



Money Saving Ideas for Livestock Producers

David Fernandez
Extension Livestock
Specialist

As a farmer or rancher, you work hard for your money but may often have little to show for your efforts. While many of the reasons for poor profitability are not something you can control (prices for inputs, price received for livestock, price of fuel, weather extremes and more), there are many others you can control. Just like the crow in Aesop's fable that could not reach the water in the bottom of the urn, just by taking one small step at a time, you can get what you want, too – increased profitability. Many of the causes of poor profitability only require small changes on your part but can result in big returns over time.

Reproductive Failure

The single biggest source of losses on livestock operations is reproductive failure. A cow, doe or ewe that fails to produce and raise a live calf, kid or lamb incurs all of the costs of production for the year without generating an income. For this reason, females that are not pregnant at the end of the breeding season should be culled.

Perhaps the most important reason animals fail to reproduce is poor nutrition. Females should be provided enough feed to maintain

moderate or good body condition up until the time they give birth. Moderate to good body condition can be determined by body condition scoring. Your cows can be judged visually. They should be in body condition score (BCS) 5 (on a scale of 1 to 9, with 1 = emaciated and 9 = obese) when they calve. (See University of Arkansas Extension publication *MP373, Feeding Beef Cows Based on Body Condition Scores*.) Does and ewes should be in BCS 3 (on a 1 to 5 scale, with 1 = emaciated and 5 = obese). You must actually feel along the spinal bones to determine fat cover. You should be able to feel the spinal bones, but only with firm pressure, and the top of the spine should be rounded but smooth.

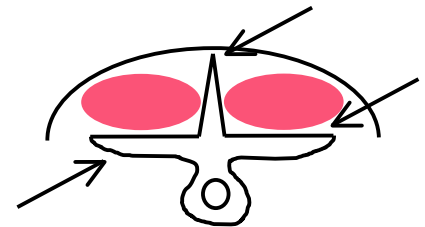


Figure 1. Spinous processes for determining goat and sheep body condition score.

You can expect your animals to lose some body condition during early to mid-lactation, but they should begin to regain that condition as they enter late lactation.

Another major contributor to poor reproduction is an infertile male. Bulls, bucks and rams should receive a breeding soundness exam from a veterinarian each year about 60 days before the breeding season begins. The veterinarian will check for lesions or other damage to the penis. In some cases, a lesion can prevent the male from extending his penis so he will not be able to breed. The veterinarian will also collect a semen sample and examine it under a microscope for sperm that can move, pus or other foreign material. Bulls, bucks and rams that fail a breeding soundness exam should be culled and not sold to another producer for use as a sire.

If you are using artificial insemination (AI), poor reproductive performance can usually be attributed to either poor estrus detection (determining which female is in “heat,” or estrus), or AI technician error. Be sure you know when your females are in estrus, or use one of the proven estrus synchronization methods that work well for timed insemination (<http://beefrepro.unl.edu/>). Tired technicians may deposit semen in the cervix or anterior vagina rather than in the uterus. The result is that most of the sperm fail to enter the uterus and pregnancy rates drop.

Feed Inefficiency and Waste

Feed costs can make up as much as 70 percent of your cost of raising livestock from birth to weaning. Feed inefficiency and waste can be significant contributors to your expenses. Most of your feed costs will occur when you are feeding hay or supplements to your animals during periods when your pastures are not available such as during winter, drought or floods. Producers often do not know the nutrient quality of the hay they feed, so they end up overfeeding or underfeeding their livestock. You can avoid this problem by having your hay tested. Hay samplers can be obtained through your local Extension office, and hay testing is provided for a



Figure 2. Hay coring samplers.

small fee. For more information about how to test your hay, see the University of Arkansas Cooperative Extension Service fact sheet *FSA3114, Test Hays for Nutrient Composition Before Feeding*.

Once you have the results from your hay test back, you can adjust the level of supplementation you need to provide. If your hay is of high quality, you may not need to supplement at all, depending upon the requirements of your animals – a considerable savings. By matching the quality of your feed to the requirements of your animals, you can avoid the cost of overfeeding and the loss of productivity caused by underfeeding. Your local Extension agent can help you match feed to requirements.

In addition to losses caused by feed inefficiency, feed losses due to waste are easy to control. Use hay feeders that are designed to minimize waste. Hay feeders that allow animals to pull feed out onto the ground, which they then use as bedding, are not economical. Goats are notorious for climbing onto hay in feeders where they defecate and urinate, wasting feed.



Figure 3. Hay pulled out of hay feeders and used as bedding is an easily corrected problem. Notice the difference between the hay loss from the feeder on the right compared to that of the feeder on the left.

Improper storage of feed also causes waste. Hay stored uncovered and on the ground loses nutrients through bleaching by the sun, leaching by rain and rot when the hay on the bottom of the bale gets wet. Round bales stored uncovered on the ground can lose an average of 33 percent of their dry matter. That's roughly 330 pounds out of a 1,000-pound round bale, enough to feed a 1,000-pound cow for nearly two weeks.

Animal Health

Oddly, preventative health care is one of the most overlooked management tools on livestock farms and ranches. Most people would not avoid vaccinating their children, but livestock are frequently forgotten. Goat and sheep producers can expect to spend roughly \$10.75 per doe (assuming two kids per doe) on vaccines and deworming. Beef producers can expect to pay \$15 to \$35 per cow for vaccines and deworming. If just one goat or sheep dies from a preventable disease, you have lost \$50 to \$500, and if a cow dies, that figure jumps to \$750 to \$1,000 (1,000-pound open brood cow). That money would have covered the cost of quite a few vaccinations. Production efficiency losses can exceed the cost of vaccinations as well. Animals that are sick do not grow as efficiently, produce as much milk or breed readily.

Inefficient/Poor-Performing Animals

On every farm or ranch, there are always a small group of animals that simply do not perform as well as the other members of the herd. Culling those animals will increase your efficiency and profitability over the long term. To do this, you need to keep good, accurate records. Is there an animal you are always treating for disease? Is there one who routinely fails to breed back easily? Are her calves, kids, lambs or piglets consistently below average in size when you wean them or sell them? Do you have a sow that produces small litters, or ewes or does that fail to twin? These are all candidates for culling.

Match the genetics of your animals to your environment. Cattle with at least some Brahman influence tend to do better in hot climates, but they are less well suited to colder climates. Goats are not well suited to wet pastures. Sheep prefer grass to shrubs, while goats prefer shrubs to grass. By selecting the right species and breeds within the species, your animals will be easier to raise and more productive.

Fuel Waste and Loss

Fuel waste is one of those small but steady losses that can add up over time to quite a bit of money. For example, the average distance from the farm to town in the United States is about 8.5 miles, and the average fuel economy of a pick-up truck is 19 miles per gallon. That means the average trip to town and back will consume just under .9 gallon of fuel. The average car in the U.S. gets 25.4 miles per gallon, which could save just over .2 gallon per trip compared to a pick-up. While that may not seem like much, for every trip to town and back, you could be saving between 60 cents (gasoline at \$3 per gallon) and 80 cents (diesel at \$4 per gallon) depending upon fuel type and price. Every trip you don't make to town saves between \$2 in the car and \$3.58 in the truck. Instead of making a trip to town, can you use the phone to accomplish your task? Plan your trips to town so that you can take care of multiple tasks instead of making individual trips for each one. Ask yourself, do you really need to drive the big truck into town, or can you use the car? If you made three trips each week to town in the truck last year, and cut that down to just two trips each week and made them in the car, you would save 69.96 gallons of fuel and \$349.46 (assuming a diesel truck and gasoline-powered car).

If you drive the truck, drive it empty. All the extra weight in the bed of the truck of all the stuff you "might need" reduces your fuel economy. Remember to keep up with your vehicle maintenance on your car, truck and tractor to reduce your fuel consumption and increase your power. Make sure your tires are properly inflated. Slow leaks are common on farm vehicle tires because of the rough ground over which they are driven. Finally, turn your vehicle off instead of allowing it to run. Idling can account for 15 to 20 percent of your fuel use. Modern diesel engines have computer chips in them that determine engine temperature and adjust fuel injection at start-up to reduce fuel use, so it is no longer more efficient to allow them to idle.

Use the smallest tractor you can to accomplish your job. Bigger tractors consume more fuel than smaller ones. Make sure your ballast is properly adjusted. Too much ballast uses additional fuel. Too little ballast allows the tires to slip, increasing fuel consumption. Gear up and throttle down. Running at three-fourths throttle instead of full throttle can save you 5 to 15 percent of your fuel.

Finally, if you have a fuel tank on the farm, something as simple as painting it white or putting a shade over it can create a large savings. A dark-colored 300-gallon fuel tank can vent as much as 120 gallons of fuel each year. If diesel costs \$4 per gallon, that's \$480 being vented into the air each year.

Reduce Excess Energy Consumption

Your home and shop can be sources of small but consistent and troublesome losses on your farm. Most electric companies and cooperatives offer home energy audits. By adding insulation, sealing leaks, using double- or triple-pane windows, using a programmable thermostat, updating your refrigerator, insulating your water heater and planting shade trees, you can reduce your home energy use by an average of 20 percent. Average home energy costs in Arkansas are \$1,483 per year. You could save \$296.60 per year just by taking a few simple steps.

When you work in your farm shop, take a moment to review your energy use. Do you turn the lights off when you aren't using them? Are the light fixtures dirty? Cleaning them can reduce your needs for additional lighting. Can you use local, or "spot," lighting in a work area instead of lighting up the whole shop? Could skylights provide enough lighting for most of your needs? Are you using energy-efficient bulbs? Do the timers and sensors on your yard lights work properly, or are the lights on during the day? Using more efficient bulbs, natural light and using the lights only when you need them can significantly reduce your electric bill.

Summary

There are many small but significant causes of financial losses on the farm – reproductive failure, improper nutrition, feed losses and waste, poor animal health regimes, misalignment of genetics to the farm environment, fuel waste and loss and energy inefficiency. No single one of them is likely to

put you out of business, but together they can make an otherwise well-run farm unprofitable. By taking one small step at a time like testing your hay, testing your breeding males, using appropriate feeders and feed storage, vaccinating and deworming properly, choosing better herd sires to improve your genetic base and being more efficient in your vehicle and home energy use, you can save hundreds, if not thousands, of dollars every year.

References

- Engle, C. Body condition scoring of sheep. PENpages 2890176. DAS 94-09. Pennsylvania State University Cooperative Extension Service.
- EPA Office of Transportation and Air Quality. 2010. Light-duty automotive technology, carbon dioxide emissions and fuel economy trends: 1975 through 2010. EPA-420-R-10-023.
- Gadberry, S. Feeding beef cows based on body condition scores. MP373. University of Arkansas Cooperative Extension Service.
- Gadberry, S., T. Davis, M. Keaton, S. Milliken and S. Squires. Test hays for nutrient composition before feeding. FSA3114. University of Arkansas Cooperative Extension Service.
- Rayburn, E. B. Round bale storage costs. West Virginia University Extension Service. <http://www.caf.wvu.edu/~forage/roundbale.htm>. Accessed January 10, 2012.
- Shoenian, S. 2009. Economics of raising sheep and goats. Small ruminant info sheet. University of Maryland Cooperative Extension Service.
- Short, R. E., R. A. Bellows, R. B. Staigmiller, J. G. Berardinelli and E. E. Custer. 1990. Physiological mechanisms controlling anestrus and infertility in postpartum beef cattle. *J Anim Sci* 68:799-816.
- Taylor, G. W., P. Eng. 2003. Review of the incidence, energy use and costs of passenger vehicle idling. Office of Energy Efficiency, Natural Resources Canada.
- USDA National Agricultural Statistics Service. 2004. Agricultural Resource Management Survey, Phase III.

Accredited by North Central Association of Colleges and Schools Commission Institutions of Higher Education, 30 N. LaSalle, Suite 2400, Chicago, Illinois 60602-2504, 1-800-621-7440/FAX: 312-263-7462.

Printed by University of Arkansas Cooperative Extension Service Printing Services.

DR. DAVID FERNANDEZ is Extension livestock specialist with the 1890 Cooperative Extension Program and is located at the University of Arkansas at Pine Bluff.

Issued in furtherance of Extension work, Act of September 29, 1977, in cooperation with the U.S. Department of Agriculture, Dr. James O. Garner Jr., Dean/Director, 1890 Research and Extension Programs, Cooperative Extension Program, University of Arkansas at Pine Bluff. The University of Arkansas at Pine Bluff School of Agriculture, Fisheries and Human Sciences offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.