Health and Safety Executive

HEALTH AND SAFETY EXECUTIVE

INJURIES REDUCTION PROGRAMME – POLICY GROUP

FATAL INJURIES

IN FARMING, FORESTRY AND HORTICULTURE

2004/2005

If you have any queries about this report, contact:

Health & Safety Executive
(Agriculture & Food Sector)
National Agricultural Centre
Stoneleigh, Kenilworth
Warwickshire CV8 2LZ

Tel. 02476 698350
Fax. 02476 696542

INTRODUCTION

Part 1 of this report is a summary of the fatal injuries occurring in the agricultural sector (comprising of agriculture, horticulture, forestry and associated industries) in Great Britain during the year 1 April 2004 to 31 March 2005 which were investigated by Inspectors from the Health and Safety Executive (HSE). **Data in part 1 of this report is provisional.**

Part 2 summarises fatal injuries notified to HSE within the agricultural sector for the ten year period 1994/1995 to 2003/2004. It indicates points of interest and trends in fatal accidents involving employees, the self-employed and members of the public during this period.

Part 3 is a summary of the non-fatal injuries in the agricultural sector for the ten year period 1994/1995 to 2003/2004. This part includes an analysis of points of interest in the non-fatal injuries in the agricultural sector reported during 2003/2004 under the Reporting of Injuries, Diseases and Dangerous Occurrence Regulations (RIDDOR) 1995.

Part 4 shows the total estimated number of accidents occurring within the agricultural sector during 2004/2005, and their costs.

Part 5 includes a number of case studies that covers some of the key causes of fatal and major accidents in the agriculture sector. Each case study gives details of an accident or incident, highlighting the causes and the action HSE took following the investigation as well as the lessons to be learnt from the accident.

These case studies have been included to help show how things can so easily go wrong and to give advice on how they can be avoided. For detailed advice on legal requirements and practical ways to reduce health and safety risks, HSE produces a wide range of leaflets and videos for the agricultural sector.

Further advice: Most leaflets are available free from HSE Books or can be accessed through the Internet.

HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA
Tel 01787 881165 Fax 01787 313995 website: www.hsebooks.co.uk

HSE agriculture home page: http://www.hse.gov.uk/agriculture

HSE Videos can be purchased from HSE books.

For general enquiries about health and safety in the agricultural sector, call the HSE Infoline: 08701 545500

FATAL AND NON-FATAL INJURIES

IN FARMING, FORESTRY, HORTICULTURE AND ASSOCIATED INDUSTRIES IN GREAT BRITAIN

PART ONE

FATAL INJURIES
IN FARMING, FORESTRY, HORTICULTURE AND ASSOCIATED INDUSTRIES
APRIL 2004 - MARCH 2005

1. GENERAL

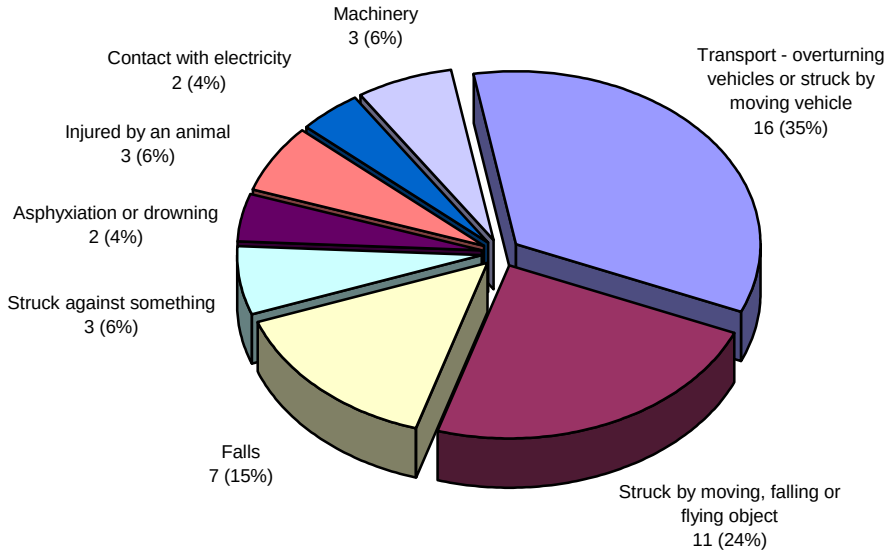
1.1 Total number of reported fatal injuries: 47, including three members of the public.

1.2 The total excludes reported deaths, resulting from a disease.

TABLE 1.1: Six year comparison

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05*
Employed Self Employed Non-employed	13 23 8	13 33 7	20 19 2	15 20 3	6 38[1] 7	16 26 3
Associated industries						2
Total Adults Total Children (<16)	40 4	49 4	39 2	37 1	49 2	47 0
Total (SIC92, A & B)	44	53	41	38	51	45

FIGURE 1.1: Fatal injuries by cause, 2004/2005



[1] Includes the 21 Cockle pickers drowned by incoming tides at Morecambe bay, Lancashire

*** = provisional data**

2. TRENDS AND MAIN POINTS

2.1 The number of reported deaths (47) is a decrease from the figure for 2003/04 (51). However last years figure included the death of 21 migrant workers, drowned whilst harvesting cockles in Morecambe bay.

2.2 The total of 44 deaths amongst workers (employees and the self-employed) is 91% higher than the previous year's figure of 23 (excluding cockle picking).

2.3 Seventeen employees were killed; an increase of 11 over last year's figure and 4 higher than the average of the previous five years (13).

2.4 Twenty-seven self-employed people died last year; an increase of 10 over 2003/04 (excluding cockle picking) and 5 higher than the average of the previous five years.

2.5 Of these 44 deaths, 32 were workers aged 40 years or over of which 23 were self-employed. Over half were aged 55 years or over (of which 17 were self-employed). Nine of the self-employed were above the normal retirement age of sixty-five, and five employees were aged between 21 and 24.

2.6 One hundred and seventy nine workers (excluding the cockle pickers) have been killed over the previous five years. Of these 67 were employees and 112 self-employed.

2.7 Three members of the public were killed in 2004/05, 5 fewer than in 2003/04. The average number killed over the previous five years was five. One member of the public died as a result of someone else's work activity; the other two were family relations. All 3 were over 72 years old. For the first year in over a decade, no children were killed.

TABLE 1.2: Fatal injuries by main activity 2004/2005

Main activity	Number
Arable farming	2
Cattle (dairy & beef) farming	3
Farming of sheep, goats	2
Mixed farming	22
Agricultural contractors	7
Forestry (and related activities)	6
Fish / Hatch Farms	1
Horticulture	1
Poultry farming	1
Associated industries	2
Total	47

2.8 Transport caused more deaths (16) than any other category. The majority were as a result of being struck by a moving vehicle, the remainder occurred when vehicles overturned either crushing and trapping the victim or causing them to fall out of the vehicle. Six incidents involved tractors, including a double fatality when a tractor overturned into a canal. Two victims were run over by combine harvesters; 3 were struck or crushed by telehandlers / FLTs; 2 involved trailers attached to vehicles; a further 2 when an ATV / Trike overturned and the remaining fatality occurred when a mower jack-knifed.

2.9 The second highest cause of injury was struck by falling, flying or moving objects. Four involved falling branches / trees during tree work; a further incident involved a chainsaw. Two were crushed as vehicles fell from support. Two men were struck by wagon / baler tailgates; one was killed when a post-driver fell on top of him, and another when a fuel tank fell from the forks of a forklift truck.

2.10 Seven people died as a result of falling from a height. Five of the victims fell from: lifting cages; buckets; platforms; potato boxes attached to telescopic handlers / forklift trucks. One died when he fell through a fragile roof and another fell out of an apple bin attached to the forks on a tractor fitted with a forklift attachment.

2.11 Three deaths occurred when the victim was struck against something fixed or stationary. One of them was trapped under a road sign, another caught his neck on a tree branch and the third was killed when he struck his head on a low metal beam inside a poultry house.

2.12 Contact with machinery caused a further three deaths. One of the deceased died as he came in contact with the blades of a hedge cutter mounted on a tractor, another trapped his head in a palletising machine and the other fell into a feed mixer.

2.13 Three people were killed by farm animals. One was struck and trampled on by two bulls, another was knocked to the ground by a cow and the other person was trampled over by a herd of cattle.

2.14 Two people were electrocuted by overhead powerlines, one was asphyxiated in a grain silo and the remaining victim drowned whilst diving alone.

TABLE 1.3: Fatalities by country 2004/2005

	Employed	Self Employed	Non-employed	Total
England	11	21	2	34
Scotland	5	3	0	8
Wales	1	3	1	5
Total	17	27	3	47

3 EMPLOYMENT STATUS AND LOCATION

FIGURE 1.2: Fatal injuries by employment status 1995/96 to 2004/05

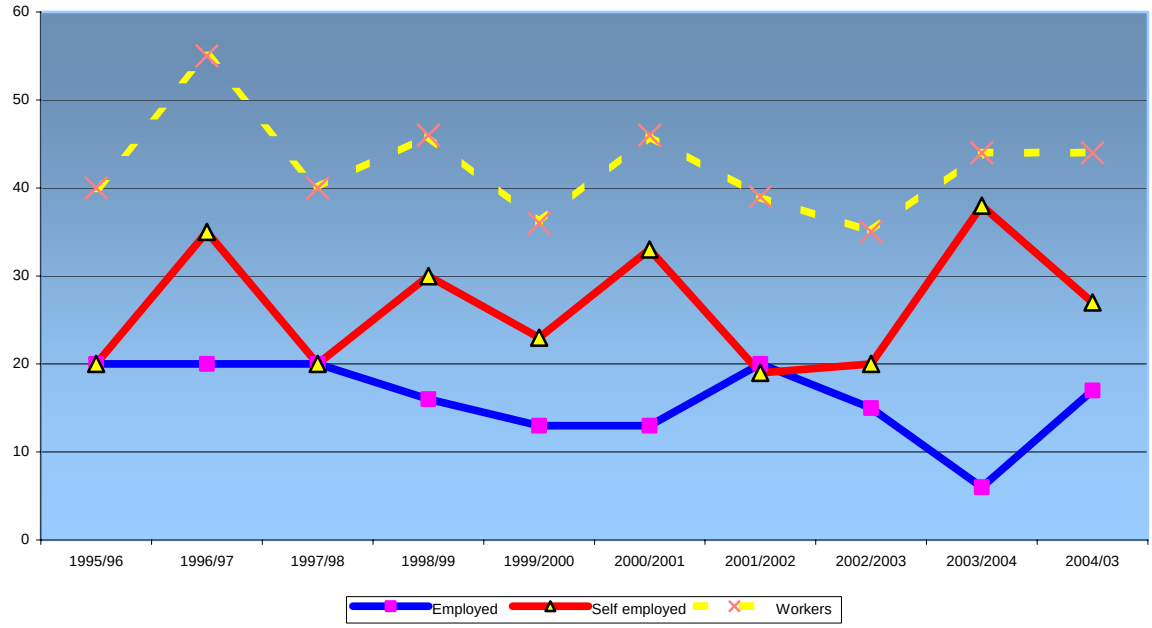
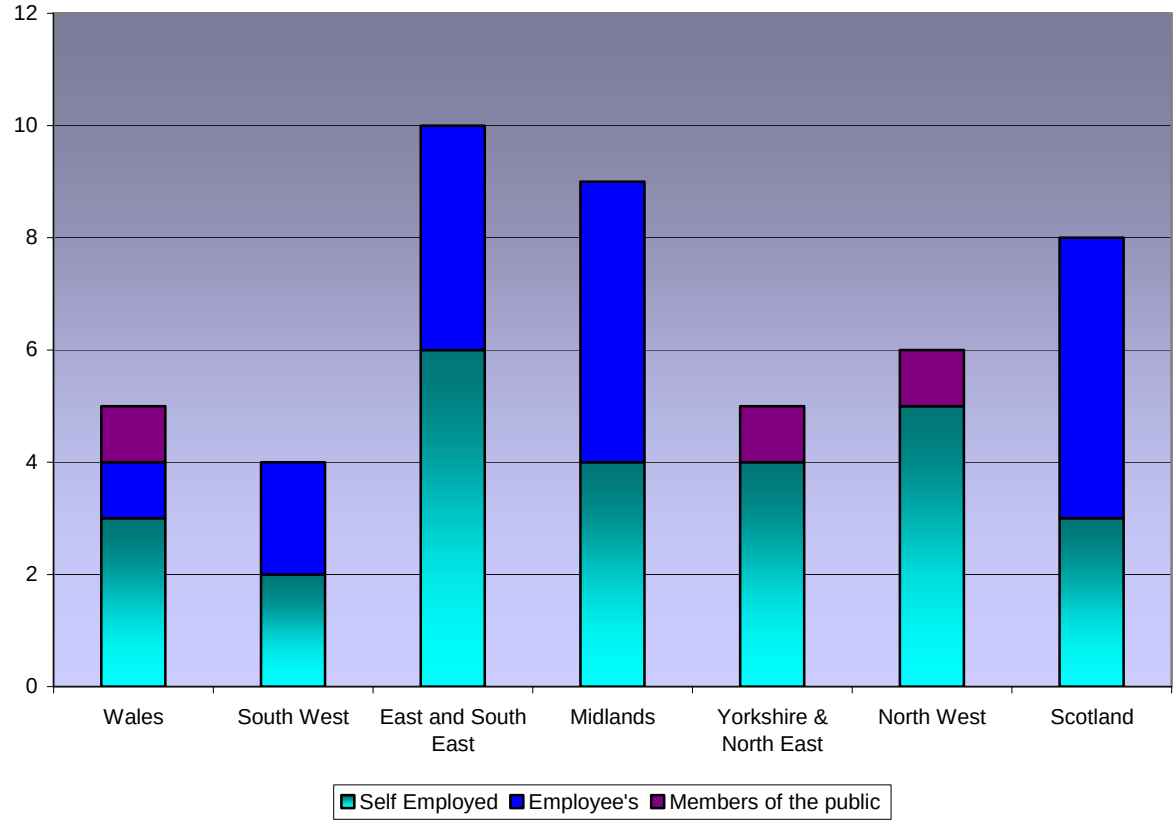


FIGURE 1.3: Fatal injuries by status and location



3.1 Table 1.1 provides a breakdown of the comparative figures over the past six years by employment status and age category.

Table 1.2 provides the main business activity.

3.3 Table 1.3 is a breakdown for England, Scotland and Wales.

3.4 Figure 1.1 provides an analysis of the fatal injuries in 2004/05 by accident causation.

3.5 Figure 1.2 shows the trends in fatal injuries in agriculture by employment status over a ten year period 1995/96 to 2004/05.

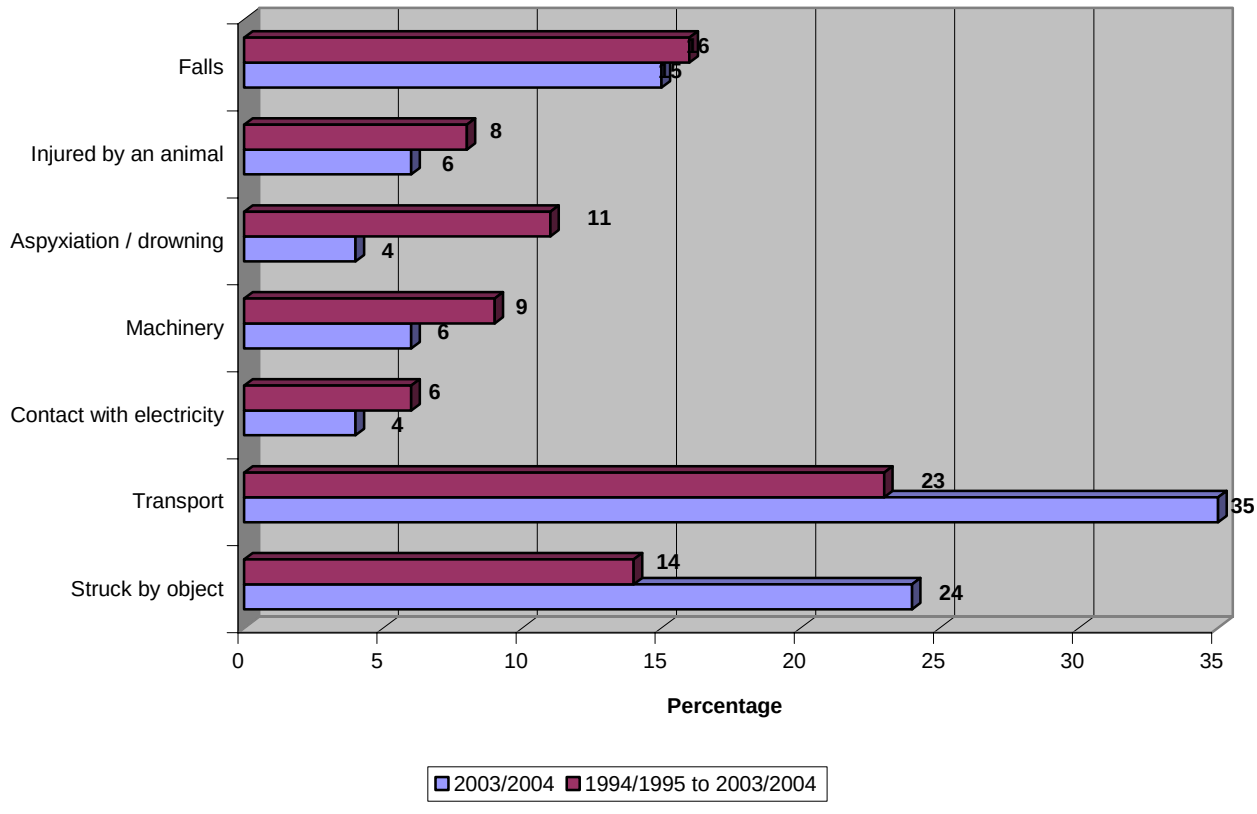
3.6 Figure 1.3 shows injuries by employment status and location.

3.7 Figure 1.4 is a comparison between the breakdown of fatal injuries by cause in 2004/05 with the average over the ten-year period 1995/96 to 2004/05.

3.8 Table 1.4 gives a more detailed breakdown of the causative factors involved in the fatal injuries in 2004/05.

3.9 Table 1.5 provides a breakdown of the fatal injuries in 2004/05 by HSE Division.

FIGURE 1.4: Fatal injuries by cause - percentage in 2004/2005 vs 10 years average (1994/1995 to 2003/2004)



4 TYPES OF FATAL INJURIES

Table 1.4: Type of fatal injuries, 2004/05

Transport – overturning vehicles or struck by moving vehicle		Struck by moving, falling or flying object	
Tractor	6	Tree	4
Combine harvester	2	Chain Saw	1
All Terrain Vehicles (ATV's)	1	Wagon gate	1
3 wheel motor bike (trike)	1	Baler door	1
Trailer, plant or equipment associated with vehicle	2	Hydraulic post driver	1
Fork lift trucks (FLT's)	2	Car	1
Telescopic handler	1	Horse Box	1
Grass cutter	1	Fuel tank	1
Falls		Struck against something	
Fragile roof	1	Tree branch	1
Potato box on forks of FLT	2	Road sign	1
From Telescopic handler[2]	3	Metal Beam	1
Apple bin attached to tractor	1		
Machinery		Asphyxiation / Drowning	
Palletising machine	1	Grain silo	1
Feed mixer	1	Water	1
Tractor mounted hedge trimmer	1		
Injured by an animal		Contact with electricity	
Bull	1	Overhead power line (OHPL)	2
Other cattle	2		
		Total	47

[2] including from buckets / platforms attached to telehandler

5 FATALITIES BY HSE DIVISION

TABLE 1.5: Number of fatal injuries - by HSE Division, 2004/05

HSE Division	Counties and Unitary Authorities (UAs)	Number
Wales & South West		9
Wales	All Wales UAs	5
South West	Avon, Cornwall, Devon, Dorset, Gloucestershire, Somerset, Wiltshire *	4
East and South East		10
South	Former county of Berkshire, Hampshire, Isle of Wight. *	1
East Anglia	Essex, Norfolk, Suffolk	2
Home Counties	Bedfordshire, Former county of Buckinghamshire, Cambridgeshire, Hertfordshire. *	5
South East	East Sussex, Kent, Oxfordshire, Surrey, West Sussex. *	2
London		
London	All London Boroughs	
Midlands		9
East Midlands	Leicestershire, Northamptonshire, Warwickshire *	
West Midlands	West Midlands	
North Midlands	Derbyshire, Lincolnshire, Nottinghamshire *	2
Marches	Herefordshire, Shropshire, Staffordshire, Worcestershire *	7
Yorkshire & North East		5
South Yorks & Humberside	N and NE Lincolnshire, South Yorkshire, Yorkshire (E Riding) *	1
West & North Yorkshire	North Yorkshire, West Yorkshire *	2
North East	Durham, Northumberland, Tyne & Wear *	2
North West		6
Manchester	Greater Manchester	
Merseyside	Cheshire, Merseyside	1
North West	Cumbria, Lancashire	5
Scotland		8
Scotland East	Aberdeen, Aberdeenshire, Angus, Clackmannanshire, Dundee, Edinburgh, Falkirk, Fife, Highland, E & W Lothian, Midlothian, Moray, Orkney, Perthshire & Kinross, Scottish Borders, Shetland, Stirling	7
Scotland West	Argyll & Bute, E, N & S Ayrshire, N & S Lanarkshire, All other UAs in the former Strathclyde Region, Dumfries & Galloway, Western Isles	1
* = and associated UAs		
TOTAL		47

6 SUMMARIES OF ALL FATALITIES, BY DIVISION

1 APRIL 2004 – 31 MARCH 2005

WALES & SOUTH WEST DIVISION

Wales

A 56 year-old, self-employed farmer was trapped between a trailer and a lorry. Hay was being delivered to the farmyard on a trailer hitched to a flatbed lorry. After the hay was unloaded, the farmer and his brother assisted the lorry driver to hitch up the trailer to the lorry but failed to fully engage the hitch before coupling up the pneumatic brake system. As the driver released the parking brake on the lorry and drove forward, the hitch fell out of its housing and the trailer rolled forward crushing the farmer against the lorry. He received fatal injuries to his chest.

A 50-year-old, self-employed farmer was thrown out of his tractor cab as it overturned. He was spreading farmyard manure on hilly grassland using a tractor and trailed spreader. It appears that the lower wheel of the spreader dropped into a depression in the ground causing it to overturn, taking the tractor with it. The farmer was thrown out of the cab as the tractor rolled through 360 degrees. The spreader broke away and came to rest on its side but the tractor ran away down the hill crashing into a tree and bursting into flames. The farmer was found dead where the initial overturn had occurred.

A 22 year-old, forestry worker was hit by a falling tree during a winching operation. He was responsible for winching felled trees to a part of the hill that could be reached by a colleague. The investigation established that the worker had prepared two trees for winching as a chain had been placed around each tree. It is not clear what happened to cause the pulley tree to fall but it appears that one or both trees being extracted was uprooted with such force that it pulled the anchor tree over onto the employee. The deceased should have been in a safe working position whilst carrying out the winching operation.

A 73 year-old landowner fell off a grassy bank into the blades of a hedge cutter mounted on a tractor, as it reversed past him down a narrow lane. He was assisting the hedge trimming operation on his land, brushing up the hedge trimmings.

A 25 year-old self-employed tree surgeon died after being struck by a branch. He was cutting a branch when his saw became trapped under the weight, pulling him downwards as the branch fell. The branch rebounded and hit him as he fell. It is thought that the anchor point gave way as the branch pulled the tree surgeon and chainsaw downwards.

South West

A 55 year-old, employee trapped his head in a palletising machine whilst loading a pallet. The emergency stop button (at the rear of the press) could not be activated from the deceased's position. The machine, a hydraulic press containing bags of peat, when activated would operate continuously until the bags reached the top or the emergency stop was activated. The accident was readily foreseeable and could have been prevented if the emergency stop had been positioned at the front of press or if the circuit had been modified to allow the press to open upon operation of emergency stop.

A 35 year-old employee was crushed whilst working under his own car. He was repairing the vehicle using his employer's forklift truck and blocks of wood to support the front of car as he worked underneath. The car rolled backwards, slid off the forks and crushed him.

A 40 year-old self-employed contractor and his 17 year-old son drowned when their tractor and hedge cutter overturned into a canal whilst cutting hedges alongside the canal towpath. It is believed that one of the wheels went over the bank edge as the tractor was turning. The tractor was found lying in the canal on its offside. The rear nearside wheel was partly out of the water with the nearside cab door just beneath the surface. Both men were trapped inside the cab and drowned.

EAST & SOUTH EAST DIVISION

South

A 30 year-old grounds maintenance worker cutting grass on trust parkland was trapped under a road sign on a grass verge whilst driving a ride-on mower. A colleague noticed that the traffic on a nearby road had stopped near to where the deceased was working and was being summoned by a motorist (nurse) who was attending the deceased. He died from injuries sustained in the collision.

A 24 year-old, employee was crushed by a mower. Whilst driving down a steep hill he lost control. The mower and attached trailer jack-knifed and went into a wall, and he was thrown out of the seat and found under the front of the vehicle. The investigation concluded that lack of maintenance and the condition of the mower may have caused the accident. Application of the unbalanced brakes caused the mower to swerve to the offside and the weight of the trailer forced the mower to jack-knife into the wall.

East Anglia

A 24 year-old employee was killed when his neck became caught on a tree branch. Cutting grass in a small orchard on a ride-on mower, for reasons unknown he drove under a low bough, which trapped him against the grass box of the machine. It is believed he was travelling down a steep hill when he lost control of the mower. The deceased was found trapped at the neck by the branch against the grass box with the mower running.
A 73 year old, self-employed farmer sustained fatal injuries when he struck his head on a low beam in a poultry house. He was operating an articulated loader without a cab in a very low poultry house. It was an operation he had carried out many times, but on this occasion he struck his head on a low metal beam as he entered the house causing serious head injuries.

Home Counties

A 50 year-old tree surgeon cut his arm and face with a chainsaw whilst cutting branches. Contracted by a domestic householder to top and trim a tree, he climbed into the tree and injured himself with a top handled chainsaw whilst cutting a branch. He was untrained, using unsuitable equipment and free climbing in the tree, cutting as he went. No one was available or trained to get him down or to effect an aerial rescue. He was eventually rescued from the tree by the Fire Brigade but subsequently died in hospital from his injuries.

A 71 year-old self-employed farmer was asphyxiated in a grain silo whilst it was being emptied. As he walked out onto the grain he became trapped, and was drawn into the silo and asphyxiated in the grain, where he was subsequently found. It is not known why he entered the silo.

A 30 year-old self-employed farmer died after falling over 4 metres onto a barn floor. He was loading equipment into the bucket of telehandler at the edge of a mezzanine floor inside the building. The bucket became dislodged from the mast and fell. He fell, following bucket, fracturing his leg and striking his head. The equipment was heavy and it is believed that in pushing it into bucket, it unbalanced and dislodged the bucket. The deceased was found unconscious on the barn floor between the telehandler's front axle and the dislodged bucket.

A 72 year-old farmer was hit by a telehandler reversing out of a barn as he was sweeping up oil seed rape next to barn partition. The driver, a contractor had loaded some of the oil seed rape onto the lorry without farmer being present. The deceased then started sweeping up around the edges of the narrow barn while the driver continued the loading operation. The farmer had started to sweep up along the partition near the barn entrance whilst the contractor was inside the barn loading the telehandler bucket. He reversed out of the barn with a full bucket load and as he did so, heard a shout from the farmer who had been struck by his vehicle.

South East

A 62 year-old self-employed farmer was run over by a combine harvester operated by an experienced agency worker. He was riding in the cab with the contractor when a blockage occurred in the header. Both the driver and farmer were manually clearing stalks from the auger, standing in front of combine when they both noticed the machine starting to roll unexpectedly down the hill towards them. The driver managed to roll clear but the farmer was injured after being dragged some metres downhill. He was airlifted to hospital but died a few hours later from internal injuries.

A 24-year-old employee died from head injuries after falling out of an apple bin following an early morning drinking session. Inebriated, the deceased (a casual agency worker) and a colleague decided to take the tractor fitted with a forklift attachment and apple bin attached to the forks, in order to get to their temporary accommodation across a field. According to evidence supplied by the police, the deceased was traveling in the bin when he fell out. He was put back into the bin and left there (for approximately 15 hours) without any medical assistance. He subsequently died from his injuries.

MIDLANDS DIVISION

North Midlands

A 84 year-old self-employed farmer was knocked to the floor by one of his cattle and the rest of the herd trampled over him. He was watching the 170 strong dairy herd being moved along a fenced unmade road towards the milking parlour. He entered the herd to move some of them along more quickly and was knocked down by a cow and trampled on by a number of others. He sustained injuries to his head, neck, left arm and chest, and died the following day in hospital.

A 71 year-old employee died after falling onto a wooden slatted floor from a potato box balanced on the forks of a forklift truck. He was raised in the box by a colleague, to gain access to a grain dryer, which needed to be cleaned. There were no

channels on the underside of the box to locate the forks of the lift truck or any means of securing the box to the truck. It is believed the accident happened when he moved to the side of the potato box, causing it to tip. The box slipped off the forks to the floor. He fell with it sustaining fatal head injuries.

Marches

A 56 year-old self-employed mechanic was crushed beneath a horsebox. He was working on the rear braking system. It appears he removed the rear wheels and supported the rear chassis rail with 2 light axle stands and a bottle jack. The wind was strong and at some stage the rear axle fell off the bottle jack causing the vehicle to drop, trapping and asphyxiating him.

A 21 year-old employee was crushed between two tractors; one fitted with a fertiliser spinner and the other a fore-end loader from which a fertiliser bag was suspended. He appears to have parked one of the tractors in the yard, switched off the engine and applied the handbrake. He then hooked a bag of fertiliser onto the tractor fitted with fore-end loader and bale spike and drove out of barn and up to the rear of the tractor parked in the concrete yard. The yard was almost flat but with ruts in concrete and very slight incline. He dismounted and slit the fertiliser bag, causing fertiliser to discharge into the spreader's feed hopper. Whilst doing so, the tractor moved forward trapping him against the parked vehicle. No significant defects were found on the tractor, and a reconstruction of incident suggests that the handbrake had not been applied, causing the tractor to roll forward, accelerate trapping him. It is thought the initial movement may have been caused by the fertiliser bag swinging.

A 58 year-old employee was crushed when tractor overturned and rolled down an embankment. He was ploughing about a third of the field, which was essentially flat and as he approached the top of a bank lifted the plough to its maximum height. For reasons unknown, instead of turning or reversing he carried on in a forward direction. The nearside wheels ran off the edge of the bank, and probably due to the weight of the raised ploughing attachment, the tractor rolled through 450 degrees, landing on its side at the bottom of the slope. He may have raised the plough and proceeded on to slope with the intention of travelling across the top corner returning into field. He died from head injuries.

A 59 year-old employee fell from a wooden 'potato box' located on the forks of a forklift truck whilst attempting to repair a roller shutter door. There were no channels on the underside of the box to locate the forks or any means for securing the box to the forks. It is believed that the box fell when his weight shifted to one side, outside the line of the forks. He died from injuries sustained in the fall.

A 26 year-old self-employed man was electrocuted when a ladder he was using came into contact or close proximity with an overhead power line. Three travellers had obtained permission from a landowner to cut mistletoe for a forthcoming Holly/Mistletoe market. They lashed two metal ladders together to access the top of a holly tree. Whilst manoeuvring the ladder it either came into contact with an 11KV overhead power line or was sufficiently close for arcing to occur. One of the individuals was electrocuted and his father suffered serious injuries. The third person was unhurt.

A 74 year-old self-employed farmer was trapped under a tractor in a slurry lagoon, which had steeply sloping sides. The tractor was parked on a concrete pad adjacent to lagoon and was being used to agitate the slurry. The farmer was standing on the impeller framework attached to the rear of the tractor, with his feet off the ground. It

appears that the handbrake had not been engaged and there was no edge protection or barriers to prevent the tractor falling into the lagoon. The tractor rolled into the lagoon trapping and crushing the farmer between the impeller frame and rear of tractor. He died from crush injuries.

A 61 year-old employee was felling a tree in the back garden of a domestic residential property when the tree fell and crushed him. There was little clearance between the tree and a fence at bottom of the garden and his colleague was unable to control the direction of the fall. After trimming off side branches he made a cut at the front of the tree and a further felling cut at the back, but in doing so, misjudged the cut and left an uneven hinge. The tree fell unexpectedly sideways and because of the absence of an adequate escape route, fell on top of him, causing fatal crushing injuries.

YORKSHIRE & NORTH EAST DIVISION

South Yorkshire & Humberside

A 56 year-old self-employed farmer was trapped under the rear door of a large round baler. He leant into the back of the baler to talk to his brother who was clearing a blockage when the tailgate suddenly fell on him, trapping him against the back of the baler. He died of severe crush injuries and brain damage.

West & North Yorkshire

A 63 year-old self-employed farmer was found trapped under a three-wheeled motorbike. It is believed that he lost control of the bike as he attempted to accelerate uphill.

A 80 year-old self-employed farmer was struck and trampled by two bulls. A third bull had been brought into the pen excited by calves being weaned from their mothers nearby, became aggressive and began fighting. The farmer and two farm hands had separated the eldest bull when the two younger bulls started fighting again. He went back into the pen to intervene and although knocked over by one of the bulls was able to walk out without assistance. A doctor attended the farm and called an ambulance but the farmer died in hospital while awaiting emergency surgery.

North East

A 47 year-old self-employed farmer was crushed between a combine and a header unit when it rolled down an incline. He was working with his son to prepare the combine harvester. His son had parked the tractor towing the header for the combine in the field and parked the combine just in the field gates. As his son was undoing the clamp on the far side of the trailer he was undoing the clamp on the nearside. The combine rolled down the slight incline crushing him against the header.

A 73 year-old member of the public fell from the bucket of a telescopic handler onto a concrete floor. A retired farm worker and uncle of one of the partners in the business, was helping out at harvest time. Despite the presence of a suitable lifting cage on the farm, he was being lifted up in the bucket of a telehandler to remove grain from a silo. A harness was also available but was not used. He fell approximately 5 metres from the bucket to his death on the concrete yard below.

NORTH WEST DIVISION

MERSEYSIDE

A 76 year-old self-employed farmer fell through a fragile rooflight whilst painting the metal roofing sheets on a cowshed. He was using a yard brush to apply paint and had painted approximately 90% of one side of the roof using a single unsecured scaffold plank to span the rooflights as he worked in close proximity to them. He was found conscious lying inside the shed below a broken rooflight near to a complete rooflight sheet and a scaffold plank. He sustained a broken leg, pelvis and spinal injuries and died the same day from internal bleeding.

A 79 year-old family member was killed when a fuel tank fell from a FLT onto his leg. A retired farmer, who had moved off farm, visited his son regularly and retained an active interested in the day-to-day workings on the farm. His son had a new diesel tank delivered and was moving it to a new position using a forklift truck. The deceased was looking at the new tank. His son dismounted the FLT, engaged the handbrake and left the engine running. For some reason the tank fell forward off the forks on to his father causing injuries to his legs, he later died in hospital.

NORTH WEST

A 56 year-old self-employed farmer was standing on a small set of stepladders when a machine fell on him. Together with his son he was preparing to repair a hydraulic post-driver. It was moved on a telehandler from a shed to the concrete floor. The post-driver was placed on the ground, standing on its two legs. Whilst his son tightened the springs, the deceased mounted the stepladder to assist. A gust of wind blew the post-driver over against the stepladder and onto the farmer. He died as a result of his injuries.

A 60 year-old self-employed farmer was loading cattle into a trailer. As he was closing the internal wagon gate, it was knocked open, hitting and pushing him backwards off the tailgate. He fell onto the concrete floor and died from head injuries.

A 40 year-old self-employed farmer fell into a feed mixer used to feed his stock. He was working alone on his farm and had borrowed his neighbour's mixer-feeder. When the machine was not returned as arranged, the neighbour went to collect it. He found the tractor and feeder still operating but no one around. Climbing the rear ladder to look into the feeder he saw the remains of the deceased. He switched off the machine and called the emergency services. It is not known why the deceased climbed into the mixer-feeder or how he was drawn into the machine.

A 69 year-old self-employed farmer was working with cattle in the farmyard when he was knocked to the ground by a cow. It appears he had been 'nudged' by one of them, lost his balance, fell backwards and banged his head on the concrete yard surface.

SCOTLAND

Scotland East

A 61 year-old employee was crushed between a forklift truck and a spinner. He was using a forklift truck to lift and position two bags of fertiliser over a spinner and had then moved between the two to make cuts in the bottom of the bag with a hand knife. He had not made the cuts when suddenly the forklift rolled forwards crushing him

against the spinner. The forklift truck was in a poor state of repair and it is believed that the forks suddenly tilted forwards under the weight of the load. Tests concluded that the handbrake was not functioning correctly nor was it able to hold the vehicle.

A 47 year-old employee was killed when the forklift truck he was driving overturned. He was driving down a winding tarmac road on an incline. The brake seals were leaking and as a result the foot brake was defective. He lost control of the forklift and hit a wall when the brakes failed. The machine appears to have toppled over crushing him underneath.

A 62 year-old self-employed farmer fell from a home made lifting cage, which became detached from the forks of a telescopic lift truck. The cage was not secured to the forks of the lift truck. A metal roof beam was lashed to the cage as the farmer's son operated the lift truck, attempted to lift the cage into position in a shed under construction. As the cage was lifted the beam slipped through the ropes onto the cage, dislodging it from the forks. The beam, cage and deceased fell onto the concrete floor. He sustained multiple fatal injuries. The cage was not secured to the forks nor was the beam securely attached to the cage and in any event, should not have been lifted into position in this manner.

A 46 year-old employee was electrocuted when a trailer contacted an overhead power line (OHPL). He was moving chicken feed on a farm using an articulated lorry and tipping trailer. As the trailer was raised it came into contact with an 11kv OHPL. It is thought that he had stopped to dump a small amount of residual feed and having raised the trailer, went to the back and opened the rear gate to empty out the feed. As he touched the trailer body he completed the circuit with the overhead power line and was electrocuted.

A 72 year-old self-employed farmer was run over by a reversing tractor and trailer. A contractor was clearing topsoil and levelling site in rediness for hardcore with small excavator. He was depositing the soil in two trailers hauled by tractors. When one of the trailers had been filled the driver reversed the tractor/trailer combination knocking the farmer to the ground.

A 54 year-old employee died when the all terrain vehicle (aka ATV or quad bike) he was driving overturned on steep hill near pheasant feeding area. He was filling in for the full time gamekeeper who was going into hospital. The job involved driving an ATV that he had not driven before. The ATV was fitted with a box mounted on the rear containing grain feed. When the full time gamekeeper returned home he noticed the ATV was not in garage. Deceased discovered approximately 200m away from the ATV. As a lone worker there was no system in place to ensure his safety.

A 31 year-old employee was struck by a tree during a winching operation. The tree was being used to anchor a pulley to 'off-set' the direction of pull away from the winch operator when it was uprooted while timber was being hauled in. The log being hauled may have caught on a stump increasing the strain on the pulley. The tree fell onto the winch vehicle and its tip struck the chokerman on head.

SCOTLAND WEST

A 46 year-old self-employed diver drowned whilst diving alone. It is believed that he was either fishing with creels, collecting seaweed or diving for scallops. There was no evidence that he had undergone formal commercial diver training or that he held a 'diving medical' certificate.

7 ANALYSIS BY EMPLOYMENT STATUS, MONTH AND AGE

FIGURE 1.5 : FATAL INJURIES BY EMPLOYMENT STATUS, 2004/2005

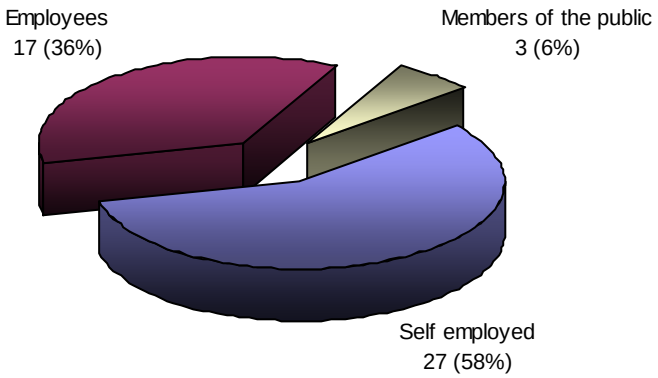


FIGURE 1.6: Fatal injuries by month of the year - April 2004 to March 2005

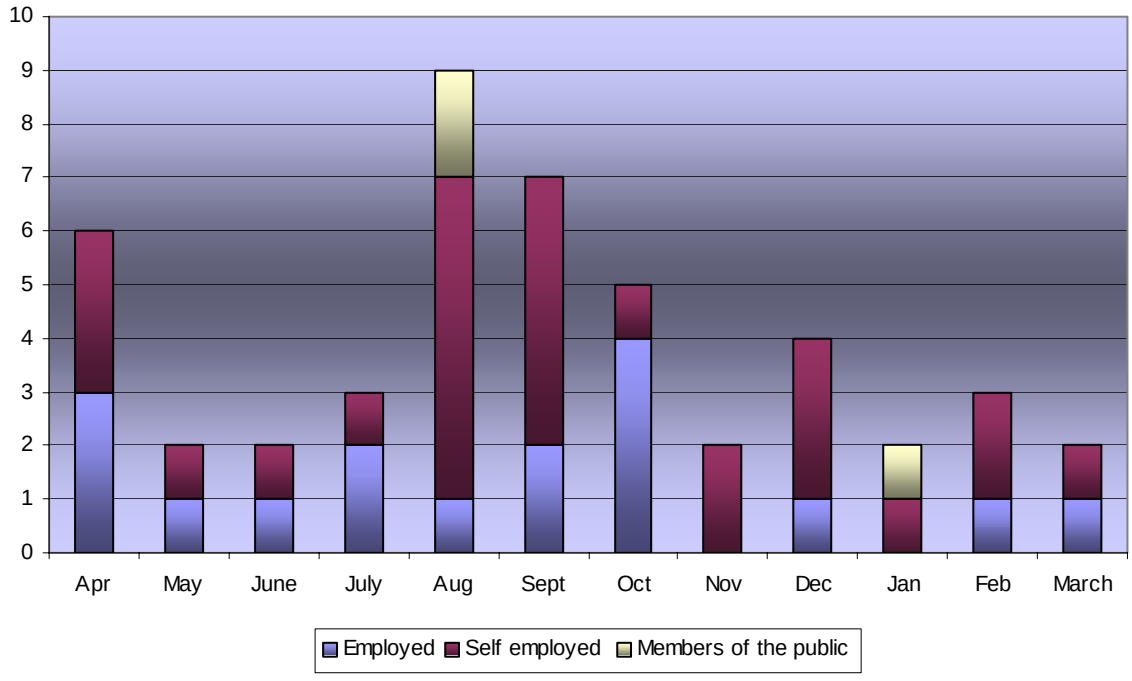
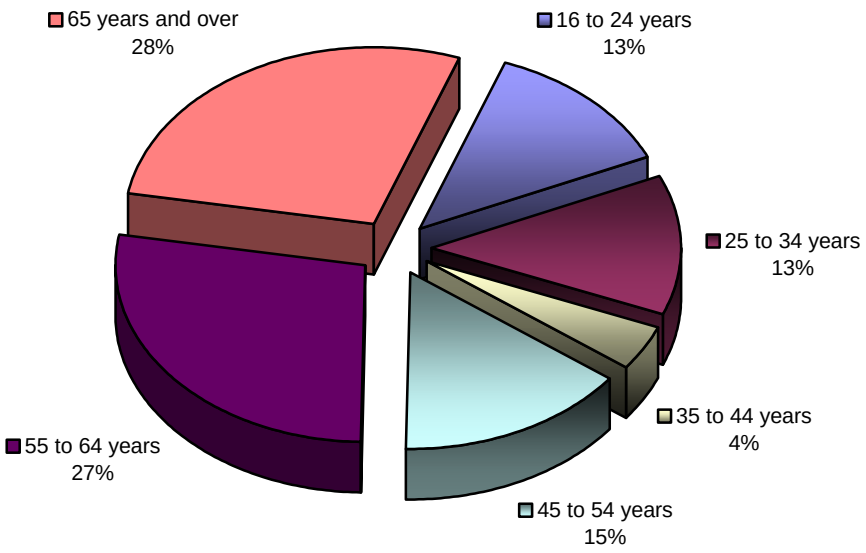


FIGURE 1.7: Fatal injuries by age, 2004/2005



16 to 24	6
25 to 34	6
35 to 44	2
45 to 54	7
55 to 64	13
65 and over	13

FIGURE 1.8 : Age of Deceased. Percentage of the total for employees - 2004/2005 against 10 year average (1994/1995 to 2003/2004)

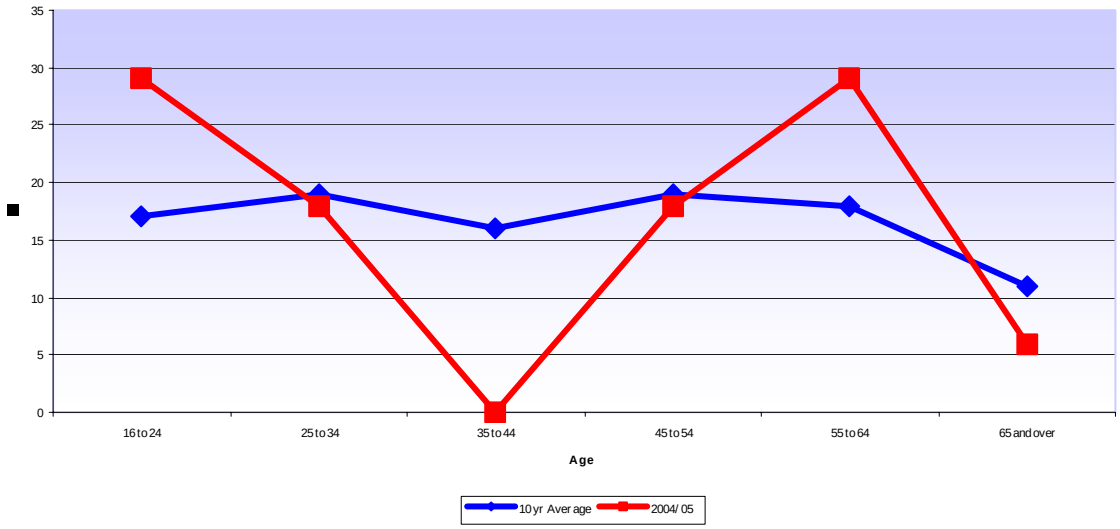
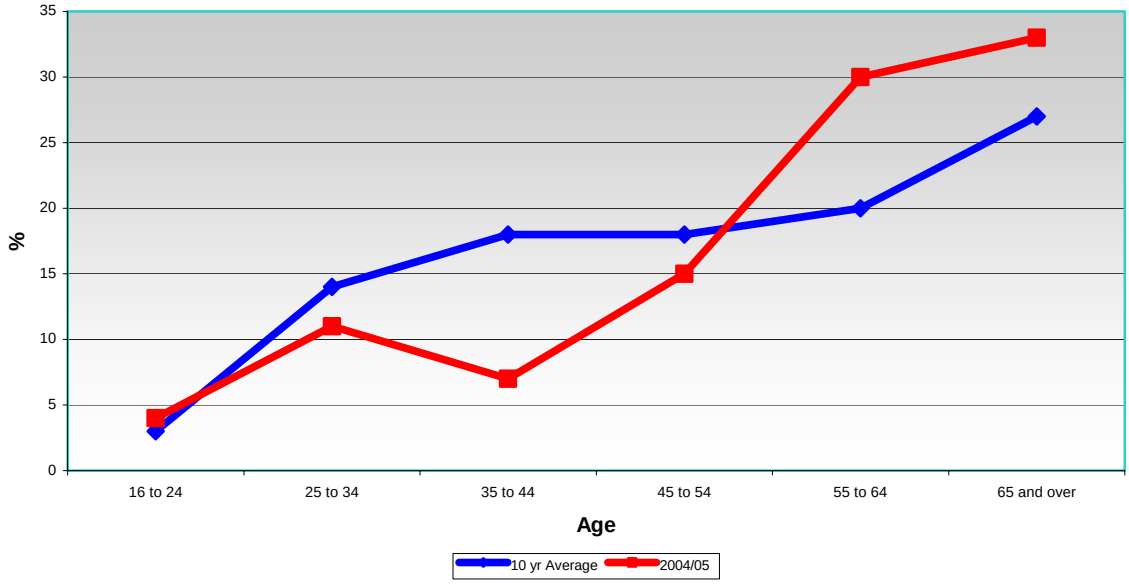


FIGURE 1.9 : Age of Deceased. Percentage of the total for self employed - 2004/2005 against 10 year average (1994/1995 to 2003/2004)



PART TWO

ANALYISIS OF REPORTABLE FATAL INJURIES IN THE AGRICULTURAL SECTOR 1994/1995 TO 2003/2004

FATAL INJURIES IN THE AGRICULTURAL SECTOR 1994/1995 TO 2003/2004

Four hundred and ninety three fatal accidents within the agricultural industry (including the forestry sector) have been reported to the Health and Safety Executive over the past ten years. Of these, 157 were to employees, 270 were to self-employed people and 66 were to members of the public, injured as a result of someone else's work activity.

Thirty-four children (under 16 years of age) were killed over the ten-year period, 3 of them were classed as employees (included in tables 2.1 to 2.9) and 31 as members of the public (included in table 2.10). This means that;

On average almost one person a week was killed as a direct result of an agricultural work activity over the past ten years; and

Almost half of the reported fatalities to members of the public were children.

This section of the report provides a detailed analysis of these fatalities and examines trends over the ten-year period. However, changes in the industrial classification used as the source of data from 1995/96 mean that data for this and later years are not directly comparable with that for 1994/95 and earlier. Similarly, some definitions in RIDDOR changed from April 1996 and subsequent years' data may not be directly comparable. Further details are given in the Appendix to this part.

Fatal injuries to employees and self employed people

The 6 fatalities to employees in 2003/04 was the lowest recorded for almost two decades and less than half the number of people killed the previous year. A total of 157 employees have been killed over the past ten years – an average of 16 deaths per year.

The employee fatal injury incidence rate of 2.8 per 100,000 employees is the lowest recorded over a ten-year period.

Conversely, the 38 fatal injuries to the self-employed in 2003/04 was the highest recorded over the same period. However 21 of the deaths were migrant workers, drowned whilst harvesting cockles in Morecambe bay.

The 2003/04 self-employed fatal injury incidence rate of 21.3 per 100,000 workers is nearly twice that of last years (12.9) and the highest over a ten year period. When compared against the employee rate per 100,000 workers, the rate has been consistently higher over the last decade and has doubled (almost trebled) in some years. This indicates that proportionally more self-employed people than employees were killed within the agricultural industry.

The combined total of 44 workers killed in agriculture during 2003/04 is 9 higher than the previous year. Over the ten-year period, 427 workers were killed; of which 157 (37%) were employees and 270 (63%), were self-employed.

Combining the fatal injury statistics for employees and self-employed gives a fatal accident incidence rate of 11.3 per 100,000 for 2003/04 against the average incidence rate of 8.8 for the previous ten-years.

Kind of accident

The two main causes of fatal injuries to workers in the agricultural sector over the past ten years were:

Transport - being struck by a moving vehicle (22% of all fatalities) and
Falls from a height (17% of all fatalities)

Other common causes were:

- struck by moving or falling objects (14%);
- asphyxiation or drowning (10%);
- trapped by something collapsing or overturning (10%);
- contact with machinery or the material being machined (9%);
- injury by an animal (8%);
- contact with electricity or an electrical discharge (5%)

Specific accidents

Struck by a moving tractor was the most common cause of fatal injuries to workers (including the self-employed) within agriculture. There were 44 deaths. Thirty-three of these were to the self employed and 11 involved employees. The second largest cause of death occurred when vehicles overturned or fell from support. There were 27 deaths; 20 involved self employed workers and 7 employees. Transport related accidents resulted in 119 deaths over the period. Struck by moving vehicles and vehicles overturning, accounted for over a quarter of the combined total fatalities (28%) for this period. Transport continues to be the single largest cause of accidents within agriculture.

Falls from heights was the second largest category, accounting for 74 deaths (17%). The two most common causes were as a result of: falling through a fragile roof (14 deaths) and (10) as a result of falling from stacked material.

Struck by a moving, falling or flying object caused 60 deaths, 23 of which were caused by falling branches / trees.

- Asphyxiation or drowning caused 44 deaths, 24 in water, from which 21 were cockle pickers.

Amongst employees, the most common cause of death was - struck by a tractor accounting for 11 deaths. The second highest category was contact with electricity or an electrical discharge. Eight deaths occurred as a result of contact with an overhead power line. Injury from bulls, cattle, falling from fragile roofs and vehicles overturning / falling from supports caused (7) deaths each.

Amongst the self employed, the most common cause of death was again transport; being struck by a moving tractor (33) or being crushed when a vehicle overturned or fell from support (20). Bulls or other cattle was the second most common cause of death resulting in 21 deaths (8%) if were to exclude the 21 cockle pickers.

A more detailed analysis of the cause of accident is given in Table 2.3.

Occupation

Farmers and farm managers accounted for 47% of the self employed fatalities and farm workers and farm labourers 48% of the employee fatalities.

The highest category of fatalities to a specific occupation group were to arborists / forestry workers who accounted for 27 deaths (7%), 27 of which were self-employed.

Tractor drivers were the second largest specific occupation category accounting for 20 deaths (5%); - 14 of whom were employees. Other drivers accounted for a further 8 deaths.

Nine crop sprayers (employees and self employed) died.

Table 2.5 provides a more detailed breakdown of the occupation categories.

Process environment

- Fatalities within the agricultural sector resulted from a wide range of work activities.

Table 2.6 shows details of the work in progress at the time of the fatal accident.

Agricultural operations which includes cultivation, harvesting, and crop processing caused the most fatalities – 95 deaths (22%).

Livestock operations – animal housing / handling, feeding and all other animal related operations accounted for 67 fatalities (16%).

Maintenance work to machinery, buildings and land caused 76 deaths (18%)

Tree felling (forestry and arboriculture) and timber extraction including maintenance of trees and woodland accounted for 50 fatalities (12%).

Age

Table 2.7a shows the total number of fatal injuries over the past ten years by age. Table 2.7b shows the combined total for workers (both self employed and employed) over the ten-year period.

The number of deaths to workers aged 65 years and over continues to remain high while deaths to those aged 24 or below remains less than half in comparison. Of the 44 workers killed in 2003/04, 32 (73%) were over 35 years of age compared with 12 (27%) who were under 35 years of age – this continues to suggest that the older more experienced farm worker is still at greater risk than his younger counterpart.

Seventy-two self-employed people over 65 years of age died - representing 27% of the total of all fatal accidents to the self employed. Almost half of the self employed (131) deaths were to the self-employed aged 55 years and over.

For employees, those aged between 25 to 34 years, 45 to 54 years and 55 to 64 years had the largest proportion of fatal accidents, with an average of 28 deaths for these age categories over the past decade.

Month, day and time

The highest number of deaths to the self employed and employed occurred during August, September and October - 56, 44 and 43 respectively.

Large numbers during the summer and early autumn months, reflect the level of seasonal work activity in arable associated with harvesting and autumn cultivation. The lowest number of fatal accidents over the ten years occurred in December (22).

In contrast to the traditional pattern in other industries, which shows a gradual decrease in injuries to employees through the working week, there is still no clear pattern in the distribution of fatal accidents in agriculture.
Table 2.8 gives the data.

Fatalities to employees are distributed fairly evenly throughout the working week except for the Monday, 18% occurred at weekends.

Of the self-employed, 61 were killed at weekends over the last ten years - 23% of the self-employed total.

Table 2.9 shows the time of day when the fatal accidents occurred. The number of deaths increases during the morning, reduces over lunchtime and steadily rises again during the afternoon.

Tables 2.8 and 2.9 provide a more detailed breakdown of the month, day and time categories.

FATAL INJURIES TO MEMBERS OF THE PUBLIC, 1994/95 TO 2003/04

Over the ten-year period, 66 members of the public, including 31 children under 16 years of age have died as a result of work activity in the agricultural sector.

Almost half of the fatalities to members of the public were children.

Being struck by a moving vehicle was the main cause of death to both children and adults accounting for 29% of the total of which 74% of the fatalities in this category involved children.

Fourteen children died as a result of being struck by a moving vehicle (45% of the child fatalities). Other major causes include: asphyxiation or drowning (5 deaths 16%); contact with moving machinery (13%); contact with electricity or an electrical discharge (10%) and a further 13% as a result of either being struck by a moving, flying or falling object, fall from a height or being trapped by something collapsing or overturning.

The two categories, which caused the highest number of deaths to an adult member of the public, were; struck by a moving, flying or falling object and injury by an animal both accounted for 8 deaths (each). Struck by a moving vehicle and asphyxiation or drowning caused a further 5 deaths (each). Fall from a height caused 4 deaths.

Of the 31 child deaths, those aged between 1 and 5 were most at risk. Seventeen children (55%) fell into this age group. Eight children were aged between 6 and 10 and the remaining 6 children were aged between 11 and 15.

Twelve fatalities (18%) involved people aged 65 years or over.

- The majority of accidents to members of public occurred over the weekend (19) - 29% of the total. Fewer fatalities occurred on the Thursday. Conversely more occurred on Tuesday and Wednesday. Over half of the deaths to children occurred from Monday to Wednesday and 29% over the weekend.

July, August and September were the most common months for child fatalities, again reflecting the work in progress at this time of year, increased access to farms during the summer and school/nursery closures. Of the 31 deaths, 14 (45%) occurred during these three months.

Of the 35 deaths to adult members of the public the most common month was July – 13 deaths (37%) followed by June and August 8 deaths (23%) each.

Table 2.10 provides a more detailed breakdown of fatalities to members of the public.

TABLE 2.1: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/2004

		94/95	95/96	96/97	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04
Employees	No.	14	20	20	20	16	13	13	20	15	6
	Rate*	4.8	7.8	7.6	6.7	5.4	4.5	4.7	7.9	6.7	2.8
Self employed	No.	32	20	35	20	30	23	33	19	20	38
	Rate*	12.9	8.3	14.3	8.7	15.0	13.0	19.0	11.0	12.9	21.3
Employees and Self employed	Rate*	8.5	8.0	10.8	7.5	9.3	7.7	10.2	9.2	9.3	11.3

***** Rate per 100,000 workers

TABLE 2.2: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

KIND OF ACCIDENT	Employees	Self employed	Total Numbers	Percentage
Transport - Struck by moving vehicle	38	54	92	22
Fall from a height	30	44	74	17
Struck by moving, including flying or falling object	20	40	60	14
Asphyxiation or drowning	11	33	44	10
Trapped by something collapsing or overturning	9	34	43	10
Contact with machinery or material being machined	12	26	38	9
Injury by an animal	11	22	33	8
Contact with electricity or an electrical discharge	15	8	23	5
Slip, trip or fall on same level	3	3	6	1.5
Exposure or contact with a harmful substance	2	2	4	1
Fire	2	2	4	1
Other	4	2	6	1.5
TOTAL	157	270	427	

TABLE 2.3: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

DETAILED KIND OF ACCIDENT	Employees	Self employed	Total
Struck by moving vehicle	38	54	92
Tractor	11	33	44
Trailer, plant or equipment associated with vehicle	4	1	5
All Terrain Vehicles (ATV's) includes terrain lift truck	5	5	10
Fork lift truck	4	2	6
Loader	4	0	4
Vehicle (private and goods)	3	3	6
From transport of any kind	1	6	7
Other	6	4	10

TABLE 2.3 continued	Employees	Self employed	Total
Fall from a height	30	44	74
Moveable ladder	1	5	6
Fragile roof	7	7	14
From gangways, roof edge or other means of access	5	4	9
From vehicle	1	2	3
From stacked material	5	5	10
From any manlift equipment	2	2	4
Other	9	19	28
Struck by moving, falling or flying object	20	40	60
Material being lifted	2	0	2
From shelf, table or racking	4	4	8
From weapons	4	2	6
From part of a building	0	3	3
From tree	6	17	23
Other	4	14	18
Asphyxiation/drowning	11	33	44
Water	1	23	24
Grain	6	2	8
Oxygen deficiency	0	3	3
Other	4	5	9
Trapped by something collapsing or overturning	9	34	43
Vehicles overturning / falling from supports	7	20	27
Stacked material	0	2	2
Plant including lifting machinery and equipment	1	5	6
Buildings, structures or part of	0	2	2
Other	1	5	6
Contact with machinery	12	26	38
Combine harvesters	1	4	5
Potato harvesters	1	2	3
Pickup balers	1	3	4
Other self propelled agricultural machinery	0	2	2
Other attached powered machinery	1	10	11
Revolving shafting	1	2	3
Other	7	3	10
Contact with electricity	15	8	23
Handtools	1	0	1
Overhead power lines	8	3	11
Industrial plant	1	1	2
Other	5	4	9

TABLE 2.3 continued	Employees	Self employed	Total
Injury from an animal	11	22	33
Bulls and other cattle	7	21	28
Horses	3	0	3
Other	1	1	2
Exposure to or contact with harmful or hot substance	2	2	4
Entry into confined space	0	1	1
Other	2	1	3
Slip, trip or fall on same level	3	3	6
Fire	2	2	4
Other kinds of accident	4	2	6
TOTAL	157	270	427

TABLE 2.4: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

Site of Injury	Employees	Self employed	Total
Head injuries	33	66	99
Neck	6	8	14
Back	2	3	5
Trunk	21	47	68
Several torso	4	20	24
Upper limb	0	1	1
Lower limb	8	3	11
Several of above	25	40	65
General locations (inc drowning, asphyxn & lectrocution)	41	62	103
Other / unspecified locations	17	20	37
TOTAL	157	270	427

NATURE of Injury	Employees	Self employed	Total
Fractures	28	35	63
Concussion and internal injuries	17	44	61
Crushing's and contusions	12	28	40
Asphyxiation, poisoning and gassing	14	15	29
Injury caused by electricity	13	7	20
Multiple injury types	22	60	82
Other known	25	54	79
Unknown	26	27	53
TOTAL	157	270	427

TABLE 2.5: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

OCCUPATION	Employees	Self employed	Total
Farmer / Farm Manager / Managerial	9	127	136
Farm worker / Labourer	75	39	114
Forestry worker / Arborist	5	27	32
Tractor driver	14	6	20
Other driver	4	4	8
Stockman	1	2	3
Crop sprayer	2	7	9
Agricultural contractor	1	6	7
Other	46	52	98
TOTAL	157	270	427

TABLE 2.6: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

PROCESS ENVIRONMENT	Employees	Self employed	Total
Agriculture operations – all operations involving agriculture eg cultivation, harvesting, crop spraying, all crop processing	37	58	95
Livestock operations - animal housing/ handling, feeding & all other animal related operations	26	41	67
Fish Farming	1	21	22
Maintenance (machinery)	10	16	26
Maintenance (buildings)	8	12	20
Maintenance (land)	8	11	19
Maintenance (other)	5	6	11
Maintenance of trees and woodland	5		25
Tree Felling (forestry & arboriculture)	5	17	22
Tree extraction (forestry & arboriculture)	1	2	3
Walking / running on or outside premises including entering and leaving buildings	9	9	18
Traveling / delivering in vehicle including driving on public highway and offsite	6	4	10
Sporting activities including riding / racing	2	1	3
Loading/unloading	6	9	15
General handling	6	2	8
Other	22	41	63
TOTAL	157	270	427

TABLE 2.7a: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

AGE	Employees	Self employed	Total
Under 16	3	0	3
16-19	10	2	12
20-24	16	5	21
25-34	29	36	65
35-44	25	48	73
45-54	29	48	77
55-64	27	54	81
65 and over	17	72	89
Age not known	1	5	6
TOTAL	157	270	427

TABLE 2.7b: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

	Total Workers (Employed & Self Employed) by year										
	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	Total
Under 16	0	0	1	1	0	0	0	1	0	0	3
16-19	1	2	0	2	1	1	0	2	1	2	12
20-24	3	3	3	2	2	0	2	2	3	1	21
25-34	10	10	6	6	6	1	4	7	6	9	65
35-44	2	4	11	10	6	5	12	6	3	14	73
45-54	11	6	13	5	11	6	10	5	5	5	77
55-64	7	8	8	5	11	12	8	6	8	8	81
65 and over	11	7	12	9	9	11	10	10	7	3	89
Age not	1	0	1	0	0	0	0	0	2	2	6
TOTAL	46	40	55	40	46	36	46	39	35	44	427

TABLE 2.8: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

DAY OF THE WEEK	Employees	Self employed	Total
Monday	17	36	53
Tuesday	32	32	64
Wednesday	28	43	71
Thursday	28	61	89
Friday	24	37	61
Saturday	20	30	50
Sunday	8	31	39
TOTAL	157	270	427

MONTH	Employees	Self employed	Total
April	15	12	27
May	12	19	31
June	16	17	33
July	14	25	39
August	23	33	56
September	15	29	44
October	14	29	43
November	11	25	36
December	11	11	22
January	9	17	26
February	6	33	39
March	11	20	31
TOTAL	157	270	427

TABLE 2.9: Fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

TIME OF DAY	Employees	Self employed	Total
Before 08:00	4	8	12
08:00 - 08:59	6	5	11
09:00 - 09:59	13	11	24
10:00 - 10:59	19	22	41
11:00 - 11:59	22	23	45
12:00 - 12:59	10	17	27
13:00 - 13:59	13	14	27
14:00 - 14:59	12	20	32
15:00 - 15:59	15	25	40
16:00 - 16:59	7	23	30
17:00 - 17:59	9	22	31
After 18:00	15	43	58
Time not known	12	37	49
Total where time is known	145	233	378
TOTAL	157	270	427

TABLE 2.10: Summary of fatal injuries to members of the public in agriculture, 1994/95 to 2003/04

YEAR OF ACCIDENT	Members of the public	... of which were children
1994/95	5	2
1995/96	5	3
1996/97	9	7
1997/98	11	4
1998/99	9	3
1999/2000	8	4
2000/2001	7	4
2001/2002	2	1
2002/2003	3	1
2003/2004	7	2
TOTAL	66	31

KIND OF ACCIDENT	Members of the public	... of which were children
Struck by moving vehicle	19	14
Asphyxiation or drowning	10	5
Struck by moving, flying or falling object	10	2
Injury by an animal	8	0
Fall from a height	5	1
Contact with electricity or an electrical discharge	5	3
Contact with machinery or material being machined	4	4
Trapped by something collapsing or overturning	3	1
Struck against something fixed or stationary	1	0
Fire	1	1
TOTAL	66	31

SITE OF INJURY	Members of the public	... of which were children
Head injuries	13	10
Neck	2	1
Trunk	6	1
Upper limb	2	1
Lower limb	3	0
Several torso	3	0
Several locations	10	6
General locations (inc drown,asphyx & electrocution)	19	7
Other/unspecified locations	8	5
TOTAL	66	31

TABLE 2.10 continued

NATURE OF ACCIDENT	Members of the public	... of which were children
Fractures	11	4
Concussion and internal injuries	6	2
Crushing's & contusions	1	1
Asphyxiation, poisoning and gassing	7	3
Injury caused by electricity	5	3
Multiple injury types	15	8
Other known	13	7
Unknown	8	3
TOTAL	66	31

PROCESS ENVIRONMENT	Members of the public	... of which were children
Agriculture operations – all operations involving agriculture eg cultivation, harvesting, all crop processing including spreading of manure	14	8
Livestock operations - animal housing/ handling, feeding & all other animal related operations	5	1
Maintenance (machinery)	2	0
Maintenance (buildings)	1	1
Maintenance (land)	3	0
Maintenance of trees and woodland including tree felling & extraction (forestry & arboriculture)	2	0
Walking / running on or outside premises including entering and leaving buildings	8	10
Traveling / delivering in vehicle including driving on public highway and offsite	6	0
Loading / unloading	3	1
Holiday / Leisure	3	0
Other	19	10
TOTAL	66	31

TABLE 2.10 continued

AGE OF INJURED PERSON	Members of the public
1 - 5	17
6 - 10	8
11 - 15	6
16 - 19	5
20 - 64	18
Over 65	12
TOTAL	66

DAY OF THE WEEK	Members of the public	... of which were children
Monday	8	4
Tuesday	13	5
Wednesday	12	8
Thursday	6	2
Friday	8	3
Saturday	8	3
Sunday	11	6
TOTAL	66	31

MONTH	Members of the public	... of which were children
April	3	1
May	4	3
June	8	2
July	13	5
August	8	5
September	7	4
October	4	2
November	3	1
December	4	2
January	6	3
February	2	1
March	4	2
TOTAL	66	31

PART THREE

NON-FATAL INJURIES
IN THE AGRICULTURAL SECTOR
1994/1995 TO 2003/04

NON-FATAL INJURIES IN THE AGRICULTURAL SECTOR
1994/1995 TO 2003/04

The figures for the number of non-fatal injuries in the agricultural sector notified to enforcing authorities under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) should be treated with caution.

The 2001/02 Labour Force Survey (LFS), indicates that around 30% of non-fatal injuries reportable under RIDDOR, are actually notified to HSE and local authorities. This relates to both employees and self-employed persons. It should be noted that the number of injuries in the agriculture sector, identified in the LFS, is rather small and consequently the 30% figure quoted is only approximate. The self-employed across all industry report about 5% of injuries notifiable under RIDDOR.

Table 3.1 shows that the number of reports of non-fatal injuries to employees in 2003/04 decreased from last year's figures of 1811 to 1398.

The accident incidence rate at 660.2 (per 100,000 employees) also decreased when compared against the previous years figure (812.7).

At 106, the number of reported injuries to self-employed people has increased by 17 (19%) from last years figure of 89.

The reported injury rate for the self-employed of 60.6 (per 100,000 workers) is slighly higher than last years figure (57.3).

Table 3.2 shows the main causes of the reported non-fatal injuries in 2003/04.

- Once again the biggest single cause of reported injuries was handling, lifting or carrying. This category accounted for 27% of the total number of accidents reported.

- The second largest cause of accidents was slips, trips or falls - accounting for 300 (20%), struck by a moving, flying or falling object 218 (14%) and falls from height a further 152 (10%).

- 121 (8%) of workers were injured by an animal.

- A further 7% were injured when they came in contact with machinery and 5% as result of being struck against something fixed or stationary.

Table 3.3 details the activity in progress at the time of the accident. Of the specified categories:

- Maintenance activities involving maintenance of machinery, buildings, land, etc. accounted for 21% of all injuries.

- Livestock operations - the housing and handling of animals, and the servicing of bulls accounted for 15% of all injuries.

- Loading and unloading and handling together accounted for 12% of the reported injuries.
- The general categories of agricultural operations and labouring accounted for 17%.

Table 3.4 shows that the number of reported major injuries to members of the public in the agricultural sector. In 2003/04 there were 35, which is lowest recorded for over a decade (see the Appendix to this part).

- The number of children suffering a major injury in 2003/04 was 7 - the lowest number recorded over a ten year period and half of last years figure of 15.

- Injury by an animal was the most common cause of reported injuries to the public (26%).

Other common causes of accident to members of the public were;

- Slip, trip or fall on same level and fall from a height – 6 accidents (each) (17%).

APPENDIX

The figures are based on reports made under RIDDOR to the Health and Safety Executive and include a small number made to local authorities. Reportable non-fatal injuries are major injuries (chiefly amputations, fractures and other injuries causing hospitalisation for more than 24 hours) and other injuries ie injuries which result in incapacity for work for more than three days. From 1996/97, the revised qualifying criteria for major injuries includes minor fractures, amputations and dislocations. Injuries arising from acts of violence at work are also now reportable.

The requirements for reporting injuries to members of the public also changed with the implementation of RIDDOR 1995; with effect from April 1996. Subsequently only those injuries involving the public which result in death or the person being taken from the site of the accident to a hospital are reportable under RIDDOR.

The agricultural sector was defined as Standard Industrial Classification 1980 Division 0 including horticulture, forestry and fish farming. However, figures for 1995/96 and later are based on Standard Industrial Classification 1992 Sections A and B which also includes hunting. As a result the figures from 1995/96 are not directly comparable with those for previous years.

TABLE 3.1: Non-fatal injuries to employees and self employed people in agriculture, 1994/95 to 2003/04

		RIDDOR 85		RIDDOR 95 **							
		94/95	95/96	96/97	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04
Employees	No.	1721	1677	2135	1929	1939	2034	1927	2097	1811	1398
	Rate*	702.4	652	808.8	657.5	624.2	700.0	692.8	832.2	812.7	660.2
Self employed	No.	194	162	157	122	113	115	86	131	89	106
	Rate*	68.8	67.5	64.2	53.2	55.9	65.0	49.4	75.8	57.3	60.6
Employees and Self employed	No.	1915	1839	2292	2051	2052	2149	2013	2228	1900	1504
	Rate*	363.5	369.9	450.8	395.9	392.8	459.8	445.1	524.4	502.5	389.1

TABLE 3.2: Non-fatal injuries to employees and self employed people in agriculture, 2003/04

KIND OF ACCIDENT	Employees	Self employed	Total Numbers
Handling, lifting or carrying	400	5	405
Slip, trip or fall on same level	289	11	300
Struck by moving, including flying or falling, object	191	27	218
Fall from a height	133	19	152
Injury by an animal	109	12	121
Contact with machinery or material being machined	91	11	102
Struck against something fixed or stationary	62	10	72
Struck by moving vehicle	30	2	32
Exposure to or contact with harmful or hot substance	29	1	30
Trapped by something collapsing or overturning	10	1	11
Contact with electricity or an electrical discharge	5	2	7
Other	49	5	54
TOTAL	1,398	106	1,504

TABLE 3.3: Non-fatal injuries to employees and self employed people in agriculture, 2003/04

PROCESS ENVIRONMENT	Employees	Self employed	Total
Livestock operations - animal housing/ handling, feeding & all other animal related operations	210	20	230
Agriculture operations – all operations involving agriculture eg cultivation, harvesting, crop spraying, all crop processing	185	15	200
Other production processes associated with agriculture	48	0	48
Maintenance (land)	204	7	211
Maintenance (machinery)	61	6	67
Maintenance (buildings)	25	7	32
Cleaning internal parts of building – floors, stairs including cleaning up spills	5	0	5
Arboriculture - tree surgery, care of trees	74	14	88
Forestry – management and harvesting of trees	40	10	50
Fish farming	24	0	24
Storing	37	1	38
Packing	9	0	9
Walking / running on or outside premises including entering and leaving buildings	79	2	81
Traveling in vehicle including driving on public highway	30	5	35
Climbing/descending up/from equipment eg vehicles stairs, machines	80	7	87
Riding / racing	13	1	14
Loading/unloading	64	4	68
General handling	113	1	114
General labouring	54	6	60
Other	43	0	43
TOTAL	1,398	106	1,504

TABLE 3.4: Major injuries to members of the public in agriculture, 1994/95 to 2003/04

YEAR OF ACCIDENT	Members of the public	... of which were children
1994/95	64	26
1995/96	59	19
RIDDOR 95 applies after 1995/96, see Appendix to Part 3		
1996/97	192	51
1997/98	176	52
1998/99	192	47
1999/2000	185	58
2000/2001	141	59
2001/2002	130	33
2002/2003	85	15
2003/04	35	7
TOTAL	1,259	367

KIND OF ACCIDENT (2003/04)	Members of the public	... of which were children
Struck by moving vehicle	3	1
Fall from a height	6	1
Struck by moving, including flying or falling, object	4	0
Struck against something fixed or stationary	2	0
Injury by an animal	9	1
Slip, trip or fall on same level	6	0
Handling, lifting or carrying	1	1
Contact with a harmful substance	2	2
Other	2	1
TOTAL	35	7

PROCESS ENVIRONMENT (2003/04)	Members of the public	... of which were children
Agricultural operations	2	0
Livestock operations	7	1
Maintenance of land	3	2
Walking / running on or outside premises including entering and leaving buildings	6	2
General handling	3	0
Sporting activities	5	1
Other	9	1
TOTAL	35	7

PART FOUR

COSTS OF ACCIDENTS
1 April 2004 to 31 March 2005

ESTIMATED COST OF ACCIDENTS IN FARMING, FORESTRY AND HORTICULTURE 2004/05P[3]

Introduction

The following tables present estimates for number of accidents in farming, forestry and horticulture from 1st April 2004 to 31st March 2005p and the costs that they impose upon society, the farmer and the farm workers. The sector includes all businesses involved in agriculture, forestry, hunting and fishing, although non-farming businesses account for only a small proportion of the sector.

Employers (and the self-employed) are required to report all fatal (and most non-fatal) workplace accidents to the Health and Safety Executive (HSE) under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).[4] To control for the under-reporting of non-fatal injuries, adjustments have been made to the number of major and over three day injuries reported using data from the Labour Force Survey (LFS).

To estimate the level of under-reporting HSE asks respondents to the LFS if they have suffered a workplace injury during the previous 12 months. The latest estimates for the level of reporting are from 2001/02 with an estimated level of reporting for agricultural sector employees of 40% for England and 14% for Scotland. It is not possible to provide a robust estimate of reporting level for Wales because there are an insufficient number of cases from which to extrapolate a statistically significant result. A central estimate of 15% has been used for Wales but the actual level of reporting could be in the range of 8% to 90%.

The number of self-employed suffering injuries in farming, forestry and horticulture reported under the LFS is too small for a robust reporting level to be estimated. For this reason the level of reporting for all self-employed workers (5%) has been used.

RIDDOR does not collect data on minor or non-injury accidents so the number of these accidents has been estimated using the LFS and similar assumptions to those made in Davies and Teasdale (1999)[5]. To estimate the number of minor injuries, the ratio of minor to the sum of over three day and major injuries has been calculated for 2001/02 using LFS data. This ratio has then been applied to the sum of major and over three day injuries in 2004/05p to estimate the number of minor injuries in 2004/05.

The number of non-injury accidents has been estimated by applying the ratio of injury to non-injury accidents in Davies and Teasdale (1999) to the estimated number of injuries in 2003/04p. Davies and Teasdale use a ratio of 1:20 for the agriculture sector.

[3] Accidents figures are provisional and have not been validated.
[4] The main exception to this rule is accidents at work which take place on the public highway and must be reported to the police.
[5] Davies and Teasdale, 1999. 'The cost to Britain of workplace accidents and work-related ill health', published for the HSE. ISBN 0-7176-1709-2

TABLE 1: The number and type of accidents to farmers and farm workers in farming, forestry and horticulture 2004/05p (corrected for under-reporting).[6]

Region	Fatal	Major	Over Three Day	Minor[7]	Non-Injury[5]	Total
East and South East[8]	10	1460	1580	3760	136,090	142,890
South West	4	910	440	1660	60,250	63,260
Midlands	9	1070	860	2380	86,180	90,490
Yorkshire and North East	4	550	650	1480	53,650	56,330
North West	5	560	340	1110	40,250	42,260
Wales	4	290	750	1290	46,610	48,940
Scotland	8	1160	1780	3630	131,560	138,130
Total	44	5990	6390	15310	554,580	582,310

The estimated numbers of injuries in Table 1 have been used to estimate the cost of accidents in farming, forestry and horticulture presented in tables 2, 3 and 4. Those figures have been calculated following the methodology of Davies and Teasdale (1999). Estimating the cost of accidents for the regions relies on extrapolating from a small sample of cases so they are subject to greater uncertainty than the overall totals.

[6] Figures have been rounded and may not sum to the totals.
[7] Estimated figures.
[8] Includes London.

TABLE 2: Estimated costs to society of accidents in farming, forestry and horticulture 2004/05p (£ million, 2004/05 prices) .[9]

Region	Pain Grief and Suffering	Lost Output	Damage	Medical	Administrative	Total
East and South East	£37.8	£6.0	£36.6	£3.1	£0.4	£83.9
South West	£20.0	£2.3	£20.8	£1.6	£0.2	£44.9
Midlands	£28.3	£3.2	£25.6	£2.1	£0.3	£59.6
Yorkshire and North East	£14.6	£1.9	£14.0	£1.2	£0.2	£31.9
North West	£14.8	£1.6	£13.0	£1.0	£0.1	£30.0
Wales	£10.5	£1.7	£8.9	£0.8	£0.1	£22.1
Scotland	£31.5	£5.0	£30.9	£2.7	£0.4	£70.6
Total	£157.6	£21.8	£149.8	£12.5	£1.7	£343.4

Table 2 does not include the costs of accidents which result in injuries to members of the public. The recorded numbers of such accidents are very low, whilst the uncertainties surrounding them are large.[10]

[9] Figures have been rounded and may not sum to the totals.
[9] If the available data on injuries to members of the public are included, the total costs to society rise by less than 2%.

[10] If the available data on injuries to members of the public are included, the total costs to society rise by less than 2%.

Pain, Grief and Suffering: These are the costs associated with loss of quality of life. The values have been taken from the Highways Economic Note No. 1 published by the Department for Transport (2003) and Davies and Teasdale (1999) which used the willingness to pay component of the Department for Transport (Department of the Environment, Transport and the Regions) value of prevention per road casualty. [11]

Lost Output: This is the economic contribution lost to the economy as a result of people not working due to injury. It is proxied by calculating the normal cost of employing a worker, multiplied by the amount of time taken off work.[12]

Damage Costs: The cost of damage from workplace accidents. Damage costs were estimated using the cost of insurance (excluding theft and trespass but including fire) based on a total insurable amount of £29,200 per farm covering tools, mobile and fixed equipment. [13]

Medical Costs: The costs incurred by the NHS as a result of workplace injuries.**[14]**

Administrative Costs: The administrative costs to employers of dealing with absence including calculation and payment of Statutory Sick Pay, collection and processing of sick notes, extra recruitment costs and possibly extra management time in rescheduling.**[15]**

---

[11] Pain grief and suffering has been calculated by multiplying the unit values for the different types of injuries by the estimated number of those injuries. The cost of pain, grief and suffering for fatalities is the human costs from the Department for Transport's Highways economic note No. 1. The costs of pain, grief and suffering for major, over three day and minor injuries have been taken from Davies and Teasdale (1999). Costs have been uprated to 2004/05 prices using nominal GDP per capita.

[12] Lost output has been estimated by the following calculation. The average cost of a worker per day has been calculated by multiplying the average wage rate in the sector from the Annual Survey of Hours and Earnings (ASHE) 2004 by the average working week divided by 5 and increased by 30% for non-wage labour costs. The average cost per day has then been scaled using average hourly pay (including overtime) for full time employees in each of the regions. The average cost of a worker per day for each region has then been multiplied by the average number of days off per injured worker who took time off in 1995/96 (Davies and Teasdale, 1999), the proportion of accidents for which time is taken off in 1995/96 (Davies and Teasdale, 1999) and the total number of fatal, major, over three day and minor accidents.

[13] Damage costs have been calculated by multiplying the premium per farm for insuring a value of £29,200 by the number of farms (274,600) to calculate the total premium paid by the sector. This represents the insurable, physical damage, costs of accidents. The uninsurable costs of accidents (e.g. lost time, lost output) is estimated by taking the ratio of insured to uninsured costs from case studies in Davies and Teasdale and applying it to the total premium. The total economic damage costs are then the sum of the total premium and the uninsured cost. This has then scaled between the regions using the total cost of major and over three day accidents in each region (excluding insurance costs).

[14] Medical costs have been calculated by multiplying unit medical costs from Davies and Teasdale (1999) for major, over three day and minor injuries by the number of major, over three day and minor accidents. This cost has then been uprated to 2004/05 prices using the Department for Health's Hospital and Community Health Services (HCHS) pay and price inflation index. One component of the HCHS index is not available for 2004/05, so has been estimated by taking the average of the past five years.

[15] Administrative costs have been calculated as follows. The average administrative cost per day per worker from Davies and Teasdale (1999) has been multiplied by the number of days lost through accidents. The total cost has been uprated to 2004/05 prices using the Average Earnings Index (AEI), as the administrative costs in Davies and Teasdale (1999) are labour costs.

It has not been possible to quantify all the costs of accidents and injures in the farming, horticulture and forestry sector because there is insufficient data available. For instance, the administration costs associated with government sick pay and benefits, the cost of extra expenditure incurred by the injured worker as a result of their injury, the cost of workers forced to leave the labour market as a result of their injury and the cost to HSE of investigating injury and non-injury accidents have not been estimated.

TABLE 3: Estimated cost of lost output, damage and administration to farmers and farm workers of farm accidents in 2004/05p (£million, 2004/05 prices) .[16]

Region	Farmers	Farm employees	Total
East and South East	£40.3	£2.1	£42.4
South West	£22.4	£0.6	£23.0
Midlands	£27.9	£0.9	£28.8
Yorkshire and North East	£15.3	£0.6	£15.9
North West	£14.1	£0.3	£14.5
Wales	£10.0	£0.5	£10.6
Scotland	£33.9	£1.9	£35.9
Total	£164.1	£6.9	£171.1

Table 3 presents the estimated costs to farmers and farm workers. Both of these groups bear a proportion of the costs in Table 2 excluding pain, grief and suffering. The costs falling on farmers are the costs to farm businesses and self-employed farmers. (A small proportion of this cost will fall on non-farming agricultural businesses).

Note: The total costs to farmers and farm workers in tables 3 and 4 are less than the total costs in table 2. This is because medical costs (which are borne by the state) are excluded and a small proportion (10%) of the lost output costs are assumed to be transferred from individuals to the state through benefits and sick pay.[17]

[16] Figures have been rounded and may not sum to the totals.
[17] It is assumed that 10% of the costs of lost output are borne by the state while employees bear 46% of the costs and employers 44%. Self-employed farmers bear 90% of the lost output costs.

TABLE 4: Estimated cost to farmers and farm workers of farm accidents in 2004/05p, including pain, grief and suffering (£million, 2004/05 prices). [18]

Region	Farmers	Farm employees	Total
East and South East	£56.2	£24.0	£80.2
South West	£34.1	£8.9	£43.0
Midlands	£42.3	£14.9	£57.1
Yorkshire and North East	£24.1	£6.4	£30.5
North West	£26.2	£3.1	£29.3
Wales	£14.3	£6.8	£21.1
Scotland	£43.0	£24.3	£67.4
Total	£240.3	£88.4	£328.7

The majority of the costs of pain, grief and suffering fall on farm workers but there is also an increase in the cost to farmers because the cost to farmers includes the cost of injuries to the self employed.

Conclusions

The total estimated cost of accidents in farming, forestry and horticulture is £343 million. Farmers bear the majority of this cost but the proportion of costs borne by farm employees is significantly higher if pain, grief and suffering are included.

In addition to the costs estimated here there are costs to society from ill health in the agricultural sector. Davies and Teasdale (1999) estimated that the cost to society of ill health in the agricultural sector in 1995/96 was between £80 and £90 million (1995/96 prices). It has not been possible to estimate the costs of ill health in 2004/05 because there are insufficient data.

[18] Figures have been rounded and may not sum to the totals.

PART FIVE

CASE STUDIES

INTRODUCTION

Farming is an inherently hazardous profession due to the need to work with potentially dangerous machinery and workplace transport, chemicals, livestock, working at heights or near pits and silos, and the effects of environmental factors such as bad weather, noise and dust. Additional factors which reinforce the hazardous nature of the industry include the increasing industrialisation of farming through the use of larger, more complex machinery, increased land and capital intensiveness, concentrated livestock production, a declining workforce and demographic changes in the working population.

The case studies in this section are all real incidents that sometimes had fatal consequences for the people involved. This year's case studies concentrate on a wide range of different scenarios - including child safety, machinery and guarding, transport, overhead power lines, tree work and falls. These types of accident accounted for a large proportion of all the deaths in agriculture.

As of April 2004, under new programme management arrangements, operational work carried out by operational staff across all industries takes the form of targeted projects. These projects form coherent programmes of activity designed to deliver the PSA targets by targeting the main causes of fatal accidents. For transport these will be vehicle maintenance and driver training; for falls from heights inspectors will be checking that employers have assessed the risks, are using the right equipment and their employees are adequately trained and competent to carry out the work.

It is important that we all learn from accidents so that employers, employees, farmers and their families can avoid the loss of a loved one and the pain, grief and suffering, loss of quality of life and financial costs of an accident. The case studies in this section include the fines and costs awarded where there was a prosecution. The real cost of accidents is much higher than this; the pain and suffering, the time off work, damaged equipment, replacement staff costs, lost produce, increased insurance premiums and offenders own legal costs far exceed this figure. Taking precautions to avoid it happening to you makes legal, moral and financial sense.

CHILD SAFETY

As well as having one of the highest fatal accident rates of any industry in the UK, agriculture is also the only high-risk industry that has to deal with the constant presence of children. Farms are homes as well as workplaces. Visitors to the countryside, many of them children, are often present on farm while work activities are being carried out.

The following case studies reflect the dangers arising from the use of farm machinery and from common farming activities.

CASE STUDY 1: YOUNG CHILDREN

The director of a farming partnership was prosecuted under section 3 (1) of the Health and Safety at Work etc Act 1974 following a fatal accident to an eight-year old child who was crushed under the wheels of a reversing forklift truck. The child was staying at his grandparents during the school holidays, where he was given rides around the farm. It is not known exactly what happened but it is believed the child either fell from the FLT whilst it was reversing or ran towards the reversing vehicle and was run over.

The partner pleaded guilty to the charge and was fined £17,500 and ordered to pay £2,779 towards the cost of bringing the prosecution.

Transport – struck by a moving vehicle, being trapped by something collapsing, overturning vehicles and machinery are the most common cause of accidents to children. The prevention of Accidents to Children Regulations prohibits the carrying of any child under 13 years in the cab of any agricultural vehicle.

If you wish to carry passengers including children over 13 years on vehicles then provisions must be made to allow them to be carried safely. For example, trailers used to carry passengers should be fitted with guardrails and secure seating arrangements made to reduce the risks of persons falling from vehicles in motion.

Vehicle routes and movements need to be planned to separate them from pedestrians. Ideally, areas where vehicles manoeuvre should be kept pedestrian free. Putting children at risk by encouraging them to be near farm vehicles leads to injury – possibly fatal – as shown in this case. Remember children often think that because they can see the driver the driver can see them. Farmers can and must do more to protect children from the real dangers on farms.

CASE STUDY 2: YOUNG PEOPLE WORKING WITHOUT ADEQUATE TRAINING AND SUPERVISION

A 14 year-old child on a work placement scheme with a company operating a commercial shoot was killed when the ATV he was riding overturned. He had ridden the ATV into woods on his own to feed pheasants and was later found fatally injured next to the overturned ATV on sloping ground. He was not wearing a helmet although this was not the cause of his death.

The company was prosecuted under section 3(1) of the Health and Safety at Work etc Act 1974 for failing to assess adequately the risks associated with using ATVs and for allowing its gamekeepers to use them without training. Magistrates also heard that the tyres on the ATV were inflated to different pressures, which could have made the bike less stable.

The company pleaded guilty and was fined £35,000 and ordered to pay £25,000 towards the cost of bringing the prosecution.

Employers and users need to appreciate the dangers associated with ATVs. The lessons to be learnt from this case are to ensure that people using such machines have been properly trained, that they are capable of remaining in control of the bike at all times, that any tasks undertaken are within their capacity and that proper supervision is exercised. Use of personal protective equipment, especially head protection is essential, as is following the manufacturer's safety instructions, which advise specific age limits for different types of machine.

Children and young people are more vulnerable to injury than adults. A thorough risk assessment should be carried out before a child or young person uses any machinery or equipment or undertakes any task. Employers and users should be aware also that use of some work equipment by children is specifically prohibited.

Even if the risk assessment indicates that the risk is low or can be controlled, adequate instructions and training, appropriate to the physical and emotional maturity of the individual child or young person, should be given.

CASE STUDY 3: FAILING TO ASSESS THE RISKS TO CHILDREN

A farming company was prosecuted under section 2 (1) of the Health & Safety at Work etc. Act 1974 and 5(4) of the Management of Health and Safety at Work Regulations 1999 following an accident to a young person who was run over by a forklift truck that was being driven by an untrained and unauthorised person. He was riding on the side of the truck when he fell off and the FLT ran over his leg.

The young person was not properly supervised nor was a young persons risk assessment carried out. This accident could have been preventative had he not been riding on the back of the forklift truck.

The company pleaded guilty and was fined £7,000 together with £4,000 towards the prosecution costs.

CONTACT WITH MACHINERY

Over the past 10 years, thirty-eight people have been killed after they came into contact with unguarded machinery or had attempted to clear blockages or work on machinery that was still operating.

CASE STUDY 4: MACHINERY - GUARDING, TRAINING / INSTRUCTIONS

An active partner in a farming business was prosecuted following an accident to a retired casual worker, whose right arm was drawn into a potato harvester. The accident happened on the worker's second day at work on the machine. At the end of the day he reached across a processing section of the machine that should have been guarded to retrieve the last remaining potatoes from the machine as it was running clear. His arm was drawn up to the elbow in an in-running nip breaking his fingers and forearm bones, removing muscle from the top of his forearm. The worker was airlifted to hospital.

This accident was entirely preventable. The farmer had failed to guard dangerous parts on the secondhand machine that had been brought back into use after standing idle for a number of years. When the harvester was originally manufactured a net guard protected the in-running nip. Net guards are not effective and so the guard was upgraded to a metal guard in the early 1990's with the manufacturer making a retro fit kit available for existing machines such as the one involved in this accident.
The farmer was prosecuted under regulation 11(1) of the Provision and Use of Work Equipment Regulations 1998 (PUWER) for failing to take effective measures to prevent access to dangerous parts of the machine. He pleaded guilty and was fined £5,000 plus prosecution costs of £1,561. The magistrates had considered referring the case to Crown Court for sentencing but decided to impose the maximum fine due to the severity of the offence. They explained that if they referred the case to the

Crown Court they anticipated that that Court would impose a fine of £7500 less discount of one third for early plea.

Unguarded or inadequately guarded machines continue to be a source of numerous serious accidents to adults (and children) on farms. All machines must be effectively guarded to prevent any contact with the dangerous parts.

Under PUWER, employers have to ensure that equipment for use at work is effectively guarded BEFORE being used. A simple system for checking over equipment before use would have identified a missing guard.

CASE STUDY 5: MACHINERY - GUARDING, TRAINING AND INSTRUCTION

Two farm workers were killed, whilst they were using a tractor mounted hydraulically driven machine used for winding up long lengths of rope. They became entangled between the rope and a rotating shaft. The machine was being used to wind up long lengths of rope used to secure polythene unto the metal hoops of the polytunnels, which protect the fruits grown on the farm. The standard practice was for one employee to stand about 6m behind the winding machine feeding the rope whilst the other stayed in the stationary tractor cab operating the controls. It is not known why the tractor driver left the cab without first turning off the machine. The bodies of both workers were found some hours after the accident.

The investigation of the incident concluded that the deceased men were using a tractor-mounted fleece winder machine, which was not suitable for rope winding as due to its design as it had a significant rundown time after it was switched off and, it did not have an automatic cut off and braking system in the event of entanglement. The employees, were not made aware of the dangers posed by the task and had not been adequately trained. This resulted in a tragic and preventable accident, which resulted in the loss of two young lives.

Both the partnership which ran the farm, owned the machine and employed one of the men as well as the specialist company who were contracted to dismantle the tunnels should have undertaken a risk assessment or at least ensured that a suitable and sufficient risk assessment had been done.

The farming partnership were prosecuted under:

1. Section 2(1) of the Health and Safety at Work etc Act 1974 for failing to ensure the safety at work of employees by the provision of safe plant and safe systems of work

2. Regulation 3 (1) of the Management of Health and Safety at Work Regulations 1999 for failing to undertake a suitable and sufficient assessment of the risk to the health and safety of employees

The company contracted to build and dismantle the polytunnels was prosecuted under

(1) Section 3 Health and Safety at Work etc Act 1974 for failing to

Where employees of different employees work in the same workplace, their respective employers may have to co-operate to produce an overall risk assessment. HSE's approach to migrant workers is the same as for British workers. All workers are afforded the same protection by law

Both companies pleaded guilty, the farming partnership was fined a total of £60,000 plus prosecutions costs of £45,548 and the contractor was ordered to pay £20,000 plus prosecution costs of 15,516

In summoning up the case, the judge said, “no adequate risk assessment had been carried out and it was particular to the partnership to address this problem because they had 300 workers, many of whom were students and many from abroad who may not have had full understanding of safe working practices.”

Farmers must ensure they take into account how machines should be operated when deciding safe working practices and if they want to use a machine for a purpose for which it was not designed, they should check with the manufacturer before doing so. Farmers must also ensure that workers are trained for the tasks they are asked to do and made aware of any dangers. This case also highlights the necessity of carrying out a proper risk assessment, which would have shown the serious risk of entanglement. HSE has developed software to help farmers carry out a comprehensive health and safety assessment of their farms and this is available free from the HSE website.

TRANSPORT

Transport and transport related accidents are the largest single cause of fatal injuries in the agricultural sector. The most common scenarios involve contact with moving vehicles and being trapped or crushed when vehicles overturn. Many of these accidents are caused by a lack of operator training and poor visibility. The following examples show how easily deaths and serious injuries can occur, but just as importantly, how some straightforward steps could have prevented them from occurring.

CASE STUDY 6: TRANSPORT

An employee died when he was crushed against a mobile cleaning machine by a forklift truck. He had finished processing wheat seeds when his colleague got onto the forklift truck to move the last bag. When it started, it moved forward trapping him against the machine. The company had not done all that was reasonably practicable to ensure the safety of their employees whilst undertaking seed dressing activities on customers’ premises.

The farming company was prosecuted under s 2(1) of the Health and Safety at Work etc. Act 1974 for not taking reasonably practicable steps to prevent employees walking into the dangerous gap between the forklift truck and the mobile seed-dressing vehicle. They also failed to establish suitable authorisation for driving the farmer’s forklift truck and other farm machinery.

The company pleaded guilty and were fined £35,000 plus £17,076 prosecution costs. In summoning up the case the judge stated that this was a serious breach of Health and Safety but he accepted that the company had taken their responsibility for Health and Safety seriously before and after the case.

Vehicle routes and movements need to be planned to ensure segregation from pedestrians. Ideally areas where vehicles are manoeuvring should be made pedestrian free. All operators of machines need to be competent and trained on the individual characteristics of machines they are expected to operate. This particular

accident happened at a visited site. Employees & visitors need to be made aware of any site safety rules at visited sites.

OVERHEAD POWER LINES (OHPLs)

Incidents involving OHPLs often involve contractors and others who are not familiar with the locations of OHPLs at the premises where they are working.

CASE STUDY 7: ELECTROCUTION / TRANSPORT

A driver received massive burn injuries to her right scalp and left hip; amputation to little and big toes both feet when she struck a 33Kv overhead power line (OHPL) with a telehandler boom whilst moving metal pig huts from one farm to another. There was no effective supervision, and other employees had previously expressed concerns to farm manager about the proximity of power lines when moving units from site to site.

The driver had no: (1) training or previous experience of driving telehandlers or any other lift truck of any description; (2) safety induction/awareness or supervision; (3) information training or instruction on dangers of OHPLs, nor what to do in emergency; (4) farm map, plan of operation, instruction on lifting operations or information on how to effectively plan the job or location of OHPLs.

No risk assessment had been carried out and they had failed to devise and implement safe systems of work for use of the telehandler. The employee had not been given practical driver training or an assessment of her skills and capability. Instructions about the work task were limited. They were delivered by someone with no qualifications as a trainer and, it transpired he had no qualifications to drive the vehicle.

The employee survived from the accident but is permanently and severely disabled and disfigured. Her injuries were life threatening and the accident could have easily resulted in a fatality. This accident was clearly foreseeable and easily preventable.

The farming company and its director was prosecuted under section 2(1) and 37 (1) of the Health and Safety at Work etc Act and regulation 3(1) of the RIDDOR for failing to:

1. train, instruct and supervise employee's on driving farm machinery (telehandler) and dangers from OHPLs
2. carry out and record an assessment on the risks to employees working in the vicinity of an OHPL
3. effectively plan work and lifting operations near to OHPLs
4. establish a safe system of work for the transportation and movement of pig huts
5. notify the relevant enforcing authority of an incident in which plant or equipment caused an electrical discharge within the specified timescale

The company pleaded guilty and were fined £40,000 and ordered to pay £22,000 towards the cost of bringing the prosecution, and its director was fined £6,250.

Find out the maximum height or reach of your machine and that of visitors likely to visit your site. If they are liable to come close to, or in contact with OHPLS ensure that operators and visitors are informed of the risks, the locations of OHPLS

wherever the machine is to be used, and the precautions to be taken. Further guidance is contained in HSEs agriculture information sheet no 8 (revised).

TREE WORK

Over a ten-year period incidents involving tree work have resulted in 50 fatalities (12%). Tree work needs to be carried out by competent people who have received adequate training. A specialist contractor should carry out any work that involves tree climbing or work at height.

CASE STUDY 8: TREE WORK

Tree work needs to be carried out by competent people who have received adequate training. A specialist contractor should carry out any work that involves tree climbing or work at height.

A tree surgeon was contracted by a householder to top and trim a garden tree. He climbed into the tree to carry out the work, using a top handled chainsaw. Whilst removing branches he seriously cut his left arm and face with the chainsaw. The emergency services were called out to rescue him from the tree but he later died in hospital as a result of severe blood loss.

HSE investigation revealed that: he was climbing the tree without using a rope and he had inadequate protective clothing. It is highly likely that he had been holding the chainsaw one handed. There was no first aid equipment on site and no emergency procedures existed. The other workers on site did not have the necessary skills to climb the tree and carry out an aerial rescue. At the inquest the Coroner recorded a verdict of accidental death, but said that if an employee had died, rather than the tree surgeon, he would have recorded a verdict of unlawful killing, because of the lack of safe working practices.

This case highlights the high risks associated with poor arboricultural working practices. It is essential that all of those involved have been properly trained and where necessary hold the relevant chainsaw certificates of competence. There must be somebody on the ground capable of carrying out an aerial rescue if something goes wrong. All these skills should be regularly practised.

All climbers should carry a large wound dressing in case of injury from a hand or chainsaw. Except in special circumstances, chainsaws should be operated with two hands on the machine. All arborists should use work-positioning techniques with ropes and a harness. It is never acceptable to climb the tree without being attached to at least one load-bearing branch.

STRUCK BY MOVING, INCLUDING FLYING OR FALLING OBJECTS

CASE STUDY 9: STACKING OF BALES

A 19 year-old employee was trapped underneath a large bale of straw which fell from an unstable, incorrectly built stack. If a nearby pallet of feed had not stopped the bale landing directly on her head, neck and spine the accident could easily have been fatal. It is believed that strings of a bale at the bottom of the stack had been cut and hay from that bale used, making the whole stack unsound. The farm manager had been alerted to the risks to the stack stability prior to the accident but failed to rectify the problem or warn staff.

The company was prosecuted under s 2(1) of the Health and Safety at Work etc Act for failing to train, instruct and monitor the staking of bales. The company was fined £6,000 and ordered to pay £8,516 towards the cost of bringing the prosecution.

Bales must be stacked to take account of how they will be used thereby, ensuring continued stability and reduce any manual handling risks. The stack integrity should be monitored. Remember rodents frequently chew through strings.

FALLS FROM HEIGHT

The second largest cause of fatal accidents over the past ten years has been falls from heights. Many of these falls arose when people were carrying out maintenance of, or alterations to, buildings.

CASE STUDY 10: WORKING FROM TELESCOPIC MATERIAL HANDLERS

A farming company was prosecuted following an accident to an employee who fell from an unsecured potato box, which was being used as a work platform on the forks of a raised FLT. The box toppled from the forks landing on the employee fracturing his legs and pelvis.

The company was prosecuted under Section 2(1) of the Health and Safety at Work etc Act 1974 for this unsafe system of work adopted over a period of time, despite a safety cage being available on site. The company pleaded guilty and was fined £1,500 together with £2,358 towards the prosecution costs.

When using FLTs or material handlers with work platforms you must ensure that both are suitable for the task. A fully integrated control is the standard to be achieved. However for work in exceptional circumstances the lifting equipment must have anti-tilt mechanism that is locked off and the work platform must be securely attached to the loader forks. Operators must be suitably trained in the use of material handlers. This is particularly important when lifting people.

CASE STUDY 11: WORKING ON FRAGILE ROOFS

A farm worker sustained serious injuries when he fell through a fragile roof onto a concrete floor while removing fixings on damaged roof sheets. This employee was inexperienced and untrained in roof work and was not properly supervised or provided with fall protection.

The investigation concluded that this accident was foreseeable and (1) fragile material was not boarded; (2) there was no roof edge protection; (3) access was probably gained by an unsecured ladder and (4) the risk assessment was inadequate. The worker fell approximately 2.9m through fragile materials to concrete floor beneath fracturing his pelvis and sustaining wrist and leg breaks. His employer knew the dangers and ignored their own risk assessment, which stated crawling boards should be used.

The farming company was prosecuted under regulation 7(1) of the Construction Health Safety Regulations 1986. The Company pleaded guilty and was fined £1,500.

CASE STUDY 12: WORKING ON FRAGILE ROOFS

A horticultural company was prosecuted under regulation 3(1) of the Management of Health and safety at Work Regulations 1992 and regulation 4(1) of the Construction Health Safety at Work Regulations 1996 following an accident to an employee who fell approximately 4m below through a fragile roof. The employee, a general maintenance worker, was instructed to clean and paint the roof of a packing shed. His employer had not undertaken a suitable and sufficient assessment of the risks involved nor were suitable precautions used to prevent falls through or from a roof.

A tower scaffold and a roof ladder were provided. However that employee worked from the roof rather than the ladder and used his own safety harness. Instructions provided with the harness indicated that it would have no effect in preventing an injury from a fall, as the height of roof was 6m and harness required 5.2m of free space. The building was occupied and contained machinery and equipment. At time of accident the harness was not attached and worker was working backwards painting the roof.

The company pleaded guilty and was fined £4,000 plus costs of £2,639 towards the costs of bringing the prosecution.

Protection against falls is required wherever anyone works on or near fragile materials. Suitable protection will normally include a combination of coverings, guardrails, safety nets, and safety harnesses. Simply walking across the roof sheets or purlins should NEVER be allowed. The Work at Height Regulations 2005 specify that a hierarchy of control measures have to be considered before any work at height is undertaken.

All work on roofs is high risk. All workers should be trained in safe working practices. A risk assessment should be carried out for all roofing jobs. Except in the most straightforward circumstances, a written method statement should be prepared. This should help to ensure that all involved understand exactly what they have to do. It is important to ensure that workers are adequately supervised.

Further guidance is contained in HSE booklet INDG284 “working on roofs” and Agriculture Information Sheet No 32 “preventing falls through fragile roofs in agriculture”. Guidance on the Work at Height Regulations 2005 is available on the HSE website and free HSE booklet INDG401.