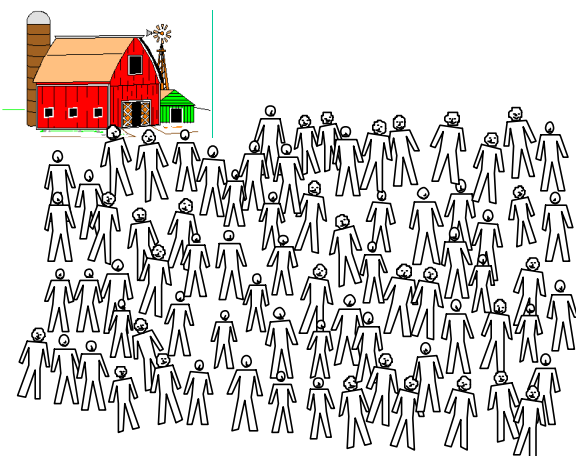


## Can all Tractors Be Fitted with ROPS? <sup>1</sup>

### An Internet Learning Activity About Tractor Overturn Injuries and Their Prevention

#### What Happened to These Kentucky Farmers?

*How many farmers are in this picture?*



*From 1994-99, these 76 farmers died when they overturned tractors without ROPS. Another 32 died when they fell off moving tractors. With a ROPS and a fastened seat belt all 108 could have lived! If your tractors don't have ROPS and seat belts, you or someone in your family could become another grim statistic.*

*It's easy to get a ROPS! They're available at cost from your local equipment dealer.*

*Protect your family and yourself. Get a ROPS on your tractor and buckle up!*

<sup>1</sup> Developed at the University of Kentucky by Tim Struttman and Henry Cole as part of the Kentucky Community Partner for Healthy Farming Project. The work was supported by CDC/NIOSH Cooperative Agreements U06/CCU412900-01, -02 and -03. The views expressed in this document are those of the authors and not necessarily those of CDC/NIOSH or the US Government.

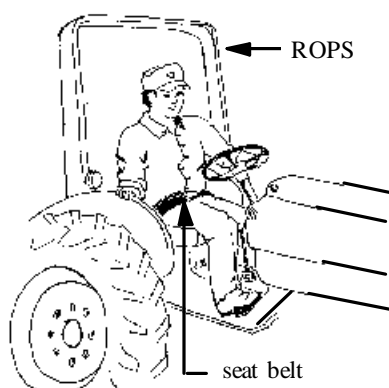
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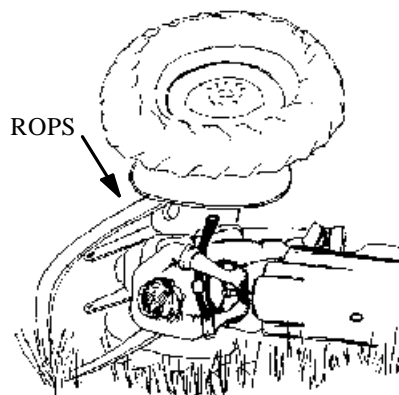
## Introduction

During a tractor overturn a tractor roll bar, or a Rollover Protective Structure (ROPS), and fastened seat belt keep the tractor driver from being injured. When tractors without ROPS overturn the driver is often killed or seriously injured. (See Figures 1 and 2.)

**Figure 1: ROPS, Seat Belts, and the “Frame of Safety”**

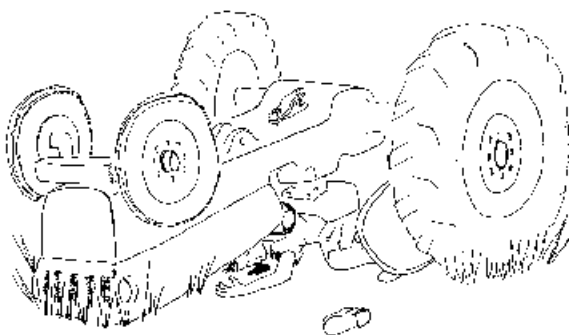


A seat belt holds the driver on the seat.

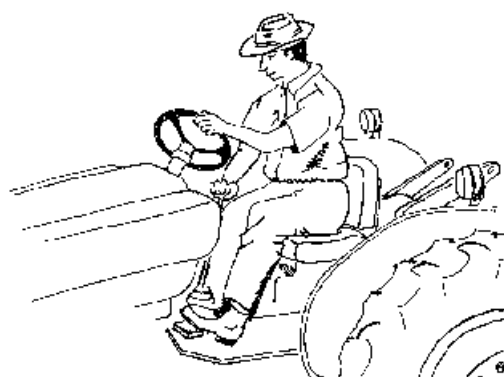


The ROPS provides a “frame of safety.”

**Figure 2: Tractor Overturns Without ROPS Are Often Deadly**



From 1994 to 1999, 76 Kentucky farmers died when tractors without ROPS overturned



About 70% of Kentucky farm tractors don't have ROPS and seat belts.

This farm tractor safety exercise has three parts. In Part One, you will be using the Internet to read about actual cases of Kentucky farmers who were driving tractors without ROPS and who were killed when their tractors overturned. Then you will be presented with questions about the cases.

In Part Two, you will gather information about the tractors on your farm, or on a friend or relative's farm. You also will talk with your family or friends about tractor overturns and what you have learned from your Part One activities.

In Part Three, you will use the Internet again to find out (a) if the tractors in the fatality stories you examined could have been fitted with ROPS, and (b) if your own tractor(s) or those of your friends or relatives can be fitted with ROPS and seat belts. Sharing this information with your family and talking about what you learned may result in your family, relatives or friends putting ROPS and seat belts on older tractors that came without these protective devices. Once a ROPS is placed on a tractor it protects everyone who drives that tractor for as long as the tractor is used. ROPS and seat belts are 98% effective for preventing injury and death during tractor overturns. ROPS have been called "life assurance" policies. They not only save lives, but also protect farm family members from huge financial losses that occur when tractors without ROPS overturn and injure or kill someone.

## Part One: Examine Two Fatal Overturn Stories

Do you know of anyone who has been injured or killed in a tractor overturn? (check "Yes" or "No")

\_\_\_\_\_ Yes    \_\_\_\_\_ No

- 
1. Locate a computer with Internet access and go to <http://www.kiprc.uky.edu/workplace/test/index.html>
  2. Read about what happened to these two Kentucky farmers. These stories can be printed and taken home.<sup>2</sup> These are true incidents that occurred in Kentucky. In fact, from 1994-1999, 76 persons were killed in tractor overturns in the state.
  3. Answer these two questions.  
How did these farmers die?  
  
What could have prevented their deaths?
  4. Using the information given about each tractor in stories 1 and 2, fill in the first three columns of Table 1 on the next page (tractor make, model, and whether it has a ROPS).
- 

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<sup>2</sup> Printed copies of the two stories are also attached as the last two pages of this document.

## Part Two: Complete and Discuss a Worksheet About ROPS

After you have entered into Table 1 the information about the tractors in the two fatal cases you read about in Part One, take this worksheet home and discuss the cases with your family.

Table 2 is about tractors on your farm. Complete the first three columns in Table 2 (tractor make, model, and whether the tractor had a ROPS) for the tractor(s) on your farm. Bring your completed Table 2 to class. (If you don't have a tractor, call a farmer relative or neighbor and fill in the information about tractor(s) on his or her farm.) Then discuss the questions on the next page with your family or farmer friends. Write your answers to each question. Have your parent(s) sign this worksheet and bring it back to class.

**Table 1: Information about ROPS and the tractors in the two fatal overturn stories**

TRACTOR In	TRACTOR MAKE & YEAR	TRACTOR MODEL NUMBER	DOES IT HAVE A ROPS?	IS ROPS KIT AVAILABLE?	COST OF ROPS
Story #1	Mfr: _____ Year: _____		____ Yes ____ No	____ Yes ____ No	\$
Story #2	Mfr: _____ Year: _____		____ Yes ____ No	____ Yes ____ No	\$

**Table 2: Information about ROPS for the tractors on your farm or a friend's farm**

YOUR TRACTOR	TRACTOR MAKE & YEAR	TRACTOR MODEL NUMBER	DOES IT HAVE A ROPS?	IS ROPS KIT AVAILABLE?	COST OF ROPS
First Tractor #1	Mfr: _____ Year: _____		____ Yes ____ No	____ Yes ____ No	\$
Second Tractor #2	Mfr: _____ Year: _____		____ Yes ____ No	____ Yes ____ No	\$
Third Tractor #3	Mfr: _____ Year: _____		____ Yes ____ No	____ Yes ____ No	\$

## Discussion Questions for Part Two

Talk with your family about the following questions and then write your answers in the spaces provided. Use the back of this page if you need more space.

1. Do you know of anyone who has been injured or killed in a tractor overturn? (check one) ☐ Yes ☐ No

If "Yes," describe what happened.

2. Has your family ever thought about buying a ROPS for a tractor you have that doesn't have a ROPS? (check one) ☐ Yes ☐ No

Please describe the reasons your family has for buying or not buying a ROPS for a tractor that doesn't have one.

Reasons for buying a ROPS:

Reasons for not buying a ROPS:

3. Do you have safety rules on your farm to keep people from being hurt ☐ Yes ☐ No

A. from tractors overturns?

B. by tractors in other ways (run over, felling off, caught, etc.)? ☐ Yes ☐ No

If "Yes," please describe these rules.

Signature of the adult you talked with

(Check one to show who you talked to.)

<input type="checkbox"/> Parent	<input type="checkbox"/> Relative	<input type="checkbox"/> Friend
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## Part Three: Finding ROPS for Specific Makes and Models of Tractors

For this third part of the activity, you will use the Internet again. You will access a website to look up the make and model number of the tractors you have listed in Tables 1 and 2. You will find out if ROPS kits are available for these tractors. You will also learn the cost of the ROPS for each tractor. Follow the steps that are listed below. Once you get on the Internet website, follow steps 2, 3, and 4 for each of the tractors you listed in Tables 1 and 2 when you completed Part Two of this activity.

- 
1. Locate a computer with Internet access and go to the following website:  
<http://www.marshfieldclinic.org/nfmc/rops/default.htm>
  2. Using the website Search Method 1, find the tractor make in the pull-down list and then click SUBMIT.
  3. Select a supplier from the menu (try Saf-T-Cab, Inc., if it is listed). Then click SUBMIT.
  4. Find the model number of the tractor and then complete the last two columns in Table 1 or Table 2 (ROPS kit available, and cost of ROPS).
- 

## Following Through

Congratulations! You have nearly completed this exercise, and you have gathered important information for your farm family members or farmer friends. Now there is one more important task to complete.

When you have finished filling out the last two columns in Tables 1 and 2, print them and the related information you found during this exercise. Take these materials home and share what you learned with your farm family members and/or friends. Your research in completing this activity is important because (a) it can help farmers install ROPS on their tractors, and (b) when tractors overturn ROPS and seat belts save lives, prevent terrible injuries and huge financial loss. In Kentucky 1 in 9 farmers age 55 years or older have overturned a tractor. Many have died while others have been permanently disabled. Some have been seriously injured but eventually have recovered. In all these overturn fatalities and serious injury cases there is great suffering and large financial loss. In about a third of the serious injury and fatality cases the family farm is lost. So think about it. Your research can make a large contribution to the financial wellbeing of your family and friends.

Contact your local farm equipment dealer or agricultural extension agent for details about retrofitting your tractors with ROPS and seatbelts. You can find a listing of farm equipment dealers who serve your area in your local telephone directory.

## Factual Stories about Two Fatal Tractor Overturns

These true stories describe how an ordinary day ended tragically for two Kentucky farmers. Some parts of the stories have been changed to protect the families' privacy. You may also access these stories through the Internet by calling up the following URL.

<http://www.kiprc.uky.edu/workplace/test/index.html>

### Story 1

It was a wet spring in May 1995 when a 66-year-old farmer began discing a tobacco patch prior to planting. This year he had decided to till only a small portion of the land near his home. The morning was cool as he began to disc the soil. The field was fairly flat but at the far end of the field the land sloped off to a drainage ditch. At the end of a row, when the farmer began to make a turn with his John Deere Model 1520, the tractor's wheels slipped off the edge of the field and the tractor flipped over into the ditch. The 4300-pound tractor landed on the farmer as it rolled over. His wife became worried when he didn't come in for lunch. She found him lying near the tractor and ran back to the house to call 911 for help. The rescue squad arrived within minutes, but his injuries were so severe that he could not be saved. The farmer died as his wife watched. She was devastated by the tragedy. If a Rollover Protective Structure (ROPS) and seatbelt had been added to the tractor, and if he had been wearing the seat belt, this farmer would probably not have been injured and would be alive and well today.

### Story 2

Taking advantage of the good evening weather a 38-year-old part-time farmer was mowing a section of his farmland August in 1994. He and his wife raised tobacco and a few cows. They had lived on the farm for several years. He had 22 years experience operating farm machinery. His Ford Model 3600 tractor that was not equipped with a Rollover Protective Structure (ROPS) or a seatbelt. That day he had mowed several areas of his property with a rotary mower attachment. About 8 PM, he started up a familiar but steep gravel path. He wanted to mow a little more before heading home for dinner with his wife. When he got about halfway up the hill, the front wheels of the tractor lifted off the ground and the tractor flipped over backward. The farmer was crushed under the weight of the 4000-pound tractor as it turned over. It came to rest near his body. When it began to get dark and he hadn't returned home, his wife went searching for him. She found him and ran back to the house to call for help, but it was too late; the farmer had died instantly.

His immediate family included a wife, daughter, stepdaughter, two sisters, and six brothers, all of whom were devastated by the sudden tragedy. The best way to prevent tractor overturn injuries and deaths is to use tractors equipped with ROPS and seatbelts.

After you have read the two stories, answer the three questions on the next page.



**Questions about the Stories**

Select and discuss the correct answers for questions 1 and 2. List and discuss your answer to question 3.

Question 1: How did the first farmer die?

- a) The farmer's hand was caught in the PTO
- b) The tractor flipped over into a ditch and landed on the farmer
- c) The tractor flipped over backwards and landed on the farmer
- d) The first farmer is still alive

Question 2: How did the second farmer die?

- a) The farmer's hand was caught in the PTO
- b) The tractor flipped over into a ditch and landed on the farmer
- c) The tractor flipped over backwards and landed on the farmer
- d) The second farmer is still alive

Question 3: What could have prevented the deaths of these two farmers?