Management Practices of Commercial Cow-Calf Producers in Oklahoma

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The Oklahoma Beef Cattle Manual was distributed through local Extension offices, producer meetings, and by e-mail request from an Oklahoma State University (OSU) website (http://agecon.okstate.edu/cattleman/). Producers who received a copy of the manual were asked to complete a survey documenting current beef production and management practices.

The survey instrument asks a variety of questions on a broad array of production, management, and marketing areas of the cow herd enterprise. For this analysis, selected questions from each of several management areas were chosen to examine. Subsequent work will examine all questions in the survey.

The objective of this paper is to identify current management practices for two groups of commercial cow herd owners in Oklahoma. Persons completing the survey were divided into two groups based on herd size and percentage dependence on the beef enterprise for household income. The first group (referred to as smaller producers) consisted of producers with less than 100 head of commercial breeding females and whose percentage of household income from the beef enterprise in 2003 was 40% or less. The second group (referred to as larger producers) consisted of producers with 100 or more commercial breeding females and whose percentage of household income from the beef enterprise in 2003 was greater than 40%. Producers in these two groups totaled 414 and accounted for 77.2% of all producers in this stage of the project. The smaller producer group numbered 324; while the larger producer group totaled 90.

Management practices selected for examination were categorized into five areas: business management, cow herd management, forage and nutrition management, calf management and health, and marketing. This paper addresses each of these managerial areas.

Business Management

A series of questions regarding planning, recordkeeping, and general management were included in the survey instrument. When asked about long-term planning, 62% of smaller producers did not have a long term plan in which they consider where they want their firm to be in five or more years. In contrast, 64.6% of larger producers had a clear, set plan in regards to the development and growth of their production firm. As anticipated, producers with a smaller herd size and lower dependency on income from the beef enterprise had a lower probability of having a long-term plan.
Financial recordkeeping is one effective way in which producers can both improve for the future and reflect on the past. Financial recordkeeping systems were grouped into three categories. First was simply keeping store receipts and bills in a box or file only, considered to be the minimal amount of recordkeeping. The second category included summarizing income and expenses using a notebook or ledger. This category entailed a slightly more formal system of recordkeeping, but does not include any computerized accounting or business program. The third category incorporated all responses involving a computerized recordkeeping system, such as Quicken, QuickBooks, Redwing, Farmworks, or a customized spreadsheet or database created by the producer.

Smaller producers’ recordkeeping differed from larger producers. Larger producers employed computerized technology for recordkeeping (46.5%) more than smaller producers (32.1%). However, 30.2% of larger producers still used the minimal recordkeeping system. Of smaller producers, 39.4% use a box or file only. As expected, producers with greater dependency on beef production are more likely to incorporate a technology such as computerized recordkeeping. As technology progresses, it is expected that business-oriented beef producers will increasingly incorporate these practices into their beef-production firm.

**Forage and Nutrition Management**

Forage and nutrition management questions included use of forage nutrient testing and calculations to determine supplemental feed needs. Producers have numerous options in determining how much and what type of supplement to feed during winter months. Forage testing of hay and silage may be used to determine quality. This information can then be used to determine how herd nutritional requirements will be met by the forage supplied.

Producers were asked how frequently they forage tested raised vs. purchased silage or harvested forage. Again, a difference was found between smaller and larger producers. A large percentage of smaller producers rarely tested their forage (56.1%) and a smaller percentage (15.9%) tested nearly always. Among larger producers, 29.2% of producers nearly always test, however over a third (36.0%) rarely use this technology.

Forage testing was less common for purchased forage than ranch-produced forage. Again a difference was found between smaller and larger producers. Forage testing for purchased hay was rarely employed by over two-thirds of smaller producers (68.9%) and over half (53.8%) of larger producers. However, more larger producers tested nearly always (23.8%) than did smaller producers (13%). These results may be related to knowledge, costs, and availability about forage testing. Some may not know how to utilize test results. Whatever the reason, many producers are not taking advantage of technology available to evaluate the value of the hay or silage in which they are investing.

Producers were asked to specify the typical length of their hay-feeding season. Forage specialists and economists have clearly stated that minimized feeding of harvested forages relative to grazing forages is generally more cost effective. Two-thirds in both groups have a typical hay feeding season more than 90 days (67.7% of smaller producers and 66.3% of larger producers).
Calf Management

Two management practices typically associated with preconditioning were examined, castrating bull calves and vaccinating calves, along with another calf management practice, implanting calves. Results for each practice differed between smaller and larger producers. Larger producers more frequently castrated bull calves nearly always (79.8%) than did smaller producers (65.8%). Of each group, 13-15% rarely castrated bull calves even though research clearly shows that buyers pay a premium for steers compared with bulls.

A key feature of preconditioning programs is a specified vaccination and health management program. Responses to a question regarding the frequency of vaccinating were grouped into three categories; do not vaccinate, single vaccination, and multiple vaccinations. Smaller producers were more likely not to vaccinate calves before marketing them (33.4%) or use a single vaccination (43%) compared with larger producers (23% and 32.2%, respectively). Multiple vaccinations were the more common practice of larger producers (44.8%). The lower incidence of vaccinations may be related to time and cost of working calves for smaller producers whose household income is less dependent on the beef operation. Given the lower incidence of vaccinations among smaller producers, the greater propensity to incur diseases in put-together groups of calves from smaller cow-calf producers is understandable. Similarly, the reason buyers pay a premium for preconditioned calves is understandable.

A large percentage of smaller producers are not capitalizing on the benefits of growth promoting implants, given that 67% reported rarely using implants on steer calves prior to weaning. Larger producers were distinctly different. Of that group, 42.5% nearly always used implants though 39.1% rarely used them. Note that some producers may choose not to implant calves in order to meet natural beef production criteria.

Cowherd Management

Cost-effective management and maintenance of a cowherd incorporates a variety of strategies regarding nutrition, health, reproduction, etc. A few questions were selected to provide an indication of management intensity of cowherds. These questions dealt with cow identification, breeding season, pregnancy examinations, and prices paid for herd bulls.

Nothing is more important to cow-calf profitability than getting a live calf born. Proper reproduction management is an essential part of maintaining a cow-herd which produces a high percentage of marketable calves each year. Performing pregnancy examinations on owned mature cows as well as raised replacement heifers is part of recommended cowherd management. The two groups differed regarding checking the pregnancy of their cows and heifers.

Larger producers were more likely to pregnancy check owned mature cows than smaller producers. Of larger producers, 37.9% nearly always did a pregnancy exam compared with 20.6% for smaller producers. Among smaller producers, 58.8% rarely pregnancy checked cows, whereas 39.1% of larger producers rarely did. Larger producers may have better facilities, more available labor, and a stronger incentive to reduce costs of maintaining open cows because of their greater dependency on cattle for household income.
Producers in both groups are more likely to pregnancy check raised heifers. Over half of larger producers (60.7%) almost always perform pregnancy examinations on raised heifers compared with 30.4% for smaller producers. This result is likely related to culling strategies as producers may more often plan to cull first-calf heifers that are open than cows in the herd which have a breeding and calving history.

Another potential indicator of how the cowherd enterprise is managed is how much is being paid for herd bulls. A significant difference was anticipated, and found, between the two groups. However, one smaller producer reported a purchase price of $50,000. This observation was considered an outlier, as the next highest value was $5,000. A $50,000 purchase price for a bull for a commercial cowherd less than 100 head is a questionable economic decision and could only be made with household income heavily dependent on something other than the cow-calf enterprise.

The mean purchase price of smaller producers was $1,584.31, while the mean price for larger producers was $2,034.94. This resulted in a significant difference of $450.63 per bull. Results verify the assumption that producers with larger herds and a greater dependence on income generated from beef production will invest more on bulls than smaller producers less dependent on the cow-calf enterprise for household income. Of equal or more importance may be where herd bulls are purchased, from reputable seedstock producers or from local livestock markets.

How those bulls are used differs significantly in terms of the length of breeding season. Regulating the time bulls are left with cows can affect the uniformity of the calf crop and of calves marketed. Two-thirds of larger producers have established a limited time period bulls are left with cows and therefore have a set calving season (67.1%). For smaller producers, almost exactly half (49.8%) leave bulls with cows year round and half have a defined breeding season. Of producers who indicated a set breeding season, over half of both groups targeted a 60-90 day breeding season, both for fall and spring calving (fall calving – 63.0% for smaller producers and 46.5% for larger producers; spring calving – 50.3% and 60.0%, respectively).

Although the primary motive for a national animal identification and tracking system is animal disease containment and control, many economists would argue that best management practices require linking costs and returns to individual cows rather than simply with entire herds. This may become even more important as the industry moves toward process verified, quality assurance program to best meet demands of beef consumers. Thus, individual animal identification is essential and may become mandatory nationally. If or when a mandatory system is required, producers will encounter additional costs associated with the identification process. Producers who are currently identifying cows will have an advantage as the transition period should be easier and perhaps less costly.

Nearly 90% of each group of producers completing our survey are using at least one method of individual cow identification. Between the two groups, results differed. The majority of smaller producers (48.3%) use one method of identification, which could be visible ear tags, tattoos, electronic identification, freeze branding, or hot branding. Larger producers are more likely to use multiple methods of identification (62.8%)
Marketing

When marketing calves, sale lot size is important. Research shows consistently that buyers pay a premium for larger sale lots. Buyers can reduce transaction costs by purchasing larger lots of uniform calves than purchasing several smaller lots and pooling them into larger groups for stocker and feedlot operations.

The distribution of the two groups was significantly different for lot sizes marketed. Almost half of both groups (46% for smaller producers and 48.9% for larger producers) reported marketing in lots of 10 to 50 head. The drastic difference is with the remaining 50% of each group. Half of smaller producers (50.9%) reported marketing calves in lots 1-9 head in size, while nearly half (46.6%) of larger producers market the majority of their calf crop in lots of more than 50 head. A potential factor for smaller producers’ small lot sizes at marketing is the fact that the majority of smaller producers did not have a limited breeding season. A set breeding period is a key part of establishing a uniform calf crop, and therefore larger sale lots. Smaller producers might tend to use more local livestock markets, some of which still sell calves one head at a time. Larger producers may market more calves in regional markets, satellite auctions, and direct to buyers, all of which typically have larger sale lots.

Implications and Conclusions

In recent years, several states (among them, Alabama, Georgia, Kentucky, Louisiana, Oklahoma, and Tennessee) have initiated “master cattleman” or similarly named educational programs for producers to provide in-depth training in multidisciplinary areas. Typically, producers are required to complete 20 or more hours of coursework covering an array of topics.

In Oklahoma, producers receiving a copy of the Master Cattleman handbook (Oklahoma Beef Cattle Manual) completed a survey indicating their current management practices. Preliminary analyses of that survey data showed a clear difference in an array of management practices spanning several aspects of cow-calf production between two groups of producers in Oklahoma. Group one was smaller cowherd owners (less than 100 commercial cows) who are less dependent on cow-calf production (40% or less) as a source of household income. Group two consisted of larger cowherd owners (100 or more commercial cows) who are more dependent on cow-calf production (over 40%) as a source of household income from the cow-calf enterprise. Management areas examined included business management, forage and nutrition management, calf management, cowherd management, and marketing. Significant differences were found between the two groups for all but a few management practices of those examined here. One could generalize that larger producers with a greater dependence on beef for their household income have a greater degree of management intensity than do smaller producers who are less dependent on the cattle enterprise. Additional research is needed to determine whether more intensive management results in increased beef production and enhanced economic returns from the cow-calf enterprise.