

Cattle Business in Mississippi – March 2010 **“Stocker Cents” article**

How Stocker Management Influences Feedlot Performance and Carcass Quality: Implants and Rate of Gain

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Implants

Many of the previous “Stocker Cents” articles have mentioned how individual management practices during the stocker phase (including procurement) affect subsequent performance of those calves in the feedlot and their value on the rail. Recently, more scientific and industry literature has focused on this issue. For instance, Certified Angus Beef® has published a “Stocker Best Practices Manual” focusing on management that will help increase acceptance rate into that program. In the scientific literature, a group of researchers from Clemson University published a series of reports on a three-year study of how winter stocker growth rates affect feedlot performance and carcass value.

One of the most talked-about stockering practices that affect feedlot performance and carcass value is implant strategies. There have been several studies and field trials to evaluate the actual effects of implants while grazing but most of the issue is perceived. The general consensus is that feedlot buyers would rather have non-implanted calves so that they can take advantage of the extra growth. However, research shows that less aggressive implant strategies during backgrounding and/or grazing can still leave room for improved performance during the finishing phase.

According to a thorough review of the literature by Kansas State University scientists: *“.....pasture/feedlot studies demonstrate that benefits achieved with grazing implants generally are retained through finishing when adequate, but not excessive, exogenous hormonal stimulation is provided throughout production phases.”* However, this only accounts for the overall improvement in gains and rates of gain. It does not specifically address the economics of when the gains are added and which sector of the production chain reaps the benefits. These issues require attention to procurement and marketing. For instance, if a group of calves are stockered with a less aggressive implant protocol, that information should be mentioned when those calves are marketed. That kind of extra information will let the buyer know that there is still room for increased performance (and added profitability) from a feedlot implant strategy.

The other issue with growth-promoting implants is their influence on eventual quality grade. Many research trials and field studies have been carried out to characterize this interaction. However, the results vary widely and are dependent on many other factors. The best way to ensure the highest percentage of calves grading Choice or prime is to delay implanting until the feedlot phase. This strategy is most applicable when ownership of the stockered calves is retained, sold on a quality-based grid and the economic improvement in quality grade is enough to offset potential gain losses while

grazing. This method could also be used if buyers are willing to pay more for non-implanted calves by expecting to capitalize on improved quality grades. Aside from price per pound, the underlying economic drivers in this situation are feed efficiency, carcass weight, choice-select spread, brand premiums and bonuses for a premium carcass.

Rate of Gain

Altering the amount of nutrition a calf receives at a given point in its productive life obviously influences its rate of gain but is primarily based on resource availability. For instance, high rates of gain during spring and summer grazing are usually followed by a wintering period of reduced gains (deferred growing systems). Alternatively, many stocker operators use annual cool-season forages to extend grazing into the winter or move cattle to geographical regions where winter grazing can yield comparable results. While this type of management usually depends on feed cost and forage availability, it can also be used to change body composition and mature size to fit specific markets or end-point timing.

A good illustration of using targeted stockering to change timing and mature size can be found in the Mississippi Farm to Feedlot data. Several producers that have fed more than one calf crop through this program have seen considerably different year-to-year results from changing how long their calves are on grass. Generally, calves that are put straight into the feedlot at a younger age (and lighter weight; “calf feds”) are also finished at a younger age, smaller frame size, lighter mature weight, and hang a lighter carcass. Alternatively, calves that are stockered longer, and experience a period of reduced gains, enter the feedlot older and finish older with a larger frame score, heavier mature weight and heavier carcass.

These differences in grazing periods can also alter yield and quality grade. These impacts are not as well documented in the scientific literature but the general consensus is that grazing cattle prior to the feedlot phase will improve (decrease) yield grades. This is probably due to the previously mentioned increase in age and frame size that changes the amount of lean muscle and distribution of external and internal fat. This might also be a function of economics as these larger cattle will often be harvested before they reach the desired backfat to avoid heavy carcass discounts or age restrictions for export. Conversely, calves that are not stockered, or are backgrounded for a shorter period, are often harvested with more external and internal (KPH) fat and have a less desirable yield grade and more desirable quality grade.