Leon Sheets will never forget Sept. 15, 2014. That morning, he loaded out 250 hogs from his 1,200-head finisher near Ionia in northeast Iowa. By the afternoon, he had a couple of rooms washed and decided to rinse down the alleyway around 3:50 p.m. Then disaster struck.

“I heard a whoosh and was suddenly engulfed in flames by a ball of fire,” said Sheets, past president of the Iowa Pork Producers Association.

The flames seared second- and third-degree burns over 20 percent of Sheets’ body, including his hands and face. The heat was so intense that it charred and crystallized the plastic coating on his eyeglasses, said Sheets, whose eyes almost swelled shut due to his injuries.

“I ran outside and did a stop, drop and roll,” added Sheets, who was wearing short-sleeved polyester coveralls over his clothes. “Just don’t do that in a thistle patch like I did, though, because you’ll get scratched.”

Despite the chaos and the pain, Sheets had the presence of mind to turn off all the power breakers to the site. He also could hear the fire burning off a liquid propane (LP) line in the swine barn, so he turned off the LP, too. Once the site was stabilized, Sheets called 911.

The fire and rescue crew from Nashua, Iowa, arrived quickly, along with Sheets’ neighbors. The first responders took Sheets to a medical center in New Hampton, Iowa, where he was stabilized. That night Sheets was transferred by ambulance to the burn unit at an Iowa City hospital, where he stayed for 10 days.

“I was weak and shook up,” Sheets recalled. “Since I was in shock, the burns didn’t hurt at first.”

The reprieve didn’t last.

“The most painful part was when they scraped the burns,” Sheets said. “I took the attitude that I was going to make it through this, however.”

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Following a devastating fire, Leon Sheets rebuilt his finisher barn. He cautions producers to always put safety first.
Sheets Appreciates Outpouring of Support

Skin grafts were taken from Sheets’ legs. Following an eight-hour surgery three days after the fire, Sheets pushed himself to get up and begin walking as soon as possible.

“I got a face lift and cleaning for free,” joked Sheets, whose upbeat attitude won him many friends at the hospital.

After 10 days at the hospital in Iowa City, Sheets was transferred to Covenant Medical Center in Waterloo, Iowa, where he spent an additional nine days in rehabilitation. He already was making plans to demolish the burned hog barn, which had been constructed in 1994, and rebuild a new 1,200-head finisher yet last fall.

By Oct. 17, a little over a month after the flash fire, Sheets was back to work on the farm. While the damaged skin on his body will be sensitive to sunlight and cold for 18 months following the accident, Sheets feels lucky to have survived the ordeal.

“I had always tried to focus on safety before, but now I emphasize that safety must be part of the job every day,” said Sheets, adding that he’s received phenomenal support.

“I knew we had a pretty good circle of family and friends, but I didn’t realize just how big it was,” said Sheets, who noted his neighbors helped every day with the chores while he was recovering. “The outpouring of support from my pork industry family was tremendous.”

Lessons Learned: Sheets Reflects on Fire’s Aftermath

What’s the difference between school and life? School teaches you the lessons and then gives you a test. Life gives you a test, and then you learn the lessons. Just ask Sheets.

“It was a quick, spur-of-the-moment decision I made to go in and rinse down the alleyway that afternoon after we loaded hogs that morning,” Sheets said.

“Being in a closed room was probably not a good idea, he added. “And extra ventilation would have been beneficial, and maybe I should have kept the pilot light off, too.”

“It’s easy to let your guard down,” Sheets said. “Farmers need to be careful whether they are pumping, power washing or doing maintenance. When it comes to accidents, we want no more, nobody else.”

For information on how you can be proactive about safety on your farm, visit pork.org/workersafety. The Pork Checkoff’s Pork Production Safety System covers developing an emergency action plan to preventing accidents.

In Case of Fire... Remember to RACE

If a fire breaks out at your pork production facilities, remember the acronym RACE:

Rescue those in immediate danger.

Announce the need to evacuate the building.

Contain the fire by closing doors and windows as you exit the facilities.

Evacuate immediately and go to a designated meeting spot to confirm everyone has safely exited.

Beware of Surface Foam While Pumping Manure, Power Washing

Although rare, explosions and flash-over fires from methane accumulation can occur in hog barns. Pork producers, commercial pumpers and others need to watch for a layer of foam on the surface when pumping barn manure pits, power washing or doing maintenance. The foam contains numerous gases hazardous to people and animals, but methane in particular can cause barn explosions and/or flash fires.

“If a 6-inch thick or greater layer of foam is present and disturbed during normal pit agitation and pumping, for example, a sudden release of dissolved gases will occur,” said Larry Jacobson, an agricultural engineer with University of Minnesota Extension.

Without adequate barn ventilation, this can result in methane concentrations reaching the lower explosive level of 5 percent or 50,000 parts per million (ppm).

“An explosion is then likely if an ignition source is present from a pilot light, electric spark from a motor or cigarette,” Jacobson said.

Agricultural engineers, animal scientists and pork industry consultants have developed the following recommendations:

• Provide continuous ventilation to prevent a gas build-up. Increase ventilation during agitation to quickly dissipate released gases. Sufficient ventilation or exchange of air in the barn is always essential to keep the concentration of methane below its explosive threshold.

• Turn off heater pilot lights and other non-ventilation electrical systems (such as the feeding system) that might produce an ignition spark.

• When pumping pits close to being full, pump without agitation until manure is about 2 feet below the slats. This will allow pit fans (if available and used) to perform properly during agitation and provide more dilution space for methane and other gases that are released.

More safety tips for your farm are offered on the following page, as well as on pork.org.
Minimize the Risk of Flash Fires, Injuries

Use caution when pumping manure pits or when power washing and doing maintenance in your hog barns. Liquid manure in pits undergoes slow decomposition, which creates several gases. Methane and hydrogen sulfide, which are both flammable, are two of those gases, note Iowa State University Extension agricultural engineers. The rate of gas release from manure can be drastically increased when manure is agitated (stirred) during pumping. This increase is especially true for hydrogen sulfide, which can have a lethal paralyzing effect in addition to being flammable.

To minimize risk of injuries and flash fires, manure handlers should follow these steps:

Agitate the manure, keeping the jet of pressurized manure below the liquid surface. Don’t let the jet of manure strike walls or columns in the pit. Stop agitation when the manure level does not allow agitation below the liquid surface.

Fully open all ventilation curtains or ventilation pivot-doors, but leave walk-in doors locked to prevent human entry.

30:00 Minutes
Continue maximum ventilation for 30 minutes after pumping has ended before anybody re-enters the building.

Prior to agitation or pumping, turn off electrical power to any non-ventilation equipment, and extinguish any pilot lights or other ignition sources in the building.

Run ventilation fans at maximum speed.

Never enter a building or manure storage structure when liquid manure is being agitated or pumped. The free tags are available from the Pork Store at pork.org in both English and Spanish.
Inside: Put safety first on your farm to protect workers and your pigs.

There’s No Downside to Safety

By National Pork Board President Dale Norton

Safety is one of the non-negotiables in the pork industry. It also is a never-ending learning process. That’s why the Pork Checkoff continues to support research into foaming that can occur on the surface when pumping manure pits. And it’s also why providing a safe work environment is one of the six We Care™ ethical principles that pork producers follow every day in our barns.

Pit foam contains numerous gases that can be hazardous to people and animals, but methane in particular can cause barn explosions and/or flash fires. Just like Leon Sheets, the Iowa pork producer whose story is featured in this newsletter, I’m glad that scientists at universities are conducting research into the foaming issue.

Currently, there is no consistent solution to controlling foaming in pig manure pits. Researchers do not yet understand all the factors (diet, manure pH, others) that cause this problem. Ongoing Pork Checkoff-supported research will help us better understand the causes and eventually provide solutions to this serious issue.

As always, continue to emphasize safe work habits, which should always be a key priority on our farms. It’s important that we all share the knowledge to protect the safety of workers, as well as the safety of the pigs in our care.