Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_

**Basic First Responder Training for Incidents Involving Grain Storage,
Processing, and Handling Facilities**

**Pre-Test**

1. What is the average number of grain entrapments that occur in the U.S. per year?
2. 5-10
3. 15-25
4. 30-40
5. 50-60
6. Hazards potentially faced by first responders to a grain entrapment rescue include:
	1. Falls
	2. Exposure to toxic dust
	3. Over exertion/heat stress
	4. All of the above
7. The type of grain most frequently involved in flowing grain entrapment is:
8. Soybeans
9. Corn
10. Wheat
11. Oats
12. On-farm grain storage structures are generally considered:
13. Exempt from federal OSHA regulations
14. Permit-required confined spaces
15. Toxic environments
16. All of the above
17. A grain entrapment victim may experience:
18. Dust inhalation
19. Lower extremity trauma from auger contact
20. Hypothermia
21. All of the above
22. The most frequent cause of death associated with grain engulfment is:
23. Hypothermia
24. Crushing injuries
25. Asphyxiation
26. Impact injuries
27. Is it possible for a person completely engulfed beneath the surface of a grain pile to survive for more than fifteen minutes?
28. Yes
29. No
30. Pulling a victim entrapped chest deep in grain can cause severe injuries.
31. True
32. False
33. The most common type of grain entrapment occurs when a worker falls through a crusted surface of grain into an empty cavity below that surface.
34. True
35. False
36. The angle of repose for grain can be 25-30% depending on moisture content.
	1. True
	2. False
37. When cutting grain bin panels, which of the following personal protective equipment is needed?
	1. Eye protection
	2. Hearing protection
	3. Respiratory protection
	4. All of the above
38. The first step that should be taken at the scene of a grain entrapment is to:
	1. Enter the bin to access the situation
	2. Begin cutting open the structure
	3. Lockout or disconnect all power sources
	4. Turn on unloading system
39. The grain near the walls of a bin moves faster during unloading, thus creating a greater risk of entrapment near the walls than in the center.
40. True
41. False
42. A typical on-farm grain bin is designed with the following potential anchor points:
43. Inside bin ladder
44. Roof top hatch ring
45. Stirring auger or grain distributor supports
46. None of the above
47. The purpose of a grain rescue tube is to:
	1. Reduce pressure on the victim
	2. Isolate the victim from the surrounding grain
	3. Protect the victim from avalanching grain
	4. All of the above
48. Cutting open a 100,000 bushel capacity grain storage structure can lead to:
49. Catastrophic failure of structure
50. Movement of victim within the grain
51. Engulfment of first responders
52. All of the above
53. A torch should never be used to cut holes in a grain bin because of the potential for a grain fire or dust explosion.
54. True
55. False
56. A good way to rescue a partially entrapped victim is to attach a harness to him/her and start the unloading auger to remove grain below him/her.
57. True
58. False
59. The most likely source of entanglement inside a grain bin is the:
	1. Stirring auger
	2. Sweep auger
	3. In-floor auger
	4. Portable auger
60. A grain vacuum machine removes grain at such a slow rate that it poses no risk of entrapment to a first responder.
61. True
62. False