



Lyon County Ag Newsletter

August, 2023

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Event Calendar:

- Sept. 12 – Equine Farm Facilities Expo, Harrodsburg, KY
- Sept. 22 – National Hay Assoc. Tour, Mumfordsville, KY
- Sept. 21 -Beef Bash, Versailles, KY
- Sept. 27-28 – Fall Grazing School, Versailles KY
- Oct. 3 – KFGC Field Day, Clay, KY
- Oct. 18 Beef Cattle Seedstock Symposium Barren County
- Oct. 31 –Western KY Grazing Conf., Elizabethtown, KY
- Nov. 1 – Eastern KY Grazing Conf., Lexington, KY
- Nov. 7 – Fall Fencing School, Scott County.
- Nov. 9—Fall Fencing School, Caldwell County.
- Jan. 7-10 – AFGC National Conference, Mobile, AL
- Feb. 8 –Alfalfa/Stored Forage Conf, Bowling Green, KY
- Feb. 19-20 – Heart of America Grazing Conf., Cincinnati, OH

Dear Ag Producer,

UK specialists are asking for your input survey regarding reducing barriers to Integrated Pest Management. They would appreciate your participation. The survey is anonymous and you can find it using the QR code in the sidebar. I can email you the link as well, it is a bit lengthy to type in.



Fall Soil Sampling: One advantage to our days of rain ahead is that it is easier to hand-pull soil samples when ground has some moisture (and next to impossible when it is dry). We have a couple of soil probes we will lend out for sampling. We ask that you leave a \$10 deposit and we give it back upon return! Soil samples are free to Lyon County landowners, 5 per homeowner and 25 per farmer.

Tobacco Worker GAP Training and Pesticide Handler Training will be held on Monday, August 7, 6:00 p.m. at the LSJ Park, Community Center.

Plan to Attend Fall Forage Events: Make sure you plan to attend one or more of our fall forage meetings. Registration is now available for all these events (or will be soon) on the UK Forage Website or at KFGC.org. The **Equine Field Day** is first on Sept. 12 in Mercer County. Next up is **Beef Bash** Sept. 21 in Versailles, KY followed by the **National Hay Association Tour** at Clayton Gerald's farm Sept. 22 in Mumfordsville, KY. The Fall Grazing School will be Sept. 27-28 in Versailles. Make sure you plan to take a drive to Clay County Oct. 3 for the **KFGC Field Day** on Ronnie and Will Bowling's farm. You'll see beef and goat grazing systems, novel tall fescue, native grasses, mineland reclamation, and more. Our **KY Grazing Conference** will be held at two locations this year on Oct. 31 in Elizabethtown and Nov. 1 in Lexington. The theme is **Low Stress Livestock Handling for Serious Graziers** with national experts as speakers. The last of our fall forage events are Dr. Teutsch's nationally recognized **Fencing Schools** on Nov. 7 in Scott County and **Nov. 9 in Caldwell County**. The forage team looks forward to seeing you in attendance at these meetings.

Susan Fox
Lyon County Extension Agent for Agriculture and Natural Resources

Paraquat Certification Training!

Wed., Aug. 9 at 1:00 P.M.,
Lyon County
Extension Office
231 W. Main St.
Eddyville, KY.
RSVP at 270-388-2341.

Flooding Effect on Corn and Soybeans in 2023

Drs. Chad Lee, Carl Bradley, and Kiersten Wise; University of Kentucky

***“The plant can only take up about 1 pound of a nutrient per acre through the leaves with any foliar application.*”**

For corn and soybean plants that survived flooding, compromised roots and stalks are the greatest concerns going forward. Fertilizers and fungicides will not rescue flood-damaged crops. There may be certain reasons to apply them once survival is certain, but again, they will not rescue a crop.

Corn and soybean fields were flooded in western Kentucky on July 19, 2023, when areas received anywhere from 7 to more than 11 inches of rainfall in less than 24 hours. At 8-10 days corn and soybeans in some of those fields were flashing yellow leaves and other plants were visibly dying.

Either corn or soybean fully submerged more than 24 hours in these temperatures likely died. Plants in fields flooded for about 48 hours or more - even with plants exposed - likely will die. Generally, the area of plant death is larger than we initially estimate. If the water is over the ears for about 24 hours, then the ears are lost and will rot.

In fields where flooding drains rapidly, but the soils remain saturated, the root hairs died quickly. They will not grow new root hairs until about 3 days after oxygen re-enters the root profile. Oxygen starts to re-enter the soil profile when a person can walk into the field without sinking into it. Oxygen is fully in the soil profile when a person can safely drive on the field without making ruts.

Root hair death from the saturated soils is the major concern for the plants. Root hair death will cause a flash in nutrient deficiency and will weaken the stalks. Some yield loss will occur on these plants and chasing these lower yields with additional fertilizer or fungicides will not increase those lost yields.

Plants with dead root hairs cannot take up nutrients. The leaves are still conducting photosynthesis and still trying to grow. Because no new nutrients are being taken up, the plants will rob nutrients from the stalks and lower leaves. If the root hairs remain dead long enough, the plants will begin to flash nutrient deficiencies. Nitrogen deficiency is the most obvious deficiency, but other nutrients will be deficient as well. The corn and soybean plants will stay deficient until about 5 to 7 days after oxygen re-enters the root profile. Applying nitrogen to the field will not help immediately. Root hairs are needed to take up the nitrogen. Many farmers consider foliar applications. The plant can only take up about 1 pound of a nutrient per acre through the leaves with any foliar application. If a farmer really wanted to supplement with foliar nutrients, the farmer would need to apply every day until the root hairs are fully functional. A foliar fertilizer will not help and applying one every day for about 8 days is not economical.

Some nitrogen losses can occur from saturated soils. However, in fields where plants survive, the nitrogen losses are minimal, especially on corn that is in seed fill. Corn and soybean yields are hurt because they grew for about a week or so while the roots were choked out. There is no need to apply fertilizer nitrogen until the farmer is certain that the corn or soybeans will survive.

This is a poor analogy, but may help explain what the plants are experiencing. Imagine being locked away from food but having to conduct a 4-hour workout (or 10-mile run) every day plus do your normal duties. You will move a little slower the longer you are locked away from the food. About 3 days after oxygen moves back into the root zone, it is like a key unlocking the door to the food. If we stop the analogy right here, you get a sense of what is happening to the plants in a saturated field.



This is a poor analogy but may help explain what the plants are experiencing. Imagine being locked away from food but having to conduct a 4-hour workout (or 10-mile run) every day plus do your normal duties. You will move a little slower the longer you are locked away from the food. About 3 days after oxygen moves back into the root zone, it is like a key unlocking the door to the food. Applying fertilizer when soils are saturated is like running the meal past you and immediately into the locked room. Maybe you get a crumb ... maybe. Most of the food (the amount you need for sustenance) is locked away with the rest of the food that was already there. If we stop the analogy right here, you get a sense of what is happening to the plants in a saturated field.



Many farmers are tempted to apply fungicides to protect the crops. Do not apply a fungicide to help plants recover, even if it is an inexpensive product. Fungicides will not help recover yield that has been lost. Consider potential yield loss and other economic factors before applying fungicides for disease control in fields that have been impacted. In other words, assess if the remaining yield potential is still worth the investment of a fungicide application for disease control. If the crop is dying due to standing water or flooding, then there is no point to apply fungicides.

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If plants are covered in mud, they will have less photosynthetic capability and could have some higher pathogen risks. These plants needed another inch of rain as soon as possible to wash off the mud. The longer the mud stays on the crops, the greater the yield losses will be. Since soybeans are shorter, there will be more fields in the area with muddy soybeans. Expect some large yield losses in those fields.

On upright plants that recover, the roots are compromised and weaker stalks, especially in corn, are expected. Corn fields probably need to be harvested sooner and farmers should expect to dry grain. Soybean roots are compromised as well but they do not have the stand issues late in the season like corn does. There could be more lodging, but a grain table can capture those easier than a corn head can capture downed corn.

Drowned Tobacco

Andy Bailey, University of Kentucky

Following the extremely heavy rains that many areas in west KY saw this past Wednesday, tobacco in lower lying areas may have went under water. Tobacco that sits in standing water for 12 hours or more will “drown” and not come back at all. In most cases though, the problem has not been so much standing water but tobacco’s response to saturated soil conditions in the root profile. Fields that reach saturated conditions for 12 hours or more cause rapid decay of root hairs of tobacco that prevent water uptake and cause the plant to wilt as root systems are damaged and cannot take up water. Unlike most other crops, the tropical origin of tobacco makes it favor dry conditions rather than wet conditions and it does not respond well to excess water in its root profile. The greater danger of wilted tobacco is that when the plant wilts, it no longer can control the temperature of its leaf surfaces and can sunscald under intense sunlight while plants are wilted. Ideally, if tobacco can have 2 days of significant cloud cover following a major rain event like we had this

week, it helps the plant transition to recovery with minimal sunscalding.

I have seen dark tobacco wilt and recover multiple times in a single season following heavy rain events if a cloudy transition period occurs following the rainfall event. However, each wilting event reduces the plants yield and quality potential and recovery is less each time plants go down. If cloudy transition periods do not occur and excessive sunscalding occurs, tobacco may not be worth harvesting.



Looking at tobacco following recent heavy rains in Calloway and Graves counties on Friday, tobacco on upslope areas and better drained soils did not wilt until around noon following the rains on Wednesday and Thursday. Many times, the first wilting that we see in a field gives us the best idea of the how many plants will go down. Following that first wilting, wilted plants either recover or remains wilted and sunscald. Earlier this year we saw dark tobacco on a well-drained soil wilt following a 3.5" rain, but nearly 90% of the plants recovered without sunscalding over a 4-day period following the rain event. Where water damage is more severe on soils that aren't as well drained or where more intensive head and sunlight occur after wilting, recovery will obviously be less. The smaller the tobacco is at the time of wilting, the better chance the crop has for recovery. An extension publication that further discussing drowning, wilting, and recovery in tobacco is available: [Microsoft Word - Palmer-drowning-wetfeet.doc \(uky.edu\)](#)

Timely Tips, *Dr. Les Anderson, Beef Extension Professor, University of Kentucky*

Spring-Calving Cow Herd

- Fescue pastures don't generally produce much this month. Many of us have had some rain (some of us a bit too much) but the heat has waited until late summer to become an issue. Most of you may have some forage going into the usually dry months. Keep rotating pastures to permit calves to continue gaining weight. Always keep minerals available.
- Bulls should have been removed from the cow herd by the end of the month. They should be pastured away from the cow herd with a good fence and allowed to regain lost weight and condition. It is a good time to evaluate physical condition, especially feet and legs. Bulls can be given medical attention and still have plenty of time to recover, e.g., corns, abscesses, split hooves, etc. If removing the bull is not practical for you then call your herd veterinarian and schedule a pregnancy diagnosis. Market your "late-bred" cows and keep those that conceived early in the breeding season. Repair and improve corrals for fall working and weaning. Consider having an area to wean calves and retain ownership for post-weaning feeding rather than selling "green", lightweight calves. Plan to participate in CPH-45 feeder calf sales in your area.

Fall-Calving Cow Herd

Dry cows should be moved to better pastures as calving time approaches. Cows should start calving next month. Yearling heifers may begin "headstart" calving later this month. Plan to move cows to stockpiled fescue for the breeding season, so it will soon be time to apply nitrogen fertilizer. Prepare for the fall-calving season (usually September). Get ready, be sure you have the following: record book, ear tags for identification, calf puller, castration equipment

General

- Perhaps the most tedious aspect of agriculture is keeping records, generating reports, and using data to make management decisions. Consider using one of the many electronic data collection and management systems available on the market.
- Provide shade and water! Cattle will need shade during the hot part of the day. Check water supply frequently – as much as 20 gallons may be required by high producing cows in very hot weather.
- Select pastures for stockpiling. Remove cattle and apply nitrogen when moisture conditions are favorable. Stockpiled fescue can be especially beneficial for fall-calving cows after calving. Reproductive rates are highest in fall-calving cows grazing stockpiled fescue.
- Avoid working cattle when temperatures are extremely high – especially those grazing high-endophyte fescue. If cattle must be handled, do so in the early morning.
- Do not give up on fly control in late summer, especially if fly numbers are greater than about 50 flies per animal. You can use a different "type" of spray or pour-on to kill any resistant flies at the end of fly season.
- Keep a good mineral mix available at all times. The UK Beef IRM Basic Cow-Calf mineral is a good choice.
- Cattle may also be more prone to eat poisonous plants during periods of extreme temperature stress. They will stay in "wooded" areas and browse on plants that they would not normally consume. Consider putting a roll of hay in these areas and/or spraying plants like purple (perilla) mint that can be toxic.
- Take soil samples to determine pasture fertility needs. Fertilize as needed, this fall.

Reasons to Stockpile Fescue

Jimmy Henning University of Kentucky, written for Farmers Pride, 2021

There are a lot of pressures on profitability right now. I have been doing a deep dive into hay production this year, trying to get a handle on the complexity, the science and the art of making good hay. What does this have to do with stockpiling tall fescue? Hay supplies and fall grazing are dynamically linked – the more grazing we can do in the late fall and early winter, the longer our hay supplies will last. And with the fires and drought in the west as well as untimely rains here, it may be a tight year for some types of hay. Here are several reasons why this might be the year for stockpiling of tall fescue.

Longer grazing season. Stockpiling is producing forage now for use later. Using fall stockpiled forages is a great way to extend the grazing season into early winter and reduce the reliance on hay or supplements. Nitrogen fertilizer applied in August/early September will produce more yield per pound of nitrogen than later September or October applications.

Tall fescue is the ideal grass for stockpiling. Stockpiling is growing forage now for use later. Tall fescue is the ideal grass for fall stockpiling because it retains its quality and digestibility into late fall and early winter better than other grasses and legumes. Freezes and rain quickly degrade the quality of legumes and other cool season grasses. Tall fescue on the other hand will maintain leaf integrity through freezes and weather and therefore the forage quality will remain high.

Good stockpiled tall fescue is excellent forage for fall weaned calves as well as for the fall calving cow herd. Quality values for fall tall fescue can approach 20 percent crude protein and mid-60's in total digestible nutrients. These values are far superior to most fescue hay. Protein content and digestibility decline at a slower rate over the winter compared to other forages.

Fescue toxicity from the endophyte tends to be low in fall stockpiled tall fescue. Although fescue toxicity can peak in the early fall, freezes will generally cause the toxic alkaloid levels to fall to near zero. Endophyte-free and novel endophyte tall fescues stockpile equally well as KY 31 and will not have toxicity potential at all. Use moderate levels of nitrogen fertilizer (use 60 or less pounds of actual nitrogen per acre, equivalent to 130 pounds of urea that is 46% nitrogen) to avoid the overproduction of the endophyte toxic alkaloids in the fall.

Pastures are in good shape to respond well to nitrogen. Many areas have received enough rainfall to have excess pasture acres that will be perfect for stockpiling. Pastures that have not been overgrazed will respond most to fall nitrogen fertilizer. *For best results, stockpiling should begin by mid-August.* If excessive growth is present, mow or graze the fescue down to four to six inches to allow for new growth. Remove grazing livestock and find a good opportunity to apply nitrogen. Fall applied nitrogen is most efficient in producing additional yield when applied in late summer/early fall, as early as mid-August.

Avoid nitrogen losses by timing or adding urease inhibitors. Urea-based products are the most common sources of nitrogen for fall stockpiling. Urea applied to dry soil during hot conditions is subject to nitrogen loss due to urease activity in the soil. Urease is an enzyme that breaks urea down before it can be used by the plant. Urease is widespread in the environment. We can avoid this nitrogen loss by application in advance of a coming rain event or using urea that's been treated with a urease inhibitor. Consult soil test values to determine if lime, P or K is needed. It is important to take current prices and individual situations into consideration when deciding if this practice will be cost-effective.

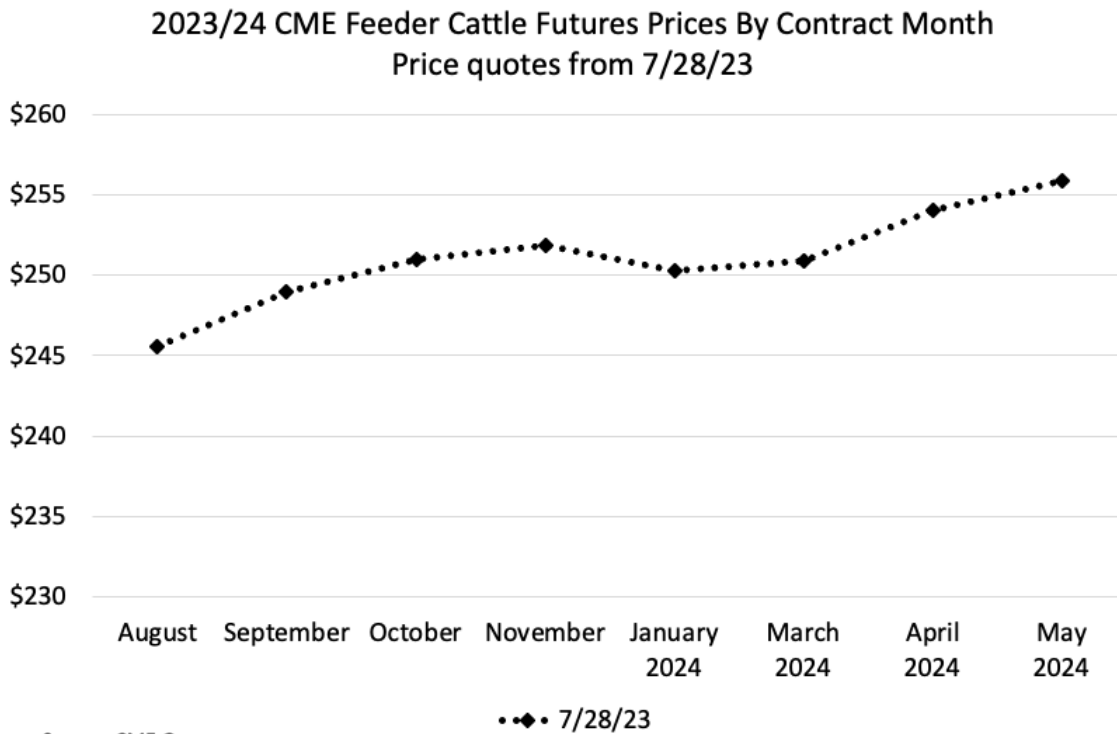
Strip allocation of stockpiled tall fescue will extend the grazing period. Missouri research showed that giving cattle a three-day vs seven-day supply of stockpiled tall fescue increased grazing days by 45% due to less trampling and less manure on fresh forage. Stockpiled fescue can be grazed close with little effect on spring regrowth so utilization efficiency is high. In fact, *tightly grazed stockpiled tall fescue pastures can be a good place to frost-seed clover in late winter.* For more information on stockpiling tall fescue, see 'Stockpiling for fall and winter pasture' (<http://www2.ca.uky.edu/agcomm/pubs/agr/agr162/agr162.pdf>)



Extend your grazing season and save hay by considering stockpiling tall fescue this fall. Having a rested tall fescue pasture (not overgrazed), the ability to make timely applications of nitrogen and the capability to strip graze are all good reasons this may be the year to stockpile. (Photo by Chris Teutsch, University of Kentucky.)

Cattle Market Notes

Josh Maples, Mississippi State; James Mitchell, University of Arkansas; Kenny Burdine, University of Kentucky



Strong Cattle Prices

By: Josh Maples

Cattle prices have been on a strong ride in 2023. Many producers will be selling spring-born calves in the coming months and are likely to be much happier with the revenue earned than they were when selling calves during the past few years. Feeder cattle prices in the southeast are up roughly 40-50 percent above year-ago levels and current expectations are for that strength to continue into 2024.

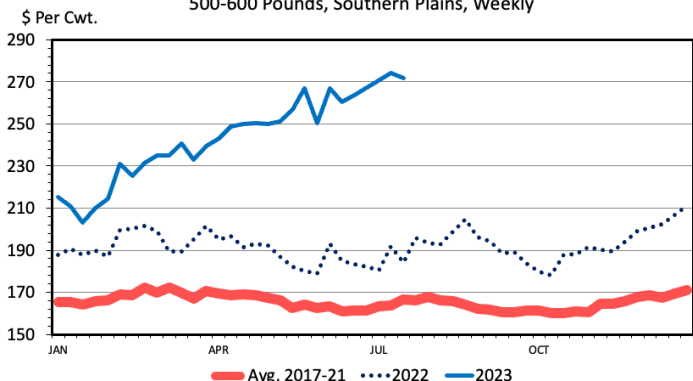
The chart above shows futures contract quotes for all of the currently traded CME contracts. Futures contracts are standardized and each contract terminates on the last Thursday of the contract month. For feeder cattle, one contract is 50,000 pounds and the CME Feeder Cattle Index is used to settle the contract. The CME Feeder Cattle Index is a seven day weighted average calculated using transactions of 700-899 pound steers from a 12-state region in the middle of the U.S. (more info about this index is available at [this factsheet](#)). As an example, the August 2023 contract will terminate on Thursday, August 31st and will settle based on the CME Feeder Cattle Index calculated with transactions from August 25-31.

Since the contracts are standardized and have a set ending date, futures quotes can give insight on price expectations for the rest of 2023 and Spring 2024. Contract prices are higher throughout the fall months before dipping slightly during the first few months of 2024. This dip is driven by seasonal production/supply patterns as prices for 700 to 900 pound steers are typically weakest during the late winter and early spring before rising into the summer months. Some of this seasonality can be seen in the 2017-2021 line on the chart below. It is also worth noting that the seasonal patterns vary across weight classes. 500-600 pound steers are typically weakest in the early fall, although those seasonal patterns can be muted during years when overall prices are on a strong up trend (like this

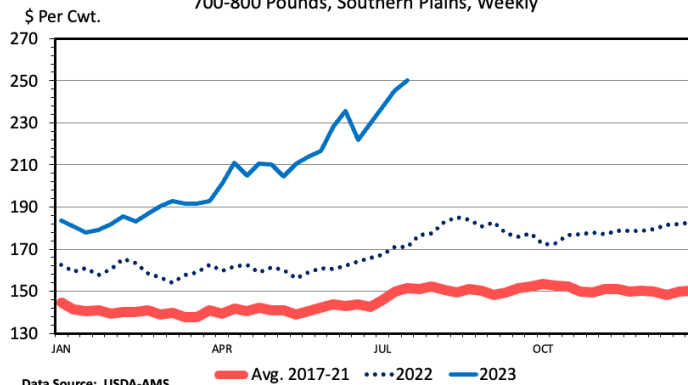
year) or down trend.

There is still much optimism in cattle markets. [As James discussed last week](#), supplies have tightened and there is no indication that cattle numbers are expanding very soon. The latest [USDA WASDE](#) report projects U.S. beef production will be down 4 percent this year as compared to 2022 and their forecast for 2024 would be an additional 9 percent decline from the 2023 projection. The strong rally in cattle prices this year, and the expectations for strong prices as we move into 2024, are reflective of this underlying tighter cattle and beef supply situation.

MED. & LRG. #1 STEER CALF PRICES
500-600 Pounds, Southern Plains, Weekly



MED. & LRG. #1 FEEDER STEER PRICES
700-800 Pounds, Southern Plains, Weekly



Data Source: USDA-AMS
Livestock Marketing Information Center

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Livestock Marketing Information Center

Cattle Market Report		For Weeks Ending On			% Chg	% Chg	Chg Prev. Week
Prices \$/cwt. Sources: USDA, LMIC, and CME		7/28/23	7/21/23	7/29/22	Prev. Week	Prev. Year	
500-600 lb. Feeder Steers	Mississippi M/L #1-2	\$234.07	\$228.33	\$154.84	3%	51%	\$5.74
	Arkansas M/L #1	\$248.45	\$248.01	\$175.08	0%	42%	\$0.44
	Kentucky M/L #1-2	\$246.96	\$251.40	\$173.75	-2%	42%	(\$4.43)
	Oklahoma City M/L #1-2	\$260.18	\$251.14	\$181.28	4%	44%	\$9.04
	Alabama M/L #1	\$250.26	\$255.76	\$169.32	-2%	48%	(\$5.50)
	Tennessee M/L #1-2	\$245.98	\$247.14	\$170.78	0%	44%	(\$1.16)
	Missouri M/L #1-2	\$257.52	\$262.03	\$183.14	-2%	41%	(\$4.52)
700-800 lb. Feeder Steers	Mississippi M/L #1-2	\$204.50	\$203.62	\$141.02	0%	45%	\$0.88
	Arkansas M/L #1	\$221.15	\$225.75	\$151.05	-2%	46%	(\$4.60)
	Kentucky M/L #1-2	\$222.24	\$230.76	\$163.54	-4%	36%	(\$8.53)
	Oklahoma City M/L #1-2	N/A	\$229.90	\$159.77	N/A	N/A	N/A
	Alabama M/L #1	\$217.46	\$223.95	\$145.35	-3%	50%	(\$6.49)
	Tennessee M/L #1-2	\$228.92	\$225.99	\$151.13	1%	51%	\$2.92
	Missouri M/L #1-2	\$233.83	\$231.20	\$165.39	1%	41%	\$2.63
Negotiated Fed Steers	Live Price	\$184.81	\$186.19	\$139.83	-1%	32%	(\$1.38)
	Dressed Price	\$293.63	\$294.72	\$225.53	0%	30%	(\$1.09)
Boxed Beef Cutout	Choice Value, 600-900 lb.	\$303.32	\$304.07	\$268.44	0%	13%	(\$0.75)
	Select Value, 600-900 lb.	\$278.33	\$275.95	\$242.75	1%	15%	\$2.38

Futures Prices		7/28/23	7/21/23
Live Cattle	August	\$178.15	\$180.02
	October	\$179.60	\$181.90
	December	\$183.60	\$185.18
Feeder Cattle	August	\$245.60	\$245.93
	September	\$248.98	\$249.27
	October	\$251.00	\$251.00
Corn	September	\$5.21	\$5.27
	December	\$5.30	\$5.36

Source: CME Group

Sacred Cows and Stocking Rates

Greg Halich, University of Kentucky Extension Service

Two acres of pasture per cow is sometimes used as a rule-of-thumb as what is needed to support a beef cow in Kentucky. However, the soil quality of those acres, as well as management intensity are important factors that also need to be considered. Two acres of gently rolling Maury Silt loam in central Kentucky combined with well-managed rotational grazing will provide a lot more grazing than two acres of steep hillside Eden Shale clay combined with continuous grazing. Cow size will also have an impact. You can run a lot more moderate-framed 1200 lb cows on a given farm than you can 1800 lb. behemoths.

Moreover, the two-acre per cow generalization does not define what “supporting” a cow means. Does it mean being able to graze through December on an average year, or does it mean the farmer will start having to feed hay by early October in an average year, and late summer if there is even a mild drought? I would contend that with more typical soils and management found in Kentucky, the two-acre stocking rate generalization would more likely than not result in the later hay feeding situation.

How could having fewer cows, and selling fewer calves possibly make you more money? The biggest cost that decreases with a lower stocking rate is hay cost: not just overall hay cost (\$ for the entire farm), but also the hay cost per cow. By having fewer cows, you will be able to graze further into the fall or winter, as well as start grazing a little earlier in the spring. Thus, hay cost per cow would go down.

Having fewer cows (compared to an overstocked farm) also results in better quality forage, on average, going into the rumen of the cow, both during the grazing season and during those days where the overstocked farm is feeding hay while the farm with the lower stocking rate is still grazing. This improved forage quality has two positive effects on performance: 1) Increased conception/weaning rates, and 2) Increased weaning weights for the calves. Greg Brann, retired Tennessee NRCS grazing specialist (now doing consulting work related to grazing and soil health <https://gregbrann.com/>) noticed how drastically these performance measures improved on farms with lower stocking rates based on the thousands of cattle farms he visited in Tennessee and surrounding states. He also said most people never considered them as possible benefits of reduced stocking rates.

Would a farm be most profitable at 2.5 acres per cow, 3 acres per cow, or 4 acres per cow? You cannot answer the stocking rate question directly. As mentioned earlier, two acres of pasture is not always equivalent to another two acres of pasture. Management styles differ considerably, and two different farms on the same type of ground may need different stocking rates to achieve the same grazing goals. Thus, the question needs to be framed slightly differently: Instead of trying to determine what is the most profitable stocking rate for all farms, we need to instead determine the most profitable number of hay feeding days for a given farm. If for example, the most profitable hay feeding days turned out to be three months, that might be equivalent to 2.5 acres of pasture per cow on one farm, and 3.5 acres of pasture per cow on another farm. You would have to estimate what actual stocking rate would get you to that hay-feeding rate based on the management and productivity of each farm.

The basic tradeoff in estimating the optimal hay feeding days is this: by reducing the stocking rate, we sell fewer calves, but at the same time we also reduce our costs/cow, as well as increasing the revenue per calf slightly (through the higher weaning rates and weaning weights). The other two major factors that impact the decision are hay cost per ton, as well as the overall cattle market. If the cost of hay is high, the optimal hay feeding days will shift downward (you will want a lower stocking rate). If the overall cattle market is high (like in 2014), the optimal hay feeding days will shift upward (you will want a higher stocking rate). In other words, if we knew we were going to be able to sell calves for \$2.50/lb, the reduced costs from lowering our stocking rate would not likely outweigh selling fewer calves and giving up \$1000-1200 per head.

Table 1: Most Profitable Hay Feeding Days	
Net Hay Cost	Hay Feeding Days
\$40/ton	90-120
\$60/ton	60-90
\$80/ton	0-60

Note: Net hay = hay cost less net nutrient value.

Results: Table 1 shows the results for the most profitable hay feeding days given an estimated net hay cost. This assumes a cattle market that is slightly above current levels, where a 525 lb steer/heifer average calf is selling for \$1.50/lb. Net hay cost is the cost or value of the hay minus the net fertilizer value. For example, a 5’x5’ bale is typically around 1000 lbs or half a ton. If the cost per bale was \$35, the cost per ton would be \$70. The net nutrient value will vary substantially, from \$0-25 per ton. Most farms are probably in the \$5 -10 per ton range. Thus if we valued the nutrient value at \$10 per ton, the net hay price for this farm (hay minus nutrient value) would be \$70 – \$10, or \$60 per ton. For more details on how to estimate the nutrient value of the hay fed on your farm go to the following article: <https://www.progressiveforage.com/forage-production/management/fertilizer-value-of-hay-feeding>.

Depending on the estimated net hay cost, the most profitable hay feeding ranges from 0 – 120 days. The net hay cost for most farms in Kentucky will probably be at or slightly above

the \$60/ton level. Given this likely net hay cost, the most profitable number of hay feeding days will be in the 60-90 day range, or two to three months of hay feeding for the average Kentucky farm. For further details of the analysis, see the following article in Progressive Forages: <https://www.progressiveforage.com/forage-production/management/picking-apples-off-the-grazing-tree-part-iii-the-stocking-rate-hay-feeding-trade-off>.

How do these results conform to the majority of beef cattle farms in Kentucky? Acknowledging that we do not have official statistics on hay feeding days, I do regularly ask county agents what their guess is for their county. The usual response is around 120 days or four months of hay feeding, with the range somewhere between 100-150 days. If these estimates are accurate, we are feeding a lot more hay than we should be, and thus have a lot of room to improve profitability.

While most farms are probably feeding too much hay, there is a smaller number that are not feeding enough and have pushed the “grazing is cheaper than hay feeding” envelope too far. Hay needs to be provided in many winter scenarios, for example, on a cold, windy February day.

There is a hay-feeding and stocking-rate tradeoff. It is possible to end up with a stocking rate that is too low. The two-acre per cow rule of thumb may have had a purpose and may have been useful 1-2 generations ago. Possibly cattle prices were considerably higher relative to hay costs at that time, thus increasing the range of most profitable hay feeding days. Possibly the average cow size was a lot smaller. However, in our current era, there are few soil-management-cow size combinations in Kentucky that I believe two acres per cow will be anything close to the most profitable stocking rate, and will likely lead to a steady flow of losses.

I would rather not have a rule-of-thumb for anything that is as variable as stocking rates. If someone new to cattle is seeking guidance on how many cows their 100 acre farm can handle, I would rather not tell them a specific number without additional explanation. I think it is better to initially say something like: “whatever the number of cattle your farm can handle to keep your total hay feeding days in the 2-3 month range”. That might involve starting out with 3-4 acres per cow (25-33 cows on the 100 acre farm) and seeing what it results in, and slowly adjusting the stocking rate to reach and stay in that optimal hay feeding range. It will not necessarily be a static number. Improvements over time in grazing management and/or soil quality will allow an increase in stocking rates.

Given Kentucky’s unique forage base and climate, we have the potential to be one of the lowest-cost producers of calves in the country. That was a gift bestowed on us by a higher order. How we choose to take stewardship of that gift is up to each of us. Will we be lean and mean, or shiny and bloated? The quickest way for most farms in Kentucky to get back on the path of low-cost production is to base their stocking rate on profitability. For most of our farms that will mean feeding less (but not zero) hay. Getting rid of the two-acre per cow rule-of-thumb and aiming for 60-90 days of hay feeding will get most farms pointed in the right direction.

Beef Bash 2023

Dr. Les Anderson, Extension Professor and Tyler Purvis, Beef Extension Associate,

The theme of Beef Bash 2023 is “Vision of the Future”. Our goal is to create an event illustrating the tremendous work done in the beef industry in Kentucky creating a vision of the future of the beef industry. We are redesigning the format to accentuate all the work being done in Kentucky to improve the sustainability of the beef industry. We will have rotations featuring current research from UK and the USDA ARS group, educational opportunities sponsored by UK and Kentucky Beef Network and we will have several demonstrations by the UK Foods group and by the Kentucky Beef Council. In addition to these rotations, we will have an update on new facilities being designed and developed for the new Beef Extension Education Facility in Princeton, the new Livestock Education Center in Versailles, and the new USDA ARS research facility located on campus. We should have something for everyone at this year’s Beef Bash.

Beef Bash 2023 will be held Thursday, September 21st from 1-8 PM at the C. Oran Little Research Center. Registration will begin at 1 PM and the event will begin 2 PM. We will have the educational components from 2-4 PM and again from 6-8 PM. We will use 4-5 PM for participants to visit the tradeshow and interact with our vendors. We will rotate participants through the stations again from 6-8 PM. We extended the rotations into the evening for those who want to attend but cannot get off work.

Dinner will be provided by the Woodford County Cattleman’s Association at 5 PM. Pre-registration for attendees will be \$15 and includes a meal ticket. Come out to see a “Vision for the Future” provided by the University of Kentucky, the Kentucky Cattlemen’s Association, and the USDA ARS.

Renovation Tips for Novel Endophyte Fescue

Time is counting down with only a month until the ideal Tall Fescue planting time depending on where you are in the fescue belt. Plan on seeding September 1-15 in most of Kentucky. The Spray-Wait-Spray-Plant renovation plan requires the first application of glyphosate 30-40 days before planting followed by another application just before planting.



Walk fields to be renovated and scout for weeds. Are there problem weeds that might need an herbicide treatment in addition to glyphosate? An example would be areas where horsenettle or tall ironweed are present as these weeds may not be killed by glyphosate. Consider using a broadleaf herbicide effective on these weeds (and/or other target weeds). Only use herbicides that have short waiting periods from the time you spray until the time you seed.

Order your seed now if you haven't already. The variety you choose is likely not available on store shelves, so talk to your seed dealer to make sure they have your seed when you need it. Make sure you get the variety you order and check to make sure that the bags carry the Alliance for Grassland Renewal logo. This logo indicates that you are buying safe novel endophyte seed that has passed rigorous testing for seed quality and endophyte viability. Don't get talked into planting an endophyte-free tall fescue if you want stands that last more than a few years. If the store does not have your seed when you need it, wait! Waiting a week or two is better than planting endophyte-free or toxic KY-31 Tall Fescue.

Schedule a drill if you must use a rental unit, or do needed maintenance if you own your own drill. If you plan to broadcast seed then make sure your spreader is in good shape, and that you are using some level of tillage to prepare the seedbed. Immediately after broadcast seeding follow with a cultipacker or similar implement to insure good soil to seed contact.

If you missed a critical step for summer burndown/fall establishment, then go ahead and spray with glyphosate anyway, and after the field dies down drill in a small grain like rye, oats or wheat (or other cool season annual) for winter grazing. Follow with a summer annual grass next year and you will be on schedule to plant novel endophyte tall fescue pastures in the Fall of 2024. Ask your extension agent or other advisor for help, and attend an Alliance workshop during the coming year to learn all you can about Tall Fescue Pasture Renovation. ~ excerpt from article by Dr. Matt Poore, NC State Beef Specialist and Alliance for Grassland Renewal chair.

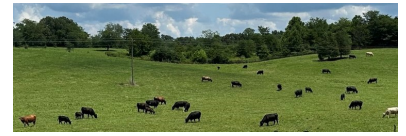
Late Summer Alfalfa Planting

Take advantage of late-summer alfalfa seeding to get a jump on next year's yield. Slow initial growth during the 6- to 8-week establishment phase of alfalfa cuts off a significant portion of the growing season yield potential when alfalfa is planted in spring. For that reason, establishment-year yields don't measure up to second-year yields in this perennial crop. Alfalfa seedings in late summer can be very successful, and it's a great time of year to plant a new stand if soil moisture is adequate for stand establishment. Late-summer planting (mid-Aug.) offers some advantages over spring planting by allowing other crops to be grown. For example, planting after small-grain harvest, or following sorghum-sudan, or after early corn silage harvest. With adequate fall establishment, the new stand can begin its growth on schedule the following spring, ready to go into full production. ~ excerpt from NAFA News article by Robin Newell, Alfalfa Partners.



Swinging for the Fences, Small Ball, and Water Issues

Kevin Laurent, *Beef Extension Specialist*,



My alma mater recently won the College Baseball World Series. All season long this team was ranked in the top five for home runs and total runs scored. Their approach was to “swing for the fences” or as it’s known in South Louisiana, “Geauxrilla Ball”. As impressive as their offensive stats were during the regular season, two areas of huge concern going into the World Series was their inability to play “small ball” (laying down bunts to advance the runner) and the inconsistent play of their bullpen. The College World Series for many years was played at historic Rosenblatt Stadium in Omaha, Nebraska and it was known as a hitter’s ballpark. Several years ago, a new stadium was built and is oriented so that batters are hitting into the prevailing winds, therefore home run production dropped dramatically. So, if you can’t knock it out the park, pitching and “small ball” becomes more important. Although my alma mater struggled in these areas of the game throughout the season, fortunately during the World Series, pitching improved and for the most part, the weather conditions and wind direction were in their favor. So, was LSU just lucky? Not necessarily, but they did get a few lucky breaks as any championship team needs to win it all.

So how does any of this relate to water issues and producing beef? I think we can all agree that the subject of rainfall has been uppermost on our minds this spring and summer. At one point in late spring conditions seemed eerily similar to the drought of 2012. As I write this in early July, most areas of the state have received timely rains and hopefully this will continue. Mother Nature has a way of exposing the weak areas of production systems and the last several months are a prime example. Ask yourself a few questions. During the recent dry spell: Did you feel like you were overstocked? Were stock water ponds getting low and overused, resulting in poor water quality? Did you have any areas of the farm with ample grass but no access to stock water? Do you have a backup plan when rain doesn’t come? In our area of Western KY several of the crop farmers have installed irrigation pivots and this year the pivots have been in full use. But what about the years when we get ample moisture, were the pivots a waste of money? Farmers will tell you that even in wet years the pivots pay, because it allows them to “swing for the fences” in terms of plant population, genetics and fertilization strategies knowing that if the rains don’t come, the pivots can be turned on.

So, if farming under pivots allows for “swinging for the fences”, what is the right strategy for pasture systems? Since most pasture systems do not have the access to irrigation, maybe a combination of stock water development along with a “small ball” approach might be more appropriate. Having water within 800 feet of grazing animals during the summer grazing season is a good goal. Missouri research shows that water within 800 feet results in improved forage utilization and more even nutrient distribution. Fencing and developing water access to the “back forty” or that field that has only been historically used for hay could also be considered. Water development will allow for rotational grazing and rotational grazing will enable you to better withstand dry periods and grow more forage. How you use that extra forage is the next decision. Do we increase stocking rates or do we summer stockpile for drought insurance or winter stockpile to reduce feeding days? Deciding what to do with extra forage is a great problem to have.

A quote from a presentation by John Genho, of Eldon Farms in Virginia at the 2019 Forages at KCA Symposium comes to mind. ***“The economic optimum is always under the biological optimum when it comes to stocking rates. We should always run a few less cows than a field can actually carry to make the most money.”*** The proceedings of his talk can be found on the UK Forages webpage at the following link: [Profitability at Eldon Farms: Guiding Principles \(uky.edu\)](https://www.uky.edu/~kca/symposium2019/forages/Genho.pdf)

We are currently experiencing “World Series Championship Prices” for our cattle. These prices only come along every 8-10 years. Hopefully these prices result in added income that can be used to improve infrastructure in our grazing programs. These improvements when coupled with “small ball” stocking rate strategies, will help ensure economic survival over the long haul to make it to the next

Grazing Conference

Low Stress Livestock Handling for Serious Graziers

October 31, 2023

Elizabethtown

Hardin County Extension Office

7:30 AM - 3:30 PM CDT

November 1, 2023

Lexington

Fayette County Extension Office

7:30 AM - 3:30 PM EDT



Reducing Livestock Stress in Grazing Systems

Curt Pate, Curt Pate Stockmanship



Fencing for Multi-Species Grazing

Lewis Sapp, Stay-Tuff Fence



Designing Flexible Watering Systems

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Greg Brann, Greg Brann Consulting



For more information please visit KFGC.ORG

Our speakers...

Curt Pate is a nationally renowned expert in low stress livestock handling. His focus on reducing stress in grazing systems makes him unique.

Lewis Sapp is a nationally recognized fencing expert with extensive experience in both temporary and permanent fencing systems.

Jeff Lehmkuhler is an award winning extension educator with more than 20 years of experience in designing flexible watering systems.

Chris McBurney has over 25 years of experience in designing, fabricating, and installing livestock facilities throughout the eastern United States.

Greg Brann is well known for his extensive knowledge of grassland ecosystems, grazing management, and mixed species grazing.

Tickets: \$45 Advance / \$60 Onsite / \$15 Students

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