

PREVENT INJURIES OR WORSE FROM SILAGE AVALANCHES

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SILAGE AVALANCHES ARE REAL AND
THERE IS NO WAY TO PREDICT WHEN
AND WHERE THEY WILL OCCUR.

It only takes a fraction of a second for part of a silage feedout face to silently break off and fall. The result can be deadly for anyone located beneath it.

Recently there have been several avalanche fatalities in the United States. The victims include an 11-year old boy, a

30-year old truck driver, and a 63-year old employee.

In another case, the 53-year old owner-operator of a Nebraska feedlot died after he was buried by a large silage pile that fell in an open silage pit.

We have been working for the past 11 years with beef and dairy producers to help them implement safe, efficient, and profitable silage programmes. In that time we have heard many stories of fatalities, serious injuries and near misses involving silage avalanches in the United States and other countries.

One of the most common reasons for bunker and pile accidents is the size of the stack and the packing density. Many are just too big to ever be safe for the crew filling the bunker or making the pile and for those who feed it out.

**FOR SAFETY, SILAGE STACKS SHOULD
NOT BE BUILT HIGHER THAN 12-14FT
(3.5M) HIGH.**



↑ **KEITH AND RUTHIE BOLSEN**

Higher crop yields and/or growing herd sizes require more harvested acres, and this creates the need to store more silage. Unless the farm or feedlot adds new bunkers, the footprint for drive-over piles is enlarged or packing density is increased significantly. In this case, there is nowhere for additional silage to go but up, and as it climbs higher, so does the risk of an avalanche tragedy.

It is not uncommon for feedlots and large dairies to have bunkers and piles with silage faces that are six to eight metres tall or taller. Common sense tells us that a seven metre tall silage face is far more dangerous than one that is only three to four metres tall.

We cannot stop all avalanches from happening, and they are impossible to predict ... but we can prevent people from being under them.

Every farm, feedlot, and dairy should have safety policies and procedures for their silage program, and they should schedule regular meetings with all their employees to discuss safety.



TABLE 1. IMPACT OF IMPROVING QUALITY AND REDUCING LOSSES ON ADDITIONAL MILK VALUE

Loss range	Quality range MJ ME/kg DM	
	9.5	10.5
25%	\$0	\$10,688
0%	\$33,844	\$48,094

are reduced from 25 percent to 15 percent, income from milk is increased by over \$13,500.

However, increasing ME and reducing losses will result in a gain of over \$25,000. How much extra cost and effort is needed to achieve this? Possibly a new tedder paid for in the first year of savings?

Come spring, many farmers do not set aside paddocks for silage until it is too late. When they do 'close' paddocks for

silage, the cows may have been leaving higher residuals (six to eight centimetres) for many days to a week or so. This means the clumps will have been expanding in size and a greater proportion of the pastures will be lower in quality next rotation.

Often farmers will then 'shut' the next few ungrazed paddocks for silage and cut them a few weeks later. Many farmers also close the last few paddocks that were recently grazed. This is a better option but don't

forget these usually now contain larger clumps unless topped after grazing.

In both cases, imagine the cows being forced to eat the feed from these two scenarios when the paddocks are due to be cut. By the time cutting occurs, the nutritive value of the silage will be substantially lower than 'ready-to-graze' pasture. Yes, yield will be well up but so will be the cost per unit weight of silage ensiled. The nutritive value and regrowth will be much less, and this means less profit.

Aim for high quality. If it rains before the forage is harvested, you may still get your bulk by cutting other paddocks later. By then they will contain more mature pastures, and at least some of the farm will have been kept in good dense growing state that can potentially still convert to milk-producing silage. **AC**



DANGEROUS PRACTICES SUCH AS PITCHING SPOILED SILAGE FROM THE TOP OF A STACK INCREASE THE DANGER OF A SERIOUS INJURY OR FATALITY FROM A COLLAPSED SILAGE STACK.



Here are guidelines that can decrease the chance of having a serious accident caused by a silage avalanche.

- Bunker silos and drive-over piles should never be filled higher than the unloading equipment can safely reach. Typically, a large unloader can reach a height of 3.0-3.5m (12 to 14 feet).
- Use caution when removing plastic or oxygen-barrier film, tires, tire sidewalls or gravel bags near the edge of the feed-out face.
- Do not “pitch” spoiled silage. It is simply too dangerous to remove surface spoilage from the top of many bunkers and piles.
- Use proper unloading technique, which includes shaving silage down the feed-out face.
- Never dig the bucket into the bottom of the silage. Undercutting creates an over-

hang of silage that can loosen and tumble to the floor. This is a situation that is quite common when the unloader bucket cannot reach the top of an over-filled bunker or pile.

- Never drive the unloader parallel to and in close proximity of the feedout face.
- When sampling silage, take samples from a front-end loader bucket after it is moved to a safe distance from the feed-out face.
- Never ride in a front-end loader bucket.
- Never park vehicles or equipment near the feedout face.
- Never allow people to approach the feedout face. No exceptions! A rule-of-thumb is never stand closer to the silage

face than three times its height.

- Avoid being complacent! Always pay attention to your surroundings and never think that an avalanche cannot happen!
- Follow the “buddy rule” and never work in or near a bunker or pile alone. No exceptions!
- A warning sign, ‘Danger! Silage Face Might Collapse’, should be posted around the perimeter of bunker silos and drive-over piles.
- If a bunker silo or drive-over pile is in a remote area on the farm, then the perimeter should be fenced and a sign posted, ‘Danger: Do Not Enter. Authorized Personnel Only’.

The number one priority is to send all employees home safe. If a silage program is not safe, then nothing else about it really matters at the end of the day.

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IT'S NOT SAFE TO DRIVE THE UNLOADER PARALLEL TO AND IN CLOSE PROXIMITY OF THE FEEDOUT FACE.



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