Wasted feed means wasted dollars

Feed shrink and lack of inventory control are a big cause of lost income. We lose because the feed already is paid for and because the cows aren’t fed as well.

Consider shrink when choosing ingredients, particularly protein, energy, and mineral sources. The higher the cost per pound, the more control the ingredients have with small particle size and light bulk density are more susceptible to wind losses. Soy hulls and malt sprouts might be examples. And real wet ingredients, such as wet brewers’ grains, may have higher tendency to due to feed deterioration and runoff.

Obviously, placing ingredients in outdoor piles offers the greatest potential for shrink, especially if left uncovered. Losses in excess of 20 percent would not be surprising under these conditions.

What about using an upright bin for a protein blend versus uncovered flat storage? Two factors enter the decision. First, there’s the value of any feed savings through reduced shrink with the upright bin. Second, there’s the opportunity cost of having cutting costs due to less variation in mixing errors with auger loading versus a bucket. This opportunity cost is tough to measure and evaluate, but it must be considered.

Pay for bin easily . . .

Let’s say a 500-cow dairy feeds 4 pounds of protein blend per cow daily, at an average cost of $270 per ton. The annual cost of the protein would be $388,500. Suppose you cut shrink of the protein blend by 3 percent by switching from uncovered, flat storage to an upright bin. Recouped protein blend value, otherwise lost to shrink, would be $2,956 per year. In this case, buying an upright bin might make good sense.

Open-fronted commodity sheds can be managed to keep shrink below 5 percent. But you need proper overhead and ample concrete apron in front of storage bays to minimize weather exposure and to facilitate loading and handling. Commodity sheds tend to work best for higher inclusion ingredients such as whole cottonseed, baled hay, or others fed at 2 to 3 pounds or more per head daily. Blends containing higher levels of liquid fat also are stored on flat storage for ease of handling.

Shrink in upright bins typically can be limited to 1 to 2 percent. And weighing and mixing tend to be more accurate. This may account for even greater savings over and above actual feed shrink caused by wind loss, tire tracking, birds, and so on.

Bins often are available through “lease-to-buy” and bin placement programs offered by feed companies and others as an incentive to purchase preblended ingredients and other feed products. But upright bins do have slower feedout rates, possible feed bridging, ingredient limitations such as high fat levels, and down time due to motor failures or lightning strikes.

Having both bins and flat storage often is best. Put higher inclusion rate ingredients in flat storage while storing higher cost ingredients in upright bins. Creating a feed center, with multiple types of storage and where ingredients are all stored within short distances and easy access of the forages, can improve feeding efficiency and mixing accuracy significantly.

Two things happen to create forage shrink. You lose it as it moves through different handling and storage processes. And there is microbial deterioration and fermentation dry matter losses. It’s especially easy to underestimate microbial deterioration losses of feed. There may be dry matter losses of 5 to 20 percent before you ever see visual evidence of mold.

Actual forage handling losses and shrink depend on harvest and storage methods. Drs. Brian Holmes and Richard Muck in Wisconsin indicate that total forage dry matter losses can range from about 10 to 50 percent, including the losses associated with friability, fermentation gasses, surface spoilage, and feedout.

Variation in density . . .

That Wisconsin team clearly showed there was a large variation in bunker silo compaction density for both hay crop and corn silages that contributed to forage shrink. (See the table.) Our goals should be dry densities of at least 15 pounds per cubic foot for both hay silage and corn silage.

Other ways to control feed shrink include:

• Avoid feeding in an elevated “H-bunk” that encourages feed throwing.
• Periodically check load cells for accuracy.
• Utilize batch mixing charts with conversions to account for moisture variations.
• Establish mixing protocol and sequencing based on specific ingredients.
• Control rodents and wild animals in and around silo bales and other storage.
• Have all deliveries of purchased feeds weighed.
• Closely manage forage feedout to maximize aerobic stability of the TMR in the bunk. This will minimize refusals due to heating or secondary fermentation.

Record receiving dates and tonnage on all incoming ingredients.

Give the responsibility of inventory control and minimizing shrink to a specific person. Usually, it’s the feeder. Have it be part of the job description. Provide ongoing training for that person.

Develop an organized, yet simple, monitoring program that will be embraced by the feeder, nutritionist, veterinarian, ag lender or accountant, and owners and managers. Recognize the significant costs associated with shrink. In most cases, investment and changes in storage facilities and bins along with feed inventory software often are good investments with relatively quick returns.

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FOCUS ON FEEDING . . .

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