

## Instructor's Guide for "Photos of Fatal and Non-fatal Tractor Overturns"<sup>1</sup>

### Overview

During a tractor overturn, a rollover protective structure (ROPS) and seat belt are 98% effective in preventing injury to the operator. When a tractor without ROPS overturns, the operator frequently is killed. Farmers who survive tractor overturns usually are injured, some severely, and sometimes are permanently disabled. A ROPS and a fastened seat belt can prevent nearly all of these injuries and deaths.

These materials consist of a set of enlarged photographs of overturned tractors. Each photograph depicts a recent Kentucky overturn event. Four of the tractors had no ROPS and the operators were killed. Three of the tractors were equipped with ROPS and the operators survived the overturn. Two documents are included.

The first document is titled, "What Happened?" It lists the questions to be discussed as the participants examine the photos.

The second document is titled, "What Really Happened?" It describes the facts of the each overturn.

These two documents are presented in two layouts. The first layout is in 12-point font on standard 8.5 x 11-inch paper. This layout is useful when the materials are used in classroom or small group settings. The second layout is the same text printed in large type and landscaped format. This arrangement is useful when the photos and the supporting materials are to be used for poster displays.

### Purpose and Objectives

These photographs and captions can be used as part of a display or as materials to be examined and discussed at farm community meetings. In either case, include a few other materials from other sections of the notebook. Use items that explain the frequency of tractor overturn injuries and fatalities, the cost effectiveness of ROPS, and the availability of ROPS from local sources.

After they interact with these photographs and the accompanying materials, farm community members should:

1. Visualize and describe the types and extent of injuries to operators when tractors without ROPS overturn
2. Visualize and describe how and why a ROPS and a fastened seat belt protect an operator from injury during an overturn
3. Develop favorable attitudes and beliefs about the value of ROPS for preventing injuries during tractor overturns
4. Evaluate and appreciate the effectiveness of ROPS and seat belts for
  - saving money by preventing injury and death during overturns

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- providing peace of mind to tractor operators and their family members
  - helping to assure the continued operation of family farms and a way of life
5. Make greater efforts to acquire ROPS for farm tractors
  6. Use seat belts when operating ROPS-equipped tractors

### **Intended Audiences**

This activity is designed for principal operators of farms and other family members who make decisions about farm finances, equipment, and operation. The activity is also appropriate for future farm operators. Individuals and agencies that provide advice and services to farmers can also use these messages and materials as part of their service activities.

### **Suggestions for Using These Materials**

The enlarged photographs and their accompanying printed materials can be used as a poster and/or tabletop display, or as a group activity at community meetings.

#### Display

The photos and the large-type printed materials can be displayed at farm community business, school, or community events like farm safety days, producer group meetings, Farm Bureau meetings, and similar gatherings.

The photographs and captions will capture the attention of many people. After people take note of the display, it is important to use other supporting materials to communicate additional information concerning:

- The frequency of tractor overturns
- The effectiveness of ROPS
- Where and how to get ROPS
- The cost of ROPS
- The value of ROPS as insurance against huge personal and financial loss when a tractor driver is severely injured or killed in an overturn

Therefore, these photographs should be accompanied by some of the following materials that are listed below and found in the CPHF notebook, especially in the “What’s the Problem?” section. (See the notebook, Table of Contents.) Some of these materials can be duplicated and displayed alongside the photographs. Others can be duplicated as handouts and placed on a table near the display.

- How to Get a ROPS and Seat Belt on Your Tractor - This is a brochure specific to each county. It tells a farmer whom to contact and what to do to have a ROPS installed on a tractor.
- A Tough Quiz - This two-page chart depicts the number of Kentucky farmers who died in tractor overturns during the 1994-98 period. (Use as part of the display or as a handout.)
- Are ROPS Cost Effective? - This graph shows the small cost of a ROPS compared to the large cost of a typical severe tractor overturn injury. (Use as part of the display or as a handout.)

- Kentucky Farmers at Risk - These two graphs show that the occupational fatality rate to Kentucky farmers is about three times the national average. (Use as part of the display.)
- Kentucky Agricultural Machinery Fatalities 1982-92 - This graph shows that 56% of all farm machinery fatalities during these years were tractor overturns and that another 27% were related to tractors (being run over, caught in PTOs, etc.). (Use as part of the display.)
- Percent of Kentucky Farmers Protected by ROPS and Seat Belts - This graph shows that 70% of farmers have no tractors equipped with ROPS, and that only 6% of farm tractor operators are protected with ROPS and a fastened seat belt. (Use as part of the display.)

Not all of these materials should be presented at one time because the display may become too cluttered. Rather, different combinations of these materials and a few photographs and captions can be used for additional displays in the future. If the display is to be exhibited over a period of a few days or weeks, not all of the photos need to be shown at the same time. Sometimes it can be more effective to add a photo or two each week.

### Group Activity for Community Meetings

The photographs and captions can be used as “triggers” to stimulate thought and discussion at local community meetings. When used this way, the photographs should also be followed up with some other materials and activities. This helps the participants to learn more about tractor overturns, the value of ROPS for preventing costly injuries during overturns, and how to go about getting ROPS for their tractors.

To conduct this activity:

- Divide the participants into small groups of 3 to 5 persons.
- Give each small group one photograph but not the captions or stories that go with the photos. (Remove the captions from the plastic pouch before handing out the photos.)
- Ask each group to answer the following questions.

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|---|
| <ol style="list-style-type: none"><li>1. Using your photograph, explain what you think probably happened to this farmer.</li><li>2. Describe the effect of this event on the farmer, his or her family, and the community.</li><li>3. In what ways could this event and its consequences have been avoided?</li></ol> |
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After they have examined their photos and discussed the three questions, ask each small group to show their photograph and present their conclusions to the whole group.

Give each small group of participants a copy of the “What Really Happened?” document (the captions you removed from each picture’s plastic envelope). Ask them to find the stories that go with the photo(s) they examined. Then ask each group to make any additional comments about the tractor overturn event depicted in the photo(s) that they examined. During the group discussion, use the two questions on the next page to help the participants apply what they have learned to their own lives and circumstances.

You may wish to conclude the activity by asking the participants to complete and discuss the evaluation questionnaire found on page 9. The first few questionnaire items can help determine who was involved in the activity. The items in the last section can help assess in what ways the

activity influenced their attitudes and knowledge of the participants as well as their contemplation and intentions about getting ROPS for their tractors.

### Questions

1. Who can prevent members of your family (and other members of this community) from being injured in tractor overturns? How can they do so?
2. What barriers prevent farmers from getting ROPS? In what ways can these barriers be overcome?

### Suggested Follow-up Activities

Depending upon the time available and the interests of the audience, use one or more of the following activities found in the notebook (see the Table of Contents). Don't try to include too many activities. It is better to do one or two activities well than to rush and frustrate the participants.

- “What's the Problem?” overhead transparency charts - Select, show, and discuss only a few of the charts and graphs from the whole set. Participants often ask questions or make comments that can be addressed by a particular graph or chart. For this reason, it is a good idea to have the entire set handy as overhead projector transparencies.
- My Experiences with Tractor Overturns - This 15-minute activity surveys the people in the group and tallies how many of them know persons who have overturned tractors. It also asks what happened to these people. The activity demonstrates that many tractor overturn injuries and fatalities occur in local farming communities.
- Mr. Good Egg Farmer activity - This 10- to 15-minute activity is a physical model that demonstrates the effectiveness of ROPS and seat belts. Some advance preparation is required (mainly gathering the materials needed).
- How to Get a ROPS and Seat Belt on Your Tractor - This brochure tells farmers what they need to know and do to get a ROPS on their tractor. It also explains why it is important to equip tractors with ROPS. The material in the flyer can be presented briefly and discussed to help members of the audience understand how to go about getting a ROPS. The information in the brochure about local tractor dealers' names, addresses, and telephone numbers must be gathered and included for each local community.

### **Photographs of Tractor Overturns**

Photographs of seven tractor overturns are found in the next section. Sometimes there is more than one photo for an event. The photos are in plastic pouches. A set of instructions for the participants and the three “What Happened?” questions are included in the plastic pouch behind the photo but facing out. All that is needed to start the activity is to give each small group one photo and ask them to read the instructions and answer the questions found on the back of the photo.

### **What Happened**

These are the three questions that the participants answer and discuss as they look at the photos of overturned tractors. The questions and their titles are printed on a single page.

# What Happened?

## Instructions

Look at the photograph on the other side of this plastic envelope. Then answer the following questions. Make sure everyone in your group has a chance to look at the photo and has an opportunity to express his or her ideas.

1. What do you think happened here?
2. What do you think happened to the tractor operator? Why?
3. What do you think the consequences of this event may have been for the tractor operator and the members of his or her family? Explain.

When you finish, your group will be asked to make a one or two minute oral report about your observations and ideas.

## What Really Happened?

These are the factual accounts of each tractor overturn event.<sup>2</sup> They should not be distributed or discussed until the participants have examined and discussed the photos.

### **Photo 1 - Orange tractor, completely upside down**

This experienced farmer was bushhogging for a neighbor. While traveling up the road where the truck is parked, he made a U-turn. The left tractor wheels dropped off the edge of the gravel road. The tractor flipped upside down. A neighbor witnessed the overturn. The local rescue squad raised the tractor, removed the farmer's body, and laid it out beside the tractor. The white substance beside and slightly ahead of the tractor is an absorbent used to soak up the blood where the body lay until the coroner arrived. If his tractor had a ROPS, and if he had worn the seat belt, the farmer almost certainly would not have been injured and would have walked away from the overturn.

### **Photo 2 - Red tractor overturned in a stream**

This experienced farmer was bushhogging a pasture along a stream bank when a portion of the bank collapsed. The tractor and the bushhog overturned into the creek. When he didn't come home, a family member went looking for him and found him after dark. The farmer's body was underwater in the creek, crushed beneath the overturned tractor. He drowned with his face and body pressed into the mud at the bottom of the creek. A ROPS and seat belt could have saved him. The ROPS would have held the tractor off the creek bottom and allowed him to unbuckle the seat belt and escape.

### **Photo 3 - Tractor with a white radiator overturned on a chain-link fence**

This experienced farmer was using a box scraper on the back of his tractor to grade crushed stone on a gravel road. A heavy rain had washed the stone downhill and to one side. As the farmer moved the stone with the scraper, the left wheels of the tractor dropped off the side of the road. The tractor overturned crushing the farmer to death.

### **Photo 4 - Overturned red tractor with a ROPS**

This experienced farmer was mowing the banks on a farm road that runs along the side of a field. The farmer says he remembers being careful and moving along slowly. Then the tractor's left wheels dropped off the edge of the road. The overturn happened in an instant. The next thing he remembers is crawling out from under the overturned tractor. He was not hurt. The ROPS prevented him from being crushed. The second photograph (4A) shows the tractor after it had been uprighted with only slight damage to the hood.

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<sup>2</sup> To learn more about the deaths described in these photos and narratives, and how ROPS and seat belts could have saved these farmers' lives, visit the University of Kentucky, Kentucky Injury Prevention and Research Center web page at <http://www.kiprc.uky.edu/oipp/face.htm>

**Photo 5 - Red tractor with a ROPS overturned into a creek bed**

A 13-year-old boy was mowing along a creek bank when his tractor went over the edge and instantly overturned. The tractor was equipped with a Rollover Protective Structure (ROPS) that prevented the boy's body from being crushed by the tractor. He was thrown from the seat and his legs were pinned under the tractor. He required surgery to remove a blood clot from one leg, but was not seriously injured. If he had worn the seat belt, the boy would have stayed in his seat and not been injured. The second photo (5A) is a close up of the boy pinned under the tractor. The sheriff's department took the photos during the rescue. If there had been water in the creek the boy would have drowned. If his father had not seen the overturn, and the boy had remained trapped under the tractor for a few hours, he could have lost one or both legs.

**Photo 6 - Overturned green tractor with a ROPS**

An experienced farmer was bushhogging in a field when the right rear wheel of his tractor dropped into a worn cow path. The bushhog caught on a mound of dirt and the tractor flipped over backwards. The lid on the toolbox fell open and the wrenches tumbled out bruising and cutting the farmer. He walked away with no other injuries. Without the ROPS, he would have been crushed between the tractor and the bushhog. The farmer had debated for two years whether or not to spend the \$1,200 to retrofit his old tricycle tractor with a ROPS and sunshade. He decided to do so and less than a year later had his first overturn. The second photo (6A) is a close-up shot of the tractor operator's compartment.

**Photo 7 - Completely upside down red tractor with front-end loader**

This 66-year-old lifelong farmer was bushhogging a pasture on nearly flat land when the right rear tire fell into a small sinkhole causing the tractor to overturn. The tractor had a white, homemade canopy for sun protection that provided no protection during the overturn. The overturn happened around 1 PM. Late that evening, when the farmer didn't come home, his wife called the sheriff's department. The rescue squad found him the next morning at about 4:30 AM. He was still in the tractor seat, crushed between the steering wheel and the canopy. He was pronounced dead at the scene. The weight of the raised front-end loader contributed to the overturn. The farmer probably died instantly. Even if he had received less serious injuries he could have died from shock and exposure during the 15.5 hours he was trapped under the tractor. In either case a ROPS and fastened seat belt could have saved him.

**Participant Evaluation Questionnaire**

Use the questionnaire on the next page to have the participants evaluate the "Photos of Fatal and Non-Fatal Tractor Overturns" activity. The evaluation information can be discussed and used to judge the effectiveness of the activity.

**Large-type Landscape Materials for Poster Display**

The last section of this module consists of the "What Happened?" questions and the "What Really Happened?" factual summaries printed in landscape layout and large type suitable for use on tabletop or poster displays. Each item is printed on a separate page. Individual pages can be used with the photos as part of a poster display.

### Photos of Fatal and Non-fatal Tractor Overturns Evaluation Questionnaire

(Please complete this questionnaire after the activity and discussion.)

1. Name of exercise: *Photos of FataIs*
2. What year were you born? 19 \_\_\_\_\_
3. Your sex? (check one)  M  F
4. Do you work on a farm?  Yes  No
5. Years experience in farming? \_\_\_\_\_
6. Acres you farm at present? \_\_\_\_\_
7. Do you drive a tractor?  Yes  No
8. If "Yes," how many days a month? \_\_\_\_\_
9. How many tractors are used on the farm where you live or work? \_\_\_\_\_
10. How many of these tractors have ROPS? \_\_\_\_\_
11. Have you ever overturned a tractor?  Yes  No
12. Were you injured?  Yes  No
13. Do you personally know anyone who has overturned a tractor?  Yes  No
14. If "Yes", how serious was the injury? (check one)  Not injured  Minor injury  
 Required doctors visit  Required hospital stay  Permanently disabled  Died

Think about the Photos of FataIs activity you just finished. Circle the number that tells how much you agree or disagree with the following statements.

Statements	Strongly Disagree		Strongly Agree	
15. I had a chance to discuss and share my ideas during this activity.	1	2	3	4
16. Putting a ROPS on a tractor can bring peace of mind to a farm family.	1	2	3	4
17. Tractor overturns do not happen on flat ground.	1	2	3	4
18. Because of this activity, I will <u>think about</u> getting ROPS on my tractors.	1	2	3	4
19. This activity has convinced me to get ROPS for my tractors.	1	2	3	4
20. This activity convinced me to wear a seat belt on ROPS –equipped tractors.	1	2	3	4
21. This activity has helped me to visualize what might happen to my family if I were killed or seriously injured in a tractor overturn.	1	2	3	4
22. A ROPS protects the life and health of the operator during an overturn.	1	2	3	4
23. Tractor overturns are very unlikely to occur in my county.	1	2	3	4
24. ROPS and seat belts can prevent tractor overturns.	1	2	3	4
25. Drivers without seat belt on ROPS-equipped tractors risk being trapped under the tractor during an overturn.	1	2	3	4
26. A ROPS reduces the damage to the tractor in the event of an overturn.	1	2	3	4
27. ROPS and seat belts protect the financial well being of a farm family.	1	2	3	4

If you have other comments, please write them on the bottom of this page. Thanks for your help!