

Farmers Tell Of Experiences With Deadly Silo Gas, Molds

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he moved as quickly as he could to the top of the silo, stuck his head through the doors, and breathed in the fresh air coming up through the pipe.

For a while, Rodney admitted feeling "pretty good. I knew I was a little light-headed and I knew it was kind of dangerous to be up there, too, in that condition, but I knew it was also better than having tried to get down the chute, with the gases engulfing me, and I would never have made it to the bottom."

Later on, he realized, if he would have gotten a few seconds of the gas directly, he could simply have passed out and tumbled down the chute.

"I waited up there for about 15 minutes, breathing fresh air. I waited until it was clear and then crawled back down the chute to silage level, and crawled in, and we got the fresh air."

The split second he threw the door open, Rodney knew something hit him. 'A cloud of gas hit me, dark gas, and it surprised me.'

Feeling confident, Rodney started to work on leveling off the silage. He was then joined by his brother Jere. It took them about three hours.

They felt weary from the work but managed to return home. They still felt lightheaded but thought nothing of it.

Until about seven that evening. "I started feeling kind of bum, lightheaded, short of breath. I had some chills. I felt pretty rotten."

Rodney thought that if he could just get a good night's sleep, maybe he could get some rest and be OK the next morning.

When he awoke the next day, the first thing he had to do was cough. "I had a tickle in my throat. Then I felt a gurgling in my chest." Rodney said he thought his lungs sounded full of fluid.

He started coughing up blood. He couldn't catch his breath.

It was then that he thought, I'm not going to make it.

"I thought I was done, I was gone. I was scared."

However, Rodney forced himself to calm down. He went downstairs to lie on the porch and managed to get his breath.

In the meantime, Rodney spoke on the two-way radio to his father, John, also a dairyman, to see how

Jere was doing and to tell them he was going to the hospital. The elder Martin told Rodney that Jere was having similar symptoms and asked, "Do you want another passenger?"

By 6 a.m., Rodney and Jere were in the emergency room at Lancaster General Hospital, a full 12 hours after the exposure.

Immediately the emergency room technicians and doctor on staff hooked them up to IVs and put them on oxygen. The technicians ran a "blood gas" test to check how much oxygen was in the blood. The doctor told them that a reading of 90 was normal and 60 was "critical."

Rodney's reading was 57. Jere's stood at 61.

"With oxygen, we could breathe much better again," said Rodney.

The doctor told Rodney that silo gas, nitrogen dioxide, literally burns the lungs, causing a reaction

by the body. The reaction creates fluid in the lungs, further blocking the absorption of oxygen from the air we breathe. Eventually, the buildup could have been so severe that oxygen could have been cut to the heart, killing both of them.

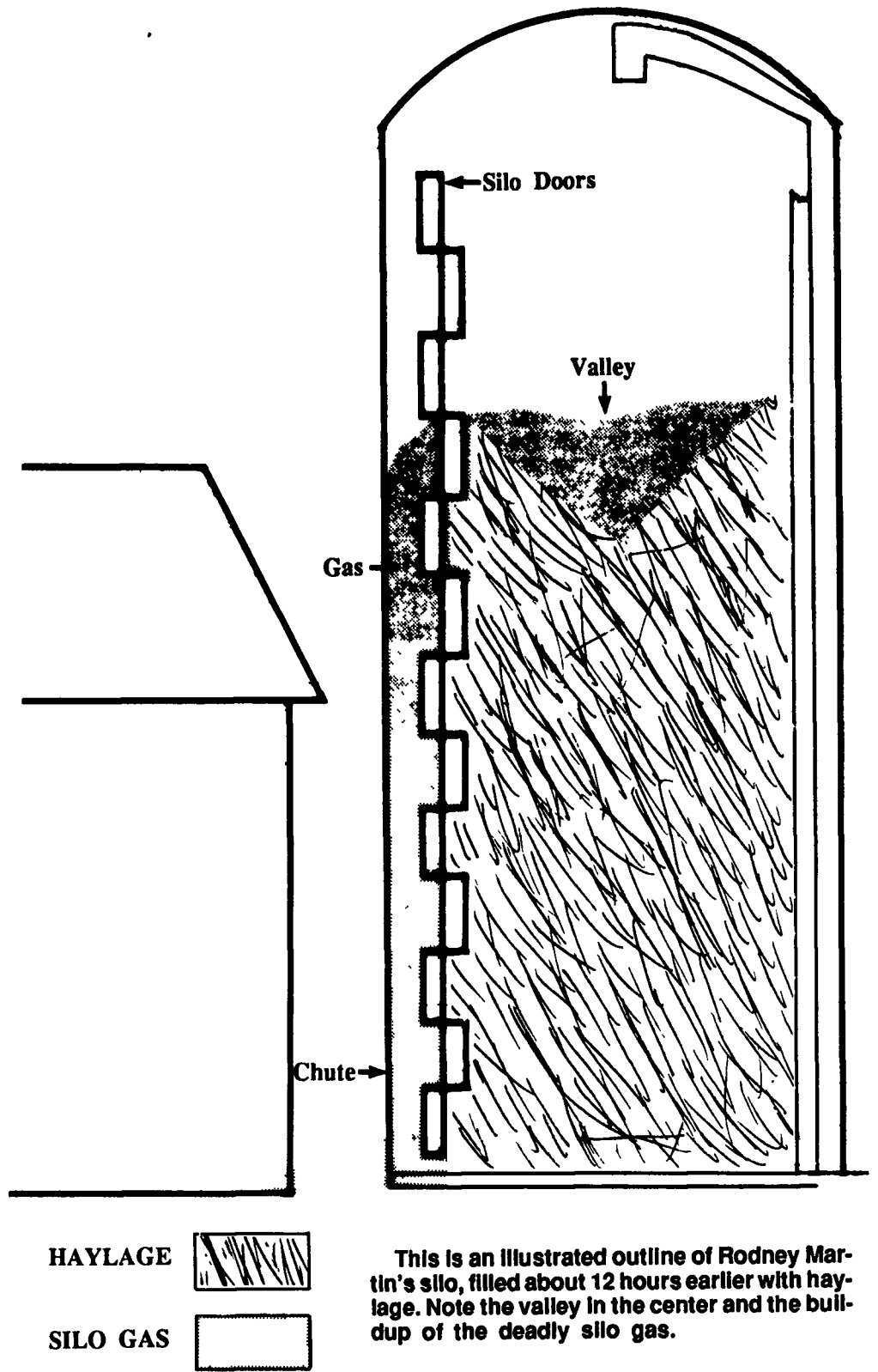
The doctor told them that a critical dose of the gas on the spot could have killed them. The brothers were fortunate that the dose was not lethal and that they arrived for treatment when they did. Within 24 hours, their situation could have caused them to lose consciousness and perhaps suffer a heart attack.

The brothers spent more than two days in the hospital. They were given steroids to block the body's reaction — the buildup of fluid in the lungs — and were monitored for blood oxygen levels.

Rodney remembers the ordeal because he had to take deep, concentrated breaths. "If you simply laid there and took shallow breaths," he said, "a monitor alarm would sound."

Rodney returned home on the weekend. In the meantime, his family helped with the chores. He began returning to light chores and within two weeks after the accident, resumed work full-time.

SILO GAS A DEADLY TOXIN



This is an illustrated outline of Rodney Martin's silo, filled about 12 hours earlier with haylage. Note the valley in the center and the buildup of the deadly silo gas.



Rodney's brother Jere had gone up the chute before, pictured here, and gases were already ejecting down the chute.

"The doctor's comment was there should be no long-term effects," said Rodney. "He said you shouldn't have any long-term shortness of breath, the lung capacity is still very adequate, and you shouldn't die young from any lung disease or anything like that."

The mistakes he made could have cost him a great deal, and Rodney believes he is fortunate.

He said that farmers don't realize that haylage gas can be just as deadly as corn silage gas. Although he's heard stories of exposure, it didn't hit home until his experience.

"I never thought that much about it. Some people have the concept that haylage does not produce the amount of gas that corn silage or rye silage does. That's fictitious."

Farmers should not wait any amount of time after filling the silo to level it off and close it up.

The lessons he wishes every farmer could learn would be to "get up there immediately following the last load of silage before any heating occurs, any fermenting occurs, and get the job done right away."

"When the blower is still hooked up and the last load of silage just went up, get up there and get the job done," he said. "That's the real key."

If farmers must enter a silage

area after it is filled, or if they work around the toxic gases at any time, a simple cloth or carbon filter will not offer them any safety. At the least, farmers should wear a self-contained breathing apparatus, like SCUBA equipment divers wear or equipment worn by the fire company rescue personnel.

(More on safety measures will be featured in the next articles in this series.)

Rodney thought back to the

Rodney got about two whiffs of the toxic gas and could feel it burn the whole way down his throat.

times he heard stories where farmers thought they might have just been experiencing a cold or flu. The symptoms could have indicated an allergic reaction to gas exposure.

Whatever the case, Rodney said he was willing to speak about the experience in order that other farmers could avoid the same mistakes and end up in the hospital.

"I gave my pointers because this might save somebody else's life," he said.

Rodney believes there are "many risks you're exposed to around the farm everyday," he said. "It's important to be ready, because your time could be up anytime."

Ken Kirkland

Ken Kirkland, an ag science major at Penn State, remembers the day as a kind of painful memory, one he can't forget.

When he was 14 years old, on a mid-September day, he filled a silo with corn silage. About two weeks later, he returned with a hired hand to remove silage. He took the cover off, and out came some gas.

For a time, Ken didn't think much about it, and continued with

other chores. The impact of what happened didn't become clear until later that evening.

Ken could remember having trouble catching his breath. He felt his chest tightening and felt weak and lightheaded.

At 11 p.m. that evening, hours after the exposure, Ken was ready to go to bed, but was frightened.

"I didn't want to go to bed," he said. "I was afraid something would happen in the middle of the night."

Instead, Ken was taken to Indiana Hospital. They put him on a breathing apparatus, and he still remembers how scared he was, because he couldn't get his breath.

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