



The Lone Star

Agricultural Safety & Health Newsletter
Biological & Agricultural Engineering Department - Texas A&M University

Electrical Systems Safety

Objective:

Teach participants to appreciate the role of electricity in their farm operation and to respect the dangers it can present in accidents when the integrity of an electrical system is undermined.

After this Lesson, the Student Should be Able to:

1. To identify hazards associated with electricity.
2. Understand and respect the potential dangers of electrical systems.
3. Outline precautions to follow in the event of an accident involving an electrical system.
4. Identify the main source of power on their farm and know how to shut it off.

Activity:

1. Select a local electrical cooperative representative to provide a demonstration.
2. Teach participants the following safety precautions:
 - Consider any overhead power line dangerous. Keep all objects at least 10 feet away from power lines.
 - Don't attempt to raise or move fallen electrical lines. Call your power supplier.
 - If power lines are buried, let your electric service representative locate them before digging.
 - Report any potential power line hazard to your electric power supplier.
3. Show participants how to identify an electrical box and to shut off power.
4. Teach participants what to do if an electrical accident occurs:
 - Never touch a person or equipment in contact with high voltage.
 - Turn off the power if you can.
 - Use a rope or a dry board to push or pull victim away from electrical contact.
 - If you are in a vehicle that comes in contact with a power line, remain in your vehicle. If you must exit to avoid fire or other life-threatening situations, jump, using care not to touch the vehicle and ground at the same time.
 - Send for help and give artificial resuscitation and Cardiac Pulmonary Resuscitation (CPR), if needed, until help arrives.

Discussion Points

1. Power lines carry electrical energy that can burn, injure or kill unless you respect it and exercise proper caution.
2. Similar to lightning, the flow of electrical energy is constantly striving to find a path to the ground. Common dangers include flying kites or model airplanes. When accidental contacts are made, metal guide wires, wet string or strings with metal strands provide the path to the ground through your body.

3. Never climb trees with power lines strung between limbs.
4. Farm augers and many types of farm equipment are tall enough to come in contact with electrical lines. They provide an excellent path for electricity to reach the ground.
5. Metal, metal reinforced or wet ladders also are good conductors of electricity.