

THE ESSENTIAL HEALTH & SAFETY GUIDE FOR HORTICULTURE



Table of Contents

Page

The Importance of Health & Safety in the Workplace

3

- Causes of accidents
- Consequences of accidents
- Ensuring Health and Safety for all employees

Hazards in the Workplace

11

- Manual Handling
- Working with Machinery
- Slips, Trips and Falls
- Safety with Electricity
- Safety with Chemicals

Emergencies

33

- First Aid
- Fire

Ensuring your Health, Safety & Welfare

37

- Protecting your health
- Personal Protective Equipment & Clothing
- Employee Welfare
- General

This leaflet does not represent a legal interpretation of the legislation

FOREWORD

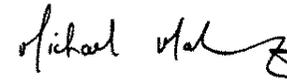
The Irish horticulture industry is Ireland's third largest agricultural enterprise. As an industry, over 18,500 people are employed on a full time basis across the food and non food sectors.

In more recent times, this labour intensive industry has relied heavily on migrant workers. Current estimates indicate that 4 in every 10 horticultural workers at primary production level are employed from outside Ireland. Many of these employees have a limited understanding of the English language.

Working on the land is well recognised as an occupation which has a high level of accidents – horticulture is no exception to this rule.

In an attempt to communicate the key messages of health and safety awareness and accident prevention in the workplace, Bord Glas and the Health and Safety Authority have come together to compile this publication. "The Essential Health and Safety Guide for Horticulture" should serve a useful tool for everyone in the industry, whether self employed, employer or employee.

In particular, this joint initiative recognises the multicultural nature of the horticultural workforce and aims to ensure that all workers in horticulture have a clear understanding of the risks in the workplace and the actions required to avoid accidents. This guide has been published in five different languages: - English, Latvian, Lithuanian, Polish and Russian.



Michael Maloney
Chief Executive
Bord Glas



Tom Beegan
Chief Executive
Health and Safety Authority



The Importance of Health & Safety in the Workplace

3

In horticulture generally;

- The same types of accidents occur each year – **predictable!**
- Most accidents are **foreseeable** and **preventable!**
- There is currently a **reliance on good luck** rather than good management!

Causes of Accidents

- Lack of information, instruction, training and supervision
- Unnecessary risk taking/cutting corners
- Incorrect manual handling techniques
- Unsafe work at heights
- Unsafe systems of work
- Slips, trips and falls
- Working when tired and exhausted

4



5

Consequences of Accidents

The Victim

- May experience significant pain, suffering and trauma
- Hospital and medical expenses
- Inability to work – possibly for a long period
- Economic pressure on victim to support self and family
- May result in long-term injury or death
- May involve having to be re-trained
- Low morale

The Employer

- Increased cost in terms of recruitment and training of replacement employee
- Increase in insurance cost and medical fees
- Possible legal cost involving civil actions or criminal proceedings
- Time taken for accident investigation
- Resultant damage to machinery, equipment and buildings
- Adverse publicity – loss of reputation
- Loss of output

6



Ensuring the Health and Safety of all employees

Essential Health and Safety requirements will be provided by your employer and will focus mainly on the following five areas;

1. Initial Induction Training

This training programme should address the following key areas:

- A concise overview of the scope and nature of the industry in which you are employed.
- Emphasis on the importance of observing Health and Safety Procedures in place so as to prevent accidents.
- The importance of co-operating with your employer in the Safety Action Programme in place.
- A clear explanation of the disciplinary actions that will follow in the event of deliberate breaches of Health and Safety Procedures.
- The role and importance of the Safety Statement in accident prevention.
- The training should also include reference to environmental issues, hygiene and quality food production etc.

7

Safety Statement:

It is a written document aimed at minimising exposure to risk of injury or ill-health for all employees at a workplace or who may be affected by that work.

The duty of preparing the Safety Statement is placed on the Employer.

The Statement must set out in writing the health and safety measures taken to protect workers. In turn workers must co-operate with employers in order to achieve this.

The employer must identify the hazards e.g.,

- Operation of machinery
- Working at heights
- Use of equipment
- Manual handling
- Noise
- Harmful dusts
- Exposure to chemicals etc.

In the Safety Statement your employer is obliged to carry out three steps:-

1. Identify all the hazards
2. Carry out Risk Assessments
3. Include the steps that need to be taken to control the risks in respect of each hazard

8



Hazard Anything that can cause harm

Risk The likelihood, great or small, that someone will be harmed by the hazard, together with the severity of harm suffered

2. Risk Assessment

Risk Assessment: The careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm, e.g. machinery, work equipment, electricity and systems of work.

Controlling Risk: The law requires that you do all that is reasonably practicable to ensure that the hazard will not injure anyone.

Risk will depend on circumstances

- Is anyone exposed to the hazard?
- Is the hazard likely to cause injury?
- How serious would the injury be?
- What steps have been taken to ensure that the hazard will not cause harm?
- Is there adequate supervision?
- Is there adequate training provided?

Risk Assessment is an examination of the risks which will indicate the safety measures already in place. It will also indicate whether the steps taken are adequate or whether more needs to be done.

3. Manual Handling Training

Training should be provided on an organised group basis by a competent training company. Such training will be focused on the specific tasks you perform in your day to day work e.g. manual handling techniques, safe use of chemicals.

4. Machine & Equipment Training

Your employer must provide you with appropriate training in the safe use of machinery and equipment.

In relation to fork lift truck training your employer should provide basic training in accordance with the Code of Practice for rider-operated lift trucks - operator training.

5. Communication

It is imperative that a two way communication process exists between employers and employees. This can be achieved through;

- Periodic training programmes
- On-going supervision
- Health and Safety meetings
- Sign posting hazardous work areas and machines with safety signs



Hazards in the Workplace

11

1. Manual Handling

Manual handling of loads includes lifting, carrying, pulling, pushing and moving or supporting a load.

Faulty manual handling may result in back injury, sprains, hernias or swelling of the wrist, hand, forearm, shoulder and elbow. Of all absences from work, in excess of three days duration, over 30% involve injuries while handling, lifting and carrying.

To avoid the risk of injury

- Ensure that you have received training in manual handling.
- Assess the load in terms of weight, size, shape and available grip.
- Ask for assistance if the load is too heavy or awkward to move.
- Place yourself correctly with feet flat on the ground.
- Keep your back straight.
- Bend your knees and get in close to the load.
- Grip the load firmly and bring it in close to your body.
- Using your leg muscles raise the load without snatching or jerking.

12

- Raise your chin before lifting.
- Don't let the load obstruct your view and ensure the route is clear before you move.
- Avoid repetitive bending or twisting.
- Be especially careful where floors may be slippery, uneven or unstable.



Remember

- Many workplace injuries are caused by poor manual handling practice.
- More often than not, inappropriate manual handling techniques carried out over a long period of time result in back injuries rather than the once off 'heavy lift'.



2. Working With Machinery

Accidents are caused by

- Working with unguarded or inadequately guarded machinery.
- Ignoring warning signs, statutory notices and safe working procedures.
- Approaching or working in the vicinity of operating machinery.
- Blockages being cleared or while the machinery is being cleaned or maintained.
- Working on machinery which is at rest if safeguards are not in place to prevent it from being started by third parties.
- Lack of training or knowledge of safe working procedures.
- Not reporting defects to your employer.
- Operating machinery if tired, distracted or lacking experience.



Accident prevention during machinery operations

- Ensure that you have been properly trained in the use of the machine.
- Ensure that all guards are in place before operations commence.
- Switch off machine before you clear blockages or carry out any maintenance work.

Machinery accidents – main causes

- Entanglement with moving parts of the machine.
- Being trapped between the moving parts.

15

- Being struck by parts or material ejected from the machinery.
- Being struck by moving machinery.
- Being trapped by a moving machine and a fixed object.
- Through clothes becoming caught and drawn into the moving parts.

Safeguarding Machinery

Many serious accidents involve the operation of machinery. Some of these accidents may prove fatal. Often these occur because adequate guarding has not been provided or the guards may have been left off.

Repair and maintenance of machines may necessitate the removal of the guards and many times, in the rush to complete the job, the guard has not been refitted. Tractors and machinery must never be used unless all guards are in place.

You must ensure that the following safeguards are in place before operating any machinery with hazardous features. Some examples are given overleaf:

16

Type of hazard	Type of guard
Machinery powered by drive shafts e.g. PTO shafts	PTO shaft guard enclosing entire length of rotating shaft.
Crop intake machinery e.g. potato harvester, bark chipper	Fixed distance guards
Machinery with rotating flails and tines e.g. composters, rotavators, strimmers	Fixed distance guards
Hydraulically raised trailers which may descend suddenly as a result of hydraulic failure	Use mechanical restraining devices against sudden loss of pressure.



Accident Prevention when operating tractors and machinery

Stopping Tractors

- Apply handbrake
- Stop engine
- Remove key
- Leave in gear

Operating Tractors

- Never operate a tractor or other machinery unless you are authorised and trained to do so.
- Make sure that you understand the controls.
- Check that independent brakes are locked together.
- Check that no one else is near before you start the engine and that no one is in danger before you move.
- Check that brakes and steering operate correctly.
- Check where others are working and make sure that you can see them.
- Follow safe working procedures.
- Never allow children to ride on tractors or machinery.

Operating Machinery

- Never use a machine unless you are authorised and trained to do so.
- Never attempt to clear blockages or clean a machine unless the drive is disconnected and the machine is stationary.

- Never wear chains, loose clothing or have loose long hair, which could get caught up with moving parts.
- Never distract people who are working machines.
- Never dismount from a moving tractor or other self propelled machine.
- Keep all guards in position.
- Check that controls are clearly marked to show what they do and which machine they control.
- Check that you are provided with and use necessary protective clothing.
- Report all defects to your supervisor immediately.
- Ensure that all P.T.O. shaft guards are the correct size and length for the shaft.
- Check that the P.T.O. guard does not rotate and that the restraining device is in place.

All Terrain Vehicles (ATV's)

- Do not use an ATV unless you have received adequate training.
- Always wear head-protection when using an ATV.
- Never carry passengers.
- Keep speed down particularly on uneven surfaces.
- Remember that increasing speed increases vehicle instability and the risk of overturning.
- Follow the rules provided at training when driving on slopes and rough terrain.
- Never exceed the towing capacity of the ATV.



21

3. Slips, Trips and Falls

Slips, trips and falls occur as a result of



- Untidy workplaces
- Working at heights
- Using ladders
- Wet floors

- Working on or near fragile roofs and roof lights
- Working near open edges
- Working on platforms on fork lift trucks
- Falls from tractors and machinery

Accident prevention

- Ensure that workplaces are kept tidy and clean and free of obstacles.
- Store tools, equipment, cables and containers by careful storage or stacking.
- Avoid tripping hazards such as trailing cables, tools etc.
- Ensure that walkways are kept clear at all times.

22

- Do not use a forklift truck as a high level working platform unless it is fitted with a proper cage secured to the forks. The truck must be controlled from within the cage.
- Where platforms are more than 2m above the ground, ensure that the edges are fenced with a 1m high-guard rail.
- Ensure all openings in floors are covered or that a secure fence has been erected around them.
- Do not use staircases unless substantial hand-rails have been fitted.
- Ensure that all spillages on floors are immediately cleared up and warning signs erected.

Ladder Safety

- Make sure that the ladder is secured against slipping by tying it at the top.
- Make sure the ladder is resting on a level and firm foundation and never placed on an unsteady base e.g. rubble, oil drums or boxes.
- The ladder must be securely anchored at the base or have someone hold onto it.

- Ladders must extend 1m above the landing place-otherwise ensure that there are firm handholds in place.
- Set the ladder at the correct angle. It must be angled one out for every four up.
- Always check ladders before use for defects and report such damaged ladders to your employer.
- Never place ladders where there is danger from moving vehicles or overhead electric cables.
- Maintenance work on glasshouse roofs should be undertaken only by competent individuals.





4. Safety with Electricity

Accidents involving the use of electricity can cause deaths or serious injuries from burns. Many of these accidents are caused by contact with overhead power lines or underground cables.

Remember that electricity can jump gaps when equipment or machinery gets close enough – you do not need to contact overhead powerlines to be injured.



Ensure that....

- You check all portable electrical tools particularly their flexible leads and plugs for any defects before use and report such defects to your employer.
- All socket outlets are protected by an RCD (Residual Current Device).
- All damaged cables are repaired or replaced immediately.
- All electric tools used outdoors are operated at reduced voltage (110v) and connected through an RCD.
- The test button on RCDs is checked periodically to ensure it is operating effectively.
- You unwind fully the cable from an extension reel or drum when using electrical appliances – otherwise there is a risk of overheating and fire.

Take care not to

- Work under overhead power lines without using a safe system of work.
- Allow any part of a machine e.g. crop sprayer, ladder, or irrigation pipes within 15m of an overhead cable.
- Store machinery against poles or stay wires.
- Use any mechanical digger where there may be underground cables. Ensure that your employer checks out and marks their location.
- Use any machines unless the power cables are suitably protected e.g. armoured cable covered in thick flexible rubber or neoprene and have an earth connection.
- Overload sockets by using adaptors – danger of fire.
- Use socket outlets outdoors in damp conditions unless they are of the appropriate industrial type to protect against rain, splash, and use of water jets. Do not use domestic type sockets, plugs or switches.
- Start any maintenance or repair job unless the equipment or machinery has been switched off, locked off, or unplugged.
- Move tall machinery or high loads under or in the vicinity of overhead lines unless the clearances have been checked and are safe.
- Touch or go near fallen wires.





5. Chemical Safety

Chemicals are used routinely in the horticultural sector. Accidents involving the use of chemicals can have serious and often long lasting consequences for victims. Your health can be affected if the chemical finds its way into your body through:

- Breathing in contaminated air through the nose and lungs.
- The mouth by ingestion, if you touch your mouth after you have handled chemicals or swallow some accidentally.
- Skin contact even when there are no wounds or scratches as some chemicals can be absorbed through the skin.

When chemicals enter your body, they then pass into the blood stream, which can carry them to the liver, kidney, brain and nervous system and may result in serious and often long lasting damage.

Substances harmful to your health include; pesticides, herbicides, fungicides, insecticides, disinfectants and cleaning materials.

Understand the symbols

Chemical Description	Symbol	Harmful Effects
Harmful/Toxic		Act like poisons causing nausea, vomiting, headache, dizziness and breathing discomfort.
Corrosive		Burns to skin and eyes. If breathed in, can cause burns to the lining of the nose, throat and lungs.
Irritant		Irritation to eyes, throat, nose and skin. May cause an allergy.
Flammable		Vapours may lead to fire even at room temperature.
Oxidising		Can cause a fire.
Explosive		Can explode when exposed to heat, shocks or friction.

Precautions to take

- Ensure that you have received training in the use or application of chemicals.
- Always wear protective clothing and appropriate breathing masks.
- Ensure that you clearly understand the message conveyed by chemical symbols.
- Cooperate with your employer in the steps taken to avoid injury.

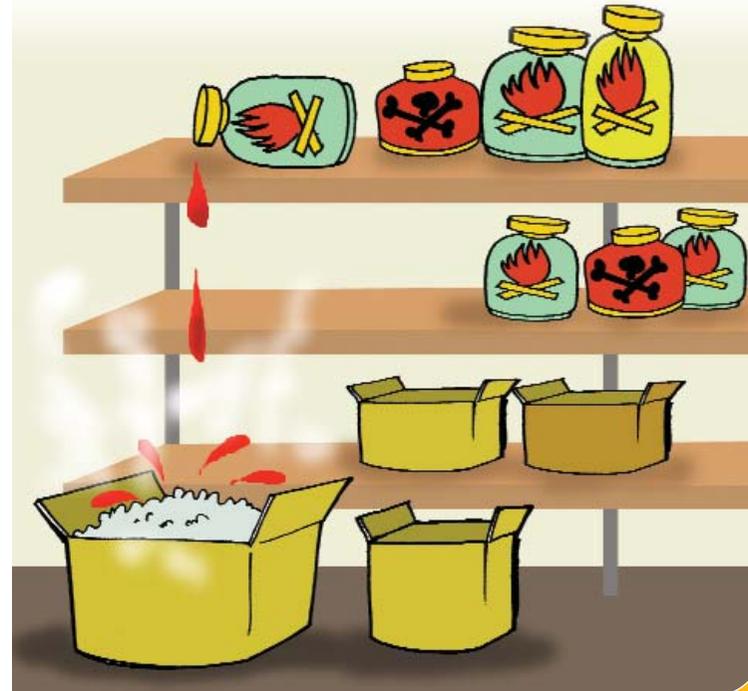


- Do not smoke, eat or drink in chemical handling areas and do not keep food there.
- Do not transfer contamination e.g. by putting pens and pencils in your mouth.
- Ensure thorough washing of your hands before leaving your workplace.



- Be especially careful when handling concentrated chemicals to avoid splash-back to eyes, face and hands.
- Never store chemicals in containers such as milk bottles or soft drink containers.
- Ensure that chemicals are replaced in the secure and locked store after use.

- Be aware of the emergency measures in place in case of accident.
- Do not remove or damage the labels on containers.





Emergencies

33

1. First Aid

Immediate and proper examination and treatment of injuries may save your life. Neglect or poor treatment of even a trivial injury may lead to infection and ill-health.

It is essential that:

1. Your workplace will have provided first-aid equipment appropriate to the type of work you are carrying out.
2. You know where the first-aid box is located and who is appointed to look after first aid.
3. First aid boxes must contain:
 - Adhesive plasters
 - Individually wrapped triangular bandages
 - Safety pins
 - Large individually wrapped sterile unmedicated wound dressings
 - Individually wrapped wipes
 - Paramedic shears
 - Pairs of latex gloves
 - Sterile eye wash
4. Where you are working remote from emergency medical services you should be provided with a first aid kit – the contents of which must be the same as listed above.

34

5. Telephone numbers of emergency services are displayed in a prominent area in the workplace ie., canteen, office.

Emergency Procedure

- Keep all emergency access ways and escape routes clear.
- Ensure that you are familiar with all emergency procedures at work e.g. fire drills, chemical spills etc.
- Know who must raise the alarm.
- Know where to go to reach safety.
- Be familiar with emergency signs and notices.
- Never smoke or use other ignition sources banned in areas where gases or flammable liquids are stored or used.



35

2. Fire

Fire and Evacuation Plan

In the event of a fire, all personnel leave the workplace and assemble at the front entrance. The most senior member of management on duty or designated fire officer will ensure that a head count is carried out to determine if any person(s) is/are missing. Any action to be taken to tackle the fire will only be dealt with after establishing where all personnel are.

Facilities for Evacuation

All doors leading to the outside have exit signs on them – they will not be locked while people are still working.

Fire Fighting Facilities

Extinguishers must be located at designated points in the workplace and regularly inspected.

36



Ensuring your Health, Safety & Welfare

37

1. Protecting Your Health

Health problems can arise in the industry and may develop unnoticed. The best way to protect your health is by being aware of the risks, minimising them and reporting the illness to your employer as soon as symptoms show.

1. Skin problems

Causes

- Damage to skin caused by cuts, abrasions or punctures.
- Exposure to cold and wet leading to dryness and chapping.
- Frequent immersion in water removes natural oils from skin.
- Exposure to chemicals.
- Over-exposure to sunlight.

38



Consequences

- Dermatitis
- Wound infections
- Skin cancers
- Sun burn
- Sun stroke

Prevention

- Wear suitable gloves and protective clothing when handling chemicals.
- Ensure respiratory protective equipment is well maintained and that filters are replaced as required.

- Wash your hands to remove harmful substances.
- Apply industrial barrier creams.
- Cover cuts and abrasions with waterproof adhesive plasters.
- Treat minor infections immediately.
- Don't over expose yourself to the sun - use sunscreen as appropriate.
- Keep an eye on warts, moles and skin discolourations and report them to your employer if they grow, bleed or itch.

2. Weils Disease

Can be contracted from materials contaminated with rats' urine. Symptoms include feverish illness and headaches and can result in meningitis.

Prevention

- Ensuring good personal hygiene. Wash before eating, drinking or smoking.
- Wear protective gloves when handling materials likely to be contaminated.

3. Mushroom Workers Lung

Workers, including pickers, in the mushroom industry may develop an allergy caused by inhaling spores produced by open mushrooms.

Symptoms of infection include fever, headaches, shivering, muscle pains and breathlessness. If not treated early then permanent lung damage may result.

Prevention

- To protect against the inhalation of spores use an appropriate face mask or respirator.

2. Personal Protective Equipment and Clothing

- Your employer will provide you with Personal Protective Equipment (PPE) and Personal Protective Clothing (PPC) as appropriate.
- You have a legal duty to make proper use of PPE and wear PPC in accordance with instructions and to return it to storage after use.
- Report any defects to you employer.

3. Employee Welfare

- Your employer will have provided adequate welfare facilities including toilets and wash-up areas.
- Washing facilities will have adequate lighting and will include running hot and cold or warm water as well as soap and clean towels.
- You must ensure that they are kept clean and tidy.
- You will be provided with a supply of drinking water.
- Your employer will have provided you with a room where you can sit and make hot drinks and prepare food.



1. Smoking

- Employees and any other persons (e.g. visitors, or customers) are not permitted to smoke in an enclosed workplace and must comply with the legislation in this regard.
- Further information on Smoke Free at Work is available from the Office of Tobacco Control (www.otc.ie) or your local health board.

2. Workplace Bullying

Your employer will have prepared an effective anti-bullying policy based on the code of practice on the prevention of workplace bullying.

3. Dangerous Tasks

Your employer will define such dangerous tasks which must not be undertaken by you based on a risk assessment of such tasks e.g. work on glasshouse roofs, operation of certain machinery for example skid steers in confined spaces, use of chainsaws.

4. Working in the Construction Industry

Your employer will arrange that you attend a one-day safety awareness training course (Safe Pass Training) if your work involves working on a construction site e.g., employees in the landscaping sector.

4. General Duties of Employees

(Section 9 of the Safety Health and Welfare at Work Act 1989)

It is the legal duty of every employee while at work:

- To take reasonable care to avoid injury or ill-health to himself/herself and not to be responsible for causing injury or ill-health to others.
- To co-operate with his/her employer in complying with the Act.
- To use all items such as Personal Protective Equipment (PPE) and Personal Protective Clothing (PPC) in a safe manner.
- To report to his/her employer or supervisor any defects or faults they observe in machinery, equipment and place of work or system of work which might be a safety or health hazard.



Bord Glas
Commercial House, West End Commercial Village,
Blanchardstown, Dublin 15, Ireland.
Tel: 353 1 803 0398 Fax: 353 1 803 0399
Email: info@bordglas.ie
Web: www.bordglas.ie



Health & Safety Authority
Headquarters, 10 Hogan Place, Dublin 2, Ireland.
Tel: 353 1 614 7000 Fax: 353 1 614 7020
Email: web-info@hsa.ie
Web: www.hsa.ie