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and production advice.

But he's also seen too many accidents waiting to happen, so is speaking out against the too-frequent practice of building silage piles and filling bunkers too high to be safe. Bolsen has story after story and hundreds of photos that illustrate the hazards of unsafe silage handling techniques.

One such incident was at a family dairy, where one brother was unloading chopped alfalfa on an already overfilled and unwieldy bunker silo (photo 1, above). "Before he drove off



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the pile, he yelled down to one of his brothers, 'Don't let the other truck drivers do this,' " Bolsen says. The truck was close to sliding off the top of the pile.

At another dairy's massive bunker of corn silage (photo 2, opposite page), truck drivers were preparing to load silage when Bolsen arrived to critique the dairy's silage management. Once his truck was loaded, the first driver left to unload at the dairy.

"Then the second truck driver loaded his truck. When he left for the dairy, we left, too. But what if we hadn't been there? What if there was an avalanche that injured him or pinned him in the cab and he couldn't reach his cell phone? What if he doesn't show up at the dairy and

Handle Silage Safely

Photos show mistakes that put workers at risk

by Fae Holin

In his travels across the U.S., Keith Bolsen has seen a lot of silage. This consultant and retired Kansas State University forage management specialist helps dairymen make the most of their fermented feed, offering management

PHOTOS: KEITH BOLSEN



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doesn't show up for dinner with his family?"

A silage pile or bunker filled so high that it threatens to collapse at feedout shouldn't exist, Bolsen maintains. The apex of any pile or bunker should never be higher than the reach of the equipment used to remove silage at feedout. And, as a protective measure, no employee should ever work alone at a silage storage site.

Many times, Bolsen has come across employees or consultants discussing problems or taking core samples just inches from the face of a partially fed-out pile or bunker that towers over them. "A few seconds after I took this picture (photo 3, at left), I ran up and said, 'Guys, I've got to ask you to get back.'"

Pulling samples is a dangerous job on overfilled storage units. University experts, nutritionists and farm employees are often put in such situations.

One day Bolsen happened upon two feed industry employees taking core samples from a loader bucket that reached halfway up a tall silage feedout face (photo 4, opposite page). Bolsen showed the photo to his wife, Ruthie, who is managing director of his consulting business.

"She came unglued and called one of the individuals on the phone and said, 'You have to promise me you won't do that again.' A few months later, this young man was responsible for his company sending out an all-points bulletin saying: 'We will no lon-

ger do any sampling for density.' So that photo helped change company policy."

Sometimes, sloppy feedout management can make a bad situation even worse, Bolsen believes.

At a Midwestern dairy's silage pile, workers hadn't pulled enough of the plastic and tire sidewalls back at feedout (photo 5, below). "Instead of peeling them back more, they were continuing to feed corn silage that day, and an individual was picking the sidewalls out of the silage for his buddy who was in his payloader. I was there with a nutritionist, and when I saw what was happening, I said, 'We have a responsibility here.' So we asked that young man to please step away," he recalls.

"Overfilled pits, bunkers and piles are a problem; they're unsafe," the silage consultant says. Part of the

problem is that the size and speed of forage harvesters have increased, packing tractors can't keep up and the silage density stays the same or even decreases.

"If we would properly size bunker silos and drive-over piles, and, at the same time, increase silage density, we'd get more acres and tons in a given volume. If we increase the density from 12 or 13 lbs of dry matter per cubic foot to 16 or 17, then we can drop the apex by as much as 3-5'. So that denser silage is going to add to safety because we dropped the height. And it makes feedout more efficient.

"The message is that safer bunkers and piles are more efficient," he emphasizes. Rather than one large pile holding an entire harvest's worth of several corn hybrids, smaller piles can each hold one hybrid. That reduces feed quality variability and improves silage inventory control, Bolsen suggests.

Or, instead of one large pile of corn silage, consider three smaller piles made from the first third, second third and last third of harvest. The nutritionist will have a better idea of the nutritional profile of the silage in each pile, and those piles won't be at dangerous heights.

One dairy Bolsen worked with had a serious shrink-loss problem. "We got the dairy to go from a 40,000-ton massive pile to four 10,000-ton drive-over piles. Its shrink went from about 23% to 14% in spite of the fact that the surface area more than doubled. We got the dairy's silage team to increase density, pay attention to proper sealing – and their piles were safer." ♦



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