

- 12.1** *Know that young and beginning workers under the age of 21 account for nearly 20% of injuries and fatalities that occur at grain storage and handling facilities.*
- 12.2** *Describe the process of how grain flows from either a grain storage structure, such as a grain bin, or a grain transport vehicle.*
- 12.3** *List at least three of the following hazards that can be present in and around grain and feed storage structures.*
- Engulfment and suffocation in flowing material
  - Bridged or crusted out-of-condition grain
  - Grain avalanche
  - Falls from structure
  - Exposure to toxic dusts and molds
  - Entanglement in conveying and handling equipment
  - Exposure to toxic fumigants
- 12.4** *List the common characteristics of young and beginning workers that increase their risk of injury in and around grain storage and handling facilities.*
- 12.5** *Describe the characteristics of a safe and productive worker around grain storage and handling facilities.*
- 12.6** *Identify the types of personal protective equipment and clothing that should be worn in and around grain storage and handling facilities to prevent injury.*
- 12.7** *Describe the importance of each of the following safety measures in preventing flowing grain engulfments.*
- Lockout/Tagout provisions on controls
  - Visible warnings
  - Restricted access
  - Supervised access with outside attendant
  - Emergency response plan
- 12.8** *Describe the importance of communication equipment in reducing the risk of injury in and around grain storage and handling facilities.*
- 12.9** *Describe the importance of appropriate use of air monitoring equipment in reducing the risk of exposure to toxic gases or insufficient oxygen in and around grain storage and handling facilities.*
- 12.10** *Describe basic safe work practices that should be followed to reduce the risk of entanglement at grain storage and handling facilities.*
- 12.11** *Describe the potential causes of dust explosions at grain storage and handling facilities, including:*
- Smoking
  - Welding
  - Hot components, slipping belts, and overheated bearings
- 12.12** *List the restrictions found in the Fair Labor Standards Act that apply to youth under 16 who work at grain storage and handling facilities.*
- 12.13** *Explain the rights of all workers to be provided a safe and healthy workplace under the provisions of the Occupational Safety and Health Administration (OSHA).*