

OFF THE HOOF

Kentucky Beef Newsletter – January 2013

Published Monthly by Dr. Les Anderson, Beef Extension Specialist, Department of Animal & Food Science, University of Kentucky

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Timely Tips

Dr. Roy Burris, University of Kentucky Beef Specialist

Spring-Calving Cow Herd

- Study the performance of last year's calf crop and plan for improvement. Plan your breeding program and consider a better herd sire(s). Select herd sires which will allow you to meet your goals and be willing to pay for superior animals.
- Consider vaccinating the cows to help prevent calf scours.
- Start cows on the high magnesium mineral supplement soon. Consider protein supplementation if hay is less than 10% crude protein. If cows are thin, begin energy (grain) supplementation now.
- Get ready for calving season! See that all equipment and materials are ready, including obstetrical equipment, record forms or booklets, ear tags, scales for obtaining birthweights, etc. Prepare a calving area where assistance can be provided easily if needed. Purchase ear tags for calves and number them ahead of time if possible. Plan for enough labor to watch/assist during the calving period.
- Move early-calving heifers and cows to pastures that are relatively small and easily accessible to facilities in case calving assistance is needed. Keep them in good condition but don't overfeed them at this time. Increase their nutrient intake after they calve.
- Keep replacement heifer calves gaining enough to reach their "target" breeding weight (65% mature weight) by spring.

Fall Calving Cow Herd

- Provide clean windbreaks and shelter for young calves.
- Breeding season continues. Keep fall calving cows on accumulated pasture as long as possible, then start feeding hay/grain. Don't let these cows get too thin.
- Remove bulls by the end of the month. That means that your 2013 fall calving season will end in early November.

- Catch up on castrating, dehorning and implanting.

General

- Feed hay in areas where mud is less of a problem. Consider preparing a feeding area with gravel over geotextile fabric.
- Increase feed as the temperature drops, especially when the weather is extremely cold and damp. When temperature drops to 15°F, cattle need access to windbreaks.
- Provide water at all times. Cattle need 5 to 11 gallons per head daily even in the coldest weather. Be aware of frozen pond hazards. Keep ice "broken" so that cattle won't walk out on the pond trying to get water.
- Consider renovating and improving pastures with legumes, especially if they have poor stands of grass or if they contain high levels of the fescue endophyte. Purchase seed and get equipment ready this month.

The Moving Finger Writes...

Dr. Roy Burris, Beef Extension Specialist, University of Kentucky

Someone recently said to me "stop by when you have some free time". That got me thinking about the value of time and how we manage it. There's an old story about a man walking down a country road when he sees a farmer holding up a pig to eat apples off a tree. He says "isn't that a waste of time?" The farmer replies "Yeah, but what's time to a pig".

We don't always value our time enough to manage it well. Any good business person will tell you that "time is money" but is it about more than money. A good New Year's resolution is to do a much better job managing your time.

The Mayo Clinic has an on-line publication – "Time management tips to reduce stress and increase productivity" – that gives some insight into proper time management. Some of the suggestions (with my thoughts) are:

Plan each day. Know what needs to be done each day before you walk out the door. If you manage others, be sure they have everything they need to perform their jobs in a timely manner. If you are working cattle, for example, you should be sure that everything is ready at the start. Don't have four people standing around waiting on a syringe.

Prioritize your tasks. I call this working off the top of the list. Be sure that you are doing the most important things first and leaving the less important tasks until last. Don't spend all your time doing minimum wage jobs.

Say no to nonessential tasks. Sometimes you have to tactfully avoid situations where other people don't value your time. My pet peeve is committee meetings that go on-and-on because some people like to hear themselves talk. If this is the case, tell everyone ahead of time that you will have to leave at a certain time. Don't let other people cause you to sit and "stew".

Delegate. Share the workload. Just because you think you can do everything better doesn't mean that you should. Train others to take care of things.

Do it right the first time. This will, ultimately end up saving time. Quality workmanship counts.

Break large tasks into small tasks. Try to have portions of a big job done by certain times so it seems like you are accomplishing something. I remember one time that I was going to shear a field of Christmas trees and it looked like I couldn't get it done. I broke the job down into a certain number of rows per half day and it seemed less daunting.

Take a break when needed. It's better to take your rest breaks at opportune times than to have an "assembly line mentality". If you are working cattle, for example, take a break between groups – not with cows in the chute. But remember that tired workers make more mistakes or have more injuries.

Finally, in my opinion, you should take time to "re-charge your battery" and to evaluate what is really important in your life (like family). Manage your time so that you can accomplish everything that you have to and leave enough time for things that you want to do. Take time to make good decisions and to think things through before acting on them. Or as the poet Omar Khayyam wrote a thousand years ago –

"The moving finger writes and having writ moves on. Nor all your piety nor wit shall lure it back again to cancel half a line, nor all your tears wash out a word of it."

Ultimately you are responsible for your own actions. Remember, as you work to maintain the family farm don't forget to maintain the farm family! Happy New Year!

Determining Which Estrous Synchronization Protocol to Use – Cows

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

Perhaps one of the more perplexing issues for ranchers considering estrous synchronization and AI (ESAI) is determining which protocol to use to control estrus. Many new systems for controlling the expression of a fertile estrus have been developed in recent years. Ranchers have numerous ESAI protocols at their disposal. Most of these protocols can result in acceptable pregnancy rates but vary in cost, effectiveness, and implementation. To determine the appropriate system, producers need to consider several factors: 1) proportion of cows that are likely anestrus (not yet begun to display estrus), 2) available labor, skill, expertise, and facilities for accurate detection of estrus and stress-free handling of cattle, 3) cost of synchronization treatment, 4) value of semen, 5) availability of AI technician, and 6) acceptable level of success. Each of these factors will affect the choice of estrus synchronization protocol. A major consideration affecting the system of choice is labor availability for estrus detection and AI. Systems are available that require complete, limited, or no estrous detection (fixed-time inseminations or TAI).

ESAI Systems That Require Estrous Detection

Select Synch

Select Synch is an outstanding protocol for synchronization of estrus in postpartum beef cows. Select Synch begins with an injection of gonadotropin-releasing hormone (GnRH; 100 µg) followed by treatment with prostaglandin F_{2α} (PG) 7 days later (Fig. 1). Estrous detection must begin 4 days prior to the injection of PG and continue for 5 days after treatment. Cows exhibit estrus before PG treatment because GnRH does not synchronize follicle growth in cows on Day 14-16 of the cycle and the CL induced by GnRH

treatment may regress early in some anestrous cows. Approximately 10-15% (range 0-25%) of cows can express estrus before the PG treatment.

Synchronization of estrus using the Select Synch Protocol results in excellent reproductive performance in postpartum beef cows. Approximately 85% of cows treated will be observed in estrus (submission rate), conception rate is normal, and AI pregnancy rates typically range from 40-60%. In large field trials (n = 4,766), Select Synch was used in well managed, mature cows at least 45 days from calving and resulted in AI pregnancy rates of 77%. Obviously, Select Synch can be an effective system to synchronize a fertile estrus in postpartum beef cows. However, effectiveness of Select Synch decreases if your herd has a large proportion of cows that have not yet initiated estrous cycles (i.e. many late-calving, thin or 2 year old cows). Although Select Synch improves the reproductive performance of anestrous cows compared to a 2-treatment PG protocol, the AI pregnancy rates are low (20-30%).

Select Synch should be used for ESAI if:

1. A large proportion of the cows are cyclic before treatment. If cows are well managed (BCS > 5), the herd consists of few, if any, young cows, and the cows are at least 45 days postpartum, use of Select Synch will result in high pregnancy rates to AI.
2. Facilities and labor are available for daily estrous detection and cattle handling for at least 10 days.
3. Technician is available twice daily for 10 days.
4. Value of the semen is high. When the value of the semen is high, conception rate must be maximized. Using Select Synch, only cows that are observed in estrus are inseminated which maximizes conception rate.
5. Minimize costs of estrus synchronization treatment.

Problem with Anestrous Cows

The major limitation for use of Select Synch is the proportion of cows that are anestrous at the beginning of treatment. Typically, anestrous cows make up at least 50% of the herd at the beginning of the breeding season. Reproductive performance of anestrous cows can be improved if a progestin (progesterone-like compound) is incorporated into the Select Synch protocol. Two progestins are available for use; melengestrol acetate (MGA) and progesterone via the EAZI-BREED™ CIDR® cattle inserts (termed CIDR; Phizer, Inc.). Progesterone delivered using a CIDR induces estrus in more anestrous cows than feeding MGA. Insertion of a CIDR from the day GnRH is administered to injection of PG (Fig. 1) improves reproductive performance of postpartum anestrous cows. Another benefit of insertion of a CIDR is that expression of estrus before the PG injection is inhibited.

Select Synch + CIDR should be used for ESAI if:

1. A large proportion of the cows are anestrous before treatment. If cows are a little thinner (BCS 4-5), the herd consists of several young cows, and many of the cows are less than 45 days postpartum use Select Synch + CIDR.
2. Facilities and labor are available for daily estrous detection and cattle handling for at least 5 days.
3. Technician is available twice daily for at least 5 days.
4. Value of the semen is moderate to high. When the value of the semen is high, conception rate must be maximized. Incorporating a CIDR with Select Synch will improve the overall submission rate. Since conception rate is unaffected, more cows conceive to AI.
5. Higher AI pregnancy rates are more important to the producer than the higher costs of the estrus synchronization protocol.

ESAI Systems With Limited or No Estrous Detection

Co Synch + CIDR and Select Synch + CIDR & TAI

Many beef producers have neither the time nor the available labor for adequate estrous detection and the cattle handling necessary for Select Synch. Also, the availability of a quality AI technician is often limited. Thus, many producers desire protocols in which estrous detection is limited (2-3 days) or cows are artificially inseminated at a fixed time (TAI). Co Synch + CIDR and Select Synch + CIDR & TAI were protocols developed to reduce the number of days of estrous detection. Both Co Synch + CIDR and Select Synch + CIDR & TAI begin with an injection of GnRH (100 µg) and insertion of a CIDR followed 7 days later by treatment with PG and removal of the CIDR insert (Fig. 2 & 3).

Producers that want to maximize AI pregnancy rates with limited estrous detection need to use Select Synch + CIDR & TAI. In this system, cows are observed for estrus for 72-84 hours after PG is administered and the CIDR is removed. Cows observed in estrus are inseminated about 12 hours after first observed estrus. At 72-84 hours, all cows NOT observed in estrus are subjected to TAI and are given a second injection of GnRH. Treatment of postpartum cows with Select Synch + CIDR & TAI has several advantages: 1) only 3 days of estrous detection, 2) inclusion of the CIDR prevents early estrus (before PG) and induces estrus in more anestrous cows, 3) results in high AI pregnancy rates. The high AI pregnancy rates are the result of combining the higher conception rates to AI following accurate estrous detection and conception that occurs in some cows that would have been missed using estrous detection alone.

Select Synch + CIDR & TAI should be used for ESAI if:

1. A large proportion of the cows are anestrous before treatment. If cows are a little thinner (BCS 4-5), the herd consists of several young cows, and many of the cows are less than 45 days postpartum, a system that includes a CIDR is necessary.
2. Facilities and labor are available for daily estrous detection and cattle handling for at least 3 days.
3. Technician is available twice daily for at least 3 days.
4. Value of the semen is moderate to high. When the value of the semen is high, conception rate must be maximized. Select Synch + CIDR & TAI maximizes pregnancy rates to AI but the cost is higher because all cows are inseminated. Conception rate is lower even though the AI pregnancy rate is higher.
5. Higher AI pregnancy rates are more important to the producer than the higher costs of the estrus synchronization protocol.

Producers that desire systems that require NO estrous detection should use Co Synch + CIDR (Fig. 3). In this system, all cows are subjected to a second injection of GnRH & TAI anywhere from 48-72 hours after PG is administered. When CO Synch + CIDR was first developed, cows were subjected to GnRH & TAI at 48 hours. Pregnancy rates are slightly higher if GnRH & TAI are performed around 66 hours after PG is administered. Acceptable AI pregnancy rates have also been reported when GnRH & TAI occurred 72 hours after PG. Therefore, acceptable AI pregnancy rates can be achieved when GnRH & TAI occurs at any time from 48-72 hours after PG. The highest AI pregnancy rates appear to occur when TAI occurs near 66 hours after PG administration.

Systems that incorporate total TAI are more variable in AI pregnancy rate than systems that use either total or partial estrous detection. The decision to use systems with complete TAI needs to involve an

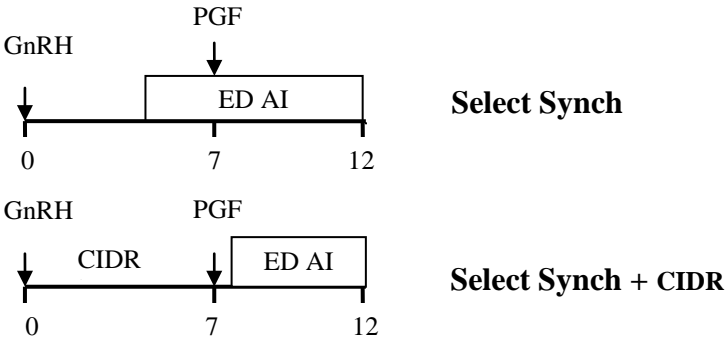
assessment of your comfortable level of risk. Systems that use total TAI involve higher risk. Several management factors can reduce the risk involved with systems that use complete TAI. First, cows must be in a BCS ≥ 5 (BCS scale 1-9; 1 = emaciated, 9 = extremely obese) both at calving and at the beginning of treatment. Also, mineral status (i.e. copper and selenium) of the cows can affect pregnancy rate to AI (L. H. Anderson, unpublished data) and many cows in the Southeast are deficient in these two minerals. Second, cows must be at least 30 days (preferably 45 days) postpartum at the beginning of treatment. Third, minimize the number of primiparous cows that are subjected to the TAI protocol. Fourth, cows must have been previously vaccinated and dewormed. Success is possible using TAI systems if the risk factors are minimized.

Co Synch + CIDR & TAI should be used for ESAI if:

1. Facilities and labor are NOT available for daily estrous detection and cattle handling.
2. Technician availability is very limited.
3. Value of the semen is low to moderate. When the value of the semen is high, conception rate must be maximized. Co Synch + CIDR & TAI reduces conception rates to AI and the cost is per pregnancy is higher because all cows are inseminated. Semen of high value should NOT be used.
4. Pregnancy rates of anestrous cows to this system have been acceptable but low. Reducing the proportion of anestrous cows will reduce the risk associated with TAI protocols.

Several protocols to synchronize estrus are currently available for use by beef cow-calf producers. Determining which system to use depends upon the proportion of anestrous cows at the beginning of treatment, available labor and facilities for estrous detection, availability of a qualified technician, value of the semen, and the goals of the producer. Certainly, incorporation of ESAI and proven genetically superior sires into beef cow calf operations will improve the productivity and profitability of any operation. Increased use of ESAI could help the United States keep its competitive global advantage in the production of quality beef.

Figure 1. Estrous synchronization protocols that incorporate complete estrous detection (ED)



General Funk will also be the keynote speaker the second day, February 27, of the conference with “Learning, Leading, Succeeding.” His presentation will emphasize the importance of planning in developing a successful stocker operation.

Market Outlook for the cattle industry is always of interest to the cattle producer. This topic will be discussed by Dr. Kenny Burdine, Livestock Marketing Specialist from the University of Kentucky. Dr. Burdine will provide a current market situation and outlook for 2013.

Dr. Walt Prevatt, Livestock Economist, of Auburn University, will cover Livestock Risk Protection (LRP) and how it could benefit stocker operators in being successful. A second risk management discussion topic of interest to stocker operators currently is feed costs. Dr. Darrell Rankins, Ruminant Nutritionist and Beef Specialist of Auburn University will discuss Alternative Feeds for Stockers. The final presentation of the day will be “Results of 2012 BEEF Stocker Survey” presented by Wes Ishmael of BEEF Magazine.

The conference organizers encourage participation of stocker operators and others from Kentucky, Tennessee and the Mid-South region. An excellent facility has been selected for this year’s conference with opportunities for shopping and dining in Somerset, KY.

For additional information, contact either local University of Kentucky Extension and University of Tennessee Extension offices or go the Mid-South Stocker web site at <http://midsouthstocker.org/> . Information on the web site will include the agenda of the activities, directions to the Conference site, hotels and motels near the conference center, on-line registration and how to secure space for an exhibit.

USDA Issues Final Rule for Animal Disease Traceability

Dr. Michelle Arnold, Large Ruminant Extension Veterinarian, University of Kentucky

On August 9, 2011, USDA issued a **proposed rule** to establish minimum national official identification and documentation requirements for the traceability of livestock moving interstate. Having a traceability system in place would allow the United States to trace animal disease more quickly and efficiently, thereby minimizing not only the spread of disease but also the trade impacts an outbreak may have.

On December 20, 2012, The U.S. Department of Agriculture (USDA) announced a **final rule** establishing general regulations for improving the traceability of U.S. livestock moving interstate. “With the final rule announced today, the United States now has a flexible, effective animal disease traceability system for livestock moving interstate, without undue burdens for ranchers and U.S. livestock businesses,” said Agriculture Secretary Tom Vilsack. “The final rule meets the diverse needs of the countryside where states and tribes can develop systems for tracking animals that work best for them and their producers, while addressing any gaps in our overall disease response efforts. Over the past several years, USDA has listened carefully to America’s farmers and ranchers, working collaboratively to establish a system of tools and safeguards that will help us target when and where animal diseases occur, and help us respond quickly.”

Basically, cattle moving from one state to another state will need to be 1) officially identified and 2) accompanied by an interstate certificate of veterinary inspection (ICVI) or certain other documentation such as owner-shipper statements or brand certificates. Specifically exempted are all cattle moving interstate directly to a custom slaughter facility.

- After considering the public comments received, the final rule has several differences from the proposed rule issued in August 2011. These include: Accepting the use of brands, tattoos and brand registration as official identification. In addition to eartags, USDA is recognizing brands (when accompanied by an official brand inspection certificate) as official identification as long as the shipping and receiving States or Tribes are in agreement. Similar provisions are made for tattoos and breed registry certificates.
- Permanently maintaining the use of backtags as an alternative to official eartags for cattle and bison moved directly to slaughter but the animals must be slaughtered within 3 days of their movement to a slaughter plant.
- Accepting movement documentation other than an Interstate Certificate of Veterinary Inspection (ICVI) for all ages and classes of cattle when agreed upon by the shipping and receiving States or Tribes.
- **Beef cattle under 18 months of age, unless they are moved interstate for shows, exhibitions, rodeos, or recreational events, are exempt from the official identification requirement in this rule. These specific traceability requirements for this group will be addressed in a separate rulemaking, allowing APHIS to work closely with the beef cattle industry.**

For more specific details about the regulation and how it will affect producers, visit www.aphis.usda.gov/traceability. The Federal Register has informed the State Veterinarian's Office that the traceability rule will be published on January 9, 2013. This means that the effective date for traceability will be March 11, 2013.

Beginning on the effective date of final rule (currently set for March 11, 2013), all cattle and bison listed below are subject to official identification requirements when moving interstate:

- All sexually intact cattle and bison 18 months of age or over;
- All female dairy cattle of any age and all dairy males born after the effective date of final rule; Specifically, dairy cattle are defined as all cattle, regardless of age or sex or current use, that are of a breed(s) used to produce milk or other dairy products for human consumption, including, but not limited to, Ayrshire, Brown Swiss, Holstein, Jersey, Guernsey, Milking Shorthorn, and Red and Whites.
- Cattle and bison of any age used for rodeo or recreational events; and
- Cattle and bison of any age used for shows or exhibitions.

Cattle moving interstate would be exempt from the official identification requirement when moved:

- As a commuter herd (a herd of cattle moved interstate directly between two premises without change of ownership) with a copy of the commuter herd agreement.
- Directly from a location in one State through another State to a second location in the original State.
- Directly to an approved tagging site if they are officially identified before commingling with cattle and bison from other premises. Commingling can occur if other practices are used that will ensure the identity of the animal's consignor is accurately maintained until tagging takes place.
- Directly to slaughter (within 3 days of arrival) with a USDA- approved backtag.

What is considered "official identification"?

Cattle and bison that are required to be officially identified for interstate movement must be identified either by:

1. An official eartag or another form of identification, including but not limited to brands, tattoos, and breed registry certificates, as agreed on by animal health officials in the States or Tribes involved in the movement.
2. Group/lot identification when a group/lot identification number (GIN) is applicable.

USDA Official Eartags:

Official Vaccination Eartag (Brucellosis)-Restricted for use with bovine and bison calfhood brucellosis vaccination






National Uniform Eartagging System (NUES) Tags

- Commonly referred to as “Silver” or “Brite” tags.
- These have historically been used for disease testing and interstate movement.
- VS Memorandum 578.12 revised March 15, 2011 allows distribution to producers through State and Tribal authorities.
- New to the final rule is the addition of a new definition of “Official Eartag Shield”. States are now allowed to use their postal abbreviation within the US Route shield in lieu of “US”.



Animal identification number (AIN) “840” Tags

- Provided directly to producers from manufacturers (or their distributors), or to producers through accredited veterinarian or an animal health official.
- Various sizes, shapes, colors are available; some are visual only or with variable frequency RFID technology. The visual imprinting of the AIN on the tag is the official identifier for AIN tags with radio frequency technology. AIN tags may be imprinted with additional information for program identity, e.g., age, source programs. However, manufacturer coded AINs (those with numbers that do not begin with 840) are to be phased out over the next 2 years.

AIN Panel Tag (<i>Visual</i>)	AIN RF Button Tags	AIN RF Panel Tags
		

Example of “Logo” AIN	Paired AIN Visual/RFID Tag Set
	

Group/lot identification :

The group/lot identification number (GIN) provides a means of identifying groups of animals when individual animal identification is not required. In this final rule, the GIN is the identification number used to uniquely identify a “unit of animals” of the same species that is managed together as one group throughout the preharvest production chain. When a GIN is used, it must be recorded on documents accompanying the animals; it would not, however, be necessary to have the GIN attached to each animal.

Why is traceability important? The specific characteristics of a disease lead to differences in the way they are investigated. Knowing the history of the location of the animal is critical when dealing with a highly contagious disease, in particular its prior contacts with other animals. Complete information can help animal health officials narrow down the number of herds tested. However, when information is limited or vague, the testing of herds is expanded to ensure all possible herds are included. If the herd owner cannot be located for an animal of concern, the herds of all potential suppliers of the subject animal must be

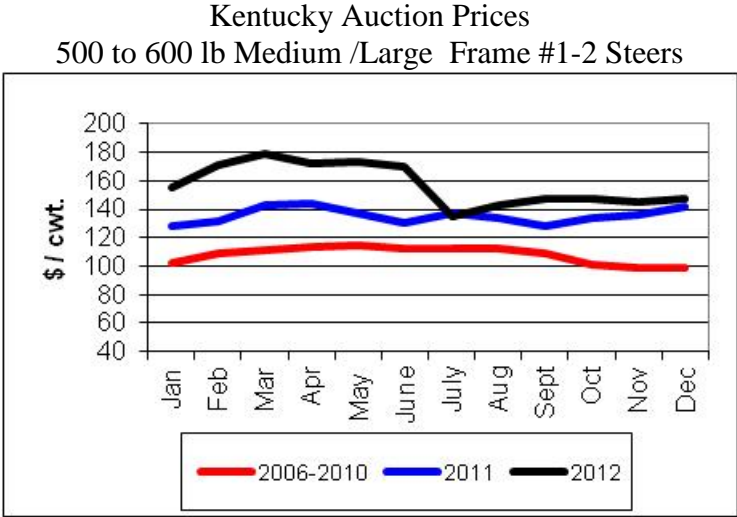
tested. Numbers of animals needing to be tested can rapidly multiply as all potential sources are considered. Time is also a critical factor in a disease investigation. The more time it takes, the more herds and animals become infected or exposed, the more man-hours are needed to respond. Without traceability, the industry ultimately suffers from the loss or delay of sales and potential market share.

Kentucky Beef Cattle Market Update
Kenny Burdine, Livestock Marketing Specialist, University of Kentucky

January is always a good time to look back at the previous year and 2012 was quite a ride. Both calf and heavy feeder cattle markets were astounding through spring as tight supplies and an early spring kicked the markets in full gear. Things turned south quickly by mid-summer as dry conditions and shrinking expectations for the corn crop resulted in a considerable drop in feeder cattle prices. Some of that ground was gained back by fall, but prices remained well off their spring highs. However, fall 2012 prices were still \$5-\$10 per cwt over 2011 levels. Improved pasture conditions and hay production in the fall also worked to increase the hay supply and decrease the number of winter feeding days for many producers.

Another point of discussion would be the difference between calf prices in the spring and fall. During 2012, this differential was between \$20 and \$30 per cwt, or \$100 to \$150 per head, for 5wt calves. Some of this was due to weather challenges and changes in feed prices during the year, but this wider differential is likely to be more of a trend if corn prices stay high. Kentucky calf markets will be more adversely affected by high corn prices in the fall and winter, when pasture is generally not available. This will tend to put downward pressure on fall calf prices, much more so than spring calf prices. While choice of calving season should be driven by many factors, producers should stay aware of these trends in the market.

Next month, we will discuss the implications of the annual cattle inventory report that will be released later this month. At this point, I would expect cattle inventory to be down from January of 2012, but by a much smaller magnitude than was seen from 2011 to 2012. Heifer development estimates for July 2012 were unchanged from 2011, a year when cattle numbers nationwide decreased by 3%. Secondly, the number of heifers on feed didn't move below 2011 levels until the October report (these estimates come out four times per year). Third, new crop grain prices are likely to continue to pull pasture and hay ground into row crops. The result should be continued tight feeder cattle supplies for the upcoming year.



Kentucky Auction Prices
700 to 800 lb Medium / Large Frame #1-2 Steers

