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Iowa Farmer Today

Safety Watch: Patience prevents accidents when baling, moving hay

By Stephanie Leonard Aug 17, 2015

Making, moving and storing large bales can be done safely with patience, the right equipment in well-maintained condition and special attention to the terrain or roadway and the center of gravity.

Photo by Stephanie Leonard

A friend and I took a ride in my neighborhood last week to take in the high thunderheads and a colorful sunset. Several neighbors had been baling, and we noted how striking those bales looked against the horizon.

My neighbor's square baler and a stacked hayrack of small bales reminded me of the hot, dirty, labor-intensive work that involved teenage hired help when I was a kid — the good lunches we took out to the field and warnings about the danger of getting entangled in the baler.

Dozens of large round bales in a field down the road were a stark contrast in size, man-hours and equipment. Working with these bales presents additional hazards.

I called my brother, Doug, who farms with my dad in Western Iowa, to ask if he knew anyone who'd had a close call with large bales.

"Well . . . Dad and I both have flipped tractors with large bales," he said.

That was news to me.

Doug's close call was about 20 years ago when he had a round bale on the loader of a narrow front-end Case 730. The bale was on a spear chained to the bucket, which, he explained, "pushed the load out even a little farther (than a regular spear) and changed the (tractor's) center of gravity."

"I was backing up in the yard with the round bale on the loader and hit some bump with my back tire. That's all it took."

He somehow jumped away from the tractor as it went over. He mused about why he had a big bale on a narrow front-end tractor. Without ROPS. And why he lived to tell about it.

“It wasn’t too long after that Dad tipped the 1566 over with a bale on the loader,” Doug said. “He was on a hill in the pasture with the bale way up in the air, and I was waving to get his attention to put the loader down. I think he thought he could see better with the bale up in the air.”

His premonition played out in front of him as Dad backed up and the front tractor wheel dropped in a hole. The tractor overturned. The lifesaver in this case was the tractor cab. Somehow, these two were fortunate when others were not.

From 2011 through 2014, 12 men were killed in Iowa in incidents involving large bales. Many of these deaths occurred while individuals were moving bales — with a tractor, skid loader or while unloading them from a trailer. Risk factors were similar in tractor-related cases:

- The operators of tractors that overturned were unprotected by a 4-post or cab ROPS.

- Carrying a bale on the front loader changed the tractor’s center of gravity, and the higher the load, the greater the effect of a slight bump or dip in terrain.

- Bales that weren’t secured on the loader attachment fell off, and the tractor rolled up and over them.

Equipment operators weren’t the only fatalities. Four individuals were struck while they were on the ground. In two different incidents, truck drivers were struck by bales that were pushed off the trailers while bales were being off-loaded from the opposite side.

One farmer was killed when a bale rolled back off the front-end loader onto the open compartment of his tractor.

Another farmer was caught in the closing tailgate of a round bale machine while he attempted to push a lodged bale off the discharge ramp.

Making, moving and storing large bales can be done safely with patience, the right equipment in well-maintained condition and special attention to the terrain or roadway and the center of gravity. Take the time to imagine the “worst case” scenario and follow best practices to prevent that scenario from happening.

Best practices for safe bale handling

- Always shut off and lockout the power to hydraulic, electrical or mechanical controls before working on or near moving parts of a baler.

=Use a tractor equipped with a falling object protective structure (FOPS)-compliant cab or canopy, 4-post ROPS or enclosed cab. FOPS-compliant cabs and canopies are designed to withstand greater impact from falling objects than conventional 4-post or cab ROPS.

- Make sure hydraulic systems for front loaders and rear hitches are in proper working condition. Remove malfunctioning equipment from service until repairs have been made.

- Use front loaders that have built-in features to prevent rollback. Anti-rollback devices physically prevent rollback of a bucket or loader attachment.

- Self-leveling loaders use mechanical linkages or hydraulic or electric controls to maintain an angle of the loader attachment that is level with the ground.

=Use loader attachments that are designed specifically for carrying bales (i.e., hay spears with frame extensions or grappler hooks). Buckets or pallet forks that “cradle” the load won’t hold bales securely.

- Carry bales with the load as low to the ground as possible with the front spear rolled back 15-20 degrees to keep the bale from falling off. Carrying the load low decreases visibility, but it improves stability.

- Transporting bales on the rear hitch is more stable than transporting on the front loader.

- When carrying a bale on the front loader, use a counterweight or a bale on the rear hitch carrier. When carrying two bales, pick up the rear bale first and unload it last to maintain tractor stability.

- Drive slowly and avoid uneven terrain, steep slopes and side hills. Avoid making tight curves or turns.

- Keep bystanders and pedestrians clear of the work area, bale storage area or trailer when loading or unloading bales to protect others from being struck by falling bales or moving equipment.

- Communicate the plan for loading and unloading and maintain a clear line of vision between the operator and any pedestrians or coworkers.

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