



Forage News

Keeping Forage-Livestock Producers in Kentucky Informed

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Cancellation from Flooding: KFGC Annual Field Day

The KFGC Annual Field Day scheduled for August 11 has been cancelled due to flooding at the UK RCARS Research Station in Quicksand, KY where the event was to be held. Our thoughts and prayers go out to those who have lost their homes and to families who have lost loved ones due to the recent tragic flooding event in Eastern KY. We encourage you to take the gas money you would have used to drive to the field day and donate to a flood relief fund of your choosing.

Fall Grazing School Registration now open

The 2022 Fall Grazing School will be held in Versailles, KY on September 13 and 14th. The two day event covers cattle nutrition, pasture improvements and grazing strategies, as well as hands on demonstrations and activities including building temporary fence and water systems. Registration is \$50 and includes educational materials and lunch both days. Space is limited. More information is available at forages.ca.uky.edu/events.

Publication of the Month: Stockpiling for Fall and Winter Pasture (AGR-162)

Many cattle producers can take advantage of the late summer-fall growing conditions to obtain high-quality pasture for fall and early winter grazing. This practice is called stockpiling. Management decisions for optimum stockpiling include selecting grass species, timing, fertilizing, grazing management or utilization, selecting classes of cattle, and designing grazing systems for efficient utilization. The most important thing though is to cut or graze the pastures you want to stockpile in early to mid-August and then let them rest until late this fall.

Find this publication at the UK Forage website under the "Grazing" tab or go directly to the link <https://forages.ca.uky.edu/grazing>.

Used Beer Yeast reduces cow methane production

Brewer's yeast used to make beer is typically discarded once it's no longer needed. Sometimes, though, the leftover yeast is mixed into livestock feed as a source of protein and vitamins. Now, there may be even more reason to continue this practice, according to findings by a team of scientists with the Agricultural Research Service (ARS), Warren Wilson College,



Forage Timely Tips: August

- ✓ Continue grazing available summer annuals (millets, sorghum/Sudangrass, crabgrass, etc.).
- ✓ Apply 40-60 lb N/acre to stimulate summer annual regrowth.
- ✓ Identify fescue pastures for stockpiling. Choose pastures that are well drained, have a strong sod, and have not been overgrazed.
- ✓ Soil test pastures to determine fertility needs.
- ✓ Using UK variety trial results, select varieties to plant in the fall and order seed.
- ✓ Use a designated sacrifice lot to feed livestock hay and supplements as you wait for drought stressed pastures to reocset in and no forage is available for grazing.

(WWC) and Asheville Sustainability Research (ASR), LLC of Asheville, North Carolina.

Laboratory results the team suggest that using leftover brewer's yeast as a feed additive may benefit the environment by helping cows belch less methane and resulting in more efficient animal gain. Methane from cows is a waste byproduct arising from the fermentation activity of certain kinds of microbes, called methanogens, in the first of the animal's four stomach chambers, the rumen. Another group of rumen microbes, known as "hyper-ammonia-producing bacteria," are behind the animal's excretion of ammonia, a potential air- and water-quality concern. The microbes' production of methane and ammonia from food the cow eats also robs the animal of amino acids needed for growth and milk production, explained Michael Flythe, a research microbiologist with the ARS Forage-Animal Production Research Unit in Lexington, Kentucky.

Flythe's co-investigation of the preventive role that brewer's yeast may play is part of an ongoing effort to develop natural alternatives to using expensive protein supplements and monensin (an ionophore antibiotic only approved for use in cattle) to keep the gas-producing microbes in check. A prior focus on that front has included incorporating red clover into the animal's diet.

Most recently, Flythe teamed with Robert Bryant (ASR) and Rhys Burns, Christopher Feidler-Cree and Denia Carlton and Langdon Martin—all of WWC—to explore the preventive potential of leftover brewer's yeast, which ferment grains used in making ale, lager and other types of beer. By one estimate, the brewing process generates 15 to 18 tons of spent brewer's yeast

per 10,000 hectoliters (or approximately 2,641 gallons) of finished beer, making it the second largest byproduct next to spent brewer's grains (SBGs). According to a 2019 study, brewers in Europe alone generate 6 million tons of SBGs annually and 1 million tons of spent brewer's yeast.

During the brewing process, the yeast, known as *Saccharomyces cerevisiae*, absorb humulones, lupulones and other compounds from hops that contribute to beer's flavor and aroma. Humulones and lupulones are both biologically active molecules that inhibit certain bacteria and other microbes, including those that trigger the cow's release of methane and ammonia. But until recently, little research had been done to learn whether leftover brewer's yeast enriched with hops compounds could be just as effective at controlling the rumen microbes' noxious ways.

The team also used baker's yeast and monensin as controls for comparison. Not surprisingly, the baker's yeast, which had not been exposed to hops during the brewing process, failed to tamp down microbes' production of the gases. However, the spent brewer's yeast—flush with the hops compounds it had absorbed—curbed the microbes' methane production by 25 percent on average—a reduction comparable to monensin.

Although spent brewer's yeast is sometimes used as a livestock feed additive, Flythe said cow feeding trials would still be necessary to fully assess its potential to reduce methane and ammonia on a farm scale.

~from USDA-ARS news release June 28, 2022.

Late Season Forage Production with Oats

Those who want quick fall production from an annual forage may want to try oats planted in mid-August. Planted at 3 bu/acre and given 50-60 lb N/acre, you can typically harvest 1.5 to 2.5 tons of dry matter in mid-October. As planting is delayed, yields fall dramatically. The normally cool night temperatures of late September conserves the sugars and produces high quality forage. With sufficient nitrogen or manure, oat forage will easily reach 18% crude protein. Or for even more production, mix oats with cereal rye to have lush regrowth early spring next year. Note: if spring oats are planted they die overwinter and winter oats often don't survive KY winters.

Reviving Drought Stressed Pastures

A very hot and dry early summer combined with overgrazing has significantly reduced pasture growth and vigor in many areas of Kentucky. Fortunately recent rains will be of great benefit. And drought stressed pastures often look worse than they really are. This is especially true for pastures that were well managed prior to drought. In many cases pastures can be revived without reseeding. The key element is rainfall. On the flipside, pastures that have been grazed closely and continuously prior to drought often do not fare as well during and after drought. The following are some considerations for reviving drought stressed pastures.

Rest pastures during and after drought. Close the gates! The worst possible thing that we can do during and after a drought is to allow livestock access to all the pastures. During a drought, confining animals to one pasture and feeding hay limits damage to a single pasture and allows the other pastures to

adapted to the drought stress. Following a drought, it is important to keep those animals confined to the sacrifice while other pastures recover. This allows pasture plants to rebuild their photosynthetic factory (leaf canopy) and store up sugars and carbohydrates before the winter months. The stockpiled growth that accumulates during this recovery period can then be used for grazing during the winter months after plants have gone dormant.

Fertilize pastures according to soil test. Fertilizing pastures this fall can help to strengthen plants and get them ready to grow next spring. Adjust the soil pH to 6.0 to 6.4, apply phosphorus and potassium according to your soil test, and apply 50-60 lb nitrogen/A in mid-August to early-September for stockpiling. Alternatively, a smaller amount of nitrogen (30 to 40 lb/A) in November or early December can be applied to enhance spring growth. A late-season nitrogen application will not produce a great deal of fall growth, but it will stimulate tiller production and root growth. Pasture growth will start earlier in the spring stands will be thicker.

Interseed legumes into thin stands. Legumes such as red and white clover, and alfalfa are important components of sustainable grassland ecosystems. They form a symbiotic relationship with rhizobium bacteria in which nitrogen from the air is fixed into a plant available form. They also dilute the toxin in tall fescue infected with the toxic endophyte and in some cases may even reverse the negative effects of the endophyte. Pasture sod suppressed by drought and overgrazing provide a perfect opportunity for interseeding clover and alfalfa. Legumes can be either drilled in the fall or spring or frost seeded in late winter. Frost seeding works best with red and white clover and annual lespedeza. Alfalfa is better established using a no-till drill. For more information on selecting varieties and overseeding contact your local extension agent or visit the UK Forages Webpage at <http://forages.ca.uky.edu/>.

Plant winter annuals. In some cases, drilling cool-season annuals, such as small grains, annual ryegrass, and brassicas into dormant sods can be cost effective. In this situation, sods are normally in very poor condition and there are simply not enough remaining plants to actively compete with the cool-season annuals. However, interseeding cool-season annuals into a dormant sod that was well managed prior to the drought does not normally work as well as expected. This is due to the fact that the ground is very dry and when the rain finally comes the seed not only starts to germinate and grow, but so does the dormant sod. An established fescue sod has an extensive root system that competes well for limited moisture. On the other hand, newly established seedlings have a very small root system and are at a serious disadvantage when competing for water and light with an established fescue sod. The best place for cool-season annuals is on cropland or areas that had summer annuals that has already been harvested or grazed. In general production on these areas will be greater due to the absence competition. In order to optimize late fall and early winter production, these mixtures should be seeded in mid to late-August, given soil moisture is adequate for germination and emergence.

Include brassicas in mixture. Rape and turnips can be planted in late summer to

see blue.

provide late fall and early winter grazing. All brassicas require well-drained, fertile soils and a near neutral pH for optimum production. Strip grazing is needed to maximize utilization of brassicas. Brassicas can be 90% digestible and can cause health disorders if not properly managed. Problems can be avoided by following several commonsense recommendations: 1) introduce animals to brassica pastures slowly, 2) never turn hungry animals that are not adapted into brassica pastures, 3) brassicas should not make up more 75% of diet, and 4) plant a mixture of brassicas and cool season annual grasses, 5) allow access to grass pasture or dry hay at all times.

It is important to remember that drought alone rarely kills well managed pasture plants. In most cases pastures can be revived with rain, rest, and a little fertilizer. Weakened sods provide a prime opportunity for incorporating legumes in established pastureland. With a little tender loving care and rainfall this year's drought stressed pastures will be next year's green meadows. ~Chris Teutsch, from Cow Country News.

2022 Forage Seed Crop

Spring 2021 in Oregon was the driest and hottest spring on record. As a result, forage seed producers had an early harvest last year. In contrast, Spring 2022 in the Willamette Valley of Oregon, was one of the coolest and wettest years on record. Ninety percent of the cool season grass seed sold in the U.S. is grown in Oregon and adjoining states. Due to the wet, cool spring the Oregon forage seed harvest was 7-8 days later than normal. This late crop will make it difficult for our industry's seed processors, seed labs, and warehouses to get seed out to customers in a timely manner.

All the rain has helped produce what looks to be an average to above average crop in the Pacific Northwest. It has also created above average weed seed pressure and producers are expecting a dirtier crop. This will force the seed processors to run slower, resulting in less seed cleaned per hour. Therefore, the supply of high quality, weed free seed will be more of a challenge this year. The forage seed crop report from Minnesota and Canada is similar. They anticipate an average to above average crop and a later harvest due to cool weather. The upper Mid-West crop is forecasted to be a week to 2 weeks later than normal.

Historical high seed prices, average to above average seed yields, high agricultural commodity prices, and uncertainties in the economy are just a few examples of why many are nervous about seed prices going forward. Growers will require higher prices for the 2022 crop, due to greater input costs, land rent increases, ROIs of competing crops and strong open market (not contracted seed) pricing.

There is a historically low seed carryover available in the Pacific Northwest this year. Much of the carryover inventory seems to be in the hands of consumer products/retail companies. Low carryover inventories, late harvest with processing delays, and freight challenges play a critical role in why we are anticipating seed availability limitations well into the fall season until inventories can be replenished. As the grass seed supply chain starts to fill back up, we could see softer markets later this fall, but likely too late to help seed prices for fall planting in KY. ~ excerpted from the Mt. View Seed newsletter

Corn Silage Harvest Practices Impact Milk Production, Grain Fill, and Overall Profitability

- Moisture of the corn plant determines the time to harvest. Harvest at 62-65% moisture (35-38% DM) (Choppers without kernel processors should be harvested a little wetter– 32-35% DM to allow breakage of corn kernels.)
- Healthy corn plants dry down 0.5-1.0%/day.
- Corn is generally harvested 40-45 days post-tasseling.
- Adjust rollers on kernel processors so that no more than 2 or 3 half or whole kernels of corn are found in a chopped sample contained in a 32 oz. cup. Spacing between rollers should be such that a dime will not fit between the rollers. Kernel processors do increase power requirements and thus diesel usage. However, for each additional gallon of diesel at \$6/gal. used, only 0.05 lbs of milk (\$22/cwt) are needed to recoup additional fuel cost with 20 tons of corn silage/acre. Extra diesel costs can very quickly be recouped from additional milk volume and thus income.
- For bunkers and piles, pack the chopped silage with a tractor weighing 800 times the number of wet tons delivered per hour at a speed of 1.5-2.5 mph.
- Cover top of uprights, piles, and bunkers with plastic. For bunkers, line bunker sides with plastic with extra plastic overlapping the walls. Once filled, use the extra plastic to cover part of the top closest to the walls to prevent water seeping under the top cover of plastic and causing spoilage.

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

Sept 13-14—KY Grazing School, Versailles, KY

Oct 3-6 Eastern Native Grass Symposium, Louisville

October 26 and 27—KY Grazing Conference, Leitchfield and Winchester, KY

Nov 14-17—World Alfalfa Conference, San Diego, CA

Jan 8-10—American Forage and Grassland Council Conference, Winston-Salem, NC

Feb 21, 2023—KY Alfalfa and Stored Forage Conference, Cave City, KY

May 14-19, 2023—International Grassland Congress, Covington, KY

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