



Current Report

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

Employee Safety

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Note: This publication is intended to provide general information about legal issues. It should not be cited or relied upon as legal authority. State laws vary and no attempt is made to discuss laws of states other than Oklahoma. For advice about how these issues might apply to your individual situation, consult an attorney.

How do OSHA regulations apply to agriculture?

OSHA, the Occupational Safety and Health Administration, was formed as a result of the Williams-Steiger Occupational Safety and Health Act of 1970 for the purpose of improving the safety of America's workers. One of the provisions of the act is the "general duty clause," which requires all employers to "furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." As a result, the employer bears a fair amount of responsibility for looking

after the safety of his/her employees (see the section "Am I liable for any injuries my employees suffer while on the job?").

OSHA has created safety guidelines for virtually all industries. However, agriculture has fewer regulations than most. The OSHA regulations that apply to agriculture are shown in the table below.

Pesticides and their application are not regulated by OSHA; rather, they are regulated by the Environmental Protection Agency (EPA). See title 40, section 170 of the Code of Federal Regulations for pesticide application and worker protection standards.

Do I need to report accidents that occur on my farm?

If an accident hospitalizes three or more employees or is fatal to one or more employees, it must be reported to the nearest OSHA office within eight hours of its occurrence. If an accident hospitalizes five or more employees or is fatal to one or more employees, it must also be reported to the Oklahoma Department of Labor within 48 hours.

Regulations regarding...

are found in:¹

1) temporary labor camps	29 C.F.R. 1910.142
2) storage and handling of anhydrous ammonia	29 C.F.R. 1910.111(a) and (b)
3) pulpwood logging	29 C.F.R. 1910.266
4) slow-moving vehicles	29 C.F.R. 1910.145
5) roll-over protective structures for tractors	29 C.F.R. 1928.51, 1928.52, 1928.53
6) guarding/shielding of agricultural equipment	29 C.F.R. 1928.57
7) hazard communication	29 C.F.R. 1910.1200
8) field sanitation ²	29 C.F.R. 1928.110
9) grain handling facilities	29 C.F.R. 1910.272

¹ Code of Federal Regulations (CFR) citations are written in the format [title] C.F.R [part],[section]. For example, the citation for slow-moving vehicles would read "title twenty-nine of the Code of Federal Regulations, section 1910, subsection 145"

² The OSHA standards regarding field sanitation apply to agricultural operations where 11 or more workers are engaged in hand-labor operations (that is, operations performed by hand or with hand-tools).

If you have 11 or more employees, you must maintain a log that summarizes all work-related injuries and illnesses. Information regarding such injuries or illnesses must be recorded within six days of their occurrence.

Am I liable for any injuries my employees suffer while on the job?

Since most farm employers are exempt from the requirement to provide workers' compensation insurance to their employees (see the sheet "Workers' Compensation Insurance"), they may be liable for compensating employees who have been injured on the job. However, this may not always be the case, because a number of factors must be considered to determine who is liable for an employee's injury.

Generally, an employer has the common-law duty to provide employees with:

- a reasonably safe place to work.
- reasonably safe tools, equipment, and machinery.
- sufficient instructions and warnings to allow work to be done safely.
- reasonably competent coworkers.

We will examine each of these duties in closer detail.

A reasonably safe place to work. An employer is expected to inspect, at reasonable intervals, the areas where his/her employees will be working. Furthermore, the employer should provide warnings to employees of any hidden dangers of which he/she is (or should be) aware. An employer may not be liable for a worker's injury if the unsafe condition that led to the injury was a result of the employee's failure to do the job properly, or if the dangers were obvious to the employee, or if the danger could have been discovered with the exercise of ordinary care.

Reasonably safe tools, equipment, and machinery. Employers may be held liable for an employee's injury if the employer was negligent in his/her care or inspection of equipment. Examples of this include failing to replace safety guards or shields or making a machine unsafe by substituting new parts for original parts. "Equipment" may not be limited to machines and other tools; it can also apply to animals used in the course of work (horses, pack mules, etc.).

To avoid liability, you should make inspections of equipment at reasonable intervals and replace or repair defective parts when necessary. However, you are usually not liable if an employee is injured by a machine he/she provided, or was hired to repair a machine and was injured while doing so. Also, you are usually not liable if an employee is injured by a piece of machinery due to a design defect in the machine

itself. Again, the employee has a responsibility to use reasonable care, and to use equipment properly.

Sufficient instructions and warnings. It is the responsibility of the employer to make reasonable inspections of the work environment at reasonable intervals and to warn employees of any danger of which the employer is or should be aware. Workers should also be instructed as to the proper way to perform tasks and operate equipment. Remember that younger employees might need more guidance than more experienced workers.

Reasonably competent coworkers. An employer should supply his/her employees with an appropriate number of coworkers and supervisors to see that work can be done in a safe manner. All such coworkers should have sufficient knowledge and experience to perform their tasks safely.

NOTE: Remember that young people may have different levels of experience than other workers. You may need to exercise even greater care in all of these areas when youth are working.

Federal regulations provide protection for workers who report potential violations to state or federal OSHA offices ("whistle-blower" protection). It is illegal to take disciplinary action against an employee who reports potential violations of OSHA regulations or requests an OSHA inspection of the workplace. Furthermore, an employee can refuse to perform a task or walk off the job, if the following conditions are met:

- 1) The employee is confronted with a choice between either not performing assigned tasks or subjecting him/herself to serious injury or death due to a hazardous condition at the workplace.
- 2) Seeing no reasonable alternative, the employee refuses, in good faith, to expose him/herself to the dangerous condition.
- 3) The condition causing the employee to fear death or injury must be of such a nature that a reasonable person, under the circumstances facing the employee, would conclude:
 - there is a real danger of death or serious injury, and
 - there is not enough time (due to the urgency of the situation) to eliminate the danger by using regular legal channels.
- 4) The employee asked the employer for a correction of the dangerous condition, but the employer did not provide the correction.

If all of these conditions existed, the employer is prohibited from taking any disciplinary action against the employee for their refusal to work under the dangerous conditions.

Appendix 1 – OSHA Regulations Regarding Agriculture

The Code of Federal Regulations contains some rules that specifically address agriculture. This appendix briefly summarizes some of the provisions of these rules. Please note that these are only summaries—the regulations themselves may be quite extensive. For more information, contact the Oklahoma Department of Labor OSHA Division at 1-888-269-5353. The Code of Federal Regulations citation is listed for each summary.

Temporary labor camps – 29 C.F.R. 1910.142

All temporary labor camps must be constructed on sites that are not too close to swamps, sinkholes, or other areas where water or drainage might be a problem. Shelters should be constructed with ceilings of no less than seven feet, and at least 50 square feet of floor space for each occupant. Bunks should not be spaced closer than 36 inches (or 48 inches if they are double-decked; or, if they are, there must be no less than 27 inches of clearance between the top and bottom bunks). Where electricity is available, each habitable room in the camp should have a ceiling- or wall-type light fixture, and a wall- or floor-mounted convenience outlet.

The camp must have a water supply capable of delivering 35 gallons of clean, drinkable water per day per person. It must also be able to deliver water at a peak rate of 2 1/2 times the average hourly demand. Toilet facilities should be provided for each sex, and must be clearly marked in the native language of the workers (symbols may also be used). There should be a toilet for every 15 people. Urinals should also be provided—one for every 25 men. There should be one handwashing basin for every six people, and one showerhead for every 10 people. Bathroom and sanitary facilities should be cleaned at least once per day. Garbage containers must be provided, and the camp must be kept clean of refuse.

Adequate first aid facilities must be provided and must be staffed by a person with first-aid training. Effective measures must be taken to prevent problems with insects, rodents, and other means of transmitting disease.

Anhydrous Ammonia – 29 C.F.R. 1910.111

There are several specifications in the code for the construction of anhydrous ammonia tanks for transportation and storage. Some of the regulations that apply to day-to-day operations are as follows:

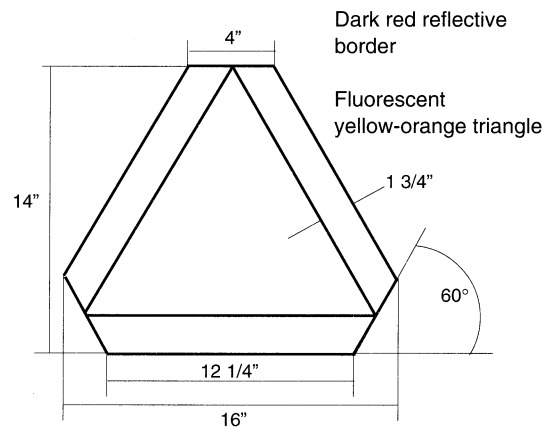
- All trailers shall be securely attached to the vehicle drawing them by means of drawbars supplemented by suitable safety chains.
- There shall appear on each side and on the rear end of the container in letters at least four inches high, the words "Caution - Ammonia" or the container shall be marked in accordance with DOT regulations.
- A trailer shall be constructed so that it will follow substantially the path of the towing vehicle and will not whip or swerve dangerously from side to side.
- All vehicles shall carry a can containing five gallons or more of water.

Pulpwood Logging – 29 C.F.R. 1910.266

The regulations for pulpwood logging include specifications for the FOPS (falling object protective structure) and ROPS (roll-over protective structure) of logging equipment, as well as personal protective equipment. Workers must be provided proper head, face, eye, hand, leg, and foot protection. First-aid kits must have a prescribed inventory of supplies and must be readily available to workers. Unless a team is needed to fell a tree, no other employees are allowed to be within two tree-lengths while the tree is being felled. There must be a clear escape path for the logger to take while the tree is falling. The "domino felling" of trees is prohibited.

Slow-Moving Vehicle Emblems – 29 C.F.R. 1910.145

The slow-moving vehicle emblem is used as a unique identification for vehicles that, by design, move at speeds of 25 miles per hour or less. It should only be used on these vehicles and should not be attached to stationary objects. The emblem is a fluorescent yellow-orange triangle with a dark red reflective border. The material, location, and mounting of the emblem are set out in the American Society of Agricultural Engineers standard for ASAE S276.2. The proper dimensions of the emblem are shown below (all dimensions are in inches):



Roll-over Protective Structures for Tractors – 29 C.F.R. 1928.51, 1928.52, and 1928.53

All tractors manufactured after October 25, 1976, are required to have a suitable roll-over protective structure (ROPS) to protect the operator in the event that the tractor overturns. Standards for these structures are determined by the American Society of Agricultural Engineers. Tractors with an ROPS are also required to have a seatbelt that will keep the operator within the area protected by the ROPS in the event of an accident. If an ROPS is ever removed from a tractor, it must be remounted in a way that still allows it to operate within the federal guidelines. In addition, batteries, fuel tanks, oil reservoirs, and coolant systems should be built, located, or sealed in such a way that, if the tractor were to overturn, their

fluids would not come in contact with the operator. Sharp edges and corners near the operator should be dealt with, in order to minimize the risk of injury in the case of an overturn.

Employees should be instructed in how to safely operate the tractor. The Code of Federal Regulations states that the following instructions should be given to all tractor operators before they initially start work and at least annually thereafter:

1. Securely fasten your seat belt if the tractor has an ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going, especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly—no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.
9. When tractor is stopped, set brakes securely and use park lock if available.

Guarding and Shielding of Agricultural Equipment – 29 C.F.R. 1928.57

This regulation requires employers to keep the moving parts of farm equipment shielded against accidental contact by employees. Guards, shields, guardrails, or fences (as each is appropriate) should be installed and maintained to accomplish this. Generally, such protective equipment must be able to withstand the equivalent force of a 250 lb. person leaning or falling upon them. The functional parts of machinery need to be guarded to the fullest extent possible that will not substantially interfere with the operation of the machinery.

The following instructions should be given to employees working with agricultural equipment when they initially start work and at least annually thereafter.

1. Keep all guards in place when the machine is in operation.
2. Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation.
3. Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained. In that case, employees should be instructed as to all steps and procedures which are necessary to safely service or maintain the equipment.
4. Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.
5. Lock out electrical power before performing maintenance or service on farmstead equipment.

Hazard Communication – 29 C.F.R. 1910.1200

A “hazardous chemical” is defined by OSHA regulations as any chemical which is a physical hazard or a health hazard. OSHA requires that every employer who uses hazardous chemicals must have a program that informs employees of the potential dangers of such chemicals, and how they should be handled. All workplaces where employees are exposed to hazardous chemicals must have a written plan that describes how the program will be implemented in that facility.

Employers are also responsible for training employees who will be exposed to hazardous chemicals about the hazard information program. This training should include:

- How the hazard communication program is implemented in your workplace.
- How to read and interpret the information on chemical labels and Materials Safety Data Sheets (MSDSs).
- How employees can obtain and use available hazard information.
- What hazards are posed by the chemicals frequently used in the work area.
- What measures employees can take to protect themselves from the hazards.
- Specific procedures you have established to provide protection, such as work practices or the use of personal protective equipment.
- Methods and observations (such as visual appearance or smell) that workers can use to detect the presence of hazardous chemicals.

Containers of hazardous chemicals must be labeled, tagged, or marked with the identity of the material and appropriate hazard warnings. A complete inventory of all hazardous chemicals must be maintained at all times. Employers must also have an MSDS for each hazardous chemical that they use. The MSDSs will contain a variety of information, including the common name of the chemical, its makeup, particular hazards it presents, safety precautions, first aid procedures, and other items. If you do not have an MSDS for a chemical, you are entitled to receive one. Contact the firm from which you purchased it. MSDSs must be readily available to employees when they are in their work areas during their work shifts. For example, a binder containing the MSDSs for agricultural chemicals should be kept in a pickup or tractor during field operations.

Each employee who may be exposed to hazardous chemicals when working must be provided information and trained prior to initial assignment to work with a hazardous chemical, as well as whenever the hazard changes.

Use this checklist to ensure that you are in compliance with the hazard communication rule:

- Read and understood the requirements.
- Assigned responsibility for tasks.
- Prepared an inventory of chemicals.
- Ensured containers are labeled.
- Obtained an MSDS for each chemical.
- Prepared written program.

- Made MSDSs available to workers.
- Conducted training of workers.
- Established procedures to maintain current program.
- Established procedures to evaluate effectiveness.

Field Sanitation – 29 C.F.R. 1928.110

When 11 or more workers are engaged in hand-labor operations (operations performed by hand or by using hand-tools), an employer needs to provide the following:

- Drinkable, clean water placed in locations where it is easily accessible to all employees.
 - ✓ The water should be cool, and there should be enough for all employees, taking into account the temperature, humidity, and the work being done.
 - ✓ Drinking water should be dispensed in single-use cups or fountains. The use of common drinking cups or dippers is prohibited.
- One toilet facility and one handwashing facility should be provided for every 20 employees or fraction thereof (for example, one facility would be required for 11-20 employees, two facilities for 21-40 employees, and so on).
 - ✓ Toilet facilities should be adequately ventilated, appropriately screened, have self-closing doors that can be closed and latched from the inside, and should be constructed to ensure privacy.
 - ✓ Handwashing facilities should have either a basin, container, or outlet with an adequate supply of clean water, soap, and single-use towels.
 - ✓ Toilet and handwashing facilities must be maintained in good, sanitary condition, and should be located no further than 1/4 mile from any worker's location.
 - ✓ Workers should be allowed reasonable use of such facilities, and should be instructed in the practice of hygiene to avoid hazards in the field.

Grain Handling – 29 C.F.R. 1910.272

Guidelines have been established to avoid two of the greatest hazards associated with grain storage facilities—engulfment (when an employee is buried underneath grain) and explosions.

Engulfment protection

- Employees must get written permission to enter bins, silos, or tanks.
- Employees should be instructed in the hazards associated with entry into bins, silos, or tanks.
- When grain or other agricultural products are hung-up or stuck to the sides, no one should be allowed to enter into a storage area.
- Storage area atmosphere
 - ✓ Employees should be informed that the atmosphere in bins, silos, and tanks can be oxygen deficient or toxic.
 - ✓ Employees should be trained in how to test the atmosphere for potential hazards and what procedures to follow if the atmosphere is found to be toxic.

- ✓ Ventilation, supplemented by the use of appropriate respirators, should be used if oxygen levels are below 19.5%, or if toxic gases present exceed OSHA ceiling limits, or if there is a combustible gas or vapor concentration in excess of 10% of the lower flammable limit.

- An employee must wear a body harness with a lifeline or a boatswain's chair whenever entering a grain storage area at or above the level of stored grain, and the grain is deeper than waist-level.
- "Walking down grain" to make it flow, or standing on moving grain, is prohibited.
- All mechanical, electrical, and pneumatic equipment that may be dangerous to an employee while within the storage structure should be disconnected or locked out and tagged to prevent starting. This means that the starting mechanism of the equipment must be locked so that no one other than the worker performing the repairs can activate the equipment. The starting device should also have a tag warning others not to attempt to activate the equipment, as repairs are underway.

Explosion prevention

- Any employee performing "hot work" (such as electric or gas welding, cutting, brazing, or similar flame producing operations) in or near the storage facility must get written permission to do so from the employer prior to starting the operation.
- Bucket elevators
 - ✓ Inside bucket elevator legs (bucket elevators with 20% or more of their total height inside the grain storage facility) are required to have belts with a surface electrical conductivity of no more than 300 megohms.
 - ✓ Bucket elevators must have an opening to the head pulley section and boot section to allow for inspection, maintenance, and cleaning.
 - ✓ Bearings for the bucket elevators must be mounted externally to the leg casing or the employer must provide vibration, temperature, or other monitoring of the conditions of the bearings if they are mounted inside or partially inside the leg casing.
 - ✓ Elevator legs must be equipped with a motion detection device that will shut down the leg when the belt speed is reduced by 20% or more of the normal operating speed. A belt alignment monitoring device with an alarm to alert employees when the belt is not tracking properly is also required; or the employer can provide a way of ensuring that the belt is tracking properly.
 - ✓ Bearing monitors, motion detection devices, and belt alignment devices need not be installed if the employer equips bucket elevators with a fire suppression system capable of protecting the head and boot sections of the leg, or with a pneumatic dust control system that will keep the dust concentrations inside the leg casing 25% below the lower explosive limit during operation.

- Preventive maintenance
 - ✓ All mechanical and electrical equipment must be kept in good operating condition. The employer must annually inspect the mechanical and safety control equipment associated with dryers, grain steam processing equipment, dust collection equipment (including filter collectors), and bucket elevators.
 - ✓ Equipment must be lubricated and maintained according to the manufacturer's recommendations, or as determined necessary by prior operating records. Any equipment that malfunctions or operates below designed efficiency should be repaired or replaced promptly. Inspected or repaired equipment should show the date of inspection.
 - ✓ While equipment is being repaired, serviced, or adjusted, it should be locked out and tagged.
- Housekeeping
 - ✓ Employers must develop and implement a written housekeeping program to avoid the accumulation of combustible materials. The program must include instructions for reducing accumulations on floors, equipment, and other exposed surfaces, and must identify "priority" areas in grain elevators that are known to be potential sources of ignition. These include floor areas within 35 feet of inside bucket elevators, enclosed areas containing grinding equipment, and enclosed areas containing grain dryers located inside the facility.
 - ✓ Methods of removing grain spills must be included in the housekeeping program.
- ✓ Compressed air cannot be used to remove dust unless all machinery that presents a source of ignition is shut down, and all other known potential ignition sources are removed or controlled.
- ✓ No more than a 1/8-inch accumulation of grain dust is allowed in priority areas.
- Emergency Action Plan
 - ✓ Employers with 11 or more employees must develop and implement an emergency action plan. This plan must include a distinguishable and distinct alarm system, evacuation procedures, and employee training in emergency procedures.
 - ✓ Employees should know escape routes, and at least two means of emergency escape must be provided from galleries (bin decks).
 - ✓ A safe area outside the facility should be designated for employees to meet following an evacuation, and a procedure should be established to account for all employees following an evacuation.
- Training and Education
 - ✓ Training should include general safety precautions associated with the grain facility, as well as the recognition and prevention of hazards related to engulfment, mechanical devices, dust accumulations, and common ignition sources, such as smoking.
 - ✓ Specific procedures and safety practices applicable to the job tasks including, but not limited to, clearing choked legs, and performing housekeeping, hot work, preventive maintenance, and lockout/tagout procedures should also be included.
 - ✓ All employees should be trained in emergency procedures.

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