

Ceres Rural – Health & Safety Bulletin

Introduction

Welcome to Ceres Rural's Health & Safety Bulletin. Each quarter, we update you on industry news, topical issues, and safety alerts with the aim of supporting you in achieving best practice on your farm or estate. This edition looks at the concerning statistics published by the Health & Safety Executive (HSE) which record 41 fatalities in the 2020-21 year. Simple steps can be followed to make tyre inflation safe when preparing for autumn cultivation and drilling. The Health & Safety Executive's Fee For Intervention (FFI) has increased to £160 per hour. Air compressors are a potential hazard if not maintained correctly and should be checked at regular intervals. Power take-offs (PTOs) remain one of the oldest and most persistent hazards associated with farm machinery. Shooting is a potentially contentious sport and vigilance is required following a recent data breach which caused gun owners' names and addresses to be shared online.



Woeful Statistics

Figures published by the HSE report 41 fatalities in agriculture in the 2020-21 year. The number of deaths is 18 more than the previous year and 8 more than the 5 year average of 33. It is also the highest number of deaths recorded in the last 5 years. More than half of the workers killed were aged 60 or older, however the youngest person killed was a 2-year-old child who died of asphyxiation following exposure to slurry gases. 6 other members of the public were also killed including a 13-year-old who overturned a quad bike and died from neck injuries having not worn a helmet.

The most common causes of fatalities include being struck by moving vehicles, killed by animals, contact with machinery, being struck by an object, and falls from height.



Agriculture now has a fatal injury rate (the number of fatalities per 100,000 people employed) of 11.37, compared to a 5 year average of 8.44 and being 20 times higher than the all industry rate. When comparing age groups, the fatal injury rate is over 4 times higher for those aged 65 and over compared to the 16-24 year age bracket, and around 3.5 times higher for those aged 60 and over compared to the under 60s.

There arguably continues to be a correlation between numbers of fatalities and areas of the United Kingdom (UK) which are more geographically remote. For example, there was 1 death in the East Midlands, none in the East and 2 in the South East, in comparison to 8 in the South West, 7 in Wales, 5 in the North West and 5 in Scotland. This may be because farming systems are more extensive, the average age of farmers and workers is higher, there is more lone working, and help is further away, both in terms of distance to travel and time to arrive.

Sadly, the pattern continues: there were 4 fatalities in 2 weeks at the end of July and start of August including a fall from height in Scotland, a 3-year-old suffering a fatal collision with a vehicle in South Wales, crush injuries caused by a ramp falling from a truck in Hampshire, and a suspected cattle trampling in Wiltshire.

Tyre Inflation

In May 2021, the HSE released an initial notification of an agricultural fatality caused by a tractor tyre undergoing inflation bursting and resulting in serious head injuries. This tragic incident provides a stark reminder that, when inflating or adjusting the inflation of tractor and implement tyres in preparation for autumn cultivation and drilling, parts of either the tyre or wheel can be thrown violently and explosively with large force as the stored energy is released.

Simple steps can be taken to make the process much safer:

- Examine wheels and tyres externally and internally for signs of damage.
- If in doubt about possible damage, do not reinflate the tyre.
- Use a cage, clamp or restraints when inflating tractor or farm vehicle tyres.
- Where the tyre is fitted to the vehicle, position the vehicle close to a wall or barrier and use a long reach hose to stay clear.
- Do not use 'unrestricted' airlines (without a gauge or pressure control device) or valve connectors that need to be held in place when inflating tyres.
- Use airline hoses long enough to allow the operator to stay outside the likely explosion path during inflation.
- Watch and listen for signs that might indicate a failure.
- If a problem is suspected, do not approach the tyre to deflate it.
- Change large tractor wheels with a mechanical handling trolley.



Fee for Intervention

The HSE's Fee For Intervention (FFI) has increased to £160 per hour.

Businesses found to be in material breach of health and safety law will be informed by the HSE through a notice of contravention, improvement or prohibition notice, or prosecution. The FFI enables the HSE to recover costs incurred during the inspection, investigation, and enforcement process. It is chargeable only by the HSE and does not apply if a business is inspected or investigated by another regulator.

The FFI is based on the amount of time spent by the HSE on the case and was recently subject to an inflationary increase of 2.2% from its previous level of £157 per hour.

Air Compressors

Air compressors are a common feature of farm or estate workshops and whether they are used for inflating tyres, clearing machine radiators or operating pneumatic tools, they are a potential hazard if not maintained correctly. Compressed air itself is a safe, reliable form of power which is flexible, odourless and non-toxic, but it too can be dangerous if not used responsibly.



The Health & Safety at Work etc. Act 1974 sets out that the employer has a responsibility to provide a safe working environment. The Provision & Use of Work Equipment Regulations 1998 state that work equipment must be maintained in an efficient state, in efficient working order and in good repair. The Pressure Systems Safety Regulations 2000 cover the safe design and use of pressure systems. The HSE provide guidance in their publications, *Compressed Air Safety* (HSG39) and *Safety of Pressure Systems* (L122) while British Standard BS6244 is a code of practice for air compressors and sets out standards for their installation and operation.

The major hazard with air compressors is over pressurisation due to:

- Blocked outlets or other restrictions to air flow.
- Failure of automatic controls combined with low air consumption.
- Compressor malfunction.
- External fire near the pressure system.
- Overheating, accumulation of carbonaceous deposits leading to fire or explosion.
- Fire or explosion due to oil or oil vapour being ignited in the pressure system.

Air compressors should be checked at regular intervals, those rated in excess of 250 bar litres must have a written scheme of examination and statutory inspection in accordance with the written scheme. Most insurers offer this service as part of their machinery policy but it is up to you to ensure these inspections are carried out.

PTO Safety

PTOs are the power source for many implements attached to and powered by tractors and rotate at either 540rpm (9 times per second) or 1,000rpm (16.6 times per second). Every year, people are seriously injured in accidents involving PTOs. These accidents are often fatal but are preventable if the PTO and PTO drive shaft are properly fitted with guards which are correctly used and maintained. This is a requirement of part 11 of the Provision & Use of Work Equipment Regulations 1998 which explains that, “every employer shall ensure that measures are taken... to prevent access to any dangerous part of machinery.”



In 2020-21, the HSE report that 6 people were killed by contact with machinery. This included a 76-year-old self-employed farmer in the South West who was killed after being caught up on a baler's unguarded PTO shaft. He had left the tractor cab with the engine running and PTO engaged, and died from serious injuries. At a time of year when mowers, toppers, power harrows and other such implements are in frequent use, this serves as a timely reminder that PTOs are one of the oldest and most persistent hazards associated with farm machinery.

PTO guards should have flexible end cones, a heavy duty plastic telescopic section, and should be capable of being easily removed and replaced to allow for regular maintenance. PTO drive shafts should be enclosed with guards along their full length from the tractor to the first bearing on the implement. It is essential that the groove in the yoke of the PTO shaft is clean, undamaged and in good condition and the correct bearing ring is fitted so the PTO shaft, guard and bearings can turn freely.

When maintaining PTOs:

- Lubricate the bearings regularly as recommended by the manufacturer (do not over grease the bearing as the excess grease will attract dirt and dust).
- Clean the inner and outer sliding surface of the telescopic section of the guard daily or more frequently if the manufacturer recommends it (do not lubricate the sliding section of the guard with grease unless the manufacturer requires it).
- Regularly remove the guard and clean the shaft with penetrating oil.
- Make sure the u-guard on the tractor is in good condition (if bent, it will damage the end of the PTO guard).
- Make sure the o-guard fitted to the implement is the correct size to suit the PTO guard.
- Make sure the u-guard on the tractor and o-guard on the implement overlap the PTO shaft guard by at least 50mm.
- Make sure the PTO shaft and guard are the correct length for the machine (the PTO guard telescopic section should be slightly shorter (not by more than 25mm) than the length of the telescopic halves of the PTO drive shaft).

- Lubricate the sliding metal PTO drive shafts as recommended by the manufacturer (usually before starting work and after every 8 hours of use).
- Make sure the button on the end of the PTO shaft moves freely as the shaft and guard can be damaged if the button or the end of the shaft is hammered into position.
- Keep the tractor's rear lower lift arms in a position to avoid them striking the PTO shaft or guard when the tractor is turning (if making tight turns, reduce the PTO speed or disengage the PTO drive to protect the shaft).
- Keep the restraining chains in place and securing them to a suitable point on the tractor and implement (this is usually near the o-guard on the implement and u-guard on the tractor).
- If using a bellows type PTO guard, make sure the ends of the guard are held correctly in place at both the tractor and implement, to ensure the drive shaft is fully enclosed in the guard and replace if necessary.
- If buying a new PTO shaft for heavy drive machines (such as forage harvesters or feeder wagons), make sure the shaft is heavy duty and suitable for the job.
- Consider fitting a PTO shaft with a wide-angle universal joint on machines like balers, mowers and slurry tankers.
- Make sure drawbar pins on trailed machines do not foul and damage the PTO shaft or guard.

When using a PTO as the power source for an implement, always use the SAFE STOP procedure, ensuring the PTO clutch is disengaged and the tractor is switched off and the key removed. Accidents involved PTOs result in life-changing outcomes.

Shoot Disruption

With the shooting season soon to begin, it should be remembered that shooting is a potentially contentious sport. At the time of writing, animal rights activists are believed to be targeting farmers who own guns after a data breach caused thousands of names and addresses of gun owners to be shared online. Farmers Weekly noted on 8th September 2021 that, "the National Crime Agency is responding to reports that personal data leaked from the client records database of the gun-selling website Guntrader is being used by campaign groups to deliberately target licensed gun owners."



Unless being used, firearms should be locked securely in an approved gun cabinet, the keys for which should not be hung where they can easily be found and should ideally be stored in a locked drawer or safe. The gun cabinet should be secured firmly so it cannot be easily removed, usually by bolting it to a wall, floor or joist. Keeping the cabinet in a corner position will make it harder for a thief to attack.

When in transport, firearms stored in vehicles present a higher risk of theft and should be kept out of sight. Similarly, materials such as ammunition should not be dropped, left on seats or in door pockets or glove compartments, as these all suggest the nearby presence of a firearm. Vehicle-mounted gun safes are also available. Remain vigilant when carrying firearms, especially when arriving at or leaving well known shooting venues as criminals or campaigners may target these areas to obtain information and steal firearms.

In the event of shoot disruption occurring, no confrontation should take place and nobody associated with the shoot should be left on their own. Both the shooting and beating parties should retreat to their transportation, and the shoot captain or gamekeeper should call the Police. Guns should unload their weapons, secure them in their slips in the interim before securing them in locked vehicles, which should not be left unattended.

Given the recent data breach, the British Association for Shooting & Conservation (BASC) has asked firearms owners to remain vigilant and report any concerns to the Police.



Get in Touch

If you would like to discuss any topics raised in this issue of the Health & Safety Bulletin, do contact Rob Gazely.



Email: robert.gazely@ceresrural.co.uk

Mobile: 07592 041617