

Reducing Feed Shrink Can Increase Your Profitability



By Teresa Marker, B.S.

Feed costs, both farm raised and purchased, are usually the largest expenses on a dairy farm. In today's economy, finding areas of opportunity for extra profit has become more critical than ever before. Evaluating a

farm's feed waste/loss, commonly referred to as shrink, is an area that should be scrutinized. Shrink can have a significant impact on feed quality, quantity and profit. Silage shrink can range from 7-48% depending on a variety of factors, with 10-20% being typical. Reducing shrink on your farm will not only improve the inventory volume of feed but it will also help retain nutrients resulting in better nutrition and higher milk production and profit. Some basic steps to help reduce shrink on your farm are:

1. Properly maintain equipment and harvest at the correct dry matter percentage.
2. Use correct storage and packing techniques.
3. Maintain feed quality at feedout.

Properly Maintain Equipment And Harvest At The Correct Dry Matter Percentage

The first challenge of the harvest season is getting the feed off the field. There is a feed loss potential of 1-12% dry matter during the harvest. Hidden losses during this stage include feed that is left on the field due to inclement weather preventing proper timing of the harvest or feed left on the field due to failure of the harvest equipment itself. Examples of equipment or operator error could be: silage not getting picked up or the chopper not depositing the feed properly into the trucks or wagons.

If the weather conditions are cooperating and all machinery is working properly, the second step in preventing dry matter loss is to harvest at the right dry matter percentage. Forage that is too wet or too dry will not ferment properly and the quality and quantity of the feed will be reduced. The correct harvest dry matter percentage will ultimately depend on the storage structure the feed will be placed in. It is critical to make sure to perform routine moisture tests on the feed so that the feedstuff is harvested at the correct time.

Use The Correct Storage And Packing Techniques

It is important to properly pack and store the feed. Fermentation of silage results in a potential of 5-18% loss in dry matter and up to another 8% can be lost with effluent. The effluent is the liquid that is produced when ensiled crops have a high moisture content. The liquid starts to leak out of the silo shortly after the start of the fermentation process of the plant material. Use of the Crystal Creek® inoculant Inoc-U-Lock™ can help reduce dry matter loss during fermentation. The Inoc-U-Lock™ line of products uses a controlled fermentation approach to get feed to ferment faster so less dry matter, protein and quality is lost in the feed. Inoc-U-Lock™ is sold in either dry granules or a water-soluble powder. When a feedstuff goes through the fermentation process, it can naturally lose 5-18% of the dry matter that was harvested.

Figure 1 illustrates the percentage of dry matter that can be lost in storage. Using Inoc-U-Lock™ on your feedstuffs can reduce dry matter loss by 4%. This 4% dry matter savings is like having an extra 4 acres worth of feedstuff for every 100 acres of feed harvested. A good return on investment is achieved due to the additional dry matter available to feed. This return is based on dry matter savings alone and does not take into account the increased forage quality,

which can often lead to improvements in animal production and performance.

Figure 2 shows the return-on-investment for reducing dry matter loss by 4%. Typically forages and high moisture grains left to uncontrolled/wild fermentation could experience a dry matter loss ranging from 12 to 30%. Calculating a 4% reduction in dry matter loss when using Crystal Creek® Inoc-U-Lock™ products is a conservative estimate and supported by independent research.

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Figure 1 % DM LOSS FROM STORAGE

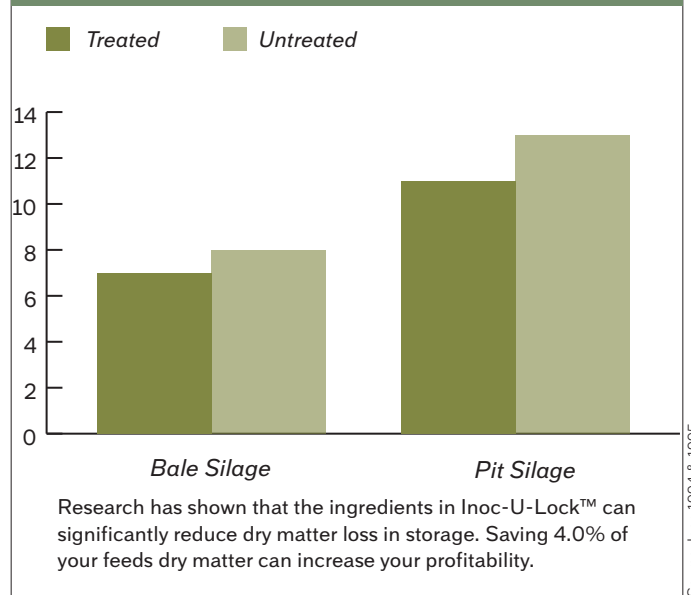


Figure 2 RETURN-ON-INVESTMENT WITH 4% REDUCED DRY MATTER LOSS

Ingredient	Tons Harvested/Year	CONVENTIONAL		ORGANIC	
		Value/Ton	Total Value	Value/Ton	Total Value
Corn Silage	274	\$35.00/ton	\$ 9,590.00	\$55.00/ton	\$15,070.00
Haylage	456	\$70.00/ton	\$31,920.00	\$110.00/ton	\$50,160.00
HMSC	183 or 156 for dry shell corn* 35.7 lb./bushel	\$3.50/bushel*	\$19,500.00	\$14.00/bushel	\$78,000.00
*HSMC tonnage adjusted to dry shell corn equivalent valued at \$3.50/bushel		Total Feedstuff Value	\$61,010.00	Total Feedstuff Value	\$143,230.00
		Less 4% Shrink	x 0.04	Less 4% Shrink	x 0.04
		Lost Value	\$2,440.40	Lost Value	\$5,729.20

Conventional Value:
 \$2,440.40
 - \$1,188.85
\$1,251.55

Value of Lost Feedstuff
 Cost to treat with Crystal Creek® Inoc-U-Lock™
Savings/year when using Crystal Creek® Inoc-U-Lock™
R.O.I. = 2.05 : 1

Organic Value:
 \$5,729.20
 - \$1,188.85
\$4,540.35

Value of Lost Feedstuff
 Cost to treat with Crystal Creek® Inoc-U-Lock™
Savings/year when using Crystal Creek® Inoc-U-Lock™
R.O.I. = 4.82 : 1

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The next potential factor attributing to dry matter loss is where and how the feedstuff is stored (the storage structure) and the packing density. A high percentage of feed can be lost if the storage structure is not air tight or if the feed is not packed well.

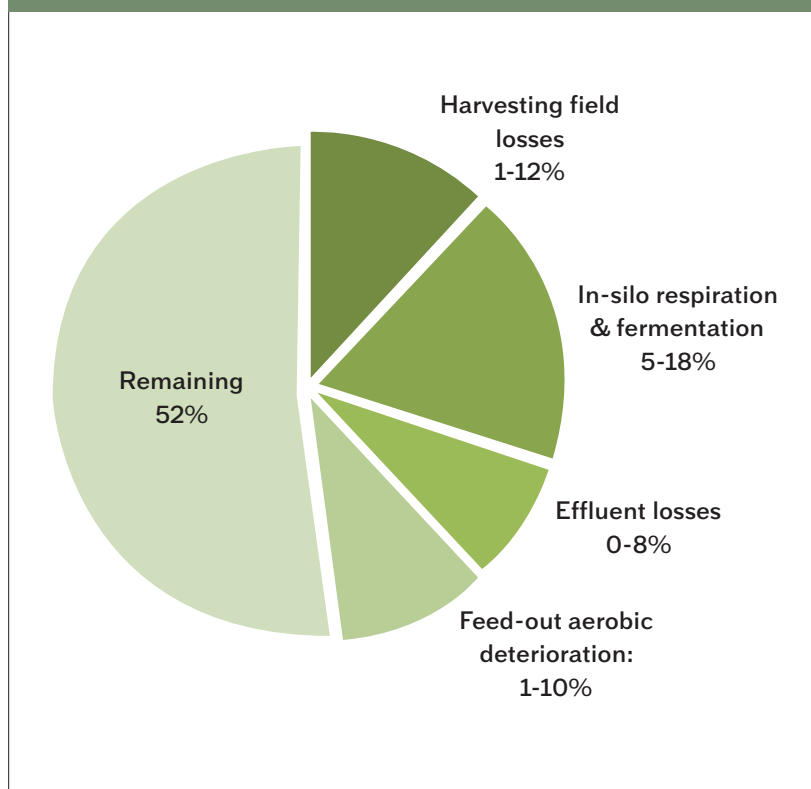
Maintain Feed Quality At Feedout

Dry matter loss at feedout can account for a 1-10% loss. Reducing dry matter loss at this stage can be as simple as using a facer on your silage bunkers or piles. Facers help reduce dry matter loss by evenly removing silage from the pile so that the face of the pile is left smooth without any jagged edges. Any feed that is exposed to air will be prone to waste. It is important to evaluate the TMR mixer function and process. Overfilled mixers spill forage over the top. It is not uncommon to see a forage trail to the barn if the mixer is overfilled. Have the TMR mixer evaluated on a regular basis to make sure that the scales are accurate and that moisture of feed is consistent with the ration provided by a nutritionist. Any variance in the scales or moisture can have a significant impact on the ration being fed.

Bunk management is one of the last steps in maintaining feed quality, but it is definitely not the least. The feed has made it from the field, through storage, mixing and finally to the cow. The cow would love to eat every bit of that feed so that she can produce high quality milk. Continually pushing up feed will help keep cows eating. If there is plenty of extra feed left at this stage, make sure to work with your nutritionist to get a balanced ration to ensure there is minimal weighback and the least possible wasted feed. A 2-3% weighback will assure cows have adequate feed with minimum waste.

Figure 3

POTENTIAL DRY MATTER LOSSES IN SILAGE PRODUCTION



Source: Institute of Grassland and Environmental Research, Aberystwyth, Ceredigion

The chart in Figure 3 shows the different potential dry matter losses in silage production. Losses can add up to almost 48% dry matter loss if they are not managed properly. This dry matter loss can have a significant impact on feed inventory and profit. For example: If haylage on your farm is valued at \$125/ton dry matter (approximately \$50/ton as fed), with a 48% shrink, true cost of that forage is actually \$240/ton dry matter (\$96/ton as fed).

A Crystal Creek® livestock nutritionist can be helpful in analyzing potential profit loss in your ensiling program. Most farms can strongly improve their profit margin by improving silage harvesting, storage and feedout. With good management, less silage shrink can be attained. It is critical to start evaluating silage shrink on your farm.