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OFF THE HOOF

Kentucky Beef Newsletter – May 2009

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

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This month's newsletter includes:

Timely Tips

Dr. Roy Burris, University of Kentucky Beef Specialist

Spring-Calving Cow Herd

- Bulls should have a breeding soundness evaluation (BSE) well before the breeding season. They should also receive their annual booster vaccinations and be dewormed.
- Schedule spring or "turn-out" working in late April or early May - at the end of calving season and before the start of breeding season. Consult with your veterinarian about vaccines and health products for your herd. "Turn-out" working for the cow herd *may* include:
    - Prebreeding vaccinations
    - Deworming
    - Replacing lost identification tags
    - Sort cows into breeding groups, if using more than one bull
    - Insecticide eartags (best to wait until fly population builds up

- Turn-out working of calves may include:
    - Vaccinate IBR-PI_3, Clostridial diseases and Pinkeye
    - Dehorn, if needed (can be done with electric dehorner and fly repellent during fly season)
    - Castrate and implant male feeder calves (if not done at birth)
    - Deworm
    - Insecticide eartags

- Choose the best pastures for grazing during the breeding season. Select those with the best stand of clover and the lowest level of the fescue endophyte, if known. Keep these pastures vegetative by grazing or clipping. *High quality pastures are important for a successful breeding season.*

- Start breeding yearling replacement heifers one heat cycle (about 21 days) earlier than cows for "Head-start" calving. Mate to known calving-ease bulls.
- Begin breeding cows no later than mid-May, especially if they are on high endophyte fescue. Cows should be in good condition so that conception occurs prior to periods of extreme heat. If using **artificial insemination**:
- Check the herd at least twice daily (early morning and late evening) to observe cows in heat (Confining cows to a limited grazing area will ease this chore).
- Use an experienced inseminator.
- Make positive identification of cows and semen used. This will permit accurate records on date bred, return to heat, calving date and sire.
- Good handling facilities and gentle working of the cows are essential.
- Record identification of all cows and bulls in each breeding group.
- Observe breeding pastures often to see if bulls are working. Record cows' heat dates and then check 18-21 days later, for return to heat.
- Continue supplying a high magnesium mineral until daytime temperatures are consistently above 60 degrees F.

Fall-Calving Herd

- Pregnancy check the cow herd. Remove open cows at weaning time.
- Let fall calves remain with cows during the spring “flush” of pasture for heavier weaning weights, unless cows are really thin – then you might go ahead with weaning.
- Plan marketing program for calves. Consider various options, such as maintaining ownership and backgrounding in a grazing program, or precondition and sell in a CPH-45 feeder calf sale.
- Initiate fly control for the cows when fly population builds up.

Stockers

- Keep calves on good pasture and rotate pastures rapidly during periods of lush growth. Manage to keep pastures vegetative for best performance.
- Control internal and external parasites.
- Provide mineral mix with an ionophore.
- Implant as needed.

General

- Harvest excess pasture as hay. *Work around the weather and cut early before plants become too mature. Harvesting forage early is the key to nutritional quality.* Replenish your hay supply!
- Clip pastures to prevent seedhead formation on fescue and to control weeds.
- Rotate pastures as needed to keep them vegetative.
- Seed warm season grasses this month.

The “Marlboro Man” is Dead

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

We seem to always look to the West for our image of the American cattlemen or for our idea of what cattle and cattle production should look like. There are a lot of good reasons to look to our own area of the country for our image, our cattle and our management techniques.

The "Marlboro Man" was part of an effective marketing campaign for Marlboro® cigarettes. Camel® cigarettes (unfiltered) were the top selling cigarettes while Marlboro (filtered), originally introduced for women, was trying to become the top seller. The association of the rugged cowboy image with Marlboro cigarettes enabled them to overtake Camel as the world's top-selling cigarette by 1971. Perhaps this success is one of the reasons that we seem to have "marketed" a similar image to represent the American cattleman.

But, is that the best image for the cattle business? Things are changing. We have to be image conscious since it can affect the demand for our product. We are being attacked by factions that say we aren't concerned about animal welfare. How do we combat that?

We can change by promoting an image that cares for and nurtures animals. We can emphasize the fact that our cattle producers utilize forage, roughages and by-products in cattle diets, thus reducing our "carbon footprint". We could lose the "macho" attitude that is sometimes associated with things like cattle handling. We can put a more inclusive face on our industry – include more women, minorities, etc. We can appear more health conscious. This is the real "changing face of animal agriculture".

We live in the Southeast with an abundance of forage and cattle. Yet, we still pattern ourselves after Westerners. They do have good cattle, but we do too. Why not look first at seedstock producers from Kentucky if you are interested in good cattle that are already adapted to this part of the world? Your neighbor needs your help in these tough times. Work with each other.

Forages can and should form the basis of our cattle feeding programs. That is our "strong suit". When I was finishing graduate school at UK, I interviewed for a job at a western university. They had an experiment station with several thousand acres of grazing land. I couldn't wait to see it. As I recall, they only had about 300 head of cattle, though. That wasn't cattle country. This is.

It takes more than boots, spurs, and a big hat to make a good cattle producer. We must have people that are trained to properly handle cattle, to properly feed and care for them, to manage the cattle along with the environment, and to represent our industry in a positive manner. That's what we teach in the Kentucky Master Cattleman Program. If you haven't yet participated in the Master Cattleman Program, please sign up and study all facets of cattle management. Help us keep our industry sustainable for the long-term.

Yes, the "Marlboro Man" is dead. We have to change our image. Coach Adolph Rupp sometimes quoted scripture when he was recruiting Kentucky basketball players, "I will lift up mine eyes to the hills, from whence comes my help". Maybe we don't have to look elsewhere for good cattle or a better image. They could be right here.

Beef Cow Size, Efficiency, and Profit

Dr. Scott Greiner, Extension Animal Scientist, VA Tech

The search for the optimum beef cow is ongoing. Finding her is only somewhat less challenging than defining her. Cow efficiency has been described, researched, and discussed in many different forums, and has taken on numerous definitions. Recent discussions have focused on cow size (mature weight), and the importance and relevance of this trait on profitability and sustainability of beef production systems. Cow size is a relevant component to measures of cow biological and economic efficiency, however it is important to note that a number of other components also impact these important measures.

Biological efficiency has historically been defined as pounds of calf weaned per cow exposed, pounds of calf weaned per cow exposed per unit of cow weight, as well as pounds of calf weaned per cow exposed per unit of energy consumed. Factors affecting biological efficiency include cow maintenance, gestation, and lactation requirements, and reproductive performance, along with calf maintenance and growth requirements, and calf weight. Through assignment of the input and output costs associated with these factors, one can arrive at economic efficiency. Biological and economic efficiency, while related, are not necessarily one and the same. It is possible to have high economic efficiency and relatively low biological efficiency. As an example, cows with low biological efficiency as a result of high inputs relative to calf weaning weight may have relatively high economic efficiency when feed costs are low. Similarly, cows producing high value progeny may compensate to some extent for low biological efficiency (lower calf weights or high feed inputs). This underlines the basis that the search for the optimum cow must optimize costs of production with potential calf income. Intuitively, the goal would be modest size cows with high reproductive rates and low input costs which produce high-value calves.

Cow Size, Milk, and Growth: Energy consumption during the cow-calf portion of the production cycle represents 72% of energy utilized from conception to harvest (Ferrell and Jenkins, 1982), and 70-75% of the total energy consumed by the cow herd is used for maintenance (Ferrell and Jenkins, 1985). Research has demonstrated that high-maintenance (energy requirement per unit of body weight) cows are characterized by high milk production potential, high organ weight, and high lean body mass (low fat mass). Conversely, low-maintenance cows have low milk production potential, low organ weights, and low lean body mass/high fat mass.

Cow intake, energy and protein requirements are influenced by mature cow size. As mature cow size increases from 1000 to 1400 pounds, intake, energy, and protein requirements increase 23%, 19%, and 13%, respectively for cows 90 days post-calving. Bigger cows simply require more feed inputs, in part due to larger body mass to maintain. Similarly, cows with higher milk production have additional costs associated with protein and energy requirements. The energy status of the cow impacts reproductive performance (Short and Adams, 1988), and energy status is a function of nutrient intake and availability relative to requirements. Hence, severe restrictions in nutrient intake relative to requirements impact body condition and rebreeding success.

The widespread use of genetic tools such as EPDs have resulted in tremendous gains in performance as measured in growth and milk production. Mature size has a strong positive genetic correlation with weaning weight and yearling weight (0.80 and 0.76; Bullock et al., 1993). Therefore, genetic trends for increased growth over time also reveal a corresponding increase in mature cow size. The combination of larger mature size (maintenance) and increased production (growth and milk production) influence total energetic needs of the cow herd.

The above discussions have related to differences in cow size and levels of production as they relate to differences in energy requirements. It is important to note that these measures are not measures of cow efficiency. In fact, cow size alone is a poor indicator of biological efficiency- although it is inherently

correlated with costs of production (primarily nutritional inputs). These input parameters must be put in context with outputs such as number and weight of calf weaned (or slaughter weight) to derive biological efficiency, and further combined with costs and income parameters to arrive at economic efficiency. Research has demonstrated the interaction between environment (nutritional resources) and mature size, milk, reproduction, and growth at various levels of dry matter intake (Jenkins and Farrell, 1994). The most biologically efficient cow in a restricted feed environment is smaller in mature size and lower in milk production. These advantages change as feed becomes more available, and is contrasted by the large, high-milk cow being the most efficient when feedstuffs are abundant. Therefore, matching growth and milk production to the environment (feed resources) is a key component in defining efficient cows.

Differences in cow efficiency are profoundly affected by differences in reproduction, irrespective of other factors such as feed consumption and calf weight. Efficient cows are those that produce calves regularly, those that do not will not be efficient. Successful reproduction is the constant variable defining cow efficiency, while the relative importance of other variables may change with fluctuations in production environments and prevailing market conditions (Notter, 2002).

Tools for Enhancing Efficiency: As has been described, cow efficiency is a complex, multi-trait measure that is variable depending on differences in production environment and management system. Hence, the most efficient cow is likely not the same for every enterprise. However, tools exist which can be applied to enhance cow efficiency. Some of these tools have been at our disposal for more than thirty years, while others have become available very recently.

Reproductive success is paramount to cow efficiency, however genetic improvement through direct selection for reproduction has been limited due to the low heritability of reproductive traits and associated complexities involved in calculating EPDs. Capturing heterosis through the use of well-planned, structured crossbreeding programs provides the best genetic tool for enhancing reproduction. Maternal heterosis realized through the crossbred cow results in improvements in cow fertility, calf livability, calf weaning weight, and cow longevity. Collectively, these improvements result in a significant advantage in pounds of calf weaned per cow exposed, and superior lifetime production for crossbred females.

Research has demonstrated that economic efficiency is most improved in systems which exploit both individual and maternal heterosis, and the use of terminal sire crossbreeding systems is an effective way to ameliorate the potential antagonisms between increased lean growth and mature size with maternal performance (Tess and Davis, 2002). These systems which take advantage of sires selected for post-weaning performance and end product merit, mated to cows of moderate size and adapted to the production environment offer additional advantages worthy of consideration. Among these include potentially more simplified management schemes and concentration of resources for small herds (replacement females outsourced, fewer management groups, fewer specifications for sire selection, etc.).

Relatively new EPD tools are now available to allow for direct selection on traits impacting cow efficiency. Heifer Pregnancy EPDs predict the likelihood of a bull"s daughters to conceive to calve as two-year olds. This EPD could be used to exert genetic selection pressure on fertility. The Stayability EPD predicts the likelihood of a sire"s daughters remaining in the herd until six years of age (longevity). Since a large proportion of cows leave the herd as a result of reproductive failure, the Stayability EPD indirectly identifies favorable reproduction genetics. Several breed associations are in the developmental phases for similar genetic prediction tools which may be available in the near future. Selection tools directly related to cow size include Mature Daughter Weight EPDs (Angus) are also available, and can be used in multiple trait selection to influence cow size while allowing for selection pressure in other traits.

The beef industry also has recently introduced selection tools to enhance our capability to identify genetics which are favorable for reducing costs of production. Two examples include the Cow Energy Value EPD ($EN, American Angus Association) and Maintenance Energy EPD (Red Angus Association of America). Both of these EPDs are associated with genetic differences in cow energy requirements, and can be used to enhance efficiency.

Conclusions: Profitable and sustainable beef enterprises of the future are likely to successfully optimize the potential association between higher levels of production and increased costs. This may be accomplished through adherence to the low-cost producer philosophy while concurrently taking steps to add value to the calf crop. Cow size and efficiency are critical components in this endeavor. Changes in cow size and efficiency will be dependent on accurate record-keeping which will enable producers to make informed decisions for their enterprises. Determination of current efficiency measures is a necessary first step in positioning for the future.

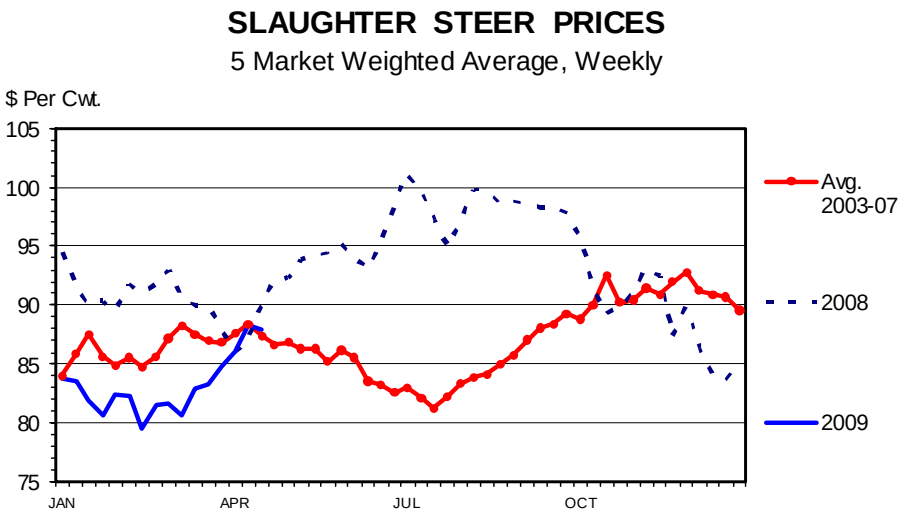
Kentucky Beef Cattle Market Update

Kenny Burdine, Livestock Marketing Specialist, University of Kentucky

It finally feels like spring in the cattle markets. As of late April, 500 to 600 lb Medium / Large frame #1 steers had pushed above $106 per cwt. on a state average basis. At the same time, heavier feeders, which had been much slower to rally, had also posted impressive gains. For the same week, 700 to 800 lb Medium / Large frame #1 steers had pushed into the low-to-mid $90's on a state average basis, with some groups selling around $1 per lb.

A major factor in this rally has been slaughter cattle prices, which have really improved over the last few weeks in anticipation of the upcoming grilling season and Memorial Day holiday. Slaughter steers, which seemed stuck in the low $80's for a long time, rapidly rose into the upper $80's. Slaughter cattle prices typically decline from spring into summer and the futures' market seems to be expecting that once again this year as the June live cattle contract was trading at a significant discount to current prices at the time of this writing. However, fall and winter live cattle futures' contracts were trading in the upper $80's, which along with cheaper corn prices, explain the recent strength in feeder cattle markets. The chart below shows the rally in slaughter steer prices discussed previously.

Cattle producers should be aware of seasonal price patterns; they aren't always consistent, but more often than not, they give us some indication of market direction. Historically, calf prices slowly decline from spring, through summer, and into the fall. Heavier feeder cattle prices tend to increase a bit through summer, before declining slightly into the fall. In addition to these basic trends, the US economy and the progress of the 2009 corn crop will likely affect feeder cattle prices.



Source: Livestock Marketing Information Center

Roberts Agricultural Commodity Market Report

Mike Roberts, Commodity Marketing Agent, Virginia Tech University

LIVE CATTLE futures on the Chicago Mercantile Exchange (CME) were mixed on Monday. The JUNE'09LC contract closed at $81.875/cwt; off $0.225/cwt. The AUG'09LC contract closed up $0.075/cwt at $82.100/cwt but $0.200/cwt lower than last Monday's close. DEC'09LC futures closed at $88.825/cwt; off $0.025/cwt and $0.450/cwt lower than last report. Weaker-than-expected cash markets pressured prices. However, the discounts of futures to cash and expectations for better beef demand were supportive. Cash cattle traded for $2/cwt lower as UDSA put the 5-area price at $85.715/cwt; $2.21/cwt lower than this time last week. Several floor sources said traders are expecting seasonal demand to kick in anytime. USDA on Monday put Choice Boxed Beef cutout at $148.31/cwt, down $0.190/cwt but $3.87/cwt over this time last Monday. H1N1 flu continues to pressure demand on secondary pressure from pork. According to HedgersEdge.com average packer margins were reduced $10.80/head from this time last week. The average processor margin was placed at a positive $6.70/head based on the average buy of $87.95/cwt vs. the average breakeven of $88.46/cwt. Hopefully feed needs for several weeks were bought on previous advice. Feed buyers should hold off on buying more feed needs at this time.

FEEDER CATTLE at the CME closed mixed on Monday. The MAY'09FC contract closed at $97.400/cwt; off $0.050/cwt. AUG'09FC futures finished at $98.675/cwt; up $0.225/cwt and $1.075/cwt lower than last report. Technical buying to cover short positions, buy stops, expectations for feeders to be coming off grass therefore moving into the feed lots, and lower corn prices weighed on prices. The discount to feeders in distant months and spreading into August out of May were supportive. The CME Feeder Cattle Index was placed at $99.52/cwt; off $0.32/cwt from last Friday and $0.59/cwt lower than last Monday. It probably would be a good idea to move feeders when ready this week.