

OFF THE HOOF



Cooperative Extension Service
University of Kentucky
Beef IRM Team

KENTUCKY BEEF CATTLE NEWSLETTER MARCH 7, 2024

*Each article is peer-reviewed by UK Beef IRM Team and edited by Dr. Les Anderson,
Specialist, Department of Animal & Food Science, University of Kentucky*

This month's newsletter includes:

Timely Tips – Anderson

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Timely Tips

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Spring Calving Cow Herd

- Watch cows and calves closely. Work hard to save every calf. Calves can be identified with an ear tag while they are young and easy to handle. Commercial male calves should be castrated and implanted. Registered calves should be weighed at birth.
- Cows that have calved need to be on an adequate nutritional level to rebreed. Increase their feed after calving. Do not let them lose body condition. Keep feeding them until pastures are adequate.
- Do not “rush to grass” although it can be really tempting. Be sure that grass has accumulated enough growth to support the cow's nutritional needs before depending solely upon it. Cows may walk the pastures looking for green grass instead of eating dry feed. This lush, watery grass is not adequate to support them. Keep them consuming dry feed until sufficient grass is available to sustain body condition. We've spent too much money keeping them in good condition to lose it now!
- *Prevent grass tetany!* Provide magnesium in the mineral mix until daytime temperatures are consistently above 60°F. Mineral supplement should always be available and contain a minimum of about 14% magnesium. Make sure that your mineral mix also contains adequate selenium, copper, and zinc. You can ask your feed dealer about the UK Beef IRM High Magnesium Mineral.
- Make final selection of heifer replacements. Strongly consider vaccinating with a modified-live BVD vaccine.
- Purchase replacement bulls at least 30 days before the breeding season starts. Have herd bulls evaluated for breeding soundness (10-20% of bulls are questionable or unsatisfactory breeders). Get all bulls in proper condition (BCS 6) for breeding.
- If you are going to use artificial insemination and/or estrous synchronization, make plans now and order needed supplies, semen, and schedule a technician.
- Prebreeding or "turnout" working is usually scheduled for late April or May between the end of calving season and before the start of the breeding season (while cows are open). Consult your veterinarian about vaccines and health products your herd needs. Decide now on the products needed and have handling facilities in good working order. Dehorn commercial calves before going to pasture.

Fall Calving Cow Herd

- Pregnancy check cows now and cull open ones at weaning especially if the open cows are older than 6 years of age.
- Re-implant feeders.
- Consult with your veterinarian about preweaning working of the herd.
- You may let calves creep-graze wheat or rye if it is available. Calves will benefit from extra feed until spring grass appears.
- Plan marketing strategy for feeder calves.

Stockers

- Do not go to pastures too soon, give plants some growing time. Then stock at two to three times the July rate and rotate rapidly.
- "Condition" purchased calves prior to grazing. They should be processed and fed a conditioning diet prior to being placed on pasture. You can also use this time to introduce them to electric fences used in rotational grazing.
- Provide a good mineral supplement which contains a rumen modifier (Rumensin, Bovatec, etc.) along with adequate levels of copper and selenium.

General

- We have made a muddy mess this winter, so be prepared to reseed bare spots. Our forage group has some excellent information on restoring heavy-traffic areas.
- Make plans to improve hay feeding areas to avoid muddy conditions like we have faced this winter. Consider geotextile fabric with gravel or concrete feeding pads.
- Prepare for the grazing season. Check fences and make necessary repairs. Check your corral, too.
- Get everything ready to make high quality hay in May! Have equipment serviced and spare parts on hand. Order baler twine now. Be prepared to harvest an adequate supply of hay when you have the opportunity. Re-supply the extra hay that you fed out of the barn. This past winter caused most producers to exhaust their hay supply, so it is time to re-stock.
- Plan now for fly control ... decide what fly control program that you will use but do not put insecticide eartags on cattle until fly population appears.

Act Now to Control Poison Hemlock

Dr. J. D. Green, Extension Weed Scientist, Dr. Megan Romano, UKVDL Toxicologist, Dr. Michelle Arnold, Ruminant Extension Veterinarian

During the early summer, the presence of poison hemlock (*Conium maculatum*) is more evident. Although this plant is often seen along roadways, abandoned lots, fencerows, and other non-cropland sites, in recent years it has expanded out into grazed pasture lands and hay fields. Poison hemlock is toxic to a wide variety of animals including man, birds, wildlife, cattle, sheep, goats, pigs, and horses. It contains several neurotoxic piperidine alkaloids; the two major ones are coniine (major alkaloid in the mature plant and seed) and the more toxic gamma-coniceine (predominate in green, vegetative growth). These alkaloids cause muscle paralysis by acting as a neuromuscular blocking agent, resulting in two major effects: 1) rapid, sometimes fatal effects on the nervous system and 2) they are teratogenic agents,

meaning they are known to cause birth defects when consumed during certain times of gestation. Cattle seldom choose to eat poison hemlock unless no other forage is available or it is incorporated in hay, silage, or the seeds in grain. A commonly asked question is how much plant material must be consumed by cattle to kill them. Unfortunately, the answer is not clear cut as there is considerable variation in the toxic alkaloid content of the plant depending on its stage of growth, season, moisture, temperature, time of day, and geographic region. Cattle have died by eating 0.2-0.5% of their body weight in green hemlock.

Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. New plants emerge in the fall as a cluster of leaves that form a rosette which remains green throughout the winter in a semi-dormant state. It is most noticeable at this stage of growth in late fall through early spring with its parsley-like leaves which are highly dissected or fern-like with leaf petioles that have purple spotting and no hairs (Figure 1). The individual leaves are shiny green and triangular in appearance.



Figure 1. Poison hemlock rosette.

After resuming active growth in late winter, they form larger rosettes. As the plant begins to send up flower stalks, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock can grow upwards to about 6 to 8 feet tall (Figure 2). At maturity the plant is erect, often with multi-branched stems, and forms a deep taproot. The hollow stems are smooth with purple spots randomly seen along the lower stem that helps distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Poison hemlock foliage has an unpleasant mouse urine-like odor, detectable when near the plant or when a stem or leaf is crushed. Although this weed is often associated with areas that have moist soil conditions, it can also survive in dry sites.



Figure 2. Mature poison hemlock plants growing in hayfield.

Fortunately, most animals avoid grazing poison hemlock if other forage is readily available. However, animals are more likely to consume green plants during the late winter and early spring when other forage species are limited or when dry lotted or starving animals gain access to an overgrown field. All parts of the plant, including the seeds, contain the toxic alkaloids coniine and gamma-coniceine. Gamma-coniceine is more toxic than coniine and is at its highest concentration in early growth. As the plant matures, gamma-coniceine undergoes chemical reduction to the less toxic alkaloid coniine. Seeds and dried plant material contain the highest concentrations of coniine. Although toxicity is reduced

during drying due to volatility of coniine, animals will eat much more dried poison hemlock than fresh because palatability is greatly improved. Seeds are highly toxic and can be a source of poisoning when they contaminate cereal grains fed to livestock. Therefore, avoid feeding animals hay or grain known to contain poison hemlock.

Symptoms of acute poisoning can occur rapidly after ingestion of plant material anywhere within 30 minutes to 2 hours depending on the animal species, quantity consumed, and stage of plant growth. Initially the affected animal may develop nervousness, salivation, tearing, frequent urination, and signs of abdominal pain. There may be a detectable mousy odor to the breath and urine. Symptoms progress to muscle tremors, incoordination, and weakness, difficulty breathing, and death can result within hours due to respiratory failure. If acute poisoning does not progress to collapse and death, signs can begin to improve within several hours, with full recovery in as few as 6-8 hours.

Diagnosis is based on history of plant ingestion, clinical signs, and chemical analysis for presence of alkaloids in rumen contents. Activated charcoal may help bind alkaloids if administered prior to onset of signs. Avoid exciting or stressing symptomatic animals, as that may exacerbate symptoms and result in death. Poisoning is prevented by providing sufficient, good-quality forage and preventing livestock exposure. Public health is a concern when dealing with poisoned animals because of the possibility of alkaloid residues in meat. Elimination of plant toxicants through the milk is a minor route of excretion but may be important when consumed by a calf or a human. More importantly, people have been accidentally poisoned when they confused poison hemlock for plants such as parsley, wild carrot, or wild anise.

Although acute poisoning is a primary concern, an equally serious problem is subacute intoxication of pregnant livestock that results in congenital birth defects. These defects are caused by inhibition of fetal movement by the plant toxin during critical fetal development. In cattle, the susceptible period of pregnancy is 40 to 100 days while in swine, sheep, and goats the susceptible period of gestation is 30 to 60 days. Defects possible include severe limb deformities (Figure 3), joint rigidity, rib cage anomalies, vertebral curvature, and cleft palate. Diagnosis of plant-induced congenital defects is only through known exposure during gestation since the alkaloids are long gone once the calf is born.



Figure 3: Limb deformity due to ingestion of poison hemlock during 1st trimester of pregnancy. Photo courtesy of Levi Berg, (Nov. 2018)

The principal strategy for poison hemlock control is to prevent seed production which can be a challenge since a fully mature plant can produce 35,000 – 40,000 new seeds. It is too late to utilize herbicide control methods after plants have produced flowers. Therefore, mechanical control efforts (if feasible) such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the number of new seeds produced. **The best time for control using herbicides is generally when plants are in the younger rosette stages of growth in late October/ early November or February/ early March when daytime temperatures reach the 60°s.** Make note of areas heavily infested with poison hemlock (Figure 4) and begin to look there for emergence of new plants in the fall. Herbicide products containing 2,4-D, dicamba+2,4-D (e.g. Weedmaster, Brash, Rifle-D, etc.), and aminopyralid (e.g. DuraCor, GrazonNext) are the preferred choices for obtaining effective control. Effectiveness of chemical control can decrease as plants begin to elongate and become more mature. When using herbicidal control methods on larger plants, it is important to remove animals from treated areas since animals are more likely to graze poison hemlock plants following herbicide treatment.



Figure 4. Poison hemlock growing along fence line in December.

Practical Considerations for Managing the Spring Flush

Dr. Chris D. Teutsch, University of Kentucky Research and Education Center at Princeton

In March we often find ourselves wringing our hands waiting for grass growth to start and a short time later our pastures are growing so quickly that we can't seem to keep up with them. This time of the year can often be one of the most challenging for graziers. Grass growth goes from nonexistent to excessive in a matter of weeks and if you are properly stocked grazing livestock can have a hard time keeping up with it. The following suggestions can help you to control spring growth and get the most out of your spring pastures.

- **Implement rotational grazing.** In order to fully utilize the spring flush of pasture growth **YOU** must be in control of grazing. In a continuous grazing system, the cows are in charge. By utilizing rotational stocking, you start to make the decisions. Implementing a rotational stocking system may be as simple as closing some gates. The key is to just get started!
- **Start grazing before you think the pastures are ready.** One of the most common mistakes that graziers make is waiting too long to start grazing in the spring. If you wait until the first paddock is ready to graze, by the time you reach the last paddock it will be out of

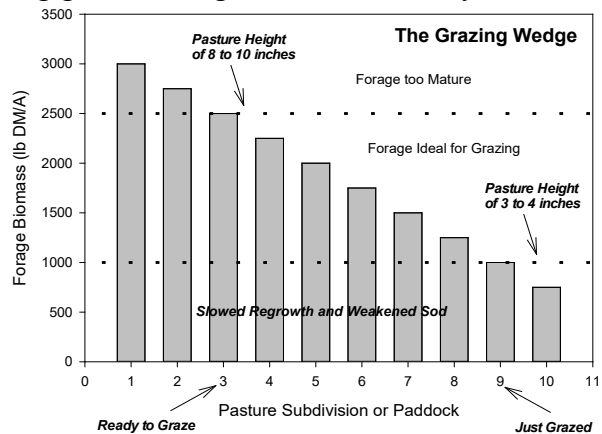


Figure 1. The "grazing wedge" simply refers to having pasture subdivisions or paddocks at varying stages of regrowth from just grazed to ready to graze.

control. Starting early allows you to establish a “grazing wedge” (Figure 1).

- **Rotate animals rapidly.** The general rule is that if grass is growing rapidly then your rotation should be rapid. This will allow you stay ahead of the grass by topping it off and keeping it in a vegetative state.
- **Do not apply spring nitrogen.** This should not be a problem this year since nitrogen prices are off the charts. Applying nitrogen in the spring will make the problem of too much grass at once even worse. In many cases you are better off to save your nitrogen for stockpiling in the fall.
- **Remove most productive paddocks from rotation and harvest for hay.** Graze all paddocks until the pasture growth is just about to get away from you and then remove those productive paddocks from your rotation and allow them to accumulate growth for hay harvest (Figure 2).
- **Increase stocking rate in the spring.** If it is possible, a good option for utilizing spring growth is to increase your stocking rate. This will allow you to harvest more of the available forage and convert it into a saleable product. This can be done by adding some stockers or thin cull cows to your rotation and then selling them when pasture growth slows. If you are in a fall calving system, you are better positioned to take advantage of spring forage growth since the calves will be larger.
- **Even out seasonal distribution of forage by adding a warm-season grass.** Adding a well-adapted warm-season grass that produces the majority of its growth in July and August would allow you to concentrate grazing on your cool-season paddocks during periods of rapid growth (spring flush). After cool-season grass growth is slowed by higher temperatures in late spring and early summer, animals can be shifted in the warm-season paddocks for summer grazing.
- **Bush-hog out of control pastures.** The benefits of clipping include maintaining pastures in a vegetative state, encouraging regrowth, and controlling weeds. Clipping pastures costs money, so make sure that the primary reason for bush-hogging is pasture management, not aesthetics.

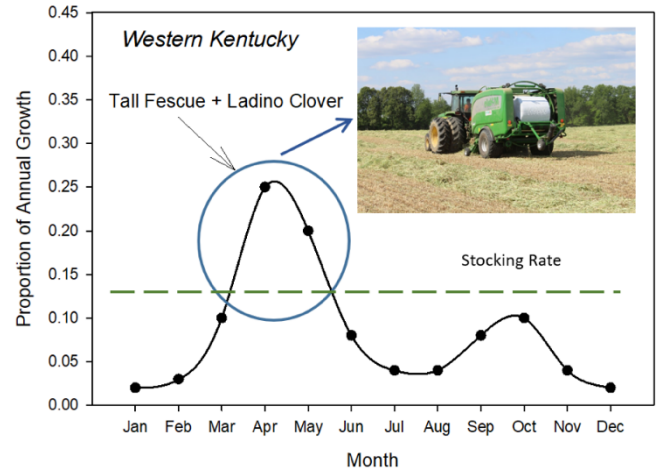


Figure 2. In the spring during periods of rapid growth, some paddocks can be removed from the rotation and harvested for conserved forage. Cutting at the late boot or early head stage will optimize yield and forage quality.

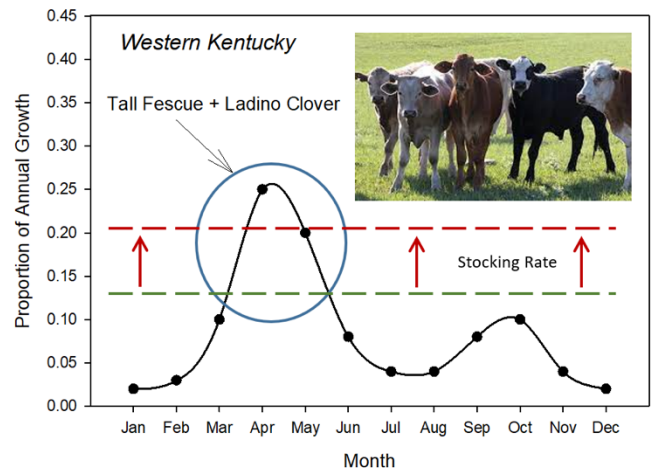


Figure 3. An alternative to harvesting excess forage as hay or baleage is to increase your stocking your stocking rate by adding more animal units in the spring and then decreasing animal numbers as plant growth slows due to higher temperature during the summer months. While this is a viable approach, it is not practical on smaller part-time operations.

- **Stockpile out of control pastures for summer grazing.** Although forage quality decreases as the plant matures, the quality of spring stockpiled pasture is sufficient for dry cows and in some cases can result in reasonable gains on growing animals (Figure 4) during the summer months. This is especially true if using novel endophyte tall fescue and the pastures were clipped at the early boot stage to promote vegetative regrowth. This could be a cost-effective and simple way to provide additional grazing during the summer months.

One of the things that I enjoy the most about grazing operations is that there is no one size fits all. What works on your farm may not work on your neighbor's. One of the most important features to build into your grazing system is flexibility. This will allow you to adapt as conditions change!

For more information on grazing management contact your local extension agent or visit <http://www.uky.edu/Ag/Forage/> and <https://www.youtube.com/c/KYForages>.

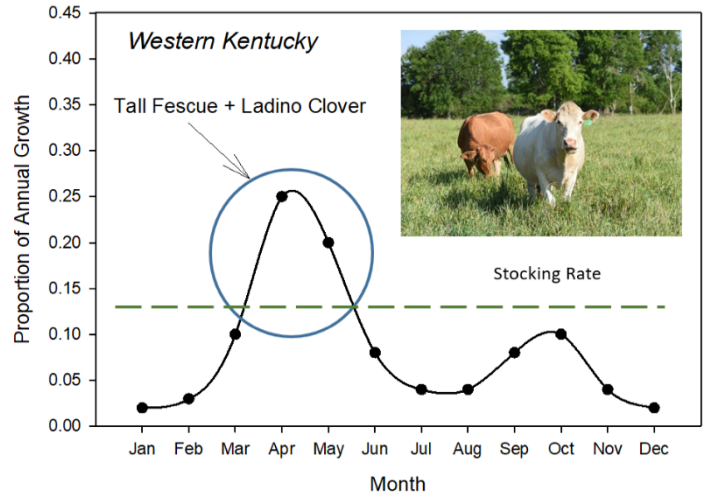


Figure 4. Excess growth in the spring could also be stockpiled for grazing during the summer months. This is accomplished by removing some paddocks from the rotation and allowing growth to accumulate during late spring and early summer. It is important to remember that only about the one-half of the available biomass should be grazed. The remaining residue will protect plant crowns from high temperatures and reduce soil moisture loss during the summer months.

FEATURED PUBLICATION

This month's featured publication is: "[AGR-229: Warm Season Annual Grasses in Kentucky](#)". You can access it by clicking on this link or visiting your local extension office.

FEATURED VIDEO

This month's featured video is: "[Summer Stockpiling: Thinking Outside of the Box](#)". This video can be viewed by clicking on the link above or going to the KYForages YouTube Channel.

FENCING TIP

Connect wires that run in parallel at the end of runs. A good way to increase the ability of a fence to carry voltage is to connect all the wires at the beginning and end of runs of multi-wire fence. This allows the multiple strands of high tensile wire to function as one large wire that is capable of carrying higher levels of voltage.

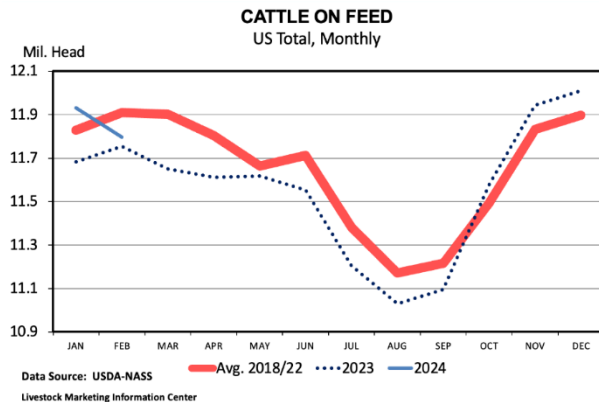


January Placements Above Expectations, but Total On-feed Inventory is Dropping

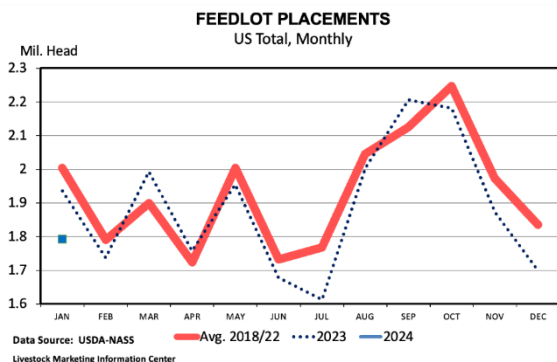
Dr. Kenny Burdine, University of Kentucky

The feeder cattle market has been on a run since late 2023. For perspective, I am writing this on March 1st and the March CME© feeder cattle futures contract has increased in value by more than \$25 per cwt since the first of the year. As has been the case a few times since last fall, the most recent cattle on feed report did cause the market to stumble a bit. But by the end of last week, a good portion of that had been recovered.

Total on feed inventory has been running above year ago levels since fall of 2023. This has occurred even though feeder cattle inventory is considerably lower after several years of decreasing beef cow numbers. The surprisingly high cattle on feed levels have largely been the result of high placement levels in September and October due to dry weather in some parts of the US and high levels of live cattle imports. In addition to high placements levels last fall, increasing harvest weights in late 2023 also pointed to longer cattle feeding times.



In the most recent cattle on feed report from February, January placements once again came in higher than expected and the market did seem to respond negatively early last week. But as is often the case, some perspective is probably valuable. This was the third straight cattle on feed report that had placements below year ago levels and the January 2024 placement number was 7% below January of 2023. The pace of placements may be exceeding what many expected, but I think it is clear that the tide has turned.



While placement levels were well below last year, marketings were nearly the same in January. With marketings exceeding placements, total on feed numbers have been decreasing since December and are actually very close to year-ago levels now. Cattle on feed numbers tend to decrease seasonally through spring and summer. That decrease is likely to be ever greater in 2024 as tighter feeder cattle supplies reach feedlots.

The Markets

Cattle prices were very mixed last week, with some notable decreases in several calf markets. However, both feeders and calves remain more than 30% above 2023 levels. Fed cattle prices were largely steady, while boxed beef prices increased by about 2%. Corn prices also rose a bit from last week

Cattle Market Report Prices \$/cwt. Sources: USDA, I.MIC, and CME		For Weeks Ending On			% Chg	% Chg	Chg Prev. Week
		3/1/24	2/23/24	3/3/23	Prev. Week	Prev. Year	
500-600 lb. Feeder Steers	Mississippi M/L #1-2	\$277.22	\$284.01	\$193.34	-2%	43%	(\$6.79)
	Arkansas M/L #1	\$296.46	\$300.78	\$208.89	-1%	42%	(\$4.32)
	Kentucky M/L #1-2	\$277.63	\$277.16	\$208.89	0%	33%	\$0.47
	Oklahoma City M/L #1-2	\$282.71	\$294.36	\$209.17	-4%	35%	(\$11.65)
	Alabama M/L #1	\$297.24	\$297.57	\$211.50	0%	41%	(\$0.33)
	Tennessee M/L #1-2	\$280.81	\$293.54	\$215.04	-4%	31%	(\$12.73)
700-800 lb. Feeder Steers	Mississippi M/L #1-2	\$222.00	\$223.87	\$163.77	-1%	36%	(\$1.87)
	Arkansas M/L #1	\$235.88	\$239.74	\$173.32	-2%	36%	(\$3.86)
	Kentucky M/L #1-2	\$233.31	\$231.52	\$176.65	1%	32%	\$1.79
	Oklahoma City M/L #1-2	\$242.71	\$236.07	\$180.27	3%	35%	\$6.64
	Alabama M/L #1	\$236.76	\$231.99	\$174.76	2%	35%	\$4.78
	Tennessee M/L #1-2	\$236.76	\$226.14	\$174.68	5%	36%	\$10.63
Negotiated Fed Steers	Live Price	\$183.30	\$182.95	\$165.02	0%	11%	\$0.35
	Dressed Price	\$290.36	\$291.61	\$264.43	0%	10%	(\$1.25)
Boxed Beef Cutout	Choice Value, 600-900 lb.	\$303.21	\$298.53	\$288.59	2%	5%	\$4.68
	Select Value, 600-900 lb.	\$292.25	\$286.36	\$277.87	2%	5%	\$5.89

Futures Prices		3/1/24	2/23/24
Live Cattle	April	\$188.45	\$187.90
	June	\$184.00	\$183.88
	August	\$182.70	\$183.00
Feeder Cattle	March	\$252.98	\$254.57
	April	\$258.00	\$259.98
	May	\$260.17	\$262.08
Corn	March	\$4.12	\$4.00
	May	\$4.25	\$4.14

Source: CME Group

Pasture Conditions

