

revenue and making it more diversified. The cow owner must decide whether to feed the calves at home or in a feedyard. When examining this question the producer must first determine what resources (skills, labor, facilities, feedstuffs) he or she has and how they can best be utilized.

Feeding the calves at home adds value to farm resources such as the calf and access feedstuffs. It is also a way to sell resources that may otherwise be difficult to market, i.e., labor, forages, facilities, and equipment. While feeding the cattle at home may not produce as efficient gains as those of a commercial feedyard, net farm income may increase by marketing available resources through a retained ownership program.

Feeding cattle in a commercial feedyard allows the cow owner to hire specialists and state-of-the-art facilities and equipment. Many feedyards have consulting nutritionists, marketing and risk management specialists, and other professionals whose sole objective is profitable cattle feeding. For cow owners using information to improve their herd, some feedyards have scales under their working chute and can record individual weights when the cattle are worked and can work with the packer and the National Cattlemen's Association to gather individual carcass information. Feeding cattle in a feedyard may provide greater access to lower feed costs such as alternative feedstuffs or simply a wider corn basis.

By pooling calves from multiple farms, efficient sized pens of steers and heifers can be fed in a cost effective manner. Most Midwest cow herds are small and find it difficult to have a pen of heifers and a pen of steers. It is also difficult for smaller feeders to justify the type of equipment and facilities needed to efficiently feed cattle and to develop the expertise that a professional has when dealing with a limited number of cattle. Commercial feedyards can combine cattle from different owners in the same pen and can equally divide the feed bill according to the animal's size and average daily gain using the net energy system.

Some custom feedlots offer shared risk programs for the cow owner. Variations include (1) sharing ownership of the calf and the feeding cost, (2) the feedlot provides the feed and yardage and the cow owner supplies the calf and the revenues are split according to the percentage of inputs provided.

Many lots now offer financing for feed and may finance a percentage of the value of the calves to the owner at placement to ease cash flow problems.

Cash flow and tax implications

Cash flow requirements may be complicated for the first year that a producer retains ownership. In addition to not having the income from selling calves in the fall, the producer must buy feed increasing the cash outflow. If the producer typically sold calves and sold corn that he is now feeding, the cash flow can be a particular problem. Because the cattle are not sold and feed may be purchased, debts may remain unpaid for a few additional months. While the cattle are collateral for the loan, the producer's financial risk may increase. Lenders must be aware of the producer's plans and see the benefit of the retained ownership strategy. Financing packages offered by feedyards that free up part of the value of the calf and finance the feed can greatly ease cash flow binds.

Feeding calves one year and not the next will complicate income tax management. This is only a problem for a cow owner on cash accounting that switches from a retained ownership program to selling both calves and fed cattle where they fall in the same tax year. In a diversified farming operation in which cattle sales are only a part of total income, selling two calf crops in one year may not cause a problem because sale of grain may be shifted. However, if cattle sales are a major part of total revenue, tax considerations are significant. Pre- or post-paid feed bills may provide some relief for an uneven income stream. It is really only a problem if producers end a retained ownership program and sell their calves at weaning.

Additional advantages to retained ownership

In addition to the market access, resources utilization, and specialization advantages discussed above, retained ownership can capture additional efficiencies if properly planned. Because the cattle are under single ownership over their lifetime, management practices that favored either the buyer or seller but not both can be utilized. For example, creep feeding is known to reduce stress at weaning and help get calves started on feed sooner, but sellers are typically discounted for having fleshy calves that were not rewarded by the buyer. A cow owner can creep feed and reap the benefit of giving a quicker start to healthier calves in the feedlot. There is less stress on the calf because it is moved directly from the farm to the feedlot and bypasses the auction market. The calf has less stress and shrinks less that has to be made up in the feedlot. The cow owner can also benefit from a sound health program without the costly duplication of vaccination if he communicates with the feedyard on processing protocol.

Alternative retained ownership strategies

Alternative retained ownership strategies were compared for 19 calf crops, 1983 - 2001, that would be sold as fed cattle in 1984 - 2002 and the results are shown in the table. Iowa State University Extension Beef Cow Business Records for each year were used as estimates of the cost of producing a weaned calf and as the estimated weaning weight assuming a November 1 weaning date. The ISU Extension Feedlot Enterprise Records for each year were used as estimates of variation in feedlot feed efficiency and average daily gain. The enterprise records serve as a proxy for the weather related risk that affects feedlot performance and more accurately captures the production risk a producer would have faced during the time period. Selling prices for calves and fed cattle were the weekly average price reported in the USDA Livestock Meat and Wool. It assumed that two-thirds of the calves fed are steers and one-third are heifers. The remaining heifers are kept for breeding animals. A \$4.00/cwt price slide is assumed for cattle weighing other than the midpoint of the quoted price range. Other input

prices (corn, hay, supplement, and interest) were monthly average prices reported for the placement month (ISU Estimated Livestock Returns). Yardage and health cost were adjusted over the 17 years to reflect inflation. The cattle were assumed to be trucked 100 miles in and out and the cost per mile per cwt was held constant over the period.

Selling at weaning: Selling calves at weaning serves as the bench mark strategy. Calves are weaned and sold on November 1. This strategy produced a lower average and maximum return than did the feedlot strategies, but it had a higher minimum return and less variation in returns.

Background for 60 days: The calves were weaned November 1 and backgrounded for approximately 60 days. Average daily gain was targeted at 1.75 pounds but was adjusted each year to reflect the performance conditions experienced in feedlots. This strategy had the lowest average return, but less downside risk than the feedlot strategies.

Retain backgrounded cattle to slaughter: The backgrounded calves in the earlier strategy were put in the feedlot January 1 and fed until August 20. The cattle were assumed to grade 75 percent Choice, 25 percent Select, and were priced accordingly. Average returns were higher than the previous two strategies, less than another feeding strategy, and had the greatest downside risk.

Early wean calves into feedlot: Calves are weaned September 1, placed directly into the feedlot, and sold April 15 grading 60 percent Choice. This strategy was the most profitable one evaluated due to the improved feedlot performance and because the cattle were sold before seasonal price declines.

Place directly in feedlot at weaning: Calves were weaned November 1, placed directly in the feedlot, and were sold grading 70 percent Choice July 1. Returns averaged better than the backgrounding strategies or sell at weaning and were less risky than the combination strategy above.

Profit share arrangements: The three feedlot strategies outlined above were used to illustrate a profit sharing agreement between the cow owner and the feedyard. In this example the cow owner and the feedyard divide the revenue from selling the finished animal based on the percent of inputs provided by each party valued at placement time. These examples assume that the cow owner provides the calf, interest, trucking to the lot, and half of the vet bill. The feedyard provides the feed, interest, yardage, trucking to the packer, and half of the vet bill. For example, if the feedyard's share is 45 percent of the cost to finish the calf it will receive 45 percent of gross revenue at market time.

The average return to the cow owner was improved under all three strategies but downside risk increased compared to selling at weaning. The most profitable strategy when retaining full ownership, weaning early, produced a considerably lower return to the cow owner under the profit share agreement. In this strategy the feedyard adds more value to the calf than does the cow owner. The feedyard returns were relatively stable and, with the exception of the early wean strategy, were less than the cow owner return.

Summary

Cow herds selling at weaning earned positive returns on their 2000-2001 calf crops, but lost money on the six calf crops 1994-1999. The 1995 calf crop losses were the largest in the series. Cowherds that retained ownership into the feedlot suffered losses in only three years. The early wean strategy was most profitable among the strategies examined, and typically had smaller losses than other strategies in any given year. In some years, 1983-85 and 1995-97, cow herds lost money under all strategies. Unprofitable years trigger a liquidation of the breeding herd to reduce beef supplies. They are also inevitable and should be planned for.

Retained ownership alternatives examined added value to the cow owner's resources in most years. It paid market rates for the calf, feed, capital, labor, and facilities and produced a profit. Compared to selling at weaning, retaining ownership until slaughter increased average profits. In individual years the return was over three times higher. Selling calves at weaning did reduce losses in unprofitable years of the cattle cycle, 1983-85, 1995, and 1997. However, retained ownership was more profitable in the other years. These results suggest that no one strategy is most profitable every year. Successful cow owners will be those who can adjust their program to changes in market conditions to achieve the greatest returns to their resources.

