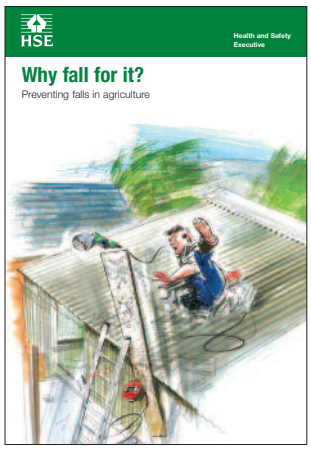
Why fall for it?

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 while agricultural buildings or other farm structures are being built or maintained. 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 defective, not appropriate, 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 Work at Height Regulations came into force in April 2005. They cover all work activities where people could fall and injure themselves. The duties are on employers, the self-employed and others who have control over work at height. You must make sure that all work at height is properly planned, supervised and carried out by people who are competent to do the job.

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.

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

Plan work at height properly

- Do not 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.
- Make sure you have thought about arrangements for emergency rescue.
- Do not underestimate the risks involved. Simply 'taking care' is not enough. Proper precautions must be in place.

Avoid work at height where possible

- Consider whether there are new, or other, safer 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?

Use collective measures before personal measures

- Choose collective measures, like a working platform, before personal measures, like a safety harness.
- For example, if you need to access the top of a load to sheet lorries, ask yourself:
  - Do I need to sheet the load at all? Is it habit or is it required by law?
  - Can I use a self-sheeting system or one that can be applied from ground level?
  - Can I sheet the load from a collective piece of equipment, eg a gantry?
  - Is it practicable that I build a gantry?

Where none of the above is practicable, you may need to select the personal fall-protection system that will best reduce the risk of any injury.

Select the right equipment

- Decide what equipment is required for the job. 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.
- If you have not got the equipment you need, get it. Do not 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 an integrated 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 save money can lead to injury or death, as well as prosecution if the law is broken.

Inspect and maintain

- Make sure there are no defects in any equipment you use. Inspect it regularly.

Selection and training

- Some people are not suited to work at heights and could put others at risk, for example if they suffer vertigo. They should not be asked to do this type of work.
- Those who are suitable need appropriate knowledge, skills and experience to work safely, or must be under the supervision of someone else who has.
- Make sure equipment is used safely. Training and/or supervision may be required.

See ‘Find out more’ for more detailed guidance on the Regulations.

Falls through fragile roofs

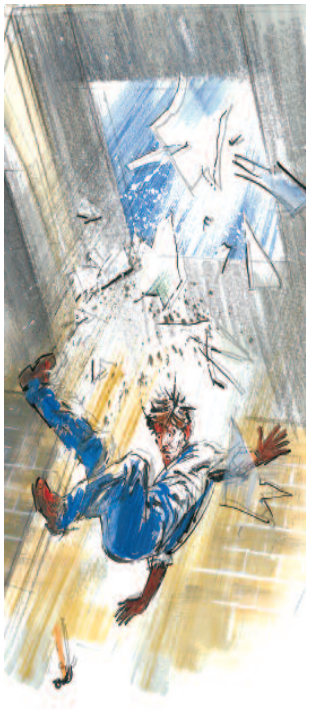
In agriculture, roughly half of the deaths and serious injuries which happen as a result of falls involve work on fragile roofs. These are roofs sheeted with materials that will not safely support a person's weight and can shatter without warning, for example fibre cement roof sheets (commonly referred 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 and means to reduce the consequences of a fall.
- Fit appropriate warning signs to buildings that 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 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 working platforms are:
  - wide enough to allow you to work safely and to get to and from your workplace with any tools and equipment;
  - long enough to provide adequate support across roof members, for example they should span across at least three purlins. On a sloping roof you may need a purpose-made roof ladder.
- Ensure that enough platforms are provided on the roof. Do not 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.
- Never walk along the line of the purlin bolts. It is like walking a tightrope and gives no protection at all.
- Tools and materials must be safely raised and lowered to and from the roof so that nothing can fall from or through it.

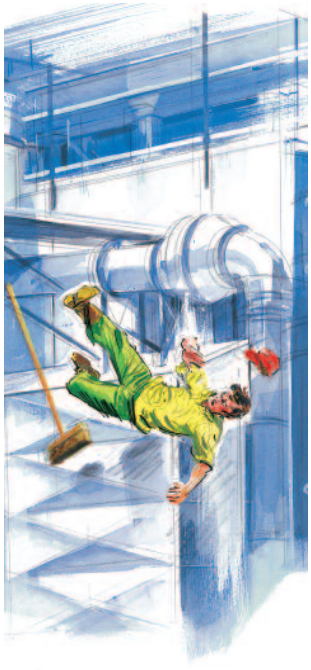


Falls through roof lights

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 they 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 near 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 (eg 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.
- Make sure danger areas are clearly indicated.



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 950 mm high (or 910 mm for existing rails);
  - a toe board that prevents people, materials or objects from falling; 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. You must have systems to check the anchor points and emergency rescue arrangements to free the worker if the fall-arrest is deployed.
- 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

For planned or regular work at height, you should use a fully integrated and properly constructed working platform. This will have controls that are linked to and isolate the truck controls so that only a person on the platform can control the platform and truck movements. You should not normally use a non-integrated work platform (see HSE Guidance Note PM28 in 'Find out more').

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 any gates in the edge protection open inwards, upwards or sideways, and return automatically to the closed position.
- NEVER work from ordinary pallets, potato boxes, buckets or forks.

A f**arm 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.
- The person in the platform must have control over its movement at all times and wear a suitable whole-body harness with a work-restraint lanyard.
- Make sure the fork-lift and the platform have been examined by a competent person in the last six months.
- Make sure the maximum number of people to be carried, and the safe working load are displayed on the platform.

See 'Find out more' for detailed guidance on the use of working platforms on fork-lift trucks.

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 fixed ladder, or at the very least some brackets to fit the top of your portable ladder into.

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, or use a suitable stability device to prevent it from slipping. Footing a ladder does not work as well as securing it. For example, if a 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.
- Do not work with ladders within a horizontal distance of at least 6 m from any overhead power lines unless the line owner has made them dead or protected them with temporary isolation. If this is a regular activity, find out if the lines can be moved.

See ‘Find out more’ for detailed guidance on the use of ladders.

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 from which you or your workers may fall.
- 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 are to be erected.
- As far as is reasonable in the circumstances, monitor contractors' work to make sure they do work safely, and intervene, when safe to do so, if they do not.

Construction (Design and Management) Regulations 2007 (CDM)

From April 2007, CDM applies to all construction projects, including those on farms. Within CDM there are some general duties that apply to all construction projects, and some that will only apply if the project is notifiable. A project will be notifiable to HSE if the construction phase will last more than 30 days, or 500 person days (unless it is for a domestic client).

CDM places duties on clients, designers, CDM co-ordinators, principal contractors and contractors. However, domestic clients do not have these duties if they are having building work done on their home, as long as it is not used for business.

Most construction work carried out on a farm will be in connection with the farm business. If you are having construction work carried out, this is what should happen:

- You need to ensure those you appoint are competent for the work.
- The designer (architect/structural engineer etc) should advise you of your duties as client.
- You will need to provide relevant pre-construction information to those that will need it. This will include information about/affecting the site or construction work, the proposed use of the structure as a workplace, the minimum amount of time allowed to the contractor for planning and preparation, and any information in an existing health and safety file.
- You need to take reasonable steps to ensure that the arrangements for managing the project by people with CDM duties are suitable, and that the arrangements are maintained throughout the project.
- If the project is notifiable you need to appoint a CDM co-ordinator. The co-ordinator is your principal adviser and will help you with the health and safety aspects of the project.
- You need to ensure there is suitable welfare provision for site workers.
- The co-ordinator will prepare the health and safety file at the end of a notifiable project, which should be passed to you and kept for future work. Any existing health and safety file should be updated.

If you carry out the construction work yourself, or act as a contractor, then you will have other duties under CDM.

Bear in mind that falls from height are the most common cause of serious injury and death in construction work. If your contractors are competent, they will be able to plan the work to prevent the risk of falls from height. When selecting an appropriate contractor ask how they intend to deal with the risk of falls – this will provide some indication of their health and safety competence.

Find out more

Health and safety in roof work HSG33 (Second edition) HSE Books 1998 ISBN 978 0 7176 1425 7

Health and safety in construction HSG150 (Third edition) HSE Books 2006 ISBN 978 0 7176 6182 4

Managing health and safety in construction. Construction (Design and Management) Regulations 2007. Approved Code of Practice L144 HSE Books 2007 ISBN 978 0 7176 6223 4

Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and guidance L113 HSE Books 1998 ISBN 978 0 7176 1628 2

Don't fall for it Video HSE Books 1999 ISBN 978 0 7176 1950 4

Working platforms (non-integrated) on forklift trucks Guidance Note PM28 Third edition 2005. View free at www.hse.gov.uk/workplacetransport/pm28.pdf

The Work at Height Regulations 2005: A brief guide Leaflet INDG401 HSE Books 2005 (single copy free or priced packs of 10 ISBN 978 0 7176 2976 3) Web version: www.hse.gov.uk/pubns/indg401.pdf

Safe use of ladders and stepladders: An employers' guide Leaflet INDG402 HSE Books 2005 (single copy free or priced packs of 5 ISBN 978 0 7176 6105 3) Web version: www.hse.gov.uk/pubns/indg402.pdf

Top tips for ladder and stepladder safety Pocket card INDG405 HSE Books 2005 (single copy free or priced packs of 25 ISBN 978 0 7176 6127 5) Web version: www.hse.gov.uk/pubns/indg405.pdf

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

*Tower scaffold*s Construction Information Sheet CIS10(rev4) HSE Books 2005

Further information

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e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 15 from HSE Books, ISBN 978 0 7176 6224 1. Single copies are also available from HSE Books.