Stored Energy can be Trouble

There are all sorts of stored energy found in agricultural workplaces that have the potential of causing serious injuries. These include batteries, springs, compressed air, aerosol spray cans, LP gas and anhydrous ammonia tanks, inflated tires, raised hydraulic components, hydraulic accumulators, tow straps under loads, and flammable liquids such as gasoline and diesel fuel. Each of these listed types of stored energy has been involved in documented deaths and serious injuries when the energy they contained was suddenly or unintentionally released and impacted a worker.

In this activity participants will become more aware of the potential hazards of stored energy using simple forms of it such as found in springs underload, inflated tires, aerosol cans, and tow straps.

Procedure:

1. Start with the large rubber band and ask participants if anyone would like to volunteer to be "snapped" with the stretched rubber band (They will get the point).
2. Ask the question, "What causes the pain when the stretched rubber band strikes the skin? It is the stored energy that is released when the rubber band makes impact.
3. Point out how each example of stored energy found on farms has a much higher level of stored energy that can cause severe injuries. A blow from a heavy stretched spring on a piece of farm machinery can be fatal, a narrow stream of pressurized lubricant from an aerosol can cause an eye injury, or over-inflating a tire can cause it to explode causing either death or serious injury. Even the low-pressure tires on a farm tractor can explode with terrific force if overinflated because of the amount of air they contain.

Materials Needed


Springs


Large rubber band


Tire

Aerosol cans


Tow strap

Encourage participants to become familiar with the sources of stored energy they work around and follow the warning that are often found on these items. For example, a tire may have a warning about maximum inflation pressures, batteries on tractors have warnings about the potential of explosive gases, and most nylon tow straps come with warnings about potential failure and "snap back" if their capacity is exceeded.