

Breeding and Hay Season

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Hay season is around the corner for most cattle producers while breeding season has already begun or about to start for spring calving cattle herds. These two aspects of cattle production are major contributors to the overall profitability of most operations. Small changes in the number of calves weaned per cow and the number of feeding days for hay can greatly influence the bottom line of cattle operations. Thus, it may be beneficial to evaluate how changes to certain aspects of production can impact a cattle herd's profitability.

A good place to start the evaluation is by using the Microsoft Excel based version of the University of Tennessee cow-calf budget for 2016 which can be found using the following website <http://economics.ag.utk.edu/budgets.html>. The user of the file has the opportunity to make changes within the budget to reflect the individual operations circumstances. For this example, the assumptions are a 50 cow herd with a 90 percent calving rate and a 2 percent death loss for calves and cows. The cow culling rate is 16 percent per year and all heifers are retained from within the herd. Steers are marketed at 550 pounds at a price of \$175 per hundredweight while heifers weigh 520 pounds at time of marketing and bring \$156 per hundredweight. Hay is assumed to be fed 150 days at a rate of 30 pounds per day.

This evaluation will specifically analyze changes in calving rate and the number of days hay is fed and how those changes impact returns to variable expenses. In the base scenario, total variable expenses are \$688 per cow with an expected return to variable expenses of \$90 per cow. If the calving rate were to decline from 90 percent to 85 percent then total variable expenses per cow would decline \$2 per cow while the expected return to variable expenses would decline to \$48 per cow. Alternatively, if calving rate increased from 90 percent to 95 percent then total variable costs per cow would increase to \$691 per head while returns to variable expenses per cow would increase to \$132.

Getting cows bred and live calves on the ground are key aspects to cow-calf production. Simply changing the calving rate has large impacts on returns but does not greatly influence variable expenses per cow. However, management practices can be employed to reduce costs due to cows not being bred.

One of those management practices is pregnancy testing. Operations utilizing pregnancy detection (palpation, ultrasound, blood test) at the end of the breeding season are able to identify and market open cows prior to investing more resources into a nonproductive asset. Thus, producers could potentially forgo feeding open cows through the winter season if culling open cows at time of pregnancy evaluation. The identification and early marketing of one open cow in a herd of 50 cows would essentially reduce variable expenses by \$7 per cow while the producer may experience a cost of pregnancy testing between \$4 and \$5 per head. A \$2 dollar difference seems like a small number until several cows are found to be open. Thus, identifying three open cows would result in reducing variable expenses by \$21 per cow with the \$5 per head cost of pregnancy detection. This practice does not guarantee a calf as some cows may lose the fetus/calf between pregnancy detection and calving season.

Feed is the number one cost in cow-calf production and the biggest part of that cost is associated with winter feeding which is generally in the form of hay. The ability to reduce hay usage from 150 days a year to 120 days a year reduced total variable expenses by \$40 per cow while reducing hay usage to 90 days reduced per cow total variable costs to \$609 assuming no other changes were made to the operation. Better grazing management practices can be employed to reduce the number of days hay is needed for feeding, but most operations will likely have to invest in other practices such as stockpiling forage or planting winter annuals to reduce the dependence on hay. The ability to stockpile one acre of fescue pasture per cow at a cost of \$35 per acre could reduce the number of hay feeding days by 63 days which would result in total variable expenses declining \$44 per cow.

There are several management practices that producers employ or fail to employ that greatly influence both the revenue and cost associated with cow-calf production. There is no silver bullet that guarantees profitability, but every producer can consider small changes to the operation to improve the likelihood of a profitable operation. Most producers would benefit from a grazing management plan that reduces the need for harvested feedstuffs while even more producers would benefit from a defined breeding and calving season which aids pregnancy testing and cattle feeding management.