

# Three Safety Issues for Large-scale Bunker Silos and Drive-over Piles in North America

Ruth E. Bolsen<sup>1</sup> and Keith K. Bolsen<sup>2</sup>

<sup>1</sup>Managing Director, Keith Bolsen & Associates, Austin, Texas, USA <sup>2</sup>Professor Emeritus, Kansas State University, Manhattan, Kansas, USA



#### 1. TAKE HOME MESSAGE

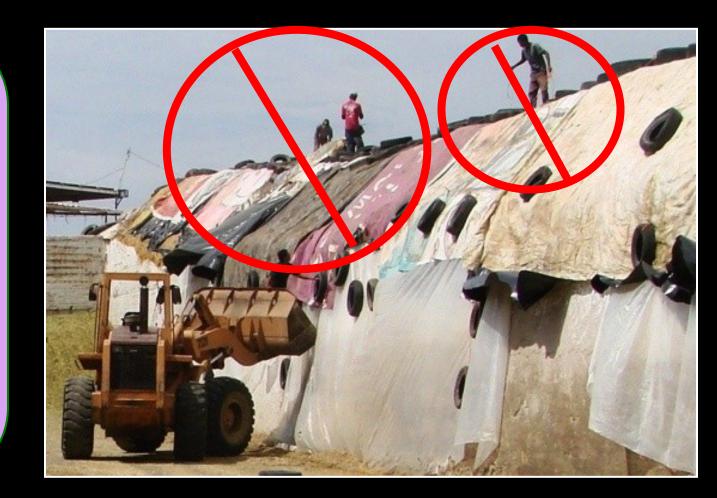
- **♦** Think safety first.
- The silage industry has nothing to lose by practicing safety: it has everything to lose by not practicing it.



Accident 1. A feedlot nutritionist had the following near miss. "I was taking core samples at one of our large dairy customers, and I had just moved away from the face when a large section just fell off. This was a very well packed silo and had immaculate face management".

#### 2. INTRODUCTION

- ◆ Few farming operations invite as many opportunities for injury or fatality as a silage program.
- ♦ Silage-related tragedy knows no age boundary as workers and innocent bystanders of all ages have been injured or killed during harvest and feedout.
- Consistently protecting employees, equipment, and property throughout harvesting, filling, and feeding does not occur without thought, preparation, and training.





## 3. THREE MAJOR HAZARDS

- **♦** Fall from height
- Avalanche/collapsing silage
- **♦** Complacency

Accident 2. A nutritionist almost lost his life the day he took silage samples from a bunker silo with a 9-m high feedout face. "Even though I was standing 6 m from the face, 12 tonnes of silage collapsed on me. I did not see or hear anything. I had been in silage pits hundreds of times, and you just become kind of complacent because nothing ever happens. It just took one time".

Accident 3. "The accident happened on 14 June 1974 while making wheat silage at Kansas State University's Beef Cattle Research Farm. The blower plugged for about the eighth time that afternoon, and I started to dig the forage out from the throat of the blower. But the PTO shaft made one more revolution. Zap! The blower blade cut off the ends of three fingers on my right hand".

Accident 4. Sugar Valley Volunteer Fire Company responded to a farm accident in Greene Township after Kenneth R Hettinger, 63, of Rebersburg, PA became entrapped under three tonnes of silage. Hettinger was removed from the silage but attempts to resuscitate him failed, and he was pronounced dead at the

Holin, F. 2010b. Surviving a silage avalanche. In: Hay & Forage Grower. February issue. Pg. 38.

WMUR TV. 2010. Boy buried in feed pile dies. Claremont, New Hampshire. USA <a href="http://www.wmur.com/r/23258422/detail.html">http://www.wmur.com/r/23258422/detail.html</a>

### 4. CONCLUSIONS

- ◆ It is best to take steps to eliminate or control hazards in advance than to rely upon yourself or others to make the correct decision or execute the perfect response when a hazard is encountered.
- ◆ Only experienced people should operate equipment used to harvest, fill, pack, seal and feed in a silage program.
- **♦** The correct sizing of bunkers and piles can dramatically reduce the risk of an accident.