Agriculture and Environment Extension Publications

6-2017

Safe Farm: Reduce fires with electrical safety

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Reduce fires with electrical safety

Fires are among the leading causes of unintentional death in the United States today. According to the National Safety Council, 3100 people died in fires in 1999. During that year, 383,000 residential fires resulted in $5.1 billion property damage. The toll continues to grow every year, even with increased use of 911 emergency response systems.

More than three out of four reported structure fires occur in the home. Fires are likely to be more severe in rural areas because of the response time and limited equipment available to outlying fire departments.

People cause fires
The tragic aspect of home fires is that many could have been prevented—if someone had taken the proper safety measures ahead of time.

People’s actions—and how they fail to consider fire safety—are common to all major causes of household fires. Major causes include improper use and maintenance of heating appliances; improper use and care of electrical appliances; lack of functioning smoke detectors; and careless use of smoking materials. This publication covers electrical safety, smoke detectors and use of a family exit plan.

Check electrical cords
Two-thirds of all electrical fires begin in plugs or cords on fixed appliances such as refrigerators, air conditioners or lamps. Frayed cords expose electrical wires that spark on contact with each other or anything that can ground the electrical current.

Electrical plugs and cords usually deteriorate gradually, making damage difficult to detect. Inspect all appliance cords and plugs for wear at least once a year. If you discover a frayed cord or loose prongs on a plug, discontinue use until repairs can be made.

Check electrical outlets
Never overload electrical outlets and circuits. Overloaded electrical outlets, or circuits that supply power to several outlets, is a major cause of residential fires. Overloaded outlets and circuits carry too much electricity, which generates heat in undetectable amounts. The heat causes wear on the internal wiring system and can ignite a fire.

All wiring systems have circuit breakers or fuses that disconnect power when circuits become overloaded. However, an improperly sized fuse or breaker can cancel this built-in safety feature.

To prevent overloading, never plug more than two appliances into an outlet at once or “piggyback” extra appliances on extension cords or wall outlets. Use only outlets designed to handle multiple plugs.

Give special consideration to appliances that use 1,000 or more watts, such as air conditioners, refrigerators, hot plates, irons, microwave ovens, dishwashers, heaters, and deep fryers. Avoid plugging them into the same outlet or another or anything that can ground the electrical current.

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Give special consideration to appliances that use 1,000 or more watts, such as air conditioners, refrigerators, hot plates, irons, microwave ovens, dishwashers, heaters, and deep fryers. Avoid plugging them into the same outlet or another or anything that can ground the electrical current.

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Test your skill with this quick quiz.

1. How many people die in home fires in the United States each year?
   a) 1,100
   b) less than 600
   c) about 3,000

2. A standard electrical outlet could safely handle which combination of the following items:
   a) air conditioner, hair dryer and clock radio
   b) a family-sized refrigerator and microwave
   c) a belt sander and 50-watt trouble light

3. Most electrical fires in the home begin in the structure’s internal wiring system. True or false?

4. A battery-operated smoke detector will alert the household to danger only if you
   a) test the smoke detector once a month.
   b) change batteries at least once a year.
   c) never remove batteries to disable the alarm because of smoke from cooking.
   d) all of the above
Consider manufacturer’s suggestions on where to locate the smoke alarm. All smoke alarms should be placed on the ceiling or a wall near the ceiling in central locations. Most manufacturers suggest at least one smoke alarm for each floor. Some floor plans may require additional locations. Always select an alarm that has been tested and displays the seal of a testing organization.

**Prepare a family exit plan**
Early warning by a smoke alarm is effective only when accompanied by a prepared emergency exit plan. Emergency exit plans let you rely on automatic responses during an actual emergency.

It’s a good idea to develop your own Operation EDITH, Exit Drills in The Home. A good plan is known by all members of a household and includes an outside meeting location away from danger of the fire. It also will include more than one way to get out of each area of the home. Stage Operation EDITH practice drills periodically, then discuss the plan with family members.

Safe use of electrical appliances and outlets, a working smoke alarm, and a good family emergency exit plan may be all that’s needed to protect you and your family from the dangers of fire.

Prepared by Charles V. Schwab, extension safety specialist; and Laura Miller, extension communications. Design by Valerie King.

**For more information**
This publication covers only some aspects of home fire safety. For more information about supplemental home heating or smoke alarms, see the following source:

- U.S. Fire Administration
  16825 S. Seton Ave.
  Emmitsburg, MD 21727
  301-447-1000
  Also on the web at: www.usfa.fema.gov

Contact your local extension office for other publications in this series about livestock, machinery, pesticide, and family safety. All Safe Farm publications are free.

For more information
about supplemental home heating or smoke alarms, see the following source:

- Safe Farm

Safe Farm is an Iowa State University Extension project helping to make Iowa farms a safer place to work and live.

File: Health and Safety 1
Printed on recycled paper with soy ink

Answers to quiz: 1-c; 2-c; 3-False; 4-d