



GRAIN SAFETY TIPS

STATISTICS + FACTS

- There were 330 reported grain entrapments from 2010-2019 although this number is thought to be significantly under reported.¹
- A 6-foot person could be completely buried in 25 seconds with a 10-inch output auger.²
- It would require approximately 900 pounds of pull to remove a 165-pound person engulfed in grain over his head and this can't be done.²
- Once grain levels reach a victim's knees, trained assistance is necessary for their removal.²

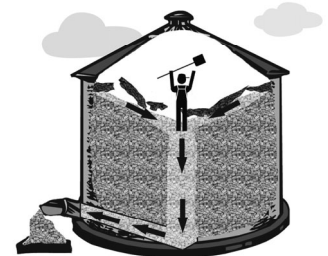
HOW IT HAPPENS³

- **Unloading/Flowing**
If you stand on moving grain, it reacts like quicksand and buries the victim in seconds.
- **Bridging Entrapments**
The crusted top surface of a grain pile collapses due to the weight of the person. The victim can become injured in the fall and possibly buried in grain pile.
- **Avalanche/Vertical Entrapment**
If the victim attempts to dislodge the shelf of grain, the grain shelf engulfs the victim.

PREVENTION³

- Use inspection holes or grain level markers.
- Use a pole to break up grain bridges from outside the bin.
- Enter a bin only if absolutely necessary.
- Lockout/Tag-out power to augers before entering bin.
- Use a body harness secured to the outside of the bin when entering.
- Have at least two observers during grain bin entry.
- Use hand signals to communicate and make sure everyone you are working with knows the hand signals, too.
- Work from top to bottom when cleaning grain bin walls.

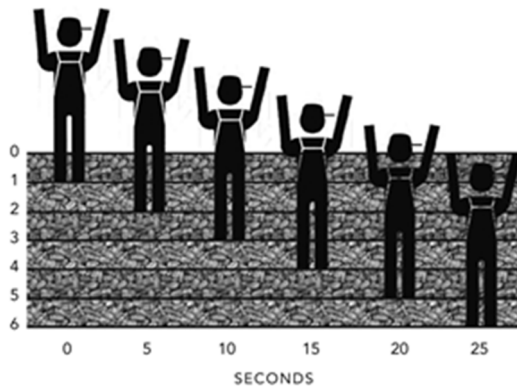
How Does Entrapment Happen?



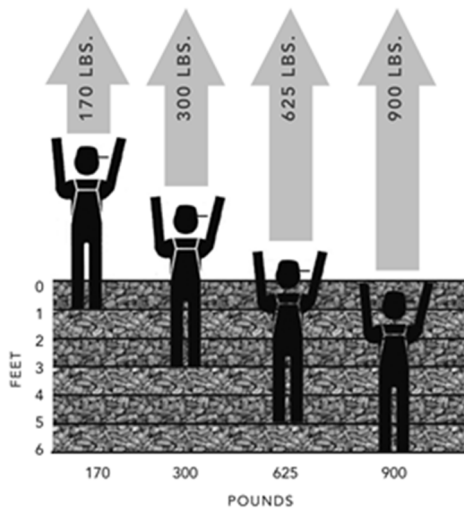
IF ENTRAPMENT HAPPENS³

- Make sure the auger is shut off to stop grain flow.
- Disable the power.
- Turn ventilation fans on to supply fresh air to the victim. Be cautious not to turn on any dryers.
- Dial 911.

HOW FAST DOES IT HAPPEN?³



WHAT DOES IT TAKE TO PULL OUT A 165 LB. PERSON?³



REFERENCES

1. 2019 Summary of U.S. Agricultural Confined Space-Related Injuries and Fatalities - https://drive.google.com/file/d/1xzU-pgnDjSSPuqDWzjh_t2CnQoc13KFS/view
2. Hazards of Flowing Grain. Pennsylvania State University. <http://extension.psu.edu/hazards-of-flowing-grain>
3. Hazards of Flowing Grain Instructor's Notebook. Penn State Agricultural Safety and Health.