

# Fatal injuries in farming, forestry, horticulture and associated industries 2012/13

Operational Strategy Division (OPSTD), Agriculture, Waste and Recycling Sector

## Contents

### **Introduction 2**

Presentation of statistics in this report 2

### **Part One: Fatal injuries in farming, forestry, aquaculture, arboriculture and horticulture 1 April 2012 to 31 March 2013 4**

General 4

Key points 4

Cause of fatality 6

Employment status and location 10

Summary of fatalities by HSE division 11

Employment status, month and age 17

### **Part Two: Fatal injuries in the agricultural sector 2002/03 to 2011/12 20**

Summary 20

Employees and self-employed people 21

Members of the public, 2002/03 to 2011/12 31

### **Part Three: Costs of injuries and fatalities in farming, forestry and horticulture 2011/12 (in 2011 prices) 36**

Summary costs 37

Costs by bearer 38

Non-fatal injuries 39

### **Further advice 41**

# Introduction

1 Part One of this report summarises the fatalities investigated by inspectors from the Health and Safety Executive (HSE), reported in the agricultural sector in Great Britain (GB) between 1 April 2012 and 31 March 2013. The agriculture sector comprises: farming; horticulture; forestry; fish farming; and other associated land-based industries including landscaping and arboriculture.

**Data in Part One of this report is provisional and does not include investigations carried out by local authorities.**

2 Part Two summarises fatal injuries notified to HSE within the agricultural sector in the ten-year period 2002/03 to 2011/12. It identifies trends and highlights key issues from the investigation of fatal injuries involving employees, the self-employed and members of the public during this period.

## The presentation of statistics in this report

3 HSE's official statistics are published by HSE's Statistics Branch and are subject to detailed review and scrutiny in line with national statistics protocols and quality standards. Fatal incident statistics are published for all industrial sectors annually (usually at the end of June), at which time the provisional figures for the 12 months to the end of the previous March are published and the figures for the preceding year are finalised.

4 The figures published in Part One are provisional because detailed checks need to be made to determine whether the fatality is legally reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) and to ensure that it is properly classified against the appropriate industry. These checks are important. Wider lessons cannot be fully learned from individual tragedies and HSE's interventions and messages cannot be properly targeted unless they are based on reliable information about the sector in which the incidents occur and the frequency with which they happen (incidence rates). HSE's Statistics Branch and staff in HSE's industry-specific sectors use data of this kind to work out patterns of incident causation, trends and incidence rates. This helps HSE prioritise and devise effective interventions with particular industry sectors and types of businesses. The number of fatalities cannot be finalised until 16 months after the year end because people injured at work who die from their injury within 12 months are, by international statistical convention, counted as work fatalities in the year of the injury.

5 Although the number of fatal injuries reported in construction was higher, the incidence rate (expressed per 100 000 workers) in agriculture was the highest among the traditional industry sectors in GB in 2012/13. This continues to be a cause of concern for HSE, its Agriculture Industry Advisory Committee (AIAC) and the industry itself. AIAC is kept informed about indicative statistics and incident trends so that, as the year unfolds, any emerging patterns of causation or seasonal trends can be shared with the industry to try to prevent further incidents. The situation is ever-changing and there is a balance between the speed of providing relevant information and certainty.

6 For these reasons, the collective headline statistics recorded in this report are based only on investigations carried out by inspectors from HSE and so will differ from HSE's overall figures published over the previous ten years.

7 In September 2011, the reporting system for RIDDOR also changed with some impact on the resulting statistics. For more information about the coverage of RIDDOR and the effect of recent changes, see [www.hse.gov.uk/statistics/sources.htm](http://www.hse.gov.uk/statistics/sources.htm).

8 Since April 2010, HSE has used the Standard Industrial Classification scheme 2007 (SIC 2007) to define industries, rather than the SIC 2003 scheme used in previous years. So RIDDOR reports prior to April 2010 will have been coded using SIC 2003; those after April 2010 being coded using SIC 2007. Under the new industry coding, landscaping activities have been moved from agriculture to the services sector. The Office for National Statistics (ONS) estimates that this change will affect 13% of employees who were previously classified under agriculture.

9 The reclassification to SIC2007 has affected many of the tables for the agriculture industry published on HSE's statistical website at [www.hse.gov.uk/statistics/index.htm](http://www.hse.gov.uk/statistics/index.htm). The impact on the statistics is different for fatal and non-fatal injuries. On the one hand, the risk to agricultural workers is higher than that to landscaping workers. On the other, we believe the level of reporting of non-fatal injury is higher in landscaping services than in agriculture. This results in an apparent increase in the agricultural fatal injury rate and a corresponding apparent decrease in the non-fatal injury rate.

10 However, because HSE's agriculture strategy has been developed to address the hazards and risks in the industry, defined as including both:

- traditional farming activities such as arable, dairy, livestock and mixed farming, the growing of fruit and vegetables, forestry, production horticulture, aquaculture, agricultural and animal husbandry services; and
- the wider land-based industries, including amenity management and landscaping, arboriculture, animal care, environmental conservation etc;

fatal injuries in arboriculture have been included in this report.

11 Following detailed analysis, HSE has concluded that 38 people died in the industry in 2012/13. Each year this number may differ slightly, for genuine reasons, from the number of deaths previously published centrally by HSE across all industries (one of which is 'agriculture'). Figures in this report include additional and more recent intelligence from HSE operational staff, and will be used when the 2012/13 data is finalised in 2014.

12 It also happens that each year one or two deaths may occur in workplaces that are strongly agriculture-related hence included in this report, although classified by the ONS as services, for example arboriculture.

13 Two deaths included in this report, but not in the all-industry figures previously published, include a 62-year-old self-employed driver who was electrocuted when he came into contact with an overhead power line (OHPL) at a farm and a 70-year-old delivery driver who was run over by a farm telehandler. As outlined in paragraph 4, the figures for 2012/13 remain provisional and may be revised before they are finalised in June 2014.

14 We hope that this approach will not lead to any confusion or concerns about discrepancies between HSE reports. HSE seeks to be transparent about its methodology; to provide up-to-date information and to maximise the immediate use to which this statistical information can be put with the overall aim of learning lessons. We hope the information in this report can be used to prevent or reduce future tragedies.

**If you have any queries about this report, contact the Health and Safety Executive's Agriculture, Waste and Recycling Sector.**

# Part One: Fatal injuries in farming, forestry, aquaculture, arboriculture and horticulture 1 April 2012 to 31 March 2013

## General

15 The total number of reported fatal injuries resulting from work activities in the agriculture sector was 38, including six members of the public.

16 The total excludes reported deaths from reportable diseases and fatal injuries investigated by local authorities.

**Table 1** Six-year comparison

|   | 2007/08   | 2008/09   | 2009/10   | 2010/11   | 2011/12   | 2012/13(p) |
|---|-----------|-----------|-----------|-----------|-----------|------------|
| Employed  | 22        | 9         | 13        | 12        | 12        | 11         |
| Self-employed                                   | 24        | 17        | 25        | 23        | 22        | 21         |
| Non-employed                                    | 2         | 4         | 5         | 8         | 6         | 5          |
| <b>Total adults</b>                             | <b>48</b> | <b>30</b> | <b>40</b> | <b>40</b> | <b>40</b> | <b>36</b>  |
| Total children (<16)                            | 0         | 0         | 3         | 3         | 0         | 1          |
| <b>Total (SIC 2007,<br/>Group 1, 2 &amp; 3)</b> | <b>48</b> | <b>30</b> | <b>43</b> | <b>43</b> | <b>40</b> | <b>37</b>  |
| Arboriculture/<br>landscaping<br>(SIC 81.3)     | 0         | 0         | 0         | 1*        | 1†        | 1‡         |
| <b>Total</b>                                    | <b>48</b> | <b>30</b> | <b>43</b> | <b>44</b> | <b>41</b> | <b>38</b>  |

\* Self-employed tree surgeon

† Employed tree surgeon

‡ Member of public/landowner

## Key points

17 Thirty-eight (38) deaths were reported in 2012/13, three less than in the previous year.

18 The total of 32 deaths among all workers (ie employees and the self-employed) is a decrease of three from the previous year's figure of 35.

19 A total of 11 employees were killed; two less than the previous years. The average number of employee deaths over the previous five years was 14; the range being between 9 and 22.

20 Twenty-one (21) self-employed people died during the year; one less than the previous year. The average over the previous five years was 22; ranging between 17 and 25.

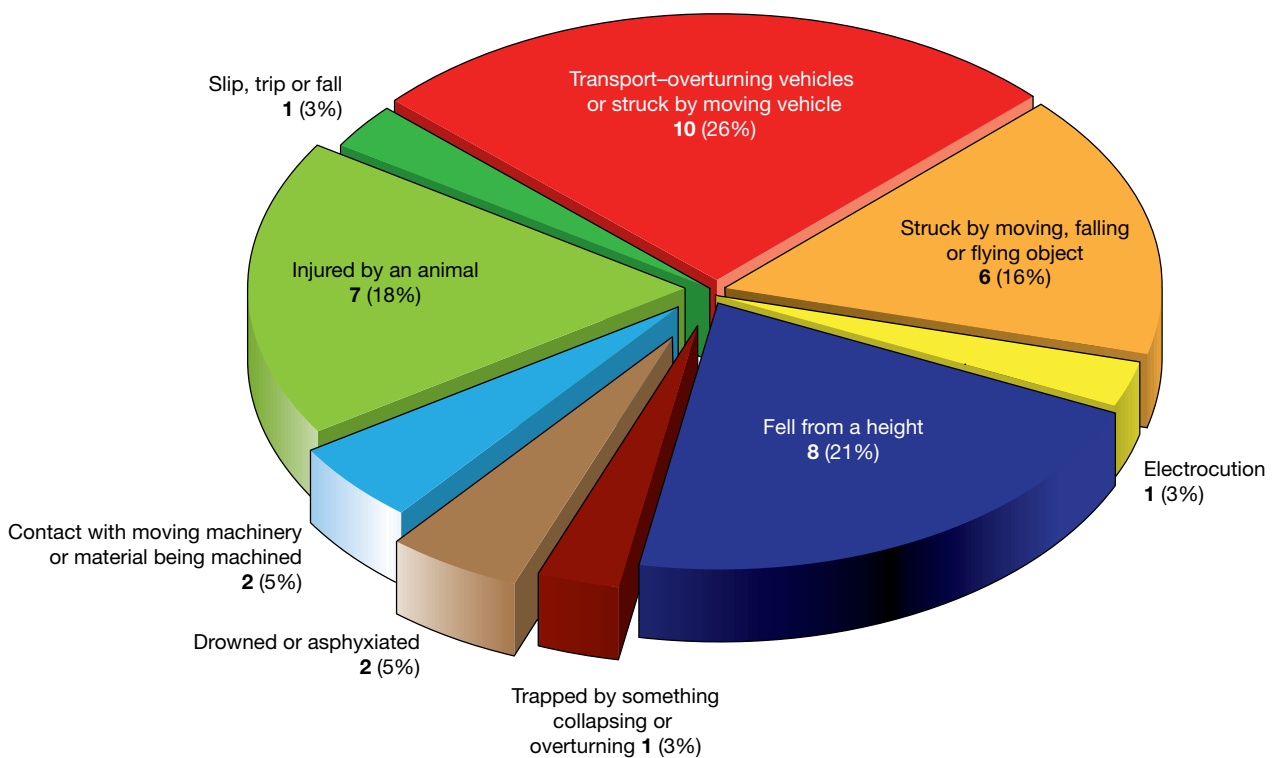
21 Of the 32 deaths involving workers, five were between the ages of 23 and 29 and nine between 34 and 49. Three were between 50 and 59 and a further five between 60 and 63. Ten workers were over the state pension age of 65. Eight of them were self-employed, of whom seven were farmers.

22 The youngest self-employed person was 27 and the oldest was 83. Among employees the ages ranged from 23 and 75.

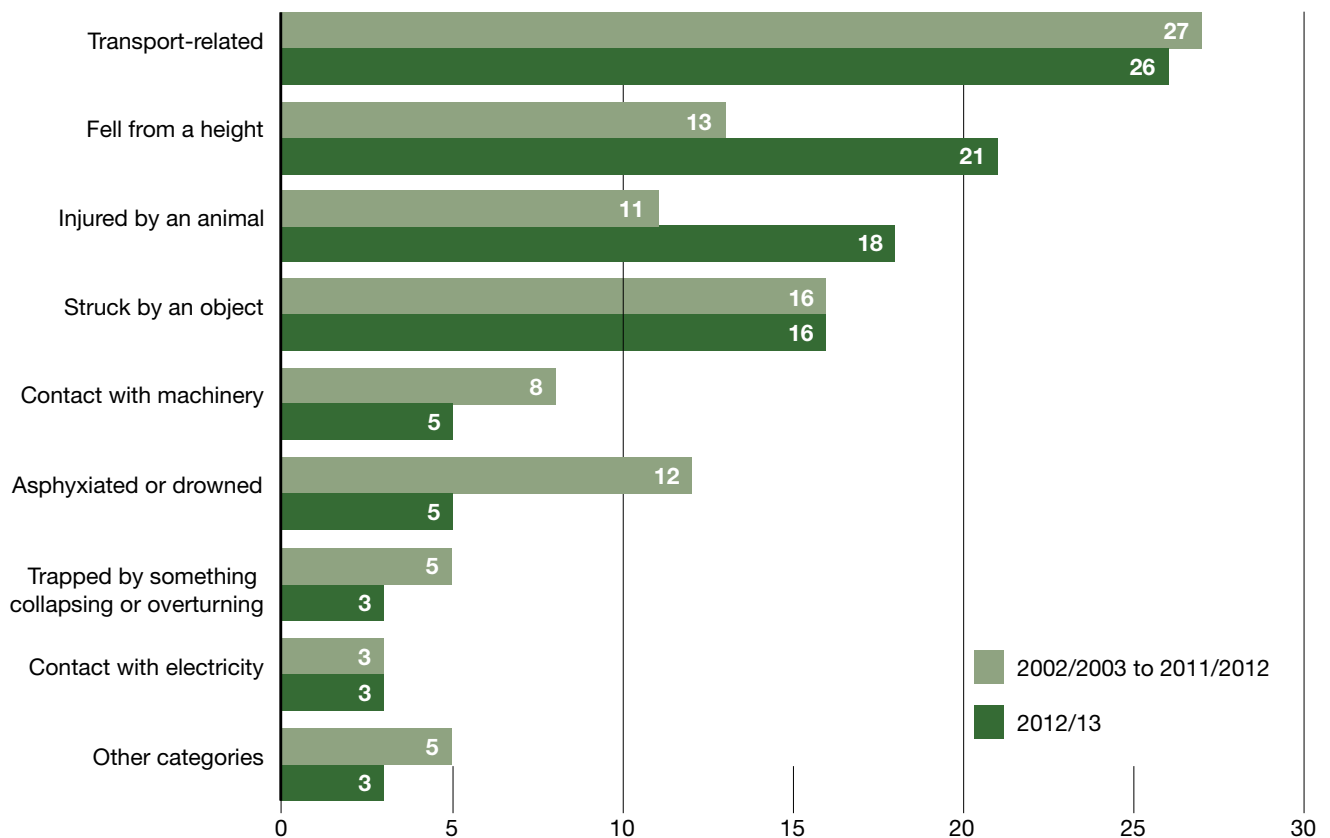
23 The total number of workers killed over the five-year period (2008/09 to 2012/13) was 167. Of these, 58 (35%) were employees and 109 (65%) were self-employed.

24 In addition, six members of the public were killed in 2012/13. The average number of deaths involving members of the public over the previous five years was five.

25 One child was also killed in 2012/13 as a result of a farming activity.



**Figure 1** Fatal injuries by cause, 2012/13



**Figure 2** Fatal injuries by cause – percentage in 2012/13 against previous 10 years (2002/03 to 2011/12)

### Cause of fatality

26 As in previous years, transport was responsible for more deaths in 2012/13 than any other cause. Ten people (26%) died after being either: struck by moving vehicles; run over by tractors and farm equipment; caught between moving vehicles, equipment and structures; or trapped by an overturned vehicle.

27 Of the transport-related deaths:

- two involved tractors and another a tractor and a trailer: a 59-year-old died when her tractor overturned and slid into a ditch; a 60-year-old farmer was struck by a tractor when it moved forward; and a 46-year-old migrant worker was run over by a reversing tractor and trailer;
- a further three involved all-terrain vehicles (ATVs): a 77-year-old self-employed farmer was found trapped underneath his ATV; a 41-year-old farm worker was also found trapped underneath his ATV when it rolled sideways down a slope; and a 41-year-old self-employed farmer died when his quad bike overturned on a downward slope into a waterlogged ditch;
- two involved telehandlers: a 49-year-old self-employed farmer was run over by a telehandler when the vehicle moved forward trapping his legs underneath; and a 70-year-old lorry driver was run over by a reversing telehandler in a farm yard.

Other transport-related deaths included:

- a child that was run over by a reversing pickup truck; and a 74-year-old self-employed farmer who was run over by a reversing vehicle that rolled down the farm yard.

28 The second largest category, eight deaths (21%) was falls from a height.

Five incidents involved roofs:

- four involved fragile roofs: a 46-year-old farm worker was replacing broken roof lights on a pitched hanger roof when he fell through the corner of the sky light onto the concrete floor below; a 41-year-old self-employed farmer died when he fell through a fragile cattle shed roof that he had walked along; a 63-year-old worker stepped on and fell through the fragile roof light above a cow cubicle; and a 71-year-old self-employed farmer who had been walking along the line of the purlin bolts or beam fell through a perspex roof light onto the concrete floor below;
- the fifth was a 58-year-old member of the public and family friend who fell from a barn roof that he was dismantling.

A further three deaths involved:

- a 27-year-old self-employed farmer died when his ladder slipped causing him to fall backwards (off the ladder) onto a concrete floor; a 48-year-old self-employed crofter died when he lost his footing, slipped and fell backwards down a steep cliff; and a 62-year-old self-employed farmer lost his balance and fell from the top of a silage pile onto a concrete floor below.

29 The third largest category involved farm animals, seven deaths (18%).

Three of the deaths had involved a bull:

- a 74-year-old self-employed farmer was struck by a bull; a 55-year-old self-employed farmer was attacked by a dairy bull; and a 75-year-old farm stockman was charged, mauled and pinned down by a bull.
- A 70-year-old self-employed farmer was found dead in the field with cows and a bull; a 68-year-old member of the public was trampled to death – she was walking her dogs between fields with cows, calves and a bull; an 82-year-old self-employed farmer was trampled to death by a cow; and a 64-year-old family member was found in a field having been attacked and trampled to death by cattle.

30 The fourth largest category, six deaths (16%) was as a result of being struck by a falling, flying or moving object.

Four incidents involved trees or tree branches:

- a 31-year-old member of the public died when she was struck by a tree branch that was brought down by another branch; a 67-year-old member of the public and landowner was struck by a tree branch when he walked into the tree cutting area; a 43-year-old estate worker was struck by a tree branch that had either fallen out of the felled tree or an adjacent tree and a 29-year-old self-employed contractor was crushed by a falling tree that turned and fallen backwards.

A further two deaths involved:

- a 63-year-old farm worker who was crushed by a trailer tailgate when it was lowered by the tractor driver; and an 83-year-old self-employed farmer who was knocked over by a gate when the top hinge pin came away from the post.

31 Machinery caused two deaths: a 34-year-old worker was found trapped between the wheel and chassis of a self-propelled fertiliser spreader; and a 50-year-old self-employed farmer was found trapped deep inside a running hay baler.

32 Two workers died as a result of asphyxiation. Both men were discovered unconscious on top of an apple crate inside an oxygen-reduced apple store. They died from the lack of oxygen.

33 Of the remaining three victims, one was a 62-year-old self-employed goods vehicle driver who was electrocuted by a high-voltage overhead power line when the tipper section of the lorry that he was driving touched the cable; a 27-year-old self-employed farmer was found trapped underneath a metal hay lade (bale ladder); and a 68-year-old self-employed forester tripped and stumbled onto a tree stump.

**Further details on all of these fatalities can be found later in this report under 'Summary of fatalities by HSE division'.**



**Table 2** Type of fatal injuries, 2012/13

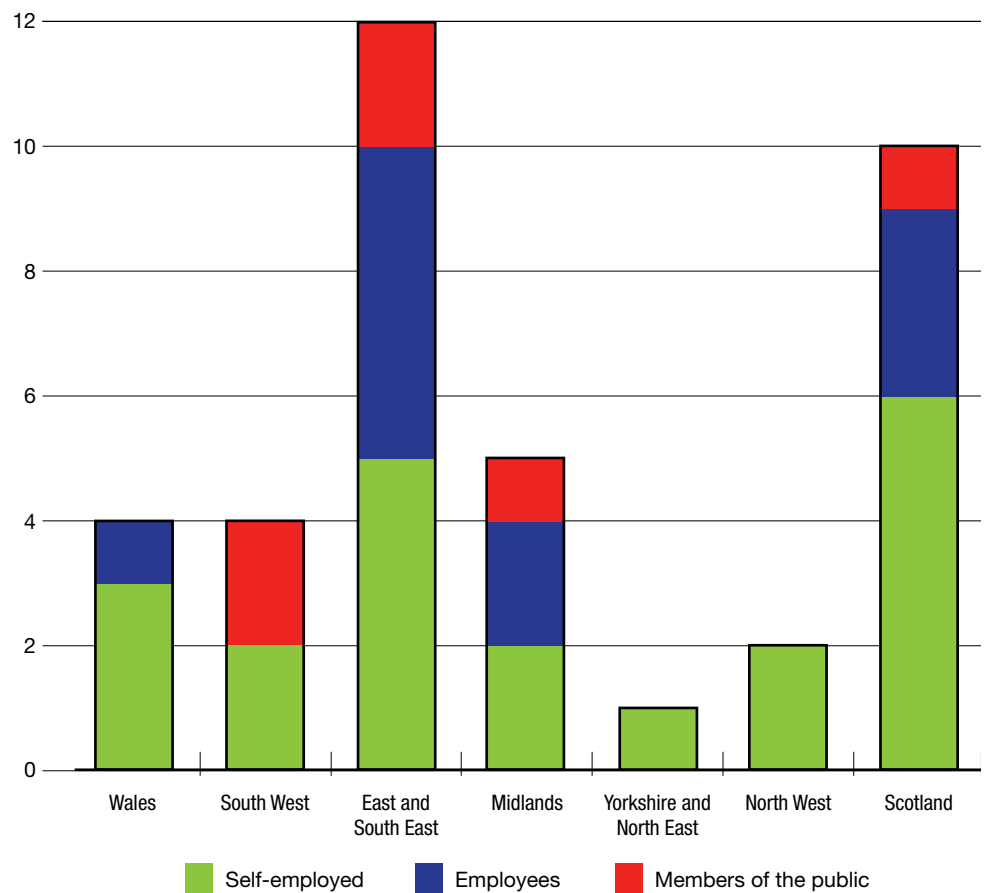
|   |               |
|---|---------------|
| <b>Transport (overturning vehicles or struck by moving vehicle)</b> | <b>10</b>     |
| Tractor   | 2             |
| Tractor and trailer   | 1             |
| All-terrain vehicle (ATV)   | 3             |
| Telehandler   | 2             |
| Pickup truck  | 1 (1)         |
| Vehicle   | 1             |
| <b>Fell from a height</b>   | <b>8</b>      |
| Fragile roofs   | 4             |
| Barn roof   | 1             |
| Ladder  | 1             |
| Cliff   | 1             |
| Silage pile   | 1             |
| <b>Injured by an animal</b>   | <b>7</b>      |
| Bull  | 3             |
| Cattle  | 3             |
| Cow   | 1             |
| <b>Struck by moving, falling or flying object</b>                   | <b>6</b>      |
| Tree/tree branch  | 4             |
| Trailer tailgate  | 1             |
| Gate  | 1             |
| <b>Contact with machinery</b>                                       | <b>2</b>      |
| Self-propelled fertiliser spreader                                  | 1             |
| Hay baler   | 1             |
| <b>Drowned or asphyxiated</b>                                       | <b>2</b>      |
| Oxygen-reduced apple store  | 2             |
| <b>Trapped by something collapsing or overturning</b>               | <b>1</b>      |
| Metal hay lade (bale ladder)  | 1             |
| <b>Contact with electricity</b>                                     | <b>1</b>      |
| Overhead power line   | 1             |
| <b>Slip, trip or fall on same level</b>                             | <b>1</b>      |
| Tree stump  | 1             |
| <b>Total</b>  | <b>38 (1)</b> |

(\*) Number of child deaths shown in brackets.

## Employment status and location

**Table 3** Fatalities by country 2012/13

|              | Employed  | Self-employed | Non-employed | Total     |
|--------------|-----------|---------------|--------------|-----------|
| England      | 7         | 12            | 5            | <b>24</b> |
| Scotland     | 3         | 6             | 1            | <b>10</b> |
| Wales        | 1         | 3             | 0            | <b>4</b>  |
| <b>Total</b> | <b>11</b> | <b>21</b>     | <b>6</b>     | <b>38</b> |



**Figure 3** Fatal injuries by status and location 2012/13

## Summary of fatalities by HSE division

**Table 4** Number of fatal injuries – by HSE division, 2012/13

| HSE division                      | Counties and unitary authorities (UAs)   | Number        |
|-----------------------------------|--|---------------|
| <b>East and South East</b>        | Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Essex, Hampshire, Hertfordshire, Isle of Wight, Norfolk, Suffolk, Oxfordshire, Kent, East & West Sussex and Surrey | <b>12 (1)</b> |
| <b>East</b>                       | Essex, Norfolk, Suffolk  | 5 (1)         |
| <b>South East</b>                 | East Sussex, Kent, Oxfordshire, Surrey, West Sussex, Berkshire, Hampshire, Cambridgeshire, Bedfordshire  | 6             |
| <b>London</b>                     | All London boroughs  | 1             |
| <b>Wales &amp; South West</b>     |  | <b>8</b>      |
| <b>Wales</b>                      | All Wales UAs  | 4             |
| <b>South West</b>                 | Cornwall, Devon, Somerset, North Somerset, Bath and North East Somerset, Gloucestershire, South Gloucestershire, Bristol, Dorset, Swindon and Wiltshire                      | 4             |
| <b>Midlands</b>                   | West Midlands, Leicestershire, Northamptonshire, Warwickshire, Derbyshire, Lincolnshire, Nottinghamshire, Hereford and Worcester   | <b>5</b>      |
| <b>Marches</b>                    | Hereford and Worcester   | 3             |
| <b>North Midlands</b>             | Derbyshire, Lincolnshire, Nottinghamshire  | 2             |
| <b>Yorkshire &amp; North East</b> | Cleveland, Durham, North Yorkshire, Northumberland, West Yorkshire, Tyne & Wear, Humberside and South Yorkshire.   | <b>1</b>      |
| <b>Yorkshire</b>                  | North Yorkshire, West Yorkshire, South Yorkshire and Yorkshire (E Riding)  | 1             |
| <b>North East</b>                 | Durham, Northumberland and Tyne & Wear   |               |
| <b>North West</b>                 | Cheshire, Cumbria, Greater Manchester, Lancashire and Merseyside   | <b>2</b>      |
| <b>Scotland</b>                   | All Scottish unitary authorities and island councils   | <b>10</b>     |
| <b>Total</b>                      |  | <b>38 (1)</b> |

(\*) Number of child deaths shown in brackets.

## Summary of fatalities by HSE division

From 1 April 2012 to 31 March 2013

### *East & South East*

#### *East of England*

34 A 63-year-old farm worker was crushed by a trailer tailgate. It is understood that an extension piece was being fitted to the tailgate by two other workers. An investigation of the incident established that the area was not cordoned off or props used to prevent the tailgate from dropping. He had approached the rear of the trailer and had leant his head under the partially opened tailgate to speak to a colleague inside the trailer when the tractor driver lowered the tailgate trapping his neck.

35 A 59-year-old self-employed farm partner died when her tractor overturned into a ditch. Both partners had been tedding hay in a field when she lost control of the tractor that she was driving and slid into a ditch. A roll-over protection structure (ROPS) was available but not fitted and the tractor was not fitted with a lap belt. It is assumed that she misjudged the turn and then attempted to jump clear of the tractor or was thrown from the driving position as the tractor overturned. She was found by her husband crushed between the tractor steering wheel and the ditch bank.

36 A 74-year-old self-employed farmer was run over by a reversing vehicle. He was bringing a pheasant feeder into the farm yard for repairs. It would appear that his brother had parked his vehicle pointing towards the farm entrance. As he stood at the rear of his vehicle to unload the feeder, his brother's vehicle rolled down the yard crushing him between both vehicles. He had cuts and bruising and drove home but later felt unwell and died in hospital from chest injuries and a ruptured spleen.

37 A one-year-old child (family member) was run over by a farm vehicle. He had been playing in the farm yard with his brother while their father was feeding silage to cattle. It would appear that the farm gate was left open and a farm worker was reversing a pickup truck in the yard. As he manoeuvred his truck he drove over the child who was later found lying in a puddle of water. The child died from serious head injuries consistent with being run over by a vehicle.

38 A 34-year-old worker employed as a contractor was found trapped between the wheel and chassis of a self-propelled fertiliser spreader. He had been attempting to realign the wheels of the machine after repairs had been carried out but became trapped when the wheel turned and pinned him against the chassis. He died from asphyxiation.

#### *South East*

39 A 27-year-old self-employed farmer was killed when he fell from a ladder. He was constructing a new steel-framed barn and slurry store at his farm. The store required concrete wall panels, which were being positioned by a crane. He had placed his ladder against the end of the newly positioned wall panel and climbed up the unsecured ladder to remove the lifting-eye-bolt when the ladder slipped causing him to fall backwards (off the ladder) striking his head on the concrete floor. He later died in hospital from head injuries.

40 A 68-year-old self-employed (experienced and qualified) forester was working alone when it is thought that he fell and died from serious head injuries. There were no witnesses. He had been subcontracted to assist in the felling of standing

hardwood including the tidying up and stacking of timber for removal. The site was tidy and well organised and it is assumed that he tripped, stumbled or passed-out falling onto a tree stump, which caused his injuries. He was later discovered by the forestry works manager who had been contacted by a family member concerned about his whereabouts.

41 A 49-year-old self-employed farmer was run over by a telehandler. He had left in the morning to repair a fence but never returned. There were no witnesses and it is assumed that he dismounted the telehandler and was run over when the vehicle moved forward. He was found conscious with his leg trapped underneath the vehicle and was taken to hospital but later died from serious injuries to his leg and pelvis.

42 A 46-year-old farm worker died when he fell through a fragile roof. He and his colleague were replacing broken roof lights on a pitched hanger roof and had used a telehandler with a metal cage to gain access. He was walking on the roof when he fell through the corner of the skylight onto the concrete floor below.

43 Two workers (aged 23 and 24) were found asphyxiated inside an oxygen reduced apple store. They had entered the warehouse through the roof hatch and had been missing for sometime. It is assumed that both men were collecting apples without wearing breathing apparatus and were unable to breathe inside the controlled atmosphere store. Both men were discovered unconscious on top of an apple crate and died from the lack of oxygen.

#### ***London***

44 A 31-year-old member of the public died when she was struck by a tree branch. She was part of a group of people walking past a large mature tree when one of the branches fell bringing down smaller branches. She died from head injuries.

#### ***Wales***

45 A 74-year-old self-employed farmer was killed by a bull. He was helping to load a neighbour's bull into his cattle lorry and was standing outside the pen. There were no witnesses and it is assumed that the bull came out of the pen slightly agitated and either knocked into the farmer or the animal may have panicked and in escaping from the enclosure jumped over the barrier and kicked him. He died from chest injuries.

46 A 77-year-old self-employed farmer was found trapped underneath his quad bike. He had been reported missing for sometime and was later discovered under his overturned quad bike. He died from head and neck injuries.

47 A 70-year-old delivery driver was run over by a farm telehandler. He had been sitting in his vehicle cab while the farmer's son unloaded pallets of feed from the articulated curtain-sided goods vehicle into the farm barn. After dropping a load in the barn, he reversed back across the yard towards the lorry. As he pulled forward he discovered the lorry driver lying on the ground. It is assumed that the driver had exited his cab and was crushed by the reversing telehandler. He died from serious internal crush injuries.

48 A 55-year-old self-employed farmer was attacked by a dairy bull. He had been trying to move his bull from its pen to the cattle crush so that a vet could carry out tuberculosis (TB) testing. He decided to let the bull run with a cow through the milking parlour – through the race and into the crush. By the time the bull arrived the cow had left. The bull got as far as the milking parlour but then refused to go towards the crush, turned and attacked the farmer. He was airlifted to hospital but

later died from internal crush injuries to his chest.

### **South West**

49 A 27-year-old self-employed farmer was found on top of a bale trailer with his neck trapped between a metal hay lade (bale ladder). He was attempting to reposition a metal grid (designed to prevent bales of hay hitting the tractor's rear window) by turning it around, when it toppled over pinning him to the ground. His neck became trapped underneath the lower bar and he died from traumatic neck injuries.

50 A 68-year-old member of the public was trampled to death by cattle. She was walking her dog through a field with cows, calves and a bull that had been grazing and roaming between fields. There was no public right of way through the fields but there was an area accessible to the public near to where she was found. She was found at the edge of the field with injuries consistent with having been trampled by cattle.

51 A 62-year-old self-employed goods vehicle operator was electrocuted when he came into contact with an overhead power line (OHPL). He was working as a contract driver making a delivery of cattle feed to a farm. He was electrocuted when the raised tipper body of the vehicle he was operating came into contact with an 11 kV OHPL positioned near to the feed silo.

52 A 67-year-old landowner was struck by a tree branch. He had been observing and directing the felling of a large tree by a contractor and had been walking within the felling area. As the tree fell it brought down a nearby tree branch which landed on top of him. He later died in hospital.

### **Midlands**

#### **Marches**

53 A 75-year-old farm stockman was attacked and pinned down by a bull. He was moving cattle from the farm yard into the milking parlour, while the bull was still with the herd. As the last of the herd were about to be moved for milking, the stockman attempted to separate the bull from the herd. The bull turned on the worker and charged him. He tried to get away but was pinned against the gated fence and head butted several times. He later died in hospital from serious injuries.

54 A 70-year-old self-employed farmer was found dead in the field with cows and a bull. He was working in the fields with his herd and was later found by a farm worker lying face down in the rutted area of the field. There were no witness but he was discovered with injuries consistent with having been knocked over by a bull or cow.

55 An 82-year-old self-employed farmer was trampled to death by a cow. He and his brother were herding in cattle from the field to a holding pen for foot trimming. Both farmers had entered the holding pen but one of them followed a single cow that had entered the race. The cow was about to enter the crush but then decided to back up inside the race. His brother opened the side gate to allow the farmer out, but the cow also followed him out of the race. It is assumed that the farmer was either pushed over by the cow or lost his footing as he tried to get out of the way. The cow trampled over him as he was lying on the ground. He sustained multiple injuries and later died in hospital.

#### **North Midlands**

56 A 46-year-old migrant farm worker was run over by a reversing tractor and trailer. She was about to carry out field work from a planter and was standing close to a tractor and low-loader trailer loaded with plants. It would appear that her foot became trapped under the wheel as the tractor and trailer reversed towards the

planting machine. Her colleagues tried to pull her free and alert the driver but the trailer wheel continued up and over her body. She died from serious crush injuries.

57 A 58-year-old family friend died when he fell from a barn roof. He was dismantling the front section of a farm outbuilding/barn and had accessed the roof by ladder. There was no scaffolding, edge protection or other safety measures in place. He had removed a number of tin roof sheets and wooden roof supports and had been standing directly on the partially dismantled roof when he fell to the ground below. He was found lying face down on the barn floor under the roof edge and was airlifted to hospital but later died from serious head injuries.

### ***Yorkshire & North East***

58 A 60-year-old self-employed farmer was struck by a tractor. He had changed the tractor's fuel filters and was bleeding the fuel system. There were no witnesses. It is assumed that he stood on the ground leaning into the tractor to turn the engine over when the tractor moved forward hitting him and throwing him to the ground where he was either run over or struck his head on the concrete floor.

### ***North West***

59 A 41-year-old self-employed farmer died when he fell through a fragile roof. There were no witnesses but it is assumed that he may have accessed the fragile roof with a ladder to clear a gutter or carry out some maintenance work. It is likely that he went up to the roof valley gutter, and from there 'walked the bolts' along the line of the steel frame on the roof itself. He fell through a fibre cement roof panel onto the concrete cattle shed floor below. He was found some hours later by his wife and son and died from serious head injuries.

60 A 83-year-old self-employed farmer was knocked over by a gate. He was pushing a cattle shed gate open from the middle of the gate so that his son could bring in a bale. During the procedure, the gate's top hinge pin came away from the post and the gate fell on top of the farmer knocking him to the ground. He died from head injuries.

### ***Scotland***

61 A 43-year-old estate worker was struck by a tree branch. He was a qualified and experienced forester felling a diseased elm tree with a chainsaw in a woodland gully. As the tree fell in the planned direction, a dead branch dropped and struck him on the head. The branch may have either fallen out of the felled tree or an adjacent tree that it was entangled with. Despite wearing an appropriate helmet, he died from head injuries.

62 A 64-year-old family member was trampled to death by cattle. There were no witnesses but it is assumed that he was walking in the fields with cows and a bull to open a gate between adjoining fields to allow cattle to feed on fresh grass when he was attacked. He was discovered by his daughter in the field with injuries consistent with having been trampled by cattle.

63 A 63-year-old worker died when he fell through a fragile roof. He and his colleague were working on top of a cattle shed, replacing damaged fibre cement roof sheets with new ones. It is assumed that he stepped on or fell through the fragile roof light located above the cow cubicles and died from his injuries.

64 A 41-year-old farm worker was found trapped underneath a quad bike. There were no witnesses but it is assumed that the ATV had been loaded with buckets of animal feed and was being driven across a sloping field. The terrain and load may

have caused the bike to become unstable and roll over. The final position of the ATV suggests that it rolled over sideways down the slope crushing the worker underneath it. He died from crush injuries to his chest.

65 A 71-year-old self-employed farmer died when he fell through a fragile roof. He and his grandson were removing cement roof sheets from a lambing shed roof. Both appeared to have accessed the roof from a ladder and had climbed onto the cement sheets. No precautions were in place to prevent a fall and it is assumed they were both taking bolts out of the roof sheets and then throwing the sheets into a trailer parked underneath. It is assumed that the farmer was either walking along the line of the purlin bolts or beam when he fell through a roof light onto the concrete floor below. He died from serious head and chest injuries.

66 A 41-year-old self-employed farmer died when his ATV overturned into a ditch. His mother was travelling on a road at the bottom of the hill and had seen him travelling down the hillside on his quad bike across the slope. For reasons unknown he then entered a slight dip. His mother later noticed the wheels of the quad bike up in the air. She found her son lying in a waterlogged ditch with the quad bike on top of him. The investigation established that he was not wearing a helmet and had not received any training.

67 A 48-year-old self-employed crofter died when he fell down a cliff. He was helping his brother rescue a lost sheep stranded at the bottom of a cove on a rocky coastline. They had decided to throw a bale of grass down to the sheep for it to feed on until it could be rescued by boat. As they both reached the spot above the cliff where the sheep was, the crofter wandered off down to the bottom of the cove to persuade the sheep to climb back up to the cliff to common grazing. As he climbed the cliff face he lost his footing, slipped and fell backwards.

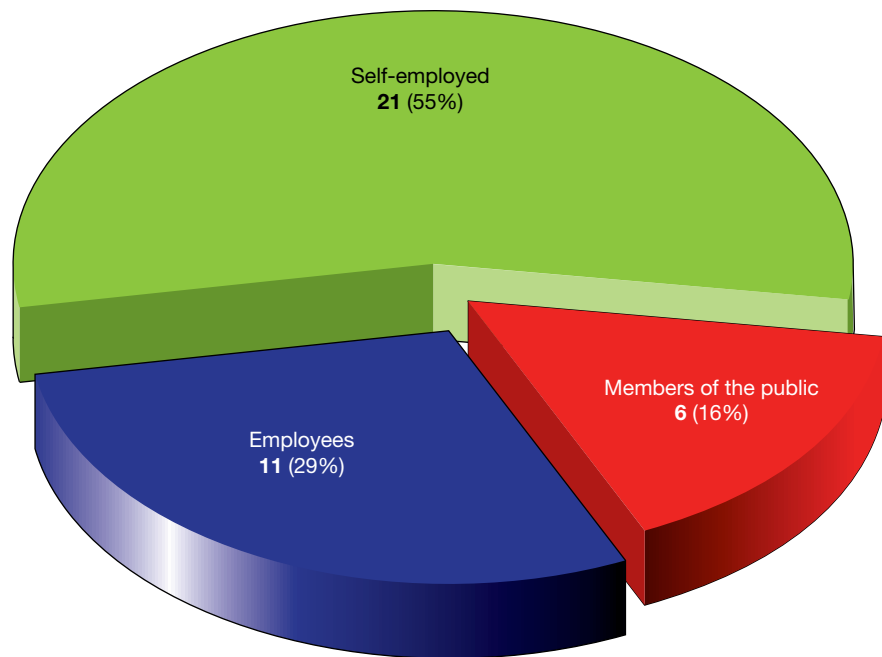
68 A 62-year-old self-employed farmer died when he fell from the top of a silage clamp. He was working with his son and had been attempting to remove plastic sheeting from the top edge of the clamp inside a cattle shed. He had moved to the front open edge of the clamp to pull the sheeting back, when his foot became caught in the sheeting. He then lost his balance and fell from the top of the clamp onto the concrete floor below and died from serious head injuries.

69 A 50-year-old self-employed farmer died when he fell into the back of a large round baler that he was jet washing. There were no witnesses and it is assumed that he was standing on a platform on the baler using the jet washer to clean it, while the machine was still running. Nobody knows how he became trapped inside the running baler but it is most likely that he slipped and fell inside while trying to clean the interior of the machine. He was found trapped deep inside the machine and died from severe crush injuries.

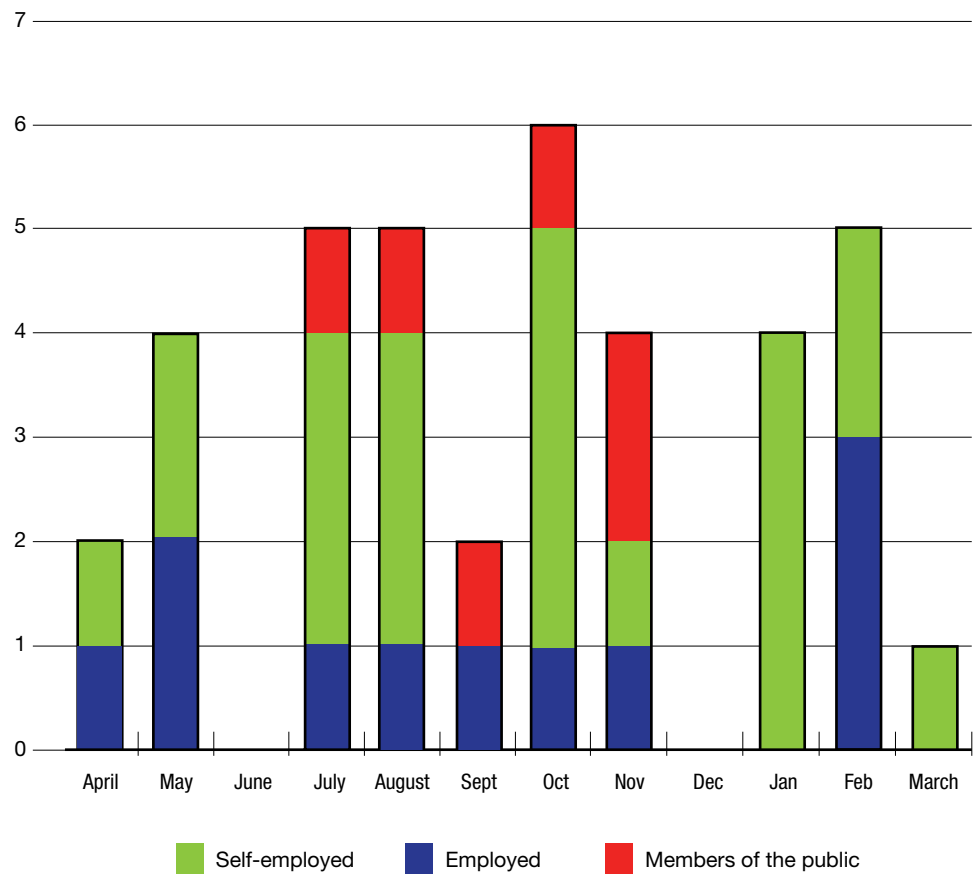
70 A 29-year-old self-employed firewood supplier was crushed by a falling tree. Both he and a farm partner were taking down a number of mature hardwood trees. The large beech tree was next to a road so a tractor, operated by the farmer, was being used to help direct the tree away from the road. Tension had been applied to the tree by a strop and rope attached to the tractor. However, it would appear that the contractor had difficulties in making the felling cut and had failed to create a sufficient hinge to help control the tree as it fell. Before the felling cut was complete the tree started to go over, initially in the intended direction but then, despite the tension being applied by the tractor, it turned and fell back towards the road. The tree landed on top of the contractor as he tried to get clear, causing severe crush injuries to his chest, abdomen and spine.



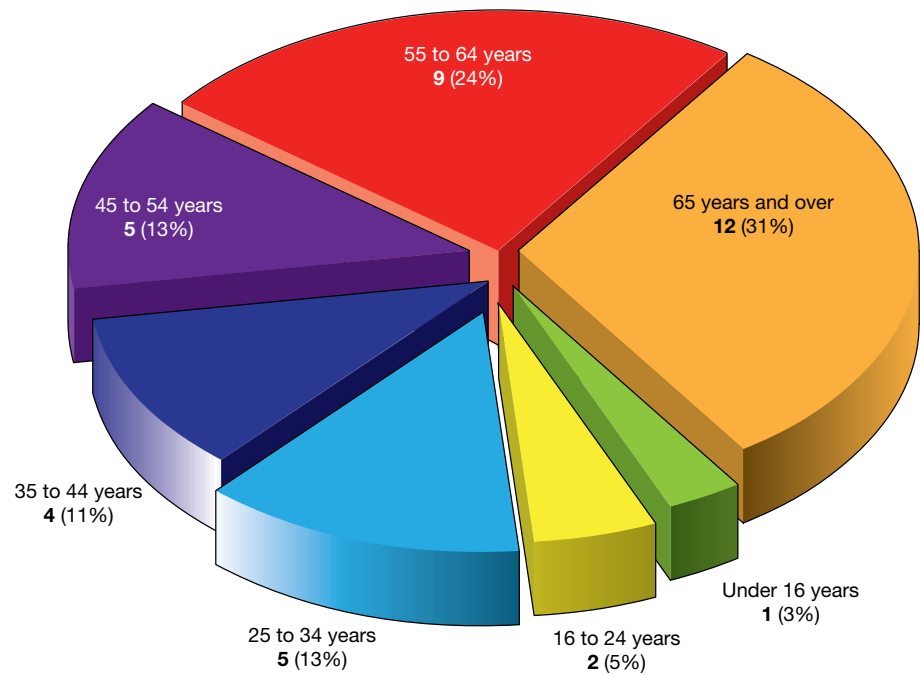
### Employment status, month and age



**Figure 4** Fatal injuries by employment status, 2012/13



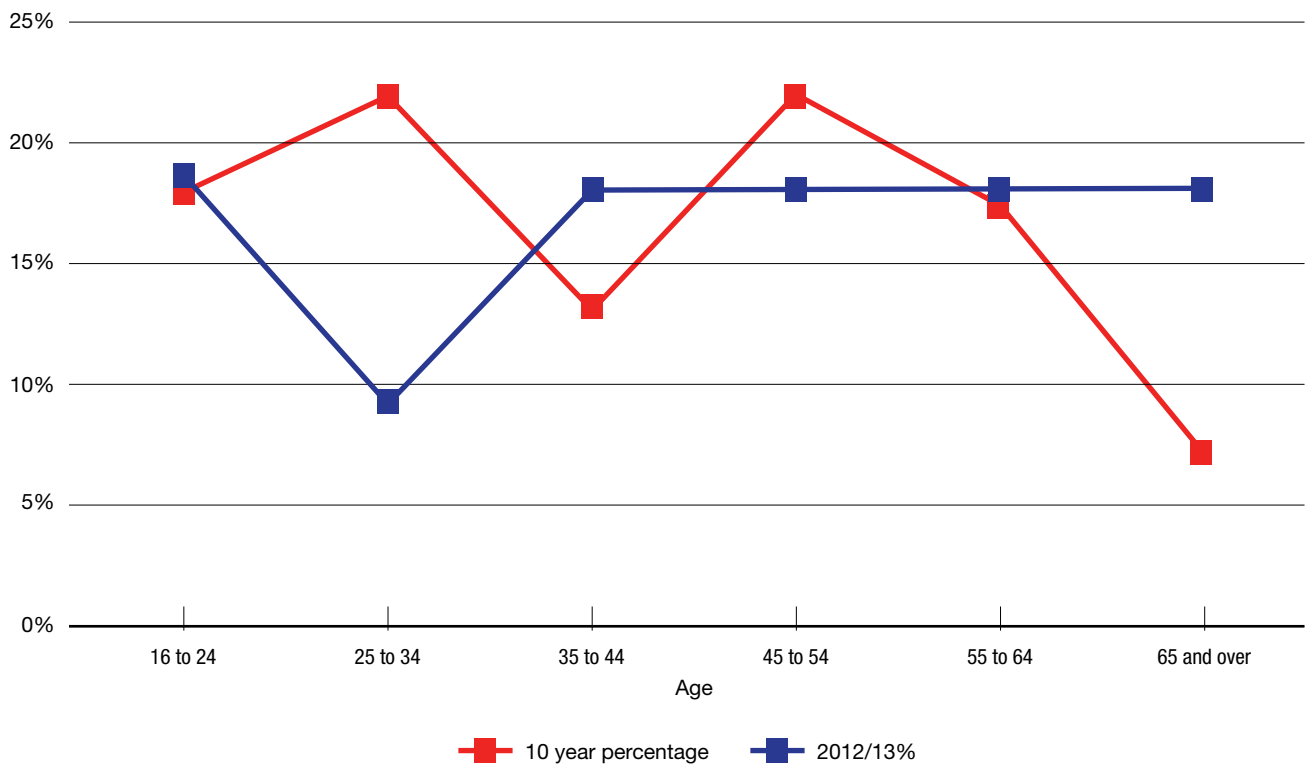
**Figure 5** Fatal injuries by month of the year – 1 April 2012 to 31 March 2013



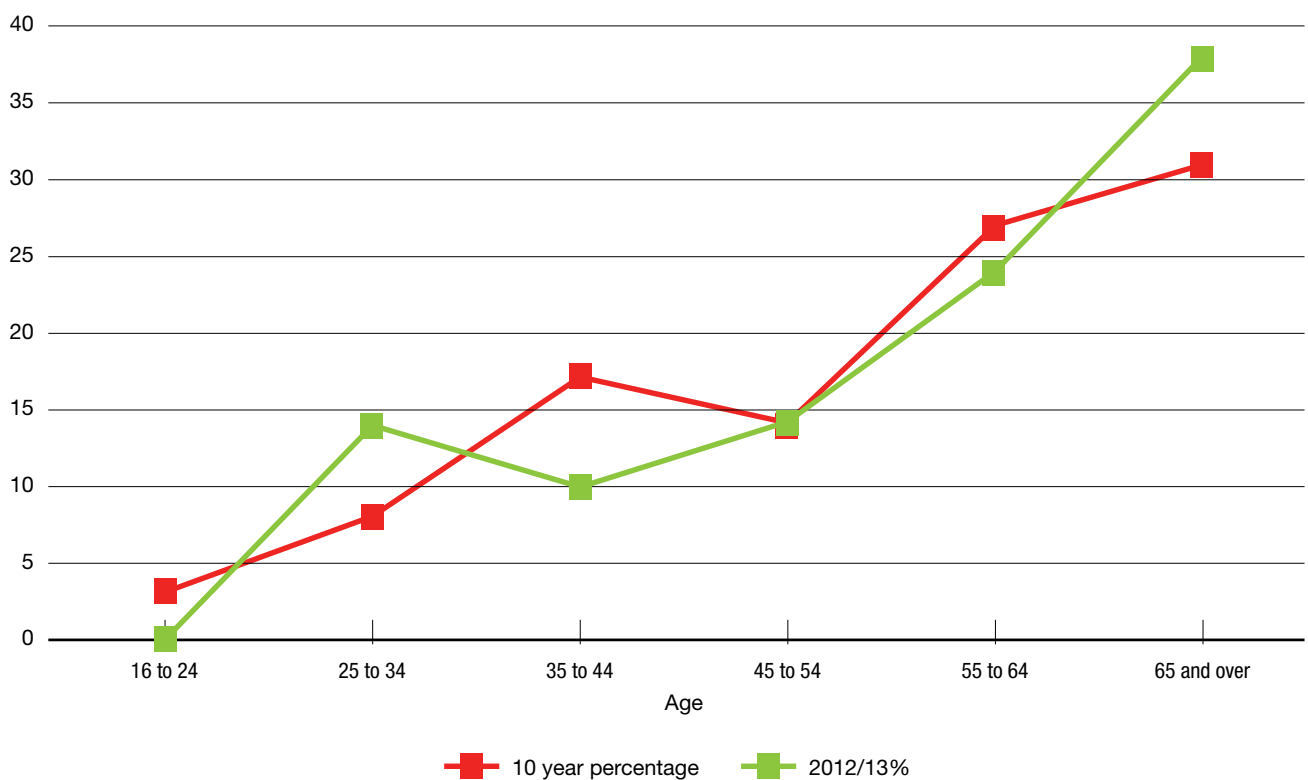
**Figure 6** Fatal injuries by age, 2012/13

**Table 5** Fatal injuries by age, 2012/13

|             |    |
|-------------|----|
| Under 16    | 1  |
| 16 to 24    | 2  |
| 25 to 34    | 5  |
| 35 to 44    | 4  |
| 45 to 54    | 5  |
| 55 to 64    | 9  |
| 65 and over | 12 |



**Figure 7(a)** Age of deceased. Percentage of the total for employees – 2012/13 against 10-year period (2002/03 to 2011/12)



**Figure 7(b)** Age of deceased. Percentage of the total for self-employed – 2012/13 against 10-year period (2002/03 to 2011/12)

## Part Two: Fatal injuries in the agricultural sector 2002/03 to 2011/12

71 Part Two of this report provides a detailed breakdown and summary of the causes of fatalities over the ten-year period 2002/03 to 2011/12. It also provides a comparison between 2012/13 and the previous ten years. However, changes to the industrial classification introduced in 2010 and reporting arrangements in September 2011 mean that data for this and subsequent years may not be directly comparable with that for 2009/10 to 2011/12 and earlier.

72 **Standard Industrial Classification (SIC):** HSE now uses the SIC 2007 classification scheme to define industries, rather than the SIC 2003 scheme used in previous years – see [www.hse.gov.uk/statistics/industry/sic2007.htm](http://www.hse.gov.uk/statistics/industry/sic2007.htm). The version used in these statistics is SIC 2007 which is the first major revision to the classification since 1992. Therefore, in theory the new industry coding used by HSE has moved landscape activities from agriculture to the services sector. However, because HSE's Agriculture Strategy has been developed to address the hazards and risks in agriculture and the wider land-based industries and in particular arboriculture (tree work related activities) has been included in this section of the report.

73 **Employment data:** With the release of the Annual Statistics Report in November 2011, HSE changed its source of employment data to the Annual Population Survey (APS). The APS is a comprehensive single data source that provides HSE and others with insight into a wide range of working structures.

74 Similarly, some of the definitions in RIDDOR changed from April 2013 and the restructuring of information collected under the new RIDDOR reporting arrangements, introduced in September 2011, means that data for subsequent years may not be directly comparable.

### Summary

75 Four hundred and twenty-six (426) fatalities in the agriculture (including farming, forestry, arboriculture, horticulture and fish farming etc) were reported to HSE between 2002/03 and 2011/12. Of these, 132 (31%) were to employees, 241 (57%) were to self-employed people and 53 (12%) were to members of the public who were killed as a result of someone else's work activity.

76 Over the same period 16 children (under 16 years of age) were killed (included in Tables 17 to 19). This means that:

- on average over the past ten years, approximately one person a week had been killed as a direct result of an agricultural work activity;
- the majority of the people killed were self-employed; and
- Thirty percent (30%) of the reported fatalities to members of the public involved children.

See Table 13 and 17 for further information.

## Employees and self-employed people

77 There were 11 fatal injuries to employees in 2012/13, two less than the previous year. In all, a total of 132 employees were killed over the past ten years; an average of 14 deaths per year.

78 There were 21 fatal injuries to self-employed people in 2012/13, one less than the previous year. In all, a total of 241 self-employed people were killed over the past ten years; an average of 24 deaths per year.

79 The combined total of 32 workers (ie employees and self-employed people) killed in agriculture during 2012/13 is three less than the previous year.

80 Over a ten-year period (2002/03 to 2011/12), 373 workers were killed; of whom 132 (35%) were employees and 241 (65%) were self-employed.

See Table 13 for further information.

### **Occupation (employees and self-employed)**

81 Farmers and farm managers accounted for 63% of the self-employed fatalities and farm workers and farm labourers for 44% of the employee fatalities.

82 The highest number of fatalities to a specific occupational group involved arborists/forestry workers who accounted for 29 deaths; 19 of whom were self-employed.

83 Other agriculture-related activities, including aquaculture (ie fish farming), accounted for 33 deaths; 25 involving the self-employed. A further 13 fatalities involved groundsmen.

84 Drivers of tractors and other vehicles accounted for 11 fatal injuries; 73% of whom were employees.

See Table 7 for further information as to occupation.

### **Kind of injury (employees and self-employed)**

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

- transport – being struck by a moving vehicle (28% of all fatalities);
- struck by moving or falling objects (17%); and
- falls from a height (12% of all fatalities).

Other causes included:

- asphyxiation or drowning (12%);
- injury by an animal (9%);
- contact with machinery or material being machined (9%);
- trapped by something collapsing or overturning (5%); and
- contact with electricity or an electrical discharge (3%).

See Table 6 for further information on kind of injury.

### ***Cause of injury (employees and self-employed)***

86 The largest cause of fatal injuries in agriculture continues to be workplace transport. Transport was involved in 108 deaths (29%) over the ten year period.

In particular:

- being struck by moving vehicles and vehicles overturning accounted for 102 deaths (28%) of the combined total fatalities;
- vehicles overturning or falling from support accounted for a further six deaths;
- being struck by a tractor was the most common cause of fatal injuries to workers (including the self-employed) resulting in 45 deaths. Of these 28 were to the self-employed and 17 involved employees.

87 Being struck by a moving, falling or flying object accounted for 63 deaths (17%); 22 of which were caused by falling branches/trees and eight from material being lifted or lifting equipment. A further seven were caused by moving or falling bales of hay.

88 Falls from heights accounted for 46 deaths (12%). The two most common causes were falling through fragile roofing materials – 22 deaths, and falls from lifting equipment or moveable ladders – nine deaths in total.

89 Asphyxiation or drowning caused a further 45 deaths (12%); 36 in water. This figure includes 21 cockle pickers who died in Morecambe Bay in 2003/04.

### ***Cause of injury (employees)***

90 Among employees, the most common cause of death was being struck by a tractor – accounting for 17 deaths. Other common categories of vehicle deaths were ATVs 12 deaths, and telescopic material handlers/loaders six deaths.

91 Struck by moving, falling or flying objects caused 18 deaths, of which 9 were struck by a tree or a tree branch.

92 A further 17 were as a result of asphyxiation/drowning, of which 10 were in water.

93 In the other categories, falls from a height caused 13 deaths, trapped by something collapsing or overturning 11 deaths, and machinery was involved in a further 10 deaths. Contact with electricity caused eight deaths and farm animals four.

### ***Cause of injury (self-employed)***

94 Among the self-employed, the most common cause of death was also transport. Being struck by a moving or overturned tractor accounted for 28 deaths and a further two when a vehicle overturned or fell from support. ATVs were involved in eight deaths and a further seven by forklift trucks/telehandlers or loaders.

95 Asphyxiation or drowning in water was the second most common cause of death (26), although this includes 21 drowned in a single incident in Morecambe Bay in 2003/04.

96 In the other categories, struck by moving, falling or flying objects caused a total of 45 deaths, of which 13 were by trees/tree branches. Falls from a height caused 33 deaths, of which 20 were from a fragile roof. Farm animals caused 30 deaths of which 12 were bulls and 18 involved cattle. Machinery was involved in a further 23 deaths.

97 Other significant causes include trapped by something collapsing or overturning, resulting in 9 deaths.

See Table 8 for further information as to causation.

### ***Nature and site of injury (employees and self-employed)***

98 A detailed breakdown in the nature and site of injury that had resulted in a death is provided in Tables 9 and 10.

### ***Work activity (employees and self-employed)***

99 Fatalities in agriculture resulted from a range of work activities. One hundred and thirty-seven deaths (137) representing 37% of the total, occurred during the cultivation, harvesting, and processing etc of crops.

100 Eighty-one (81) deaths (22%) involved the handling and housing of livestock and work related to animal husbandry.

101 A further 45 deaths (12%) occurred during the maintenance of machinery, buildings and land/estates, including general maintenance.

102 Thirty-seven (37) deaths (10%) occurred during tree work in forestry and arboriculture including the maintenance of trees and woodland on farms and estates.

103 Fish farming, including shellfish harvesting, caused 32 deaths, 21 of them during cockle picking.

See Table 11 for further information as to the work being undertaken at the time of the accident.

### ***Age (employees and self-employed)***

104 Deaths to workers (employees and the self-employed) in agriculture aged 65 years and over and between 55 and 64 remain high, while deaths to those aged 24 years or less remain low in comparison with other industrial sectors. Of the 373 workers killed, 86 (23%) were between 55 and 64 and 83 (22%) were over 65 years of age, compared with 31 (8%) under 25.

105 Many of the self-employed who died were over 65 years of age – representing 31% of all reported fatalities to the self-employed. Over half the self-employed deaths, ie 137 in total, were to those aged 55 years and over compared with seven under 24.

106 For employees, those aged 25 to 34; 45 to 54 and 55 to 64 years had the largest proportion of fatal injuries. The lowest figures were for those under 19 and 65 years and over.

See Tables 12 for further analyses of fatal injuries by age.

### ***Month, day and time (employees and self-employed)***

107 The highest number of deaths to the employed and self-employed during the ten-year period were in August and February (43 each) followed by September (39).

108 The comparatively larger numbers during late summer/early autumn reflect the level of activity in the arable sector associated with harvesting and autumn

cultivation. The lowest number of deaths occurred in November and January (23 each), May (24) and April (26).

109 In contrast to other industries, which show a gradual decrease in injuries to workers through the working week, there is no clearly discernible pattern in agriculture. The lowest number of deaths was on a Sunday (24).

110 Fatalities to employees are fairly evenly distributed through the working week though the number reported on Wednesdays is the lowest. Similarly, fewer deaths occurred over the weekend.

111 Forty-four (44) self-employed people were killed at weekends compared to 21 employees. Sixty-eight percent (68%) of deaths at the weekend involved the self-employed.

112 The number of deaths increases during the morning, reduces over lunchtime and steadily rises again during the afternoon.

See Tables 14, 15 and 16 for a more detailed breakdown by month, day and time of day.

**Table 6** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Kind of incident   | Employees  | Self-employed | Total numbers | Percentage  |
|--|------------|---------------|---------------|-------------|
| Transport – struck by moving vehicle   | 42         | 60            | 102           | 28%         |
| Struck by moving (including flying or falling) object  | 18         | 45            | 63            | 17%         |
| Fall from a height   | 13         | 33            | 46            | 12%         |
| Asphyxiation or drowning   | 17         | 28            | 45            | 12%         |
| Injury by an animal  | 4          | 30            | 34            | 9%          |
| Contact with machinery or material being machined  | 10         | 23            | 33            | 9%          |
| Trapped by something collapsing or overturning   | 11         | 9             | 20            | 5%          |
| Contact with electricity or an electrical discharge  | 8          | 3             | 11            | 3%          |
| Other categories (including struck against something fixed or stationary; slip, trip or fall on same level; exposure or contact with a harmful substance and fire) | 9          | 10            | 19            | 5%          |
| <b>Total</b>   | <b>132</b> | <b>241</b>    | <b>373</b>    | <b>100%</b> |



**Table 7** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Occupation                            | Employees  | Self-employed | Total      |
|---------------------------------------|------------|---------------|------------|
| Farmer/farm manager/managerial        | 24         | 152           | 176        |
| Farm worker/labourer                  | 58         | 23            | 81         |
| Fishing and other aquaculture related | 8          | 25            | 33         |
| Forestry worker/arborist              | 10         | 19            | 29         |
| Groundsman                            | 7          | 6             | 13         |
| Driver including tractor drivers      | 8          | 3             | 11         |
| Other                                 | 17         | 13            | 30         |
| <b>Total</b>                          | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 8** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| More detailed breakdown by type of incident         | Employees | Self-employed | Total      |
|---|-----------|---------------|------------|
| <b>Struck by moving vehicle</b>                     | <b>42</b> | <b>60</b>     | <b>102</b> |
| Tractor   | 17        | 28            | 45         |
| All-terrain vehicles (ATVs)                         | 12        | 8             | 20         |
| Forklift truck/telescopic handler/loader            | 6         | 7             | 13         |
| Trailer, plant or equipment associated with vehicle | 3         | 3             | 6          |
| From transport of any kind                          | 4         | 14            | 18         |
| <b>Struck by moving, falling or flying object</b>   | <b>18</b> | <b>45</b>     | <b>63</b>  |
| By a tree/tree branch                               | 9         | 13            | 22         |
| Material being lifted or lifting equipment          | 5         | 3             | 8          |
| From moving or falling bales of hay                 | 1         | 6             | 7          |
| From shelf, table or stacking                       | 2         | 4             | 6          |
| From part of a building or structure                | 0         | 5             | 5          |
| From weapons  | 0         | 1             | 1          |
| Other   | 1         | 13            | 14         |

**Table 8** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12  
(continued)

| More detailed breakdown by type of incident  | Employees | Self-employed | Total     |
|--|-----------|---------------|-----------|
| <b>Fall from a height</b>  | <b>13</b> | <b>33</b>     | <b>46</b> |
| Fragile roof   | 2         | 20            | 22        |
| From any man-lifting equipment   | 2         | 3             | 5         |
| Moveable ladder  | 0         | 4             | 4         |
| From a tree  | 1         | 2             | 3         |
| From vehicle   | 1         | 1             | 2         |
| From stacked material  | 1         | 0             | 1         |
| From gangways, roof edge or other means of access including structures and buildings | 1         | 1             | 2         |
| Other  | 5         | 2             | 7         |
| <b>Asphyxiation/drowning</b>   | <b>17</b> | <b>28</b>     | <b>45</b> |
| Water  | 10        | 26            | 36        |
| Grain  | 1         | 1             | 2         |
| Other including oxygen deficiency  | 6         | 1             | 7         |
| <b>Injury from an animal</b>   | <b>4</b>  | <b>30</b>     | <b>34</b> |
| Bulls  | 0         | 12            | 12        |
| Other cattle   | 2         | 18            | 20        |
| Horses   | 2         | 0             | 2         |
| <b>Contact with machinery</b>  | <b>10</b> | <b>23</b>     | <b>33</b> |
| Combine harvesters   | 2         | 3             | 5         |
| Other (including bale handlers, bale choppers, hay turners, balers, chainsaws etc)   | 5         | 8             | 13        |
| Other attached powered machinery   | 3         | 8             | 11        |
| Chainsaws  | 0         | 4             | 4         |
| <b>Trapped by something collapsing or overturning</b>                                | <b>11</b> | <b>9</b>      | <b>20</b> |
| Vehicles overturning/falling from supports   | 4         | 2             | 6         |
| Plant including lifting machinery and equipment                                      | 1         | 4             | 5         |
| Building or structures   | 2         | 0             | 2         |
| Bales of hay   | 2         | 0             | 2         |
| Stacked material   | 0         | 1             | 1         |
| Other  | 2         | 2             | 4         |

**Table 8** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12 (continued)

| More detailed breakdown by type of incident                 | Employees  | Self-employed | Total      |
|---|------------|---------------|------------|
| <b>Contact with electricity</b>                             | <b>8</b>   | <b>3</b>      | <b>11</b>  |
| Overhead power lines  | 6          | 3             | 9          |
| Other   | 2          | 0             | 2          |
| <b>Struck against something fixed or stationary</b>         | <b>4</b>   | <b>1</b>      | <b>5</b>   |
| <b>Exposure to or contact with harmful or hot substance</b> | <b>2</b>   | <b>4</b>      | <b>6</b>   |
| Entry into confined space                                   | 0          | 2             | 2          |
| Spillage of some substance                                  | 1          | 0             | 1          |
| Other   | 1          | 2             | 3          |
| <b>Slip, trip or fall on same level</b>                     | <b>0</b>   | <b>2</b>      | <b>2</b>   |
| <b>Fire</b>   | <b>1</b>   | <b>1</b>      | <b>2</b>   |
| <b>Other kinds of incident</b>                              | <b>2</b>   | <b>2</b>      | <b>4</b>   |
| <b>Total</b>  | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 9** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Nature of injury                    | Employees  | Self-employed | Total      |
|-------------------------------------|------------|---------------|------------|
| Crushings and contusions            | 9          | 32            | 41         |
| Concussion and internal injuries    | 11         | 26            | 37         |
| Fractures                           | 5          | 22            | 27         |
| Asphyxiation, poisoning and gassing | 16         | 11            | 27         |
| Injury caused by electricity        | 7          | 3             | 10         |
| Multiple injury types               | 23         | 37            | 60         |
| Other known                         | 24         | 68            | 92         |
| Unknown                             | 37         | 42            | 79         |
| <b>Total</b>                        | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 10** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Site of injury  | Employees  | Self-employed | Total      |
|---|------------|---------------|------------|
| Head  | 25         | 49            | 74         |
| Neck  | 2          | 5             | 7          |
| Back  | 0          | 2             | 2          |
| Trunk   | 11         | 22            | 33         |
| Torso (multiple site)   | 1          | 5             | 6          |
| Upper limb  | 1          | 1             | 2          |
| Lower limb  | 1          | 2             | 3          |
| Several of the above  | 23         | 43            | 66         |
| General locations (inc drowning, asphyxiation, electrocution etc) | 37         | 64            | 101        |
| Other/unspecified locations                                       | 31         | 48            | 79         |
| <b>Total</b>  | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 11** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Work activity   | Employees  | Self-employed | Total      |
|---|------------|---------------|------------|
| Agriculture operations – all operations involving agriculture, eg cultivation, harvesting, crop spraying, all crop processing | 49         | 88            | 137        |
| Livestock operations – animal housing/handling, feeding & all other animal-related operations                                 | 25         | 56            | 81         |
| Fish farming, including shellfish harvesting  | 8          | 24            | 32         |
| Maintenance (machinery)   | 9          | 9             | 18         |
| Maintenance (buildings)   | 2          | 12            | 14         |
| Maintenance (land)  | 2          | 3             | 5          |
| Landscape gardening   | 4          | 4             | 8          |
| Arboriculture – tree surgery, care of trees etc   | 4          | 15            | 19         |
| Forestry operations including tree felling & extraction   | 7          | 4             | 11         |
| Maintenance of trees and woodland   | 1          | 6             | 7          |
| Loading/unloading   | 1          | 6             | 7          |
| General handling  | 3          | 3             | 6          |
| Walking/running on or outside premises, entering and leaving buildings including travelling in vehicle on site                | 7          | 8             | 15         |
| Travelling/delivering in vehicle including driving on public highway and off-site travel                                      | 5          | 1             | 6          |
| Other general agriculture activities  | 5          | 2             | 7          |
| <b>Total</b>  | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 12** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Age           | Employees  | Self-employed | Total      |
|---------------|------------|---------------|------------|
| 16 to 19      | 8          | 4             | 12         |
| 20 to 24      | 16         | 3             | 19         |
| 25 to 34      | 29         | 20            | 49         |
| 35 to 44      | 17         | 39            | 56         |
| 45 to 54      | 28         | 33            | 61         |
| 55 to 64      | 23         | 63            | 86         |
| 65 and over   | 9          | 74            | 83         |
| Age not known | 2          | 5             | 7          |
| <b>Total</b>  | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 13** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Age           | Total workers (employed and self-employed) by year |           |           |           |           |           |           |           |           |           |            |
|---------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
|               | 02/03  | 03/04     | 04/05     | 05/06     | 06/07     | 07/08     | 08/09     | 09/10     | 10/11     | 11/12     | Total      |
| 16 to 19      | 1  | 2         | 1         | 0         | 2         | 2         | 0         | 1         | 0         | 3         | 12         |
| 20 to 24      | 3  | 1         | 4         | 2         | 1         | 2         | 3         | 2         | 0         | 1         | 19         |
| 25 to 34      | 7  | 9         | 6         | 0         | 4         | 7         | 1         | 5         | 3         | 7         | 49         |
| 35 to 44      | 3  | 14        | 2         | 8         | 7         | 5         | 6         | 3         | 5         | 3         | 56         |
| 45 to 54      | 5  | 5         | 8         | 8         | 6         | 7         | 6         | 8         | 6         | 2         | 61         |
| 55 to 64      | 8  | 8         | 11        | 9         | 6         | 6         | 5         | 13        | 12        | 8         | 86         |
| 65 and over   | 7  | 3         | 10        | 6         | 8         | 17        | 5         | 6         | 10        | 11        | 83         |
| Age not known | 2  | 2         | 0         | 1         | 2         | 0         | 0         | 0         | 0         | 0         | 7          |
| <b>Total</b>  | <b>36</b>  | <b>44</b> | <b>42</b> | <b>34</b> | <b>36</b> | <b>46</b> | <b>26</b> | <b>38</b> | <b>36</b> | <b>35</b> | <b>373</b> |

**Table 14** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Day of the week | Employees  | Self-employed | Total      |
|-----------------|------------|---------------|------------|
| Monday          | 22         | 35            | 57         |
| Tuesday         | 26         | 39            | 65         |
| Wednesday       | 16         | 37            | 53         |
| Thursday        | 21         | 55            | 76         |
| Friday          | 26         | 31            | 57         |
| Saturday        | 11         | 30            | 41         |
| Sunday          | 10         | 14            | 24         |
| <b>Total</b>    | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 15** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Month        | Employees  | Self-employed | Total      |
|--------------|------------|---------------|------------|
| April        | 7          | 19            | 26         |
| May          | 11         | 13            | 24         |
| June         | 13         | 17            | 30         |
| July         | 19         | 15            | 34         |
| August       | 17         | 26            | 43         |
| September    | 12         | 27            | 39         |
| October      | 12         | 16            | 28         |
| November     | 6          | 17            | 23         |
| December     | 6          | 22            | 28         |
| January      | 8          | 15            | 23         |
| February     | 8          | 35            | 43         |
| March        | 13         | 19            | 32         |
| <b>Total</b> | <b>132</b> | <b>241</b>    | <b>373</b> |

**Table 16** Fatal injuries to employees and self-employed in agriculture, 2002/03 to 2011/12

| Time of day               | Employees  | Self employed | Total      |
|---------------------------|------------|---------------|------------|
| Before 08:00              | 3          | 4             | 7          |
| 08:00 – 08:59             | 3          | 8             | 11         |
| 09:00 – 09:59             | 12         | 16            | 28         |
| 10:00 – 10:59             | 13         | 20            | 33         |
| 11:00 – 11:59             | 12         | 23            | 35         |
| 12:00 – 12:59             | 13         | 9             | 22         |
| 13:00 – 13:59             | 12         | 8             | 20         |
| 14:00 – 14:59             | 8          | 24            | 32         |
| 15:00 – 15:59             | 12         | 17            | 29         |
| 16:00 – 16:59             | 7          | 21            | 28         |
| 17:00 – 17:59             | 10         | 11            | 21         |
| After 18:00               | 18         | 26            | 44         |
| Time not known            | 9          | 54            | 63         |
| Total where time is known | 123        | 187           | 310        |
| <b>Total</b>              | <b>132</b> | <b>241</b>    | <b>373</b> |

### Members of the public, 2002/2003 to 2011/12

113 Fifty-three (53) members of the public including 16 children (aged under 16 years) died as a result of an agricultural work activity during the ten-year period.

114 The main cause of death to members of the public were either as a result of being struck by a moving vehicle or injured by an animal – 26% (each). However, no children were killed by animals but 57% of the transport-related deaths were to children.

115 Eight children died as a result of being struck by a moving vehicle (50% of all child fatalities). A further two (each) were as a result of asphyxiation or drowning and falls from a height.

116 Of the 16 child deaths, those aged between six and ten were most at risk. Seven children (44% of the total) were within this age group. The remaining child deaths were between 11 and 15 years of age (5 deaths) and one and five (4 deaths).

117 The main cause of fatal injuries to adult members of the public was being injured by an animal (14 deaths) followed by falls from a height (7 deaths). Transport caused 6 deaths and being struck by a flying or falling object 4.

118 Eighteen (18) fatalities (34%) involved elderly members of the public, ie people who were over the age of 65. This relates to 49% of the total adult deaths.

119 Eighteen (18) deaths (34%) involving members of public occurred over the weekend. Nine deaths (each) occurred on Wednesday and Friday. Fewer deaths occurred on a Monday. Thirty-seven percent (37%) of the deaths to children occurred over the weekend.

120 More adults died in July, August and September than in any other month. Of the 37 deaths to adult members of the public, 8 occurred in September (22%), 7 (each) in July and August (19%).

**See Tables 17–19 for further information on fatal injuries to members of the public.**

**Table 17** Summary of fatal injuries to members of the public in agriculture, 2002/03 to 2011/12

| Year of fatal injury | Members of the public | ... Of which were children |
|----------------------|-----------------------|----------------------------|
| 2002/03              | 3                     | 1                          |
| 2003/04              | 7                     | 2                          |
| 2004/05              | 3                     | 0                          |
| 2005/06              | 8                     | 3                          |
| 2006/07              | 7                     | 4                          |
| 2007/08              | 2                     | 0                          |
| 2008/09              | 4                     | 0                          |
| 2009/10              | 5                     | 3                          |
| 2010/11              | 8                     | 3                          |
| 2011/12              | 6                     | 0                          |
| <b>Total</b>         | <b>53</b>             | <b>16</b>                  |

**Table 18** Summary of fatal injuries to members of the public in agriculture, 2002/03 to 2011/12

| Age of injured person | Members of the public |
|-----------------------|-----------------------|
| 1 to 5                | 4                     |
| 6 to 10               | 7                     |
| 11 to 15              | 5                     |
| 16 to 19              | 2                     |
| 20 to 64              | 17                    |
| Over 65               | 18                    |
| <b>Total</b>          | <b>53</b>             |



**Table 19** Summary of fatal injuries to members of the public in agriculture, 2002/03 to 2011/12

| Kind of incident                                  | Members of the public | ... Of which were children |
|---|-----------------------|----------------------------|
| Transport: struck by moving vehicle               | 14                    | 8                          |
| Asphyxiation or drowning                          | 5                     | 2                          |
| Injury by an animal                               | 14                    | 0                          |
| Fall from a height                                | 9                     | 2                          |
| Struck by moving, flying or falling object        | 5                     | 1                          |
| Contact with machinery                            | 2                     | 1                          |
| Trapped by something collapsing/<br>overturning   | 1                     | 0                          |
| Strike against something fixed                    | 1                     | 1                          |
| Exposure or contact with harmful or hot substance | 1                     | 1                          |
| Slip or trip on same level                        | 1                     | 0                          |
| <b>Total</b>                                      | <b>53</b>             | <b>16</b>                  |

| Work activity  | Members of the public | ... Of which were children |
|--|-----------------------|----------------------------|
| Agriculture operations including cultivation, harvesting, crop processing etc  | 17                    | 6                          |
| Livestock operations – animal housing/handling, feeding and all other animal-related operations                            | 10                    | 3                          |
| Maintenance (machinery)  | 1                     | 0                          |
| Travelling on site including driving on site. Also leaving on or outside premises including entering and leaving buildings | 7                     | 5                          |
| Travelling/delivering in vehicle including driving on public highway and offsite   | 4                     | 0                          |
| Loading/unloading including handling   | 1                     | 0                          |
| All other activities including recreation of parks and leisure activities  | 13                    | 2                          |
| <b>Total</b>   | <b>53</b>             | <b>16</b>                  |

**Table 19** Summary of fatal injuries to members of the public in agriculture, 2002/03 to 2011/12 (continued)

| Nature of injury                    | Members of the public | ... Of which were children |
|-------------------------------------|-----------------------|----------------------------|
| Fractures                           | 4                     | 0                          |
| Concussion and internal injuries    | 2                     | 1                          |
| Asphyxiation, poisoning and gassing | 5                     | 3                          |
| Contusions and crushings            | 4                     | 1                          |
| Multiple injury types               | 16                    | 5                          |
| Other known                         | 10                    | 4                          |
| Unknown                             | 12                    | 2                          |
| <b>Total</b>                        | <b>53</b>             | <b>16</b>                  |

| Site of injury              | Members of the public | ... Of which were children |
|-----------------------------|-----------------------|----------------------------|
| Head injuries               | 11                    | 5                          |
| Neck                        | 1                     | 0                          |
| Trunk                       | 2                     | 0                          |
| Upper limb                  | 1                     | 0                          |
| Lower limb                  | 0                     | 0                          |
| Several locations           | 14                    | 2                          |
| General locations           | 17                    | 8                          |
| Other/unspecified locations | 7                     | 1                          |
| <b>Total</b>                | <b>53</b>             | <b>16</b>                  |

| Day of the week | Members of the public | ... Of which were children |
|-----------------|-----------------------|----------------------------|
| Monday          | 5                     | 1                          |
| Tuesday         | 6                     | 1                          |
| Wednesday       | 9                     | 3                          |
| Thursday        | 6                     | 2                          |
| Friday          | 9                     | 3                          |
| Saturday        | 9                     | 1                          |
| Sunday          | 9                     | 5                          |
| <b>Total</b>    | <b>53</b>             | <b>16</b>                  |

**Table 19** Summary of fatal injuries to members of the public in agriculture, 2002/03 to 2011/12 (continued)

| Month        | Members of the public | ... Of which were children |
|--------------|-----------------------|----------------------------|
| April        | 1                     | 0                          |
| May          | 3                     | 2                          |
| June         | 5                     | 1                          |
| July         | 10                    | 3                          |
| August       | 8                     | 1                          |
| September    | 11                    | 3                          |
| October      | 4                     | 2                          |
| November     | 2                     | 0                          |
| December     | 3                     | 1                          |
| January      | 3                     | 1                          |
| February     | 1                     | 0                          |
| March        | 2                     | 2                          |
| <b>Total</b> | <b>53</b>             | <b>16</b>                  |

## Part Three: Costs of injuries and fatalities in farming, forestry and horticulture 2011/12 (in 2011 prices)

121 This section of the report summarises the estimated costs of injuries and fatalities in the farming, forestry and horticultural sectors in 2011/12. The estimate is based on the HSE Costs to Britain model and the farming, forestry and horticultural sector is defined as those occupations falling within Code A of the Standard Industrial Classification (SIC) list.

122 The data on injuries are drawn from the Labour Force Survey (LFS) and represent a three-year average of the years 2010/11 to 2012/13. In this period, it is estimated that annually there were approximately 5000 reportable injuries and 8000 non-reportable injuries within SIC Code A. Reportable injuries are defined as being notifiable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR), either because they were classified as a major injury or resulted in more than seven days off work.

123 This cost estimate was last produced for 2010/11. This estimate for 2011/12 is based upon an updated methodology and is therefore not comparable with the previous effort.

124 The updates to the methodology include:

- changes to the definition of a RIDDOR lost-time injury from one resulting in over three days off work to over seven days;
- the annual uprating of benefits by CPI (Consumer Price Index) rather than RPI (Retail Prices Index), in line with changes to Government policy;
- removing any sources of data which include occupational cancer;
- updating prices to 2011 levels.

## Summary costs

125 The headline costs to society, broken down by cost type are as follows.

**Table 20** 2011/12 Headline costs of injuries in SIC Code A, 2011 Prices (£000s)

|                           | Fatalities     | Reportable Injuries | Non-reportable Injuries | Total           |
|---------------------------|----------------|---------------------|-------------------------|-----------------|
| Lost income               | £13 200        | £22,600             | £590                    | <b>£36 400</b>  |
| Compensation              | £1 800         | £3,100              | £80                     | <b>£5 000</b>   |
| Non-financial human costs | £36 700        | £73 400             | £2 700                  | <b>£112 800</b> |
| Production disturbance    | £100           | £900                | £0                      | £1 000          |
| Health and rehabilitation | £100           | £9,400              | £2 100                  | <b>£11 600</b>  |
| Administration and legal  | £100           | £900                | £0                      | <b>£1 000</b>   |
| <b>Total</b>              | <b>£52 000</b> | <b>£110 300</b>     | <b>£5 500</b>           | <b>£167 800</b> |

**Note:** Totals may not sum due to rounding.

126 The total cost to society of all injuries and fatalities in the agricultural, forestry and horticultural sector in 2011/12 is estimated at £167.8 million. Around 65% of the total cost is due to reportable injuries, and over a quarter is down to fatalities. The proportion of total cost attributable to fatalities in SIC code A is much greater than the average seen across the economy. This is due to the much higher-than-average rates of fatality in this sector.

127 Almost two-thirds of the total cost (£112.8 million) is accounted for by non-financial human costs (individuals' 'pain, grief and suffering') – the largest cost component – with the rest due to financial costs. The largest financial cost is lost income at £36.4 million followed by and health and rehabilitation at £11.6 million.

128 The cost types are explained as follows:

- **Lost income:** this cost captures the income foregone through being off work by individuals following an injury or fatality, offset by any state benefits, avoided income tax and National Insurance and sick pay received by the worker or surviving spouses. For the Government, such tax savings and state benefits are a cost of the injury. However, in aggregate benefits and taxation are transfers between individuals and Government and so net to zero. Employers suffer a loss of income through paying sick pay to individuals unable to work, but are assumed to incur no such losses in the event of a fatality.
- **Compensation:** employers (or rather their insurers) are often liable to compensate individuals following a workplace injury or fatality. This would then serve to ameliorate individuals' total cost burden somewhat. However, this is not a transfer that sums to zero in the aggregate like state benefits do: employers will pay more in insurance premiums than individuals will receive in payouts, with the difference going to insurance company running and legal costs.

- **Non-financial human costs:** these are the value of individuals' 'pain, grief and suffering' resulting from an injury or fatality. It is based on what people would be willing to pay to avoid the risk of the injury/fatality occurring and is so the economic value that people place on risk reduction over and above the financial costs. Although such risks are not bought and sold in a market and so do not have a monetary 'price' it is possible to monetise the value by asking people to state what they would hypothetically be willing pay if markets existed.
- **Production disturbance:** this cost only falls upon employers and accounts for reorganisation during an absence resulting from the injury and potentially the recruitment and training of new staff.
- **Health and rehabilitation:** this cost captures individuals' out-of-pocket expenses, including medical and travel costs, and Government costs relating to NHS treatment.
- **Administration and legal:** this cost accounts for individuals and employers dealing with compensation claims and sick pay. There are also costs incurred by employers and Government in the process of investigating the accident and potentially mounting a prosecution.

### Fatalities: costs by bearer

129 The estimated cost of fatalities can be further broken down by cost bearer: individuals, employers and Government.

**Table 21** Costs of fatalities by cost bearer, 2011/12 (£000s)

|                           | Individuals    | Employers     | Government    | Society        |
|---------------------------|----------------|---------------|---------------|----------------|
| Lost Income               | £9 500         | £0            | £3 700        | £13 200        |
| Compensation              | -£2 600        | £4 400        | £0            | £1 800         |
| Non-Financial Human Costs | £36 700        | £0            | £0            | £36 700        |
| Production Disturbance    | £0             | £100          | £0            | £100           |
| Health and Rehabilitation | £100           | £0            | £20           | £100           |
| Administration and Legal  | £0             | £60           | £30           | £100           |
| <b>Total</b>              | <b>£43 700</b> | <b>£4 500</b> | <b>£3 800</b> | <b>£52 000</b> |

**Note:** Totals may not sum due to rounding.

130 The vast majority of the costs are borne by individuals; around £43.7 million out of £52 million, or over 80%. Of individuals' costs, most is accounted for by non-financial human costs of about £36.7 million. Lost income accounts for a further 20% or so of individuals' costs.

131 Compensation appears as a negative cost to individuals as it is received following the fatality. It is essentially a 'benefit' of the accident in mitigation of the other costs, although it clearly does not recompense the individual or their family entirely as around £43.7 million in cost remains.

132 For employers, the largest costs are the insurance premiums that account for nearly all their total cost at £4.4 million. The difference between employers'

compensation costs and individuals' payouts represents the insurance companies' administrative and legal costs.

133 Lost income accounts for most of Government's total costs of around £3.8 million, representing state benefits paid out and tax revenue forgone.

## Non-fatal injuries

### *Reportable injuries: costs by bearer*

134 The estimated costs of reportable injuries, above, can be further broken down by cost bearer: individuals, employers and Government.

**Table 22** Costs of reportable injuries by cost bearer, 2011/12 (£000s)

|                           | Individuals    | Employers      | Government     | Society         |
|---------------------------|----------------|----------------|----------------|-----------------|
| Lost income               | £1 400         | £8 400         | £12 900        | £22 600         |
| Compensation              | -£4 400        | £7 500         | £0             | £3 100          |
| Non-financial human costs | £73 400        | £0             | £0             | £73 400         |
| Production disturbance    | £0             | £900           | £0             | £900            |
| Health and rehabilitation | £800           | £300           | £8 200         | £9 400          |
| Administration and legal  | £100           | £500           | £300           | £900            |
| <b>Total</b>              | <b>£71 400</b> | <b>£17 600</b> | <b>£21 400</b> | <b>£110 300</b> |

**Note:** Totals may not sum due to rounding.

135 The vast majority of the costs are borne by individuals; around £71.4 million out of £110.3 million, or about 65%. Of individuals' costs, the largest component is non-financial human costs; at around £73.4 million, they are greater than the total for individuals. This is explained by compensation appearing as a negative cost to individuals as it is received following the injury, as is the same for fatalities.

136 For employers, the largest costs are the insurance premiums and the lost income from paying sick pay that account for nearly all their total cost of around £17.6 million. The difference between employers' compensation costs and individuals' payouts represents the insurance companies' administrative and legal costs.

137 Lost income accounts for over half of Government's total costs at about £12.9 million, representing state benefits paid out and tax revenue forgone. Most of the remainder is due to medical costs of about £8.2 million.

## Non-reportable injuries: costs by bearer

138 The costs of non-reportable injuries broken down by bearer are as follows.

**Table 23** Costs of non-reportable injuries by cost bearer, 2011/12 (£000s)

|                           | Individuals   | Employers   | Government    | Society       |
|---------------------------|---------------|-------------|---------------|---------------|
| Lost income               | £150          | £420        | £19           | £590          |
| Compensation              | -£120         | £200        | £0            | £80           |
| Non-financial human costs | £2 700        | £0          | £0            | £2 700        |
| Production disturbance    | £0            | £0          | £0            | £0            |
| Health and rehabilitation | £160          | £8          | £1 900        | £2 100        |
| Administration and legal  | £0            | £0          | £0            | £0            |
| <b>Total</b>              | <b>£2 900</b> | <b>£630</b> | <b>£2 000</b> | <b>£5 500</b> |

**Note:** Totals may not sum due to rounding.

139 As with reportable injuries and fatalities, the majority of the costs for non-reportable injuries (around 50%) are borne by individuals and the majority of these costs are due to non-financial human costs estimated at around £2.7 million. These are much lower than the human costs of reportable injuries even though there are similar numbers of both types of injury. This is because the severity of the injury, and so the 'pain, grief and suffering', is less.

140 Government's largest estimated costs are health and rehabilitation costs of about £1.9 million, making up almost the entirety of government costs due to non-reportable injuries.

141 Employers' estimated costs are mostly due to around £420 000 in lost income through sick pay and about £200 000 in compensation to the injured.

142 There are assumed to be no production disturbance or administration and legal costs due to non-reportable injuries.



## Further advice

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit [www.hse.gov.uk/](http://www.hse.gov.uk/). You can view HSE guidance online (including Farmwise) and order priced publications from the website. HSE priced publications are also available from bookshops.

Current information and advice is available at:

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This report is available at: [www.hse.gov.uk/agriculture/resources/fatal.htm](http://www.hse.gov.uk/agriculture/resources/fatal.htm)

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