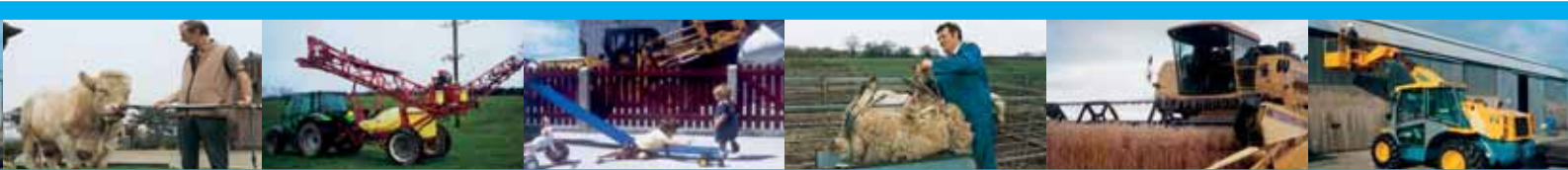


The Guide to Health and Safety in Agriculture



FOREWORD



The Health and Safety Executive for Northern Ireland wants to make sure that you have the information you need to comply with your statutory duties and to maintain a safe working environment. This guide has been produced to provide practical advice on how to improve health and safety standards on farms. It contains guidance for employers, employees and the self-employed.

It is divided into sections so that you can easily refer to those parts which are most relevant to your own business. I know that you will find all the information useful and I hope that you will keep it for regular reference.

If you need more detailed information on any of these matters I hope that you will not hesitate to contact us by any of the means set out in this guide.

I commend this publication to you

Liam McBrinn,
Chairman, HSENI



Farming is a Job with many facets to it and needs many different skills. One of the main skills is the ability to get your work done without suffering personal injury or death.

Therefore, an awareness of Health & Safety issues is very important.

Safety advice on how to conduct our farming and agricultural business is something that we would all appreciate before an incident happens rather than suffer an accident with possible legal consequences.

It is my hope that the Health & Safety Executive for Northern Ireland will not only be a legal 'watch dog' but also a body to help prevent tragic farm accidents.

Douglas Rowe,
President, Ulster Farmers Union

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INTRODUCTION

In the last 15 years a total of 135 people in Northern Ireland have been killed because of agricultural and horticultural work activities. Many more have been seriously injured and made ill by their work. This booklet has been prepared by the Health and Safety Executive for NI (HSENI) to help you:

- effectively manage health, safety and welfare;
- comply with the law;
- carry out the risk assessments that you must do, eg under the Management of Health and Safety at Work Regulations (Northern Ireland) 2000;
- work safely and healthily.

It is based on the "Farmwise" guide to health and safety in agriculture as published by the Health and Safety Executive. Permission to reproduce the layout and general content is gratefully acknowledged.

The first seven sections are aimed at those responsible for running the farming or horticultural business - partners, directors and sole traders - but will also be of interest to others. The rest of the book is relevant to everyone working on farms, whether employer, employee or self-employed, and will help identify the causes of accidents and ill health, eliminate hazards and hence control risks.

In this booklet:

- **'must'** indicates a definite legal requirement;
- **'do's and don'ts'**, **'shoulds'** and **'should nots'** and other recommendations represent good practice to help you do what is reasonably practicable;
- **'think about'**, **'consider'** and similar phrases contain a tip or hint which may not amount to a precise legal requirement but indicate an approach to a health and safety problem which ought to be considered;
- **'reasonably practicable'** means that the degree of risk in a particular job or workplace needs to be balanced against the time, trouble, cost and physical difficulty of taking measures to avoid or reduce the risk. In other words, if you can show that a particular risk is insignificant when compared with the sacrifice needed to reduce it you need do no more;
- a **'safeguard'** is a means of reducing risk to health and/or safety.

The booklet forms the core of a range of health and safety advice for agriculture. Each section contains references to some other relevant publications, which are available from both HSENI and HSE.

The costs of accidents and the accident and ill-health picture

Some employers recognise the cost of accidents and ill health among their staff, and have hard financial reasons to aspire to and maintain good standards of health and safety. As well as the personal and social costs of accidents - which can be lifelong - the financial costs can include:

- sickness payments and recruitment/training costs for replacement staff;
- loss of output - key staff off work, or temporary replacements not as effective;
- being unable to carry out weather-critical operations at the right time;
- damage to machinery, buildings and product;
- administration costs - investigating the incident, clearing up and repairs etc;
- insurance costs, legal costs and adverse publicity.

All these costs can be avoided - increasing profit as a result.

The industry's record on accidents and ill health

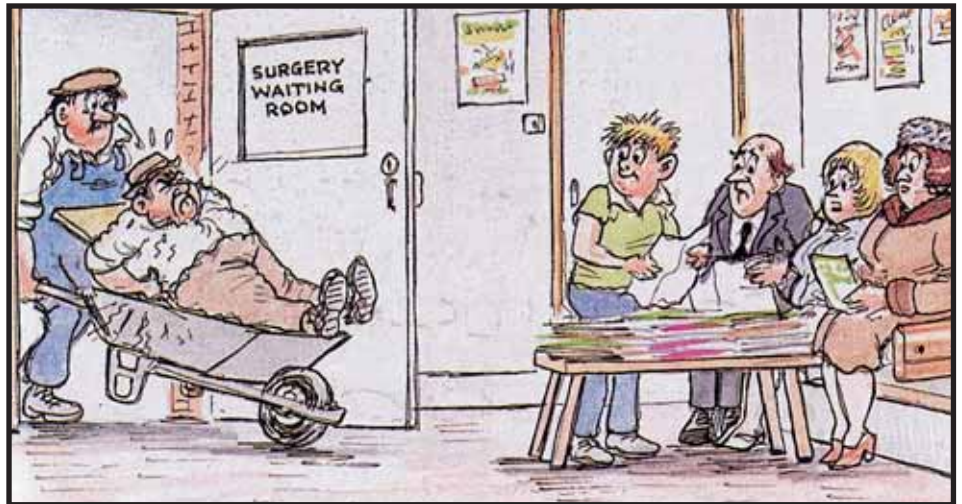
In agriculture, horticulture and forestry in N. Ireland there were 135 fatal injuries during the last 15 years.

The numbers involved were:-

- 42 self-employed and 4 other family members;
- 29 people still actively involved in farming but over 65 years old;
- 18 employees;
- 24 children;
- 9 young people aged between 13 and 18 years;
- 8 people on contract work;
- 1 Ambulance officer

The most common causes of death are:

- being struck by a moving vehicle (25%) – almost half involved drivers being run over by their own tractors;
- other accidents involving tractors (14%) – 75% involved overturnings;
- falls from a height (12%) – half were falls from roofs
- contact with large animals (11%) – almost half involved bulls;



- trapped by a heavy falling object or material (10%);
- contact with machinery (9%);
- drowning (8%) – more than half occurred in slurry tanks;
- electrocution (5%) – contact with overhead power lines / faulty power tools;
- overcome in a confined space (4%) – e.g. slurry tanks, wells.

There are also many more injuries which do not result in death. On the basis of those reported officially to HSENI under the RIDDOR requirements (see section 20) and other survey information it is apparent that large numbers of people suffer injury and loss each year.

People working in the industry can also be permanently disabled by ill health. Breathing in dusts, handling loads, being exposed to noise or vibration, using chemicals and working with animals can all cause ill health without obvious or immediate signs of injury. In some cases this ill health does not become obvious until many years later - and it can result in death.

Many of those in the industry do not consult their doctor unless seriously ill, and so details of the true extent of ill health are unclear. However, in agriculture, UK wide information suggests that:

- 80% of workers have some form of musculoskeletal injury (aches, sprains or strains);
- twice the national average of people are affected by asthma;

- many people are affected by zoonoses (diseases passed from animals to humans) each year;
- 25% of the workforce suffer some hearing loss from their work.

The advice in this book will help you to avoid becoming one of these statistics.

Find out more

HSG96 *The costs of accidents at work*
ISBN 0 7176 1343 7

Managing health and safety, and risk assessment

The law

The Health and Safety at Work (Northern Ireland) Order 1978 (HSW Order) and the Management of Health and Safety at Work Regulations (Northern Ireland) 2000 place duties on companies and individuals to ensure that adequate provision is made for health and safety at work. Employers must ensure, so far as is reasonably practicable, the health, safety and welfare of employees and any others who may be affected by what they do. This will include casual workers, part-timers, trainees and others who visit the premises, eg customers or contractors. It will also include those who may be affected by work activities, eg neighbours, sales people, members of the public etc.

As farmers and growers, you aim to manage your crops and animals so that they stay healthy and perform well to make your business profitable. You select the best breeds of livestock and crop varieties in support of this. When things go well (or badly) you look back and consider how you can learn from the experience to make the best decisions for the next season

Managing health and safety is no different - you need to manage it to ensure that you, your staff, family members and others are kept safe at work. The main elements to consider are:

- **policy** - setting a policy and making sure everyone knows and understands it;
- **organising** - to promote a positive health and safety culture to implement the policy, and train and consult staff;
- **planning and implementing** - systems to assess and control risks;
- **measuring performance** - systems to monitor whether standards are being met;
- **learning from experience** - systems to review what actually happens and using any lessons learned as the basis for improvements.

You need to get three things right to effectively manage health and safety:

- **policy;**
- **culture;**
- **systems.**

All will take effort to put in place, but, like your plant and animal management systems, they will help you run your business more effectively.

Policy

All organisations need a policy to set out their action plan on health and safety, with the aim of leading to better standards in the workplace. It should be in writing if they employ five or more people, and needs to be carefully prepared, well thought out and up to date (based on commitment at senior management level). Your policy should:

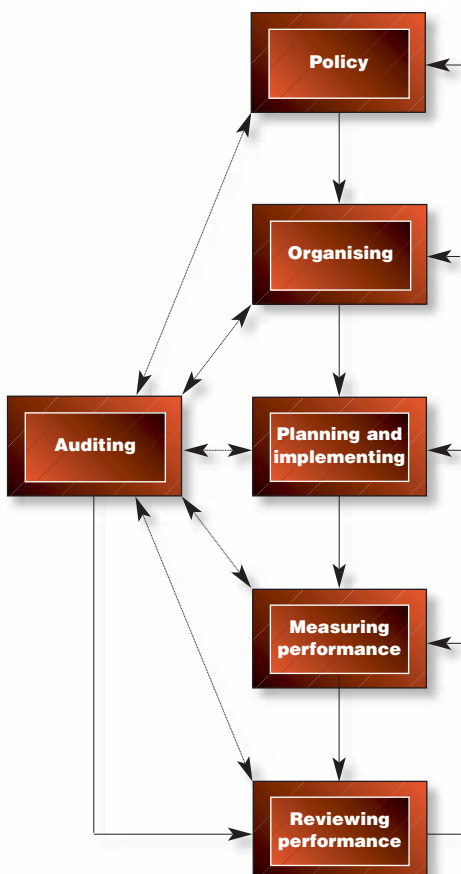
- be specific to your farm;
- state your general aims for your employees' health and safety. You as the employer should sign and date the policy to clearly show your commitment to it;
- accept that overall responsibility for health and safety rests with you as the employer;

- outline the various responsibilities particular people have for implementing the policy;
- describe the systems and procedures in place for ensuring the health and safety of your employees. This could be linked with your risk assessment in which you will have considered the risks in your workplace and decided on action to control them;
- set out your arrangements for bringing the policy to the notice of staff, for example by giving them a copy, and seeing that they follow the rules and instructions set out in it;
- be reviewed periodically and revised if your organisation changes or new hazards arise;
- be supported by enough finance, people and time to put the policy into action.

Culture

Do you recognise the importance of the right culture in achieving good health and safety standards? There are four key elements in developing a positive health and safety culture:

- **Communication:** staff need to know who to tell if they find a problem, or ask if they are not sure. Communication must work up, down and across your business. *Consider:* do you openly communicate your commitment to health and safety by leading by example?
- **Co-operation:** health and safety will flourish in a climate of co-operation, where people work together, help each other out and actively try to safeguard each other's health and safety. *Consider:* do you consult and involve your staff and safety representatives (if any) effectively?
- **Competence:** if staff are to work safely they need to be able to do the job properly, and be trained and briefed about all parts of their work - in particular the health and safety requirements. *Consider:* do your staff have enough information about the risks they may face and the preventive measures? Are they properly trained? Do you need specialist advice from outside and have you made arrangements to obtain it?
- **Control:** finally, responsibilities should be clearly allocated so that people know what they are responsible - and accountable - for. *Consider:* have you allocated responsibilities for health and safety to specific people?



Systems - Assessing risks

Identifying hazards and assessing the risks they create is essential. Unless you know what hazards exist on your premises, and the scale of the risk they present, you cannot know whether they need to be controlled or how to do so. You need to assess risks to your own staff, and others who may be affected by your work - family, visiting contractors, members of the public and so on.

Risk assessment is nothing more than a careful look at what, in your business, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more. You will need to decide what measures you should take to comply with your legal duties, including the general duties under the Health and Safety at Work (NI) Order 1978 and the more specific duties elsewhere. Once you have decided the level of risk, you will need to put in place necessary preventive and protective measures. Remember:

- a 'hazard' is anything with the potential to cause harm;
- 'risk' is the chance of harm actually being done - a measure of the potential danger associated with an activity;
- your knowledge of what goes on, in what way, and how on your farm, is essential to making a useful assessment;
- assessing risks is not an end in itself: it must result in practical and protective measures being put in place.

The following examples may help to clarify the difference between hazard and risk. In everyday life, the *hazard* could be rain on a cloudy day, but the *risk* will vary - on a bright day with light, fluffy clouds there is little risk; on a black, thundery day there is high risk. Controls such as waterproof clothing, umbrellas, or not going outside reduce the risk.

Similarly, the main hazard of a power-driven machine is of being trapped or entangled by moving parts. The risk may be high if you do not fit guards to the machine or train your staff. If the machine is properly guarded and you regularly maintain and repair it, provide good training and have competent staff then the risk will be lower.

Your assessment needs to consider the level of risk, who might be harmed, and whether significant risks can be eliminated or adequately controlled. There are many sources of advice on established good practice elsewhere that will help you when you carry out your risk assessment, but you could use this straightforward five-step process to help you.

Step 1: Look for the hazards

- Look around the workplace and watch how people work.
- Learn from experience - records of past incidents, accidents or health problems.
- Ask staff what they think - they are often aware of hazards that you may not be.
- Read manufacturers' instructions and other information, including HSENI guidance.

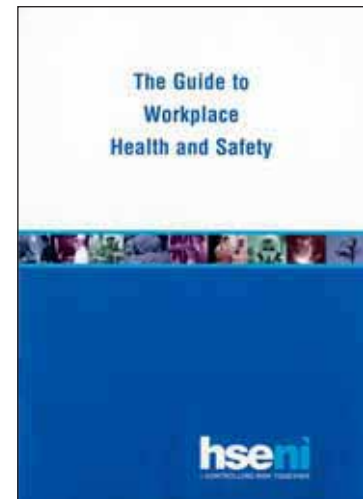
The aim is to spot significant hazards which could result in serious harm or affect several people (such as breathing in dust from grain, or storing liquefied petroleum gas (LPG) on a poultry farm close to a village). Trivial risks, or those which are part of everyday life (such as tripping over the farmhouse kitchen steps, or using solvent-based correction fluid in the office), can be ignored. It may help to divide the workplace into easy-to-handle units for this, eg building by building or activity by activity.

Step 2: Decide who might be harmed and how

Identify the people that could be harmed, and how many: employees (particularly new or untrained, casual or part-time staff), contractors, visitors, members of the public and family - especially children. When considering the 'how', don't forget things like maintenance work, when new hazards can emerge. Your staff or colleagues can help in this.

Step 3: Evaluate the risks arising from the hazards and take action to reduce or control them

Assess how well the risks from each significant hazard are controlled. The controls may be perfectly adequate, or there may be scope to improve things. Ask yourself:





- can you eliminate the hazard altogether? Could you change the way you do the job or not do it at all? For example, you could re-route overhead power lines (OHPLs) so that farm traffic does not have to pass beneath them, or bury them along a safe route;
- if you cannot eliminate or change the job, how else can you control the hazard? For example, you could use 'goal post' controls and signs around OHPLs, enclose a source of dust in the mill house, or draw up and implement safe systems of work;
- what training

and supervision is needed? Check whether staff keep to the agreed systems and follow their training, and if not, decide what needs to be done. For example, despite receiving training and information on using the provided crawling boards, roofing ladders etc when going onto fragile roofs, your maintenance staff do not do so. Is this because the boards are inconvenient to use, staff do not believe they could fall through, or because they think that you do not care whether the precautions are used?

- as the final line of defence, do you need to provide personal protective equipment (PPE)? For example, despite enclosing dust sources in a grain store, some maintenance work requires access to elevator pits where dust levels may be high. In this case the only practical control of exposure may be PPE.

Staff often have useful ideas, based on their day-to-day work, and you should involve them in making decisions about your controls.

Step 4: Record your findings

After you have decided what needs to be done, you need to plan how and when to do it. Recording your findings will help you do this. Make sure that your plan:

- is realistic and achievable;
- contains precautions that are likely to be effective;
- tackles the most important problems first.

If you have five or more employees you must record the significant findings of your assessment. In all cases employees should be made aware of your plans for controlling the risks, and be involved in carrying them out.

Step 5: Review your assessment and revise it if necessary

You will need to review your assessment if there has been a significant change in the way you work or you have some other reason to think it is no longer valid (see Section 21 'Reviewing progress').

Find out more

The HSENI Guide to Workplace Health and Safety

HSG65 *Successful health and safety management* ISBN 0 7176 1276 7

INDG163 *5 steps to risk assessment*

IACL30 (rev) *Health and safety policies and risk assessment in agriculture*

HSENI 99 11-A *Risk Assessment Simplified*



Consulting employees on health and safety

Employees have possibly the best knowledge of what goes on in your workplace. They are the ones carrying out much of the work, and they can make a great contribution to improving standards. It is important therefore that they are involved with your policy, arrangements and day-to-day practices for health and safety.

Employers have a legal obligation to consult employees on their health and safety at work, and they can do this either directly or through representatives elected from the workforce. Matters on which employers should consult include:

- any change that may substantially affect employees' health and safety at work, eg in procedures, equipment or ways of working, such as safe systems of work for sharpening knives on forage harvesters or cleaning blockages on a baler;
- arrangements for getting competent people to help satisfy health and safety laws;
- the information that must be given to employees on the risks from their work, the measures to control the risks, and what they need to do;
- planning health and safety training; and
- the health and safety consequences of introducing new technology, for example the introduction of equipment to restrain cattle for under-belly clipping.

If employers recognise a trade union for purposes

such as negotiating on pay, holidays and conditions of work, the Safety Representatives and Safety Committees Regulations (Northern Ireland) 1979 apply. A trade union can then appoint safety representatives from its members, who have particular functions, including investigating hazards, accidents and complaints, and being consulted by the employer on health and safety issues.

Find out more

HSA 6 (Rev) 97 *Safety representatives and safety committees leaflet*

91 HSA 97 *A guide to the Health and Safety (Consultation with Employees) Regulations (Northern Ireland) 1996* ISBN 0-337-11245-2

INDG232 *Consulting employees on health and safety: a guide to the law*

The law

Employers must consult all their employees on health and safety matters. Where employers have recognised unions, the Safety Representatives and Safety Committees Regulations (Northern Ireland) 1979 will apply. Where employees are not members of a union, or the union is not recognised, the Health and Safety (Consultation with Employees) Regulations (Northern Ireland) 1996 (HSCER(NI)) will apply.



Selecting and buying new machinery and personal protective equipment

The law

The Provision and Use of Work Equipment Regulations (Northern Ireland) 1999, the Control of Substances Hazardous to Health Regulations (Northern Ireland) 2000 and the Personal Protective Equipment at Work Regulations (Northern Ireland) 1993, as well as other legislation, require that equipment etc bought for use at work is suitable and will do the task expected of it. The Health and Safety at Work (Northern Ireland) Order 1978 requires that designers, manufacturers, importers and suppliers ensure that articles or substances for use at work are safe and without risks to health. They must also provide information about using the article or substance safely.

Buying new machinery is a major investment and the profitability of the business can depend on it doing the job well, safely and without adverse effects on health. Although buying personal protective equipment (PPE) represents less of an investment, your health and safety and that of staff can also depend on it. Involve staff in the selection of PPE as they will have to wear it.

Machinery

Before buying machinery, think about:

- what it will be used for;
- who will use it (skilled employees, trainees);
- what risks to health and safety may result;
- how well health and safety risks are controlled on different machines.

If the machine is particularly complicated or custom built, discuss health and safety aspects in detail with potential suppliers - work with

the machine is safe and that they have met legal requirements. Remember, CE marking does not guarantee the machine is safe - check it is safe before use;

- you have a copy of the Declaration of Conformity (which suppliers are required to issue). Note that if the machine is intended to be incorporated into another machine, or assembled with other machines, the supplier need only provide a Declaration of Incorporation, and the machine will not bear the CE mark;
- you are given written instructions in English, or another language you understand, on how to use the machine safely.

Consider what risks there are in using the machine, and whether:

- appropriate guards will be provided for any dangerous parts;
- emergency stop controls are fitted and how the machine can be isolated for maintenance;
- it produces unacceptable levels of dust, fumes in significant quantities, or high noise and vibration levels and what action can be taken to control them.

Make sure you receive all the information you need on commissioning, using, maintaining and repairing the machine.

PPE

When you are selecting PPE, including respiratory protective equipment (RPE), remember:

- that other means of protection should be considered and used first (such as substituting a hazardous substance with a less hazardous substance, engineering controls such as noise enclosures and dust extraction or anti-vibration mountings on chainsaws);
- providing, replacing, maintaining and storing effective PPE is rarely as cheap an option as it may appear.

Also consider:

- whether staff are trained in its use, storage and maintenance.
- the environment in which the PPE will be worn, eg should you expect someone working in a glasshouse in the summer to wear heavy protective coveralls all day?



them to design out possible causes of injury or health problems such as dusts, noise or vibration. When you place the order, specify in writing that the machine must be safe.

When you take delivery, check that:

- the new machine carries the CE mark. This represents a claim by the manufacturer that

- if the material of the PPE will resist harmful substances passing through it;
- if the design makes it suitable for the person who will wear it, eg does it come in the correct sizes? Can it be adjusted? Do staff have beards or wear glasses?

RPE

Suitable RPE can be used to provide protection against two broad types of substance:

- dusts, fibres, mists, fumes and micro-organisms;
- gases and vapours.

In general, respirators will provide protection against only one of these broad types. They come in various forms: disposable respirators, half-mask respirators with filters, or powered respirators. There are European Standards for all of these, and the manufacturer's information will show you to which standard the respirator has been made.

In agriculture and horticulture, consider all the points mentioned above, and note that for short-term protection against low levels of dusts, fibres etc (eg grain dusts for up to one hour) a suitable respirator for most people will be a disposable filtering half mask to BS EN 149. For exposures for longer periods, or higher levels of dust, a half mask respirator to BS EN 140 with filters to BS EN 143, or a powered helmet to BS EN 146 is more appropriate.

Gases and vapours

This booklet cannot give accurate general guidance to allow you to select protection against gases and vapours. You need to get information about:

- the substances present;
- the work to be done;
- the environmental conditions;
- the time the respirator is to be worn;

and then seek advice from a competent supplier or manufacturer.

This is because, among other reasons, gas and vapour filters rely on adsorbing the contaminant and different adsorbents (and filters) are used for different gases.

Find out more

INDG271 *Buying new machinery: A short guide to the law*

HSG53 *The selection, use and maintenance of respiratory protective equipment*
ISBN 0 7176 1537 5



COSHH - the framework

The law

The Control of Substances Hazardous to Health Regulations (Northern Ireland) 2000 (COSHH (NI)) require that employers assess and control the risks from hazardous substances.

COSHH covers all substances hazardous to health, including many pesticides and veterinary medicines, spores from mouldy hay, dairy disinfectants, cleaning materials, infectious organisms and by-products such as silo and slurry pit gases. COSHH requires you to:

- assess the risks to health and the precautions needed to control or minimise them;
- introduce the measures needed to control or minimise those risks;
- inform, instruct and train employees about the risks and the precautions needed;
- ensure that control measures are used, that equipment provided is properly maintained and used, and that safe working practices are adhered to;
- check that the controls remain effective;
- monitor the health of workers (this may involve occasional health checks to confirm that controls are working).

If your general risk assessment has already covered hazardous substances you do not need to repeat it.

Control the risk

One of the most effective controls is to select a less hazardous substance for use. In other cases you may be able to eliminate the hazard, eg by using a wet feed rather than dusty meal or crumbs. However, if you have to continue to use the substance and you cannot eliminate the hazard, (such as dust from grain), use a combination of the following controls:

- using engineering controls so that the process is enclosed to prevent contamination of operators or other people. Local exhaust ventilation (LEV) may also be used to remove harmful fumes or dust at source;
- minimising the amount of time during which people are exposed and reducing the number involved;

- good housekeeping to minimise accidental contact;
- training in the correct use of engineering controls, good practice, and protective equipment;
- personal protective equipment if engineering controls do not adequately protect staff;
- good welfare facilities to aid high standards of personal hygiene;
- providing health surveillance to detect early signs of ill health.

Health surveillance

If it is impossible to prevent the risk from substances hazardous to health by any of the methods listed above, health surveillance may be necessary. It might include:

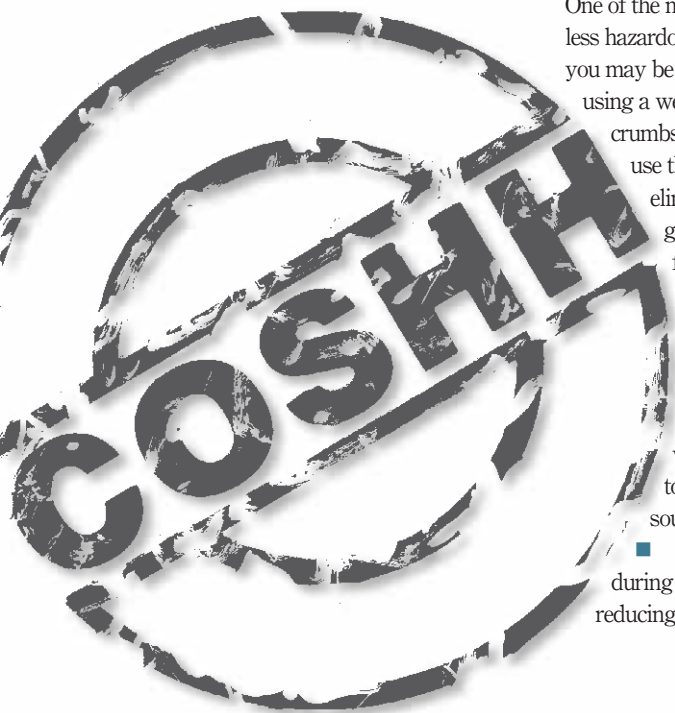
- biological monitoring;
- checks by a doctor familiar with the work carried out, including clinical examinations and measurements;
- regular enquiries to check that there are no symptoms of ill health and monitoring causes of sickness absence - these can be carried out by competent staff already in the business, or occupational health nurses etc;
- if staff are absent from work due to illness, asking whether they or their doctor associated the illness with their work.

Simple records of all health surveillance should be kept for 40 years. Everyone should be aware of the possible health risks and the need to report symptoms promptly.

Find out more

AS28 COSHH in agriculture
84 HSA 96

General COSHH Approved Code of Practice
Carcinogens Approved Code of Practice
Biological Agents Code of Practice
ISBN 0-337-09424-1



Staying healthy

HHealth problems in agriculture can develop unnoticed, unlike the effects of an injury which will usually be noticed quickly. You can best protect your health by being aware of the risks and reporting illness as soon as you become aware of it. Make sure your doctor knows what your work is so that appropriate treatment can be started as early as possible.

This section deals with zoonoses, avoiding ill health from veterinary medicines, skin and chest problems and stress. See also Section 10 'Noise and vibration' and Section 19 'Manual handling and musculoskeletal problems'. Some health problems suffered by you or your employees must be reported to HSENI (see Section 20 'First aid, dealing with emergencies and reporting accidents').

Zoonoses

Diseases passed to humans from animals are known as zoonoses. Micro-organisms such as bacteria, viruses, parasites and fungi can cause illness by infecting the body when they are breathed in, swallowed, or when they penetrate the skin (e.g. through small cuts). Make sure your COSHH assessment takes zoonoses into account and:

- decide what you need to do to prevent or control exposure;
- minimise the risk of infection by keeping stock healthy. Vaccinate where appropriate (eg against enzootic abortion of ewes);
- avoid or, if this is not possible, reduce contact with animals where practicable;
- ensure good personal hygiene. Wash before eating, drinking or smoking;
- wear suitable protective clothing such as overalls when handling animals, especially if they are sick, and gloves and a waterproof apron if handling possibly infected material such birth products, manure or sewage;
- wash and cover immediately all cuts and grazes with a waterproof dressing.

Consult your vet on likely zoonoses from your animals, but note that common ones include:

- orf from sheep or goats: produces painful pustules on hands, arms and face;
- leptospirosis from rats (Weil's disease) and cattle urine: causes a feverish illness with

headache and can result in meningitis. Early treatment is vital;

- ringworm: a fungal disease from many types of livestock;
- enzootic abortion (chlamydia psittaci) from sheep: pregnant women should not associate or work with ewes during lambing, nor be exposed to contaminated clothing or other sources of infection, as severe illness and miscarriage may result;
- cryptosporidiosis: from a parasite picked up by touching livestock, animal housing, or feed, which can cause diarrhoea in humans, and be particularly severe in young children;
- ornithosis (another form of chlamydia psittaci) from birds: can cause flu-like symptoms in humans followed by pneumonia.



Control of rats is important.

Illness following infection by the *E coli* O157 bacterium may be severe and even fatal. Any ruminant (cattle, sheep, goats and deer) may carry the organism, which can survive for many weeks in faeces or soil. Good personal hygiene is essential (see Section 13 'Child and public safety').

Chest problems

The main causes of chest problems are exposure to dusts or chemicals. These can cause unpleasant irritation or inflammation in the nose, throat or lungs. Some may cause more serious allergy and ill health, such as asthma and bronchitis. Chest problems may result from breathing in:

- dusts from harvesting or handling grain, mixing animal feedstuffs, feeding animals, handling mouldy hay or bedding in closed buildings used for intensive animal rearing (especially pigs and poultry), and waste products from animals or poultry;
- vapours (including fumes, gases and aerosols) from slurry, silage, welding fume,





some veterinary medicines and disinfectants such as phenols and glutaraldehyde.

Warning signs include irritation/watering of the eyes and nose, blocked stuffy nose, sore throat, cough with or without phlegm, aching muscles or fever after work with mouldy hay, breathlessness, tightness of the chest during work, after work or while doing exercise you could normally cope with, and wheeziness.

These symptoms can be short-lived at the time of a job, or they may get worse and last longer until they are almost always present. They can be set off by even very small exposures to any substance to which you have become allergic, or sensitised. If you smoke, and are also exposed to these substances, you are more likely to develop more serious chest problems.

It is important to protect yourself and staff, and for most products that you buy, advice will be available on the manufacturer's label or data sheet. Take the following precautions.

Avoid breathing in the harmful substances by:

- using safer alternative substances where possible;
- changing to low dust materials, eg granules/pellets;
- enclosing sources of dust or spray;
- vacuuming spillages instead of sweeping up - using a high efficiency filter.

Reduce the amount you breathe in by:

- using local exhaust ventilation, eg when welding;
- using effective filters in tractor/vehicle cabs;
- maintaining filters to manufacturer's requirements;
- improving ventilation in buildings;
- wearing effective respiratory protective equipment. Make sure you use the appropriate mask or respirator for dusts, vapours or aerosols.

If you need to wear masks or respirators always adjust the straps so they fit properly. Store them in a clean dry place - do not hang them from hooks or nails in dirty, dusty areas (see Section 4 'Selecting and buying new machinery and personal protective equipment').

Veterinary medicines (including sheep dips) and pesticides

All medicines should be stored securely, where children cannot get at them. Make sure syringes and needles are also kept securely. If veterinary medicines are misused they can cause ill health, so when you or your veterinary surgeon have decided that you must treat the animal, consider:

- less hazardous products, eg a water-based vaccine instead of an oil-based one, or a non-organo-phosphorus (OP) product rather than an OP. Remember to consider the environment as well as human health and safety;
- using a safer application system, eg a pour-on or injectable rather than a dip;
- engineering controls, eg splash screens around a dip bath, or shrouded needles;
- what training is needed to safely use the product. Special rules apply to sheep dips and pesticides;
- how you plan to dispose of the product, eg sheep dips that contain OP compounds are potentially more hazardous to humans than non-OP alternatives. However non-OP dips pose a greater hazard to aquatic life, so dispose of any dip properly - not into watercourses or soakaways.

Always:

- wash off splashes from the skin and clothing immediately, and wash before eating, drinking or smoking. Don't work among freshly treated animals if you could be contaminated;
- follow any emergency measures recommended by the manufacturer - eg with oil-based vaccines;
- report all suspected cases of poisoning - then they can be thoroughly investigated.

Always follow the label instructions, especially those relating to PPE.

Skin problems

The main causes of skin problems are:

- damage to the skin caused by cuts, punctures or abrasions;
- exposure to cold and wet, leading to dryness and chapping;
- frequent immersion in water, which removes natural oils from the skin;



- exposure to chemicals or to plant materials, including sap; and
- overexposure to sunlight, with increased risk of skin cancer.

The outer layer of the skin, when intact, acts as a barrier to keep moisture in and harmful substances out. Preventing damage will reduce the risk of subsequent problems such as:

- contact dermatitis (or eczema), ie inflammation of the skin due to contact with substances causing irritation or allergy;
- wound infections;
- skin cancers.

Warning signs include dryness, cracking, irritation, itchiness and pain, inflammation and redness, and abnormal growth or discolouration. If you have ever suffered from eczema your skin may be more easily upset. To avoid the problems indicated by these warning signs:



- read product labels for information on the precautions you need to take;
- wear suitable gloves when handling chemicals or if damage to your skin is likely;
- wash your hands to remove harmful

substances, especially chemical contamination, even if you cannot see it;

- apply moisturiser regularly after washing and at night;
- cover cuts and grazes with a waterproof dressing;
- treat minor infections immediately.

In sunny weather:

- don't strip off - keep your top on, especially while you are working in the 3 or 4 hours around noon. A wide-brimmed hat will shade the face and head;
- use sunscreen creams and lotions (with a protection factor of 15 or more) - they can add useful protection for parts of the body that are not easy to shade from the sun;
- apply moisturiser regularly after washing

and at night to help maintain the outer barrier layer of the skin;

- keep an eye on moles, warts or skin discolourations and seek your doctor's advice if they grow, bleed or itch. Always see your doctor if you are concerned about your skin condition - it is important that infections and inflammations are treated effectively.

The sap from many plants, including celery, parsnips, primula and Giant Hogweed, can cause skin problems, which may be worse if the skin is exposed to the sun ('phytophotosensitivity'). In most cases gloves will prevent contact between the sap and the skin so that problems will not recur.

Stress

Many people in agriculture etc work under pressure, eg from conflicting demands, too much to do in too little time, or working with inadequately controlled hazards. Some pressure can be a good thing, but when it becomes excessive our natural reaction is stress. Excessive stress can lead to mental and physical ill health such as depression, nervous breakdown or heart disease.

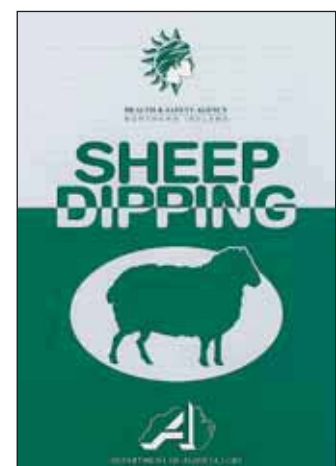
If you are an employer, you must make sure that your employees are not made ill by work-related stress. Most of the 'things to do' boil down to good management (eg taking stress seriously, matching people to jobs, treating people fairly). Consulting your staff about their work, and particularly on health and safety risks, will go some way to avoiding stress.

In Northern Ireland the Rural Support Line at 0845 606 7 607 offers help and guidance to farmers and the rural community. The befrienders at the Samaritans offer help to the general community. Other organisations such as the Rural Stress Information Network and ruralMinds provide useful information and support.

You can get further advice on health problems in agriculture etc from your GP, from HSENT's medical inspectors, from the publications listed below, or from other health and safety professionals, including occupational health doctors and nurses and occupational hygienists.

Find out more

INDG281 *Help on work-related stress: A short guide*
AS29 NI98 *Sheep dipping*
AIS2 *Common zoonoses in agriculture*
AIS3 *Controlling grain dust on farms*
IACL102 *Agriculture: Your health carry card*



Using contractors and family labour

The law

Employers must consult all their employees on health and safety matters. Where employers have recognised unions, the Safety Representatives and Safety Committees Regulations (Northern Ireland) 1979 will apply. Where employees are not members of a union, or the union is not recognised, the Health and Safety (Consultation with Employees) Regulations (Northern Ireland) 1996 (HSCER(NI)) will apply.

Contractors are often used for particularly hazardous jobs such as cleaning or repairing fragile roofs, or cleaning out slurry tanks. If you use contractors for any work, whether short-term such as silage making, or for a major construction project such as building a potato store, you cannot simply tell them what to do and let them get on with it. Incidents may happen because contractors do not know about hazards on the farm or your staff do not realise that the contractors are working on site.

Selecting the contractor

You need to ensure you use a contractor who works safely and that adequate financial provision is made to cover the health and safety requirements. Before engaging a contracting firm, make sure as far as you can that:

- you thoroughly assess their competence, eg ask neighbours who have used them about their performance, or check pesticide or chainsaw certificates of competence;
- they carry out effective risk assessments relevant to the hazards on your farm, eg including the risks from working in areas occupied by animals;
- they know the standards of health and safety management you expect of them.

Planning the work

If you want the job to be done properly and safely it is worth investing the time in agreeing beforehand exactly what is to be done, by whom, and how. Discuss working arrangements, eg safe systems of work, with the contractor. If the work is particularly hazardous (eg work on fragile roofs) confirm those arrangements in writing. Consider:

- safe systems of work, eg on fragile roofs or moving vehicles around the farmyard;
- your own operations which may affect the contractor's work, eg the need for cattle to be brought into the yard where work is going on;

- what machinery and equipment will be used, eg are edges of ditches, slurry lagoons and soil walls strong enough to support the weight of the machinery?
- what the arrangements for supervision will be. Make sure that someone keeps an eye on contractors on site to make sure they follow the procedures laid down;
- health and safety issues when setting down working methods. Method statements, permits-to-work or systems of work will be needed for hazardous operations, eg working in a confined space in a sealed grain silo or slurry store;
- where overhead power lines run. Although you and your staff may be familiar with them, contractors may not. Make sure you give contractors maps of the locations of the lines if tall equipment, such as self-propelled forage harvesters, is used, and tell them the height/clearance if you know it. If in doubt ask the electricity supply company to check it.

Make sure that the contractor's employees understand your rules for safe working, as well as the hazards and precautions, and that you understand theirs. Each new employee coming onto site should receive appropriate instruction and training and be made aware of the hazards in your workplace and any emergency plans, eg fire procedures if relevant.

Controlling contractors on site

Liaise with contractors, check their health and safety performance on site, and make sure you keep each other informed about hazards and changes to plans or systems of work which may affect health and safety. Remember that visiting workers such as crop inspectors may be subject to the same risks as other contractors. You need to make sure they are not put at risk by your work, and that they do not interfere with the safeguards which you have put in place.

Family workers

Family members may be self-employed, employees, partners, or directors. Whether or not they pay their own tax or national insurance may be irrelevant for health and safety purposes:

- if the business is formally structured as a partnership, and all those who work on the farm at any time are included in the partnership agreement, then each one will be regarded as self-employed;
- if the business is a 'body corporate' - a company, limited or otherwise - then the company will be the employer and all the directors will be employees of the company. Others working for that business may be 'employees' or 'self-employed' (see below);
- if the business is run by an individual trading on their own account then, again, others working for that individual may be 'employees' or 'self-employed'.

Workers will normally be considered to be your *employees*, irrespective of whether they are treated as self-employed for tax and National Insurance purposes, if working arrangements are consistent with a contract of employment. Among other things this means you:

- tell them what time to begin and finish work, and agree their holiday periods;
- tell them how jobs should be done, and in what order they should be carried out;
- provide the tools and materials for use in the tasks carried out.

The traditional 'self-employed' person who carries out work for you, eg silage making, can be easily distinguished by these criteria - they will arrive, within limits, at their own convenience, pack up when they wish, provide their own tools etc, and devise a way of doing the job that best suits them. Someone who is truly self-employed will be in control of, and have a stake in their business which they stand to lose should the business fail.

If family workers work mainly for your business, work in an agreed way, use tools and materials supplied by you, and are under your control then they will probably be regarded as your employees for health and safety purposes. If this is so then health and safety laws will apply to you in the same way as to any other employer.

Find out more

INDG268 *Working together: Guidance on health and safety for contractors and suppliers*

Transport and materials handling

The law

Employers must provide a safe workplace, safe systems of work, and take reasonably practicable precautions to ensure the safety of workers and members of the public. The Lifting Operations and Lifting Equipment Regulations (Northern Ireland) 1999 (LOLER (NI)) relate to thorough examination and inspection, marking equipment and properly organising lifting operations. Special rules apply to transporting dangerous goods on the road.



The largest causes of injury in agriculture involve being struck by a moving vehicle or the use of tractors. Serious and fatal injuries are common, and the incidents involve drivers, other workers and pedestrians. Transport movements in and around the workplace need to be controlled to protect pedestrians, and to prevent damage to equipment and buildings.

Other incidents occur when people leave a vehicle without making sure it cannot move or otherwise cause injury. Always use the 'safe stop' procedure whenever you leave a vehicle - parking brake on, controls in neutral, engine off and keys out (remember that this is only effective if the vehicle braking system is working properly). Lower to the ground any raised implements or loaders etc.

Check that:

- drivers are properly trained and unauthorised people are not allowed to drive;
- vehicles and pedestrians are separated where possible;
- loads are stable and secure;
- drivers are protected from falling objects (for example by falling object protective structures - FOPS);
- your vehicles, or any machines with workers riding or working on them, are fitted with rollover protective structures (ROPS) if there is a risk of overturning;
- drivers are medically fit to drive;
- visiting drivers are aware of your rules, including parking areas, one way systems etc;
- vehicles, machines and handling equipment are:
 - capable of safely performing the jobs to be done, with reversing aids such as mirrors;
 - checked daily and faults repaired promptly;
 - properly maintained, paying particular attention to braking systems;
- keys are kept secure when vehicles are not in use;

- the layout of your vehicle routes is adequate - can you reduce the need to reverse, by adding turning circles, for instance? Are routes properly maintained and adequately lit?

Never allow passengers to ride in vehicle cabs unless they are sitting in a passenger seat, and cannot impede the driver, accidentally contact machine controls, or obscure the driver's vision.

Overturning tractors and other self-propelled vehicles

With rollover protection fitted to your tractor, if an overturn occurs and providing you stay in the area of protection provided by the cab or roll-bar, you will not be crushed. In a high-speed or multiple roll you may be injured by being thrown about in the cab, or by loose objects in the cab. To avoid an overturn:

- make sure that tractors and machines are properly equipped and maintained - especially brakes, steering and tyres. Consider wide wheel settings for work on slopes;
- plan the operation in advance, and make sure operators know the key elements of safe working on slopes. Remember that:
 - you should always turn uphill when working across a slope, and descend straight down the gentlest gradient;
 - you cannot always safely descend a slope that you safely drove up;
 - tractor rear wheel grip lessens as the load of a rear-mounted machine is emptied;
 - tractors with trailed rollers, four wheel trailers etc will have extra thrust imposed with no additional weight - they may slide away out of control.

To avoid injury if you do overturn:

- never remove windows or doors from a safety cab;
- wear the seatbelt if there is one (or consider getting one fitted);
- don't carry loose items inside the cab - in an overturn they may cause extra injury.

Mobile work equipment

From December 1998 for new work equipment (5 December 2002 for existing work equipment) if there is a risk of overturning for mobile equipment, you have been required to fit a structure or device which will prevent full overturning or protect the operator if a full overturn occurs, and a seat belt. There are exemptions for cases where it is impracticable to use ROPS (eg in low buildings or some orchards) or where they may make the operation more dangerous.

ATVs

All-terrain vehicles (ATVs) have been involved in many serious non-fatal and fatal incidents, often involving the vehicles overturning when being driven by an inexperienced or untrained person. Training is available from training groups and colleges, and is essential for all new users. Everyone driving an ATV should wear a motorcycle-type helmet.



Lifting operations

Properly plan and organise the lift, using appropriate equipment and competent people, to minimise the risks. Make sure that:

- all lifting equipment is thoroughly examined (and tested if necessary) regularly by a competent person. Independent inspection organisations, including insurance companies, can help;
- safe working loads (SWLs) are marked on lifting equipment. Never exceed those SWLs, or use damaged, makeshift or worn items;
- overload indicators on handling machines are in working order. Do not ignore them;

- foreloaders are in the raised position when empty (to minimise the distance they project) and lowered when full (to maximise stability) except where this could create a risk, eg on public roads, or close to OHPLs. For telescopic handlers retract the boom fully and keep it as close to the ground as possible to maximise stability while moving.

If you need to raise people above the ground, eg for building maintenance, use properly designed work platforms. Never use grain buckets, pallets, or other makeshift equipment. Serious injuries and death have resulted from buckets etc being accidentally tipped.

Check that work platforms are:

- sufficiently strong, fitted with sides or rails and toe boards on all four sides;
- secured to the lifting machine and unable to tip or slip sideways or forwards;
- fitted with controls to enable raising and lowering. If this is not practicable, use a reliable system of communication with an alert operator. Lock off or 'scotch' controls that are not needed for the lifting operation (eg tilt controls);
- safeguarded so that the person being lifted cannot contact dangerous parts of the machine (eg the lifting chains) with any part of their body.

Carrying dangerous goods

Special rules normally apply if you carry dangerous goods on the road, but there are a number of partial exemptions for agriculture. These include, subject to certain criteria, moving:

- loads under 10 tonnes of some ammonium nitrate fertilisers;
- diluted, ready for use, pesticides approved for use in agriculture (except sulphuric acid);
- loads of under 5000 litres of diesel fuel;
- quantities of less than 1 tonne of packaged goods which are diluted or ready for use.



Find out more

AS22 Prevention of tractors overturning
INDG279 Fatal traction: Practical advice on avoiding agricultural transport accidents
77HSA98 Tractor action

Using machines safely

The law

The Provision and Use of Work Equipment Regulations (Northern Ireland) 1999 (PUWER (NI)) apply to any equipment, including machinery, that you use at work. They require that equipment is suitable for the task, properly maintained, with dangerous parts safeguarded, and that adequate training and information about the equipment is available. Equipment must be stable, and stop controls, including emergency stops, provided.

9% of all fatal accidents on Northern Ireland farms involve the operation of machinery. Some occur because a machine has been used for a job for which it is unsuitable; others because guards have not been provided or have been left off. Power take-off (PTO) shafts have been involved in many fatal injuries, often with machines used while stationary, such as slurry pumps, vacuum tankers, circular saws or stand-by generators.

You should be able to recognise dangerous parts and think about how to prevent injury to carry out your risk assessment. When you assess the risk and decide on controls, consider not only your disciplined and trained workers but also those who are tired, distracted or less experienced. If you provide safeguards which are inconvenient to use or which can be too easily removed, you may inadvertently encourage your employees to risk injury and break the law.

You should have a system to check that work equipment, including machinery, is safe to use. If safety depends on how the equipment has been installed, you should inspect it to ensure it has been set up correctly and is safe to operate before you use it for the first time, and after assembly in a new location.

If equipment is used in unfavourable conditions, inspect it regularly for deterioration which might result in danger, and whenever exceptional circumstances which may make the equipment unsafe have occurred. Keep records of all inspections.

Make sure the machines you use are:

- suitable for the job (eg a bale spike used to lift

anything other than bales, or a telescopic handler with a grain bucket used to lift a person for work at a height, would not be suitable);

- maintained so they can be used safely; and
- fitted with the safeguards required by law.

Power take-off shaft guards

For PTO shaft guards, check that the guard is:

- made to a recognised standard such as BS EN 1152;
- the correct size and length for the shaft, both when closed and when extended;
- a non-rotating type, with the restraining device (eg securing chains) in place;
- properly used and maintained - clean and lubricated regularly;
- supported when not connected - do not rest it on the drawbar or drop it on the ground, and do not suspend it by the restraining device;
- safe from damage, eg by livestock, or from sunlight when the machine is in store.

Make sure that no one uses adaptors to allow a 21 spline 1000 rpm shaft to drive a 6 spline 540 rpm shaft.

Other dangerous parts

For other dangerous parts, check that safeguards are fitted, and make sure they are:

- strong enough and, if fixed, that they cannot be easily removed;
- made of the right material - plastic allows good visibility but may be easily damaged;
- regularly checked and maintained in effective working order;
- not easily defeated or otherwise overcome.

If guards are interlocked, eg if you need access several times each day to a dangerous part, check that:

- the machine cannot start before the guard is in position;
- opening the guard stops the machine or that part;
- the interlocking switch or valve is sufficiently robust for the job, and that the way it works makes it difficult for someone to defeat.



Buying or hiring machines

When you buy or hire machines the law requires the supplier to provide necessary safeguards. Make sure that you and your workers:

- use machines according to the instructions supplied with them;
- keep guards in position and effective;
- 'safety check' all equipment and rectify all defects before each use;
- check that controls are clearly marked to show what they do and which machine they control, and are designed and placed so you cannot operate them accidentally;
- check that stationary machines are adequately lit;
- check that electrical machinery is isolated and locked-off if safeguards are removed;
- are trained to work safely and are provided with and use necessary protective clothing.

Maintenance and unblocking

Many incidents with machines occur during maintenance or unblocking operations. Remember 'safe stop' and make sure that:

- staff are properly trained to do the job;
- adequate tools and instructions are provided for maintaining, adjusting, cleaning and unblocking machines;
- safe working practices are devised and used;
- stored energy, eg from compressed material, springs or hydraulics, is dissipated before you start work;
- hydraulically raised machines or parts are prevented from descending by using mechanical devices such as stops or jacks when people work under them.

All operators should make sure:

- they know how to stop the machine before starting it;
- they always start and operate it from the correct position;

- all guards are fitted and working correctly;
- the area around a fixed machine is clean, tidy and free from obstruction;
- their supervisor is told at once if a machine is not working properly;
- they wear appropriate protective clothing and equipment.

Never:

- use a machine unless you are authorised and trained to do so;
- attempt to clear blockages or clean a machine unless the drive is disconnected, the engine has been stopped and all of the moving parts have come to rest;
- wear dangling chains, loose clothing, gloves or rings, or have long hair which could get caught up in moving parts;
- place your hand near any leaks (no matter how small) around hydraulic pipework or fittings. Oil injection injury is a very serious injury which requires urgent medical attention.
- distract people who are using machines;
- attempt to mount or dismount from a moving tractor or other self-propelled machine.



Find out more

INDG241 *No second chances*
AS24 *Power take-offs and power take-off drive shafts*



Noise and vibration

The law

The Noise at Work Regulations (Northern Ireland) 1990 aim to reduce hearing damage caused by loud noise, and lay down action levels. Employers must assess the risks from exposure to noise at work and take action when workers' daily exposure reaches certain levels. Other general legislation requires employers to take action to reduce exposure to vibration levels which may cause ill health.

Exposure to high noise levels can cause permanent hearing damage, often without the sufferer becoming aware of it until too late, and may lead to tinnitus (ringing in the ears) or deafness. The Noise at Work Regulations have two main action levels related to daily personal noise exposure: 85 dB(A), the first action level, and 90 dB(A), the second action level. You can find out roughly whether noise levels are around 85 dB(A) by checking if you can hear clearly what someone is saying when they are 2 m away. If you cannot hear them clearly when they are 1 m away, levels are likely to be around 90 dB(A).

Every 3 dB(A) above the first action level halves the 'safe' time for which you can work at that noise level, so that at 88 dB(A), a person could only work safely for 4 hours per day, and so on. If someone is exposed to a chainsaw producing 102 dB(A), their safe exposure without protection would be only about 7 minutes.

Remember:

- exposure to many different sources (e.g. tractors, power tools, hammer mills, intensive livestock, grain driers, shot guns) has a cumulative effect and can cause damage, even though you may only be exposed to a single source for short periods of time;
- animals can create noise levels above the action levels - pigs at feeding time can create levels of up to 102 dB(A).



Controlling noise

Protection against noise is best achieved by controlling it at source. Get noise levels assessed by a competent person and keep a record. To reduce exposure:

- choose quiet machines or processes when selecting production methods or new machines. Get the supplier to specify noise levels at the operators' positions;
 - enclose noisy machines or processes with sound-insulating panels, or put them in separate rooms. Fit silencers on exhaust systems;
 - reduce the need to work in intensive animal housing at feeding times by changing the feeding regime, putting controls etc on the outside or in a protected area, or doing other jobs when the animals are fed and contented;
 - reduce the duration of exposure by job rotation, providing a noise refuge, or arranging the work so that no one needs to be in the noisy area;
 - where exposures reach 90 dB(A) or higher mark these areas as 'ear protection zones' with signs to indicate that ear protection must be worn and make sure everyone entering these zones wears ear protection;
 - get operators in noisy areas to wear hearing protection, and tell them about the risks to their hearing.
- If any workers think their hearing is being affected, suggest they should seek medical advice.



Remember:

- ear protection should be the last resort to control noise exposure. Whether you use ear muffs, plugs or inserts, you will only get the assumed protection if they are in good condition, the correct size and worn properly;
- to be effective, ear protection needs to be worn all the time that people are in noisy places. If it is left off for even short periods the amount of protection will be severely limited and it will not protect your hearing;
- maintenance of machines and changes in work methods can affect noise levels - loose panels or unbalanced rotating parts can contribute to noise and vibration.

Typical noise levels

The diagram shows typical noise levels associated with work activities. The bands show the length of time which workers can be exposed to such noise before their hearing will be damaged.

Vibration

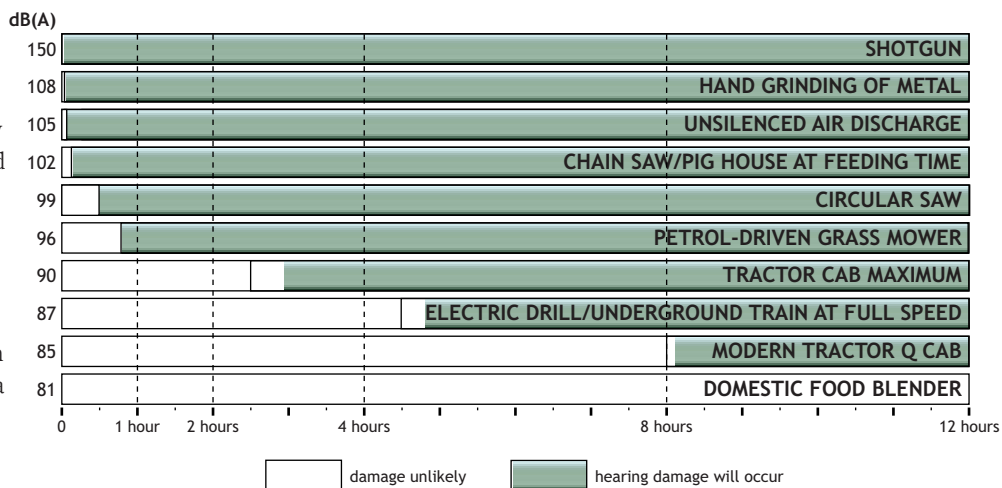
Repeated or prolonged use of vibrating tools such as chainsaws, brush cutters or grinders can lead to hand-arm vibration syndrome (HAVS) - a group of diseases including vibration white finger, nerve, muscle or joint damage. Warning signs include tingling or numbness in the fingers, fingers turning white in cold or damp conditions, followed by throbbing and flushing.

Driving tractors or other self-propelled machinery can subject the body to vibration or jolting which is associated with chronic backache or pain in the hip and knee. Warning signs include pain and stiffness in the back, hip or knee after a prolonged period of tractor work.

Remember:

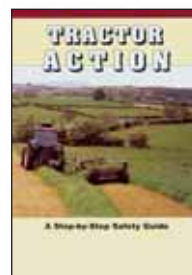
- use the right machine for the job, eg chainsaws designed for low vibration, with heated handles or with anti-vibration mounts, tractors with suspended axles or chassis for transport work;
- maintain equipment correctly, eg anti-vibration mountings on chainsaws;
- start with, and keep, warm hands, and take regular breaks;
- make full use of tractor seat position and suspension adjustments;
- travel at an appropriate speed for the ground conditions, and choose the right course to avoid ruts etc;
- maintain traffic routes to be as smooth and bump/rut free as possible; and
- see whether you can restrict exposure by limiting the amount of time workers use vibrating equipment.

See also Section 4 'Selecting and buying new machinery and personal protective equipment'.



Find out more

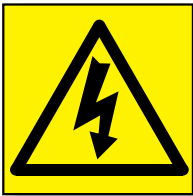
- AS 8 Noise**
- AIS20 Health hazards from whole-body vibration caused by mobile agricultural machinery**
- INDG242 In the driving seat: Advice to employers on reducing back pain in drivers and machinery operators**
- INDG126 Health risks from hand-arm vibration: Advice for employees and the self-employed**
- INDG175 Health risks from hand-arm vibration: Advice for employers**



Using electricity safely

The law

The Electricity at Work Regulations (Northern Ireland) 1991 require precautions to be taken against the risk of death or injury from electricity. Electrical equipment must be safe, and properly maintained. Only in exceptional circumstances should work be carried out on live systems.



Electricity can kill. Four or five people are killed by electricity in agriculture in the UK every year. Many of these incidents involve contact with overhead power lines; others involve poorly maintained hand-held equipment or extension cables. Poor electrical installations and equipment can also cause fires.

Overhead power lines

Electricity can jump gaps when equipment or machinery gets close enough: you do not need to contact overhead power lines (OHPLs) to be injured. If OHPLs run across your land and there are problem sites consider with your supplier if the line can be raised, re-routed or put underground. Make sure you have a map of the routes of the lines (available from your supplier) and that visiting workers such as contractors are made aware of their location.

Never:

- work under OHPLs without working to a safe system, or allow any part of a machine (eg crop sprayer, tipper lorry, forage harvester, telehandler) or ladder, irrigation

pipe etc within 15 m of them. Consider using warning labels in high-reach machines;

- erect fencing wire along the same route as OHPLs, nor move or strain fencing wire where it may spring and come into contact with the line. Long lengths of wire on undulating ground present a special risk;
- erect, stacks, buildings, or create dumps, under or near OHPLs or stay wires;
- park machinery against overhead line towers, poles or stay wires.

Contact with an OHPL may cause the power supply to 'trip out' temporarily - but it may be reconnected by an automatic reclosing device. Never attempt to disentangle equipment until the supply company has confirmed that the line is dead. If you have to work near OHPLs, check with your electricity suppliers and arrange for temporary disconnection.

Underground cables

If you are likely to be working near buried cables get information about their route from your electricity supply company. Get a competent person to check there are no cables present before you dig holes in roadways or near buildings.



Consider using warning labels on high-reach equipment such as some crop sprayers

Your electrical system

Make sure that:

- there is an accessible and clearly identified switch near each fixed machine to cut off power in an emergency;
- power cables to machines are suitably protected (armoured cable, covered in thick flexible rubber or neoprene, or installed in conduit) and have a good earth connection;
- light bulbs are protected (eg use bulkhead type fittings);
- there are enough socket outlets - overloading sockets by using adaptors is a fire hazard. In suitable places (eg the farm office) you can use a multi-plug socket block;
- three-pin plugs always have the flex firmly clamped to stop the wires (particularly the earth) pulling out of the terminals;
- fuses, circuit breakers etc are correctly rated for the circuit they protect. Fuses must never be bypassed, over-wired or wrapped with foil;
- you have an appropriate plug and socket for equipment drawing a heavy current (eg welders);
- socket outlets outdoors, in damp or corrosive atmospheres, or where steam or water jets are used, are of an appropriate type (never use a household-type socket) and protected by a residual current device (RCD);
- covers to electrical equipment are kept closed and (if possible) locked, with the key held by a responsible person;
- main switches are readily accessible and clearly identified, and everyone knows how to use them in an emergency;
- wiring is installed in conduit or similar to avoid damage by rats and mice;
- installations are checked periodically and repairs carried out by a competent electrician;
- damaged cables are repaired or replaced immediately.

Portable equipment

Electrical tools used outdoors or where there is a lot of earthed metalwork should be operated at reduced voltage from a safety isolating transformer (eg 110 volts centre tapped to earth) or connected through an RCD which will cut off

the power quickly if there is an earth fault. Consider whether you can avoid using electricity altogether, eg by using pneumatic tools in the workshop (but check the noise levels).

Make sure that you and your staff:

- use plugs and fittings that are sufficiently robust and suitable for the wet or dusty conditions likely to be found in agriculture;
- regularly inspect all portable tools. Don't forget hired or borrowed tools;
- take suspect or faulty tools out of use, put them in a secure place and make sure they are not used until repaired by a competent person;
- make someone responsible for regularly operating the 'test' button on RCDs to ensure that they work correctly;
- switch off tools and power sockets before plugging in;
- unplug or isolate appliances before cleaning or making adjustments;
- provide sufficient socket outlets to keep the use of extension leads to a minimum. When an extension lead has to be used, check that it is in good condition and that it is positioned where it won't be damaged; Switch "off" the power and unplug before rolling up the lead;
- on welding sets, only use insulated leads and undamaged electrode holders.

Electric shock

It is important to know what to do if someone receives an electric shock. Remember always to disconnect the power source first, or if that is not possible, never touch the electrocuted person except with non-conducting items - never use metal. Resuscitation needs training and practice so make sure that your staff receive elementary first-aid training. Display a copy of an 'electric shock placard' which shows what to do.

Find out more

MISC049 *Shock horror: Safe working near overhead power lines in agriculture*
INDG231 *Electrical safety and you*
AISS *Working safely near overhead power lines*



Farm forestry operations

The law

As well as the Provision and Use of Work Equipment Regulations (Northern Ireland) 1999 (see Section 9 'Using machines safely') the

Personal Protective Equipment at Work Regulations (Northern Ireland) 1993 apply.

Where risks to health and safety cannot be adequately controlled by other means, suitable personal protective equipment (PPE) must be provided. Any PPE must be appropriate for the risks and maintained properly. Users must be trained in its use.



Most farms have a chainsaw, which may be used for everything from topping fence posts to felling large hardwoods; some farms have forestry operations and use more complex machinery. All work with trees is potentially hazardous - proper work systems, training, and equipment must be provided.

No forestry machinery, particularly the farm chainsaw, should be used without adequate training, an understanding of the potential hazards, the correct protective clothing and proper communication arrangements. It is highly recommended that anyone using a chainsaw, including the self-employed, should obtain some formal training.

The Management of Health and Safety at Work Regulations (Northern Ireland) 2000 specifies that employees are provided with adequate health and safety training. In the case of chain saw work with trees this requires formal training specific to the task.

Use the following checklists to safeguard operators.

The chainsaw

Check that:

- the stop switch is clearly marked;
- the side plate, front and rear hand guards are in position and in good order, with the chain, guide bar and sprockets and chain catcher undamaged;
- the chain is properly sharpened, tensioned and lubricated;
- the chain brake is properly adjusted and working;
- the silencer and anti-vibration mounts are in good order.

The person

Provide:

- suitable personal protective equipment;
- adequate training for the job in hand, including training in how to deal with dangerous situations that can arise during the work, eg hung-up trees;
- communication and transport arrangements in case of accident;
- first-aid facilities at the site of work.



Remember

You can never use a chainsaw safely without the correct PPE - the risk of injury from the chainsaw cannot be controlled adequately in any other way. Check that the PPE you provide or wear is to appropriate British or European Standards (BS or EN).

The site

Check that:

- any overhead electric lines are further than two tree lengths from any tree to be felled;
- the position of roads, footpaths, or public access is taken into account, and warning signs or barriers are provided, or roads closed if necessary;
- the direction of fall of the tree is known and suitable, with a clear escape route selected;
- no one is within two tree lengths of the tree being felled;
- the operator has a secure foothold, an escape route and as clear a site as possible.

Circular saws

When using circular saws:

- always use push-sticks or log grippers;
- make sure that all safeguards, including the riving knife, are in position, and adjusted as close as possible to the work;
- regularly examine blades for cracks or missing teeth. Do not use any blades which have teeth missing, which are cracked, or which show signs of welded or brazed repairs;
- check that the blade will run at the correct speed, and that it is still sharp;
- ensure the saw bench is at a correct height, securely anchored, protected against the weather, and that the drive or power can be disconnected quickly and effectively.

Other machinery

- A standard farm tractor will not normally be suitable for forestry use without modification to protect vulnerable equipment, improve stability, and increase traction.
- Winch tractors must be able to be properly anchored by the use of spades, a winch butt plate or dozer blade. Winching is always better than towing, but if you must use a conventional tractor for towing, then attach the cable to the drawbar in its lowest position and in line with the direction of pull. Never tow across a slope.

- When using log splitters firmly position the timber before splitting begins, avoid splitting into a knot and never use hands or feet to hold the log in place during the splitting process.
- Log loading cranes are potentially hazardous to people nearby. The operator must have a good view of the work area, and no one should be within the 'risk zone' (twice the reach of the boom) or on the trailer during loading. Beware of overhead lines.

Work at heights

For work at heights, for instance lopping overhanging branches which interfere with combine operation:

- always use a purpose-made working platform (see Section 8 'Transport and materials handling');
- never lop trees from ladders, grain buckets, or by standing on the top of other machines;
- never use a chainsaw while standing in a tree unless you have been properly trained.

Find out more

AS11 Circular saws

AS15 Farm and estate forestry operations

AS20 Safe use of chainsaws



Child and public safety

The law

There are specific regulations making it illegal to allow a child under 13 to ride on or drive agricultural self-propelled machines (such as tractors) and certain other farm machinery. The Management of Health and Safety at Work (Northern Ireland) Regulations 2000 require that employers make sure that their risk assessment for employed young people under the age of 18 takes full account of their inexperience, immaturity and lack of awareness of relevant risks.



Provide a safe play area for children



During the last 10 years 15 children (average age 5½ years) have died as the result of accidents on farms in Northern Ireland. Other members of the public may also be at risk, eg when using public rights of way through fields containing cattle and calves. A few straightforward steps, and proper supervision of children, will reduce the risks.

Young children must be well supervised and kept away from places where vehicles are moving. A segregated play area is essential where children live close to a working farm yard.

The risks from machinery

The law says that no child under 13 may drive or ride on tractors and other self-propelled machines used in agriculture. Make sure children under 16 don't drive, operate or help to operate any of the following:

- towed or self-propelled harvesters and processing machines;
- trailers or feed equipment with conveying, loading/unloading or spreading mechanisms;
- power-driven machines with cutting, splitting, or crushing mechanisms or power-operated soil-engaging parts;
- chemical applicators such as mounted, trailed or knapsack sprayers;
- handling equipment such as lift trucks, skid steer loaders or all-terrain vehicles.

Remember that children are not safe in the cab of a tractor - they can and do:

- fall from the doorway or the rear window;
- interfere with the operator's control of the vehicle;
- distract the operator or unintentionally operate controls (eg the parking brake or hydraulics) when the operator leaves the cab, eg to open a gate.

If you carry supervised children or adults on trailers (eg for open farm visits) ensure that:

- the trailer is in good condition with all safety devices working;
- seating is provided and secured to the trailer. Well-made bales, if properly secured, may be adequate;
- guard rails are fitted around the trailer edges;

- safe mounting/dismounting arrangements are made;
- children are supervised by a responsible adult.

If you have to leave machinery in an area accessed by members of the public make sure it is left in a safe condition, with the cab locked, the controls in neutral, implements etc lowered to the ground, and the parking brake applied or wheels chocked.

The risks from animals

Animals do not need to 'attack' to pose a danger to people:

- a 'playful' bull, cow, sheep or pig can kill or severely injure;
- veterinary medicines and application equipment can cause ill health;
- diseases can be passed from animals to humans.

Check that children or other members of the public:

- cannot enter any yard or pen etc occupied by potentially dangerous animals - remember that female animals, especially those with young, can kill or injure children;
- cannot gain access to or use any form of hypodermic syringe - lock them away;
- do not treat animals or poultry without supervision;
- are provided with appropriate protective equipment, eg a riding hat to European Standard EN 1384 or BSI Product Approval Specification (PAS) 015, when necessary.

If you have fields with rights of way or other permitted public access, make sure:

- you do not keep bulls of recognised dairy breeds in fields with footpaths;
- if you keep beef stock bulls in such fields, that they are accompanied by female stock;
- you assess the temperament of any cattle kept in fields with public access, and remove from the group any that have a history of aggression, or that may be aggressive because of illness, young calves etc;
- you consider whether it is reasonably practicable to temporarily fence rights of way so that cattle cannot access them.

The risks in the workplace

Remember that children are naturally curious, and will often get into places apparently inaccessible. Make sure they are excluded from potentially dangerous areas, such as:

- slurry pits and lagoons (which may falsely appear safe to walk on);
- reservoirs or sheep dips (which are often isolated);
- chemical stores;
- grain intake pits and grain bins.

To prevent access to these areas use:

- fencing, such as pig netting topped with two strands of barbed wire, to an overall height of at least 1.8 m. Gates should be sheeted, or otherwise unclimbable, and padlocked;
- grids (with a maximum aperture space of 150 mm); or
- solid covers which will not move or give way if children stray onto them.

Gates and wheels

Children may be tempted to climb on gates, detached implements or wheels. Check that gates are properly erected and will not topple. Store flat or firmly secure upright any tractor wheels or gates not in use.

Stacks of hay or straw

Other areas, too, attract children. Stacks of hay or straw appear ideal for making dens in; unfortunately they can collapse or catch fire, killing those under or on top of them. Check that ladders have been stored safely where children cannot get at them, that there is no evidence of children having been burrowing under stacks, and that matches etc are kept in a safe place. Make sure that stacked potato boxes and fertiliser pallets are stable. Do not allow children to climb there.

Grain bins and grass silos

Because of the danger of suffocation keep children away from bulk grain intake points or where grass is being buckraked into a silo.

The risks on open farms

There are a number of diseases which people can catch from animals, eg through contact with faeces. The elderly and children are often particularly at risk from infections such as

cryptosporidium, campylobacter, *E coli* O157 and salmonella. If you invite the public onto your farm:

- decide whether you want to allow visitors to contact the animals, and if so make sure routes around the farm lead them past prominent washing facilities;
- washing facilities should be sufficient for the expected numbers of visitors needing to use them at one time, and should include running water, soap and clean towels;
- only permit food consumption after visitors have passed animal contact areas and used the hand washing facilities;
- provide training and supervision for staff on the need for visitors to wash their hands and explain why this is necessary;
- do not encourage eating in parts of the farm where animals can be touched.



Make sure children cannot access ladders



Find out more

AS10 *Accidents to children*

AIS9 *Preventing access to effluent storage and similar areas on farms*

AIS17 *Keeping cattle in fields with public access*

AIS23 *Avoiding ill health at open farms: Advice to farmers (with teachers' supplement)*

HSENI *Stay Safe in the Farm*



Handling livestock

The law

See Section 19 'Manual handling and musculoskeletal problems'

This section deals with the physical hazards of working with livestock, ie being bitten, butted, gored, or otherwise attacked. Health hazards associated with livestock are covered in the 'Staying healthy', 'Noise and vibration', 'Workplace safety and welfare' and 'Child and public safety' sections.

During the last ten years 13 people died on Northern Ireland farms as the result of accidents with livestock. Half of those involved bulls.

To guard against physical injury:

- provide proper restraining and handling equipment. Races and crushes are essential for routine tasks such as dividing groups of animals or veterinary treatment. Equipment needs to be properly designed to meet your needs;
- improve existing housing and handling systems, remembering that animals may need to be moved or handled by a lone person not familiar with your procedures (eg a vet);
- ensure that you can safely enter a pen, eg by securing a bull in a yoke or by shutting it back into a separate area;
- dispose of animals known to be aggressive, or those becoming so;
- use safe systems with two or more people where one cannot work in safety, eg with outdoor sows and piglets;
- use handling aids such as bull poles, halters, pig boards etc.

For advice on keeping cattle in fields with public access, see Section 13 'Child and public safety'.



Handling facilities

Handling large animals in restricted areas without proper containment is a recipe for severe injury. Whenever you carry out any veterinary-type activity on cattle, from injections to foot trimming, they should be restrained in a secure crush or similar handling device. You should ensure that you can readily move animals into the crush, eg by using a race or funnelling system, and that you can move to a safe position if necessary. Reduce the risk of injury from handling smaller animals such as sheep by using races, shedding gates and turnover crates.

Never work on a beast that is held by gates alone, or that can move at will. Use leg restraints for cattle known or considered likely to kick.

Check that your handling facilities:

- allow you to carry out the work that you need to do. For example, if you regularly trim the feet of your dairy cattle, can you support the body of the animal properly with the winch while you raise the feet?
- are firmly secured in position, eg fixed to the ground if non-mobile or onto the tractor 3-point linkage if mobile;
- include an effective head yoke, maintained so that it operates reliably and cannot be opened by a headstrong animal. Consider using a self-closing yoke, to reduce the number of staff exposed to the risk;
- give you access along both sides of the animal, without the risk of trapping or kicking;
- include slip-resistant flooring such as grooved concrete, rubber or checkerplate metal;
- have removable side portions for access to the sides and underneath of the animal;
- have a minimum of trapping points;
- allow you to work safely around them, without risk from other animals.
- release treated animals to a separate holding area so that they do not pose a risk to the stockman.



Keeping bulls

Accidents, some of them fatal, happen every year because bulls are not treated with respect - remember, a bull can kill you when he is being playful just as easily as when he is angry. Make sure you can handle your bull safely:

- Train him to associate people with feeding, grooming or exercise.
- Ring him at 10 months old, and inspect the ring regularly.
- Find out how bulls new to the farm have been handled, the kind of equipment they are used to, and take time to get to know them.
- Check handlers are competent (with training and supervision as necessary), fit, knowledgeable about safety equipment to be used and aware of the dangers.
- Do not permit older people to assist with bull management;
- Never run stock bulls through the milking parlour - separate them from cows using safe practices.
- Provide a purpose-built pen for dairy bulls. Make sure it has:
 - a lying and an exercise area;
 - outer walls at least 1.5 m high, strong enough to contain the bull;
 - facilities to allow feeding and watering from outside the pen;
 - fences, walls and gates which will not allow children or dogs through;
 - a remotely operated gate or yoke system which allows the bull to be restrained before anyone enters the pen;
 - a safe method of segregating the cow and the bull after service;
 - a refuge or child-resistant emergency escape route.

No one should ever enter the enclosure when the bull is loose.

Preparing cattle for the abattoir

You may need to handle animals to clean or clip them before they go to slaughter, with the risk of injury. Only use a specially adapted crush with full side openings for this work. Do not tackle the job unless you are competent and experienced. In many cases it is best to use the services of a specialist contractor:

- to reduce the need for clipping it is worthwhile trying to keep cattle clean by husbandry means;
- avoid dirty drinking and feeding areas for outdoor cattle;
- house dirty animals separately on clean straw for a few days before slaughter;
- for court-housed animals, provide adequate drainage and bed them down regularly;
- for animals on slats, make sure the stocking rate is right - too many or too few animals in the yard will lead to greater soiling;
- change the animal's diet for a short while before despatch to avoid feeds which cause loose motions and treat any scouring problems promptly;

Find out more

AS3 Bulls



Workplace safety and welfare

The law

The Workplace (Health, Safety and Welfare) Regulations (Northern Ireland) 1993 aim to protect the health and safety of everyone in the workplace, and to ensure that adequate welfare facilities are provided for people at work. The Confined Spaces Regulations (Northern Ireland) 1999 set out precautions that must be taken before work in a confined space. The Health and Safety (Safety Signs and Signals) Regulations (Northern Ireland) 1996 require a safety sign where there is significant risk to health and safety not controlled by other methods.



Many injuries in agriculture etc result from slips, trips and falls in workplaces such as buildings or yards. The risks of falling from a height are clear, so make sure that no one can fall more than 2 m from open edges such as catwalks above grain bins or feed lofts. If the risk of injury is great from falls less than 2 m, such as into a tank or pit, or onto projecting objects, you must also take action. Guard rails at 1 metre above the working surface, or fencing, will be suitable.

Also, check that working areas are free from obstructions, such as trailing cables, sacks or pallets and that there is enough space for tidy storage of tools and materials.

Keep your buildings in good repair, making sure that floors are not overloaded, especially in feed lofts or older buildings.

Provide:

- handrails on stairs and ramps where necessary, and safety hoops or rest stages on long vertical fixed ladders (eg into grain bins) used regularly;
- good drainage in wet processes such as vegetable washing areas or dairies, and outdoor routes salted, sanded and swept during icy conditions;
- adequate and suitable lighting. Use natural light where possible but try to avoid glare. Note that some fluorescent tubes flicker and can be dangerous, making rotating machinery appear stationary. Well-lit outside areas will also help security;
- adequate temperature and ventilation including fresh air in indoor workplaces;
- safety signs where a significant risk to health and safety remains after you have taken other control measures identified by your risk assessment.

Workplaces can cause health problems, so make sure you provide:

- seats with a backrest supporting the small of the back and, if needed, a footrest, where work can be done seated, eg vegetable grading;
- machine controls designed and arranged to provide a comfortable working position;
- engineering controls, eg local exhaust ventilation systems, to reduce health risks from dangerous substances such as grain dust;
- well-designed tools and working areas to reduce hand and forearm injury caused by repetitive movements, eg on vegetable or fruit grading lines.

Toilet and welfare facilities

There is a risk of illness from hazardous substances and from manure or other animal products carrying potentially hazardous micro-organisms. If you have full- or part-time, casual or permanent staff, provide rest facilities and:

- clean, well-ventilated toilets;
- wash basins with hot and cold (or warm) water, soap and towels (or a hand dryer);
- portable washing facilities, or hand wipes, for workers working away from base;
- changing facilities where special clothing is worn;
- a clean marked supply of drinking water.

Confined spaces

A confined space is anywhere that, because it is enclosed, gives rise to a risk of serious injury from fire or explosion, loss of consciousness from lack of oxygen, drowning, or asphyxiation due to being trapped by a free-flowing solid. Confined spaces on farms are found in:

- produce stores such as grain/forage silos and bins or controlled atmosphere fruit and vegetable stores;
- pits such as grain elevator pits, slurry tanks or vehicle inspection pits.

During the mixing of slurry tank contents the whole building must be treated as a “confined space”.

There have been deaths in confined spaces on farms; sometimes more than one person has

been killed - the second person often being a would-be rescuer. If you have areas which present any of these risks you must:

- avoid working in the confined space if you can. Can the work be done from outside?
- follow a safe system of work if you really have to work in a confined space. Consider:
 - the need for competent people;
 - testing the atmosphere to make sure it can support life, and does not contain dangerous levels of gases such as hydrogen sulphide - but remember that some areas such as slurry pits may continue to give off poisonous gases after testing;
 - whether the area is adequately ventilated before entry;
 - providing PPE, including breathing apparatus;
- make arrangements in case something goes wrong - never enter the confined space without making proper emergency arrangements. Rescue equipment, including harnesses and safety lines, should be provided. Ensure you can rapidly notify the emergency services if something goes wrong.

Fire precautions in workplaces

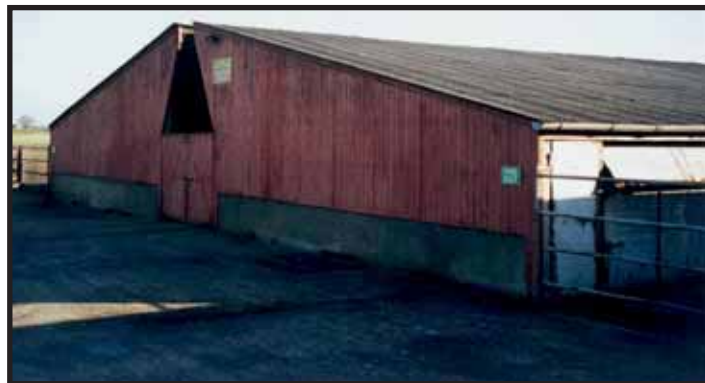
Assess the risks if a fire were to break out, and make sure that:

- you have safe means of escape, kept free from obstructions and clearly marked;
- everyone knows what to do if a fire starts, especially how to raise the alarm - display fire action instructions and have a fire drill periodically;
- any fire alarms work (check them weekly) and that they can be heard everywhere over normal background noise;
- you have enough extinguishers, of the right type and properly maintained, to deal promptly with small outbreaks of fire. Make sure staff know how to use them.



Chemical and veterinary medicine storage

Full advice on pesticide stores is contained in HSE's Agriculture Information Sheet AIS16 *Guidance on storing pesticides for farmers and other professional users*. Other hazardous substances such as dairy detergents, disinfectants and veterinary medicines should also be stored safely and securely where they cannot harm the environment or children etc.



Check that containers of potentially hazardous substances are locked away when not needed for immediate use, in an area:

- safe from accidental damage and children, vermin or birds;
- that is fireproof for 30 minutes;
- able to contain spillages, with protected drains if they might be polluted.

Keep records of what is in the store in case of fire.

Find out more

INDG244 *Workplace health, safety and welfare: A short guide for managers*
AIS26 *Managing confined spaces on farms*
HSENI *Slurry Gas leaflet*
66 HSE 96 *Workplace Health, Safety and Welfare – Approved Code of Practice*
 ISBN 0-337-11222-3



Preventing falls

The law

See Section 15 'Workplace safety and welfare'.

Falls from roofs, ladders, scaffolds and bale stacks are a major cause of serious accidents, many of which are fatal - in the last 8 years, 12 people have died after falling from a height on Northern Ireland farms. Follow these rules to make work at heights safer - and check the safety of contractors working for you. For advice on roofwork, see Section 18 'Building work'.

Bales - loading trailers and stacking

Many incidents - some fatal - involve bales being loaded onto the trailer, or during or after stacking. When loading, check that:

- trailer floors are in good condition and end racks or hay ladders are used;
- loads are built to bind themselves. Use sound bales for all edges;
- stackers keep away from the edges. Drivers should indicate clearly before the trailer is moved;
- full loads are secured before leaving the field, and that no one rides on them. Provide ladders for access to the load.

Stacking is a skill, and requires competent people. Have you:

- provided training and selected fit people who are happy working at heights?
- made sure that bales are well interlocked, and sound bales are used for edges?
- instructed staff to avoid working near edges, and to keep away from loading equipment?
- provided ladders, secured in place, for access?

Inspect stacks regularly, and make sure destacking is carried out safely - always take the top bales down first and never pull bales from the bottom.

Ladders

Never work from a ladder if there is a safer way of doing the job, eg by using a scaffold or working platform. If the job is quick and simple, you can use a ladder but always make sure it:

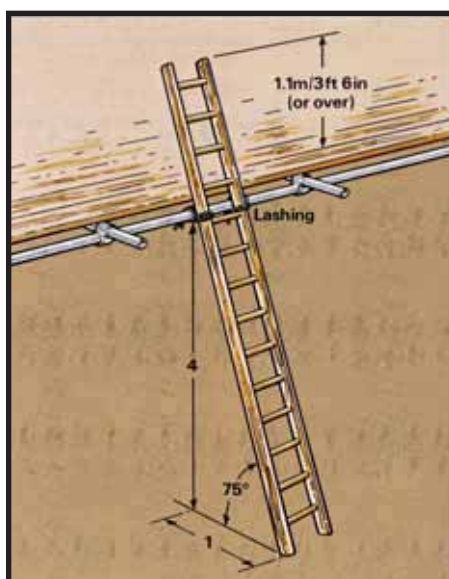
- has level and firm footings (never use unsteady or slippery bases, eg oil drums, boxes, planks or an uncleaned animal yard);
- is not placed against a fragile surface, eg fibre cement gutters - use a ladder stay or similar;
- is set at the most stable angle - a slope of four units up to each one out at the base;
- extends at least 1 m above the landing place or the highest rung in use, unless there is a suitable handhold to provide equivalent support. Extending ladders should overlap by at least three rungs;
- is secured against slipping, eg by tying at the top, sides or foot. Someone standing at the foot to prevent slipping is effective only with ladders less than about 6 m long.

Always use both hands to grip the ladder, and check for defects regularly. Follow similar rules for stepladders and trestles.

Never:

- use damaged or 'home-made' ladders - take them out of use and destroy or repair them;
- place ladders where there is danger from moving vehicles, animals, or electricity lines.

Wear safety belts or harnesses during tree climbing or pruning or when gaining access to silos or bins without fixed ladders.



Ladders should be placed at the correct angle and be secured in position

Scaffolds

Many tasks will be less hazardous if you do them from a properly designed and erected scaffold. Use competent and experienced workers to erect a scaffold, and make sure they are under the control of, and inspected regularly by, a competent person.

Check that:

- the scaffold is placed on level, firm ground with baseplates and soleplates where necessary, properly braced with vertical supports (standards) every 2 to 2.5 m;
- the platform is at least 600 mm wide, with adequate supports, not more than 1.5 m apart;
- scaffold boards are tied down or overhang each end support by 50 mm to 150 mm;
- you have provided fall protection such as guard rails, with the main guard rail at least 910 mm above the platform, with toe boards at least 150 mm high. There should not be an unprotected gap of more than 470 mm between the platform and any guard rail;
- there is safe access to the scaffold - never climb the outside.

For mobile scaffolds, also:

- check the maximum recommended height in relation to the base dimension (including outriggers, if fitted). The base:height ratio is often 1:3;
- tie them to the building, or extend the base with outriggers, if using them outside in windy weather (always tie them if they are to be left unattended);
- clear the working platform of people and materials when the scaffold is being moved. Move it only by pulling or pushing at the base;
- wheel brakes must be 'on' and locked when the scaffold is used;
- do not overload the working platform or apply pressure which could tilt the tower.

Find out more

INDG125 *Handling and stacking bales in agriculture*
HSENI *Guide to Health and Safety in Construction*



Maintenance work and workshops

All equipment and plant should be maintained in good working order and in good repair, and some must be regularly checked. In maintenance work, conditions are very different from those normally encountered and new hazards may be introduced. It is essential that everyone involved is trained to be aware of the hazards and the correct precautions.

Plant and equipment maintenance

Some equipment should be regularly examined or tested by a competent person, eg lifting equipment such as chains and ropes, steam boilers or air receivers such as those on compressors. Consult an independent inspection organisation or your insurance company for advice.

Follow the manufacturer's recommended maintenance schedules for items such as vehicles, lift trucks, ventilation plant, portable electrical equipment, protective clothing and equipment, and machine guards.

During vehicle repair:

- make sure brakes are applied and wheels chocked;
- always prop raised bodies;
- start and run engines with brakes on and in neutral gear;
- never work under vehicles supported on jacks alone - always use axle stands;
- beware of the explosion risk when draining and repairing fuel tanks;
- avoid burns from battery short circuits - disconnect the battery before starting work;
- older brake linings may also contain asbestos. Never 'blow out' brakes - always use a vacuum or other dust-free method.

Isolating equipment

Isolate machines before any maintenance, cleaning or adjustment. It is not enough to switch the machine off - use the main isolator, usually a separate control. If the machine is at some distance from the isolator, or if work in progress is not obvious, remove the fuses from the isolator box and attach a 'danger' tag to it, or lock the isolator box and keep the key safe.



General workshop safety

Check that:

- you keep the workshop tidy - avoid tripping hazards such as trailing cables, tools etc;
- welding gas bottles are secured upright, and when in use can be moved easily on a trolley;
- battery charging is done in a well-ventilated area away from sources of ignition such as welding flames or angle grinding;
- you avoid chlorinated solvents such as 'trike' or 'perc' for degreasing - use a less harmful product such as a proprietary degreasing agent and follow the manufacturers instructions and locate degreasing baths in well-ventilated areas;
- arc welding is done in a protected area so that others nearby are not affected by the arc and suffer 'arc-eye' as a result;
- you use the correct abrasive wheel for the job, and that bench grinder tool-rests are adjusted close to the wheel;
- you can escape from inspection pits easily and that inspection lamps have protected bulbs (flammable fluids such as petrol may collect in the bottom of the pit and explode with the heat from a broken bulb filament);
- noise levels from plant such as compressors are controlled - site the machine in a separate area or outside;
- PPE is provided - eye protection for grinding and welding work; respiratory protection for work that creates dust, if extraction cannot be provided; or foot protection if there is a risk of things falling onto the feet.

Hand tools can cause injury. Make sure you use the right tool for the job and that it is in good order. Before you use:

- a hammer, check that the head is properly secured to the shaft. Avoid split, broken or loose shafts, and worn or chipped heads;
- a file, make sure it has a proper handle. Never use files as levers;
- a chisel, sharpen the cutting edge to the correct angle. Do not allow the head to spread to a mushroom shape - grind off the sides regularly;
- a spanner, check for splayed jaws and scrap any spanner which shows signs of slipping. Have enough spanners of the right sizes. Do not improvise by using packing material and extension handles.

Pressurised plant

Any plant or equipment under pressure, such as slurry tankers, boilers and air receivers, may burst violently. Reduce the chances of this happening and anyone being killed or injured.

Make sure:

- the plant is suitable for its intended purpose and installed correctly;
- you know the safe working pressure and temperatures of any pressurised system or equipment;
- safety valves are fitted to relieve excess pressure, and safety devices to make over or under-pressurisation unlikely, such as boiler low water level alarms;
- you avoid accidentally pressurising any system or equipment, eg provide boiler 'blow-down' tanks with an adequately sized vent pipe. Applying heat to drums or tanks which have contained flammable material may create pressure - always cold cut sealed containers; Take extreme care when attending to plant connected to suspected frozen pipe work;
- you use pressure in a controlled way:
 - use a tyre cage when inflating farm or heavy goods vehicle tyres;
 - deflate tyres before removing split rim wheels;
 - pressure test pipes, tanks etc hydraulically rather than with air;
 - never heat or weld the rims of pneumatic tyres, even if they have been deflated.

Find out more

INDG241 *No second chances*
HSENI *Leaflet on Cold Cutting of containers*

Building work

The law

Most activities involving structural work on farms etc are subject to the Construction (Health, Safety and Welfare) Regulations (Northern Ireland) 1996. The Construction (Design and Management) Regulations (Northern Ireland) 1995 (CDM (NI)), where they apply, require that health and safety is managed throughout all stages of a project, from conception, design and planning through to site work and subsequent maintenance and repair of the structure.



Most farms carry out some building work, from dismantling and re-erecting entire buildings to repairing fragile roofs. All such work involves risks - the construction industry is generally accepted to be just as hazardous as agriculture - and you must put proper controls into place. For advice on working on ladders and scaffolds, see Section 16 'Preventing falls'.

Falls during roof work have resulted in 4 deaths on Northern Ireland farms during the past 3 years.

Major projects

CDM will apply to construction work where the work will last for more than 30 days and involve five or more people on site at any one time. In these cases you, as the 'client', will have legal duties to comply with, and you should obtain advice.

Working on fragile roofs

Most types of fibre cement roofs (commonly known as 'asbestos' roofs, but not always containing asbestos) will be fragile. Corroded steel roofing, especially on livestock buildings is also fragile. Timber support purlins are also weakened by localised rotting. Roof lights will often also be fragile. Remember that it is never safe to walk across any fragile roof without using roof ladders or crawling boards.

Always consider first

whether it is really necessary to access the roof - does the work need to be done, or could it be done in some other way such as from an elevated work platform? If you, your employees or contractors repair, replace or clean roofs, or access them for inspection or to get to plant, follow these rules:

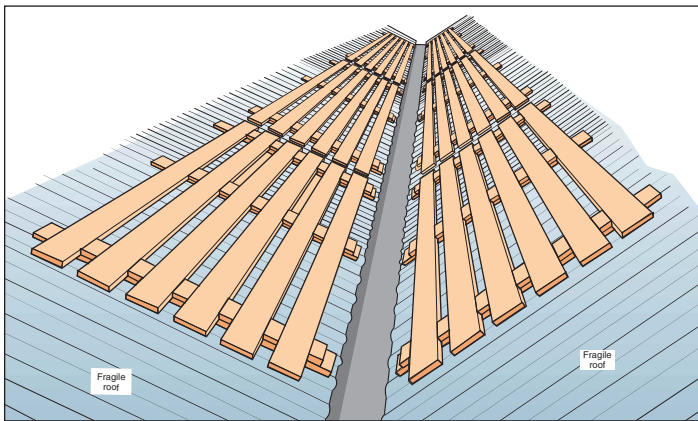
- Make sure everyone knows the precautions to be followed when working at heights.
- Fix a prominent permanent warning notice at the approach to any fragile roof.
- Never walk on fragile materials such as asbestos or other fibre cement sheet, many roof lights or glass (beware - roof lights and glass may have been painted over).
- Never 'walk the purlins'.
- Roof ladders or crawling boards must span across at least three purlins. They should be at least 600 mm wide and more when the work requires it.
- Don't use a pair of boards to 'leapfrog' across a fragile roof - provide enough boards.
- Take precautions to prevent a person falling from the ladder or board - edge protection or safety harnesses or safety netting where this is not feasible. Take specialised advice - but remember that harnesses require adequate attachment points and rely on user discipline and training to ensure that they are consistently and correctly used.
- Roof ladders must be securely placed, with the anchorage bearing on the opposite roof. Do not rely on the ridge caps or tiles for support as they can easily break away. Never use gutters to support any ladder.

Working on or passing near to fragile roofing material

You will need to provide protection when anyone passes by or works nearer than 2 m to fragile materials, eg during access along valley gutters in a fragile roof, when an otherwise non-fragile roof contains fragile roof lights, or during access to working areas on a fragile roof.

You should:

- wherever possible make sure that all fragile materials 2 m or closer to the people at risk are securely covered; or
- provide full edge protection (top rail, intermediate guard rail or equivalent and toeboard) around or along the fragile material to prevent access to it. Make sure you take precautions when installing such protection, eg use netting.



Permanent protection installed at valley gutter (The protection should be supported by at least three rafters beneath the roof sheets)

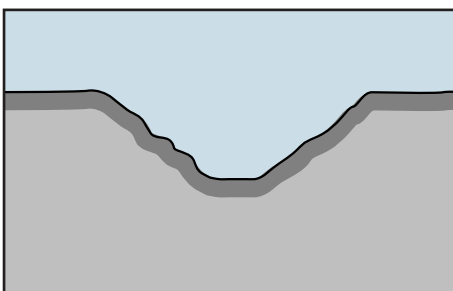
If it is not reasonably practicable to provide such protection:

- use safety nets or harnesses but make sure staff are trained and competent in their installation and use.

Excavation

If excavating, remember:

- trench sides may collapse suddenly with fatal consequences whatever the nature of the soil;
- any excavation deeper than 1.2 m must have the sides sloped (battered) or shored;



A battered trench

- keep a clear area around excavations to prevent people, materials or vehicles falling in, and the weight of soil or equipment from causing the sides to collapse;
- if you need to enter the excavation, provide safe access such as a trench box;
- there may be poisonous or asphyxiating gases in sewer openings, from marshy ground or from confined spaces (see Section 15 'Workplace safety and welfare').

Keep diggers well away from overhead electricity lines and underground services, including cables and gas pipes - consult with the utility companies before you start work to establish where they are.

Asbestos

Asbestos was used widely in horticulture as lagging on plant and pipework, in insulation products such as 'fireproofing' panels and in asbestos-cement roofing sheets. Although in new products it has now largely been replaced by other materials, many older materials on farms still may contain asbestos. Exposure to asbestos fibres as a result of disturbing the fabric of a building can lead to asbestosis – a fatal lung disease.

Well-sealed, undamaged asbestos is often best left alone, but make sure that you know where asbestos is on your premises (consider labelling it) and tell contractors etc before they begin work. If asbestos is damaged, avoid breathing in the dust, isolate the area, and consult specialists for removal.

Work with asbestos insulation, asbestos insulating board or sprayed coatings (ie limpet asbestos) must only be carried out by specialist HSENI licensed contractors.



Find out more

HSG33 *Health and safety in roof work*
ISBN 0 7176 1425 5

INDG223 *Managing asbestos in workplace buildings*

AIS12 *Safe working on glasshouse roofs*

81 HSA 97 *Health and Safety in Construction in Northern Ireland (under revision)*

Manual handling and musculoskeletal problems

The law

The Manual Handling Operations Regulations (Northern Ireland) 1992 require that if your general risk assessment (under the Management of Health and Safety at Work Regulations (Northern Ireland) 2000 identifies risks from manual handling operations you should avoid the job if reasonably practicable; assess the operations that cannot be avoided; and take steps to reduce the risk of injury.

Manual handling includes lifting, putting down, pushing, pulling, carrying, moving or supporting a load by hand or bodily force. It is not just the weight of the load that can cause injury: the size, shape, available grip, the way you carry the load, where you have to carry it, and how often you have to do the task all play a part. You may suffer ‘musculoskeletal problems’ - aches, sprains and strains - as a result of manual handling, or through other tasks which involve repetitive movements, force, unusual postures, prolonged pressure on a joint, badly organised working practices or work environment. Effects on your health can include sprains or strains, backache, sciatica, hernias, arthritis, or swelling of the hand, wrist, forearm, elbow and shoulder (‘work related upper limb disorders’ or WRULDS).

Avoid manual handling

Consider whether you have to move the load:

- Better work planning can remove the need for loads to be moved more than once. For example, deliver a bagged load straight onto a trailer so that it can be taken to where it is needed without handling again.
- Carry out the task near the load rather than moving the load to the task. For example, change the layout of the workshop to make repairs to machines more convenient.
- Fully mechanise the task. For example, move to big bales or fertiliser in big bags, which cannot be moved by hand.



Assess the risks

If you cannot avoid manual handling, look at the risks from manual handling operations. You do not have to look at every task in detail - if the load is less than about 25 kg, easily gripped close to the body, and the working conditions are good, the risk of injury to most working people will be low.

Look at the tasks involving loads that:

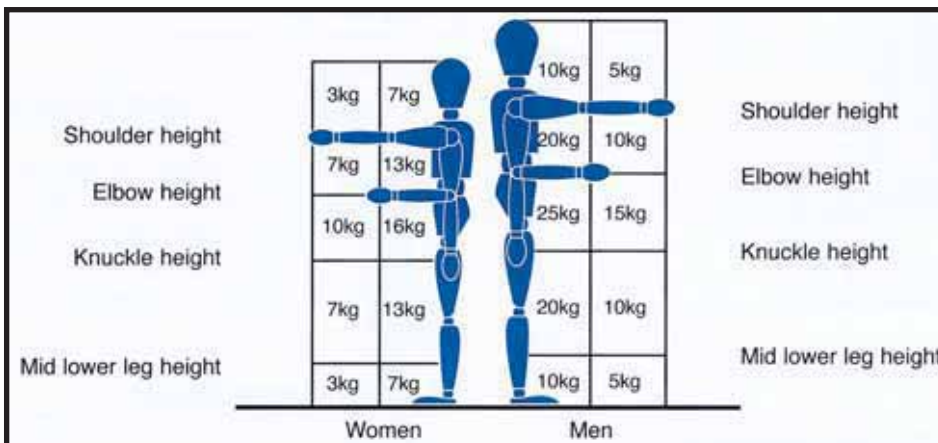
- weigh over 25 kg or are difficult to grip or handle;
- need frequent lifting or lowering, or carrying over long distances;
- are difficult to manoeuvre, and/or involve twisting or lifting above shoulder height or from the floor.

Reassess the risks if tasks change or new operations are introduced.

Reduce the risk of injury

Consider the following options:

- Use mechanical assistance. Material handlers, sack trucks, workshop cranes, drum cradles etc can all reduce the amount of effort involved and so reduce the risk of injury.
- Change the type of load - big bag fertiliser or big bales will prevent lifting; using smaller packs, eg 25 kg bags of cement rather than 50 kg bags, will make lifting easier.
- Find improved ways of handling:
 - animals - properly designed cattle races and crushes or sheep turnover crates will reduce the risks from animal handling;
 - containers with sharp edges, liquid or flowing contents - wrap a protective layer around the sharp edge or use smaller containers that are full so that the contents do not surge around, changing the weight distribution.
- Look at the working environment. Allow staff to work at their own pace where possible; build adequate rests or pauses into the work; check that floors etc are level, well lit, not slippery, unobstructed, and that there is enough space to move the load.



If particularly large or awkward loads cannot be moved with mechanical assistance, you will need to arrange help:

- Discuss the work first and get everyone to work together.
- Make sure one person is in charge, giving clear, unhurried instructions.
- Provide protection for hands and feet, and protective clothing where necessary.

Make sure that everyone knows the correct lifting techniques - provide training:

- Don't jerk and shove - twisting the body may cause injury.
- Lift in easy stages - ground to knee then from knee to carrying position. Do this in reverse when putting the load down.
- Hold weights close to the body. Raise the chin as the lift begins. Lift with the legs and keep the back straight.
- Grip loads with palms, not fingertips. Don't change your grip while carrying.
- Don't let the load obstruct your view. Make sure the route is clear before you move.

Work related upper limb disorders (WRULDS)

If staff suffer from pain, numbness or tingling in the hands; aching or shooting pains up the arms; difficulty in gripping; or swelling over a joint, they may be suffering from a WRULD. Typical work which causes these symptoms includes working on grading lines, on inspection tables on root harvesters, or processing poultry.

Consider:

- allowing new workers a gradual build-up of their work rate;
- rotating jobs to allow for a variety of postures and activities;
- building short and frequent breaks into the job;
- changes to the work area, such as adjustable seats and work tables at the right height;
- selecting tools with handles designed to suit the hand.

Find out more

INDG171 *Upper limb disorders: Assessing the risks*

AS23 *Handling loads in agriculture*

First aid, dealing with emergencies and reporting accidents

The law

The Health and Safety (First Aid) Regulations (Northern Ireland) 1982 require you to have adequate arrangements for first aid. The Management of Health and Safety at Work Regulations (Northern Ireland) 2000 require that you have procedures to be followed in the event of serious and imminent danger - an emergency. The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (Northern Ireland) 1997 (RIDDOR(NI)) require you to report certain accidents, incidents and occupational diseases in agriculture to HSENI, within specified time limits.



If things go wrong people may be exposed to serious and immediate danger. Plan for reasonably foreseeable events - serious injuries, fire, poisoning, electrocution, or chemical spills. You may need a written emergency plan if a major incident at your premises could involve risks to the public, rescuing employees or co-ordinating the emergency services, eg where access into slurry stores or silos is needed, or if large quantities of LPG are stored.

Consider what could go wrong, and inform staff:

- what could happen;
- what to do, including calling the fire or ambulance services and shutting down plant;
- where to go to reach safety, or get rescue or fire-fighting equipment;
- how people - those in charge and others - will deal with the problems. Have you identified and addressed training needs and allocated responsibilities?

Check that:

- the emergency services have the OS map reference of your premises;
- you have emergency exits to allow staff in, eg grain stores or vegetable grading areas to escape quickly (and suitable arrangements to ensure that emergency doors and escape routes are kept unobstructed and clearly marked at all times);
- a competent person has been nominated to take control;
- you have adequate first-aid equipment and first aiders;
- people are trained in emergency and evacuation procedures.

First aid

Immediately and properly examining and treating injuries may save life - and is essential to reduce pain and help injured people make a quick recovery. Neglecting or inefficiently treating an apparently trivial injury may lead to infection and ill health. All farms must have first-aid equipment available; what is appropriate for you will depend on the nature of your business and the types of accident that may occur.

You should:

- appoint someone to take charge of first-aid arrangements, including looking after the equipment and facilities and calling the emergency services when required. An appointed person will need to be available whenever people are at work;
- provide a suitably stocked first-aid container (easily accessible in cases of emergency);
- provide information for employees on first-aid arrangements, eg notices telling people where the first-aid equipment, facilities and personnel can be found.

In agriculture, much work may take place remote from emergency medical services, so provide travelling first-aid kits to be carried on tractors etc, or when particularly hazardous tasks, such as using chainsaws, are being carried out. If you employ large numbers of staff on site you may need to provide a first-aid room, a qualified first aider, or someone with specialised first-aid training.

Some substances can have serious effects on health, eg moisture-activated gassing compounds such as sodium cyanide or aluminium phosphide used for vermin control. All users should make sure they know the appropriate first-aid measures to take - discuss medical treatment with your GP and consider the need for mobile phones or radios if they would reduce the time taken for the emergency services to reach a casualty.

Reporting accidents

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (Northern Ireland) 1997 (RIDDOR(NI)) apply to all employers and the self-employed and cover everyone at work (including those on work experience and similar schemes) and non-workers, such as visitors, affected by the work.

You must:

- notify HSENI immediately (eg by telephone) if, as a result of work:
 - your employee, or a self-employed person working on your premises, dies or suffers a major injury (such as a broken arm or leg, an amputation injury or is seriously affected by an electric shock or poisoning);
 - a member of the public is killed or taken to hospital;
 - there is a dangerous occurrence, eg a fire or explosion which stops work for more than 24 hours, or a crane overturns;
- confirm the report in writing within ten days using form F2508 – you may use a

- report certain diseases suffered by workers who do specified types of work as soon as possible on receiving a written diagnosis about the illness from a medical practitioner. Form NIF2508A should be used;
- keep details of the incident for three years (eg in your accident book).

Reportable diseases in agriculture include:

- most zoonoses (diseases passed from animals to humans);
- conditions due to work with organo-phosphates (in pesticides or veterinary medicines);
- dermatitis due to work with many products used in agriculture, including certain plants;
- extrinsic alveolitis (including farmer's lung) from exposure to moulds and spores in agriculture;
- asthma from exposure to dusts and animals;
- cramp of the hand or forearm due to repetitive movements.



photocopy of the example shown in this guide page xxx;

- report within ten days (on form F2508) accidents at work which result in an employee being unable to do their normal job for more than three days;

Find out more

- HSE31 *Everyone's guide to RIDDOR 95*
- HSENI 60102/C *RIDDOR (NI) 97*
- INDG214 *First aid at work: Your questions answered*
- INDG215 *Basic advice on first aid at work*

Reviewing progress

The law

See Section 2 'Managing health and safety and risk assessment'.

Your health and safety management system should include provision for monitoring and reviewing all your arrangements for health and safety - the fourth and fifth steps in the management process. Monitoring and review should cover existing general arrangements as well as new hazards introduced because of equipment and cropping changes, new land taken on, changed working practices, new staff or using contractors. Staff will be well placed to help in this process, which may include:

- making spot checks or fuller inspections;
- investigating reports of accidents, near misses and ill health caused by work;
- seeing if trends or patterns are developing.

Inspection and checks

These may include:

- routine checks by managers, supervisors and maintenance staff, eg tours of inspection;
- statutory tests and examinations by competent persons, eg of lift truck chains and pressure systems by surveyors (possibly from independent inspection organisations);
- reporting defects by employees, eg inspecting machinery safeguards daily/weekly;
- health surveillance by a competent person.

It is often useful to stand back from the job you are involved in, and watch what goes on. You may gain valuable information on the way work is actually done, rather than the way you think it is done. Don't rush to blame people for working unsafely - establish the reasons and take appropriate action. Again, consult staff for their views on what happens and why.

Evaluating accidents, ill health and near misses

An effective system for recording all relevant incidents is important, as records of accidents, ill health and near misses can be used to identify problem areas and take action. For example you may be seeing a number of cases of dermatitis associated with handling plants. You can use this information to look at how your current risk assessment covers this area, and how your current arrangements can be improved.

A lack of accidents does not necessarily mean all is well - good luck may have been playing a role. Investigating incidents and monitoring near misses can identify the reasons why controls have failed and what you need to do to prevent a recurrence.

It is important to identify the real causes of incidents, not the superficial ones. For example, an accident may have happened because machinery was used wrongly - but why? Possible answers, which you need to find out, include:

- poor training or lack of information;
- poor maintenance which meant the machine could not be used in the correct way;
- habit;
- conflict of instructions;
- tiredness, or pressure of work.

Investigating what has happened will help to highlight weaknesses or omissions in your current safety standards or policy. The findings can be used to help prevent the same thing happening again, and allow you promptly to put in place new or revised controls. Reporting and looking at near misses can help you avoid more serious events in future - but for this to be effective your management style should support open discussion of what went wrong and why. Those doing the job often have the best insight.

Auditing and review

Health and safety auditing:

- aims to provide a comprehensive, independent check of work activities and of the existing arrangements for managing and monitoring health and safety to identify shortcomings;
- provides feedback to managers on how well risks are being controlled;
- is usually most effective when it is carried out by people independent of the areas being audited, eg from another department or site, but this is often not possible in agriculture and horticulture.

If you do your own audits try to remain objective. Consultants can help, but make sure they are appropriate and competent.

After an accident etc

You need procedures in place, possibly outlined in your safety policy, to ensure the following stages are followed if an accident or near miss happens:

- Take action to deal with the immediate risks, eg provide first aid, put out the fire, isolate any danger, call the emergency services and report the incident to HSENI if necessary.
- Take photographs and measurements before disturbing the site.
- Obtain basic facts, eg witness names, machinery condition, substances in use, place, time, extent of injury.
- Establish what happened. Look at the experience of the people involved, and remember that most accidents have more than one cause.
- Identify preventive measures, eg assess/reassess the risk; reappraise intended safeguards and work methods; check guidance.
- Establish whether your initial response was adequate, eg whether there was effective first-aid response or correct pesticide spillage procedures were used.
- Identify the underlying causes, such as management or supervision failures, inadequate training or poor maintenance. Don't be too quick to blame individuals.
- Take steps to stop something similar from happening again. Think about whether the outcome could have been more serious and what prevented this from happening.

FURTHER INFORMATION

HSE provides a range of videos for managers, workers, students and trainers in farming, forestry and horticulture and other industries. For a current HSE Videos catalogue giving details of purchase or hire, a brief synopsis and the running time of each video, contact: HSE Videos, PO Box 35, Wetherby, West Yorkshire LS23 7EX. Tel: 0845 741 9411 (all calls charged at local rate) Fax: 01937 541083.

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS. Tel: 01787 881165 Fax: 01787 313995.

HSE priced publications are also available from The Stationery Office, 16 Upper Arthur St., Belfast BT1 4GD, Tel: 028 9023 8451 and other good booksellers.

For other enquiries ring HSENI's InfoLine Tel: 0800 032 0121, or write to HSENI's Information & Advice Centre, 83 Ladas Drive, Belfast BT6 9FR or email: hzeni@detini.gov.uk.

HSENI home page on the World Wide Web:
<http://www.hzeni.gov.uk>

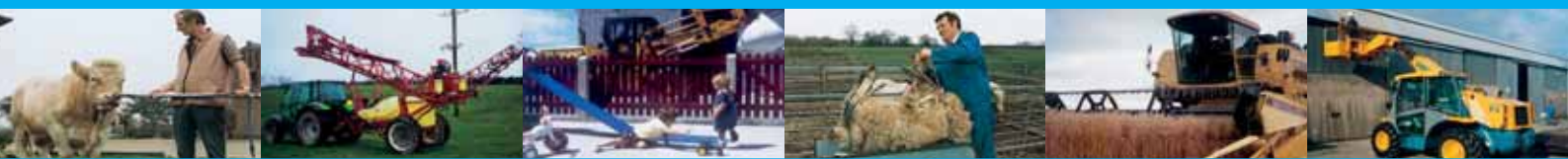
Following this guidance is not compulsory and you are free to take other action. But if you do follow it you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

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