple Grandin: Tips for Low Stress Cattle Handling**  
The renowned consultant to the livestock industry on animal behavior will present her perspectives on handling cattle to reduce stress. Half of the cattle in the U.S. and Canada are handled in equipment she has designed.

Other Sessions

**The Alliance for Grassland Renewal**  
Through education, seed quality control, incentives, and promotion, the coalition seeks to replace toxic tall fescue grass with tall fescue that hosts a nontoxic, “novel” endophyte.

**Making and Utilizing Baled Silage**  
Producing high-quality dry hay remains a challenge because of unpredictable weather. Speakers will discuss the fundamentals of producing and utilizing the best available alternative – baled silage.

**Recent Improvements in Cool-Season Grasses**  
The most recent breeding efforts to improve some cool-season grasses will be presented by industry scientists.

**Cover Crops in Forage-Livestock Systems**  
Experts will discuss the management and utilization of these crops and the USDA programs that promote their use.

**Forage Improvement: Something for Everyone**  
Topics ranging from weed control and hay preservatives to adjusting haying equipment for optimum performance.

**Livestock Products/Dietary Guidelines: How Did We Get Here?**  
Nutrition experts will discuss the changing perspectives surrounding livestock products in the diet.

**Native Species for Forage-Livestock Systems**  
Specialists will present the latest info on the potential of these unique forages as feedstocks for biofuel production, a means to protect natural resources, and an emergency source of forage.

**NIRS: A Tool to Manage Forages**  
A wide range of experts will explain how NIRS can improve forage and pasture management, impact plant improvement through breeding, and benefit the producer.



Other Activities

- View Products & Services in the Exhibit Area
- Volunteer and Poster Presentations
- NIRS Workshops
- Forage Spokesperson Competition
- Forage Bowl
- Emerging Scientist Competition
- Youth in Grazing Management Essay Contest
- Networking Opportunities
- Awards Banquet
- Photo Contest

Conference Details

Conference Registration

Register for one day or all three. Call, email, or go to web site for registration information and form.

American Forage & Grassland Council  
Phone: 800-944-2342 • Email: info@afgc.org • Web site: www.afgc.org

Conference Hotel

Hilton St. Louis Frontenac • \$95/night + tax • Call 1-314-993-1100 • Reserve room by Jan 2, 2015, ask for AFGC block.



2015 VFGC Board of Directors Nominations

The Virginia Forage and Grassland Council Board of Directors consists of twelve directors elected from the members holding individual membership: six representing agri-business and six representing producers. Directors serve for a three year term and cannot serve more than two consecutive terms. The Nominating Committee is recommending the following individuals for election to the Board in 2015:



Producer Member

Miller Adams is Area Forester serving in the Pittsylvania, Halifax and Charlotte County work area, primarily serving landowners in Charlotte County for the Virginia Department of Forestry. He has worked for the Department of Forestry for just over 15 years. He grew up on a farm in Charlotte County. He and his parents have a commercial beef cattle operation and manage around 100 brood cows. He implemented very basic rotational grazing in early 2000 and has gradually increased the frequency in which cows are moved. Miller has an interest in silvopasture and has encouraged producers to communicate their experiences with other producers who have similar interest.

Agri-business Member

Zack Wampler (picture not available) is a field agronomist with Augusta Cooperative Farm Bureau in Staunton, Va where he works closely with growers with row crops, hay, and pasture. Prior to coming to the Co-op, Zack and his brother farmed full time raising commercial brood cows, stockers, and row crops. He still produces corn, soybeans, and stocker cattle on their farm in Mt. Crawford. Zack graduated from Va Tech in 2002 with a B.S. in animal science.

**Voting will take place at each of the four locations of the Winter Forage Conference. IMPORTANT: Any member interested in serving on the Board of Directors in the future, please let us know.**

The Board shall also appoint a **Technical Advisory Committee** composed of six agricultural agency representatives. The following individuals have agreed to serve on this committee:



Mike Phillips is a Soil Conservation Technician with NRCS (Natural Resources Conservation Service) serving Rockingham and Page counties. His duties include working with farmers and landowners to implement Best Management Practices to improve soil and water quality.

Mike and his wife Susan also own and operate the 210 acre family farm, producing poultry and beef. They continue to work toward a year- round rotational grazing system, using innovative practices to improve soil health and reduce runoff. They have hosted numerous field days and farm tours and allowed graduate students to use the farm for research purposes.



Alston Horn has been an employee of the Chesapeake Bay Foundation for the past five years, where he assists Shenandoah Valley producers with navigating state and federal cost share programs, with emphasis in stream exclusion projects and other best management practices that increase herd health and promote water quality. Along with promoting best management practices Alston assists area producers with increasing the forage in their grazing operation by rotational grazing or introducing other components to the operation. He also works on his family's 140 cow/calf beef operation where they practice rotational grazing and stock piling tall fescue to increase grazing days each year.

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Estancia with ArkShield® is the latest generation forage tall fescue variety exclusively inoculated with the beneficial endophyte, ArkShield®. Estancia tall fescue is the result of years of laboratory and field research by the University of Arkansas in cooperation with the University of Missouri. Estancia is a medium maturing, high yielding tall fescue with excellent seedling vigor.

What is ArkShield®?

ArkShield® is a patented endophytic fungus that lives inside Estancia tall fescue seeds and plants in a mutually beneficial relationship; protecting the grass from disease, insects and environmental stresses like heat and drought. ArkShield® is a beneficial endophyte and has no negative effects on livestock, unlike K-31 which can lead to fescue toxicosis due to its toxic endophyte. The ArkShield® endophyte makes Estancia a more productive and persistent perennial forage grass resulting in better animal and pasture performance.

Estancia with ArkShield® produces tons of nutritious, palatable, high-quality forage that results in healthier cows, heavier weaning calves and improved steer and heifer weight gains. The recent trial

conducted at Mississippi State University shows Estancia with ArkShield® to be a top producer, out-producing K-31 as well as BarOptima PLUS E34 and Max Q. See Table 1 below.

**Table 1. Mississippi State University (2012) Total Dry Matter Yields (tons/acre) of Tall Fescue Varieties at two locations (Holly Springs and Starkville)**

Variety	Holly Springs	Starkville
Estancia with ArkShield	6225	10810
K-31	6098	10232
BarOptima PLUS E34	5510	9540
Max Q	5423	8550

Improved Cow/Calf Performance

The 2007 Arkansas Animal Science Report showed a significant improvement on spring calving rates and weaning weights for animals grazing on Estancia with ArkShield® over toxic K-31. Cows grazing on K-31 had a 44.7% spring calving rate, while cows grazing Estancia with ArkShield®



This directly relates to and impacts the perception and demand of red meat products produced and supplied by most of you on farms throughout Virginia. So the question we should all be asking is, “Are these conclusions based on scientific truth? Is it that simple or are there other research findings that contradict this position?” Most people believe that if the medical community is making recommendations then it is based on conclusive fact, but this is not always the case. Over the past several years more people have been questioning these conclusions, the information they are based on and the resulting policies put in place that are affecting all of us.

The VFGC has invited two of these professionals, Dr. Peter Ballerstedt and Mrs. Adele Hite, a registered dietician, to be part of this years’ winter conference and to shed light on the background information that has been used to shape policy and the resulting impact that affects you on the farm, at the table and at the doctor’s office.



VFGC does not claim to know the full truth on this topic but, the organization is committed to finding out and bringing to light more of the facts and facilitating open dialogue with these presenters where questions can be asked and ideas can be challenged and respectfully debated. Remember the late radio host Paul Harvey. His daily broadcast was listened to by millions of Americans as he provided news and commentary. He would provide some thought provoking information leading up to a break and then say, “Tune in after the break for the rest of the story.” So in the spirit of the late Paul Harvey, I ask you to join us in January at the winter forage conference for “The Rest of the Story.” Register for this conference today, mark your calendar and attend, actively participate, ask the hard questions, and become better informed on this subject for the benefit of you, your family, your farm operation and community.

*J. B. Daniel is an agronomist with NRCS and also serves on the VFGC Board.*



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Circle which meeting you will attend:

☐ Weyers Cave Community Center, Weyers Cave

☐ Wytheville Meeting Center, Wytheville

☐ Dominion Agricultural Complex, Chatham

☐ Gordonsville Vol. Fire Co. Hall, Gordonsville

\$35.00 early registration per attendee

After January 3, 2015

\$50.00 late registration per attendee

*Student Registration \$15.00 per student*

**Harlan White Scholarship Fund**  
 Amount \$ \_\_\_\_\_

Early registration **must** be post marked  
 before January 3, 2015

Make Check Payable to:  
**VFGC**

Mail Check and Registration to:

2015 Winter Forage Conference  
 Margaret Kenny  
 3599 Indian Oak Road  
 Crewe, VA 23930



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Upcoming Events

**2015 AFGC Annual Conference**

January 11-13, 2015  
 Hilton Frontenac in St. Louis, Missouri

**2015 Winter Forage Conferences**

January 20, Weyers Cave Community Center, Weyers Cave  
 January 21, Wytheville Meeting Center, Wytheville  
 January 22, Dominion Agricultural Complex, Chatham  
 January 23, Gordonsville Volunteer Fire Company Hall, Gordonsville  
**www.vaforages.org**

**North Carolina Forage & Grassland Conferences**

January 27, Kenansville, NC  
 January 28, Statesville, NC  
 January 29, Canton, NC  
 www.nccattle.com

**Virginia Biological Farming Conference**

January 30-31  
 Richmond, VA  
 vabf.org/conference



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Butch Johns SeedWay 28642 East Prince Edward Hwy Burkeville, VA 23922	J. B. Daniel NRCS-Forage and Grassland 100-D Dominion Drive Farmville, VA 23901
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# How toxic is YOUR Fescue? Tall Fescue Toxicosis in Virginia

By: Matt Booher & John Benner

Tall fescue pasture is an important forage resource for cattle producers in Virginia. In addition to producing high quality forage through the spring and fall, fescue is known for its summer hardiness and tolerance to grazing. Much of the fescue in the US is infected with a fungal endophyte that imparts this hardiness to the plant. Unfortunately, the fungus produces alkaloids that are toxic to cattle, causing a number of problems with reproduction and performance. Beef steers grazing infected fescue average ½ pound per day less than

their counterparts on non-toxic pasture. Steers backgrounded on fescue pasture have also been shown to gain slower and finish lighter in the feedlot, months after removal from fescue. Heifers on fescue have been shown to reach puberty at a later age. Beef cows and heifers grazing infected fescue at breeding can have lower conception rates as well as higher rates of early-embryonic death. Their calves can display reduced weight gain and lower weaning weights. Cows on fescue can also suffer a reduction in milk production of up to 50%. Additionally, fescue toxicosis can also have a large negative impact on the fertility of bulls. These issues occur mostly in cattle grazing fescue pastures during the heat of summer, and their damage can vary from apparent to subclinical. Additionally, a different set of problems related to gangrene of feet, tails, or ears can occur during cold weather. Research has shown that moderate to severe effects can begin to occur when as little as 40% of the diet is comprised of infected fescue, however, any amount of alkaloids in the diet can be harmful.

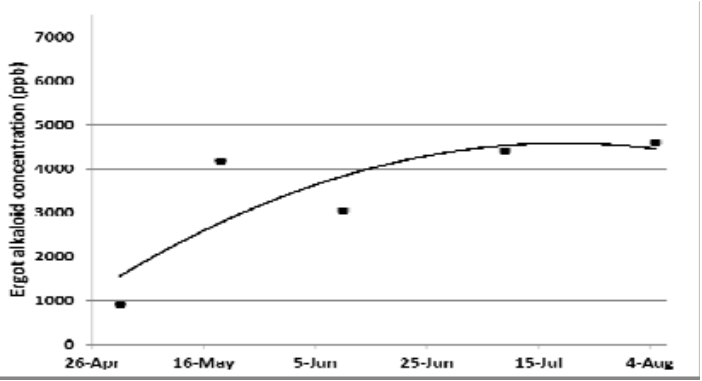
So, what is the likelihood that your cattle are at risk? While the answer to this question depends on many factors, it begins by identifying the infection level and toxin production of your fescue pasture. In an attempt to get a local snapshot of pasture toxicity, the Augusta County Extension office tested twenty-five farms in the Shenandoah Valley for the percentage of fescue infected, with the following results:

- 65% of pastures sampled were 100% infected
- 30% of pastures sampled were 80-90% infected
- Lowest infection level (1 pasture) was 50%.

To investigate the matter further we tracked the alkaloid production of twelve infected pastures on five farms in the Shenandoah Valley during spring and summer of 2014. Ergot alkaloids are the compounds produced by the fescue endophyte, that cause toxicosis. Their production is influenced by many factors including moisture, temperature, stage of plant growth, and nitrogen fertility. Represented on the five farms in the study were grazing management treatments including; fescue stockpiled for summer grazing, mowing or clipping, rotational grazing, and continuous grazing. Each treatment was tested for alkaloids one-to-two times monthly from May through August, resulting in over sixty pasture samples analyzed. **Findings:** The average

alkaloid content of pastures in the study is shown in Figure 1 for the period from May through August. Individual fields and treatments ranged as high as 7,200 parts per billion (ppb). As with any toxic substance, the amount of actual toxin consumed determines effects on the animal. There is debate over the exact threshold of ergot alkaloids that causes toxicosis symptoms, but

Figure 1. Average ergot alkaloid content of twelve fescue pastures in the Shenandoah Valley (May-Aug).



most sources place the level somewhere around 400 to 700 ppb – a value greatly exceeded by all pastures in this study. In all cases, the alkaloid content of pastures with adequate forage for grazing rose quickly following spring green-up and stayed high throughout the sampling period, regardless of management or stage of plant development. Based on conventional thinking, we had expected alkaloid concentrations to be lower under management treatments that produce more vegetative forage, such as regrowth following hay harvest or close spring grazing. Most university recommendations state that clipping or close-grazing of pastures will reduce pasture toxicity, as the endophyte and associated alkaloids are concentrated in stems and seedheads. In this study, however, we found that alkaloid concentration appeared to be unaffected by management. Pastures in a vegetative state were just as high in alkaloids as pastures where plants were flowering or setting seed. It is important to note that we sampled pastures in a way that mimicked animals’ selection of plant parts, for example, cattle in this study tended to consume the entire plant- seed-head and all- up to the time of flowering, after which time they ignored stems and seedheads in favor of leafy undergrowth.

Perhaps the most promising finding comes from supplemental sampling performed during the course of the study. While we selectively sampled only fescue for the purposes of comparing treatments, in one pasture we also collected a pasture sample which represented the grass species diversity (perennial ryegrass, Kentucky bluegrass, orchardgrass, etc.) existing in the pasture. Compared to the fescue-only sample, the diverse sample was 90% lower in alkaloid content (3381 ppb vs. 346 ppb), demonstrating that dilution can be a great tool to reduce pasture toxicity.

So what are some practical things the cattle producer can do to minimize risk of fescue toxicosis?

- Interseed legumes. Don’t overlook alfalfa, birdsfoot trefoil, or annual lespedeza in addition to red and white clover. Many producers get discouraged when it comes to keeping legumes around while still using herbicides. One strategy to deal with this is to frost seed white clover every year or so to build a seedbank of dormant seed in the soil. This will

Toxic Fescue Page 9

## Toxic Fescue From Page 4

- guarantee that new clover is germinating continuously, and ready to take off when herbicide activity is depleted. The cost and labor involved in broadcasting a couple pounds of seed in February is minimal, but it carries great potential for diluting fescue toxicity and improving the energy and protein content of pastures.
- Remove the overwhelming competitive advantage of fescue through management of grazing intensity and frequency to promote other pasture species. It is certainly a challenge to keep animals from grazing out the most desirable species in a pasture, but even one or two divisions in a large pasture will help increase your options for moving animals and managing plant rest and regrowth. Remember to maintain proper soil pH and phosphorus as tools to support pasture species diversity.
- If you have plans for a new seeding or thickening up a thinning pasture, consider a novel-endophyte fescue – particularly if it is a field you plan to stockpile for winter grazing. Novel-endophyte fescues are varieties that contain an endophyte fungus which does not produce toxic alkaloids. The price of novel endophyte varieties has decreased in recent years; in many cases they may be found for under \$4/lb. Recent studies by the University of Kentucky have shown productivity and persistence of these fescues to be on par with that of endophyte-infected fescue when grazed at an appropriate stocking density.
- Realize that actively growing fescue pasture has the potential to be very toxic through spring and summer, even when it is at its highest nutritive quality. Similarly, stockpiled fescue can sometimes be very toxic in fall and early-winter. Consequently, it may be worthwhile to plan grazing to allocate animals to non-fescue pasture or even to feed hay or a fiber-based by-product during critical periods such as the month prior to breeding, the three weeks following conception, and at calving..
- Ensure that dietary copper is adequate. The symptoms of copper deficiency in cattle closely resemble symptoms of fescue toxicosis. Feeding supplemental copper will ensure that poor animal performance is not due to a deficiency in this mineral nutrient (*Virginia Cooperative Extension, pub 418-050*).

We plan to continue testing on pastures this fall and winter, as well as analyzing fescue hay to explore changes in toxicity during storage. Along with toxicity information, we are compiling pasture nutritive quality and mineral content data that we think will help beef producers in our region to optimize their pasture resources. Be on the lookout for future articles on these topics. For more information feel free to contact the Augusta County Extension office: 540-245-5750.

We would like to thank the following sponsors for their support of this project:  
Chesapeake Bay Foundation, Virginia Dairyman’s Association, Virginia Forage & Grassland Council, Virginia Cattlemen’s Association, Pennington Seed, Ridley Inc., and Farm Credit of the Virginias.

Matt Booher & John Benner – Virginia Cooperative Extension, Augusta County.



## Estancia From Page 7

had an 85.1% spring calving rate, a rate almost 2 times higher than K-31. The performance of those calves continued to improve over the life of the trial as well. Calf performance showed significant improvements on Estancia with ArkShield®. Calves were much heavier at weaning; weighing an average of 68 pounds more than calves that had grazed on K-31. The average weaning weights for calves on Estancia with ArkShield® was 529 pounds while calves on K-31 weighed an average of 461.

### Improved Stand Longevity

The major benefit to tall fescue from endophytes comes from their ability to assist the grass plants through times of stress. High heat, drought and pests are the primary stressors to tall fescue. Endophytes help the plant survive under these harsh conditions. A primary reason K-31 was often planted was farmers could rely on long stand life from this variety. Later, endophyte-free tall fescues did not offer the long stand life farmers had come to expect. Estancia with ArkShield® offers the same stand longevity as K-31 but without the toxic side effects. In the photos from the University of

Arkansas below you can see the stand of Estancia with ArkShield® looks as good as the stand of K-31. John Jennings, Professor, Extension Forages at the University of Arkansas Division of Agriculture said, “At our Batsefield station the stand of Estancia looked as good as the K-31 one. They are under grazing pressure and even after a very bad drought the Estancia held up as well as the K-31”.



Estancia with ArkShield® pasture at the University of Arkansas



K-31 pasture at the University of Arkansas

As farmers think about next planting season and which tall fescue to plant the choice should be clear. Choose Estancia with ArkShield®, it out-produces the other beneficial endophyte tall fescues and has stand longevity that is as good as or better than K-31 without the toxic side effects.

Estancia with ArkShield® is packaged in a 25 lb. sealed foil bag to reduce air, heat and moisture transfer into and out of the bag that helps to ensure the viability of the seed and the live ArkShield® endophyte. Estancia with ArkShield® has both a guaranteed analysis tag ensuring the seed purity and germination, as well as a sow-by date ensuring the viability of the live endophyte.

Mountain View Seeds, the producer of Estancia with ArkShield® has partnered with SeedWay to distribute this premium tall fescue variety. SEEDWAY is a full-line seed company, marketing farm and turf seed in the northeast U.S. and vegetable seed from the Rocky Mountains to the east coast and Ontario, Canada.

Founded in 1963 and headquartered in Hall, NY in the midst of the beautiful Finger Lakes region of Central NY, SEEDWAY maintains office and warehouse locations in Shoreham, VT, Hall, Trumansburg and Mecklenburg in NY, Mifflinburg, Emmaus and Elizabethtown in PA, and Lakeland, FL.

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culprit seems to be the intensification of agricultural practices that has turned many grazed pastures into hayfields that are too thick and tall for starlings to forage in successfully. Female starlings do most of the foraging and feeding for their young during the breeding season, and tend to stay within a quarter mile of their nest. If they have to fly any farther, they spend too much time flying back and forth between the nest and feeding grounds, and not enough time foraging. When less than half of their feeding territory is grazed, they have a harder time finding enough food to gain the energy reserves needed to lay a large clutch of eggs. In addition, they also have difficulties finding and bringing enough food to their young during the nestling stage. As a result, females nesting in areas with less than 50% continuously grazed pasture tend to lay fewer eggs and raise fewer young than females whose nesting territories consist of more than 50% grazed pasture.

While declining starling numbers are a conservation issue in Europe, conservationists in the U.S. want to remove as many of them as we can. Apart from the damage they cause agricultural interests, European Starlings are aggressive and displace a variety of native bird species from their nest cavities. Eastern Bluebirds, Purple Martins, Tree Swallows, Great Crested Flycatchers and Red-headed Woodpeckers are just a few of the species whose numbers have declined as a result of starlings taking over their nest sites. Here then is an opportunity where conservation and agricultural interests share a common goal, namely to reduce the number of starlings in Missouri.

Research and Extension Specialists from MU’s Department of Fisheries and Wildlife Sciences, Walter Wehtje and Robert Pierce, are currently initiating a study to determine whether differing grazing practices in Missouri have a similar impact upon starling breeding success as has been shown in Europe. Specifically, we want to see whether starlings experience different breeding success when their nest sites are surrounded by different land use patterns. For 2009, we decided to see whether differences exist in the breeding success of birds breeding near continually grazed pasture, rotationally grazed pasture, patch burn grazing and row crops. To do so we enlisted the cooperation of the University of Missouri College of Agriculture, Food and Natural Resources Agricultural Experiment Stations (AES) to see whether there was any interest in pursuing this line of research. We received full cooperation, with the AES’s carpenter crew building the 180 nest boxes needed for this project. Thanks to John Poehlmann, Phillip Brookes, David Davis and Tim Reinbott we were also able to place the nest boxes on three university properties with different land uses. This past March we placed 64 nest boxes at the Forage Systems Research Center (FSRC), 60 at MU’s South Farm, and an additional 16 at the Bradford Research and Extension Center (BREC). Together these three sites provide us the opportunity to compare starling breeding success under different land use practices. The pastures at FSRC are primarily grazed on a short rotation basis, with the result that much of the pasture is too tall for starlings to forage successfully in most of the time. At the South Farm pastures are grazed continuously, providing optimal foraging habitat for starlings during the breeding season. At the BREC a variety of crops are produced which will provide some insight into how starlings respond to row crops. It was more difficult to locate a property using patch-burn grazing, but Monte

McQuillen with the Missouri Department of Conservation (MDC) allowed us to place 32 nest boxes at the Chapel View Prairie - Conservation Area near Deepwater in Henry County. This 320 acre site is using patch-burn grazing as a component of their Tall-grass Prairie restoration effort.

One aspect of this study is that we are using volunteers to check many of the nest boxes during the breeding season. Members of the Boone’s Lick chapter of the Missouri Master Naturalist program will be checking nest boxes at South Farm and at the BREC; Valerie Tate has been “volunteered” by David Davis to check the nest boxes at FSRC; while members of the Cole Camp Master Naturalists have offered to help check the nest boxes at Chapel View Prairie CA.

Once the starlings have accepted the nest boxes, our volunteers will check on their breeding success every week to 10 days. They’ll record the number of eggs laid, the number of chicks that hatch and the number of young that fledge. By the end of the breeding season, mid-June, we should have a better idea of whether the grazing regime has any impact upon starling breeding success. Our expectation is that females that breed at FSRC and Chapel View Prairie CA will have fewer young fledge than females that breed at South Farm. However, until we’ve gathered sufficient data we won’t be able to draw any conclusions. Our hope is that by studying starling breeding success at FSRC we can add another reason for using rotational grazing practices in Missouri; not only does it make good economic sense, but producers that incorporate rotational grazing may also be making life more difficult for starlings.

Walter Wehtje, Ph.D. and Robert A. Pierce II, Ph.D. are with University of Missouri-Columbia.



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Understanding How Grazing Practices

Influence Starling Nesting Success

By: Walter Wehtje, Ph.D. and Robert A. Pierce II, Ph.D.

Few people have anything good to say about the European Starling (*Sturnus vulgaris* L.). Since they were introduced into North America less than 120 years ago, this European species has spread from Alaska to Argentina. In winter, when their flocks number in the hundreds of thousands, feedlot operators can suffer feed losses of more than 20% every day to these birds. Adding injury to insult, starlings prefer to eat the more expensive protein supplements to corn. They’re also implicated in the spread of *E. coli* between feedlots and dairies. With such negative impacts upon cattle producers, why did MU’s Forage Systems Research Center (FSRC) place 64 nest boxes on their property this spring specifically designed to seduce starlings into breeding at their facility? Let’s try and explain.

Eugene Schieffelin, a wealthy Shakespeare enthusiast, introduced European Starlings to North America. He believed that every bird named in his favorite playwright’s works should be present in the New World and worked with the American Acclimatization Society to achieve this goal. His efforts with European Skylarks, Nightingales and Chaffinches failed, but the 80-100 European Starlings released in New York City in 1890 succeeded beyond anyone’s wildest imagination. The birds began breeding almost immediately, but remained in the New York area until 1900. After that point they began spreading, and by the late 1940s, starlings had been recorded in nearly all of the United States and provinces of Canada. By the mid 1950s, starlings bred throughout most of the continent. Today researchers estimate that there are close to 200 million starlings in North America.

Starlings inhabit a wide variety of habitats if a few crucial needs are met. They require open country where they can forage on short, mown, or grazed fields. Their preferred diet during much of the year consists of soil invertebrates that they find by pushing their bills into the ground, opening their bills and then taking grubs, beetles, worms and other items from the resulting hole. During late summer they switch to fruits, if available. During the colder months starlings either migrate south to where the soil remains unfrozen or find the nearest large herd of cattle. Here they forage on cattle feed and anything else they can find. In addition they require access to nesting cavities and water, needs met by buildings, tree cavities and stock ponds. As anyone who has seen large flocks of these birds can attest, we have created marvelous starling habitat in Missouri.

Due to the damage they cause, cattle producers use a variety of methods in an attempt to control this pest species. Noise makers, poisons, and plastic owls are a few of the methods that are used with varying levels of success, but as long as there’s ample breeding habitat available, starling numbers are unlikely to decline in the long term. If we wish to make a dent in starling numbers we have to look at changing the landscape they depend upon. To do so, we need to see how this species is doing in its native range.

Unlike the situation in North America, where starlings are doing far too well, in their native Europe their numbers have declined precipitously in recent decades. Researchers studying this situation discovered that one of the primary factors involved in this decline has been a decrease in breeding success. The main

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It may be a bit of stretch to tie soil health to human health, especially since most of us gave up eating dirt by the age of three. But as livestock producers, we control the two critical steps between the two, the forages and the livestock. And each one of us is the physical embodiment of what the public loves to love, and what the public love to hate about agriculture.

We’re the saviors, the valiant stewards of the land, nurturing the soil, bringing salvation and healing while being victimized by big ag. Our forages and cover crops are the agronomic fashion accessory of the 21<sup>st</sup> century, beloved by both corporate agriculture and organic homesteaders for their role if emulating long gone native grasses.

We’re also the bad guys, allowing our livestock to desecrate the planet. The animal rights group Mercy for Animals contends that “it is now widely known that raising animals for food creates more greenhouse gases than all the transportation in the world combined.” PETA proclaims “Whether it’s the overuse of resources, global warming, massive water or air pollution, or soil erosion, raising animals for food is wreaking havoc on the Earth.” And if you’ve ever wondered how some of these groups arrive at their conclusions about the impact of livestock on the environment, read the Environmental Working Groups Meat

Eater’s Guide. It’s enlightening. And the numbers can look pretty bad when you don’t include the net benefits of a functioning grassland.

Their solution – The promotion of a “climate-friendly diet”. Meatless Mondays. And some groups call for the elimination of animal agriculture all together.

From a grassland manager’s perspective, you have to wonder “How’s that going to work?”

Most contend they are proposing a solution, but in reality they are proudly proclaiming to the world that they have no idea how a grassland functions. That they don’t understand that without ruminants, grasslands will cease to be grasslands. That they don’t understand that ruminants are a critical part of the grassland ecosystem. And that they don’t recognize the potential environmental benefits of a well managed livestock production system. As a commenter at beefmagazine.com stated “If cattle are so bad how did the plains survive with millions of buffalo grazing on it?”

How do you manage a grassland without ruminants? You don’t. You can’t.

For us, managing grasslands is not just a way of earning a living and raising our families. It’s much more than that. Our forages and our livestock play an essential role not only in the economic environment, but in the natural environment as well.

And like it or not, simply discarding livestock production does nothing to address the larger issue of human health and well-being.

Best Regards,  
Patty Jonson  
President, VFGC

Scholarship From Front Page

legumes in forage crops and pastures. He was a strong proponent of rotational grazing and advised countless numbers of graduate students in forages at Virginia Tech.

Dr. White dedicated his life to Virginia’s forage industry. It is now time for us, the recipients of his knowledge and good works, to return the favor by donating to the Dr. Harlan E. White Memorial Scholarship Fund to help train the next generation of Forage Specialists

Dr. Harlan E. White Memorial Scholarship Fund Donation Form

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WHAT IS THAT PLANT?

By: Bob Glennon

We all see plants on our farms, or just on the roadside and wonder, what is that? Bob Glennon is a Private Lands Biologist with the Conservation Management Institute at Virginia Tech. Several times a month he sends out information about native plants. These are primarily plants used by pollinators, the habitat of which is dwindling. Hope these will be interesting to our readers.

Narrowleaf or Swamp Sunflower (Helianthus angustifolius) is a native perennial warm season forb (wildflower) that just began to bloom in southeastern Virginia, and occurs throughout Virginia. It is adapted to moist, well-drained and poorly-drained soils. It is not adapted to droughty soils.



Narrowleaf sunflower grows to a height of 6 to 10 feet. The leaves are up to 6 inches long and no more than ½ inch wide. The leaves are arranged opposite to one another at the bottom of the plant and alternately near the top of the plant. The flowers are yellow, have 10 to 20 rays, and are 1 to 2 inches in diameter.

The seeds are eaten by songbirds, especially goldfinches.

There are 504,000 seeds per pound so 1 pound delivers 11.7 seeds per square foot, 0.25 pound (4 ounces) delivers 3 seeds per square foot, and 2.7 pounds delivers 30 seeds per square foot. The seed cost is \$60 per pound of pure live seed so the seed to deliver 3 seeds per square foot in a pollinator habitat seed mix contributes \$15 to the cost of the seed. Seed is available from seed companies in Pennsylvania and Kentucky.

Bob Glennon is a Private Lands Biologist with the Conservation Management Institute at Virginia Tech

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AGRICULTURAL IQ

By: Carl C. Stafford

To understand agriculture and master its complex systems is challenging even for those who operate agricultural businesses. For one reason this is a science and science changes when new information is found. Keeping current is challenging as there is no one source to rely upon. One approach to finding new information can be found among our youngest – they use the internet as their starting point. They read few magazines or newspapers and find little time for printed research reports but instead go online and by wireless connection while on the go.

Easy access could motivate this approach. In today’s society we want everything now. However, this approach leaves out oversight – there is no editor or any review or checking. It becomes the consumer’s responsibility to determine what to trust and this can be challenging if you are still learning. Granted, most of us are still learning so checking the facts is a regular part of deciding what to trust.

In print sources the tradition has been to provide editorial supervision. The editor determines the tone of the publication and its dependability. In agriculture we look to who did the work to determine trust. Good reporters who checks facts are similar to good scientists – we can rely on them. Land Grant Universities have long held this position of trust. Our scientists have training and experience and they use accepted methods in their scientific investigations. A research paper is considered reliable based upon who the author is and if accepted procedures were used to design and conduct the study. If the work has been done more than once in more than one location, this adds to dependability. A final level of trust is created if others have also repeated the results.

All of this checking takes effort and in our rush to reach a conclusion, oversight and fact checking is slipping. The internet is no more reliable than a renowned speaker who has an axe to grind on an agricultural topic. There is no oversight of either one. Consumers of agricultural information are obligated to see if the information they take in comes up in other sources. If you hear the same thing from more than one trusted source, you are headed in the right direction. Checking sources helps us figure out the truth and having multiple reliable sources is a great fact checking method.

The best managers I know gather information from multiple sources and put it all together to help make a decision. Finding disagreement can actually help avoid costly mistakes. Disagreement usually comes in the form of new information and talking to those who disagree is a valuable opportunity to learn. Universal agreement is usually not too helpful and scientific studies say that outcomes change when there is dissent. Use the internet, listen to respected speakers, read more and use non-biased scientifically based sources helping you establish facts upon which to build your “Agricultural IQ”.

Carl C. Stafford is a Senior Extension Agent with the Culpeper County Extension Office.





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THE

# VIRGINIA FORAGER

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## What is the Truth?

By: J.B. Daniel

Have you ever heard this question before? You should have because mankind has been asking this question for thousands of years. If you're like me, you have asked yourself this question before and I believe we should all be asking this question more and more these days. In a day and time with so much information readily available, literally at the tips of our fingers, it is ever more important for us all to consider the source of the information we are reading or watching before we assume it to be the truth.

Twenty years ago when I was actively pursuing my Agronomy degree at VA TECH, I was taught by my professors to not only reference the source of information I was using in papers, but to consider the source of information and discern whether the conclusions they were making were based on fact or opinion. This really opened my eyes to realize that what is published in a newspaper or magazine is quite different from results explained in a peer reviewed research publication. This is so important to understand and to keep in mind when we read or watch and process information. Everyone has an opinion based on something they have heard, seen or experienced otherwise. Some people are very passionate about their opinions on certain topics and they are motivated to get involved in accomplishing a greater agenda

or mission. The conclusions we (individuals) make based on the information we are told, directly shapes our opinions, perspectives and feelings about certain topics. Therefore it is so important to know whether the source of your information on a topic is factual and true, or is it based primarily on opinions and partial bias of so called "experts."

So what does this have to do with forages or the Forage Council? The answer to that is everything, but most specifically the upcoming Winter Forage Conference series scheduled for January 20-23, 2015. This years' conference theme is titled, "Red Meat, Forages, and Human Health." Most Americans get their information in 60 second news blurbs as they are riding to and from work each day. Much of what we hear about health statistics in America is that heart disease, diabetes and obesity is on the rise and in some of the short news commentaries they relate that to the dangers of eating red meat. In fact, most of the general heart health information I've heard over the last 30 years has attempted to steer people away from eating much red meat. I believe this campaign has made an impression on a lot of people and probably decreased the amount of red meat livestock product consumed by many Americans.

*Truth Page 8*

## Donate a calf to the Dr. Harlan E. White Memorial Scholarship Fund



With record high cattle prices, the Virginia Forage and Grassland Council is asking you to consider donating the proceeds from the sale of one calf this fall to the Dr. Harlan E. White Memorial Scholarship Fund. This fund has been established by the Virginia Forage and Grassland Council in memory of Dr. White and will be used to award scholarships to deserving undergraduate and graduate students to help train the next generation of forage and grassland specialists.

Dr. White's career was long and distinguished. He joined the Virginia Tech Agronomy Department in 1966 as an Extension Forage Specialist. In 1979, he was the driving force behind the formation of the Virginia Forage and Grassland Council which has grown to become a major voice for the forage and livestock industries in Virginia.

As livestock and forage producers, many of you personally knew Dr. White and there is a good possibility you attended a producer meeting or field day where Dr. White was a speaker. Many of you still utilize concepts that Dr. White developed such as stockpiling tall fescue for winter grazing. He pioneered no-till planting of forage crops and promoted the use of



*Scholarship Page 2*

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Reporting the progress of Virginia's forage industry