

OFF THE HOOF

KENTUCKY BEEF CATTLE NEWSLETTER APRIL 1, 2021



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Cooperative Extension Service
University of Kentucky

Beef IRM Team

Published Monthly by UK Beef IRM Team and edited by Dr. Les Anderson, Beef Extension Specialist, Department of Animal & Food Science, University of Kentucky

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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 (you can cull/sell them later). Calves can be identified 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. Don't let them lose body condition. Keep feeding them until pastures are adequate.
- Don't "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 percent 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 prior to the start of the breeding season. 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 "turn-out" 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. Make arrangements now for 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 5 years of age.
- Re-implant feeders.
- Consult with your veterinarian about a 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

- Don't 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 which are 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

- Be prepared to reseed bare spots.
- Make plans to improve hay feeding areas to avoid muddy conditions. 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's time to re-stock.
- Plan now for fly control ... decide what fly control program that you will use but don't put insecticide eartags on cattle until fly population appears.

Recent and Upcoming On-line Beef Education Opportunities

Beef IRM Team, University of Kentucky

<i>Beef Minutes</i>	Relating Milk EPD with actual milk production in beef cows – Bullock and Lehmkuhler.
<i>Beef Bits Podcast</i>	Episode 11. Beef IRM Team Covid-19 Anniversary Chat – Lehmkuhler, Anderson, Bullock, Laurent, and VanValin Episode 12. Dirt to Dollars – Dr. Lehmkuhler with guests Whitney Carmen, Daniel Carpenter, and Matt Adams from the podcast Dirt to Dollars
<i>Reaching Out While Locked In</i>	March 16. Forage Management – Dr. Teutsch April 6. Playing the Long Game with Reproductive Management– Justin Rhinehart, Associate Professor, University of Tennessee

The UK Beef IRM team is pleased to announce that the **updated and current** version of ID-108: *The Kentucky Beef Book*, can now be viewed electronically at the link provided below. It is our intent that providing an electronic version of this publication will allow for easy access to a wealth of knowledge relating to cattle production in Kentucky. To view or download this publication (ID-108: *The Kentucky Beef Book*) visit <http://www2.ca.uky.edu/agc/pubs/ID/ID108/ID108.pdf>. Additionally, a full listing of all Beef Extension Publications can be viewed at the following link: <http://afs.ca.uky.edu/beef/publications>.

To access this and other excellent beef educational content, visit our Facebook Page ([facebook.com/KyBeefIRM](https://www.facebook.com/KyBeefIRM)) and/or on the Department of Animal & Food Science YouTube page (https://www.youtube.com/channel/UCu4t18Zo2E_4_DBBELPjPMg). Subscribe to the AFS YouTube page and click the notifications bell to receive a notification whenever we publish new beef education content. Beef Bits can also be accessed on the podcast website (https://www.podbean.com/media/share/pb-meqic-e6f8f1?utm_campaign=u_share_ep&utm_medium=dlink&utm_source=u_share).

University of Kentucky Wildlife CES Requesting Depredated Calves and Black Vulture Nest locations for Black Vulture Research

Dr. Matthew Springer, Assistant Extension Professor of Wildlife Management, University of Kentucky

Working alongside Purdue University, USDA Wildlife Services, and the HEEKE Veterinary Diagnostic Lab in Southern Indiana, Dr. Matthew Springer, Assistant Extension Professor of Wildlife Management at UK, is requesting any producer who believes they lost a calf or other livestock animal to black vultures and is willing to donate that animal to research please reach out to him or their county ANR agent. The goal of the project is to determine the characteristics of an animal killed by a black vulture versus one that is just scavenged upon. This research should help inform any indemnity loss applications through the FSA. Animals that are known to be depredated by vultures, for example those that producers saw the live calf being attacked, are especially important. Animals will be picked up and eventually taken to the HEEKE Veterinary Diagnostic Lab to be examined and fully necropsied with injuries

catalogued to determine the features that define a vulture attack. Given the extensive nature of the necropsy the carcasses need to be in good shape and preferably found within 24 hours of the attack.

As part of a larger Black Vulture research effort in the Southeast, and in collaboration with the Biology Department at Murray State University and USDA Wildlife Services, we are also seeking Black Vulture nest sites throughout Kentucky. The project's goals are to better understand the nesting behavior and survival of BV nests as well as fledgling movement and survival rates. The research fits into a larger overall push by USDA Wildlife Services to better understand black vulture populations and behaviors. Overall, the goals of this effort are aimed at improving our understanding of the species and identifying future management strategies to help overcome vulture related damages. This specific research project should help us understand the reasons for the increase in Black Vulture populations and help minimize human-vulture conflicts in the future.

We are seeking your assistance to report Black Vulture nests anywhere in Kentucky. If you know of a nest site and would be willing to allow us access to monitor it please contact us using the resources below. Nest sites will be monitored using trail cameras to observe nesting behavior and any predation events until chicks leave the nest or it fails. Nest sites will be visited briefly once every 10-14 days to collect the memory card and check the nesting status. A subset of fledglings will have GPS transmitters attached to them when they reach the necessary size and age later on in the summer before they fledge.

We would be especially grateful if you could report nests as soon as you become aware of them as we are currently within the vulture breeding season. Please contact Phil Kavouriaris, Murray State graduate student in charge of the project or you can reach out to Matt Springer, University of Kentucky Wildlife Extension Specialist. Feel free to forward this information on to any parties to whom this might be of interest. We can also answer follow-up questions you may have about the research and all personal information will be kept private throughout the entire process. Please direct all related communications to the following email address and phone number: msu.blackvultures@murraystate.edu or call (270) 288-6097.

If you have any questions about black vulture nests or if you think you have a depredated animal you think qualifies, please contact your local ANR Extension agent immediately or you can reach out directly to Dr. Springer at mattspringer@uky.edu (859-257-8633).

CAIP Bull Cost-share Changes

Dr. Darrh Bullock, Extension Professor, Beef Genetics, University of Kentucky

Several changes have been made to the 2021 CAIP Beef Bull Cost-share Program and most involve the new requirement of bulls being genomically tested or have a Calving Ease EPD of .30 or greater. It is important to understand which genomics test is appropriate to qualify the bull. It must be a genomics test that can be used to compute Genomically Enhanced EPDs. If seedstock producers are not familiar with genomics testing they should consult with their respective breed association or one of the genomics testing companies (information below). Breeds that do not currently offer Genomically Enhanced EPDs are exempt until 2023 when all breeds will be required to have them. If you are purchasing a bull, the easiest way to determine if the bull will qualify is to ensure that his Calving Ease (Direct) EPD is .30 or greater. If he has Genomically Enhanced EPDs then this accuracy value will be .30 or greater. Of course, the bull must also meet the specific EPD requirements for the category of bull you are seeking. The other major change to the guidelines is that there are now only four categories of bulls to choose

from: Heifer Acceptable, Terminal Sire, Balanced Trait and Carcass Merit. The Low Maintenance and High Productivity categories have been eliminated. Remember, it is important to determine what type of bull best fits your needs and then buy a bull that qualifies within that category. Just because a bull qualifies for a category does not mean his is the right bull for you. For example, a Heifer Acceptable bull may not provide the heavy weaning weight calves that you desire or the appropriate level of milk you want in your replacement heifers. My advice is to read the document “Beef Sire Selection for Cattle Genetic Improvement Program” (https://agpolicy.ky.gov/funds/Documents/caip_epd-standards.pdf) which should help navigate you to the right bull category and hopefully the bull to best fit your needs.

Genomics Testing Companies for Genomically Enhanced EPDs

Neogen

Paige Pratt

(276) 685-7208

PPratt@neogen.com

Zoetis

DNA Testing Questions

877-233-3362

genetics.us@zoetis.com

Breed Associations: Contact your breed association and ask for information on the process to obtain Genomically Enhanced EPDs.

The Value of Weight Gain in Precondition Programs

Kevin Laurent, Extension Specialist, University of Kentucky

Since the inception of the CPH program in the early 1980’s, Kentucky has had a rich history in the promotion of weaning and preconditioning calves prior to sale. In recent years the demand for weaned and preconditioned calves has been increasing, so much so that on any given sale day, packages of weaned calves are showing up at the yards. Still even with high demand for weaned calves, many producers continue to sell bawling calves. For cow calf producers to fully embrace this practice, the preconditioning phase must be profitable. The Post Weaning Value Added – Precondition Program (PVAP-Precondition) was designed for producers who have never weaned and preconditioned calves prior to sale. In this program, calves are weighed and valued at weaning and all expenses are recorded during the preconditioning phase. When calves are sold, a final closeout on the profitability of the preconditioning period is calculated. The following table is a summary of closeouts of participants in the PVAP-Precondition program from April 2019 to February 2021.

There is much information to be gleaned from looking at this type of summary data. But for the sake of brevity I would like to focus on one main point. The importance of weight gain on the profitability of the precondition program. This table is sorted from the highest net \$/head to the lowest. The shaded top half of the table on average put 202 lbs. of gain on their calves during the precondition period and averaged \$99.04 net added dollars per head over expenses versus selling at weaning. The bottom half averaged a mere 119 lbs. of gain and netted only \$53.87 per head returns.

If you look further under the average daily gain (ADG) column, you will see that ADG in the top half return group averaged 2.66 and ranged from 1.44 to 4.10. Days on feed averaged 83 days which is significantly more than the standard 45 day weaning program.

The take home message is the best hedge against market volatility is weight gain. How we put the gain on the calf can vary. We can be forage based and grow them slower but feed them more days or be feed based and grow them faster for a shorter feeding period. Right now, with feed costs higher, calf prices average at best, and many preconditioning programs moving to 60-day preconditioning periods, a longer feeding period with moderate gains utilizing our forage resources may be the most profitable strategy. One caution when using a forage-based program is to make a fair evaluation of your forage resources. Short overgrazed fescue pastures are not going to result in very favorable gains. In general, cool season perennial pastures need to be in the 4-8-inch range in height and depending on the forage specie may still need to be supplemented. A good rule of thumb would be to supplement 1% of body weight for gains in the 1.5-2.0 range and 2% bodyweight for gains in the 2.0 to 2.8 range. Again, realizing the quantity and quality of forage becomes extremely important when the amount of supplement is decreased.

Summary of PVAP-Precondition Closeouts - Sorted by Net \$/Head

Farm	Sale Date	No. Head	Days on feed	Wean Wt	Concentrate (lbs) Type Feed	Gain	ADG	Feed COG	Net \$/Head
1	1/2/2020	14	84	435	6 lbs 14% + stockpile	160	1.95	0.63	142.23
2	1/2/2020	15	76	558	18 lbs 15% Rum	242	3.18	0.72	140.38
3	1/2/2020	20	86	580	12 lbs 16%	182	2.11	0.76	110.25
4	12/9/2020	22	67	497	10 lbs 16% Rum	258	3.85	0.39	101.87
5	12/3/2019	17	49	593	18 lbs 14% Rum	175	3.58	0.61	95.04
6	12/3/2019	29	138	439	5.75 lbs 14% + past	237	1.72	0.44	88.71
7	12/3/2020	30	105	296	4 lbs Purina Grower	167	1.59	0.64	81.27
8	12/9/2020	11	53	493	12 lbs 16% + Alf hay	217	4.10	0.48	78.81
9	12/3 & 2/4, 2019-20	25	88	430	9 lbs 12%	122	1.44	0.88	76.25
10	2/2/2021	22	86	480	12 lbs 14% + stockpile	261	3.03	0.47	75.58
11	7/25/2020	40	72	407	7 lbs 14% + pasture	114	1.59	0.54	74.09
12	12/3/2019	31	46	438	18.5 lbs 12%	109	2.36	0.78	72.17
13	2/2/2021	10	105	379	5 lbs 16% + hay	148	1.41	0.62	65.51
14	4/25/2019	21	48	534	17.6 lbs 2/3:1/3	144	3.01	0.65	64.14
15	12/8/2020	19	61	542	6 lbs 14% + pasture	107	1.75	0.53	61.00
16	12/3/2019	39	47	508	14 lbs corn	75	1.60	0.83	56.86
17	2/2/2021	43	56	611	11 lbs 14% + cov crop	121	2.15	0.68	55.01
18	12/10/2019	19	50	515	10 lbs 12%	109	2.17	0.69	38.94
19	2/2/2021	39	62	572	11 lbs 14% + hay	149	2.40	0.56	26.37
20	12/8/2020	33	52	636	12 lb 14% w/csh + hay	110	2.12	0.78	24.64
AVERAGE		25	72	497		160	2.36	0.63	\$76.46
Top Half		21	83	480		202	2.66	0.60	\$99.04
Bottom Half		29	60	514		119	2.06	0.67	\$53.87
Note: Market conditions are always a major factor (value at weaning vs value after preconditioning)									

As always contact your local ANR agent for more information on preconditioning strategies or if you are interested in participating in the PVAP-Precondition Program.

There is more than one right way to finish a steer

Dr. Katie VanValin, Assistant Extension Professor, University of Kentucky.

About a year ago, our industry buzzed with talk about finishing local beef. Our friends and neighbors found empty grocery store shelves and instead turned to their local beef producers to fill their freezers. Last year shed light on direct-to-consumer beef production. This concept of local beef is not a new one. Instead, it is more a case of what was old is new again. There was a time when small local meat lockers were a staple in many small towns. With reports of some processors booking into 2022, it appears that this trend for local beef may outlast the COVID-19 pandemic.

Recently a group of UK extension agents and specialists wrapped up a 4-week series of virtual meetings focusing on producing freezer beef in northern Kentucky. The UK beef extension team will also be launching a new program for the fall of 2021 called “Master Finisher” to provide additional resources for folks interested in finishing beef cattle here in Kentucky.

One of the things that I have come to appreciate while working with producers in small-scale finishing systems is that there is more than one right way to finish a steer (or heifer). Regardless of if you are producing beef in grass-finished, grain-finished or a hybrid grain-on grass system, what works for one operation may not be the best option for another. Answering several questions can help you narrow in on the right production system for your operation. A few examples include: Who is the customer base? What are their preferences and expectations? What are your feed and labor resources? Something that should not be overlooked in the local food sector is the product's story. Consumers choosing local beef are not just purchasing any 1 lb package of ground beef; they are buying your 1 lb package of ground beef.

Each finishing production system has its own set of advantages and limitations:

- 1) Grass-finished- Grass-finished is commonly used to refer to cattle finished without grain. However, a more appropriate name for this type of system could be "forage finished". This production system results in low rates of gain, and cattle are typically anywhere from 24-30 months of age at harvest. Thus, regardless of when the calves were born, they will experience at least one winter while being finished. Therefore, at some point, these cattle will likely need to be fed a high-quality stored forage such as alfalfa hay or fermented forages such as baleage; hence the term "forage finished". A key to this system is selecting and maintaining ideal forages and having a good understanding of grazing management practices. The low and slow approach needed to finish cattle with forages successfully is not a disadvantage but is a consideration when developing a timeline. If you have a processor reservation for this fall and yearling steers in the field, you could not only be leaving weight out in the pasture but also quality in terms of marbling score.
- 2) Grain finished- As the name implies, this system involves feeding a concentrate or grain-based diet to cattle during the finishing period. Typically, cattle in this system are housed in confinement, which could be anything from a dry lot to a compost bedded pack barn. Depending on the ration or use of growth-promoting technologies such as implants, cattle in this system can gain 2-4+ lbs/d. Of all of the finishing systems, this system can allow for the most consistent rate of gain but also requires proper feeding management to make sure cattle don't experience digestive upsets. Even on grain-based diets, cattle still need to consume some roughage such as grass hay to maintain rumen health.
- 3) Grain on grass hybrid finishing- This system allows for the most flexibility in cattle management during the finishing period. I think of this system as more of a spectrum. Cattle can be consuming a forage-based diet with minimal grain supplementation or be receiving a predominately grain-based diet while being housed on pasture. The desired rate of gain and available feed and labor resources are things to consider when determining where to land on this spectrum. This type of system can allow cattle to take advantage of one of the cheapest feeding systems available, grazing! When weather limits grazing, cattle may consume more of their total nutrients from the grain-based supplement while consuming stored forages.

Regardless of the finishing system, it is essential to have realistic expectations when considering how long it will take to finish an animal. The length of time required to finish cattle in a specific production system can't be ignored. Finishing cattle in any system will take time, labor, and economic inputs to get started but is one option for adding value to calves while filling a niche in the consumer market.

UK Fundamentals of Herd Health: Vaccinations for the Cow-Calf Operation

Dr. Michelle Arnold, Ruminant Extension Veterinarian, University of Kentucky Veterinary Diagnostic Lab

What vaccines should be given every year to help keep the cow/calf herd healthy? The basic guidelines below are designed to help answer that question but the details of what products to use and when to administer them are best decided by the producer with his or her veterinarian. Every farm is different with regards to the disease risk and other challenges including labor and facilities needed to work the cattle. Your veterinarian is equipped with the knowledge and skills to determine what will work best for your unique situation.

Always consult your veterinarian before instituting or changing any health protocol.

Remember: “Vaccination” (drawing up the vaccine in a syringe and injecting it into the animal) is not the same as “immunization” (the animal mounts an immune response) and “vaccination + immunization” never adds up to 100% protection from infection, even in the best of circumstances. The vaccines must be handled correctly (proper mixing, right temperature) and cattle in good health (low stress environment, good plane of nutrition, trace mineral needs met, minimal parasites present) in order to get the most response from vaccines.

The provided list of vaccines and dewormers is for example purposes only and should not be considered an endorsement of products by the University of Kentucky.

Cows and Bulls 4-6 weeks Prior to Breeding

1. Viral respiratory vaccine (IBR, BVD, PI₃, BRSV) and 5-way Leptospirosis. If using bulls for breeding, include *Campylobacter fetus* (Vibriosis).
If the cow is open at the time of vaccination, select a modified live vaccine (List C1A or B).
If the cow is pregnant at the time of vaccination or less than 30 days before breeding, select a killed vaccine (List C2A or B) to reduce the risk of accidental abortion or interference with pregnancy. Certain modified live vaccines can be used in pregnant animals but only if used strictly according to label directions. Products with “FP” in the name stands for Fetal Protection from BVD virus.
2. 7 way or 8 way Clostridial (Blackleg)-necessary if under 2 years of age. Optional as the cow ages depending on the blackleg risk in the herd. (List C5 A-D)
3. Deworm-perform at least once per year (spring and possibly fall) and twice a year if under 2 years of age or thin body condition. If only once is possible, deworm in Spring (May).
Deworm at least 2 weeks prior to bull turn out or before estrus synchronization for artificial insemination (AI) due to the temporary impact of dewormers on hormone release in females.
Deworming in the fall helps to reduce the number of worms that overwinter in the cow but is not as important as spring when larvae are active in the pasture. (List C6 A or B)
4. Tag cattle for identification and/or re-tag those that have lost tags.
5. Breeding Soundness Exams are highly recommended for herd bulls and should be conducted 60-75 days prior to turnout. Bulls need the same vaccinations and deworming as the cow herd.

Open Heifers at least 6 weeks Prior to Breeding

1. Viral respiratory vaccine (IBR, BVD, PI₃, BRSV) with 5-way Leptospirosis. If using bulls for breeding, include *Campylobacter fetus* (Vibriosis). Modified live vaccines are preferred (List C1A or B) for heifers. A Fetal Protection (FP) product is encouraged. Follow all label directions; some vaccines require a booster and some do not. Timing is very important-if less than 6 weeks away from breeding, use a killed product (List C2A or B).
2. 7 or 8- way Clostridial (Blackleg) (List C5 A-D)
3. Deworm with a branded (not generic) product (List C6 A or B). A heifer has increased nutritional demands because she is still growing herself, trying to reproduce, and young animals do not have the immunity to parasites that adult cattle possess. A very effective combination is to use an oral (white) dewormer from list C6A and an injectable or pour-on dewormer from list C6B, given at the same time.

Calves 1-3 months of age:

1. Identify with tag
2. Vaccinate with 7 way Clostridial (Blackleg) vaccine-Although the calves are young, this dose of vaccine will initiate (“jump start”) the immune process, especially cell-mediated immunity. Do not give blackleg vaccine at birth. (List D5 A-D)
3. Dehorn
4. Castrate-the earlier this is completed, the better. Avoid the first 24 hours after birth.
5. Optional Practices:
 - a. Implant steers at the time of castration (unless you plan to sell calves in an organic or natural market)
 - b. Viral Respiratory Vaccine-Killed (List D2) or MLV (List D1 but follow label directions regarding MLV usage in nursing calves). Intranasal vaccines are great for young calves.
 - c. Pinkeye vaccine (administer in late spring/summer just before fly season) (List D7 or D5B)
 - d. Deworm-Begin deworming calves at 6-8 weeks old depending on time of year and expected level of pasture contamination with parasite larvae. (List D6 A or B)
 - e. Test for BVD-PI (ear notch) - Consult your veterinarian if this is something to consider. If BVD has been diagnosed in an animal from your farm or there is a history of unexplained abortions, stillbirths, weak calves or other reproductive loss in the herd, testing all calves is the proven first step to find persistently infected (PI) animals. Try to wait until the calf is at least 14 days of age before taking an ear notch sample.

Calves 2-3 weeks pre-weaning (best) or shortly after Weaning:

Consult your veterinarian and check your marketing plan since many programs (for example: CPH45) specify what vaccines must be administered and when in order to participate.

Administer vaccines 2-3 weeks pre-weaning for best protection. If calves cannot be processed pre-weaning, then begin this protocol after weaning when the stress is essentially over (calves are eating, drinking, and the majority have stopped walking and bawling). Booster vaccines if required by label. If castrations and dehorning were not done earlier, these practices need to be completed as soon as possible. Tetanus vaccination is strongly recommended when performing “late” castration, especially if banding. Consult your veterinarian regarding whether to use a tetanus toxoid or antitoxin.

1. Viral respiratory vaccine (IBR, BVD, PI₃, BRSV)-Killed (List D2) or MLV (List D1) but follow label directions regarding MLV usage in nursing calves if vaccinating before weaning. If using killed, a booster is required. A majority of buyers prefer calves that have received 2 doses of MLV. See point #3a below for additional viral respiratory vaccine option.
2. For Heifers to be kept as Replacements: Viral respiratory (as above) with *Campylobacter fetus* (Vibriosis) and 5-way Leptospirosis vaccine included. Booster according to label directions-MLV is strongly recommended for females to be kept in the herd. (List C1B)
3. Vaccinate with *Mannheimia haemolytica* toxoid. This vaccine, commonly known as a “Pasteurella shot” or “Pneumonia shot” is given pre-weaning in anticipation of the stress associated with weaning. (List D3)
 - a. Many combination *Mannheimia haemolytica* toxoid and MLV Respiratory Virus Vaccines are available as either one injection or as one intranasal product given at the same time with an injection. (List D4)
4. Deworm with an endectocide (List D6A) for internal and external parasites. Use a branded product-not a generic. A “drench” or “white” dewormer given by mouth (List D6B) may also be used but a second product is required for external parasite (lice/flyes/ticks) control. The best option is to administer an injectable (or pour-on) dewormer (List D6A) and a drench dewormer (List D6B) at the same time to completely remove the parasites.
5. 7- or 8- way Clostridial vaccine (Blackleg). Clostridial vaccines may be purchased alone or in combination with pinkeye, “somnus” and other antigens. Follow label directions regarding the need for a booster. (List D5 A-D)
6. Optional:
 - a. Implant-Follow label directions if re-implanting. Do not implant females to be used for breeding purposes. Do not implant if planning to sell on the natural or organic markets.
 - b. *Pasteurella multocida* and/or *Histophilus somni* (formerly known as *Haemophilus somnus*) vaccines-consult your veterinarian for recommendations.

Cows after calves are weaned:

1. Check cows for pregnancy by palpation, ultrasound, or blood test. If open, strongly consider culling her.
2. Check for other problems: Eyes, teeth, udder, feet and legs, body condition, disposition.
3. Scours Vaccine (List C8) – Administer to pregnant cows 1-3 months prior to calving. Initially this is a two-shot series then it is given annually. Products vary on when to administer them so follow label directions carefully.
4. If leptospirosis is a persistent problem, cows may need a booster of 5-way Leptospirosis vaccine such as Spirovac (Zoetis) for continued strong protection during the third trimester of pregnancy.

Additional Considerations:

1. *Modified Live Vaccines (MLV) provide fast, broad immunity and are excellent stimulators of cell-mediated immunity. They are preferred in weaned calves and usually required by most preconditioned sales. However, only use modified live vaccines ***in pregnant cows and in nursing calves*** if the cows were vaccinated with MLV, usually within the last 12 months (check label for specific requirements; some are less than 12). If this requirement is not met, a killed vaccine must be used until the cow is open and the calf is weaned.
2. Killed respiratory virus vaccines must be given twice (usually 2-3 weeks apart) if it is the first time the vaccine is administered. Annual boosters are required after the initial two-shot

sequence. Killed vaccines are safer than MLV vaccines but they do not work nearly as well nor last as long.

3. If heifers have been allowed to stay with the herd bull until weaning, most likely some are pregnant. A prostaglandin injection (for example: Lutalyse®) can be given to the heifers once they have been away from the bull a minimum of 10 days. These injections work best in early pregnancy (<75 days) so do not delay administration if needed.
4. Try to minimize the number of injections given at one time as much as possible. Multiple vaccinations cause neck soreness. Multiple Gram negative vaccines (for example, leptospirosis, vibriosis, pinkeye) may cause cattle to spike a fever and go off feed for a short period of time.
5. Keep good vaccination records. Record date, vaccine name, serial numbers and expiration dates at a minimum.
6. Utilize effective fly control and pinkeye vaccine beginning in late spring. Follow label directions regarding booster vaccines. If using feed/mineral additives for fly control, make sure to start them 30 days before fly season and keep it out until 30 days after fly season is over.
7. Anaplasmosis - Kentucky is among the list of states approved by the USDA for sale of the anaplasmosis vaccine marketed by University Products LLC of Baton Rouge, La. The vaccine is used in cows in all stages of pregnancy with no problems being reported. The recommendation is a 2-dose regimen given 4 weeks apart with annual revaccination required. Protective immunity should develop within 7-10 days according to the manufacturer. The primary or initial dose is given to bred heifers and young bulls. Consult your veterinarian for options.
8. Letters in a vaccine name mean:
 - a. IBR, BVD, BRSV and PI₃ : Diseases included in a viral respiratory vaccine.
 - b. An “FP” in the vaccine name stands for “fetal protection” and means protection against fetal persistent infection and abortion due to the BVD virus.
 - c. An “HB” in the vaccine name stands for the strain of *Leptospira* known as “Hardjo bovis” that is a common cause of reproductive failure in cattle.
 - d. “HS” stands for “*Histophilus somni*” (formerly known as *Haemophilus somnus*)
 - e. “L₅” stands for the 5 strains of Leptospirosis.
 - f. “V” stands for “Vibriosis”

A list of available vaccines is **listed at the end of this newsletter**. Vaccination programs must be designed around the specific needs of your cattle. Talk to your vet!

One Year with COVID-19 and Year-Over-Year Comparisons

James Mitchell, Kenny Burdine, and Josh Maples, Extension Livestock Economists, Universities of Arkansas, Kentucky, and Mississippi State.

It is hard to imagine that we have been living with COVID for more than a year now. It seems like yesterday, and forever ago, all at the same time. Last week marked one year since the World Health Organization declared COVID a global pandemic. A year ago this Friday, the first stay-at-home order was placed in California. According to the CDC, from March 1-May 31, 42 states issued stay-at-home orders, impacting 73% of U.S. counties ([Link](#)). There is no denying that COVID has impacted all of us in some way.

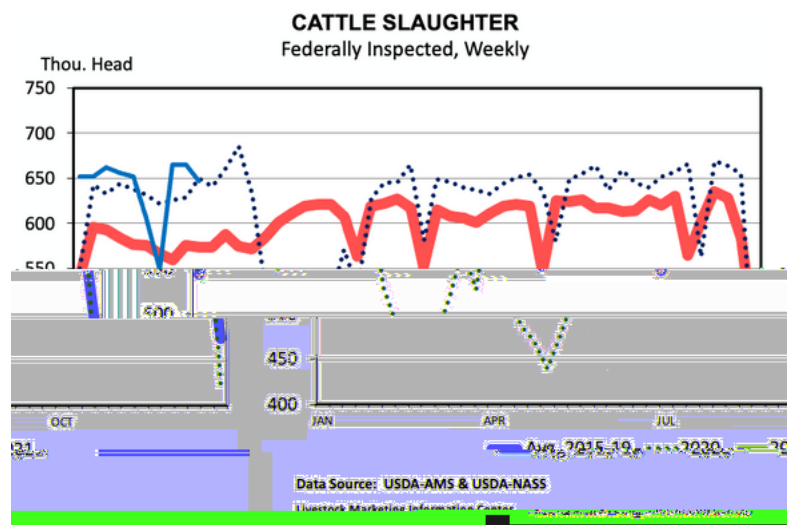
By now, most of us are familiar with the far-reaching effects of COVID on agricultural markets. We have written extensively about the topic in CMN. To close out 2020, we reviewed some of the main

developments ([Link](#)). Early this year, we provided a preview for 2021 ([Link](#)). We discussed the implications for holiday meat demand ([Link](#)) and the implications for fall cattle markets ([Link](#), [Link](#)). Before Kenny and I joined CMN, Josh first wrote about the unprecedented level of volatility in commodity and financial markets in early-March 2020. For readers who would like to review the major COVID disruptions, the in-text links will take you to past CMN issues covering those topics.

Instead of reviewing COVID, we thought we would discuss a new data challenge that will become more apparent as April approaches. You might have noticed from reading CMN that we like to provide month-over-month, year-over-year, and historical comparisons when discussing data. These types of comparisons provide context when USDA publishes new estimates and projections. Without historical context, estimates from a USDA report are much harder to appreciate and interpret. However, year-over-year comparisons will become challenging, and perhaps misleading, in the coming weeks and months as these comparisons will be based on time periods in 2020 when COVID was having major impacts on the beef sector.

Let us consider an example to see how making comparisons between 2021 and 2020 could be misleading. The graph provided at the top of this newsletter is weekly FI cattle slaughter. The solid blue line is 2021 cattle slaughter, and the dotted blue line is 2020 slaughter. Notice the sharp decline in 2020 slaughter for April and May. This decline was a direct result of COVID. This year, it is **highly** unlikely that we will observe the same decline in weekly cattle slaughter. Thus, if we compare the second quarter (Q2) of 2021 to Q2 of 2020, there will appear to be a significant increase in cattle slaughter. LMIC is currently forecasting Q2 2021 cattle slaughter at 7.9 percent above last year. Does this mean that cattle slaughter has significantly increased in 2021? Not necessarily, and it would be misleading to make such a conclusion without clarification. We are comparing Q2 2021 slaughter to a very small number for 2020.

Analysts will need to be careful when making data comparisons between 2021 and 2020. Perhaps, a better comparison is between 2021 and the five-year average (red line in the graph). For example, if weekly cattle slaughter remains elevated above the five-year average, we can conclude that slaughter is historically high. Context matters, and failing to acknowledge the unprecedented events of 2020 would be a mistake. Cattle slaughter is just one example, but it highlights an important point. The same caution will be needed when making any comparisons to 2020, including the prices reported in our Cattle Market Report and Futures Price tables in Cattle Markets Notes.



Examples of Vaccines and Dewormers for Cows, Replacement Heifers & Bulls[£]

C1A Modified Live Virus Vaccines with Leptospirosis

- *Pyramid 10 - Boehringer Ingelheim
- *Vista 5 L5 —Merck
- *Express FP10 —Boehringer Ingelheim
- *Bovishield Gold FP5 L5 HB — Zoetis
- *Titanium 5 L5 HB — Elanco
- *Labeled for use in pregnant cattle and nursing calves
—follow directions carefully

C1B Modified Live Virus Vaccines + Lepto and Vibrio

- *Express FP 5 VL5— Boehringer Ingelheim
- *Bovi-Shield Gold FP5 VL5 HB-Zoetis
- *PregGuard Gold FP 10 (No BRSV)- Zoetis
- *Vista 5 VL5 SQ-Merck

C2A Killed Virus Vaccines with Lepto

- Triangle 10 HB—Boehringer Ingelheim
- Cattlemaster Gold FP5 L5— Zoetis
- Vira Shield 6 + L5 HB— Elanco
- Master Guard 10 HB-contains killed IBR and BVD-Elanco

C2B Killed Virus Vaccines + Lepto and Vibrio

- Cattlemaster 4 +VL5-Zoetis
- Vira Shield 6 + VL5 (HB)— Elanco

C3 Mannheimia (Pasteurella or Pneumonia) Vaccines

- Presponse HM—Boehringer Ingelheim
- Presponse SQ—Boehringer Ingelheim
- One Shot—Zoetis
- Pulmoguard PHM –1– Huvepharma
- Nuplura PH—Elanco
- Once PMH—SQ or IN intranasal—Merck

C4 Modified Live Respiratory Virus Vaccines + Mannheimia toxoid

- *Pyramid 5 + Presponse SQ —Boehringer Ingelheim
- *Vista Once SQ — Merck
- *Bovi-Shield Gold One Shot—Zoetis
- *Titanium 5 + PHM—Elanco
- *Inforce 3 (intranasal) + One Shot BVD-Zoetis
- *Labeled for use in pregnant cattle and nursing calves
—follow directions carefully

C5A Clostridial (Blackleg) 7 Way Vaccines

- Ultrabac 7 or Ultrachoice 7—Zoetis
- Caliber 7—Boehringer Ingelheim
- Alpha 7—1 single dose -No booster-Boehringer Ingelheim
- Vision 7 with SPUR—Merck
- Calvary 9 or Covexin 8—Contains tetanus-Merck

C5B Clostridial (Blackleg) + Pinkeye

- Alpha 7/MB— No booster—Boehringer -Ingelheim
- 20/20 Vision 7 with SPUR-Merck

C5C Clostridial (Blackleg) + Somnus

- Ultrabac 7/Somubac—Zoetis
- Bar Vac 7 Somnus—Boehringer Ingelheim
- Vision 7 Somnus with SPUR—Merck

C5D Clostridial (Blackleg) + Pasteurella

- One Shot Ultra 7 or 8 -Zoetis

C6A Drench Dewormers

- Valbazen + (Pour on) - Zoetis
- Safeguard + (Pour on) - Merck
- Synanthic + (Pour on) - Boehringer Ingelheim
- ("Pour on" for external parasite control—lice, flies)

C6B Dewormers (Injectables and Pour-ons)

- Cydectin— Bayer
- Dectomax — Zoetis
- Ivomec or Ivomec + - Boehringer Ingelheim
- Eprinex—Boehringer Ingelheim
- Noromectin—Norbrook
- LongRange - (extended duration) - Boehringer Ingelheim

C7. Pinkeye Vaccines

- Maxi/Guard—Addison Labs
- Vision 20/20—Merck
- i-site XP—AgriLabs
- Pinkeye Shield XT4—Elanco
- Piliguard Pinkeye-1 Trivalent or Triview—Merck
- SolidBac Pinkeye IR/PR—Zoetis
- Ocu-guard MB-1—Boehringer Ingelheim

C8 Scours Vaccines

- Guardian-Merck
- ScourGuard 4KC-Zoetis
- Scour Bos 9 and 4— Elanco

[£] The provided lists of vaccines and dewormers is for example purposes only and should not be considered an endorsement of products by the University of Kentucky.

Examples of Vaccines and Dewormers for Nursing Calves and Weaned/Feeders

D1A Modified Live Virus Vaccines (Often called "Live Virus")

- *Pyramid 5 - Boehringer Ingelheim
- *Vista 5 —Merck
- *Inforce 3 (Intranasal) + Bovishield BVD —Zoetis
- *Express 5 —Boehringer Ingelheim
- *Bovishield Gold 5 — Zoetis
- *Titanium 5 — Elanco
- *Bovilis Vista BVD + Bovilis Nasalgen 3 (Intranasal)—Merck
- *Labeled for use in pregnant cattle and nursing calves

D1B Modified Live Virus Vaccines + Somnus

- *Express 5-HS—Boehringer Ingelheim
- Resvac 4/Somubac-Zoetis

D2A Killed Virus Vaccines

- Triangle 5—Boehringer Ingelheim
- Cattlemaster Gold FP5 — Zoetis
- Vira Shield 6 — Elanco
- Master Guard 5—contains killed IBR and BVD—Elanco

D2B Killed Virus Vaccines + Somnus

- Elite 4-HS—Boehringer Ingelheim
- Vira Shield 6 Somnus—Elanco

D3 Mannheimia (Pasteurella or Pneumonia) Vaccines

- Presponse HM—Boehringer Ingelheim
- Presponse SQ—Boehringer Ingelheim
- One Shot—Zoetis
- Pulmoguard PHM —1—Huvepharma
- Nuplura PH—Elanco
- Once PMH—SQ or IN intranasal—Merck

D4 Modified Live Respiratory Virus Vaccines + Mannheimia toxoid

- *Pyramid 5 + Presponse SQ —Boehringer Ingelheim
- *Vista Once SQ — Merck
- *Bovi-Shield Gold One Shot—Zoetis
- *Titanium 5 + PHM—Elanco
- *Inforce 3 (intranasal) + One Shot BVD-Zoetis
- *Bovilis Vista BVD CFP + Bovilis Nasalgen 3—PMH (Intranasal)- Merck
- *Labeled for use in pregnant cattle and nursing calves —follow directions carefully

D5A Clostridial (Blackleg) 7 or 8 Way Vaccines

- Ultrabac 7 or Ultrachoice 7—Zoetis
- Caliber 7—Boehringer Ingelheim
- Alpha 7—1 single dose -No booster-Boehringer Ingelheim
- Vision 7 or 8 with SPUR—Merck
- Calvary 9 or Covexin 8—Contains tetanus-Merck

D5B Clostridial (Blackleg) + Pinkeye

- Alpha 7/MB1— No booster—Boehringer -Ingelheim
- 20/20 Vision 7 with SPUR-Merck
- Piliguard Pinkeye + 7—Merck

D5C Clostridial (Blackleg) + Somnus

- Ultrabac 7/Somubac—Zoetis
- Bar Vac 7 Somnus—Boehringer Ingelheim
- Vision 7 or 8 Somnus with SPUR—Merck

D5D Clostridial (Blackleg) + Pasteurella

- One shot Ultra 7 or 8—Zoetis

D6A Dewormers (Injectables and Pour-ons)

- Cydectin— Bayer
- Dectomax — Zoetis
- Ivomec or Ivomec + -Boehringer Ingelheim
- Eprinex—Boehringer Ingelheim
- Noromectin—Norbrook
- LongRange - (extended duration) -Boehringer Ingelheim

D6B Drench Dewormers

- Valbazen + (Pour on) - Zoetis
- Safeguard + (Pour on) - Merck
- Synanthic + (Pour on) -Boehringer Ingelheim
- ("Pour on" for external parasite control—lice, flies)

D7 Pinkeye Vaccines

- Maxi/Guard—Addison Labs
- Vision 20/20—Merck
- i-site XP—AgriLabs
- Pinkeye Shield XT4—Elanco
- Piliguard Pinkeye-1 Trivalent or Triview—Merck
- SolidBac Pinkeye IR/PR—Zoetis
- Ocu-guard MB-1—Boehringer Ingelheim

D8 Scours Vaccines

- Bovilis Coronavirus (Intranasal, Coronavirus Only)- Merck
- Bar-Guard-99 (Oral, E. Coli K99 Only) -Boehringer Ingelheim
- Calf-Guard (Oral, Rota- and Coronavirus)—Zoetis
- First Defense (Oral, E.coli K99, Corona)& First Defense TriShield (Oral, E.Coli K99 + Coronavirus + Rotavirus) - Immucell Corp.

Have you lost livestock to vulture predation?



Purdue University and University of Kentucky researchers are looking for ways to understand and control vulture predation

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We are looking for livestock that have been killed by vultures in Indiana and Kentucky

What to do if you lose an animal:

- Take lots of pictures from every angle
- If scavengers are around, move the carcass somewhere they cannot access it
- Contact your ANR Extension Agent or call/text Marian Wahl at (317) 647-5294 as soon as you

For more information, visit our website at
tinyurl.com/PurdueVultures

