An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority

Code of Practice for Preventing Injury and Occupational Ill Health in Agriculture

For Farms with Three or Less Employees

www.hsa.ie

Our Vision: To deliver healthy and safe working lives and contribute to productive enterprises

Published in 2026 by the Health and Safety Authority, Metropolitan Buildings, James Joyce Street, Dublin 1

Foreword

The Health and Safety Authority (HSA) (by virtue of section 60 of the Safety, Health and Welfare at Work Act 2005), following consultation with the statutory advisory committee on safety and health in agriculture – referred to as the Farm Safety Partnership – with the consent of Alan Dillon, Minister of State at the Department of Enterprise, Trade and Employment with special responsibility for Employment and Small Business, has issued this revised *Code of Practice for Preventing Injury and Occupational Ill Health in Agriculture*. The Code of Practice incorporates this general guidance document and a *Farm Safety Code of Practice Risk Assessment Document.*

The aim of this Code of Practice is to improve the level of safety and health among all people engaged in the agriculture sector by providing practical guidance with respect to the observance of the Safety, Health and Welfare at Work Act 2005, including the provisions of sections 19 and 20 of the Act. This Code of Practice comes into operation on xx xxxx 2026. Notice of its issue was published in the Iris Oifigiúil of xxxxxxx.

Regarding the use of Codes of Practice in criminal proceedings, section 61 of the Safety, Health and Welfare at Work Act 2005 provides as follows:

> *61.—(1) Where in proceedings for an offence under this Act relating to an alleged contravention of any requirement or prohibition imposed by or under a relevant statutory provision being a provision for which a code of practice had been published or approved by the Authority under section 60 at the time of the alleged contravention, subsection (2) shall have effect with respect to that code of practice in relation to those proceedings.*
>
> *(2) (a) Where a code of practice referred to in subsection (1) appears to the court to give practical guidance as to the observance of the requirement or prohibition alleged to have been contravened, the code of practice shall be admissible in evidence.*
> *(b) Where it is proved that any act or omission of the defendant alleged to constitute the contravention—*
> *(i) is a failure to observe a code of practice referred to in subsection (1), or*
> *(ii) is a compliance with that code of practice, then such failure or compliance is admissible in evidence.*
> *(3) A document bearing the seal of the Authority and purporting to be a code of practice or part of a code of practice published or approved of by the Authority under this section shall be admissible as evidence in any proceedings under this Act.*

Xxxxx xxxxxxxx
Secretary to the Board

Acknowledgements

This *Code of Practice for Preventing Injury and Occupational Ill Health in Agriculture* was prepared in consultation with members of the Farm Safety Partnership Advisory Committee to the Health and Safety Authority. Subsequently, the Code of Practice was officially adopted by the Board of the Health and Safety Authority.

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1. Introduction

1.1. Background

The aim of the Code of Practice is to improve the level of safety and health in the agriculture sector. In particular, the code aims to provide guidance to farmers, employers, employees and their representatives on how to improve safety and health in the agricultural sector.

This code cannot be definitive for every circumstance that may arise. To address specific issues and supplement the information provided here, you are advised where necessary to seek further information and competent advice.

1.2. Status and scope of the Code of Practice

This code is issued by the Health and Safety Authority (HSA) under section 60 of the Safety, Health and Welfare at Work Act 2005, and with the consent of Alan Dillon, Minister of State at the Department of Enterprise, Trade and Employment with special responsibility for Employment and Small Business. The code is intended to provide practical guidance to:

- farmers,
- farm family members,
- employees,
- service providers,
- advisers,
- trainers, and
- people with a role related to safety and health in agriculture.

Failure to observe any part of this code will not in itself render a person liable to civil or criminal proceedings. In cases where the code gives practical guidance with regard to any of the relevant statutory provisions, an individual's compliance or non-compliance with those provisions may be admissible as evidence in criminal proceedings. Where the HSA takes any action, including prosecutions, it will rely generally on legal duties rather than specifically on this Code of Practice. The Risk Assessment Document associated with this Code of Practice should be completed in writing or alternatively online at www.hsa.ie. This code gives recommendations and practical guidance on securing safety and health in the working environment for those employed in the agricultural sector. It does not cover in detail other activities on the farm such as construction, forestry, manufacturing and retail.

Social conditionality is a key component of the Common Agricultural Policy (CAP) 2023-2027 in Ireland, linking European Union (EU) farm payments to the enforcement of labour standards, effective from 2025. Social conditionality means that an additional conditionality penalty may be applied to farmers who are found to be in breach of certain legislation relating to workplace safety, employment standards or the safe operation of machinery in the workplace. This standard will not involve any additional checks by the Department of Enterprise, Trade and Employment, but will be facilitated by cross-reporting from the Workplace Relations Commission and the HSA. For farmers, there are no new requirements. Existing national rules on health and safety or employment law will continue to

apply, as normal. Any beneficiary of Common Agricultural Policy (CAP) funding that is found to be non-compliant with these national rules and convicted under the relevant legislation will now be cross-reported to the Department of Enterprise, Trade and Employment and may be subject to an additional conditionality penalty. Ireland has a very high level of compliance with EU wide Directives, and it is anticipated that the number of cross-reported cases will be very low.

2.0 Managing safety and health on your farm

2.1. Completing a farm-safety risk assessment or safety statement

The Safety, Health and Welfare at Work Act 2005 places a legal duty on all farmers to prepare and implement a safety statement. However, farmers with three or fewer employees may instead follow the guidance in this Code of Practice and complete the risk assessment document associated with this code.

Preparing and implementing a safety statement or Code of Practice risk assessment in a comprehensive and effective manner has many benefits:

- It is likely to reduce the risk of accidents and ill health on your farm.
- It may reduce insurance costs or protect against any compensation claims.
- It will help a farmer meet their legal obligation.
- It provides a template for a farmer to make a document specific to the activities/risk and control measure on your farm, which will clarify which controls they have in place to reduce risk on their farm.
- It will assist visiting inspectors from the HSA or the Courts in seeking evidence that the risk assessment is completed and acted upon.

Who has access to a safety statement or risk assessment?

Everyone who works on your farm (including family members) must be made aware of the relevant contents of the safety statement or risk assessment. These must also be brought to the attention of anyone else who needs to be aware of the safety and health controls on the farm, including casual/relief workers, contractors, anyone legally obliged to visit/inspect the farm and people supplying goods and services to the farm.

An inspector of the HSA may examine your safety statement or risk assessment. The inspector will also examine how the safety and health measures are being implemented on your farm. If the safety statement or risk assessment is found to be inadequate, the inspector can direct you to revise it within a reasonable specified time period.

2.2. Preparing a safety statement or risk assessment for your farm

The following are broad guidelines to help you complete the safety statement or risk assessment.

Step 1: Make a commitment to manage safety and health
Your commitment to completing and implementing your safety statement or risk assessment on an ongoing basis is an important step in preventing accidents and ill health. When you have written your safety statement, or alternatively carefully considered and completed all aspects of the *Code of Practice Risk Assessment Document*, sign and date it.

Step 2: Carry out a risk assessment for your farm
The safety statement or risk assessment identifies the key farm hazards known to cause death, serious injury and ill health. As you complete the documents, take the following directions into account:

- You may be familiar with many of the hazards that exist on your farm. In addition to these, think of any accident or near miss that has previously occurred. Identify these hazards and put in place preventative measure/s to stop them from reoccurring and reduce the risk of injury.
- Walk around your farm and examine all aspects of it from a safety and health point of view. Consider work activities at different times of the year, since the workplace and work systems are likely to change from season to season. Include ‘out-farms’ and any other place of work over which you have control.
- Consider stress and worry that may affect your workers, both on and off the farm.
- Consider the work organisation of your farm. Work overload, rushing, poorly maintained machinery, poor farm maintenance, traffic management, livestock handling, untidy farmyards and inadequate supervision are all major causes of accidents and falls from heights.

- Prioritise significant hazards that are more likely to cause harm.
- Where your risk assessment shows that control measures are inadequate or are not in place, mark an 'x' on the Risk Assessment Document. Then list it on your Farm Safety Action List at the end of your *Farm Safety Code of Practice Risk Assessment Document*, including the control measures you plan to put in place.

Step 3: Decide on prevention/control measures

When you are devising health and safety control measures, consider them in the following order:

1) **Elimination**

Elimination means putting controls in place to remove the hazard. For example, use artificial insemination instead of keeping a bull; demolish unstable structures.

2) **Reduction**

If a hazard cannot be eliminated, the next best option is to reduce the danger as much as possible. For example, use contractors to spread slurry; use less-dangerous chemicals; reduce contact with livestock by improving cattle-handling facilities.

3) **Provide information, training and supervision**

Ensure that every person on the farm has all the information and skills necessary to secure their health and safety.

You can provide information verbally or in writing. Ensure that family members, employees, contractors and service providers read and understand the contents of your safety statement or risk assessment. You can also provide information by putting up hazard-warning signs.

Individuals working on the farm should be trained formally or informally. If formal training is delivered by a competent trainer, it should be completed/passed. A person may undertake an appropriate safety and health course or be shown the correct way of doing a job, so long as the informal training session is documented and signed/dated by both the competent trainer and the trainee.

The HSA provides several free short awareness raising courses on farm safety and other topics on our e-learning platform, hsalearning.ie. These resources provide an opportunity for farm workers and others to increase their awareness of the dangers on the farm and how to

prevent accidents from occurring to themselves and others. In addition, the HSA has developed video resources addressing farm safety for delivery in primary and post-primary schools. These free online courses and resources are available on https://hsalearning.ie.

For additional safety and health information, guidance and risk assessment, farmers and agribusiness owners are referred to the agribusiness section of BeSMART, at www.BeSMART.ie, a **free** online safety statement and risk assessment tool, also developed by the HSA. BeSMART.ie enables users to create a tailored safety statement and risk assessment specific to their business type, helping them to reduce the chances of injury and illness in their workplace and fulfil their legal obligation to manage health and safety. See https://BeSMART.ie/ for further information.

The HSA website also provides additional information related to farm safety. Please see here: https://www.hsa.ie/eng/your_industry/agriculture_forestry/ and www.hsa.ie.

Since 20 November 2023, operators of quad bikes and all-terrain vehicles (ATVs) in the workplace must have completed and passed a training course to a Quality and Qualifications Ireland (QQI) standard, and they must wear an appropriate helmet. The pertinent legislation, S.I. No. 619 of 2021, aims to reduce ATV-related fatalities and serious injuries for those who use ATVs in the workplace by requiring them to undergo risk assessments, professional training and to wear personal protective equipment (PPE) such as helmets to a prescribed standard.

Also, the HSA published a new *Code of Practice: Safe Use of Industrial Trucks*. This Code of Practice came into operation on 24 September 2025 and replaces the 2001 *Code of Practice: Rider-operated lift trucks: operator training and Supplementary Guidance*.

The new Code of Practice provides practical guidance on complying with the provisions of the Safety, Health and Welfare at Work Act 2005 with regards to the use of industrial trucks in workplaces. It provides a framework for managing the risks associated with industrial trucks. It sets out the basic roles and responsibilities of those whose duties include ensuring the safe operation of industrial trucks and training industrial truck operators. See www.hsa.ie for more information.

Supervision and co-operation: Make sure that everyone who works on your farm knows and accepts their role regarding safety and health. It is your responsibility to ensure that controls to minimize workplace hazards are implemented. If safety and health measures

are not in place, stop the work or activity and insist on the controls being followed.

4) Provide and use PPE or clothing

PPE should be used as a last resort, after all other methods for eliminating or controlling the hazard have been considered. PPE should meet a high standard and be maintained and stored correctly. Examples of PPE include earmuffs, steel toe boots, eye goggles, dust masks, pesticide gloves and face shields.

Step 4: Review and update your safety statement or risk assessment

Farming hazards change constantly. Work practices also change; new equipment or chemicals may be introduced. Review your safety statement or risk assessment throughout the year and revise it at least annually. Communicate these revisions with those working and/or affected by your work activity on the farm.

3.0 Preventing injuries and ill health in agriculture

3.1. Overview

Workers in agriculture (family and non-family) suffer a high proportion of fatal workplace accidents in Ireland. In the years 2020-2025, on average, 40% of all fatal workplace accidents have occurred in agriculture, even though just 4% of the workforce is employed in farming.[1]

There has been a general downward trend in fatal farm accidents. However, farming remains a very dangerous occupation, with similar types of accidents occurring around the same time each year. This suggests that many farmers continue to take risks rather than putting things right. Oftentimes, farmers' attitudes to safety only change after they or someone else on the farm suffer a serious injury.

Farm accidents and ill health can cause tragedy, pain and suffering to farm families and farm workers, and it can jeopardise their livelihood. This Code of Practice aims to change this behaviour, and to offer practical solutions in order to prevent injury and ill health. Information on fatal accidents in farming and forestry, and from the Teagasc National Farm Survey, has

[1] https://data.cso.ie/table/QES04

been used to develop the guidance in this code. A review of fatal accidents in farming over 10 years (2016-2025) revealed the major causes of death in the agricultural industry, in order to aid awareness so solutions can be found (see Appendix 1).

3.2. The challenge of reducing levels of accidents

The key to improving safety and health in farming is to put practical measures in place to prevent accidents and ill health. Farmers, along with their families and any farm workers, must make safety and health their first priority. This is the only way to reduce the pain, suffering, disability and loss caused by farm accidents and ill health. In order to manage farm safety and health effectively, take the following steps:

1) Prepare a safety statement or risk assessment

Farmers are legally obliged to prepare a safety statement based on risk assessment, and conduct work according to its stipulations. However, farmers whose farms employ three or fewer workers may follow the risk assessment and guidance material in this Code of Practice, instead of writing a safety statement.

Once you have completed the *Farm Safety Code of Practice Risk Assessment Document* or safety statement, make sure you put the controls to minimise workplace hazards in place and maintain good standards of safety and health. Communicate your risk assessment with those affected by your work activities, for example: workers, contractors and family members. Never take shortcuts or chances when it comes to your life, your family and your livelihood.

Keep your risk assessments up to date. Review your Risk Assessment Document or safety statement annually (at a minimum) or whenever you introduce new machinery, equipment facilities or work activity on your farm.

2) Assess the work organisation of your farm

Work organisation is an important farm management issue and is strongly related to safety and health management. Rushing, taking shortcuts, poor planning and preparation, inadequate maintenance and poor physical fitness are the root causes of many accidents. Skilled labour is now scarce and expensive, and off-farm employment among farm family members is increasing, making work organisation and planning even more critical.

Research shows there is room to improve the effectiveness of labour on many farms.

Options include:

- changing work practices,
- modifying buildings and facilities,
- changing farming systems, and
- using a competent contractor.

Having adequate time for farm management will result in a well-organised farm. This in turn will lead to improved safety and health standards. Having a satisfactory work–life balance allows adequate time for work, rest and leisure. This is crucial for long-term contentment and health. A hobby outside of work can often aid mental health.

3) Lone working

Farmers/employers have a duty to assess risks to lone workers, and to take steps to avoid or control these risks where necessary. The following are examples of such steps:

- A lone worker should tell someone where he/she is going before starting a job away on their own.
- They should carry a charged mobile phone containing names and numbers of people who can be contacted in case of emergency, including next of kin and neighbours.
- The farmer/employer should be aware that some tasks may be too difficult or dangerous to be carried out by an unaccompanied worker, and should hire more workers accordingly.
- The farmer/employer should consider how to allow emergency service access to their workplaces. For example, Loc8 Codes are generated freely and can be used to pinpoint any location in rural Ireland using Global Positioning System (GPS) co-ordinates. Knowing your Loc8 Code in advance can aid emergency services getting to you in areas with poor or confusing address systems. Another way to assist emergency services in the likelihood of an incident is by having your Eircode displayed at the farmyard entrance.
- When a risk assessment shows it is not possible for the work to be conducted safely by a lone worker, address that risk by making arrangements to provide help or back-up.

4.0 Child safety on farms

4.1. Risk assessment

Farms are a high-risk area for children, with the following statistics recorded by the Health and Safety Authority for the years between 2016 and 2025:

- Children and young people aged under 18 years made up 5% (8) of all fatal farm accidents between 2016 and 2025.
- Tractors, vehicles and machinery were the cause of all fatal farm accidents to children.
- One-quarter of fatal farm accidents to children, happened to children under 7 years of age.

Adults have a huge responsibility to assess the risks posed to children on a farm and put controls in place to prevent death and injury. Children should be accompanied by a responsible adult when visiting the farm. The following charts highlight the main risks to children on farms.

(Charts to be added)

4.2 Preventing child injury and death from machinery

The main cause of children's deaths on farms is by being struck or crushed by tractors, agricultural machines or tractor-drawn equipment.

Young children must not be allowed unsupervised access to the farmyard or farm machinery. Provide a safe play area at home in sight of your dwelling house, and inform all children of the dangers and safety rules on the farm.

Under no circumstances should a child aged under 7 years be carried inside the cab of a tractor, harvester or farm vehicle, regardless of whether a passenger seat is provided. Children aged under 7 years do not have fully developed heads, and they are at greater risk of injury from any impact within the cab when the tractor or farm vehicle is traversing uneven ground. They could also potentially fall from the doorway or rear window. They may also inadvertently operate a control (for example, the parking brake), even if instructed not to, potentially causing serious injury or death to themselves or others.

Allowing children aged under 7 years to ride in tractors or other farm machinery gives them the expectation that they will get more rides, which could encourage them to approach tractors and machinery, potentially resulting in serious injury or death. Children in the cab of a machine can also distract the operator or interfere with their control of the vehicle, thus increasing the risk to those working in the machine as well as those nearby outside the machine.

When carrying children aged over 7 years in the cab, it must be fitted with a properly designed passenger seat with seat belts.

Children of any age should not be allowed to ride on other agricultural machines, including trailers.

Children should never operate, maintain or clean dangerous machines, such as self-propelled harvesters and power-driven machines.

Children and young people should not be present in areas where chainsaws are being operated or tree-felling is taking place.

Children aged under 14 years should not be allowed to drive or operate tractors or machinery. Children aged over 14 years should be allowed to operate tractors only after they have received formal training (see section 19 on competence and training for people at work in agriculture).

Children aged over 14 years operating a suitable tractor should be closely supervised by a responsible adult, and they should be properly instructed on the safe use of the model of tractor used. No other child should be on or in the vicinity of the tractor.

Some farm machines are high-risk due to the components involved, complex control systems, substances they use or the specialist knowledge required to operate them safely. Because of this, no person aged under 18 years should be allowed to drive or operate such machinery. These include towed or self-propelled harvesters, power-driven machines, telehandlers, forklift trucks, sprayers, slurry spreaders and chainsaws.

4.3 Workplace risks to children

Children are naturally curious. They will often seem to appear out of nowhere or get into seemingly inaccessible places. They must be kept away from dangerous areas, such as slurry pits, slurry storage areas, water tanks, grain stores, machinery and stacked bales. Provide a safe, age-appropriate play area, with child-proof fencing, in sight of your dwelling house. A safe play area should have high, unclimbable perimeter fencing or walls. The access gate to the safe play area should have a high-level latch or lock. Above all, control hazards that could pose a risk to children. For example, make sure that slurry pits are surrounded by secure, unclimbable fencing.

Children may be tempted to climb on gates or wheels, particularly large tractor wheels. Gates and pillars should be properly erected or secured so they cannot fall over. Tractor wheels should be stored on the flat or, if upright, firmly secured.

Children are attracted to stacks of bales, pallets or timber. Stacks should be built carefully, so that they do not collapse. Fencing should be erected to prevent children from accessing hazardous areas or high places where they run the risk of falling.

4.4. The risks that animals pose to children

Children should not be allowed near dangerous animals such as female animals with newborn young, bulls, stallions, rams and stags. Particular care should be taken to ensure that children are not present when animals are released from buildings after being housed.

4.5. Legal provisions related to children and young persons

In addition to the duties of the farmer/employer listed under the Safety, Health and Welfare at Work Act 2005, further legal requirements apply to the safety and health of children and young people.

The Safety, Health and Welfare at Work (General Applications) Regulations 2007, Chapter 1 of Part 6, require farmers to identify what work is suitable for children and what work is not suitable. The regulations cover children and young people employed by farmers, as well as other children, such as family members or visitors.

4.6. Parental and adult responsibility

The main responsibility for securing the safety and health of children and young people rests with adults. All family members and people working on farms are required by law to do everything reasonably practicable to ensure the safety and health of children and young people on farms. Research shows that an adult is usually present when a child is seriously injured or killed in a farm accident. By taking responsibility for the safety of children on farms, these adults could prevent the majority of deaths to children.

4.7. E-learning

The HSA provides a number of short, free online health and safety courses on farm safety and other topics. These courses enable farmers, parents and children to increase their awareness of the dangers on the farm and how to prevent accidents to themselves and others. These e-learning resources can be found at www.hsalearning.ie.

4.8. *Code of Practice on Preventing Accidents to Children and Young People in Agriculture*

In 2010, the HSA issued a comprehensive statutory Code of Practice (*Code of Practice for Prevention of Accidents to Children and Young Persons in Agriculture*) which gives guidance on ensuring the safety and health of children and young people in agricultural settings. It is a complementary document to this Code of Practice and relates specifically to the safety, health and welfare of children and young people on farms, whether or not they are working there.

You should refer to this Code of Practice when considering what work children and young people should and should not do on your farm.

Discuss safety issues with your children, and motivate them to take safety precautions.

Don’t model unsafe work practices; lead by example.

5.0 Safety of farmers aged 65 years and over

5.1. Risk assessment

Farmers aged 65 years or over made up 55% (99) of all farm deaths between 2016 and 2025. In the years between 2020 and 2025, the vast majority of farm accidents among those aged 65 years and over were associated with the use of tractors and machinery, and a significant number of deaths were due to livestock and falling from heights.

When attempting to prevent fatal accidents on your farm, you need to pay particular attention to these risks.

5.2. Preventing injury and ill health to older farmers

The risk of having a fatal farm accident is higher for older farmers. In the years between 2016 and 2025, 85% of fatal accidents on farms involved persons aged 45years and over. While this risk is higher for older farmers, it can be effectively managed. By understanding and acknowledging the changes to their health and ability, older farmers can make informed choices about how they work and thus reduce the risk of accidents. For example, as we age our grip strength can decrease, resulting in the inability to fully engage the vehicle handbrake. This can lead to the vehicle – for example, a tractor, rolling, resulting in fatal injury.

For older farmers, ADAPTING your work to work for you means taking the following steps:

- **Acknowledge** age-related health and fitness issues and schedule regular health, hearing and eyesight checks.
- **Discuss** farm systems, tasks and hazards with your family and farm workers, with a focus on health, safety and ability. Seek support when you need it.
- **Assess** your need to hire competent contractors for specialised work and tasks you find particularly demanding.
- **Prepare** for emergencies, especially when working alone. For example, carry a charged mobile phone.
- **Take** notice of your working ability, which can change daily according to health context, such as illness, medications, joint stiffness, fatigue or stress levels.
- **Invest** in equipment and facilities, such as tools which reduce the need for manual handling, and keep vehicles and machinery in good working order.

- **Navigate** ageing by adapting work practices and farming systems to reduce physical and mental demands and benefit from your experience.
- **Guide** younger farmers when they need help. Succession planning (look at all options available) can help manage workload and build for the future.

The 10-year review of fatal farm accidents indicates that most farm deaths are associated with the use of tractors and machinery; livestock (particularly cows/heifers after calving, and bulls); and falling from heights. Many of these deaths are associated with the reduced agility and speed of movement that comes with ageing.

Older farmers should take the following precautions:

1) Examine work practices and fully consider limitations brought on by ageing. Examples of such scenarios include where two farmers are operating a tractor or machinery, or handling livestock, where the older farmer gets crushed.

2) Consider the risks posed to older farmers due to their slower movement, loss of agility, hearing loss, poor vision or prescribed medication. Identify and remove hazards or identify work that should be avoided completely, such as working at height or herding/loading bulls.

5.3 Safety of the elderly

The physical capabilities of older farmers vary greatly by individual. While some maintain good strength, mobility, flexibility, eyesight and hearing well beyond the age of 65 years, others do not. Factors which reduce physical capabilities can contribute to the likelihood of somebody being unable to react quickly enough to avoid injury.

It is important to note that most farm fatalities involving older farmers have been caused by their reversing machinery and being attacked by animals. This suggests that lack of mobility and flexibility plays a major part in older farmers being unable to avoid these accidents. Because of this, machine operators must always be aware of where older farmers are standing, and they must take extra precautions to ensure their safety when handling livestock.

The key to ensuring the safety of older people on farms is to take into account their ability to continue farming and their family's ability to recognise age- and health-related risk factors,

as well as their willingness to modify expectations, working procedures and physical activity accordingly.

Further information and advice on general and health, and issues associated with ageing, can be obtained on Agriculture & Forestry - Health and Safety Authority

Information on other issues related to ageing and older people can also be obtained from Age Action, a national organisation for ageing and older people. It acts as a network of organisations and individuals, including older people and their carers. It is a development agency that promotes better policies and services for older people in an ageing society. For more information, see their website: www.ageaction.ie.

6.0 Vehicles and machinery

There is no doubt that modern agriculture relies on the labour-saving efficiency that comes from using farming vehicles, tractors and other agricultural machinery. Because of their immense size, speed, weight and power, these vehicles and machinery also create a huge danger to the operators and those people who are close by.

The term “farm vehicles” includes:

- tractors,
- harvesters,
- loaders,
- telehandlers, and
- quad bikes/ATVs.

The term ‘farm machinery’ includes all other machinery, whether trailed or coupled. Equipment used on the farm, such as portable tools or power washers, is also included in this category.

6.1. Risk assessment

Farm vehicles and machinery combined account for the highest proportion of farm deaths and accidents. A total of 74 people died as a result of vehicle-related incidents in the years between 2016 and 2025. People at risk include the vehicle or machine operators, passengers and anyone in the vicinity of its operation.

6.2. Risk assessment: Farm vehicles

Of all farm deaths involving vehicles:

- 26% are due to being crushed,
- 20% are due to the vehicle overturning, and the driver or passenger being pinned or thrown,
- 35% are due to being struck by the vehicle, and
- 9% are due to falling from the vehicle.

6.3. Safety-control measures when operating vehicles

Drivers and machinery operators need to be competent, particularly when it comes to identifying potentially dangerous situations. Training should emphasise traffic management (that is, segregating pedestrians from vehicles/machinery) as well as the need for care and concentration when working with vehicles. The vehicle operator's handbook gives a comprehensive guide to vehicle operation, and operators should read the handbook to be totally familiar with the operation and maintenance of the vehicle.

The following situations cause the majority of fatalities with farm vehicles:

- driving errors due to speeding or loss of vehicle control,
- falling from the vehicle,
- being run over by a moving vehicle,
- reversing the vehicle,
- being trapped under a collapsing vehicle and crushed,
- being in a vehicle that overturns, and
- being crushed between the vehicle and a hydraulically mounted machine.

Do not carry passengers anywhere on the tractor/machinery or inside cabs unless they are fitted with a passenger seat approved by the manufacturer. Know and follow the restrictions on carrying children or young people on tractors and farm machinery.

General safety precautions

- The doors and roofs of safety cabs must be kept in place, both for comfort and to prevent ejection of the driver should the tractor overturn.
- All drivers should wear suitable clothing and non-slip footwear. Avoid wearing long, flapping coats or loose belts which may catch on moving parts or controls.
- Do not carry passengers in any vehicle unless there is an authorised passenger seat

for each passenger. All passengers must wear fitted seat belts.

- Loose tools, bottles, rope or anything that might interfere with the tractor controls or cause an accident should not be carried in the safety cab.
- Before moving off, always make sure mirrors are clean and there is no risk of running over or crushing anyone, particularly when reversing.
- Windows and doors of vehicles must be kept clean and any cracked or broken glass/mirrors replaced.
- Any safety system implemented on a farm should include high-visibility clothing, to minimise the risk of workers being hit by vehicles. Employers must make an assessment of the hazards in the workplace in order to identify the correct type of high-visibility clothing to provide, and to make sure that it is appropriate to the risk(s) present in the workplace.

Preventing vehicles from overturning

The following factors can cause a farming vehicle to overturn:

- the vehicle operator lacking ability and experience,
- gradient,
- a wet or unstable ground condition,
- the vehicle being driven at excessive speed,
- unstable loads, whether towed or mounted, and
- the mechanical condition of the vehicle.

To minimise the risk of the vehicle overturning, always take the following precautions:

- Assess the slope and ground conditions before carrying out machinery work on slopes.
- Weigh the risk against the necessity of operating the vehicle on sloping ground.
- Avoid quick, sharp turns.

If a tractor is about to overturn, do not attempt to jump clear. Stay in the cab and hold on to the steering wheel.

Precautions when driving on slopes

If using tractors or equipment on slopes, carefully assess the risk of overturning.

Checklist of actions

- Consider land use options and don’t use a tractor or vehicle on severe slopes if it can be avoided.

- Familiarise yourself with the slope (for example, walk the slope before driving on it).
- Check that the ground can support the weight of the machine; that is, ensure that the soil is stable and was not recently worked.
- Use a four-wheel-drive tractor.
- Drive slowly and adjust application equipment beforehand if necessary.
- Select the correct gear and speed before approaching the slope in order to avoid changing gears on the slope.
- Use engine braking when you drive down a slope.
- Keep as much weight uphill as possible.
- Turn uphill if working across a slope.

Checklist of what not to do

- Do not drive on a slope that is too steep for a vehicle/machine.
- Do not assume that you can drive down a slope just because you drove up it, as the distribution of weight changes when driving downhill.
- Do not change gears or stop on a slope.
- Do not drive on a slope with recently applied (unstable) topsoil.
- Do not turn downhill when working across a slope.
- Do not drive close to banks, ditches or watercourses.
- Do not use the brakes when going downhill.
- Do not drive too fast on slopes.

Further information on operating vehicles and equipment on slopes is available from agricultural sector safety and health training providers.

Trailer braking

Tractors are now pulling increasingly heavy trailer loads; gross weights of 10-20 tonnes are being hauled both on the field and by road. Effective trailer brakes can dramatically reduce both the distance required for stopping and the possibility of jackknifing. The most effective system is using powered brakes that are powered by the tractor's hydraulic or air-assisted system. The trailer's brake valve, which controls the trailer brakes, is operated by the tractor brake pedal. This control system should be on all tractors used for pulling heavy loads. Further information on the braking requirements of agricultural vehicles is available on the Road Safety Authority's website (www.rsa.ie).

Tractor maintenance

Always ensure that the vehicle is in a safe working condition before use. If a tractor needs repair, do not use it until it has been fixed.

The following are the main safety items requiring attention:

- Carry out a pre-start check using the *Essential Tractor Safety Checks* sheet, which is available through the HSA website (www.hsa.ie).
- A cab or safety frame that meets Organisation for Economic Co-operation and Development (OECD) standards must be fitted. Look for corrosion on frames of older tractors.
- Always ensure that the tractor can be started by the key and that the engine-stop control is effective.
- The vehicle controls should all be in working order and clearly marked. A tidy cab allows safe and easy use of the controls.
- Ensure that the cab floor is kept clear in order to allow the safe use of the brakes and clutch.
- Brakes should be in good working order, balanced and interlocked, except when the tractor is being used for field work. A properly functioning handbrake or parking brake is essential.
- Ensure that the power take-off (PTO) can be turned on and off correctly, and that the PTO shield (U-guard) is kept in place at all times.
- Ensure that hydraulics are functioning correctly.
- Ensure that the hitch points of both tractor and trailer are not excessively worn.
- Do not leave the tractor seat while the engine is running.
- Apply the SAFE STOP procedure when parking or handing over a tractor or machine to someone else.

[ADD Updated image of Essential Tractor checks with new image that shows orange beacon on tractor cab].

Hydraulic systems

Accidents involving the injection of pressurised hydraulic oil can easily lead to the loss of a hand or limb due to gangrene. If a high-pressure oil leak comes into contact with the skin, the pressure of the oil (2000-2500 pounds per square inch (psi)) can be so great that it penetrates the skin and enters the bloodstream. Seek medical assistance if even the smallest amount of oil is forced under the skin. The following precautions should be taken in order to prevent these types of accidents:

- Examine hydraulic pipes before using hydraulic equipment. Repair or replace damaged pipes or couplings before use.
- If you suspect that there is a leak, use paper or a cloth to identify its location.
- Never place a finger near any leak in a hydraulic hose-pipe, no matter how small the leak. High-pressure spray of fluid from a hydraulic hose-pipe can easily puncture skin, likely causing infection.

Using vehicles on public roads

Ensure that your licence and insurance are appropriate for the road use of the vehicle you are operating. Ensure that mirrors, indicators, lights and wipers are in working order and clean for good visibility, as required by the Road Traffic Acts. Further information on the use and marking of agricultural machinery on public roads is available on www.rsa.ie.

Vehicle parking

As vehicles vary in their operating procedures, always follow the instructions in the operator's handbook for each vehicle. When parking a vehicle, follow these general SAFE STOP guidelines:

1) Reverse park all vehicles where possible and when it is safe to do so. This reduces risks when starting the vehicle when it is next in use.
2) Park on level ground where possible. If parking on a slope is unavoidable, it is recommended that wheel chocks be used on both sides of the vehicle in addition to applying the normal handbrake or parking brake. Use wheel stops if necessary to prevent a vehicle from rolling from its parked position.
3) Apply the appropriate braking system (handbrake or parking brake) securely and put the gearshift in neutral.
4) Lower all attachments, hydraulic implements and loaders to the ground.
5) Stop the engine and leave the fuel-control stop in the 'off' position.
6) Remove the key and lock the vehicle.

Many accidents happen when a person is getting on or off a tractor. When getting on a tractor, get up in the forward position, gripping a handle with both hands. Get down in the reverse direction, also gripping a handle with both hands. In this way, three points of contact (one foot and two hands) are made with the vehicle at all times. Make sure that the steps and your boots are clean and in good condition.

6.4. Types

There is no doubt that modern agriculture is absolutely reliant on the efficiencies that come with the use of tractors and machinery. They create labour-saving efficiencies that are at the very core of modern farming systems. Because of their large size, speed, weight and immense power, they also create a huge danger to the operators and those people who are close by.

- Farm vehicles include tractors, harvesters, loaders, telehandlers, quad bikes, etc.
- Farm machinery refers to all other machinery, whether trailed or coupled. Equipment used on the farm is also included in this category (for example, portable tools and power washers).

Code of Practice: Safe Use of Industrial Trucks **(published in 2025)**

Under the Safety, Health and Welfare at Work Act 2005, a vehicle is a place of work. This means that industrial trucks being used for work must be fit for purpose, maintained in safe condition and used safely. Employers must make sure that operators are familiar with the industrial truck they are driving and that they have been given appropriate instruction, information and training on how to use the vehicle in the correct and safe manner, and in accordance with the manufacturer's instructions. Employees should never be required to operate under conditions that are unsafe or that do not comply with the law. Employees also have legal duties to use work equipment in a safe manner in line with procedures developed by their employer.

6.5. Quad bikes or ATVs

It is a legal requirement that training is completed in order to use a quad bike or ATV.

Quad bike/ATV regulations

Regulations governing the safe use of ATVs/quad bikes in all workplaces (S.I. No. 619 of 2021) came into effect on 20 November 2023 (Regulation 619/2021).

These regulations have two essential requirements of note:

1. Training must be undertaken with a registered training provider to a QQI standard or equivalent.

2. Employees must use helmets that meet a (generally) prescribed standard.

The existing QQI ATV training standard is 5N1752, which is a level 5 minor award with a stated purpose as follows:

> The purpose of this award is to equip the learner with the relevant knowledge, skill and competence to drive and handle an all-terrain vehicle in a safe manner in compliance with relevant legislation.

Only training to this QQI standard or equivalent is acceptable for compliance with the regulations.

Training providers must be registered with a registration body (such as QQI, Lantra, City & Guilds, ABA Safety Training, or others) that is responsible for confirming that ATV/quad bike training programmes meet the minimum standard set out in the QQI ATV/quad bike standard 5N1752.

The training courses are developed by training providers to meet the quality specifications (such as the ratio of trainers to attendees, course duration, etc.) established by the registration bodies in order to ensure that the learning outcomes required by QQI standard 5N1752 (NFQ level 5) are met.

ATVs or sit-astride quad bikes are increasingly used in farming and forestry. Small utility vehicles (also referred to as side-by-side ATVs), in which the driver and passenger sit alongside each other in conventional seats, are also in use in some farms. Such ATVs have four wheels together with a cargo area at the rear.

Fatal and very serious accidents have occurred involving quad bikes and ATVs, whether sit-astride or side-by-side. The causes of accidents include:

- the driver's lack of training or experience;
- carrying a passenger or an unbalanced load;
- excessive speed when turning;
- excessive speed and impact with objects in the field;
- overturning on a bank, ditch, rut or bump;
- a steep slope combined with other factors such as ground or load conditions; and
- towing excessive loads with un-braked equipment.

Children aged under 16 years should not be permitted to drive quad bikes or ATVs. A passenger should also never be carried on a quad bike or sit-astride ATV. This is to ensure that the operator can move their body weight to control the quad bike/ATV as necessary. Also, most quad bike or ATV manufacturers' instructions (which must be followed) specify that children aged under 16 years must not operate this equipment.

Always wear PPE when operating a quad bike or ATV, including a helmet.

Quad bikes and ATVs require ongoing maintenance as specified by the manufacturer. In particular, check that:

- tyre pressures are correct (typical tyre pressures range from 2.5 to 7 psi, so a deviation of 1 psi from the rated pressure can significantly influence the stability and control of the ATV);
- brakes give a straight stop; and
- the throttle operates smoothly in all steering positions.

Due to their design, vehicle speed and body weight placement are crucial for the safe operating and cornering of quad bikes and ATVs.

The quad bike or ATV may overturn rearwards if there is a sudden increase in speed or incorrect body weight placement when driving on a slope; that is, if you suddenly increase speed or place your body weight and loads incorrectly.

Information on the safe use of quad bikes/ATVs in agriculture and forestry is available on the HSA website: ATVs and Quad Bikes.

6.6. Risk assessment: farm machinery and equipment

Farm machinery accounted for 5% (9) of farm deaths between 2016 and 2025. Accidents involved the following:

- being crushed by a machine part,
- being struck by part of a machine,
- entanglement in a rotating part of a machine (for example, PTO),
- getting caught in a machine mechanism, and
- falling from a machine.

People at risk include those operating and maintaining the equipment and anyone in the

vicinity.

Machinery operation

Operator competence is crucial in preventing injury. All operators must receive appropriate training. Operators must use the operator's handbook to become totally familiar with all controls and the operating procedures for a machine.

Operators must not carry passengers, and must watch out for people who are at risk of being struck by the machine. Always operate the equipment from the correct position. Avoid the 'crush zone' between a hydraulically operated machine or machine part and a tractor.

Maintenance and adjustments

- Ensure that the machine is in safe operating condition before use. All guards and safety devices must be in place and function correctly.
- Ensure that machines and trailed equipment are correctly attached to the tractor or vehicle before use. When attaching a machine, take precautions in order to avoid getting crushed.
- Always stop the machine and the tractor before attempting to carry out maintenance work or to free a blockage.
- Make sure that the machine is adequately supported before working under any machine part in order to avoid serious impacts or crushing.

Fixed guards

Fixed guards supplied with machines must always be kept in place. These have been identified as necessary by the manufacturers to prevent entanglement in drive shafts, chains, sprockets, V-belts and pulley drives.

Fixed guards are made from sheet metal, mesh or polypropylene. An appropriate guard ensures that no body part can reach the danger zone. Fixed guarding of older machines should be upgraded in line with the guarding on newer models.

Fixed guards can prevent death or serious injuries when they are:

- well-designed and kept in place, and
- maintained in good condition and refitted after maintenance work.

Never use a machine unless all guards are in place.

PTO guarding

Entanglement in PTO drive shafts causes 1% of all fatal machinery accidents. Guarding to the correct standard would prevent these deaths. A power shaft guard should comply with the requirements of European Standard EN 12965 and bear the CE mark.

Follow this checklist when using PTO drive shafts:

- Rotating PTO shafts must be totally enclosed by the guard. Make sure that the guard is undamaged and matches the drive shaft in both length and size.
- The machine-end O-guard and the tractor-end U-guard must also be in place. There should be a 5-centimetre overlap between the PTO guard and the U- and O-guards.
- The PTO guard should be greased regularly and should rotate on its bearings. It should not rotate with the power drive shaft. The chain or rope at both ends of the PTO guard should be securely clipped to the guard and securely clipped to the tractor or machine in order to prevent it from turning.
- Ensure that the hydraulic arms, drawbar pins or tyres of the tractor do not damage the guard during tight turns.
- A stand should be provided to support the PTO and guard when not in use.
- Particular priority should be given to PTOs and their guarding when used in stationary situations, including for slurry tankers and grain rollers. Most deaths involving PTOs occur when they are being used in such stationary positions.

Hydraulic drives

The use of hydraulic motors is an alternative to power drives in modern machinery. Consider this alternative, especially when purchasing new equipment.

Examination and testing of lifting equipment

Maintenance of the lifting components of equipment that is used to lift loads, such as a forklift truck, telehandler or tractor loader, is crucial to prevent accidents due to collapse.

It is a legal requirement to have such equipment examined at periodic intervals by a competent person. Equipment used to lift materials should be examined annually by a competent person, while equipment used to lift people and lifting accessories for lifting materials such as slings or hooks should be examined every 6 months.

Fixed lifting equipment must be tested as part of a thorough examination before being used

for the first time. All lifting equipment must be tested after any substantial alteration or repair affecting its strength or stability.

It is a requirement that hydraulically-operated machines used to lift more than 1,000 kilograms (kg) are fitted with check valves on circuits to lifting cylinders or some other suitable device to prevent collapse in the event of hydraulic failure.

Clothing

Loose or torn clothing, which greatly increases the risk of entanglement, should not be worn when you are working near machinery. It is best to wear well-fitting overalls with zipped pockets and safety boots with steel toe caps.

7.0 Safety with livestock

7.1. Risk assessment

Thirty-six deaths associated with livestock occurred between 2016 and 2025. Freshly calved cows with newborn young pose a significant risk, and bull attacks accounted for 28% (10) of livestock deaths in this period. However, all livestock present a risk; being crushed or gored by animals (particularly bulls) that are being herded, moved, separated, released or loaded onto trailers presents the highest risk, and livestock caused 24% of fatal accidents to older farmers between 2016 and 2025. Livestock that have recently given birth can become aggressive when protecting their offspring.

People at risk include farmers and others with access to farm animals.

7.2. Animal behaviour

Livestock farmers should be alert to factors that are likely to cause stress to animals that in turn will lead to unpredictable behaviour.

The following situations are likely to lead to aggressive behaviour in livestock:

- Animals react unpredictably when they are handled by an unfamiliar person, are in unfamiliar surroundings, or are separated from their familiar group.
- Animals that are unfamiliar with dogs can react unpredictably to the presence of dogs, especially when being moved.

- Animals respond to the way they are treated and draw upon past experiences when reacting to a situation. Animals that are chased, slapped, kicked, hit or frightened when they are young often fear being approached when they are older.
- As cattle are colour-blind and have poor depth perception, shadows, rapid changes in lighting and shouting frighten them and make their behaviour unpredictable.

Planning livestock work

Planning reduces the frequency of moving and handling livestock and thus the risk of injury. The following are examples of where planning can reduce risk:

- Carry out as many activities as possible each time animals are put through the crush, such as hoof paring, checking identification tags, and dosing with medications.
- Planned activities allow for sufficient help and facilities to be available. This is safer than waiting for immediate curative treatments that may have to be carried out when help is unavailable. For example, routine hoof care should be provided rather than waiting to find individual animals going lame out in the field.
- Dehorning young calves with suitable equipment is a safer option than getting a veterinarian to skull a mature animal.

7.3. Design and use of handling facilities

Handling facilities play a major role in preventing injury from livestock. Well-designed handling facilities allow you to control animals, giving easy and safe access to stock for veterinary and other tasks. When assessing your handling facilities, check the items outlined in the following subsections.

Location

The race and crush should be placed where stock can be assembled easily. Fencing and good placement of farm gates ensure that stock can be herded by the minimum number of people.

Having handling facilities at out-farms, leased or rented farms, or locations that are remote from the farmyard reduces unnecessary movement of stock.

Design and layout

Examine the following aspects of the design of your livestock-handling facilities:

- collecting pen
- forcing pen

- crush gate
- race or chute
- catwalk
- dispersal pen

The Department of Agriculture, Food and the Marine (DAFM) standard S137 outlines specifications for cattle crushes, races and enclosures (www.agriculture.gov.ie).

Work practices when assembling and treating livestock:

- Never enter a crush with livestock. Crushing injuries, particularly of the chest, can cause serious injury or death.
- When enclosing a herd in a collecting pen, stand aside while closing the restraining gate. This prevents crushing if an animal charges the gate.
- Wear boots with steel toe caps in order to help prevent foot injuries.
- Do not ask an inexperienced person to assist in high-risk activities.

7.4. Safety with bulls

Bulls cause 28% of all deaths due to farm livestock. They must always be treated with caution. Even seemingly placid bulls are unpredictable, so care is essential at all times. Most fatal accident investigations have found that the farmer's family generally felt that the bull involved was a quiet animal. Farm death figures show that older farmers are most at risk.

Who should handle a bull?

Bull handlers should be aged between 18 and 65 years and be fit, agile and properly trained in safe work methods.

How should a bull be handled?

Serious consideration should be given to the use of artificial insemination rather than keeping a bull. The following guidelines should be followed when handling a bull:

- Carefully plan all movement or handling of bulls.
- Avoid contact with bulls where possible.
- All bulls should be ringed at the age of 10 months with a nose ring, and the ring should be examined regularly.
- An aggressive bull should be slaughtered.
- When a bull is taken from a pen, he should be led using suitable equipment (head

chains, bull poles and leading ropes).

- Two people should handle the bull every time. The handlers should walk at a slow, steady pace, keeping the bull's head up.

How should bulls be kept in open fields?

- When grazing a bull with the herd, maximise the use of fields to which the public does not have access.
- Any field in which a bull is kept should be securely fenced and gates should be safely secured and maintained.
- Aggressive or difficult bulls should never be allowed to run with the herd.
- It is recommended that a strong chain that touches the ground should be fitted to the nose ring.
- When herding or moving the herd, be prepared to counter the bull's natural tendency to protect the herd. A tractor or suitable farm vehicle should always be used as a mobile sanctuary when having any contact with the herd.
- Young children must not be allowed into a field where a bull is kept or a field where a bull is running with the herd.
- When separating a bull from the herd, it is essential to have two competent adults involved. Children should not be involved. This task should be carried out using good cattle-handling facilities.
- A safety sign warning of a bull's presence should be displayed adjacent to public places, particularly at access points.

Bull housing

A well-designed bull pen is essential for managing a bull when it is away from the herd. The design should allow the stockman to feed and bed the bull without entering the pen.

A bull pen should be located where the bull can see other animals, as this assists in keeping a bull placid. On dairy farms, the pen should be located where the bull can see cows going to and from the milking parlour or paddocks. Walls should not block the bull's view.
The minimum specification for bull housing (S160) is available from the DAFM.

7.5. Avoiding injuries at calving and weaning time

Many farmers suffer serious injuries during or after calving season. Cows with calves have attacked and killed eight farmers or family members between 2016 – 2025. Serious injuries and fatalities occur when farmers, family members or veterinarians are kicked, charged at,

butted, crushed or knocked down.

Cows, and in particular heifers, can be unpredictable during or after calving. Shortly before and after calving, a cow may become very aggressive towards any intruder in her space. Work practices such as taking a newborn calf from a cow, hand-milking the cow, or introducing a strange calf can provoke a sudden change of behaviour. Pre-calving warning signs can occur, such as nervousness and agitation. However, this is not always the case. Caution is always required around freshly calved animals. Always stay alert and have an escape route planned. Where possible, establish an adequate physical barrier between you and the freshly calved cow.

Calving facilities

The calving area should have adequate space and be well-bedded so as to provide a non-slip surface. It should be tidy and free from obstructions, and have good lighting. A well-designed system suitable to restrain a calving cow in a safe manner is essential and includes a calving gate.

Calving facilities should have three features that will help to reduce the risk of injury to both the farmer and animal:

1) a quick-release head gate;
2) a hinged inner gate that swings closed on the cow as she is driven into the head gate and is then tied closed; and
3) a small caesarean gate.

DAFM Specification S138 is the "Minimum Specification for Calving Gates and Mobile Cattle Crushes," issued by Ireland's Department of Agriculture, Food and the Marine (DAFM) www.agriculture.gov.ie).

When properly used, calving jacks can reduce the possibility of back injury and injury to the calf and cow. Calves weigh between 35 and 45kg. Many farmers injure themselves while lifting and swinging newborn calves to revive them. Basic mechanical lifting aids, such as a pulley system in the calving pen, can prevent back injury.

Safe work practices during calving

Ensure that there is a barrier between yourself and the newly calved cow. You are particularly at risk of an attack when you are handling stomach tubing or dipping the navel of a newborn calf.

As a minimum precaution, be sure to keep the calf between you and the heifer or cow and have an escape route planned. Do not turn your back on the cow. Keep children away from the calving area. Keep dogs away, as a dog in or near the calving area is likely to upset the cows.

Weaning

Weaning is a stressful period for both the cow and calf. Both cows and weanlings can become aggressive and unpredictable. Take extra care at this time to avoid injuries. Weaning should be planned in advance in order to dilute the bond that forms between the cow and weanling before weaning. This may involve activities such as the introduction of concentrates or creep grazing pre-weaning, or the gradual weaning of a herd over a period of time.

Loading and unloading livestock

Animals being transported or moved can become stressed and may react unpredictably and cause injury. Loading and unloading facilities should be designed to streamline the process. This is best achieved by having a door or gate to the assembly area that matches the width of the livestock trailer. A crush or purpose-built loading ramp that leads into the trailer can be used to load animals safely.

Make sure that there are adequate ramp gates on a livestock trailer, otherwise livestock may charge the tail door and cause serious injury.

While livestock is being unloaded from a trailer, stay in a safe position where you can't get injured by a bolting animal, or be crushed or hit by a gate struck by an animal.

7.6. Safety with horses

Safety with horses is achieved through safe work practices, experience, training and skill. Safe, functional facilities and well-maintained equipment are essential to minimise danger. Between 2016 and 2025, 8% of fatal accidents related to animals were attributed to horses. The information in this section is for farmer breeders.

Handling and catching horses

Competence and skill are important for the safe handling of horses. Horses are, by their nature, unpredictable.

When catching, first let the horse know you are there. Never surprise a horse. Approach confidently from the front of the horse, then put on the tack. Use only head collars, bridles and lead ropes that are in good condition.

A suitable horse stock is an essential restraint to contain the horse and allow safe and easy access for treatment or veterinary attention.

Extra care is required when a mare has a newborn foal at foot.

Handling and herding young horses

Because young horses have received little handling, the risk of injury is higher. Take particular care when herding young horses, as the horses can surround a person and kick out. Wear an approved skull cap, gloves, trim-fitting clothes and leather footwear with steel toe caps.

Breeding and foaling

When a mare is being ‘teased’, a safe facility is required. Those holding both the mare and the ‘teaser’ should be alert and stand to one side. Both should wear a skull cap, gloves and protective footwear. Those who are holding the mare and stallion during covering or breeding must be experienced and be alert at all times. They should wear a skull cap, gloves and leather footwear.

For injury prevention during foaling, an adequately sized box is crucial. Stay out of any ‘trap zone’ where you could get trapped by a mare.

Riding/training

A person training young horses should have the necessary training and riding skills. They should ensure that all tack is in safe condition. They should also wear approved riding gear, including a skull cap, leather gloves and a back protector.

Loading and unloading horses

Two people are required to load and unload a horse to and from a horsebox. Young horses must be loaded and unloaded several times in order to train them. The animal should be fed in the box after loading.

To load, a horse should be led straight up the ramp into the box so that it does not step off

the ramp and cause injury. The front ramp should be left down so the horse can see ahead and go straight up the ramp.

The back strap and ramp should be secured before the horse is tied up in order to ensure that the horse doesn't back out. When tying the horse, use a rope with a quick-release knot. The horse should be untied and held before you let down the ramp and release the back strap.

When letting down the ramp, stand to one side in order to avoid injury from the ramp and in case the horse backs up suddenly. To prevent injury, ensure that the horse is led straight back.

7.7 Sheep

Sheep are generally low risk, but rams can be aggressive during the breeding season. They can attack at speed and headbutt a person in the abdomen, causing injury such as kidney damage. Good handling facilities and equipment eliminate manual-handling injuries due to pulling, pushing or tossing sheep.

Older farmers in particular must be careful when entering a flock of sheep; for example, when feeding concentrates. There is a risk of being pushed at the knees by sheep, which can cause damage to the knees or a fall with potential trodding by the flock. Well-designed handling facilities reduce the risk of injury.

7.8 Pigs

The main risk with pigs is being injured due to aggressive behaviour. After farrowing, sows can be aggressive and may bite. Safety considerations include providing adequate facilities for the penning, restraining and movement of livestock.

Make sure, in particular, that the gates of boar pens have stock-proof latches fitted. Use pig 'driving boards' when moving stock. These should be made of 12-millimetre (mm) plywood, polycarbonate or an equivalent material. If a dead animal has to be removed, use a suitable trolley to reduce the risk of a manual-handling injury.

To reduce risks to workers, dust control is essential. The dust generated within indoor swine buildings may contain many types of particles, including animal dander; faecal material and urine of both pigs and rodents; feed components; bedding materials; absorbed gases; and chemicals. Importantly, this dust also contains microorganisms such as viruses, bacteria,

yeasts and moulds, and their by-products.

Measures to reduce risk to swine workers: dust control

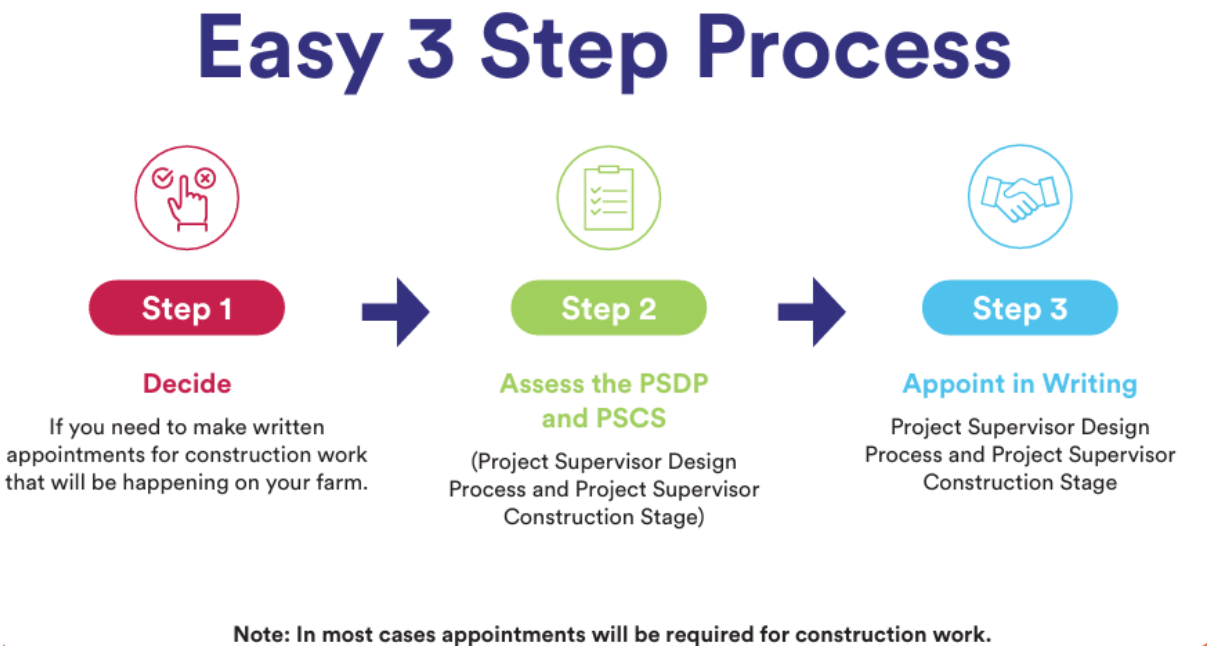
All swine housing units should be regularly and thoroughly cleaned. Appropriate PPE, including disposable filtering facepiece respirators or orinasal masks, will significantly reduce the risk of respiratory illness occurring where airborne contaminants cannot be reduced to safe levels by other means, such as ventilation. Appropriate training is critical to their effective use. Reducing the nitrogen concentration of swine diets reduces ammonia concentrations.

7.9 Poultry

Poultry farming in Ireland produces more than 100 million birds annually. Reducing dust exposure to the lowest level practicable and managing hazards like ammonia, chemicals and machinery are key to safe poultry farming and involve conducting risk assessments; providing and maintaining control measures like mechanical ventilation and respiratory protective equipment; and ensuring adequate training and information for all staff.

8.0 Farmyards, buildings, maintenance and construction work

Farm maintenance, building, construction and demolition work are high-risk activities that will be undertaken from time to time on farms. Guidance has been developed to assist farmers in the safe planning of construction work on the farm.



Further information is available on the HSA website, including this document on making construction appointments:
https://www.hsa.ie/eng/publications_and_forms/publications/agriculture_and_forestry/how_to_make_construction_appointments_for_your_farm_-_guidance.pdf

8.1. Risk assessment: farmyard, buildings and maintenance

Twenty-four percent (42) of farm deaths between 2016 and 2025 were due to falls (both of material and workers). Falls from a height are the main cause of accidents involving farm buildings. Of particular concern is falling through fragile roofs and from ladders. Collapsing walls or earthen drains also cause deaths.

8.2. Farmyards and buildings

Pay particular attention to preventing accidents in farmyards and buildings because of the level of farm work undertaken in these areas and the high level of risk. Most farmyards and buildings have been developed over long periods and in different ways, depending on the requirements and resources available at a particular time, so they may not be ideal for current activities. Assessing your farmyard and buildings for hazards is therefore vital to reduce the risk of injury. Many safety changes can be made cheaply and can improve the farm as a working environment. Changes to leased or rented farmyards can pose difficulties. It could be helpful to discuss changes in advance of taking on the lease with the farmyard owners.

8.3. Farmyard layout

A good farmyard layout, in terms of health and safety, includes measures to control hazards associated with the following: movement within the farmyard; lighting; farmyard and building design; access to heights; and safe storage and handling of slurry.

Movement within the farmyard

- Make sure that the farmyard allows the orderly movement of people, livestock, tractors and machinery, and delivery/collection lorries. Facilities such as gates and fences should facilitate the orderly and safe movement of livestock between buildings.
- Consider pedestrian area demarcation (for example, for visitors).
- If possible, establish one-way systems for movement within the farmyard and/or minimise reversing manoeuvres, which have led to many serious and fatal injuries.
- Leave adequate space between buildings in order to allow for the easy turning and movement of machinery. Identify blind spots or corners where an accident could occur and put control measures in place such as barriers or mirrors.
- Ensure that passageways between buildings are at least 4.8 metres (m) wide. Provide at least 12m of space at the front of silage pits to allow adequate room for turning large modern equipment.
- Make sure that areas used for parking vehicles and mobile equipment are level and in good condition. Rolling vehicles on even slight slopes are a major cause of farmyard accidents.
- Ensure a high level of tidiness and provide non-slip surfaces. This is essential to prevent injuries caused by slipping, tripping and falling. Cover manholes and eliminate unnecessary ledges and uneven surfaces, as these could cause a trip or fall.
- Provide gates that are properly hung throughout the farm to ensure easy access and use. Fitting a wheel to wide or heavy gates greatly reduces the effort during use and maintenance required. Having gates and stiles in place greatly improves access. Avoid sheeted gates where possible, as they can be blown by the wind. Consider replacing such gates with sliding or roller doors. Cattle grids should have an adjacent gate or alternative safe means of access.

Lighting

Good lighting in farm buildings and in the general farmyard is essential to ensure safe movement. Place adequate lighting in buildings and farmyards that ensures good visibility but minimises glare to machine operators and to users of public roads nearby.
Consider what task lighting is needed in the yard or within buildings and sheds. Consider if some areas require sensor lighting.

Access to heights

The protection of safety, health and welfare while working at height is covered by the Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 4.

Falls from heights accounted for 12% of farm deaths between 2016 and 2025. Take the measures outlined in the following subsections in order to prevent accidents related to falls from heights.

Safe use of ladders

- As far as possible, avoid work at height and particularly the use of ladders, as this activity is high risk.
- If you decide to use a ladder, it is best to work with someone who is capable of footing the ladder safely at the base.
- If you do use ladders for small-scale and short-duration maintenance work, always secure the ladder and follow safe use guidelines, even for work that will last only a few minutes.
- The base of the ladder must always be placed on firm, level and secure ground. Ideally, the top of the ladder should be tied to a secure part of the building to stop it from slipping.
- The ladder needs to be ‘footed’ while being tied off at the top. A second person should foot it or, alternatively, a heavy object (such as a sandbag) can be used to securely hold its base.
- Ladders must be in good condition. Makeshift, home-made or damaged ladders are dangerous and should never be used.
- A ladder must be placed against the side of a building at a safe angle – about 75 degrees to the horizontal (1m out for every 4m in height).
- Never reach out sideways from a ladder, as this will destabilise the ladder and cause it to slide sideways and down.
- Always maintain three points of contact with the ladder (for example, two hands and one foot).

- Never carry heavy objects while climbing a ladder. You could fall and turn over the ladder. Loads are best lifted by means of a lifting appliance or pulley rope.

Scaffolds and platforms

Extensive work at heights may require the use of scaffolds or properly designed work platforms. Scaffolds should only be erected by people with appropriate training and experience. Tower scaffolds can be useful, but because they are light and potentially unstable, they need to be used with care. A free-standing tower used outdoors should not be higher than three times the width of its base.

Mobile elevated work platforms

Mobile elevated work platforms (MEWPs), if used properly, will always provide a much safer method of access for work at height on farm buildings than using ladders or scaffolds. Operators of MEWPs must have adequate training and experience. Farmers who wish to hire and use an MEWP must check the training requirements from the MEWP supplier to ensure that they are competent to operate the MEWP safely.

It is strongly advised that a competent contractor be engaged for larger roof work and other work at height on the farm. Ensure that the contractor can provide certificates of training and has adequate insurance cover for the tasks to be carried out.

It is also essential that:

- the person being lifted cannot contact dangerous parts of the machine, come close to overhead power lines (high voltage power lines can arc or jump 3m), or be put at risk of crushing against roof or beam structures;
- loaders with buckets, pallets or other makeshift equipment are not used as a work platform;

Roof work

Fatal and serious accidents often happen during short-duration roof work and when roofs are being quickly repaired. In particular, many deaths are linked to fragile roof sheeting and skylights. Weathered skylights become very brittle and indistinguishable from other roofing material. Both skylights and glass, when painted over, are not recognisable as such from above and are highly dangerous.

Health and safety guidance on roof work is contained in the *Working at Height in Agriculture* information sheet and in the *Code of Practice for Safety in Roofwork* published by the HSA.

The DAFM standard S102 sets out the minimum standards for roof cladding and side cladding.

Take the following precautions to prevent accidents during the completion of roof work:

- Appoint a competent construction contractor for all roof work and work at height.
- Treat all roofs as fragile and consider the use of MEWPs for all roof work. If you must go onto a fragile roof, use proper roofing ladders or crawling boards. Use roofing ladders on sloping roofs.
- Erect a suitable barrier to prevent falls while carrying out extensive work on roofs.
- Never walk on skylights.
- Skylights should meet the minimum fragility rating of Class B.
- The safety of older skylights may be improved by retrofitting a safety mesh to prevent falls. Specification S101c from the DAFM sets out standards for retrofitting roof clear sheets (rooflights) with a safety grid.

Accessing heights

The following guidelines should be adhered to in order to ensure safe stairs, working platforms and walkways:

- Stairs should not have an excessive pitch or angle. Each step should have an equal rise in height and width. The height and width should be suitably proportioned. A recognised rule of thumb is that the width plus twice the height is between 550 and 700mm.
- The sides of stairs should be protected by a wall or railing of sufficient strength, to a height of 0.9-1.0m above the pitch line. Where a railing is used, there should be at least two rails, with the lower rail positioned midway between the top rail and the pitch line.
- To prevent falls, lofts, work platforms and walkways should have a protective barrier at the edge that is of sufficient strength. Where rails are used, the top rail should be about 1m in height, with the lower rail located midway between the top rail and the platform. Where necessary, edge protection (a toe plate that is 15cm high) should be provided to prevent items such as tools from falling over the edge.
- Overground slurry tanks and grain or meal bins should have a secure working

platform with protective rails and a safe means of access, such as a caged ladder.

- Surfaces of stairs and walkways should be firmly fixed and should not become slippery while in use.
- Sighting rails should be installed on silage-pit walls. The purpose of these is to indicate the location of the walls to the machine operator loading the silage when the silage is above the walls. They are not intended to prevent a machine from overturning. In addition, sighting rails provide protection against a person falling.

Work at height is work in any place, including a place at, above or below ground level, where a person could be injured if they fell from that place. Access and egress to a place of work can also be work at height.

The following are examples of work activities that are classified as working at height:

- working on trestles
- working on a flat roof
- erecting false work or formwork
- working on a ladder
- working at ground level adjacent to an excavation
- working on formwork within an excavation
- working near or adjacent to fragile materials

Between 2016 and 2025, 25 (12%) farm deaths involved falls from heights. Carry out risk assessments for work-at-height activities and make sure that all work is planned, organised and carried out by a competent person.

Choose the right work equipment and select collective measures to prevent falls (such as guard-rails and working platforms) before other measures that may only reduce the distance and consequences of a fall (such as nets or airbags) or may only provide fall-arrest through PPE.

Requirements for employers

Part 4, Work at Height of the Safety Health and Welfare at Work (General Application) Regulations 2007 (http://www.irishstatutebook.ie/eli/2007/si/299/) require employers to ensure that:

- all work at height is properly planned and organised,

- a risk assessment is carried out for all work conducted at height,
- appropriate work equipment is selected and used,
- people working at a height are competent,
- equipment used for work at height is properly inspected and maintained, and
- risks from fragile surfaces are properly controlled.

8.4 Farm building design

When planning the layout and fixtures of any new building, or modifying existing buildings, check the requirements related to safety and health.

Construction regulations

The Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 place extensive duties on farmers who commission or procure the construction and maintenance of buildings. Farmers who undertake construction work on their farms will have the duties of 'client' under these regulations. Farmers should also take into account other roles that may apply to them in relation to construction work, such as 'project supervisor' and 'contractor'. Every farmer should be aware of their legal duties under these regulations before any construction work is planned. Further information on the regulations can be obtained from the HSA.

You (the farmer/client) must appoint in writing, a project supervisor if:

- there is more than one contractor involved in the work,
- there is a particular risk (see below), or
- the work is going to last more than 30 days or more than 500 person days.

What is a particular risk?

A particular risk includes:

- works that put a person at risk of falling from a height where the risk is aggravated by other factors (for example, roof work where access is restricted),
- work that involves the risk of burial under an earth fall where the risk is aggravated by other factors (for example, deep excavations in poor soil conditions),
- works near high-voltage power lines (for example, building a structure on a site that has existing power lines crossing the site),
- works exposing a person to the risk of drowning (for example, construction of a wall beside or near a pond or river),

- work involving the setting up or taking down of heavy parts (for example, installation of precast floors or assembly of steel beams), or
- work involving asbestos.

The list above is not exhaustive; projects may have particular risks that are not listed above. If you need further advice on what is a particular risk, talk to your designer or contractor. They are competent and will be able to advise you on what is or is not a particular risk for your project. Your designer and contractor are obliged by the Safety Health and Welfare at Work (Construction) Regulations 2013 to inform you if the project you are engaged in requires project supervisors (that is, if there is a particular risk, more than one contractor, or if it is scheduled to last longer than 30 days). Written construction appointments of a project supervisor – design stage and a project supervisor – construction stage may be required.

8.5 Building demolition

Demolition work needs careful planning and preparation. It is considered to be construction work and should only be undertaken by competent contractors. When buildings are in a poor state of repair, they may need to be made safe with temporary supports before demolition can proceed. The main risks of demolition work include working at height, collapsing structures and falling debris. Particular care should be taken with block walls, as these often lack structural strength and may collapse when subjected to force. Specific regulations apply to dealing with any material containing asbestos. Asbestos, or suspected asbestos, should never be broken up, damaged, removed or handled without expert guidance. Information on the Safety, Health and Welfare at Work (Asbestos) Regulations 2006-2025 and 2025 Code of Practice for the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulation 2006-2025 is available from the HSA.

The Farm Building and Structures Specifications, issued by the DAFM, give authoritative guidance on safety and health features of buildings and facilities. These specifications are mandatory for obtaining grant aid and should be followed even if grant aid is not being sought. The DAFM permits grant-aiding of a wide range of safety- and health-related modifications to buildings and facilities on a farm. Thus, when preparing a grant application, consider other safety- and health-related improvements to farm buildings and facilities that could be included in the application.

To maximise safety in relation to buildings:

- Ensure that livestock have adequate floor space. This allows easy movement of

livestock and the farmer when herding is taking place.

- Make sure that ventilation is adequate. Use sliding or roller doors where doors need to be more than 1.2m wide.
- Provide smaller personal-access doors.
- Ensure that gable-end walls are adequately tied into stanchions and have intermediate support. This reduces the risk of collapse in storms or if they are struck by a loader or vehicle.
- Provide adequate headroom.
- Ensure that there is ample natural light provided in the building. This will enable greater visibility for both operators and livestock.
- Provide adequate artificial lighting for all farm buildings.
- Provide good-quality penning in animal housing, with suitable personnel gates or slip-throughs to get in and out of pens.
- Ensure that buildings are constructed to a good standard as set out in the DAFM specifications.

8.6 Fire

Fire on a farm can threaten life and cause serious injury. You should plan to prevent fires, but should also prepare an emergency response in the event of fire. Consider the following fire-prevention measures:

Isolation: Hay, straw and other flammable materials should be stored well away from dwelling houses and buildings housing livestock. A minimum distance of 18m is recommended. Keep hay and straw storage in livestock buildings to a minimum. Store fuels and agrochemicals securely away from other combustible materials.

Fire containment: Materials such as solid concrete, solid concrete blocks, fibre cement sheeting and solid wood all have highly fire-resistant qualities. Subdividing buildings into compartments can stop the spread of fire. However, the fire resistance of walls and roofs depends on their condition; even a small opening can completely remove the fire protection. Steel, in contrast, buckles and melts at about 500 degrees centigrade, so keep combustible materials away from structural steel components of buildings.

Maintenance: Good electrical and machinery maintenance reduces the risk of farm fires.

Electrical installations: Faulty electrical and lighting installations are a major cause of farm

fires. For instance, contact between dust or fodder and sub-standard electrical components or filament bulbs lead to many farm fires. Ensuring that electrical installations are done to National Standards Authority of Ireland (NSAI) standards will mean that they are dustproof and waterproof. Make sure that the electrical system is checked regularly by a competent electrician.

Fires on tractors, combines and machinery can be caused by loose electrical connections, sparks from engine exhaust, dust build-up on an engine, and atomised spray leaking onto hot surfaces within the engine. Regular maintenance minimises the risk of fire and makes equipment more efficient. Tractors, combines and machinery should always be stored well away from combustible materials, such as hay or straw, in order to minimise possible loss and injury.

Evacuation: Examine your farm for potential fire traps. Ensure that there is an adequate means of escape from all work areas. In the event of a fire, once a building has been evacuated, make sure that everyone stays out. Farm fires can produce highly toxic fumes, including hydrogen cyanide.

Fire extinguishers: A fire extinguisher should only be used where there is no danger to the user and a clear escape route is available. While fire extinguishers have limitations, if they are used quickly and efficiently when a fire starts, they can prevent a major blaze. Professional advice should be sought on the correct type of extinguisher for a particular use.

Emergency services: Know and provide your Eircode to the fire service, which will assist the emergency services. When calling the fire service, give clear instructions as to how to get to the fire location. Farm gateways should be at least 3m wide in order to allow the fire brigade to pass. Typically, a fire brigade has 2,000 litres of water aboard, so a farm supply of water is often necessary to fight a fire on a farm.

9.0 Slurry storage and gas poisoning with organic matter

Risk assessment

More than 40 million tonnes of slurry are stored, handled and spread in Ireland each year. This presents two particular safety and health problems: gas poisoning, and drowning in slurry and water, which caused 7 (4%) farm deaths between 2016 and 2025.

9.1. Drowning in slurry and water

Drowning is by far the most common stated cause of death involving slurry. Where possible, fence off water hazards and take a cautious approach when working near water tanks, ponds, rivers or lakes.

Protect against drowning in slurry by taking the following precautions:

- Open slurry tanks should be protected by an unclimbable fence or wall that is at least 1.8m high, with locked gates. When this type of storage tank has to be emptied, consider putting in place an adequately constructed access platform with safety rails.
- Covered or slatted tanks require access manholes that children cannot open easily. A safety grid should be fitted below the manhole cover to give secondary protection.
- DAFM specification S123 gives full details on the protection and layout of slurry tanks.

9.2. Slurry gas poisoning

Decay of slurry, dairy washing or any liquid containing organic matter produces a mixture of dangerous gases, including hydrogen sulphide, methane, carbon dioxide and ammonia. Some gases, like methane, are highly flammable. One slurry gas in particular, hydrogen sulphide, is extremely toxic. All these gases are heavier than air, so they can displace oxygen and accumulate at the bottom of tanks. This can lead to suffocation when a person enters a tank, even if the tank is empty.

When slurry is disturbed by agitation, the gases within the slurry are released. Gas release happens mainly in the first 30 minutes after agitation begins.

Gases can build up above the slurry in partially emptied tanks, so never enter a tank for any reason.

Smell is no indicator of the presence of gas, as many gases are odourless. Hydrogen sulphide has a ‘rotten egg’ smell at low levels but has no odour at higher levels. Agitating slurry can release high levels of hydrogen sulphide. One breath or lung-full of this gas at high-level concentration can cause INSTANT death.

Gas release from slurry is greatest in the following circumstances:

- within 30 minutes of slurry agitation beginning, especially after the surface crust is

broken;

- when effluent has been added, leading to acidification of the slurry;
- when slurry has been stored for a long period;
- when jetting is used rather than sub-surface agitation;
- when slurry is agitated in deep tanks; and
- when slurry is mixed with cold water.

Precautions to take against slurry gas poisoning:

- Check weather forecasts.
- Only agitate where there is good air movement.
- Evacuate all livestock and make sure no person or animal is in or near the building where slurry agitation is taking place.
- Open all doors and outlets to provide a draught.
- Involve at least two people present when agitating slurry, and stay upwind.
- Never stand over slats or near tank access points when agitation is in progress.
- Avoid vigorous agitation in confined spaces.
- Do not allow slurry to rise within 300mm of the slats or tank covers.
- Keep all people away from the agitation point for 30 minutes after agitation.
- Avoid naked flames, as the gas mixture can be highly flammable.
- Install a slurry safety sign on the wall or shed near all agitation points.

9.3. Slurry gas monitors

The use of slurry gas monitors and detectors as a means of protection against the risk of exposure to slurry gas is not recommended. If using such devices, the following should be taken into account:

- Because exposure to slurry gases at even relatively low concentrations can have potentially fatal consequences, it cannot be guaranteed that the device will give adequate prior warning.
- The primary safety precautions set out in section 9.2 should be followed.
- Slurry gas monitors and detectors are generally of little to no benefit, and if used should be regarded as a back-up to the primary precautions.

9.4. Storage and handling of spent mushroom compost

Mushroom compost stored in bulk, especially when not turned for aeration, produces dangerous levels of hydrogen sulphide in the interior of the heap. The following precautions

to follow when handling this material include:

- Never handle the spent mushroom compost in an enclosed space, such as sheds, tanks or trailers, where the toxic gas can build up. Make sure when moving compost that you do it in a thoroughly ventilated space.
- Children should not have access to stored spent mushroom compost and in particular should be kept well away from it during any handling or removal.
- Mushroom compost should not be moved on a calm day. Only handle compost on a windy day when there is good air movement.
- Keep those not directly involved in the work well away from the general work area.
- When using machinery to move spent mushroom compost, keep cab doors and windows closed, and use a hydrogen sulphide monitor inside the cab.
- If there is the possibility that hydrogen sulphide is present, as indicated by the smell of rotten eggs, use a certified fresh-air breathing apparatus, in addition to implementing the controls listed previously.
- Never work alone when dealing with spent mushroom compost.
- Stores must be constructed in accordance with DAFM specification S108, *Minimum specification for manure pits and dung steads* (available at www.agriculture.gov.ie).

10.0 Confined spaces

Confined spaces are not designed to be spaces where people work regularly. They are spaces where entry may be needed from time to time for inspection, cleaning, maintenance or repair. Examples of the most common hazardous gases typically generated on farms include methane and hydrogen sulphide (slurry and waste effluent), elevated levels of carbon dioxide with depleted oxygen (feedstuff fermentation and/or decomposition) and carbon monoxide (combustion engine exhaust).

Examples of confined spaces include:

- grain and feed storage facilities
- corrugated steel bins
- bulk liquid storage tanks
- fuel storage tanks
- silos
- manure storage tanks
- manure/bio/digester units
- manure transport vehicles (tanks and applicators)

- bulk transport vehicles
- sprayer and chemical transport vehicles
- feed mixers/grinders
- storage and mixing tanks, bins and silos
- fermentation vessels
- environmentally controlled fruit and vegetable storage units
- wells, cisterns, dry wells, septic tanks
- grain dryers
- forage wagon
- sumps and tunnels
- forage storage

Never enter, or allow others to enter, any tank or confined space without a breathing apparatus. Gas build-up due to decomposition of organic matter can lead to a high concentration of poisonous gases and lack of oxygen, resulting in instant death if breathed. Rescue may be impossible, as any rescuer must wear a breathing apparatus. Rescue attempts have led to the death of the would-be rescuer in many cases. If you suspect someone has been overcome by slurry gas, switch off the agitation, contact emergency services immediately, and wait for assistance.

Employers involved in agriculture operations can take the following precautions to reduce exposing workers to confined spaces:

- Identify and label all confined spaces.
- Evaluate all confined spaces to determine if they contain any actual or potential hazards.
- Train workers to never enter a confined space before identifying the hazards as well as the steps to address the hazards in order to ensure safe entry and exit.
- Ensure workers review, understand and follow the appropriate procedures before entering confined spaces, and that they know how and when to exit.
- Ensure there is a safe method for entering and exiting the space, such as using ladders.

When is it safe to enter a confined space?

Do not enter any confined space unless you can say ‘yes’ to all of the following:

- You have been formally trained to enter and work in confined spaces.

- The farmer/employer has a confined spaces programme and a rescue plan specific to your farm.
- Equipment is available for individuals to safely enter the space and rescue injured workers in an emergency.
- Machinery has been locked out and pipes have been isolated where necessary.
- The atmosphere in the confined space has been tested to determine it is safe to enter.
- The confined space is properly ventilated.
- A designated standby person is stationed at or near the entrance of the confined space.

The Law

The Safety, Health and Welfare At Work (Confined Spaces) Regulations, 2001 (S.I. No. 218/2001 - Safety, Health and Welfare At Work (Confined Spaces) Regulations, 2001) cover all work in relation to confined spaces. Regulation 5 states that:

- A person shall not carry out work in confined spaces if it is reasonably practical that such work could be avoided.
- If the work must be carried out, the employer must carry out hazard identification and risk assessment prior to the work commencing.
- A person shall not enter a confined space unless there is a system of work in place that has been planned, organised, performed and maintained so as to render that work safe and without risk to health.
- Anyone entering a confined space must be provided with information, training and instruction appropriate to the particular characteristics of the proposed work activities

11. Safety at harvest time

Harvest is the peak time for injuries and deaths to farmers, other family members and contractors, with the need to make best use of good weather often putting farmers and workers under time pressure. This often leads to long working days, with tractors, farm vehicles and machinery being the main causes of fatalities at harvest time. Incorrect handling, transport and storage of bales are also significant contributors to farm fatalities at harvest time.

11.1 Operating harvesting machinery

Harvesting is a potentially dangerous time, particularly as it involves workers operating high-powered machinery at speed. The following precautions should be taken into account:

- Plan all elements of harvesting, trained workers, machinery and work activity.

- Inspect and prepare all machinery before starting work.
- Ensure all safety guards are in place.
- Watch out for any machinery with exposed moving parts, identify crop intake points and ensure guarding is intact.
- Check for any hydraulic leaks.
- Ensure that any blockages are dealt with by following a safe stop procedure.
- Reduce driver fatigue resulting from excessive hours of work by encouraging periodic breaks, good hydration and nutrition, and also by rotating operator roles or operators.

Road safety

There is a dramatic increase in the number of tractors, trailers and harvesters using public roads at harvest time. As a result, there is an increased risk of collisions involving road users and farm machinery. Farm machinery operators must be competent in their given roles and trained. They must adhere to the following rules:

- Operators must not carry passengers unless there is a suitable passenger seat provided and the operator has been trained/instructed in appropriate safety procedures.
- Farm machinery must have proper working brakes and lights.
- Operators must beware of overloading, electricity lines, uneven surfaces.
- Operators must always watch out for pedestrians, cyclists and other road users, particularly at harvest time.
- Operators must follow regulations and standards regarding use of agricultural machinery on public roads (see www.rsa.ie).

11.2 Silage making

Cutting and collecting silage

- All tractors and other equipment should be properly prepared, maintained and be in good condition.
- Breakdowns due to poor maintenance can lead to delays, adding extra cost and pressure to an already busy schedule.
- Only competent operators should operate machinery, and they should not carry passengers.
- All guards must be in place on all equipment, and PTO shafts in particular must be properly guarded,

- People should keep well away from operating mowers due to risk of projectile stones or objects being launched from the high-velocity blades.
- During silage harvest, ensure there is good communication between all operators of silage harvesters, loaders and tractors.
- Watch for signs of fatigue and take appropriate precautions.

Overhead Power Lines

Particular care must be taken when harvesting near overhead power lines. Contractors should be informed of the location of any overhead lines which may pose a risk to large machinery. Self-propelled harvesters need a lot of headroom, as do large trailers when tipping.

If concerned about the height of overhead power lines and suitable clearance distances, call 1800 372 757 to consult with ESB Networks. Put this number into your mobile phone, to have it ready at short notice.

Remember electricity can jump (arch), particularly in damp weather conditions.

Ensure that everyone working on the farm is fully aware of the risks associated with overhead lines and the required safety measures. If you have specific concerns or need further advice, contact ESB Networks on 1800 372 757.

ESB Networks free shrouding service

Working near live low-voltage (LV) overhead lines without proper controls may be dangerous. You can contact 1800 372 757 to arrange for ESB Networks to provide their free shrouding service to cover live LV lines and reduce the risk of accidental contact during work.

Silage pit safety

Silage pits must never be overfilled, as this greatly increases the chance of a tractor or loading shovel overturning when filling or rolling a pit. Operators of machinery must be competent in carrying out their role safely, and take into account the following precautions:

- Never go underneath a silage cover once it has been put in place. Fermenting grass uses up the available oxygen under the cover very quickly, and it poses a significant risk of death due to oxygen deficiency.

- On open silage pits with earth embankments, the sides and ends of the silage should be sloped off at a safe angle (less than 45 degrees). On other pits where machines and their drivers can drop 600mm of silage or more, strong front-end barriers and guide rails are required.
- Silage pits with walls should never be filled above the top of the wall.
- Sighting rails should be provided on top of silage pit walls.
- Excessive filling of silage pits will overload walls and increase the risk of overturning to the operators of machinery.
- Minimum specifications on silage pit design are available on the DAFM website.
- Sighting rails should be installed on silage pit walls.

11.3 Bales

In the years 2016-2025, 14 people died in incidents involving bales.

Bales made from hay, straw or silage can pose a significant risk while being made or handled on the farm. The most significant risks to workers from bales include:

- being crushed by bales falling from a height,
- being rolled over by a bale on sloping ground,
- being crushed or spiked by moving bale-handling equipment due to its being incorrectly parked,
- falling from trailers while tying down loads, and
- falling from height when removing/handling bales.

Safe stacking location

Select an uncluttered storage site so bales can be conveniently and safely stacked and removed. Choose a smooth, hard, level surface or well-drained area on which to store the bales, as soft or uneven ground increases the risk of machinery incidents and loss of feed. Stacks should be positioned well away from overhead power lines.

Round bales

Where space permits, it is best to store all round bales one high on their flat ends, however, this may not be practical. If round bales must be stacked, the safest stacking method is on their curved sides in a pyramid stack, as follows:

- The bales on the outside of the bottom row should be prevented from moving by means of chocks or other supports.

- The maximum height of the stack should be three bales high.
- Where the bales are not very dense, the maximum height of a stack should be two bales high.
- Round bales should not be stacked on their ends, as bales can have a tendency to shift due to the variable density of the material in the bale, which has led to several serious and fatal accidents.

Square bales

Square bales should be stacked using an interlocking pattern to tie in the bales with the row underneath. The maximum height of a stack of square bales should be one and a half times the width of the base.

Avoid getting on top of the bale stack unless absolutely necessary. If you must work on top of the stack of square bales, follow the same precautions as outlined for per work at height.

Removing bales from the stack

Bales should be removed from a stack by a person who is competent to remove bales, using suitable bale handling equipment, as follows:

- Remove the bales from the upper row first.
- Do not remove bales from the bottom or middle of the stack, as this may lead to instability or dislodgement, and risk someone being crushed by a falling bale.
- Be aware that there may be some settlement of the remaining bales after removal from the stack.
- Keep everyone not involved in the operation, particularly children and the elderly, far away.

12.0 Maintenance and repair of machinery

12.1. Risk assessment

Maintenance and repair of machinery is high risk and has led to numerous serious and fatal accidents. Hazards involving machinery repair include:

- crushing
- entanglement
- loss of limbs
- electrocution

- injuries to eyes and feet
- noise-induced hearing loss

Repairing equipment may also pose a risk of injury from heat, metal particles or sparks.

12.2. Organising machinery repair and maintenance

Most farms have a workshop for machinery repair and maintenance. Before carrying out any repair/maintenance work, assess the available facilities and equipment and ensure they are fit for purpose. If in any doubt that this is the case, consider having repairs done by a competent service provider. How a workshop is arranged, equipped and managed, and the competency of personnel carrying out the work, is crucial in preventing accidents and ill health.

Workshop construction

Having sufficient space to carry out work is a crucial aspect of workshop design. To work safely, there should be at least 2m of space around a machine. Doors to the workshop must be high enough to be accessible for modern agricultural equipment.

Floors must be kept clear and not become slippery, even when damp. A wooden float rough concrete finish is sufficient. Oil or grease spillages which will cause slippery conditions should be cleaned up immediately. Prevent slips, trips and falls by maintaining good housekeeping and cleaning the workshop regularly.

Use only fireproof materials when constructing the workshop. These include concrete, steel and fibre cement sheeting. Ensure adequate and suitable fire-fighting equipment is readily available, particularly during any work involving high temperatures.

Solid walls are necessary to support tool boards and shelves, and to anchor benches. Good lighting is essential. Extra task lighting may be necessary for using some machine tools.

Injury occurs most frequently in under-heated workshops. Maintain a minimum temperature of 10 degrees Celsius.

Access to workshops should be limited to people who are working in them.

Lifting equipment

Lifting equipment should always be checked before use. The safe working load (SWL) in tonnes or kilograms must be clearly marked on equipment. Never exceed the SWL.
Any lifting equipment such as pulley blocks and slings must be tested by a competent person before use, and a certificate of examination obtained. Equipment should be re-examined annually by a competent person. Slings and chains should be inspected for damage or wear before each use, and examined every 6 months. Compliance with *Code of Practice: Safe Use of Industrial Trucks* is required.

Always secure equipment before jacking. For example, before jacking up a tractor or a combine, park on a firm, dry, level surface, place the transmission in gear and apply the handbrake.

Trolley or bottle-type jacks should only be used to lift an object. Before undertaking work, put axle stands or solid wooden blocks in place to support the weight of the machine.

Power tools

Power tools such as angle grinders, bench grinders and drills can cause serious injury. Before using them, ensure that they are in a safe operating condition, with all the guards in place and all electric cables and connections safe and fit for purpose. Use a vice to securely clamp the piece being worked on.

Before working with an angle grinder, ensure you are using the correct disc for the operation and that it is correctly fitted. Never force the disc at the metal, or allow the disc to be trapped in the work piece – this will cause the disc to break and the grinder to kick back.

Welding

Welding requires significant levels of skill. Ensure that you are competent before attempting a welding operation. Welding courses are available through agencies such as Solas and the Education and Training Board Ireland (ETBI).

Compressed air

Air compressors can explode if not maintained. This can result from a crack in the compressor tank or a faulty safety valve. Air compressors must be inspected every 24 months in order to identify any potential damage or weakness in the pressure vessel.

Tyre maintenance

Tyres should be inspected on a regular basis and at least once per week. If you suspect or identify damage, the tyre should be inspected by a competent person.

If tyres fail during deflation or inflation, they can release an explosive force at an angle of up to 45 degrees from the rupture (which is often, but not always, on the face of the sidewall). This has resulted in numerous fatalities.

Safety during tyre inflation

When inflating tyres, it is crucial to use a clip-on chuck to connect the compressor hose to the tyre. The operator must ensure that the airline hose between the clip-on chuck and the pressure gauge/control is long enough to allow them to stand outside the likely trajectory of any explosion that may occur during inflation. This safe distance will vary depending on the size of the tyre and its positioning. Where necessary, a suitable tyre cage should be used and the sidewall of the tyre should be inspected prior to inflation.

Tyre changing

Before embarking on the removal of a tractor or machine wheel, carefully assess the available equipment and facilities, the condition of the area where the wheel is to be removed and your own competence to carry out the task. If any of these conditions are insufficient, you should seriously consider having the task carried out by a professional service provider. If a tractor or farm vehicle must be raised to remove a wheel, then the vehicle must be adequately supported in order to prevent any danger of collapse, and the operation must be carried out on solid level ground to minimise risk of collapse. A suitable safe jacking point on the tractor or machine should be identified before commencing tyre changing. Adequate lifting equipment and restraining equipment must be available to allow the wheel to be removed, and the wheel must never be left free standing where there is a danger of it falling and causing injury. After changing or refitting a wheel, you must correctly install and tension the wheel nuts or clamping devices using appropriate tools and equipment. Further information on safe tyre removal is available on the HSA website (www.hsa.ie).

Personal protective equipment

Suitable clothing includes well-fitting overalls with zipped pockets, leather footwear with non-slip soles and steel toe-capped boots. Wear nitrile or neoprene gloves when handling hazardous substances.

The personal protective equipment (PPE) required will depend on the job, but the principal

items are protective visors or goggles, ear defenders for noise, and respiratory protective equipment where there is a risk of inhaling dust or fumes.

Hygiene

Good hygiene facilities are essential for any farm or farm workshop. These include washing, drying and toilet facilities. Before work, apply a barrier cream to your hands or put on gloves. Use hand cleanser to remove heavy oils or contamination. Never use solvent thinner to clean your hands, as this strips the skin of its natural oils and causes dermatitis.

Further information on workshop equipment

Before using individual items of equipment, consult the operator's manual. A comprehensive booklet, *Farm Workshop Safety: Key Management Practices*, is available from Teagasc (www.teagasc.ie).

13.0 Working with timber

13.1. Risk assessment

Using chainsaws, and in particular felling trees, is one of the most dangerous tasks carried out on farms. In 2016-2025, five timber-related deaths occurred on farms and forests, three of which occurred when trees were being cut down. Where possible, use a bushman type saw instead of a chainsaw. If a chainsaw must be used, operators must be formally trained and competent before embarking on a task that involves a chainsaw.

13.2. Training in chainsaw use and tree felling

Tree felling and the use of a chainsaw are extremely hazardous. Everyone, including farmers, should be trained by a competent training provider before working a chainsaw or felling a tree. Alternatively, a competent person should be contracted to carry out the work.

13.3. Safety features of the chainsaw

Every chainsaw should be fitted with the following safety and health devices:

- clearly marked, positive on/off switch
- chain-brake device with a front hand guard
- safety throttle
- chain catcher

- rear hand guard
- anti-vibration system
- exhaust system to direct fumes away from the operator
- chain cover for transportation
- adequate tool kit for corrective and preventative maintenance

13.4. PPE for timber work

Modern chainsaw PPE is easy to wear and long-lasting, and it is designed to prevent death or serious injury. Select clothing and equipment that fits well and will not catch in the chain or underbrush. Make sure a first aid kit, including large wound dressings, is available when working with a chainsaw.

The following equipment must be worn before using a chainsaw:

- safety helmet (to conform to EN 397 standard)
- suitable eye protection (visor to EN 1731 standard or safety glasses to EN 166 standard)
- ear defenders (to EN 352 standard)
- chainsaw gloves with protective pad on the back of the left hand
- leg protection incorporating clogging material (to EN 381-7 standard)
- safety boots with steel toe caps and with good thread for grip (to EN 381/345 standards)
- non-snag close-fitting outer clothing
- chainsaw trousers (to EN 381-5 standard)

13.5. Using chainsaws

When using a chainsaw, take the following precautions:

- Ensure that the chainsaw is properly maintained.
- Ensure that the operator is trained.
- Be familiar with where the controls are, and ensure that they are all in working order. This is to ensure that the chainsaw can be stopped quickly in an emergency.
- To start the engine, hold the saw firmly in position on level ground by putting the right foot on the handle and making sure the chain is clear.
- Only use a chainsaw in a right-handed manner, with the right hand on the throttle and the left hand holding the handle. The left thumb must be under this handle at all times.

- Apply the chain brake when the chainsaw is not in use. Do this by letting engine revs drop to idle and applying the chain brake with the back of the left hand.
- Shut off the engine before moving from one area to another.
- Never use the chainsaw above shoulder height or when off balance.

Avoiding chainsaw kickback

Kickback occurs when the tip of the guide bar comes into contact with a solid object at the upper half of the nose of the guide bar. Take great care to prevent this part of the chainsaw from touching any object. Kickback results in the guide bar of the chainsaw suddenly moving violently upwards. This can cause severe cuts to the head, face, neck, shoulder and arms. Kickback can occur on a horizontal plane also.

Take the following measures to help prevent kickback:

- Make sure that the chain and chainsaw are adequately maintained.
- Never begin cutting with the upper half of the nose of the blade. While cutting, watch out for branches, logs or other material that could come into contact with the upper half of the blade.
- Grip the saw properly, using both hands. The thumb of the left hand should be under the handle.
- Before cutting, ensure your left arm is straight. In the event of kickback, this will help to divert the saw over your body.
- Never run the engine slowly at the start or during cutting, as this can lead to kickback.

13.6. Working-area precautions

When cutting timber, such as firewood:

- Make sure the timber is securely supported off the ground, to allow room for the blade to cut.
- Before starting the task, assess what way the timber will fall after it is cut and ensure it will fall safely.
- Make sure that other people are at least two saw-lengths away from the operator when preparing to cut a tree or trim branches.
- Clear any undergrowth likely to interfere with the operator and the chainsaw, and remove any dead material that could catch fire.
- Prepare a path of safe retreat to the rear, diagonal to the line of the timber's fall.

- Make sure your foothold is firm and obstruction-free.
- If working on sloping ground, work from an uphill position.
- Lopping branches off trees and working on ditches is extremely dangerous. Use a platform such as a tractor trailer to provide a secure, non-slip foothold.

13.7. Felling trees

Before felling any tree, ensure that the operator has the necessary competence to complete the task safely. Felling trees is very dangerous and requires significant training and experience to be completed safely.

Farmers who have not undertaken the approved chainsaw training course for tree felling should not attempt to carry out this work themselves, and should instead engage the services of a competent chainsaw operator or tree services contractor. They should ensure that the chainsaw operator has the necessary safety documentation, including certificates of training, insurance cover, risk assessment and safety statement.

13.8. *Code of Practice for Managing Safety and Health in Forestry Operations*

The *Code of Practice for Managing Safety and Health in Forestry Operations* (code-of-practice-for-managing-safety-and-health-in-forestry-operations-copy.pdf) can be obtained from the HSA. It provides guidance on the safety, health and legal duties of all parties involved in forestry operations. It sets out the following four management roles related to forestry operations:

- landowner role
- forestry work manager role
- contractor role
- subcontractor role

Identifying who takes these roles in a particular situation clarifies how operational duties related to safety and health should be shared and communicated.
See www.hsa.ie for guides on:

- safe use of chainsaws
- using petrol-driven chainsaws
- basic chainsaw felling of large trees

- chainsaw snedding
- selecting and monitoring contractors
- chainsaw safety training advice
- chainsaw clearance of windblow
- felling and manual takedown
- safe load securing of round timber information sheet
- extraction by forwarder
- chainsaw cross cutting and manual stacking
- mechanical harvesting
- safety precautions working around power lines

14.0 Safe use of electricity in agriculture

14.1. Risk assessment

Electrocution accounted for 1% (1) of all deaths in agriculture between 2016 and 2025. This death was due to the individual making contact with an electric fence.

Considerable progress has been made in upgrading electrical installations on farms in the years between 2016 and 2025. However, substandard electrical installations and equipment are still found on many farms. Poorly maintained installations, particularly those that are outdoors and in wet conditions, present a significant risk of electrocution. The mains supply, particularly overhead power lines, also presents a significant risk of electrocution.

14.2. Electrical standards

Electrical installations and equipment on the farm must comply with the Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 229 of 2007), Part 3. These regulations are supplemented by the detailed specifications contained in *National Rules for Electrical Installations*, issued by the National Standards Authority of Ireland (NSAI). All electrical work must be carried out by a registered electrical contractor in accordance with NSAI rules.

14.3. Causes of electrical accidents

Due to the wet environment, yards, outhouses and fields are high-risk areas for

electrocution. The major causes of electricity-related deaths are portable equipment, extension cables and overhead power lines.

Electrical accidents occur mainly for the following reasons:

- There is loose or 'floating' earth in the plug or socket.
- Equipment is connected without a plug top and/or socket.
- Unsuitable domestic-type plugs and other accessories are being used.
- Temporary joints, both taped and un-taped, are used on extension cables.
- There is portable equipment, including infrared lamps, connected to lighting circuits.
- Improvised maintenance and repairs were carried out in an unprofessional fashion.
- Incorrectly rated or 'make do' fuses (including silver paper and nails) were used.
- There were faulty equipment and installations used.
- Frayed cable insulation caused galvanised roofs of outhouses and RSJ (rolled steel joist) pillars to become live.
- High voltages were imposed on electric fences where the fence earth electrode was too near the farm installation earth electrode.
- Buildings, straw, hay or other materials were placed under or near power lines.
- High machinery or equipment operated under or near overhead power lines.

14.4. Fuses and miniature circuit breakers

Fuses and miniature circuit breakers (MCBs) automatically disconnect circuits where a fault occurs or where the circuit is overloaded. If correctly rated or 'tailored' to the circuit, the fuse or MCB will protect the circuit, as well as permanent wiring and the appliance or equipment used. It will not protect people or animals from electric shock. A residual current device (RCD) is required for this. Sensible precautions when working with fuses and MCBs include:

- Select the correct MCBs or fuses for the task at hand, as this can be a key factor in the prevention of electrical fires.
- Use the correct type and rating of MCB or fuse.
- Do not replace an MCB with one of a larger size. Find out the cause of the fuse blowing or MCB tripping.
- Use a main fuse or circuit breaker to protect the total electrical installation.
- Clearly label all MCBs, fuses and RCDs for ease of identification.
- Use under voltage protection to prevent machinery driven by electric motors from starting up automatically at the end of a power cut.
- Check with a competent electrician or electrical contractor to ensure the adequacy of

your fuse board, MCB assembly or any other part of your electrical installation.

14.5. Portable electrical equipment and RCDs

Portable (including transportable) electrical equipment has contributed to many on-farm electrocutions. Such equipment includes:

- electric welders
- drills
- angle grinders
- milk coolers
- dehorning equipment
- sheep-shearing equipment
- power washers
- battery chargers

To prevent electric shock from portable equipment, take the following precautions:

- Fit RCDs with a 30 milliampere (mA) fault setting on all 230 volt (V) and 400V socket circuits.
- Test RCDs monthly, or at least every 6 months, by pressing the test-trip button.
- Use 110V supply for smaller items of portable equipment (up to 2 kilovolt-amperes (kVA)) in wet areas.
- Keep cables, plugs, sockets and cable couplers in good condition, and replace if damaged.
- Join cables using cable couplers only.
- Use a maximum supply of 25V for portable hand lamps in confined or wet locations.

NSAI rules require all socket outlets rated above 32 amperes (A) to be protected by an RCD with a trip setting of 100 mA or less. NSAI rules also stipulate that all circuits in agricultural installations be protected by a RCD with a trip setting of 300mA or less.

14.6. Plugs and sockets

Domestic-type plugs and sockets are not suitable for on-farm use; industrial-type (IEC 309) plugs and sockets are required. Industrial-type sockets are colour-coded as follows:

- 24V – mauve
- 110V – yellow
- 230V – blue
- 400V – red

Plugs and sockets must:

- have keyway coding to prevent voltage mismatch; for example, a yellow plug should not be connected to a blue socket (keyways should not be tampered with);
- be appropriate to the voltage of the equipment used; and
- be of sufficient capacity.

The same criteria apply to cable couplers.

14.7. Earthing

All exposed metal parts (normally non-current-carrying) must be earthed;

- Protective conductors for earthing must be of sufficient size and properly installed, protected and maintained.
- Protective conductors, if broken or disconnected, must be immediately restored.
- Earth electrodes of base copper or hot-dipped galvanised rod or pipe must be at least 12 mm in diameter and driven vertically into soil for a length of not less than 1.2 m.

Good earthing is essential if safety devices such as fuses and circuit breakers are to work properly. Earthing circuits should be regularly tested by a competent electrician.

14.8. Equipotential bonding

Equipotential bonding is defined as “special electrical connections intended to bring exposed, conductive parts or extraneous conductive parts to the same or approximately the same potential, but not intended to carry current in normal service”. Animals are extremely susceptible to even very low potential differences (less than 1V). These stray voltages seriously affect milk production and can cause mastitis. Equipotential bonding in milking parlours and other locations where animals are housed is very important.

The NSAI wiring rules recommend that:

- all extraneous and exposed conductive parts are bonded together and connected to protective conductors;
- a special bonding bar is installed as part of the bonding system and each large metallic item is connected separately to this bar;

- a metallic equipotential grid is laid in the floor and connected to the equipotential bonding of the location (particular care should be taken to protect the connection point, both mechanically and against possible corrosion); and
- supplementary equipotential bonding conductors should have a cross-sectional area of at least 4 mm; this is to provide both additional strength and conductance for the bonding conductors.

14.9. Electric welders

- Electric welders should be supplied from separate circuits to the standard workshop sockets.
- Plugs and sockets should be of adequate capacity (32A).
- An RCD (with a 30mA fault setting) must be provided.
- Exposed conductive parts of the welder must be bonded together and connected to the welder's protective conductor at a common terminal.
- The return conductor cable should be connected to the work piece using a proper clamp.
- The user's eyes must be protected by a suitable filter lens contained in a welding helmet or handheld shield that protects the face and neck against heat radiation.
- The user's hands and forearms should be protected by suitable gloves and by keeping their sleeves pulled down.
- ESB Networks requires notification before an electric welder is installed.

14.10. Generators

Portable generators:

- are generally rated less than 20kVA,
- supply individual items of portable equipment, and
- should have industrial-type sockets (IEC 309) located on the generator frame for connection.

Generators supplying permanent wired installations:

- provide automatic or non-automatic general standby power for fixed installations,
- should have mechanically interlocked switching facilities between ESB Networks and the generator, and
- should have a switch that is clearly marked to show the ESB Networks and generator on and off positions.

Power take-off (PTO) shafts of tractor-driven generators should be suitably guarded. ESB Networks requires notification when a standby generator is to be installed. ESB Networks personnel have been electrocuted where switching arrangements were not adequate. This may also put the general public at risk.

14.11. Overhead lines

When Working near or around overhead power lines on a farm;

1. Do not operate or tip high machinery or equipment under or near power lines.
2. Check for adequate clearance before passing underneath power lines.
3. Prevent danger by line diversion, or the use of barriers or ‘goal posts’.
4. Do not build, stack materials or site-fill under power lines.
5. Do not burn stubble, bushes or similar growth under or near power lines or support poles and masts.
6. Do not undermine support poles or masts or damage stay wires.
7. Never raise metal irrigation pipes under or near power lines.
8. When spreading slurry, keep away from power lines and poles.
9. Keep away and keep other people away from fallen lines.
10. Keep animals away from fallen lines.
11. Notify an authority such as ESB Networks, eir, Gardaí of fallen lines.

14.12. Electric fences

To prevent danger from contact with electric fences, the maximum discharged energy should be in accordance with the relevant Irish and European standard: EN 60335-2-76:2005/PRAA Household and similar electrical appliances - Safety - Part 2-76: Particular requirements for electric fence energizers.

Control units for electric fencers:

- should not be installed near flammable materials,
- should be protected from mechanical damage,
- should not be mounted on ESB Networks or telephone poles, and
- must have a minimum of IPX4 electrical protection if located outside.

Take the following precautions:

- Do not run fences parallel to power lines. Dangerous induced voltages might result.
- Keep the fence earth a minimum of 10 m away from the main installation earth.
- Never ‘whip up’ or ‘twitch’ fence wires under power lines.
- Never electrify barbed wire, as barbed wire can be difficult to break free from.

14.13. Cable reels

Cable reels can be dangerous if they supply an electrical load for a prolonged period. This is particularly the case if the reel is left uncoiled while in use. The cable in the reel can heat up and melt the protective insulation. This causes a risk of fire or of electrocution to people operating equipment fed from the reel. It is better to completely uncoil an electric cable before use.

14.14. Periodic inspections

Electrical installations will deteriorate over time. To ensure that the installation remains in a safe condition, it should be inspected and tested by a competent person, usually a qualified electrician. Following this inspection and test, the electrician should provide a report on the installation, which should give details of any issues that require attention.

ESB Networks free shrouding service

Risk: Working near live low-voltage overhead lines without proper controls may be dangerous.

Safety tip: Use the shrouding service provided by ESB Networks to cover live low-voltage lines and reduce the risk of accidental contact during work. If you have specific concerns or need further advice, contact ESB Networks on 1800 372 757.

15.0 Safe use of chemicals in agriculture

Chemicals such as fertilisers, detergents, oils, disinfectants and plant protection products can play an important role in everyday life on the farm. However, if these chemicals are not used safely, then people on the farm could be at risk. The potential for chemicals to cause harm depends on a number of factors, including how dangerous the chemicals are, as well as how long and how often people are exposed to them. It is also important to consider naturally occurring chemicals on the farm, such as slurry gases and chemicals generated by activities such as maintenance work, welding and engine exhausts, all of which can also be dangerous.

Chemical exposure can result in health effects such as cancer; birth defects; burns; skin rashes; and lung, liver or kidney disease. Therefore, when using chemicals on the farm, it is important to know how dangerous they are. It is also important to ensure that you have the necessary controls in place to keep you, your family and the environment safe. The hazard label and safety data sheet supplied with each chemical are essential in understanding the dangers involved in working with chemicals on your farm.

Liquid nitrogen

Liquid nitrogen is used to store and preserve semen for artificial insemination. Semen is stored in tanks called ‘flasks’ or ‘dewars’ that are filled with liquid nitrogen. Handling liquid nitrogen is hazardous due to its extreme cold and potential to displace oxygen, which can cause asphyxiation in enclosed spaces. Proper safety measures include working in well-ventilated areas with good lighting, and only trained, competent workers wearing protective gloves and glasses being permitted to carry out work with liquid nitrogen according to risk assessments and written control measures.

15.1 Risk assessment

On average, just over 206 poisoning inquiries involving agrochemicals are received by the National Poisons Information Centre (NPIC) each year.

15.2 Understanding the label and the safety data sheet

This section provides information on how to recognise if a chemical is dangerous by understanding the label and by using the safety data sheet (SDS) to get advice on safe use, storage and disposal.

The label and the SDS are essential in understanding the dangers involved in working with the chemicals on your farm. The label on the chemical container provides information and details on the supplier and identifies the hazardous properties of the chemical. Below in Figure X is an example of a hazard label.

(**Insert Sample Label)**

Additional information to that provided on the label can be found in the SDS that is supplied with the chemical. If you don’t receive an SDS, then ask your supplier for one. The SDS

describes the hazards that the chemical poses, and provides information on safe handling, storage and emergency measures in the case of accidents.

The key sections of the Safety Data Sheet to review are:

- the identity of the chemical and supplier details,
- the dangers of the chemical,
- first aid measures,
- how to fight a fire involving that chemical,
- accidental release measures,
- how to handle and store the chemical safely,
- exposure controls,
- personal protective equipment (PPE), and
- disposal information.

15.3 Types of chemicals used on the farm

The types of chemicals used directly in work activities on farms can be categorised into five main groups, with fertilisers and pesticides representing the largest volumes used.

Fertilisers

High-nitrate fertilisers are oxidising, meaning they can cause or contribute to the combustion of other material. Fertilisers containing ammonium nitrate, calcium nitrate and urea have the potential to decompose at high temperatures, causing the release of potentially dangerous chemicals such as hydrochloric acid or ammonia. All fertilisers are generally considered to cause irritation or burning to the eyes, skin and respiratory system.

To ensure your safety and the safety of others on the farm, engineering controls, such as the use of automated systems (for example, sprayers), are recommended. Equipment should be maintained in good condition, and it should be ensured that all valves, lines and connections are secure. PPE may be required where spraying could result in exposure to the eyes, skin or lungs.

Plant protection products and biocides

Plant protection products and biocidal products have the capacity to cause serious damage to worker health, including cancer and effects on the brain and spinal cord, immune system, and reproductive organs. The marketing, sale and use of pesticides is regulated by the

Department of Agriculture, Food and the Marine (DAFM), including the requirement to notify products and ensure the sustainable use of pesticides. More information, including lists of notified or authorised plant protection and biocidal products, is available on the DAFM website (http://www.pcs.agriculture.gov.ie/).

Careful handling and application of pesticides is required in order to ensure your safety and the safety of others who may be affected. All users of pesticides must adhere to the advice and recommendations provided on the label and SDS and use pesticides in such a way that minimises drift, run-off and volatilisation. Engineering controls, such as the use of automated systems (for example, sprayers) for the use of pesticides, are recommended.

Common maintenance chemicals

Chemicals used in farm machinery such as fuels, oils, paints, hydraulic lubrication and gear oils may cause health issues such as respiratory problems or allergic skin reactions. Paints such as red oxide paints may be sprayed onto metal surfaces of farm buildings. These paints may contain lead, which is harmful if inhaled and may cause damage to fertility or an unborn child.

To ensure your safety and the safety of others on the farm, it is important to ensure that possible exposure to these chemicals by the lungs or skin is minimised. This might include avoiding spraying, avoiding any skin contact or using gloves. Where possible, replace the use of lead-based paints with less harmful paints.

Acids and bases

Acids may be used as cleaning agents or as additives in the preservation of silage. Commonly used acids include hydrochloric acid, sulphuric acid, acetic acid and lactic acid. Bases may be used in cleaning and the adjustment of soil pH; commonly used bases include lime (calcium carbonate), caustic soda (sodium hydroxide) and bleach (sodium hypochlorite). Due to their pH, both acids and bases are generally corrosive to the skin, eyes and respiratory system.

To ensure your safety and the safety of others on the farm, careful handling of acids and bases is recommended in order to prevent inadvertent mixing and to minimise exposure to fumes and splashes; this may involve controls such as safe storage of the chemical in accordance with the manufacturers recommendations or the use of PPE.

Veterinary medicines

Farmers and agricultural workers may administer or apply authorised veterinary medicines, including antibiotics, vaccines, wormers, and ectoparasiticides such as sheep dip. There are a number of health hazards associated with the use of authorised veterinary medicines, including puncture wounds from needles and accidental injection, and inhalation, causing infection and/or poisoning. Authorised veterinary medicines may only be administered by those with adequate training and knowledge; if in doubt, use a veterinary practitioner. Farmers must ensure that they purchase such products only from an authorised supplier. For more information, please visit: https://www.hpra.ie/.

To ensure your safety and the safety of others on the farm, controls to restrain animals and administer injections (for example, needle guards) should be used in the first instance. PPE may be used for the administration of less hazardous medicines and may include gloves, aprons, face shields or respiratory protective equipment.

15.4 Sprayer design and operation

When purchasing a sprayer, be alert to design features that minimise the risk of contamination, including low-level fillers and steps to gain access to the tank lid. The sprayer should be checked thoroughly before the season starts, and regularly during the season. All boom sprayers (above 3m) and blast/orchard sprayers must be tested by an approved inspector every 3 years as determined by the Sustainable Use Pesticides Directive (see www.pcs.agriculture.gov.ie).

The key safety features to check on an ongoing basis are: hose condition, nozzle condition, pressure gauge, filters and controls. The use of a clean water supply minimises the risk of nozzle blockage and contamination.

Only a registered professional user can apply pesticides authorised for professional use (www.pcs.agriculture.gov.ie). Certificate of Competency training courses in pesticide operation, to Quality and Qualifications Ireland (QQI) standard, are available from several approved training providers. This training is mandatory. However, it can significantly reduce the amount and cost of pesticides used on the farm, save money, and prevent adverse health effects to you and others on the farm.

15.5 Storage

Chemicals on the farm must be stored in a safe and secure location. The storage unit must

be dry, well-ventilated and constructed of non-combustible materials and in such a way as to ensure that any leakages or spillages are retained within the store (for example, bunding or a floor sloped inwards). A warning sign should be displayed at the entrance to the chemical store. Facilities must be available to soak up small spillages (for example, a bucket of sand or peat) and to clean equipment and PPE.

The storage of each chemical will depend on the advice provided in Section 7 of the accompanying SDS, and on the type of chemical and its physical state. However, the following general rules should be followed:

- Store chemicals safely in a locked store away from children.
- All chemicals should be kept in their original container and in good condition with the label attached.
- Chemicals should not be transferred to another container.
- Segregate chemicals based on the most dangerous hazard displayed on the label.
- All chemicals must be stored away from animal feed to avoid contamination of feed stuffs.
- Veterinary medicines must be stored away from other chemicals to avoid contamination.
- Liquids should be stored away from solids (for example, powders) to prevent leakage of one chemical onto another.
- Oxidising chemicals, such as high-nitrate fertilisers, should be stored away from heat or ignition sources and from static or friction sources. They must also be stored away from flammable chemicals or materials, including fertilisers.
- Fertilisers and flammable chemicals must also be stored away from heat or ignition sources.
- Minimise your stock of chemicals.
- Old or unused chemicals should be disposed of in accordance with Section 13 of the accompanying SDS.
- Maintain an inventory of your chemical stock detailing the chemicals stored, their physical state (solid, liquid or gas), their hazards and the quantities stored.

A sample inventory is provided below in Figure X.

Rinsing of pesticide containers

All pesticide containers should be 'triple-rinsed' at the time of emptying into the sprayer, as follows:

1. Drain the contents of the pack into the spray tank for at least 30 seconds.
2. Quarter- to half-fill the container with clean water.
3. Close the container securely.
4. Shake vigorously.
5. Add the rinsate to the spray tank.
6. Repeat steps 2–5 at least twice.
7. Store rinsed container upside-down with the lid off so that it dries out.

Disposal

Hazardous chemicals must be disposed of safely. Farm hazardous waste collection centres are available around the country where farmers can take their hazardous waste for disposal. Further details on this scheme are available from the Environmental Protection Agency at www.epa.ie, or from your local Teagasc office.

Transport

Hazardous chemicals (dangerous goods), including waste for disposal, must also be carried by road safely under the provisions of the Carriage of Dangerous Goods by Road Regulations, 2001. The types of chemicals that come under the rules of the Carriage of Dangerous Goods by Road Regulations, 2001 reflect many of those listed in Section 15.3. They include, but are not limited to:

- certain grades of ammonium nitrate fertiliser;
- pesticides (biocides/plant protection products);
- fuel (for example, petrol or diesel);
- paints/varnishes/lacquers;
- gases in cylinders (for example, acetylene gas for maintenance work);
- acids and bases (for example, cleaning agents or additives); and
- hazardous waste for disposal.

Transport safety information for the dangerous goods (chemicals) you use will be available in Section 14 of the SDS for that chemical. Certain requirements must always be observed when transporting dangerous goods, and these requirements include appropriate packaging, marking (including the UN number) and labelling (diamond-shaped hazard labels) of the packages; load security; and general knowledge/training in relation to the hazards presented

by the chemicals being carried.

Exemptions exist for the carriage of farm supplies using agricultural or forestry tractors and for the transport of small quantities of dangerous goods.

More details in relation to general requirements that apply to you and the exemptions that are available to you can be found in the HSA's *Carriage of Dangerous Goods by Road* Publication (https://www.hsa.ie/eng/publications_and_forms/publications/chemical_and_hazardous_substances/carriage_of_dangerous_goods_by_road_2021/

16.0 Health of farmers

16.1. Risk assessment

The principal causes of ill health among farmers are associated with manual handling, exposure to dusts and spores, bacterial infections, noise and exposure to the sun unprotected. Stress is associated with both high accident levels and diseases of the circulatory system.

16.2. Occupational ill health

Manual handling risk reduction on the farm

Introduction

An example of a task that results in increased risk on the farm is the handling of 50kg fertiliser bags.

The risk posed by **excessive force** is made worse if the person lifting a heavy load is also bending over. Such action increases pressure on the discs in the back.

Awkward posture: If a load is bulky or hard to grasp, such as a restless animal, it will be more difficult to hold while lifting and carrying. Holding a load at arm's length imposes about five times the stress that holding the same load very close to the body would.

Repetitive bending and twisting when carrying out a task (for example, fitting clusters on

cows) increases the stress on the lower back because the back muscles have to support the weight of the upper body as well as the weight of the load, which in turn increases the risk of injury.

Work should be planned in a way that alternates tasks or includes time for breaks from a repetitive activity.

Lack of recovery time: If physical stresses are prolonged, then fatigue will occur. Efforts need to be made to plan or schedule work activities on the farm so as to reduce fatigue and allow time for recovery during physically demanding work.

Other risk factors to consider include:

- excessive carrying distance (greater than 10m),
- lifting loads above shoulder height,
- lifting loads with no handles, and
- lifting loads in an area that is difficult to access (for example, where there are space constraints, uneven or slippery surfaces, and/or poor housekeeping practices).

Actions to take to avoid/reduce risk

The range of manual handling activities on the farm is wide. Examples include the handling of fertiliser, feed and small animals; carrying buckets for feeding; lifting loads from the back of a trailer to the shed; or lifting netting reels onto a bailer.

Recognition that all manual handling activities on the farm are potential workplace hazards is the first step in managing the risk of back injury.

Risk-reducing measures to consider before carrying out a manual handling activity on the farm include:

- reducing load size,
- using attachments on tractors and other handling aids,
- improving seating in tractors,
- improving storage facilities,
- raising work platforms or benches,
- fitting wheels to heavy loads,
- using three-point hitch linkage systems, and
- taking the time to plan each activity.

Asking the following questions can help assess and reduce the risk from manual handling activities:

- Are there handling aids that can be used to reduce the need for lifting or carrying loads over a distance; for example, a sack truck or other appropriate handling aids?
- Can the work task be planned to reduce the distance that loads have to be carried?
- Are there handling aids or ways of handling calves during and after calving that reduce the exposure of the farmer to heavy physical lifting, pushing or pulling?
- Are there changes that can be made in the farmyard to ensure that loads are stored securely in mobile storage units to ensure good housekeeping and limited need for handling?
- Are there work benches available that allow the farmer to complete work with good posture, reducing the need for a prolonged bent posture?
- Are there useful handling aids to handle large tractor wheels safely?
- Are there good, clear access routes and adequate space available to allow for the use of handling aids or to allow for ease of movement of loads?
- Would a meal bin be more effective than handling a large number of bags of meal?

Risks associated with handling loads can include heavy weight, awkward posture, and poor access in the environment in which the work is being carried out. Think and plan the job before attempting a potentially high-risk manual handling activity, consider the main risks, and identify ways of making the job easier by exploring the possible options for reducing the risk of injury. There is scope on the farm to eliminate or reduce heavy lifting by fitting wheels to heavy loads, using three-point hitch linkage systems and improving the planning of the activity.

Measures to help prevent an injury

Think before you lift and always consider the use of mechanical aids or other means of reducing the risk where the load weight is excessive. When you do engage in lifting a load that is within your capability, always consider the following principles:

- Ensure that the load is kept close to the waist to give more control over the load.
- Adopt a stable posture.
- Ensure that you have a good hold on the load.
- At the start of the lift, slight bending of the back, hips and knees is preferable to fully flexing the back.
- Avoid twisting of the trunk or leaning sideways.

- Keep your head up when handling the load.
- Move smoothly and do not lift more than you can manage.
- Put the load down, then adjust as necessary.

The back needs to be looked after, so stop to consider ways to carry out a work activity that will reduce the strain on your back and still get the job done. First and foremost, look at ways of reducing the risk through the use of handling aids, reducing the size of the load, improving the layout of the work environment, or other appropriate means. Only handle loads when the risk level has been reduced. Remember: one poor lift can cause a lifelong injury.

Lung problems

Inhaled dust and spores can have a severe effect on lung tissue and cause severe illness in both the short and long term. Mouldy feed or grain contains many minute spores. These spores affect the lung tissue if inhaled. The protein in the spores triggers an allergic reaction and, after 6-8 hours, symptoms of influenza – fever, headaches, shivering, muscle pains and breathlessness – develop. If this occurs, in order to avoid a possible misdiagnosis of influenza, a doctor should be told that the symptoms developed after the handling of animal feed.

Normally, symptoms clear within 2-8 days after a single However, repeated exposure can lead to permanent damage to lung tissue, leading to permanent breathlessness. Exposure to mould can also lead to occupational asthma. Consult a doctor if symptoms persist. The higher the dose of spores, the worse the likely health effect. A single high dose can lead to sensitisation of the lung tissue; this means that the lung tissue becomes susceptible to an allergic reaction. Once it is sensitised, any exposure, even to very low levels of spores, will trigger an allergic reaction. Smoking multiplies the damaging effect of exposure to mould/dust on lung tissue.

To prevent lung problems, avoid exposure to spores by keeping buildings well ventilated. For example, NEVER enter a grain store that holds mouldy feed without first ventilating the building thoroughly. Do not disturb bales by opening them out, as this releases spores into the air.

An effective way to reduce the level of dust or spores is to damp down the source of these. In addition to the above measures, an added precaution is to wear a suitable mask that meets European standard EN 149:2001 Respiratory protective devices - Filtering half masks

to protect against particles - Requirements, testing, marking https://standards.iteh.ai/catalog/standards/cen/febfef47-b53c-4074-b63e-8ad6565c0249/en-149-2001 (e.g. type FFP2 or P3 masks).

Infections

A range of serious illnesses can be caught from animals and contaminated materials. A disease that spreads from animals to humans is called a zoonosis. There are more than 20 such diseases in Ireland, including brucellosis, tuberculosis, tetanus, Weil's disease, leptospirosis and toxoplasmosis. Since these diseases can cause serious illness or death, it is essential to take precautions.

The following are examples of where an infection can cause serious ill health:

- Where brucellosis infects a herd, the farmer, family members and workers can contract the infection if suitable precautions are not taken.
- Weil's disease is a form of leptospirosis that can be contracted from contact with an infected rat's urine, generally through broken skin or scratches. Infection leads to a high risk of debilitating illness or death. The symptoms of infection are often confused with influenza. Seek medical treatment at the earliest possible stage.
- *Escherichia coli* infection, including the potentially fatal 0157 strain, can be contracted from livestock or contaminated material.

Measures to prevent infections include the following:

- Adhere to good agricultural biosecurity practices (e.g. maintaining healthy stock).
- Cover all wounds, cuts and scratches with waterproof dressings.
- Regularly clean and disinfect (as required) facilities, tools, equipment and footwear. Follow the manufacturer's instructions for the correct preparation and use of disinfectants and biocides (for example, shelf life, dilution, contact time).
- Use PPE (for example, high cut resistance gloves if handling animals that may peck or bite; face or eye protection such as goggles or face shields where there is a risk of splashes or droplets of urine or faeces; aprons).
- Ensure good personal hygiene by regularly washing hands and work clothing (separate from other family members' clothing).
- Practise good water management by not allowing water to stagnate and cleaning out (and, where required, disinfecting) tanks and hoses regularly (keep cold water cold and hot water hot, and keep water clean and moving).
- Take pest control procedures against rodents, flies and other vermin.
- Stay up to date with vaccinations/immunisations (for example, against tetanus).
- Ensure that pregnant women avoid close contact with animals giving birth, aborted or newborn animals, afterbirths, birthing fluids, or any associated clothing, boots or bedding materials.

- Check skin regularly for ticks, dryness or soreness. Know how to remove ticks correctly or contact your doctor for safe removal, and monitor any bites. Contact your doctor if you feel ill or experience skin or respiratory problems.
- Ensure that workers are made aware of potential infections and how to prevent them, and ensure that vaccinations are organised by the employer where relevant.
- Replace reusable towels with disposable paper towels or a non-shared towel.
- Ideally, you should have several pairs of multipurpose gloves so that you can clean and disinfect gloves regularly. Different gloves should be used from those used in normal operations if handling sick or dead animals.

Noise

Noise can damage a person's hearing. This can be caused by exposure to high noise levels over an extended period of time or to intense noise over short periods.

Permanent damage, known as noise-induced hearing loss, is caused when the nerve hairs in the inner ear, which pick up sound and transmit it to the brain, become damaged and die. Once these hairs die they cannot be replaced, so hearing is permanently lost. When noise-induced hearing loss occurs, the affected person mishears words, particularly those beginning with s, t, p and f (words such as 'seen' and 'been' or 'fight' and 'right' are confused). Thus, the person has considerable difficulty understanding the meaning of words, and their quality of life can be greatly reduced.

Impulse noise, such as a bang or a blast from a shotgun, can damage the eardrum and bones of the ear. In some cases, this damage requires surgery to be repaired.

A simple rule of thumb to check if noise is at a damaging level is: if it is necessary to shout in order to communicate with another person who is at a distance of 2m away, the noise level is likely to be above the legal action level of 85 decibels (dB).

The best way to solve a noise problem is to identify the source and reduce either the noise level or exposure time as much as possible.

There are many simple ways of reducing exposure to noise:

- Purchase equipment with low noise level ratings, which must be supplied with every machine.
- Keep tractor doors shut and maintain silencers on equipment such as tractors or chainsaws.
- Isolate or enclose equipment with noise above 85dB.

- Use mechanical or automatic feeding systems to reduce the need to enter pig or poultry houses during feeding.
- Move away from the noise source (doubling your distance from it halves the noise level to which you are exposed).

Ear defenders must be worn if the noise level remains above 80dB. These should conform to European standard EN 352-1 to 3:2002 Hearing protectors. Remember, noise-induced hearing loss cannot be rectified by a hearing aid.

16.3. Personal health

Your health is your greatest asset. You should do everything possible to safeguard it while at work. However, there is evidence that many farmers don't give their health adequate attention. Studies show that farmers tend to consider themselves healthy as long as they can carry out their work. However, farmers tend to ignore health issues that could have serious long-term consequences.

When it comes to getting the balance right, it can be helpful to remember the **three 'P's: prioritising, planning and pacing**. If you prioritise the things that really matter to you, plan your time effectively and pace yourself, then you make the most of your time and you are more efficient and productive on the farm. Good use of the three 'P's can help you maintain the right balance and stay in good health, and ultimately get the most out of your enterprise.

With the high incidence of skin cancers, you should protect your skin from the sun by minimising exposure, particularly in the hours either side of midday even on seemingly cloudy days. Wear long-sleeved shirts and a hat, and apply sun creams.

Research shows that many farmers are scaling back their farming activities or getting out of intensive and profitable enterprises such as dairying and sheep because of health problems. There is also strong international evidence that healthy farmers have fewer accidents or injuries at work.

Stress

Farming today can bring about periods of high stress for even the most expert and resilient farmer. Excessive stress gives rise to negative feelings and is caused by many factors, including our personal history, current pressures and current environment. Some stress we can do little about and must be managed, but much of it we can reduce and control. Stress

can cause heart problems, skin issues, digestive disorders and panic attacks, and can cause or worsen many other physical illnesses.

Stress can affect our ability to get a good night's sleep and can result in poorer performance, whether that is driving less carefully, being less focused on the job at hand, forgetting things, and having difficulty managing livestock or juggling different work and family tasks. Excessive levels of stress are not good for you, your family or your general functioning. The main causes of stress among farmers are: uncertainties due to markets and fluctuating farm produce prices, financial worries, excessively long working hours, poor working conditions, poor health, poor weather and isolation. Stress is associated with high accident levels and diseases of the circulatory system. It is important to recognise signs of stress and seek professional help if necessary.

Secondary effects of stress are things we do to 'treat' or help us deal with our stresses. They are often unhelpful and make things worse, and include unhealthy eating or drinking, recklessness in decision-making, and/or increased self-isolation and retreating from the community, all of which make matters worse and can lead to a cycle of distress for all.

Those working in farming should understand the importance of self-care, and focus on proper sleeping patterns, diet and exercise, and psychological coping mechanisms and calming techniques; the application of these should be facilitated through engagement with medical, community or farming representative bodies. Stress from farming is neither unusual nor unexpected, but can be reduced and managed if reacted to appropriately. Talk to someone, share the load, evaluate where you are at and seek help.

The publication *Staying Fit for Farming* provides useful advice on the health of farmers and can be accessed at www.hsa.ie.

The clear message is that looking after your health is important for personal, family and work reasons.

Fatigue

Fatigue is more than feeling tired. It is a decline in mental and/or physical performance, generally due to insufficient sleep. This reduces your ability to carry out your farm work safely and effectively.

Signs of fatigue include:

- losing focus and forgetting things,
- lacking energy and motivation,
- increased risk taking,
- slower reactions,
- feeling irritable, and
- tiredness even after sleep.

Performance impairment caused by fatigue can be compared to performance impairment due to alcohol intoxication.

17.0 Use of PPE in farming

PPE includes any item of clothing and equipment that gives protection against a hazard.

Protective clothing includes:

- various types of safety gloves,
- quad helmets,
- overalls or coveralls that prevent contamination,
- safety footwear, and
- waterproof or insulated clothing.

Protective equipment includes:

- eye protection (goggles or visors),
- ear protection (ear muffs/defenders),
- respiratory protection (dust masks and respirators, which prevent dust, spores, gases or chemicals from being taken into the body through the mouth and nose), and
- safety helmets and safety harnesses (when topping trees), trousers and so on based on an identification of hazards and assessment of risks.

17.1. Consider other control measures before deciding on PPE

Before resorting to using PPE, consider using all other control measures to the fullest extent possible. In this way, instead of using PPE to guard against high levels of exposure, you remove the danger. Therefore, PPE should be considered as a last resort.

Examples of this approach are outlined in the following subsections.

Spraying

Before spraying a chemical, consider the following before using PPE:

- non-chemical methods;
- use of a less toxic chemical;
- ensuring that the sprayer is in safe working condition;
- ensuring the correct setting of the sprayer, with particular reference to nozzle and pressure settings; and
- undertaking the work in suitable weather.

Noise

All methods to reduce noise should be used before resorting to ear defenders. For example, keeping the doors and windows of a tractor cab closed can reduce noise levels considerably.

Dust and spores

Reduce levels of dust and spores to the lowest level possible before resorting to respiratory protection. This can be done by thorough ventilation and wetting the source of dust or spores. Once this is done, consider using a mask or respirator.

Using PPE

Situations on farms requiring the use of PPE include when you are:

- using chemicals,
- welding,
- doing various workshop tasks,
- operating a chainsaw,
- working with hay or straw, and
- handling potentially infected animals or materials.

Any employees must be supplied with suitable PPE free of charge for example when Driving a quad bike/ATV they must be provided with a suitable helmet. Employees are required to make proper use of the PPE and should remember that PPE only protects the wearer and not other people in the area. This is particularly relevant to goggles, masks and respirators.

Choosing PPE

Choosing the correct PPE for a particular task is crucial, otherwise the protection may not be adequate and injury or ill health may arise. A good example of using inadequate PPE is using ‘washing-up’ gloves when handling chemicals. These are porous and allow easy penetration of a chemical. Also, when wearing these gloves, the pores in the skin generally open due to perspiration, which allows the chemical to easily enter the blood stream. Washing-up gloves are totally inadequate for this task and can increase the danger rather than reduce it.

- Only purchase PPE that is CE marked, indicating that it is manufactured to a recognised European standard.
- Check with the manufacturer of PPE (or the supplier) for detailed information and follow-up advice on the suitability of a product for a particular purpose
- When choosing PPE, make sure that it fits the wearer fully and correctly. Check that movement, visibility and breathing are not restricted in any way. Also make sure that the PPE is comfortable to wear and does not cause irritation.

Providing information and training on the use of PPE

Information and training must be provided to ensure that a user understands why PPE must be used in the correct manner and what level of protection it provides. PPE is useless if used incorrectly, and damaged PPE will not give adequate protection. Disposable PPE should never be reused.

- Store and maintain PPE in accordance with the manufacturer’s instructions.
- Respiratory equipment/PPE requires a high level of maintenance.
- Goggles, gloves, work boots, waterproof gear and other such items require only routine inspection for damage and wear.
- Make sure that everyone using PPE is trained in how to wear, clean, maintain and store it.
- PPE must always be cleaned after use and stored in a dry, well-ventilated, uncontaminated place. Manufacturers often supply containers for storing PPE along with the product.

Maintenance of PPE

PPE does not last forever. Make sure that spare filters and equipment/PPE are available on

the farm. Using old or damaged equipment/PPE may damage your health or your employees' health. Place safety signs in suitable locations as a reminder to wear PPE.

18.0 Use of safety signs on farms

Use of a range of safety signs enhances safety and health on a farm. While safety signs should never be used as a substitute for control measures, they do draw attention to objects and situations that may be hazardous.

Place safety signs where they give useful information to a person who could be affected by a hazard. This could be for you the farmer, a farm operator/worker, a family member, or a person coming onto the farm, such as a contractor or someone making deliveries. Signs may also alert emergency services to the presence of a hazard; for example, a pesticide or fuel store. Safety signs should be placed so that they are easily seen and must be kept clean.

Provision and use of safety signs

Safety signs are the last line of defense against hazards and should only be used where hazards cannot be eliminated, avoided or adequately reduced.

The risk assessment should identify necessary safety signs. In some cases, signs are specifically required; for example, to notify people about:

- fragile roofs and ceilings,
- emergency routes and exits,
- fire detection and firefighting,
- work-at-height danger areas,
- places with obstacles, a falling risk or a risk of falling objects,
- workplace traffic routes,
- areas where the noise can exceed 85dB, and
- a field with a bull present.

Contractors and any workers must be provided with information and instruction on measures to be taken and the meaning of the safety signs on your farm. The effectiveness of a sign must not be adversely affected by poor design, insufficient number, incorrect positioning, poor state of repair or incorrect functioning.

Use of text

Text should not be used if the meaning is clear by use of a pictogram or symbol alone. If a text explanation is necessary (for example, where doubt could exist as to the meaning of a symbol), a section containing appropriate text can be used. The text area, called a 'supplementary signboard', can be part of the overall sign.

Combined signboards

Graphical symbols should not be combined to convey more than one safety message.

For example, a mandatory safety helmet and safety goggles instruction should not be combined as one graphical symbol. Instead, two safety messages should be shown using two separate signboards (with supplementary signboards as necessary), or the two signboards and supplementary signboards can be combined on one carrier.

Further information on safety signs can be found under 'Publications and Forms' on the HSA website (http://www.hsa.ie/eng/Topics/Signage/).

Use standard road traffic signs to control farm traffic

The Farm Safety Partnership Advisory Committee to the HSA recommends that, in order to promote safety and health on the farm, a composite safety sign should be displayed in a good position in all farmyards. A sample of a design of such a sign and other common safety signs can be found in Appendix 3. However, you should have a sign produced to suit the particular circumstances of your farm. Identify the various situations on your farm where a sign might be useful. Suppliers of signs, available throughout the country, will assist.

19.0 Competence and training for people at work in agriculture

19.1. Defining competence

Reference is made throughout the Safety, Health and Welfare at Work Act 2005 to work being performed by a 'competent person'. Section 2(2) of the Act defines a 'competent person' as follows:

A person is deemed to be a competent person where, having regard to the task he or

> *she is required to perform and taking account of the size or hazards (or both of them) of the undertaking or establishment in which he or she undertakes work, the person possesses sufficient training, experience and knowledge appropriate to the nature of the work to be undertaken.*

The requirement for competence applies to self-employed people, such as farmers and farm workers, as well as to contractors and other employees. This is particularly relevant to the agriculture sector, since most people at work are self-employed farmers or family members.

19.2. Training

Training is the learning process of acquiring the capacity to carry out tasks to an acceptable standard. The Safety, Health and Welfare at Work Act 2005 strongly emphasises the importance of training and the need to provide training. This reflects the fact that the work practices adopted by those at work in agriculture are crucial for ensuring safety and health. Training in the area of safety and health must always aim to motivate a person to recognise hazards and to adopt safe work practices.

Approaches to training

At its simplest, training means showing a person the correct method of doing a task and then making sure that they can carry out the task correctly. A good example is when a newly purchased machine is put into service. It is vital from the safety and operating perspective that the operator can operate the machine correctly. Training can be provided by reference to the operator's manual, with back-up from the machinery supplier where necessary. Agree a training package before purchase, particularly when purchasing unfamiliar or complex machinery.

19.3. National framework of qualifications

A national framework of qualifications related to training and competence has been implemented under the Qualifications and Quality Assurance (Education and Training) Act 2012 (No. 28 of 2012). A national framework of qualifications is in place, and training courses and training providers are validated by Quality and Qualifications Ireland (QQI) (http://www.qqi.ie), which was established under this legislation. The awards made are recognised nationally and internationally. Courses are also validated at university level.

Teagasc is the State agency with responsibility for providing advice, training and research in

agriculture and food. It has integrated safety and health training related to practical compliance with safety, health and welfare at work legislation into its training and advisory programmes. Training courses provided by Teagasc are accredited by QQI. The programme of courses can be found on the Teagasc website (www.teagasc.ie) or obtained from any Teagasc office.

19.4. Training on completing the requirements of the *Code of Practice for Preventing Injury and Occupational Ill Health in Agriculture*

The HSA and Teagasc, in conjunction with the Farm Safety Partnership Advisory Committee to the HSA, have established a half-day awareness course on the completion of this *Code of Practice for Preventing Injury and Occupational Ill Health in Agriculture*. This course can be delivered by people with appropriate qualifications in occupational safety and health or agricultural science and practical knowledge of agriculture as specified by the HSA.

Current Department of Agriculture, Food and the Marine (DAFM) Targeted Agricultural Modernisation Schemes (TAMS) require applicants to have completed (within the last 5 years prior to submission of their claim) the half-day Farm Safety Code of Practice awareness course or the QQI Level 6 Advanced Certificate in Agriculture (Green Certificate). These courses are given by Teagasc or other qualified providers. A claim for payment will not be processed until evidence of completing an appropriate course is provided.

19.5. Safe tractor-driving skills training

This programme has been designed to develop the safety skills of 14-16-year-olds in relation to tractor driving. The course covers both theory and practice relating to tractor handling for on-farm use only. The course is available from a number of training providers.

Skillnet Ireland

Skillnet Ireland is a government-backed, enterprise-led network of organisations providing training to employees, businesses and unemployed persons.
Check the Skillnet Ireland website for contact details: http://www.skillnetireland.ie.

19.6. Training in first aid

If an injury occurs on a farm, medical care is likely to be some distance away, and family members or others present may find that they have to provide first aid. A suitably stocked

first aid kit should be available at a convenient location. Training in first aid gives people the competence to deal with accidents and emergencies. Many organisations offer certified first aid courses. It is recommended that farmers and family members avail of some basic first aid training as a minimum.

20.0 Reporting of accidents and dangerous occurrences to the HSA

Key points

- A fatal accident where any work activity was involved is reportable.
- Non-fatal injuries where a person is unable to carry out their normal work for more than 3 consecutive days, excluding the day of the accident, must be reported.
- A non-fatal injury to a member of the public that requires medical treatment is also reportable.
- Diseases, occupational illnesses or any impairments of mental condition are not reportable.
- Fatal accidents must be reported immediately to the HSA or Gardaí. Subsequently, a formal report should be submitted to the HSA within 5 working days of the death.
- Non-fatal accidents or dangerous occurrences should be reported to the HSA within 10 working days of the event.

20.1. What types of accidents and personal injuries are reportable to the HSA?

An accident is an unplanned event resulting in death or an injury such as a severe sprain or strain (for example, manual handling injuries), a laceration, a broken bone, a concussion or unconsciousness.

The Safety, Health and Welfare at Work Act 2005 contains the following definitions:

> *'accident' means an accident arising out of or in the course of employment which, in the case of a person carrying out work, results in personal injury*
>
> '*personal injury' includes—*
>
> *(a) any injury, disease, disability, occupational illness or any impairment of physical or mental condition, or*
>
> *(b) any death,*

that is attributable to work.

Under the Safety, Health and Welfare at Work (Reporting of Accidents and Dangerous Occurrences) Regulations 2016 (S.I. No. 370 of 2016), only fatal and non-fatal injuries are reportable. Diseases, occupational illnesses or any impairments of mental condition are not reportable.

There are three situations in which an accident should be reported:

1. An accident arises in the course of employment resulting in personal injury to the person carrying out the work activity. This could be an injury to an employee who is actually doing the work.
   For example: A farm employee dislocates their shoulder while manually maneuvering a trailer onto the tractor hitch.
2. An accident arises in the course of employment which results in personal injury to an employee who was not doing the work that is the subject of the accident.
   For example: A tractor-driven mower strikes and injures an employee who is walking along a passage down to the fields.
3. An accident arises from a work activity which results in personal injury to a person outside of the course of employment. This could be an injury to a non-employee or member of the public.
   For example: A bale falls from a trailer in a farmyard and causes an injury to a neighbour who was visiting.

What dangerous occurrences are reportable?

The Safety, Health and Welfare at Work Act 2005 sets out a list of prescribed dangerous occurrences that have a high potential to cause death or serious injury (even if they do not actually cause death or a reportable injury).

Examples of dangerous occurrences that might arise on a farm include:

- an incident in which a silage harvester either comes into contact with an overhead power line in which the voltage exceeds 200V or causes an electrical discharge from such a power line or cable by coming into close proximity to it; or
- the collapse of a farm building.

Who is responsible for reporting?

Self-employed farmers, farmers with employees, landowners and tenants all have a duty to

report accidents and dangerous occurrences to the HSA.

Reporting requirements for employers

Fatal accidents in a workplace should be reported immediately to the HSA or to the Gardaí so that the necessary action, including any investigation by the HSA, can take place. Subsequently, the formal accident report form should be submitted to the HSA within 5 working days of the death. Non-fatal accidents or dangerous occurrences should be formally reported within 10 working days of the event.

Firstly, in relation to your employees:

You must report the death of an employee if it is the result of an accident while at work. The accident may have taken place either at your place of work or at another employer's place of work, or in a location other than the employee's normal place of work.

The following are examples of reportable fatalities:

- Your employee is fatally injured as a result of being hit by a delivery truck in your farmyard.
- Your employee is fatally injured while driving for work on a public road.
- Your employee is fatally injured while carrying out contract work for another employer at their farm.

You must report the injury of any employee as a result of an accident while at work where the injury results in your employee being unable to carry out their normal work for more than 3 consecutive days, excluding the day of the accident. In calculating the days, you should include weekends and other non-working days.

Secondly, in relation to non-employees (non-workers, members of the public, or employees of another enterprise) at your place of work:

You must report the death of a person who is not your employee and who is not at work, but who dies from an accident caused by a work activity at your place of work.

For example, if a member of the public is injured by your bull, and subsequently dies as a result of their injuries, then you must report that accident.

You must report the injury of a person who is not your employee and who is not at work but who is injured from a work activity at your farm if the injured person has to be taken from the

location of the accident to receive treatment in respect of that injury in a hospital or medical facility.

Reporting requirements for self-employed people and landlords/tenants

If a self-employed farmer is fatally injured while working at their own premises, the HSA will receive notification from the Gardaí or other emergency services. The next of kin is not required to report the incident to the HSA. Following investigation, the HSA will ensure that the necessary data are recorded on the approved form.

If a self-employed farmer suffers a personal injury as a direct result of a work event, then that person is required to report this if it has resulted in them being unable to do their normal work for more than 3 consecutive days, excluding the day of the accident or exposure.

If a self-employed person is in control of a place of work in which there is a dangerous occurrence, they must report this to the HSA.

If a landowner or tenant controls a place of work in which a self-employed person is fatally injured as a result of a work activity, the landlord or tenant is required to report this death to the HSA.

Accident reporting

You can report an accident to the HSA in two ways:

Online reporting

You can report accidents and dangerous occurrences online at www.hsa.ie

Reporting on paper IR1 form

You can also report accidents on the official IR1 form.

The paper form can be completed for accidents and sent to:

HSA Contact Centre

Health and Safety Authority

Metropolitan Building

James Joyce Street

Dublin 1

To request a hard copy of the IR1 form, please email contactus@hsa.ie or call 0818 289 389.

The HSA only accepts the pre-printed form published by the HSA; photocopies are not acceptable.
Enquiries about reporting accidents to the HSA, or about any other occupational health and safety matter, may also be made by email at wcu@hsa.ie.

Preserving the scene of a fatal accident
All fatal accidents reported to the HSA are investigated by inspectors. When employers or others notify the HSA of a fatal accident in a workplace, they should, if they have control of the scene of the accident, discuss with an inspector of the HSA the extent to which the scene is to be maintained.

The Gardaí will ensure that the scene is left undisturbed until the inspector commences an investigation. Where appropriate, access should be restricted and items should not be removed. Employers may, however, take such steps as are necessary to make the scene safe.

Appendix 1 Statistics

Figure 1; Trends in fatal farm accidents: 2016-2025

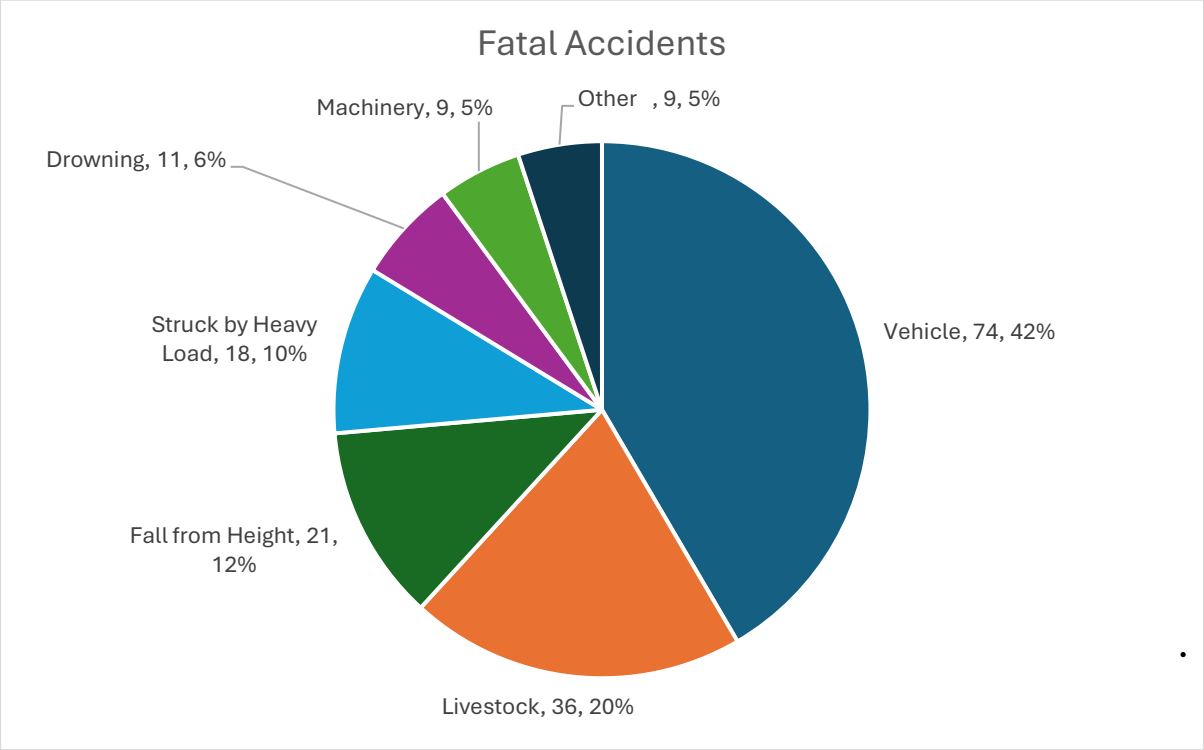
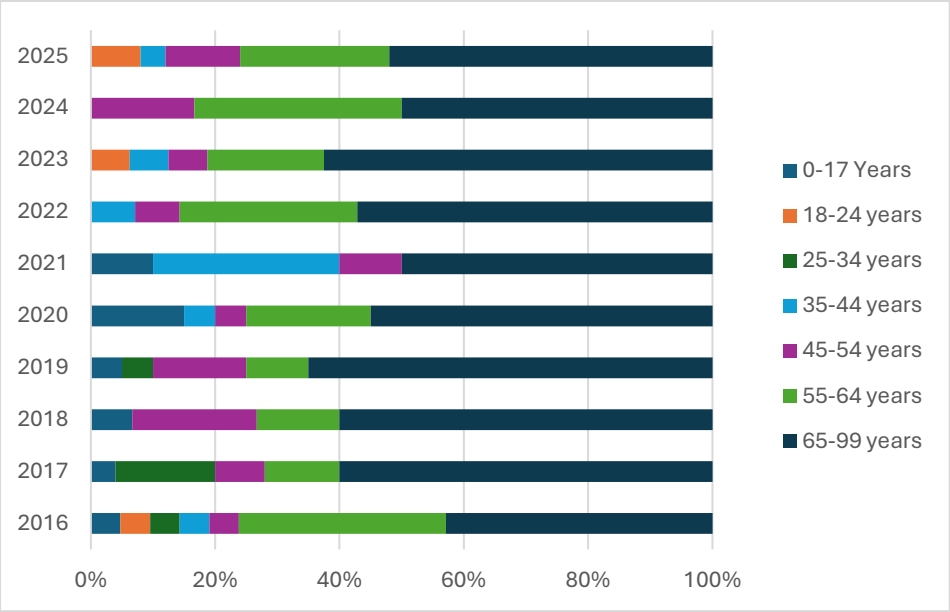


Table 1: Fatal farm accidents by month, 2021-2025

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
2025	1	2	1	3	4	4	1	3	0	0	3	3	25
2024	2	0	0	0	0	1	2	1	4	0	0	2	12
2023	1	0	0	3	3	1	0	1	1	1	4	1	16
2022	1	0	2	1	0	0	3	3	0	2	1	1	14
2021	0	1	0	1	0	1	1	1	2	1	1	1	10

Figure 2: Fatal farm accidents by age demographics, 2016-2025



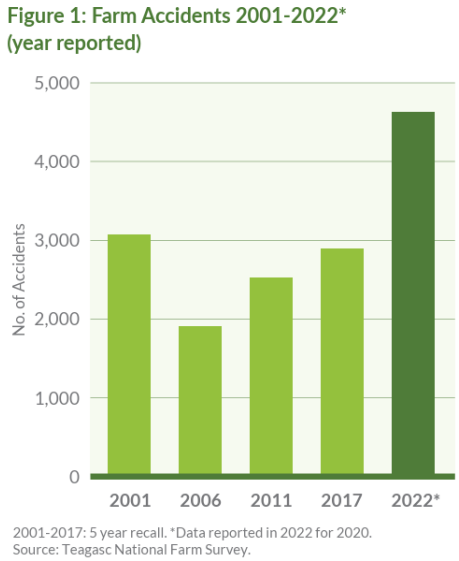
2. Non-fatal farm injury data

The Teagasc National Farm Survey (NFS) has been conducting farm accident surveys in Ireland for 30 years. The data collected provide farmers, policy-makers and health and safety advisors with estimates of the frequency of farm accident in order to assist with designing farm safety initiatives.

Earlier iterations of the surveys probed accident incidence using a 5-year recall, that is farmers were asked whether there had been an accident on their farm in the previous 5 years. In the most recent NFS, reported in 2022 for the year 2020, this approach was modified whereby farmers were asked to recall if any accidents had occurred on their farm in the previous year. While this may seem to be a minor change, it has important implications.

In 2020, 5% of respondents reported that there had been an accident that caused injury to them or someone else on their farm in the previous year. This is reflective of approximately

4,500 farm accidents nationally



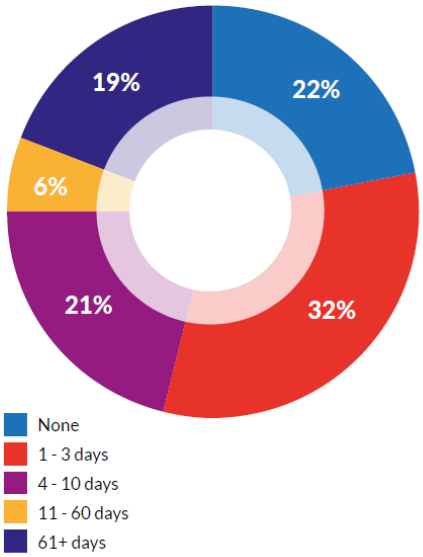
Farm accidents, 2001-2022* (year reported)

2001-2017: 5-year recall. *Data reported in 2022 for the year 2020. Source: Teagasc NFS

The prevalence of farm accidents in 2020 may seem to have increased compared to statistics for recent years. However, the change in methodology – that is, moving from a 5-year recall to a 1-year recall – means that respondents are more likely to remember and report less-serious injuries. Notwithstanding, 80% of accidents recorded as part of the 2020 NFS survey required medical treatment, with 46% of victims attending a hospital, a further 18% seeing a doctor and 16% requiring first aid.

This profile of medical intervention is reflected in the impact of injuries on the farmers' ability to work (see Figure 4).

Figure 2: Number of days unable to work due to a farm injury (Percent of all respondents)



Number of days individual was unable to work due to a farm injury (percent of all respondents

In 22% of cases, respondents indicated no work time lost. The highest proportion of respondents (32%) stated they had been unable to work for 1-3 days. A total of 21% of respondents reported a work time loss period of 4-10 days. A total of 2% and 4% of accidents, respectively, resulted in a loss of time worked of 11-30 days and 31-60 days, while 19% of respondents were unable to work for more than 61 days This loss of work time represents an area of concern, as 32% of respondents lost 1-3 days of work time, and almost 40% stated that they had no replacement labour available.

Farm type and location

Sheep farms accounted for 37% of reported workplace accidents, followed by dairy farms (25%), cattle-non-suckling (14%) and both cattle-suckling and tillage (12%). According to the 2020 survey, 52% of farm accidents occurred in the farmyard, with a further 26% taking place in farm buildings. One in 10 accidents were in fields, with 1% on farm roadways or lanes.

Causes

Data collected through the NFS not only quantifies the prevalence of farm accidents, but also their types. Data from 2020 indicates that almost half of all farm accidents involved livestock (47%), with close to one-third (29%) as a consequence of trips, falls or blows. In a further 11% of cases, the use of farm vehicles or machinery was a contributing factor. A

further 10% of farm accidents had, with 2% involving farm buildings.

Accidents on dairy and drystock farms were caused mainly by livestock. On drystock farms, 62% of accidents resulted from an incident involving livestock, 29% a result of trips and falls and 9% relating to farm machinery and vehicles. On dairy farms, accidents relating to livestock accounted for 37% of all farm accidents, with 29% a result of trips and falls, 28% relating to farm machinery and vehicles and 6% resulting from other factors.

Injured parties

According to respondents, 80% of on-farm accidents involved the farmer themselves, with 8% involving another family member and 1% the farmer's spouse. The remaining proportion of accidents involved farm workers (1%) and unspecified others (9%).

Taking age profile into consideration, the data indicate that 84% of farm accidents (where the farmer indicated their age) occurred on farms run by farmers aged over 50 years. Most (roughly 50%) of these accidents occurred to farmers aged 50-60 years, with a further 19% occurring to farmers aged 60-70 years.

Of the different types of farm accident by age group, those involving livestock were the most common across the age categories of 50-60 years and 60-70 years (64% and 62% respectively). Trips and falls accounted for 29% of farm accidents in the 50-60 years age category, with the equivalent figure across the 60-70 years age category similar, at 31%. Farm vehicles or machinery were cited as factors in 3% of accidents on farms in the 50-60 years age category, with the figure at 7% in the 60-70 years age category.

For those farmers aged under 50 years, over one-half of accidents (54%) were related to farm vehicles or machinery, with 30% relating to trips and falls, 8% involving livestock and a further 8% categorised as 'other'.

Source:
https://teagasc.ie/wpcontent/uploads/media/website/publications/2023/NFSfinalreport2022.pdf

The 2020 Teagasc NFS was conducted across a sample of 836 farms nationally representative of over 93,000 farms with a standard output of greater than €8,000 (approximately 16 suckler cows). The dataset does not include pigs or poultry systems. The survey was conducted by means of face-to-face interviews on a confidential basis by Teagasc NFS data recorders.

Statistics on farm fatalities do not provide the full picture, and they generally only represent the tip of the iceberg with regard to serious non-fatal incidents.

It is important to bear in mind that the statistics for non-fatal farm injuries are more difficult to compile than those for deaths. This is due to the gross underreporting of non-fatal incidents and injuries by farmers, with just 100 per year on average reported to the HSA, despite the legal obligation to report.

Farm Safety Action Plan (2021-2024)

The Farm Safety Partnership Advisory Committee is an advisory committee to the Board of the HSA and has the following terms of reference:

- to act as a consultative and advisory forum on the HSA's priorities for the agriculture sector;
- to develop and agree a national action plan, co-ordinating the actions of working groups and representative organisations;
- to identify, prioritise and progress key actions related to improving safety and health standards in the agriculture sector;
- to identify and agree the critical areas for action and establish working groups to assist in the achievement of the agreed actions;
- to co-ordinate the work of working groups to achieve agreed targets, including a reduction in injury and ill health and an improvement in compliance with occupational safety and health within the sector;
- to promote, influence and monitor this national action plan;
- to identify, support and promote appropriate research and liaise with the relevant working group and agricultural organisations in the practical implementation of research findings;
- to report regularly and formally, at least annually, to the HSA Board and provide a final report with proposed future actions following its 3-year term.

Appendix 2: Safety, health and welfare at work legislation

Safety, Health and Welfare at Work Act 2005

The objective of all health and safety regulations is to reduce human suffering and loss due to accidents and ill health in all sectors of work, including agriculture. It is difficult to measure the degree of suffering and hardship that the victims of farm accidents and their families endure. The benefits from complying with the law far outweigh the effort or cost involved in doing so. It is a matter of basic self-preservation. The risk of injury and ill health can be greatly reduced by complying with this legislation.

Health and Safety Authority

The Health and Safety Authority (HSA) is the state agency responsible for enforcing the laws on safety, health and welfare in the workplace in Ireland. The HSA consists of a Board and an Executive. The Board formulates overall safety and health policies, while the Executive, headed by a chief executive, carries out the work of the HSA.

The role of the HSA is to:

- enforce safety and health laws,
- review and propose new laws governing safety and health at work,
- provide information and advice on safety and health, and
- promote accident prevention in the workplace.

HSA inspectors carry out the law-enforcement function and inspect workplaces. They carry identification at all times. The main laws covering safe agricultural work, which the inspectors enforce, are:

- Safety, Health and Welfare at Work Act 2005,
- Safety, Health and Welfare at Work (General Application) Regulations 2007, and
- Various other regulations as they apply, such as the Safety, Health and Welfare at Work (Construction) Regulations 2013.

These laws place duties on all people involved in work activities, including employers, the self-employed and employees.

Duties of people at work

Duties of employers

If a farmer employs people, the Safety, Health and Welfare at Work Act 2005places with them general duties of care to ensure, so far as is reasonably practicable, the safety, health and welfare of all their employees.

These duties include providing:

- a safe place of work, including the farmyard, buildings, sheds;
- safe systems of work, including safe working procedures;
- safe equipment, plant and machinery for use on the farm (for example, tractors, balers and other machinery and tools);
- a safe way in and out of the farmyard and other workplaces (including farm buildings);
- information and training for all who work on the farm;
- personal protective equipment (PPE) where necessary;
- plans to deal with emergencies;
- a safe system for storing, handling and using articles (for example, angle grinders) and substances (for example, chemicals and pesticides); and
- adequate toilet and washing facilities.

Duties of the self-employed

Self-employed farmers are required to apply the duties of an employer to themselves. Most farmers fall into the self-employed category.

Duties of employees

Farm workers also have duties of care. They must:

- take reasonable care of themselves and others working with them;
- co-operate with their employer to enable them to comply with the law;
- make proper use of all machinery, tools, substances and so on, as well as any PPE provided by their employer (the farmer); and
- report to their employer any hazards they become aware of.

All employees have an obligation to work in a safe manner. Workers on farms must not

misuse or interfere with anything provided for safety. They must also put to good use any training and instruction which they have been given. Workers have the right to consult with their employer on matters of safety and health on the farm.

Duties of farmers to non-employees

Farmers must conduct their work in such a manner that other people are not put at risk (for example, visitors, especially children; contractors brought onto the farm periodically; and the general public). This obligation also applies to the control of animals, when crop spraying, slurry-spreading and so on.

Requirement to take 'reasonably practicable' measures

In relation to the duties of an employer, the term 'reasonably practicable' means that an employer (or self-employed farmer) must:

> "having identified the hazards and assessed the risks to safety and health which may result in accidents or injury to health, exercise all due care by putting in place the necessary protective and preventive measures, unless doing so is grossly disproportionate to the risks involved, having regard to the unusual, unforeseeable and exceptional nature of any circumstances in question"

In other words, you must do what seems reasonable to do to ensure the safety and health of everyone at work or who may be affected by a work activity. The purpose of a HSA inspection is to make sure that the farmer has in place a system for managing safety and health.

Enforcement

Powers of inspectors

HSA inspectors have the power to enter any place of work at any reasonable time for the purpose of inspection, accident investigation and the like. It is an offence to obstruct an inspector in the course of their duty.

Where an inspector observes a serious breach of the law, they may serve an IMPROVEMENT NOTICE on the farmer, giving a specified timescale to put things right.

Where this breach constitutes an imminent risk to the safety and health of the farmer or others, the inspector may serve a PROHIBITION NOTICE on the farmer, requiring work to stop immediately.

Independent surveys have shown that a farm visit by a HSA inspector is a generally positive and beneficial experience.

Penalties

If a farmer does not comply with the law or with advice or notices issued by an inspector, this may lead to prosecution. The maximum fine in the District Court is €5,000 per offence and/or 12 months in jail. In the case of conviction on indictment, a penalty of up to €3 million and/or 2 years in jail may be applied.

Appendix 3: Examples of farm safety signs

Notes

There is a way to Farm Safely

Health and Safety Authority
Tel: 0818 289 389

www.hsa.ie

ISBN xxxxx