

The winter months are a busy time for moving grain and emptying bins. During this time, bin safety should be kept in mind to avoid being caught or trapped in moving grain. There are three main ways a person can become trapped in a grain bin: by a collapse of bridged grain, by a collapse of a vertical wall of grain, or by flowing grain during unloading. Once a person starts to be pulled down from moving grain, it only takes a few seconds until a person becomes helpless due to pressure from the grain holding them and only about 20 seconds or less until they are completely buried.

Bridged grain is caused when moldy, high moisture content grain sticks together and forms a hollow crust layer in the bin which can appear to be safe to walk on. However, this bridge is not strong enough to support the weight of a person. Underneath the bridge is a hollow cavity which a person will fall into and will become buried by the collapsed grain. In this situation, it can be very difficult to determine where a victim is. To avoid this situation, stop the auger during unloading and do not go inside the bin. Instead, look inside for a funnel shape at the grain surface. If you do not see a funnel shape grain surface and the grain appears to be undisturbed, the grain is probably bridged. From outside the bin (do not attempt to go inside the bin), use a long pole or other object to break the bridge. Tie the pole or object to the side of the bin so can be retrieved without entering the bin.

A vertical wall of grain can be formed against a wall of the bin due to poor quality grain sticking together. If a person on the bottom of a grain bin tries to break up the vertical wall of grain, they can become trapped in an avalanche of grain in seconds. If a secondary avalanche is possible, this can put rescue personnel in danger and they cannot begin to dig out the victim until the rest of the grain has been stabilized. When a vertical wall of grain has formed, do not enter the bin. Instead, attempt to break up the grain mass with a long pole on a rope tied to the bin either from the top to the bin or through the door on the outside of the bin.

Flowing grain during unloading will not support the weight of a person. When grain is being unloaded from places such as a bin, out of a rail car, truck, or auger pit, no one should be on the grain. Downward flowing grain acts like quicksand and will suction and pull a person down into the grain pile very quickly. Grain will have a strong grip on the body which causes a person to become helpless in seconds. Never ever enter a grain bin without stopping the auger first and use a "lock-out/tag-out" procedure so other people can identify to keep the auger shut off. If you need to enter a bin, never enter a grain bin alone. Have at least two other people at the bin that can assist you if a problem arises and use a safety harness or safety line. In case of an emergency, contact the emergency rescue service or local fire department. For more information, contact the Extension office at 701-524-2253 or alicia.harstad@ndsu.edu. NDSU is an equal opportunity institution.