

Why fall for it?

Preventing falls in agriculture



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Introduction

Falling from height is one of the main causes of fatal accidents in agriculture. Many accidents involving falls happen during the construction or maintenance of agricultural buildings or other farm structures. These jobs typically involve working at height, and require some form of temporary access to height, for example ladders, scaffolds, or other temporary working platforms.

Falls frequently occur because no precautions are taken, or any equipment that is used is inappropriate, defective or used incorrectly. Often people about to do a job believe it will 'only take a few minutes', and take a risk in the hope that simply being careful will be enough.

The case studies used in this booklet are based on actual accidents investigated by the Health and Safety Executive (HSE), followed by examples of good practice which will help you comply with the law.

When things go wrong at height, the result may be death or a disabling injury.

MAKE SURE YOU DON'T BECOME A STATISTIC . . .

General advice

- Don't start work at height until you have properly planned how you are going to do it, and you have weighed up and controlled the risks involved.
- Make sure you have fully considered all the ways in which you could be at risk of falling. For example, if you are planning to repair a roof, the ways in which you might fall include: through the roof, through a roof light in the roof, off the roof edge, or while getting onto the roof.
- Don't underestimate the risks involved. Simply 'taking care' is not enough. Proper precautions must be in place.
- Consider whether there are other, safe ways of doing the job. For example, if a roof requires repair can you avoid going onto it by carrying out the repair safely from below?
- Decide what equipment is required for the job. Ideally your precautions should be designed to prevent you from falling, for example using guard rails at a roof edge, or crawling boards on a fragile roof. For some jobs that will not take long, it may be more appropriate to use fall-arrest equipment, eg safety harnesses.
- If you haven't got the equipment you need, get it. Don't take a chance with your ladder if what you should be using is a tower scaffold. For one task, you may decide that what you really need is a working platform to use on your fork-lift truck. For another, you may need to engage contractors to rig a safety net before repairing a fragile roof. Making do without the right equipment in an attempt to minimise expense can lead to injury or death, as well as prosecution if the law is broken.
- Make sure there are no defects in any equipment you use.
- Make sure equipment is used safely. Training and/or supervision may be required.

Falls through fragile roofs

In agriculture, roughly half of the deaths and serious injuries which happen as a result of falls involve work on fragile roofs. These are roofs which are sheeted with materials that will not safely support a person's weight and can shatter without warning, for example fibre cement roof sheets (commonly referred to as 'asbestos cement'), corroded metal sheets, and many roof-light sheets.

A farmer died after falling through a fragile roof. He went onto the roof to clean moss from old asbestos cement sheets and inspect them before replacing them with new metal sheets. The roof gave way under his weight and he fell approximately 3 m onto a concrete floor, suffering serious head injuries. He died five days later.

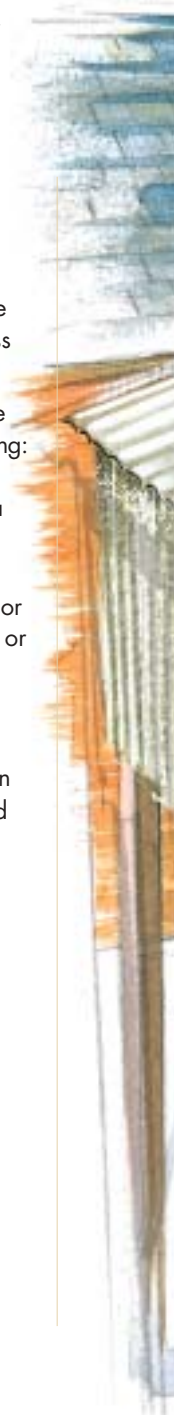
- Always assume that roofs are fragile unless you can confirm otherwise.
- Never go onto any part of a fragile roof without using platforms to support your weight.
- Fit appropriate warning signs to buildings which have fragile roofs, particularly at roof access points.

A farm worker was killed when he fell 4 m through the roof of a farm building. He was one of two experienced employees who were finishing some roof-work repairs which had been started the day before. He was using a single scaffold board to walk on the roof and had been standing on this while he cut away some damaged fibre cement roof sheets with a disc cutter. As he stood up on the board after cutting the sheets, he lost his balance, and fell backwards through the roof to the concrete floor below.

- Ensure that platforms are:
 - at least 600 mm wide;
 - long enough to provide adequate support across roof members, for

example they should span across at least three purlins.

- Ensure that enough platforms are provided on the roof. Don't simply use a pair of platforms to 'leapfrog' across a roof.
- Protect against falling through the fragile roof adjacent to the platform by providing:
 - a properly installed safety net, scaffolding or similar, for example a suitable stack of bales close to the underside of the roof; or
 - suitable guard rails and toeboards, or similar at the edges of the platform; or
 - further suitable coverings over all fragile materials within 2 m of the working platform.
- Never walk along the line of the purlin bolts. It is like walking a tightrope and gives no protection at all.





Falls through roof lights

Fragile roof-light sheets can often be found in roofs which are otherwise non-fragile. If you do not identify these sheets and do not take appropriate precautions, the consequences can be tragic.

A farmer died after falling 4 m through a roof light while carrying out repairs on the barn roof of a neighbouring farm. To reach the area of the tin sheet roof which needed repairing he had to pass a number of roof lights which had not been covered or fenced off. The neighbouring farmer had been passing up materials to him but had gone to make a drink at the time of the accident. The farmer doing the repairs was found semi-conscious beneath a broken roof light and was taken to hospital. He died nine days later from head injuries.

- Check carefully for any roof lights in non-fragile roofs as roof lights can be difficult to spot. They may have been painted over. In bright sunlight they can blend in with the surrounding sheets.
- Take precautions to prevent falls wherever the job involves passing by or working within 2 m of fragile roof lights. For example:
 - fit suitable, secure covers over the roof lights; or
 - provide suitable guard rails and toe boards or similar around the roof lights; or
 - provide a safety net, scaffold or similar (for example a suitable stack of bales) immediately beneath the roof surface.
- Consider taking some permanent protective measures, for example fit strong steel mesh above or below the roof lights.

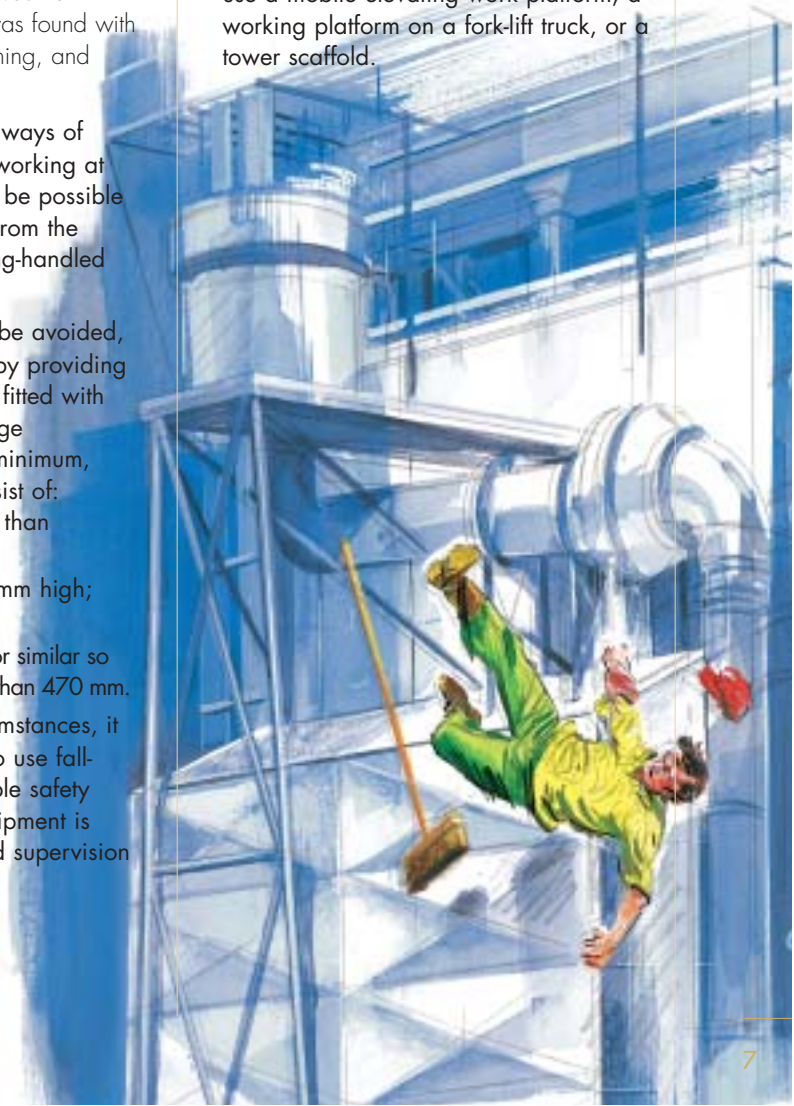


Falls from open edges

If you are working on a roof you will normally need protection against falling from the roof edge. As well as roof work, various other maintenance tasks in agriculture can also involve the risk of falling, for example cleaning crop stores or crop processing plant.

A farm worker died after falling from a grass drying plant. He was working at night and was using a hand brush at height to clean parts of the plant. There was no protection against falling. He was found with head injuries the following morning, and died the next day.

- Consider whether there are ways of doing the job which avoid working at height. For example, it may be possible to carry out cleaning work from the ground or catwalk using long-handled cleaning equipment.
- If working at height cannot be avoided, aim to protect against falls by providing a suitable working platform fitted with permanent or temporary edge protection. Normally, as a minimum, edge protection should consist of:
 - a main guard rail not less than 910 mm high;
 - a toe board at least 150 mm high; and
 - an intermediate guard rail or similar so that there is no gap of more than 470 mm.
- Exceptionally, in some circumstances, it may be more appropriate to use fall-arrest equipment, for example safety harnesses. Where such equipment is used, adequate training and supervision must be provided.
- Consider how else you could do the job before deciding to work from a ladder. It will often be safer, easier, and quicker to use a mobile elevating work platform, a working platform on a fork-lift truck, or a tower scaffold.



Working platforms on fork-lift trucks

In the right circumstances, a properly constructed working platform attached to a fork-lift truck and telescopic handler can be a very safe means of carrying out work at height. However, attempting to work with the wrong equipment is a recipe for disaster.

A farm worker suffered head injuries while replacing overhead pipework. He was standing in a bucket attached to the fore-end loader of a tractor. The pipe he was holding slipped and fell onto the mechanical trip lever of the loader. The bucket tipped and he fell over 2 m to the ground where he hit his head on a pallet.

- Only fit working platforms to suitable machines - normally fork-lifts with vertical masts or telescopic booms.
- Consult the manufacturer's/supplier's information to ensure that the truck and working platform are compatible.
- Only use working platforms on machines which have a tilt/trip 'lock', to prevent accidental tilting of the platform.
- Only use properly constructed working platforms fitted with full edge protection.
- Make sure that any gates in the edge protection open inwards, upwards or sideways, and return automatically to the closed position.
- NEVER work from ordinary pallets, buckets or forks.

A farm worker suffered head injuries when he, and the potato box from which he was working, fell 4 m from the forks of a materials handler. He was working in a potato store removing temperature probes so they could be checked. As the vehicle was manoeuvred into position to remove the next probe, he leant out of one side of the box causing it to fall from the forks to the concrete floor below.

- Ensure the working platform is properly secured to the truck.
- Fit suitable screens or guards to the platform to prevent access to any dangerous parts of the mast or boom.
- Always remain at the controls of the truck while the working platform is in a raised position.
- Make sure the fork-lift and the working platform have been examined by a competent person within the last six months.
- Make sure the maximum number of people to be carried, and the safe working load are displayed on the platform.

Detailed guidance on the use of working platforms on fork-lift trucks is being prepared by HSE to coincide with the new Work at Height Regulations.



Ladders

If you are planning to use a ladder for a job, think again! Many injuries in farming each year result from ladders slipping sideways or out from the base, or someone falling from the ladder. It will often be quicker and safer to use a platform on your fork-lift truck or a tower scaffold. Ladders should only be used as the last resort when there is no safer way of doing the job.

A farm employee sustained serious leg injuries when he fell off a ladder. Under supervision, the 16-year-old trainee was attempting to fix a door runner about 4.5 m from the ground. A risk assessment had indicated that a fork-lift cage or a tower scaffold should be used. However, the supervisor decided to use the ladder for the short job. The young worker overreached, slipped, and fell.



- Properly assess the job to determine what equipment should be used. Ladders are often used for jobs which could be done more safely and more quickly from equipment such as a working platform on a fork-lift, or a scaffold.
- If ladders are being used to repeatedly access the same point, eg to fill a diesel storage tank or a feed hopper, fit a low-level filling device.

A farmer suffered fatal head injuries when he fell from a ladder while repairing the roof of a farm building. He was attaching roof sheets at the gable end of the building. He propped the wooden ladder against the gable end but due to the slope of the roof edge the stiles were not evenly supported at the top, and it is presumed that the ladder slipped. He was found unconscious beside the ladder with head injuries and died later.

A farm worker fell when the base of the ladder from which he was working slipped. He was working inside a building with a ladder that was too long. To compensate, he was using the ladder, which had no feet, at an angle which was too shallow.

A farmer fell off a ladder while he was carrying out maintenance work at a height of about 2-3 m. The base of the ladder was unsecured and had only one rubber foot, which was damaged. As he reached over, the ladder rocked, causing him to fall off.

- Make sure the ladder is secure and cannot slip. Tie it at the top, have someone hold it at the base, or use a suitable stability device to prevent it from slipping. If the ladder is more than 5 m long, a person at the base is unlikely to be able to stop it from slipping.
- Consider using safety attachments such as an adjustable ladder leveller, or a 'stand off' spreader bar.
- Set the ladder at the correct angle. It should be angled one out for every four up. To help you, the manufacturer may have marked the correct angle on the side of the ladder.
- Use a ladder that is, or can be extended to, the correct length.
- Check the ladder for defects, and make sure it is only used by people who know how to use it correctly.

Using contractors

For a variety of reasons, building maintenance or construction work on farms is often carried out by contractors. Even though the work is being done by someone else, you still have legal obligations.

- Make reasonable enquiries to ensure the contractor is competent to perform the work safely.
- Agree how the work is going to be done to ensure safety. You may wish to get the agreement in writing.
- Make sure contractors take into account not only their own safety and that of their workforce, but also your safety, that of your workforce, and anyone else. For example, make sure contractors have plans to provide suitable protection at any open edges they create and that you or your workers are liable to fall from.
- Make sure your farm activities do not put the contractor's workforce at risk. For example, remove your machinery and livestock from areas where scaffolds or ladders are to be erected.
- As far as is reasonable in the circumstances, monitor contractors' work to make sure they do work safely, and intervene if they do not.

Construction (Design and Management) Regulations 1994 (CDM Regulations)

NOTE: THE FOLLOWING DOES NOT GIVE DETAILED ADVICE – SEE ‘FIND OUT MORE’ FOR MORE INFORMATION

These Regulations apply to most construction projects, including many projects which are carried out on farms. There are a number of situations where most of the CDM Regulations **do not** apply, including:

- construction work other than demolition that does not last longer than 30 days and does not involve more than four people;
- construction work for a domestic client;
- construction work carried out inside offices and shops or similar premises without interrupting the normal activities in the premises and without separating the construction activities from the other activities;
- the maintenance or removal of insulation on pipes, boilers or other parts of heating or water systems.

In summary, if you are having construction work carried out (including where you are carrying out the work yourself) unless the CDM Regulations do not apply, you must:

- appoint a planning supervisor;
- provide information on health and safety to the planning supervisor;
- appoint a principal contractor;
- ensure those you appoint are competent and adequately resourced to carry out their health and safety responsibilities;

- ensure that a suitable health and safety plan has been prepared before construction work starts; and
- ensure the health and safety file given to you at the end of the project is kept available for use.

Designers involved in the project, for example architects, should make the client aware of these duties. If you wish, the Regulations do allow you to formally appoint a competent agent to carry out your duties for you.

If you apply the requirements of these Regulations to your construction project, it should ensure that not only the risk of falls, but also all other relevant health and safety matters, are properly planned and managed.

Find out more

HSE priced publications

Health and safety in roof work HSG33
(Second edition) HSE Books 1998
ISBN 0 7176 1425 5

Health and safety in construction HSG150
(Second edition) HSE Books 2001
ISBN 0 7176 2106 5

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Construction (Design and Management)
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Practice and guidance* HSG224
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*Safe use of lifting equipment.
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Practice and guidance* L113
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Don't fall for it Video HSE Books 1999
ISBN 0 7176 1950 8

HSE free publications

Safe working on glasshouse roofs Agriculture
Information Sheet AIS12 HSE Books 1994

Preventing falls from fragile roofs in agriculture
Agriculture Information Sheet AIS32
HSE Books 1999

Tower scaffolds Construction Information
Sheet CIS10(rev) HSE Books 1997

*Construction (Design and Management)
Regulations 1994: The role of the client*
Construction Information Sheet CIS39
HSE Books 1995

General access scaffolds and ladders
Construction Information Sheet CIS49
HSE Books 1997

Working on roofs Leaflet INDG284
HSE Books 1999 (single copy free)



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