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University of Arkansas Animal Science Hosts the 2015 Arkansas State Beef Quiz Bowl

Bryan Kutz, Instructor

The University of Arkansas Department of Animal Science hosted the annual statewide Beef Quiz Bowl on February 27 in Fayetteville at the Pauline Whitaker Animal Science Center. This program was funded by the Arkansas Beef Council through revenue collected from the Beef Check-Off. This Cooperative Extension activity provided students an incentive to learn more about management, food safety, forage nutrition, quality assurance and the end beef product. Educational material was provided for county Extension agents and vocational agriculture instructors to further the learning process beyond that of their beef 4-H and FFA projects.

Students were tested on many levels of question difficulty. The questions were compiled by the Animal Science faculty and judging team students and covered all aspects of beef production. Four students made up a team, and these teams competed in a double elimination tournament.

Eighteen teams, 72 students plus 4-H agents, agricultural instructors and parents attended. Preparation allowed students to sharpen their knowledge about beef cattle production. Additionally, students improved communication skills, goal setting, critical thinking and team building skills and ultimately enhanced their interest in beef cattle. This program has a great impact on educating students and encouraging a broadened perspective about their role in beef production, food safety and consumer acceptance. These efforts will be continued through the University of Arkansas Animal Science Department, Division of Agriculture, Cooperative Extension Service, Arkansas Beef Council and Agriculture teachers across the state.

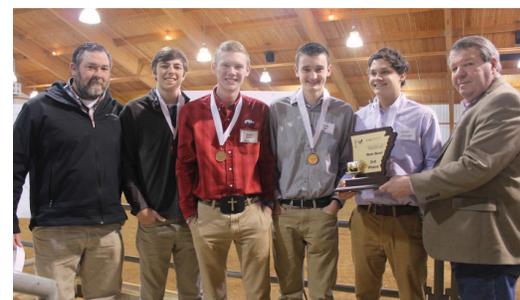
Pictured below are the winners.



1st Place Team: West Fork
From left to right: Justin Hays, coach; Lillian Meadors; Grant Franklin; Timmy Farmer; Mesa Kutz; and Travis Justice.



2nd Place Team: Benton County 4-H
From left to right: Johnny Gunsaulis, coach; Justin Clayberg; Alex Joyce; Luke Clayberg; Kimberly Kay; and Travis Justice.



3rd Place Team: West Fork FFA
From left to right: Justin Hays, coach; Colton Wise; Bladen Ketron; Dalton Hays; Grayson Jarnagan; and Travis Justice.



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Getting Those Two-Year-Olds Ready to Ride

Mark Russell, Assistant Professor

This time of year can be an exciting one for horse owners. Many of us enjoy doing the breaking and starting of our two-year-olds, and now is a great time to get the process going. The goal of ground work is to make the riding part much easier and less worrisome for both horse and rider. If it takes 6 months or a year to complete the process, that's okay.

Utilizing a round pen is ideal but not completely necessary. In fact, much of it can be done in his stall or turnout pen, where he feels comfortable and is less likely to spook or shy away because of unfamiliar areas.

✓ **Is he halter broke?** First and foremost, the horse must be halter broke. If he's not, spend as much one-on-one time as you can with him. In doing so, you are developing a trust and comfort level without stressing him out or asking too much at once.

The horse really doesn't need to be haltered until you can rub and pet all over him (especially around his ears and poll). If you have to rope him or pen him up in a corner, you are only adding stress to the situation. Once you do get the halter on, don't leave it on long the first time. Take it off and put it on several times until it becomes easy. There could be an entire article devoted solely to halter breaking. However, this is the condensed version.

When he's ready to lead, start by putting a slight bit of pressure on the lead rope. The second he gives to the pressure (just by giving his head), release! The smallest amount of accomplishment should be rewarded here. Repeat once or twice during this first session, and then call it a day. Over time, gradually increase pressure until he takes a step. Again, the smallest amount of accomplishment should be rewarded. Repeat until you can comfortably lead. If he's already halter broke, you can skip this step.

✓ **Pick up their feet.** I have found that the younger and smaller the horse is, the easier it is to teach him to pick his feet up and hold them up for you. More than likely, at this point he has had his feet trimmed. But if not, this would be a good time to start teaching him those things. Your farrier will thank you for it.

Start by running your hand down his legs over and over. If you can't comfortably touch his legs, picking them up will be very difficult. Working with his feet only makes him more comfortable with you and adds a little more "training" to him.

✓ **Sack out.** I like to sack out all my horses, whether they're young or old. I'll take an empty feed sack and twist one end to make a handle. The point of the sack is that it makes more noise than anything else. I like to hit my own leg with it the first few times we use it. When I feel like he has passed the noise and motion test, I'll start down low on his legs and tap a few times. Generally, he'll move around a little, which is not a big deal. As he gets more comfortable, I may move up his leg some. The end result is a horse that is comfortable with the noise and movement of the feed sack from head to toe. Keep in mind that you're not slapping the horse with it, just merely brushing and possibly tapping the horse with it and getting him used to noise and pressure coming from different directions from a source he may not recognize.

✓ **Utilize a longe line.** This is another great way to teach your horse to move away from pressure. Begin with your lead rope and move his hind end around. Release pressure when he moves his legs. The more forward he moves, the lighter you should be with your hands and pressure to move him. Just like other exercises, start small and reward.

The good thing about using a longe line is that can it be done anywhere at any time. For example, you can longe before you ride at home, at a show or even on a trail ride. This will get your horse warmed up mentally and physically.

✓ **Saddle pads.** Spend time putting a saddle pad on your horse's back and moving forward and backward up his neck and down his rump. Too often I see someone attempting to saddle an unbroke horse and they can't comfortably put a saddle pad on them. The saddle is really tough to get on the horse's back if you can't get the saddle pad on easily.

✓ **Use lead rope to put pressure around the girth area.** It's a good idea to get your horse used to pressure around his girth area before tightening the girth on the saddle. A lead rope can be used by going over his back and underneath around the heart girth. It doesn't need to be fastened or tied, just tightened up with your hand. This allows the horse to get used to pressure in that area without having to commit to tightening the saddle and securing it to him before he's ready.

✓ **Saddle.** If you can sack him out and put the saddle pad on him and he stands comfortably with his head down, move to the saddle next. Slowly place it on his back. There's no need to tighten the girth the first few times you put it on him. Let the saddle sit on his back for a few moments, then take it off. Repeat a couple more times the first day, and then call it good.

As times goes on, leave the saddle on a little longer each time. It's also good practice to saddle and unsaddle from both sides. He needs to stand still and be comfortable with the process. Over time, you should be able to tighten the girth. Make sure that if you do decide to tighten the girth, that it really is tight. If he

decides to bolt or buck, you don't want the saddle slipping up his neck or twisting underneath him.

If you haven't mastered all of these different activities, it probably isn't time to get on quite yet. Take your time

during the process. There will always be another day. It's much easier to go forward without having to make up damage that was done. It should also be noted that these aren't listed in any particular order (with the exception of being halter broke and putting the saddle on), just

simply a list of possible activities you can do with your horse to get him ready to ride. Over the next several months, I'll go into greater detail for each of the exercises listed above and add more ideas to make that first ride less stressful to horse and rider.

Steps for Renovating Toxic KY-31 Fescue to Novel-Endophyte Fescue

John Jennings – Professor, Extension Forages

Tall fescue is grown on approximately 2 million acres in Arkansas and is the most common perennial cool-season grass. Most of the fescue is the variety KY-31, and it is infected with the toxic endophyte that causes fescue toxicosis in livestock. Typical symptoms include rough hair coat, standing in ponds especially in cool weather, lameness in the hind feet during winter, loss of tail switch or rear hoof, panting or salivating in warm weather, low percentage calf crop and low weaning weights.

In cases where fescue toxicosis and fescue foot have occurred in the past, consider renovating toxic KY-31 fescue pastures and converting to a nontoxic novel endophyte fescue. There is no need to convert all KY-31 fescue. Dr. Ken Coffey's research showed that converting just 25 percent of the fescue acreage to novel endophyte fescue was enough to offset many of the economic problems caused by toxic fescue.

Renovation Strategy

Use the spray-smother-spray technique to convert fescue pastures. Tillage by itself will not kill all the KY-31 fescue. The "spray-smother-spray" method has been a reliable method for renovating

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toxic fescue pastures and can begin in the spring or fall.

If starting renovation in the spring, start in late April to early May when fescue is actively growing and before any new seed is produced. Clip or graze the fescue to a height of 4 to 6 inches and apply a nonselective herbicide such as glyphosate at 2 quarts per acre. Depending on weather and how many weed seedlings germinate, a second herbicide application may be needed before the next step.

After the fescue top growth dies down, no-till plant a summer-annual forage, such as pearl millet or sorghum-sudan. The summer annual forage provides heavy shade and competition for any remaining fescue plants and can be harvested for hay or grazed.

In fall, after harvest of the summer annual, apply herbicide again to kill any remaining KY-31 fescue and the summer

annual forage. The field can be planted with novel endophyte fescue in the fall.

If starting the renovation process in fall, apply glyphosate to the actively growing fescue during fall (September to late October) and no-till drill a small grain for winter/spring forage. Do not plant annual ryegrass because natural reseeding from ryegrass will cause severe competition later when novel endophyte fescue is planted.

Follow the harvest of the small grain forage in late spring with a second herbicide application. Continue the renovation process by no-till drilling a summer annual such as pearl millet. After the final harvest of the summer forage, no-till drill the novel-endophyte fescue in fall.

Several proven novel endophyte fescue varieties are on the market and have been grown successfully in Arkansas. Current varieties include MaxQ and MaxQ-Texoma (Pennington Inc.), Estancia (Mountain View Seeds), BarOptima (Barenbrug Seed) and Duramax (DLF International). The technology has been shown to work in research and on farms and should be considered as part of a strong forage program.

Results of Ouachita District Bermudagrass Variety Demonstration

Ouachita District County Extension Agriculture Agents with Paul Beck, Professor, John Jennings, Professor, Vic Ford, Southwest Research and Extension Center Director, Rick Cartwright, Associate Director - Agriculture and Natural Resources, and Tom Troxel, Professor

Believe it or not, it is time to order seed or sprigs for planting bermudagrass this summer, and establishment time is fast approaching. An essential part of success or failure of newly established bermudagrass hay meadows or pastures is variety selection. A small plot

bermudagrass variety demonstration was established by the Ouachita District county Extension agents in the spring of 2012. In this demonstration located at the University of Arkansas SWREC, we established 11 bermudagrass varieties that are fairly common to our area in

four 5' x 20' plots per variety. The varieties that were established included five hybrids (Genesis, Vaughn's #1, Ozark, Tifton 44, and Midland 99) and six seeded varieties (Mohawk, Cheyenne II, common, Sungrazer, Sungrazer Plus and Wrangler).

The summer of 2012 was an establishment year, and no yield or quality data was collected. The first year of yield data collection was 2013, and the second year was 2014. The plots were fertilized with triple 17 fertilizer (300 lb/acre rate) in early May of each year.

The first harvest was conducted in mid to late June, and plots were refertilized with ammonium nitrate (150 lb/acre rate). The second harvest was conducted on August 12, 2013, and the second harvest in year 2 was on July 11, 2014.

Supplemental irrigation was provided throughout the establishment year and during the first year of data collection. Even though variety test plots are designed to be evaluated over several years, the first two years of data provides us with some very interesting results presented in the table below.

In the first two years of data, there are several points that are fairly clear. With the management in place, the hybrid varieties were tops on the list in total production over the two years, even though in the first year the best of the

seeded varieties performed fairly similarly to the best hybrid varieties. In the second year of production, the hybrids Midland 99 and Tifton 44 were the most productive with other hybrids lagging slightly behind, while the seeded varieties were substantially lower in production. These two points illustrate that for hybrid varieties to show their true benefit and potential, they must be managed intensively with high rates of fertility and frequent cutting interval, and establishment may not be as quick as with seeded varieties. The third point to consider is that the lowest performing variety is actually an excellent variety for where it was developed. Wrangler (a seeded variety) was developed by Oklahoma State University and is very productive and cold tolerant in Oklahoma, Kansas and Missouri, yet does not seem to be a very good variety for our region in southern Arkansas!

This bermudagrass variety demonstration is managed and all the labor is supplied by the county Extension agriculture agents of the Ouachita District of southwest Arkansas. It is a huge undertaking with a tremendous amount of time and energy involved, but the lessons learned and information collected are valuable to our clients, the forage producers of southwest Arkansas.

Table 1. Dry matter yields of Ouachita District bermudagrass plots for growing seasons 1 and 2.

Variety	DM Yield			Rank
	Season 1	Season 2	Season Total	
Vaughn's #1	5,093	4,523	4,808	1
Genesis	5,729	3,872	4,801	2
Midland 99	4,668	4,836	4,752	3
Tifton 44	4,695	4,719	4,707	4
Ozark	4,771	4,454	4,613	5
Sungrazer Plus	4,563	4,147	4,355	6
Mohawk	5,229	3,430	4,330	7
Common	4,885	3,741	4,313	8
Cheyenne II	4,895	3,333	4,114	9
Sungrazer	4,667	3,367	4,017	10
Wrangler	3,607	3,794	3,701	11

Bulb Yield and Quality of Forage Turnips

Kenny Simon, Program Associate, Dirk Philipp, Assistant Professor, John Jennings, Professor, Robert Rhein, Farm Foreman, and Shane Gadberry, Associate Professor



Brassicas are an attractive choice of fall and early winter grazing for livestock. Brassicas are fast-growing, high in nutritive value and thus complement the existing forage base by closing gaps in forage production. Based on observations from

on-farm demonstrations, forage turnip managed for stockpiling produced a substantial amount of bulbs in addition to the leaf yield. With proper grazing management, livestock graze the bulbs, therefore adding grazing days. However, limited information is available for bulb dry matter production and quality in the southeastern U.S.

A replicated research trial was conducted at the University of Arkansas Watershed Research and Education Center (WREC) in Fayetteville to compare total bulb dry matter production and quality of two forage turnip cultivars. The two forage turnips compared in the trial were Appin and Barkant. Appin is a product of

Ampac Seed Company. Barkant is a product of Barenbrug Seed Company.

Brassicas were no-till planted on a well-firmed, disked seedbed on August 26, 2013. Prior to planting on August 26, 2013, forage growth at the experiment site was suppressed with glyphosate, and the area was disked twice then culti-packed. The seeding rates were 5 lb/acre. Preformulated NPK fertilizer and boron were applied to each plot using soil test reports and recommendations for brassica production.

The forage turnips were harvested after 4 months (December 3) of growth. The forage turnips produced a high

proportion of bulb yield in addition to leaf yield. Bulb production was limited until the plants reached 16 to 18 inches. However, as the plant continued growing, a significant amount of bulb yield was produced (Figure 1). Both varieties produced similar bulb DM lb/acre Appin (2,882) and Barkant (2,884). Bulb yield was 47 percent and 42 percent of the total yield for Appin

Figure 1: Total bulb and leaf dry matter production after 4 months of growth.

	Appin	Barkant
Bulb yield	2,882	2,884
Leaf yield	3, 266	3,974

and Barkant, respectively. Appin produced a small, round bulb (<5") firmly anchored in the soil. Barkant produced a moderate, oval shaped bulb (4-8"), with 50 percent of the bulb above the soil surface.

Percent CP and TDN were similar for Appin (10.9 and 78.3) and Barkant (10.0 and 80) (Figure 2). With their high digestibility and low fiber content, turnip bulbs could actually be considered as "concentrates" rather than "forage" in nutritional planning for livestock.

Forage turnip bulbs have the potential for providing a high-yielding

and high-quality cost-effective source of energy to livestock in late fall or early winter. Yields indicate they could be a good source of grazing even after a hard freeze (25° F) inhibits plant growth.

Figure 2: Bulb quality of forage turnip. Values expressed on a DM basis

	Appin	Barkant
CP	10.9	10.0
ADF	24.2	18.3
NDF	25.0	20.4
TDN	78.3	80.0