

# Influences on safe/unsafe practices

Farmers' perspectives

Prepared by **BOMEL Limited**  
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# Influences on safe/unsafe practices

## Farmers' perspectives

**BOMEL Limited**  
Ledger House  
Forest Green Road  
Fifield  
Maidenhead  
Berkshire  
SL6 2NR

The agriculture industry has been identified as a priority area by the HSC/E due its high rate of fatal and major injury accidents (Revitalising Health and Safety Strategy Statement, June 2000). Agriculture has the highest fatal accident rate of any other sector and this rate continues to rise, which is of particular concern in an industry where the workforce is declining year on year. The farmers most at risk are the self-employed, although as with all areas of industry small businesses are particularly hard for the HSE to target through the usual contact methods such as interventions with intermediaries. In order to understand more about the influences on safe and unsafe farming practices BOMEL was commissioned to explore the source and strength of these influences with two distinct farmer groups (the self-employed and farm employers/employees) using the Influence Network technique. With a better understanding of these influences HSE will be able to design interventions appropriate to the target group that will have maximum impact across the sector. The results of this study will also provide a benchmark against which the sector team can compare their own observations of the critical influences.

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RESTRICTED COMMERCIAL  
HEALTH AND SAFETY EXECUTIVE

INFLUENCES ON SAFE / UNSAFE PRACTICES – FARMERS' PERSPECTIVES

EXECUTIVE SUMMARY

Background

The agriculture industry has been identified as a priority area by the HSC/E due its high rate of fatal and major injury accidents (Revitalising Health and Safety Strategy Statement, June 2000). Agriculture has the highest fatal accident rate of any other sector and this rate continues to rise, which is of particular concern in an industry where the workforce is declining year on year. The farmers most at risk are the self-employed, although as with all areas of industry small businesses are particularly hard for the HSE to target through the usual contact methods such as interventions with intermediaries. In order to understand more about the influences on safe and unsafe farming practices BOMEL was commissioned to explore the source and strength of these influences with two distinct farmer groups (the self-employed and farm employers/employees) using the Influence Network technique. With a better understanding of these influences HSE will be able to design interventions appropriate to the target group that will have maximum impact across the sector. The results of this study will also provide a benchmark against which the sector team can compare their own observations of the critical influences.

The Agriculture Sector

In order to put the current study in context, a brief review of the agriculture sector was undertaken. The total area of agricultural land in the UK is approximately 18.4 million hectares (DEFRA, 2003). UK farming is particularly varied and most regions are home to all types of British farming. The South West is the largest and most rural region and is dominated by livestock farming. In terms of the workforce, there are approximately 550,000 people in agriculture although this figure is steadily declining as people gradually leave agriculture due to the poor economic climate and in more recent years crises such as BSE and foot and mouth disease. The farmers that remain have to constantly diversify their businesses in order to stay afloat and still money remains tight in an increasingly competitive food market.

The agricultural safety record currently shows considerable room for improvement. HSE RIDDOR data indicates that in the year 2002/03 there were 9.5 fatal injuries per 100,000 workers which is an increase compared with 9.2 in 2001/02 (HSC, 2003). Numbers of major injury and over 3-day injury accidents are also increasing although the high level of under reporting of non-fatal accidents suggests the figures could be even higher (HSC/LFS, 2002).

The Influence Network Approach

In June 2002 the HSE sector team took part in an Influence Network workshop to explore the possible underlying causes on the high number of farming fatalities. The structured approach facilitated a productive and insightful discussion around the many possible causative factors involved in farming accidents. The inspectors also identified significant variations in practices across the industry, for example the differences between small and large farms; variations with regard to type of farming; capabilities of the young compared to the ageing workforce; and the quality and availability of information compared to access and relative

uptake. It also identified a number of key issues specific to agriculture such as the ageing workforce; change in cattle breed; focus on productivity not safety; and the availability of good quality information and advice but poor take up.

It was felt that the Influence Network methodology worked well and it would be useful to adopt this approach with farmers to discuss the source and strength of the influences they perceived as having a significant affect on farm safety. Taking the same approach also enabled comparisons to be drawn between the three workshop groups.

**The Farmer Workshops**

Influence Network workshops were held with two distinct farming groups at the beginning of 2004 to avoid peak work seasons. The first workshop was conducted with self-employed farmers in the South West and the second was held with farm employers and employees in the South East where the larger arable farms are situated. Each workshop had a good attendance from a range of farmers within the target groups ensuring that the findings were reflective of a range of different views. Both workshop groups worked through the following activities:

- Identification of the factors that influence safe / unsafe farming practices
- Rating and weighting of these factors in terms of current practice and their influences on other factors
- Identification of possible safety improvement measures that can be channelled through the HSE

**Rating the Factors**

Analysis of the group discussions and a selection of ratings assigned by workshop participants enabled an assessment to be made regarding how each group of farmers rated the different influences in terms of current industry practice. Results showed that the farmer groups showed significant alignment in their views, suggesting there are many poor quality factors that are common across the agriculture sector. The factors perceived to be poor by both workshop groups were as follows:

Direct Level Factors			
Motivation / morale	Organisational Level Factors		
Fatigue / alertness	Recruitment	Policy Level Factors	
Information / advice	Training	Safety management	Environmental Level Factors
Suitable human resources	Procedures	Profitability	Political influence
External conditions	Planning		Regulatory influence
Stress	Incident management and feedback		Market influence
	Pay and conditions		Societal influence





- Contractor usage is increasing and in general is perceived to make a positive contribution to farm safety
- Inspection and maintenance is typically conducted by the farmers themselves with a focus on remaining productive and reflects the value placed on equipment
- A sudden change in the weather can have a significant impact on planned farming activities, which can result in extreme fatigue and stress
- Most training is typically too expensive, not practical nor delivered in context
- There is a strong industry culture, which encourages safe sharing of equipment and services, and this translates into positive individual farm cultures.
- At this point in time, profitability is particularly poor
- Farmers feel society has a poor public perception of the agriculture industry.

#### Alignment Between the Views of the HSE Sector Team and Farmers Perspectives

Throughout the report the results of the HSE sector team workshop were contrasted and compared with the findings from both farmer workshops. The inspectors' original observations of the industry were strongly reflected in the feedback given by farmers. This suggests that the team has a good grasp of the key issues affecting agricultural safety. One significant area that they did not pick up on, at least explicitly, was that safety management systems in the form expected by regulatory bodies are not always as applicable to some areas of the agriculture industry as they may be to other industry sectors. This particularly causes the self-employed farmer to become overburdened with heavy bureaucracy, much of which does not even apply to their business. This serves to heighten already significant levels of fatigue and stress.

#### Agricultural Risk Control Models

In order to identify the factors with most potential for agricultural risk control within small and large farms, poor quality factors were compared with high impact factors. This made it possible to see which influences were exerting a significant impact on farm safety whilst at the same time showing considerable room for improvement and therefore should be considered as factors with the greatest potential for reducing agricultural risk. The following factors were highlighted as potential risk control areas in both farmer workshops:

- Fatigue / alertness
- Suitable human resources
- External conditions
- Training
- Political influence.

Potential risk control areas particularly strong for small farms were:

- ☐ Stress
- ☐ Profitability
- ☐ Market influence.

Potential risk control areas particularly strong for large farms were:

- ☐ Motivation/morale
- ☐ Situational awareness / Risk perception
- ☐ Compliance
- ☐ Regulatory influence.

Both farmer workshops and the HSE workshop provided a valuable insight into the potential risk control areas across the agriculture industry. In order to triangulate the evidence and develop a model of agricultural risk that was both balanced and representative in its treatment of the key influences, all three workshops were amalgamated. Risk control factors were rated on a scale of 1 to 5, 1 indicating the greatest potential to reduce agricultural risk. This scale provided an indication of each factor's risk control potential in relation to other factors on the network. Training and political influence were rated as the factors with the most potential to control agricultural risk. The findings were then assessed in terms of which factors were exerting the *widest* influence on farm safety. The main paths of influence across the whole sector were qualitatively traced based on the risk control analyses and qualitative points made throughout the workshop session (see Figure 1.1).

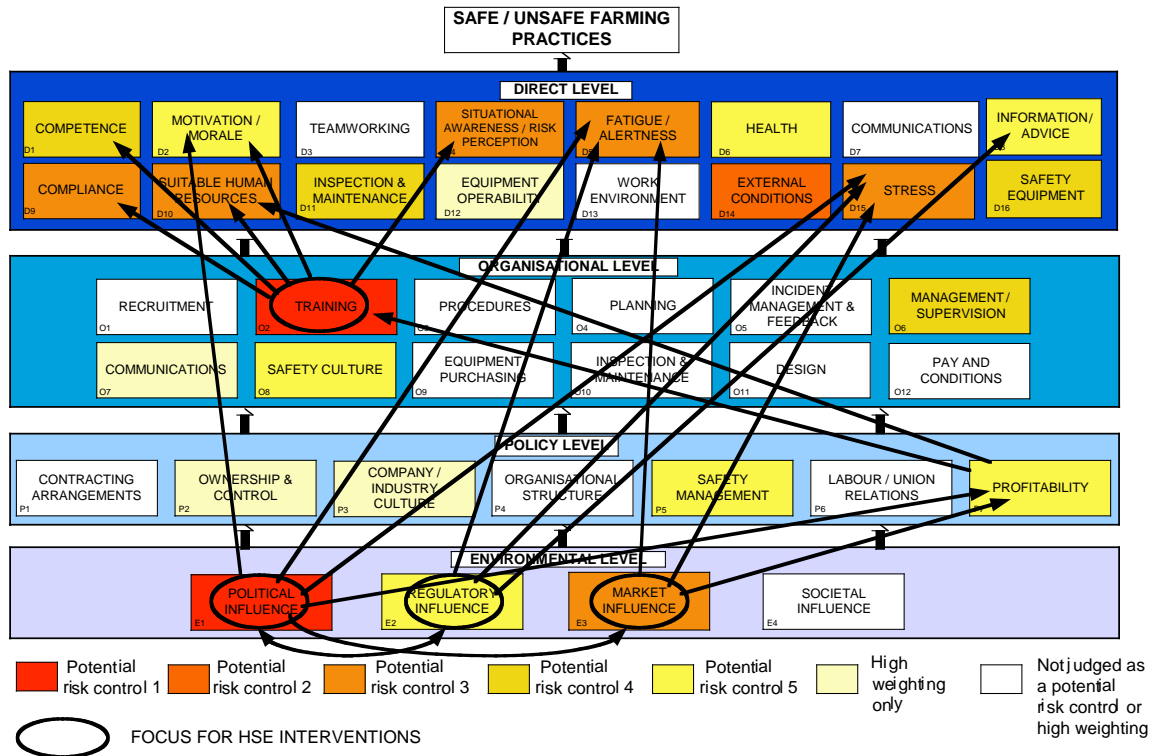


Figure 1.1 Agricultural risk control model and critical paths of influence

The circled factors were perceived to be having the widest influence across the agricultural risk control model. It was therefore suggested that in order to have maximum impact HSE should look to design interventions addressing these target areas.

### Recommendations

Throughout the workshops farmers were asked how the HSE might help them improve safety on their farm and throughout the industry. The farmers made a number of suggestions that were mapped against the four key influences identified in the Influence Network analysis: training, Government, HSE and the market. Many of the recommendations were widely applicable across the sector. However, some suggestions were specific to different farm groups, for example the request for more information on accidents and incidents came from the larger farms whereas the self-employed farmers were more interested in having a legislative 'crib sheet' to reduce the paperwork burden.

### HSE Interventions

- Continue with the SADs and also extend the audience to include larger farms and contractors
- Raise HSE's online profile
- Communicate health and safety information through different channels such as 'Farmers' Weekly'
- Provide more accident/incident feedback

- Rather than asking for evidence of procedures and documented risk assessments, ask farmers to show how they have ensured they are safe
- Start thinking about how safety management can be better delivered and assessed in the agriculture industry
- Inspectors must be competent and experienced in agriculture
- Increase the number of proactive inspections.

#### Government/DEFRA

- Work with DEFRA to help reduce the amount of administration/regulations coming through
- Work with Government to provide a legislative 'crib sheet' detailing everything the self-employed farmer needs to know about running a business to being safe on the farm
- Act as an intermediary between farmers and Government with regard to their welfare and safety
- Make Government aware of the detrimental influence it and the actions of some of its agents can have on farmers' health and safety.

#### Market

- Work with people in the food supply chain to help them become aware of the influence that they have on safe/unsafe farming practices
- Encourage Government to set fixed food prices and discourage foreign imports
- Encourage Government to encourage consumers to purchase food produced in Britain
- Involve the retailers in auditing farm safety policies
- Work with retailers to promote UK originated food.

#### Training

- Introduce regional on-farm training days
- Run training courses and SADs from November to May
- Regulate training courses provided by equipment manufacturers and commercial training bodies
- Promote national or regional agricultural training circles/groups
- Develop a deeper understanding about the role of training in this industry context, e.g. most appropriate format and desired benefits.

HSE to work more closely with the following industry groups:

- ☐ Trade associations such as the National Farmers Union
- ☐ Equipment manufacturers
- ☐ Equipment designers
- ☐ Industry journals such as Farmers' Weekly
- ☐ DVLA
- ☐ Contractors
- ☐ Abattoirs.











Cornwall and Somerset) and more northerly farms tend to be smaller, family owned businesses that breed and sell livestock and livestock produce. In contrast, farms in the South East of England and easterly regions are more dominated by arable farming and tend to be more progressive in terms of outlook, education and business diversification, e.g. farm shops, letting out parts of the farm, B&Bs etc.

The South West is the largest and most rural region in England, accounting for 15% of the nation's total land area. Agricultural production in the South West is dominated by pastoral livestock (grassland) farming, which also makes it the 'greenest' region. Farm holdings are typically much smaller than the English average, particularly in Devon and Cornwall. Twice as many people are directly employed in agriculture in the South West than the national average, with 66,000 depending upon it directly for their livelihoods. Dairy farming accounts for 41% of land use in the South West and land is also used extensively for reared cattle and sheep (29%) (NFU online, 2003).

Arable farming is predominant in the South East, along with horticulture (fruit, vegetables, ornamental trees and shrubs, cut flowers and bulbs). Overall almost 14% of England's cereal crop is grown in this region. East Anglia is also known for its cereal crops, with farmers growing more than a quarter of England's wheat and barley. Farmers in East Anglia also grow more than half England's entire sugar beet crop and almost a third of England's potato crop. Due to the large amount of grain produced in this region, it is also home to 1.3 million pigs (second largest herd in Britain) and its hens produce approximately 2.2 million eggs a day (NFU online, 2003).

The West Midlands encompasses every aspects of farming in the UK, including livestock, arable and horticulture. In the East Midlands 1.3 hectares of land (nearly 80% of the region's total land area) is utilised by agriculture and horticulture (NFU online, 2003). As with the West Midlands, the diversity of the farm produce is vast.

Some 37% of holdings in the North West are classed as cattle and sheep and 24% as dairy holdings. This compares to national figures of 28% and 12% and highlights the importance of the livestock sector in the North West (NFU online, 2003). Interestingly, the agricultural workforce in the North West has a higher proportion over the age of 45 than the national average (NFU online, 2003).

The North East (incl. Yorkshire and the Humber) accounts for just over one million hectares of agricultural land. The production of beef cattle and sheep is the main agricultural enterprise of the region, although the North East also holds over 10% of the national dairy herd and is also home to over 30% of the English breeding pig herd (NFU online, 2003).

Agriculture accounts for some 8% of the rural workforce in Scotland and is valued at around £2 billion a year. In rural areas, where the industry is regarded as an integrated part of the rural economy, the contribution to economic, environmental and social benefits can be significantly higher. Beef production is the largest single sector of the agriculture industry in Scotland and in









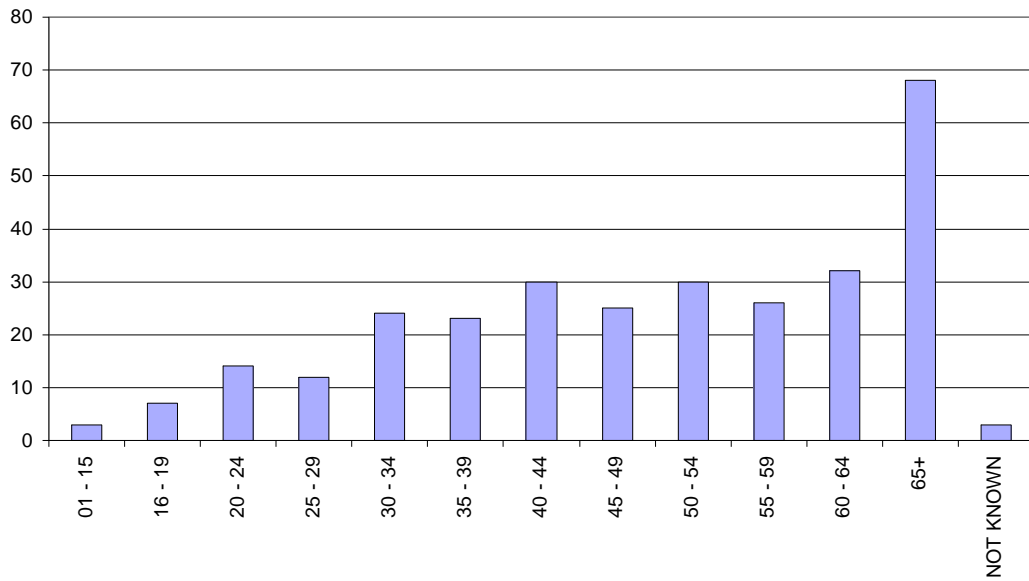


Figure 2.3 Agricultural fatalities between 1996/97 and 2002/03 by age

In order to understand more about the main causes of fatal injuries, Figure 2.4 highlights the top 10 types of accident that have caused death to agricultural workers between 1996/97 and 2002/03 based on HSE RIDDOR data.

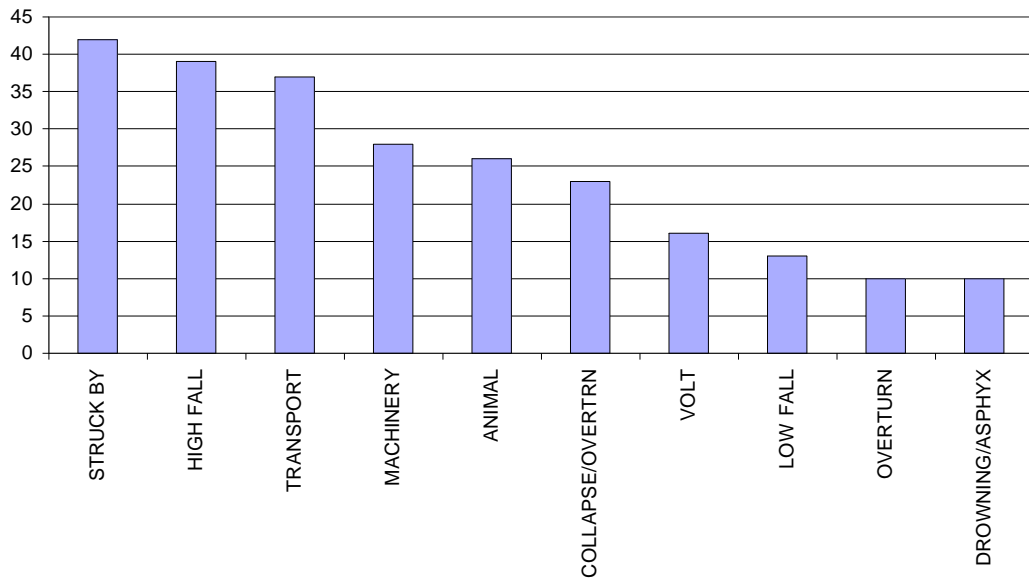


Figure 2.4 Agricultural fatalities between 1996/97 and 2002/03 by accident kind

Figure 2.4 highlights that being struck by moving or falling objects, falling from a height (through fragile roofs, trees etc) and being run over by a vehicle or a vehicle overturning (transport) account for the most fatalities amongst agricultural sector workers.

## MAJOR INJURY AND OVER 3-DAY INJURY ACCIDENTS

The rate of reported major injury accidents involving employees increased from 213.9 major injuries per 100,000 employees in 2000/01 to a rate of 239.3 in 2001/02. There was also a similar trend in reported over 3-day injuries to employees, with the rate of over 3-day injuries to employees at 493.3 injuries per 100,000 employees in 2000/01 and increasing by 26% to 621.9 in 2001/02. These figures reflect an overall upward trend in the rate of over 3-day injury accidents to employees since 1998/99 when it was at its lowest at 427.5, 45% less than in 2001/02 (HSC, 2002). These accident rates only apply to employees due to the high rate of under reporting of non-fatal accidents amongst the self-employed. More worryingly results from the 1999/2000 Labour Force Survey (HSC/LFS 2002) indicate that only 28% of non-fatal injuries were reported in 1999/2000 in the agriculture sector. This suggests that the real rate of non-fatal injuries could be significantly higher than current figures indicate.

Figure 2.5 highlights the top 10 types of accident that have caused a major injury or over 3-day injury to agricultural workers between 1996/97 and 2002/03 based on HSE RIDDOR data.

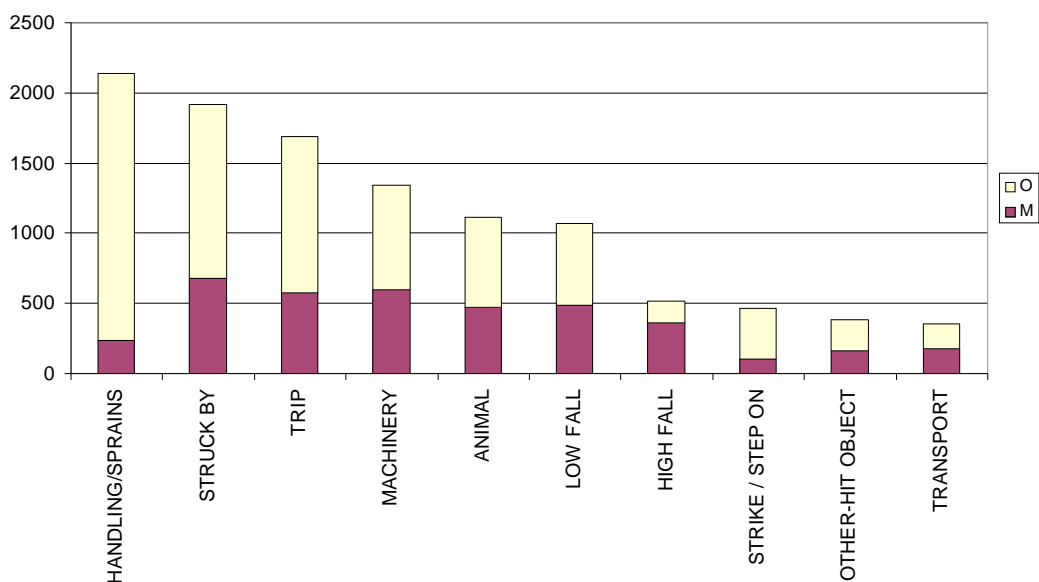


Figure 2.5 Non-fatal accidents between 1996/97 and 2002/03 by accident kind

Figure 2.5 highlights that handling sprains and strains, being struck by a moving or falling object and slips and trips are the most common non-fatal accident kinds reported amongst agricultural employees.

## ILL HEALTH

The SWI (self reported work related injury) survey in 2001/02 estimated that 30,000 people whose current or most recent job in the last eight years was in the agriculture, hunting, forestry and fishing industries suffered from an illness which they believed was caused or made worse by this job. The corresponding prevalence rate, 6500 per 100,000 people working in the last eight years, was statistically significantly higher than the average for all industries.









A hierarchical representation of the domains is shown in Figure 3.2. This illustrates the generic model adapted and used by BOMEL in other project work for the HSE. This Influence Network approach has a strong human factors basis and distinguishes the sub-influences in each domain across distinct human, hardware and organisational factors. The influence interactions are modelled qualitatively and quantitatively using bespoke software developed by BOMEL both to facilitate the elicitation of expert judgements and to automate the analysis.

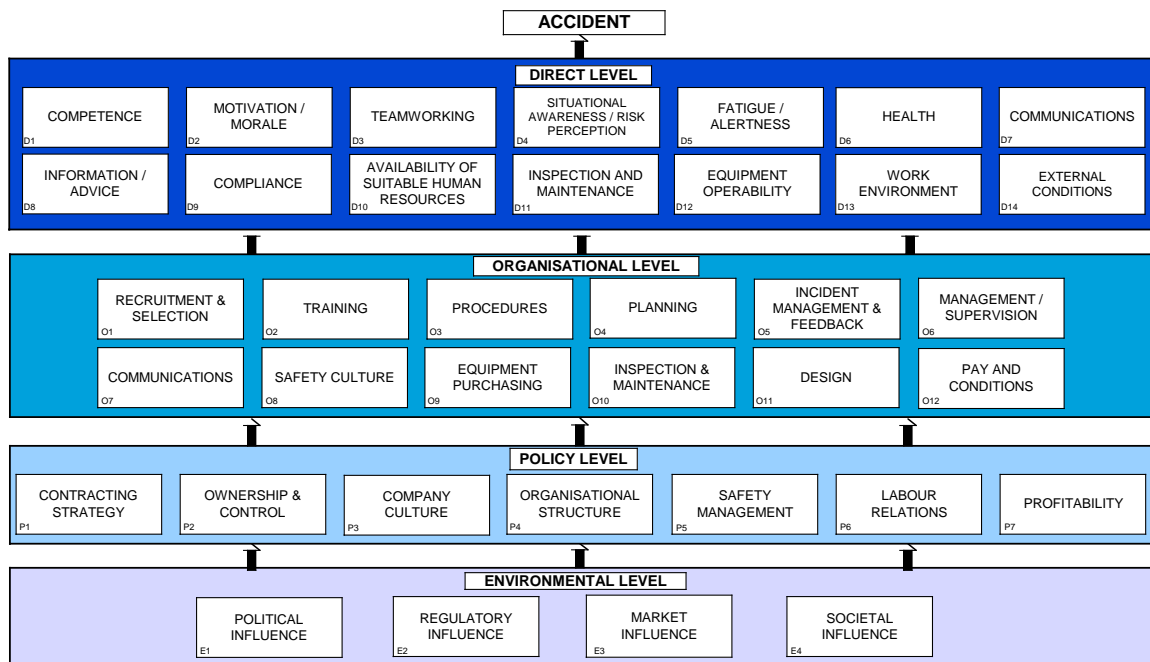


Figure 3.2 Generic Influence Network model

Subject matter experts (i.e. practitioners from the field) are invited to participate in a workshop which aims to identify best and worst practice in the industry in relation to each influence for the particular situation under consideration. Participants will also be invited to discuss the various attributes of current practice for each factor. This leads to a quantitative rating for current practice using a scale of 0 to 10 representing worst to best practice. Separately, the significance of each influence is assessed, such that whether or not the quality of the influence is good or bad (e.g. compliance), it may nevertheless be significant in its weighting on, for example, the degree of compliance that may result.

This structured process of documenting practices as they relate to the subject, is in itself enormously enlightening to the BOMEL facilitators and the industry participants alike. In addition, the network quantification enables crucial influences and key factors to be revealed and for alternative risk controls (e.g. improving safety culture as opposed to more training, say) to be compared in relation to cost, schedule and impact potential. Importantly, the approach helps determine which influences shape an aspect of performance and to what extent, and this helps



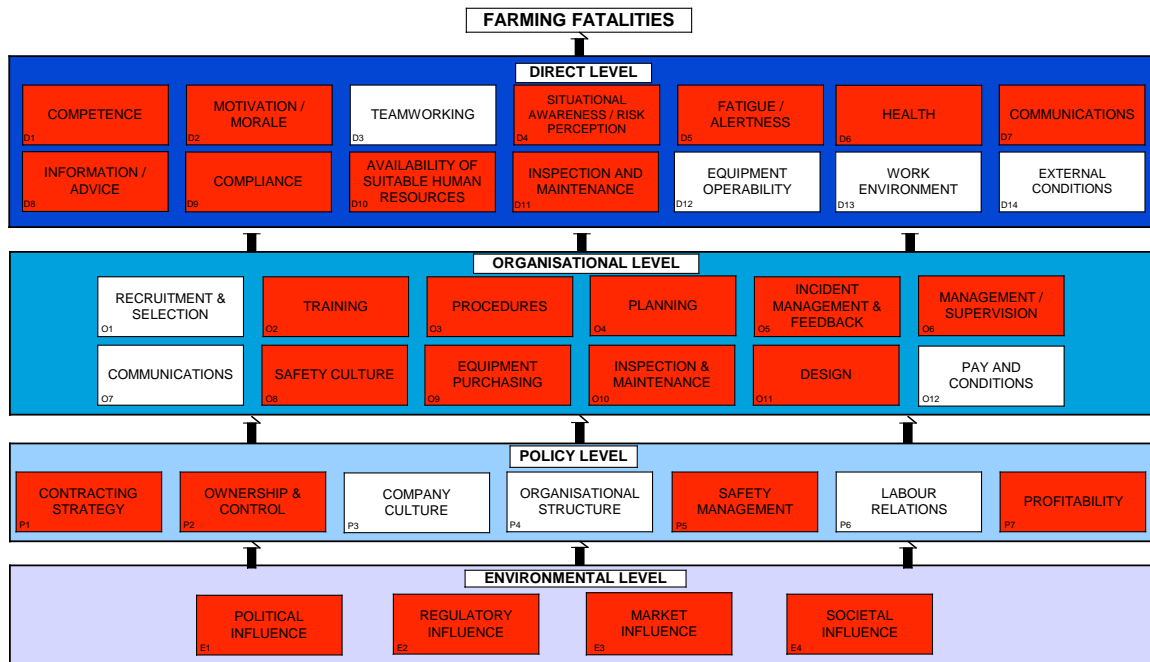


Figure 3.3 Poor quality factors and areas of concern identified by the HSE sector team

Having developed an understanding of the issues surrounding each of the factors, the inspectors assessed the relative significance of each factor in relation to other factors on the network and their impact on safety in agriculture. These weightings were assigned independently from the previously assigned ratings (see Appendix A for the full weightings analysis or Section 5.3 for more details). In summary, at the direct level the inspectors highlighted the following factors as potentially having the greatest influence on farm safety:

- Inspection and maintenance
- Situational Awareness / Risk Perception
- Competence
- Information / Advice

These factors were closely followed by:

- Health
- Compliance
- External Conditions.

At the organisational level both safety culture and training were thought to have a universally strong potential to influence all factors at the direct level. It was felt that there is, typically, a high



























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## Overview and comparison

Neither of the farmer groups made the distinction between general competence and safety competence. Their discussion focused on training their own workers to do the job safely as opposed to the inspectors' discussion, which focused on contracting out jobs that required specific competencies. For self-employed farmers the issue was finding and affording the most applicable training to develop the right competencies, whereas for the larger farms the issue was ensuring employees behaved competently once training had been undergone.

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D2 Motivation / Morale - Farm workers' incentive to work towards the business, employer, personal and common goals.

W/S	Comments	Rating
HSE	<p>The sector team felt that the average self-employed farmer is very positive about their role, strongly motivated to make a success of their business and proud of what they do, yet morale may still be low due to the impact of the poor economic climate and other environmental level influences affecting the industry. However, this is not linked to safety concerns and there is a lack of interest in proactive safety management. HSE has tried to emphasise the linkage between profits and safe business to farmers in order to encourage greater motivation towards safe practice. Nevertheless, it was also felt that morale and motivation did not really have an impact on safety, as safety is given a low priority generally.</p> <p>Livestock farmers may be experiencing low morale due to the major impact of the economic climate, whereas arable farming, whilst facing reduced subsidies, is profitable and farm sizes have grown, with greater investment in machinery and continuing ability to employ on a casual basis.</p> <p>Beef 2 – 3; Sheep 3 – 4; Pigs 3; Arable 7 - 8</p>	(see left)
SE	<p>The self-employed group highlighted how important it was that they were motivated in their work. An example was cited by one farmer who explained how purchasing new machinery is not just about replacing old equipment, but can be a motivating force in itself.</p> <p>However, throughout the workshop there was a general feeling of low morale due to the pressures faced by a poor economic climate, lack of political will and recent agricultural crises such as foot and mouth.</p>	2-7

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E In general it was felt that farm workers are extremely dedicated to their work and highly motivated. However, a couple of the farmers in the employer/employee group felt that motivation levels varied with age. It was felt that younger farm workers who are new to the job and perhaps recently qualified are more motivated to work and learn new skills. More specifically, tractor drivers in the 30+ years age bracket were suggested as a sub-group that were highly dedicated to their work and very motivated. However, it was also suggested that tractor drivers outside this age bracket (late twenties and 50s/60s) may be susceptible to low motivation levels due to the long working hours, monotony and potentially hard driving conditions. 3-8

One participant described how one of his younger employees regularly brings back new knowledge from a college course, which he is keen to share with the other older workers, most of whom typically show no interest in new ways of doing jobs they have done for years.

In general it was also felt that overall motivation to join the industry was particularly low (see D10 Suitable Human Resources).

Finally, an important point made by one participant was that 'job satisfaction' and 'fun' are critical elements in maintaining employee motivation. It was felt that even with benefits such as good pay and conditions and regular training, in the long term employees need to experience job satisfaction and an element of fun in their role in order to remain motivated.

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#### Overview and comparison

All three groups agreed that in general farmers are a motivated group of workers. The inspectors perception that livestock farmers may be experiencing low morale, whilst arable farmers are in less of a down period was reflected in both farmer workshops. The employer/employee workshop also highlighted a difference in motivation levels depending on age, with younger workers generally being more motivated to learn new methods and skills. The findings from all three workshops also suggest that motivation/morale generally does not have a direct impact on safe or unsafe farming practices.

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D3 Teamworking - The extent to which individuals in teams work as cohesive units and look out for each other's health and safety interests

W/S	Comments	Rating
HSE	<p>It was suggested that when there are two or more people working together, they may be more likely to think about safety given the close co-ordination in the work, but this concern with safety is not so apparent when witnessing others doing separate tasks. A macho culture also stills exists across the industry where safety is disregarded. In general, given the nature of agricultural activity, people work on individual fronts rather than in teams. However, when there is casual grouping in which people come together to complete a task, there is likely to be more concern for health and safety. When the individual's actions possibly affect the health and safety of the others, there will be increased vigilance, but where actions do not necessarily affect the others directly, then there seems to be less concern for one's own safety.</p>	(see left)
Employed and self-employed 5		
SE	<p>The self-employed group of farmers felt that the quality of 'teamworking' itself was not really the issue as the majority of their work was undertaken in isolation. If additional labour were employed, perhaps during peak lambing or harvesting season, work would typically still be conducted alone. One farmer explained how the repercussions of an accident could be made significantly worse if the involved individual is not able to quickly get help or raise an alarm. Sometimes farmers may not communicate with anyone from the moment they leave home in the morning to returning at night. If an accident occurs in the day, nobody will raise the alarm until the farmer does not return home that evening and by then it could be too late.</p> <p>It was therefore felt that the absence of teamworking placed greater emphasis on the need for clear, open and regular communications between farmers and workers and/or their families. A farmer summarised the issues by stating that if you are unable to communicate with a member of staff, then there is really no point them being there.</p>	5-7

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- E The farm employer/employee group explained that the majority of work 3-8 undertaken on farms was not carried out in traditional 'teams'. Individuals would typically complete jobs alone, especially with the increase in specialist equipment requiring only one trained operator. Due to such a dispersed workforce, it was agreed maintaining good communications between workers (especially those on a different or isolated part of the farm) was more important for safe working. On the rare occasion farm work was completed as part of a team, it was felt that workers do tend to look out for each other's safety and in contrast perhaps take a more laissez-faire attitude to safety when working alone. The point was also made that for a farm manager, it would of course be hard to prove or disprove someone had been working safely or otherwise when they were alone.
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#### Overview and comparison

Both farmer groups agreed that farm work is not typically carried out in teams. The majority of work is completed in isolation, which emphasises the need for effective communications, particularly about safety concerns. Farmers from the larger farms also directly agreed with the inspectors observations that when work is being carried out as part of a team, workers are more inclined to work safely and look out for each other, whereas working alone may lead to a more relaxed approach to safety.

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D4 Situational Awareness / Risk Perception - The extent to which farm workers are aware of the hazards and risks presented in the workplace.

W/S	Comments	Rating
HSE	The risks are known, but no efforts are made with regard to behaviour modification. The extent to which farmers are capable of undertaking a range of different tasks may result in a misperception of their ability to undertake certain activities, such as roofing, rather than contract the work out and in this respect the risks are either ignored or not identified with.	5
SE	It was felt that this factor was very personal; one farmer may assess risk as low, another as high. It was felt that generation could be a factor, some farmers feeling that if they acted in a certain way 10 years ago, why should they change their ways now. Encouragingly the farmers felt that risk perceptions could be changed, depending on how informed one is about a particular issue, for example, if you know the risk associated with inhaling dust over a prolonged period of time, you are more likely to appreciate the need for a dust mask.	4-8
E	In general the group felt that employees are aware of the risks, but still continue to take them. It was also felt that a key contributory factor was age. Younger workers believe they are immortal, whilst older people can become complacent leading to the omission of safety precautions and procedures (consciously or unconsciously).	4-8

#### Overview and comparison

Both groups of farmers believed that risk perception was linked to age, young and old workers equally susceptible to risk taking behaviours. The employer/employee group also directly agreed with the inspectors observations that individuals are aware of the risks, but behave in the same way despite them. Interestingly the self-employed group felt that by raising people's awareness of the effects of unsafe practices, this could help reduce some risk taking behaviour.

D5 Fatigue / Alertness - The degree to which performance is degraded through sleep deprivation, or excessive / insufficient mental or physical activity, or drugs / alcohol.

W/S	Comments	Rating
HSE	<p>Farmers work long hours and get very tired, this is particularly prevalent at certain times of the year, such as harvesting or lambing where external factors dictate demand. There are also some moderate levels of social alcohol and, amongst the younger workforce, rural drug taking is an increasing issue, but this spans across all sectors of industry. Whilst this can have an impact on alertness, alcohol abuse was not considered to be a primary problem. Drug abuse has not been linked to accidents, however the activity is increasing and was identified as a potential issue of concern for the future.</p> <p>Sleep deprivation is the biggest problem and this partly relates to the length of the day and the demands of the work at particular seasons, such as during harvesting. In mixed farming, especially dairy, there is a constant level of fatigue due to extended hours of work for milking etc, whereas sheep and beef workers can get up later. Fatigue is compounded if farm workers have other work requirements during the day as may frequently be the case with growing numbers of 'hobby farmers' or where economic pressures force farmers to seek other sources of income.</p>	3-4
SE	<p>Fatigue was highlighted as one of the biggest health and safety problems for self-employed farmers, who have virtually no time to rest. In peak calving season a farmer may be producing 20 calves in one day which works out at almost one per hour. Sometimes it is possible to take on one or two helpers to help ease the strain, but financially this causes additional pressure, which compounds the feelings of fatigue. Therefore the farmers feel pressured to complete all the work themselves in order to minimise costs. It was felt that employed farm workers have the luxury of being able to take time off as they can be replaced, but a self-employed owner/occupier farmer has no replacement which results in them never getting a rest.</p> <p>An additional and exhausting pressure is the sheer volume of paperwork that is now synonymous with farming. Traditionally farmers' wives would do the paperwork, but now they are also needed to work either on the farm or externally. This means farmers are out all day working and then when they get in late at night they are faced with a pile of administrative jobs.</p>	2-9



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- E Fatigue was not raised as a particular issue among this group of farmers, 3-8 although the high level of fatiguing work undertaken during the summer months in order to ensure survival for the rest of the year was commented on. However, it was also highlighted that although this was an inherently tiring time of year, for many farm workers summertime was the most pleasurable period. One farm employer explained how he actually discouraged workers to work beyond eight hours in one day as it led to fatigue and therefore low productivity levels and increased the likelihood of potentially dangerous mistakes.

The increasingly ergonomic design of tractors was also discussed as something that has helped reduce driving vibrations and therefore physical (as opposed to mental) driver fatigue.

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#### Overview and comparison

The self-employed farmers strongly echoed the inspector observations with regard to high fatigue levels having a significant impact on farm safety, especially during peak season. Where the inspectors had partly attributed this to 'hobby farmers' or farmers managing other sources of income, the self-employed farmers had highlighted two alternative reasons for such high fatigue levels. Firstly fatigue was made worse by not being able to take a break in peak season and secondly due to the sheer volume of paperwork constantly needing completion. Interestingly, the larger farms did not raise fatigue as an issue at all and actually discussed the positive aspects of farming in the summertime.

Although the inspectors discussed drug and alcohol abuse, it was not highlighted as a major area for concern with regard to safety. This was reflected in both farmer workshops as neither group raised drugs or alcohol as a primary concern.

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D6 Health - The physical well being of the workforce.

W/S	Comments	Rating
HSE	<p>The general level of health in the over 60s was considered to be poor, yet excellent for the young. Those that enter the industry would generally be very fit. However, four out of every five individuals working in the area would be likely to experience a musculoskeletal injury during their working life. Lower limb disorders have a high likelihood, as do hip problems (possibly weight related) and back problems. The workforce as a whole does not utilise the services of the NHS, as individuals will try and sort themselves first and will only present to the GP when the condition is very poor or serious.</p> <p>Young workers 9; Old workers 3</p>	(see left)
SE	<p>It was felt by the self-employed group that the main physical health problems are musculoskeletal due to the large amount of lifting, pushing, pulling etc. More specifically it was felt that sitting in the tractor and looking over one's shoulder causes a significant amount of these problems. Ironically although machinery has improved dramatically, it was believed that back problems are still on the increase because of the commercial pressures placed on farmers, which are manifested in an increased workload and therefore continuing musculoskeletal problems. For example, rather than surviving with 100 cows, 160 are needed to survive commercially which increases time standing and herding etc. Options such as staff rotation do not exist because of the small number of workers. In addition the increased use of machinery has resulted in farmers today being generally less fit and strong than they may have been years ago when the majority of the work was undertaken manually.</p>	5-8
E	<p>This group of farmers also felt that the biggest physical health problems were musculoskeletal. They also believed that these problems were predominantly linked to old age. The majority of the farmers felt that to reduce the risk of older employees having accidents, most farm managers would simply not put an older employee in a high risk physical job.</p>	4-9

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#### Overview and comparison

All three groups agreed that the main physical health problems are related to musculoskeletal injuries. The employer/employee group of farmers agreed with the inspectors' observations that these problems were most prolific during old age, as by this time the body had already been damaged through years of physical exertion. They also suggested that to address the issue they would ensure older workers were not placed in a position where they are required to perform a high risk physical job. Self-employed owner/occupier farmers were not in a position to take this approach due to low staffing levels. This group instead highlighted how commercial pressures have compounded the problem.

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D7 Communications - The extent to which the frequency and clarity of communications between workers are appropriate to enable tasks to be performed safely.

W/S	Comments	Rating
HSE	<p>There is a lot of communication across agriculture, but in relation to safety this is predominantly implicit and there is an underlying assumption that jobs will be performed safely. There exists quite explicit communication with regard to discussing quality standards of the job, but not general safety standards. People learn well from others' experiences, and thus if a fatality has occurred within the family this is most likely to drive a greater concern for safety. Communication is informal and even risk assessments are rarely conducted via a formalised process. Farmers' perceptions of the risks drive how work is planned and how risk assessments are undertaken, e.g. arboriculture is a high-risk area, where there is a lot of contract work and thus workers are required to adapt to changed working environments easily, such that risk assessments are carefully conducted. However this is not the case in farming.</p>	3
SE	<p>Most of the farmers employed a part time person at some point in the year. It was felt that being able to communicate with your staff was critical, as one farmer commented, if you could not communicate with them they were better off not being there at all. The farmers also relied upon any part-time/occasional staff to feed back issues, concerns or suggestions for doing things differently. Sometimes one person will see an accident coming when another may not. Open communications are critical for safety in this environment.</p> <p>Another aspect of working on your own is the isolation and not being able to communicate safety concerns/issues with someone else. Working in team, however small, means other team members can raise a safety concern; there are two pairs of eyes on the situation. It was felt that many farmers are at risk of dying purely because they cannot contact someone in the event of an accident. The farmers emphasised the importance of mobile phones and CB radios for keeping in touch with one another.</p> <p>With regard to risk assessments, it was felt informal risk assessments are regularly conducted before a task is carried out, however, these are not formally written down or recorded due to increasing time pressures and resistance to paperwork demands.</p>	7

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- E The employed/employee group highlighted the increased need for clear and regular communications between staff if and when employees are working alone. One participant explained how a forestry fatality had occurred on their farm and since this accident employees are not allowed to work in the forest by themselves anymore. 4-9

In an isolated situation the group emphasised the importance of mobile phones for two way communications between management and staff to ensure management can check that workers are safe and perhaps more importantly for workers to keep in touch and raise any safety concerns.

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#### Overview and comparison

The farmer groups did not really make the distinction between general communications and communications about safety. However, both groups of farmers did emphasise the importance of effective communications especially when people are working alone. If employing more workers is not an option, both groups stressed the importance of mobile communications such as the mobile phone and CB radios for keeping lines of communication open.

The inspectors' observations that risk assessments are not formalised and a fatality drives increased interest in safety were directly reflected in the self-employed group and employer/employee group respectively.

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important safety messages could be channelled. The magazine is well respected within the industry as it comes from the farmers' perspective and one farmer commented that it was always the first magazine everybody on the farm read from cover to cover. Farmers' Weekly also has a presence at the annual agricultural shows.

The farmers also felt that health and safety messages would be harder hitting if information and campaigns were more graphic in their description of farming incidents and accidents. It was felt that other high risk areas, such as drink driving, are profiled in a much harder way and agricultural safety messages would make more of an impact if they also highlighted the gritty consequences of farming accidents. It was suggested this could be via Farmers' Weekly magazine, at the end of safety and equipment training videos or through HSE brochures and information. Another suggestion was making the HSE's 'Fatal Injuries in Farming, Forestry and Horticulture' booklet more widely available to farmers. It was felt that farm workers must be presented with the cold realities of farming accidents in order that they think, "that could have been me" and improve unsafe farm practices as a result.

The group explained that they also received much of their information and advice from other farms and organisations and through regular training during the course of their career.

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#### Overview and comparison

The farmers' discussions reflected the poor uptake of HSE information and advice feared by the inspectors. The employer/employee group did acknowledge and discuss the information published by the HSE, unlike the self-employed group, although it was generally felt that it was not always accessible when required and also was not explicit enough in depicting the consequences of accidents. It was strongly felt by this group that agricultural health and safety information needs to clearly illustrate the human cost of farm accidents. Both farmer groups suggested the trade magazine 'Farmers' Weekly' as a widely respected medium through which health and safety information could be channelled. The self-employed group also suggested the HSE collaborate more with the NFU on risk assessment (for more details please see the discussion on HSE interventions in section 7).

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D9 Compliance - The extent to which people comply with instructions, procedures, rules, or regulations.

W/S	Comments	Rating
HSE	<p>Much of the discussion focused around compliance in relation to undertaking risk assessments. The participants felt that risk assessment as an approach was not wholly relevant to this industry, as farmers do not see the point, do not consider they have time for it, and lessons from applying it are rarely being heeded anyway. They again reiterated the point that the industry would be more likely to respond to prescriptive legislation, as health and safety are very difficult for them to deal with anyway, and thus straightforward regulations would make it easier to deal with.</p> <p>Overall, one participant described the compliance problem for the industry with the analogy of a box of regulations and requirements that farmers are required to delve into, but as the box is too big then nothing is dealt with at all.</p>	
Contractors 5; Employees 3		
SE	<p>The self-employed group felt that the only time farmers would not comply with regulations or procedures is when they are under severe time pressure to get the job finished, perhaps because of a sudden change in the weather. It was not due to a wilful lack of compliance, but because there is no other option.</p>	5
E	<p>Compliance with procedures was felt to be a serious concern for many of the farm employers in the group. Despite training employees and providing them with guidance on how to undertake activities safely, some employees would still take risks. It was felt that non-compliance was a particular problem for farms that pay employees on a piece-rate basis, encouraging employees to find the quickest way of completing a task in order to make more money. This results in the temptation for workers to cut corners and therefore engage in risk taking behaviour.</p> <p>It was felt that another contributory factor was age. Younger staff have the attitude that they know a quicker or better way of doing something, when this is usually a more dangerous way of going about tasks.</p>	1-7

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## Overview and comparison

The inspectors talked predominantly about compliance with regard to risk assessment. Neither of the farmer groups approached the factor from this angle, instead both groups chose to talk about it from the perspective of complying with instructions, rules and regulations. The self-employed group felt non-compliance was only an issue in times of extreme pressure, whereas the employer/employee group were more focused on non-compliant employees.

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D10 Suitable Human Resources - The relationship of supply to need for suitable human resources. Relates to the appropriate mix and number of farm workers in terms of experience, knowledge and qualifications.

W/S	Comments	Rating
HSE	<p>There is a general shortage of resources, which is driven by the wider economic environment. If farmers had the margins to pay for workers they would recruit more. However, they are often left struggling alone due to an inability to pay for extra labour, and are deterred from employing youngsters because the need to train them on the job would result in reduced productivity. Farmers would rather employ someone with the skill level (e.g. semi-retired) and bring them back or employ contractors, particularly when work is often required on a short-term basis.</p> <p>In addition, farmers do not want to get bound up in contracts or with responsibilities that may have to be dropped, i.e. don't want to bring people in on false promises. This situation is believed to be likely to get worse as the semi-retired pool of workers is reduced and / or becomes too expensive and therefore there will be an increasing need to contract out. This is compounded by the fact that there is a growing skill shortage across the country and a number of agricultural colleges have closed down. Young people are not entering agriculture and are moving into other industries; this is even the case when the farm is a family run business. Basically the traditional structure of farming is changing and contracting will probably have to supersede the traditional model.</p> <p>One means of dealing with the skill shortage problem is through the use of machinery pools / rings round the UK, in which experienced personnel and equipment are available for contracting as required.</p>	(see left)
<p>General farms 4; Large farms with a lot of contracting 5-6</p>		

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SE The self-employed group felt that farmers are now doing far more jobs with far less people, compared with 20 years ago. Many of the farms in the South West are one-man operations, sometimes relying on contractors to help with the larger jobs that require heavy machinery, such as harvesting, seeding and ploughing etc. Financial constraints placed upon the farmers by an increasingly harsh marketplace mean they cannot afford to employ additional labour to help ease the strain. If they were able to employ more people they were aware that younger people do not see a future in agriculture any more and therefore less and less young people are graduating from college with the necessary agricultural skills. There is a stronger focus on horses, horticulture and golf courses.

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E The participants felt that in general young people don't see the agriculture industry as having a healthy and profitable future anymore. Agriculture doesn't offer the wages or benefits that other industries can offer new graduates. Some farming jobs offer accommodation to new starters, perhaps a farmhouse for new farm managers/tenants, however this is not enough of a temptation as leaving the job also means leaving the property and with today's economic climate young people are keen to get on the property ladder. One of the farm employers explained how they make sure they pay farm workers enough to be self-sufficient to ensure they are not bound to the farm, therefore making a job on the farm a more attractive proposition.

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#### Overview and comparison

Overall both groups of farmers felt that the supply of suitable human resources in the farming industry was currently poor. The inspectors' observation that farmers cannot afford to employ workers to meet the job demands and are instead increasingly turning to contractors was directly reflected in the comments made by the self-employed group of farmers. Both groups of farmers highlighted the reduced number of agricultural graduates, which the inspectors had also highlighted, because of poor future prospects perceived.

D11 Inspection & Maintenance - The extent and frequency with which equipment (machinery and tools) is inspected and maintained.

W/S	Comments	Rating
HSE	<p>The quality of the inspection and maintenance is related to assuring productivity, and it was also suggested that if profits were low, maintenance would suffer. The point was made that the safety aspects of maintenance are not adequately addressed, such as brakes, steering, corrosion etc. The investment in maintaining machinery would relate to the degree to which it has a bearing on overall output. Farmers have a tendency to attempt to manage all aspects of inspection and maintenance and thus may not be fully skilled to undertake this work; this is a further product of the general 'can do' attitude that is prevalent in farming. A particular area of concern that HSE is hoping to target relates to the fact that no MOTs are required for farm vehicles.</p>	2
SE	<p>Inspection and maintenance is predominantly driven by productivity as opposed to safety. Farmers explained that inspection and maintenance is essential in order that equipment/machinery is available and ready for use at all times. Regular maintenance ensures equipment works more efficiently (smoother, faster etc.) although it was acknowledged by some that it also makes it safer for use. It was felt that in general an expert will be brought in to do highly technical maintenance, but farmers will typically carry out general inspections and maintenance themselves in an attempt to keep costs down.</p>	7

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- E It was suggested that there was some uncertainty amongst the agriculture community with regard to who was qualified/accredited to inspect and maintain equipment. Some farmers wanted to inspect and maintain their own equipment, in an attempt to minimise costs, however they were uncertain whether this was acceptable in terms of health and safety regulations and satisfying insurance companies. It was also felt that there was not a standard application of inspection and maintenance requirements across machinery and vehicles that posed a similar level of risk. For example, one of the participants gave an example of one large vehicle that was as complex, powerful and fast as a tractor or JCB, but did not require regular inspections. 4-8

Inspection and maintenance was seen to be business critical from the perspective of the agricultural contractor. A contractor cannot afford to have poor kit which may break down or worse still cause an accident and therefore equipment is always well maintained.

One participant with experience of farming in the South West and South East felt there were regional differences with regard to the inspection and maintenance of equipment. It was suggested that equipment, especially on-road vehicles, was more likely to be well maintained in the South East due to the proximity to major motorways, cities and enforcers.

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#### Overview and comparison

The inspectors' observation that farmers tended to try and manage equipment inspection and maintenance themselves was reflected in both farmer workshops. The self-employed group also reflected the inspectors' belief that inspection and maintenance was linked more heavily towards productivity than safety. This emphasis on productivity was less apparent in the employer/employee group, which may reflect the slightly higher profit margins large farms are working within, or the responsibility they have for multiple employees. The employed group also talked about the inconsistencies relating to which vehicles require documented inspection and maintenance. This linked to the inspectors' observations about farm vehicles not needing MOTs and the need to standardise inspection regulations across all farm vehicles.

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D12 Equipment Operability - The extent to which systems and equipment (machinery and tools) are available, conform to best practice and meet the usability needs of the user.

W/S	Comments	Rating
HSE	<p>Like inspection and maintenance, the quality of the equipment is related to productivity, yet ironically equipment operability is quite good, as farmers are borrowing money to buy new machinery due to the necessity for maintaining profitability. Thus equipment that relates to the completion of agricultural tasks is usually of good quality, whereas safety equipment is not given a high priority. With regard to cattle handling equipment, there is a tendency for people to struggle on with poor equipment, as the use of the equipment itself does not affect productivity, and thus the farmer does not regard it as a priority to change the equipment. There is also a large second hand market through the use of dealers/auctions and this may cause problems, however, the turnover of the equipment is generally high in order to ensure greatest productivity. There is also an increase in purchasing of equipment that is imported from Europe and has fewer safety features than UK equipment. In summary, the more related to productivity the equipment is, the better the quality it is.</p>	7
SE	<p>In general the self-employed farmers felt that equipment was improving in terms of operability and referred to the improved design of new tractors to reduce whole body vibrations.</p>	8
E	<p>In general the employer/employee group felt that equipment operability was good. For those that could afford to purchase new equipment, they could see significant improvements in modern design.</p>	5-9

#### Overview and comparison

For both groups of farmers the main health and safety issue related to how usable equipment was. Availability and conforming to best practice were not key factors influencing health and safety. Neither of the farmer groups focused on this factor for long suggesting it is not a key factor influencing farm safety.

D13 Work Environment (e.g. in cab, in buildings etc.) - The level of noise, temperature, congestion, light and vibration existing in the place of work.

W/S	Comments	Rating
HSE	Noise is not a specific problem across the industry except occasionally. The noise within tractor cabs has improved. Vibration is an issue, and Hand Arm Vibration Syndrome and Whole Body Vibration are problems, especially in pig breeding and poultry units. Dust is an occasional problem, particularly on jobs which are extremely dusty over several days' duration, but modern cabs are helping to improve this situation. With regards to temperature, personnel may experience the cold more than the average working population, especially amongst livestock farmers. In addition, the indoor temperature of farm buildings can be very low.	5
SE	This factor was not explicitly discussed with farmers and neither was it highlighted as a 'burning issue' with regard to influences on safe/unsafe farming practices. However, improvements in tractor design to minimise vibrations were highlighted as a positive contribution to farmers' health and safety.	6
E	The employer/employee group did not highlight this factor as being of concern with regard to farm safety.	3-10

#### Overview and comparison

Neither of the farmer groups focused heavily on this factor suggesting it is not a key factor influencing farm safety. However, the self-employed group did highlight improvements in tractor design that were believed to minimise hand arm vibrations.



D14 External Conditions - The extent to which external conditions, such as weather, affect workplace activity.

W/S	Comments	Rating
HSE	<p>Whilst the weather has a major bearing on the activities of farmers, they would never avoid a job due to poor weather, but rather regard it as a necessary part of the job. The weather forecast for the next day can have a major impact on the level of pressure required to get the job done, for example a whole annual hay crop could depend on getting the job done the night before if bad weather was predicted the next day. Suppliers are also under an enormous pressure from supermarkets to spray at particular times despite the weather conditions. In these and other respects, it is apparent that weather has a unique impact on farming as opposed to other industries.</p> <p>The external influence is important and frequent in influencing farmer behaviour and activity, however, new technology is providing a means of mitigating the effects of the weather further.</p>	4
SE	<p>Self-employed farmers agreed that the weather did have a major affect on farming practices. The weather could cause farmers to extend their working day to finish jobs before a storm, which also puts significant pressure on the farmer. One farmer explained how you may think you have finished for the day, but then hear on the radio that rain is predicted the next day. If you have perishable products exposed to the elements, all you can think of getting the product under cover regardless of the time of night or how many hours you have already worked that day. The weather locks farmers in to completing jobs when the weather is dry. The farmers did appreciate that industries such as construction are also dictated to a certain extent by the weather, however it was felt that if a construction job rolls on it does not affect the individual workers, it just increases overall project costs. However, weather conditions can have a direct affect on the farmers' finances and can therefore put a considerable amount of pressure on a farmer.</p> <p>In addition to the pressure to undertake tasks in dry weather, poor weather conditions such as rain and snow directly affects the workability of the land and its safety for travelling on. It was explained that what may be a safe activity on one day, such as driving a tractor or four wheel drive, could be extremely high risk on another day depending on the weather conditions. The perception of whether an activity is safe or not is often left to the individual at the time, which will therefore depend on that individual's perception of risk.</p>	3-8

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Despite the power of the weather to significantly increase farming risk, the farmers were also keen to highlight that working outdoors is one of the main motivators for staying in the agriculture industry.

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- E Overall it was felt that external conditions such as the weather do affect farming activities, however, as long as any change in the working environment is taken into consideration whilst planning for and undertaking a job, the weather should not cause significant safety problems for the farmer. However, it was highlighted how the weather can influence other factors such as stress and fatigue. For example, if there has been a year of consistently bad weather and this has reduced the amount of days farming, the pressure is really on during a spell of good weather. This then increases fatigue as farmers try to make up for lost time. 2-9

It was also commented on by one farmer that more accidents tend to happen in bad weather. This is a natural consequence of issues such as poor visibility and slippery surfaces.

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#### Overview and comparison

Both groups of farmers agreed that the weather does have a significant impact on farm practices. In particular it is the effect weather has on farmer stress and fatigue, which is caused by farmers having to work around the weather conditions to ensure produce is not spoiled. This was also highlighted as a key issue in the inspectors' observations of the industry.

Both groups of farmers also highlighted the physical change to the terrain upon which they are working as a result of poor weather and how this increases the likelihood of accidents. This was not explicitly discussed in the inspector workshop.

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D15 Stress - Pressures or stress from work or external sources, which affect farming practices.

W/S	Comments	Rating
HSE	<p>This factor was added for the farmers' workshops and was therefore not specifically focused on by the inspectors. However the following feedback was collected as part of the inspectors' discussion on health.</p> <p>Stress is a significant problem, which was believed to be predominantly linked to the economic situation, rather than related to the demands of the job etc. Unlike job stress, this means that there are limited measures and support mechanisms that can make a difference, and the real levers for change require the influence of the market, regulator etc, and government policy to respond to the market changes. Stress has been found to be particularly prevalent with self-employed farmers.</p> <p>Not explicitly discussed</p>	(see left)
SE	<p>Self-employed farmers felt stress was a significant problem within their industry. A key source of stress was the mounting levels of bureaucracy surrounding farming. It was felt that a great deal of time during the farming day is lost on the telephone "trying to sort out one little problem" with various bureaucrats. In addition some of the information required added to feelings of stress, such as the need for livestock farmers to record every sheep that has died on the farm. This can be extremely demoralising and leads to the farmer questioning his/her own abilities.</p> <p>Another source of stress is financial. Some of the farmers highlighted the need to borrow money to survive in the current economic climate, which places additional pressure on those farmers to pay the money back. It was felt that market forces are driving farmers to expand their businesses and increase produce levels and in order to do this they need additional resources. Some of the farmers commented that it would be better to return to a simpler way of life. This would eradicate the need to borrow money and therefore the commitment to pay it back.</p> <p>The high suicide rate of farmers was also highlighted and one farmer volunteered that they had also suffered a stroke as a result of stress through farming, mainly because they had worked for three months solid without one day off (see D10 Suitable Human Resources).</p>	3

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E Stress did not feature as heavily in the discussion with the employer/employee group of farmers in the South East. However, one source of pressure highlighted was the increasing amount of paperwork farmers have to complete. An example was given relating to the bureaucracy associated with sending a cow to slaughter. It was explained that the paperwork typically took up more time than catching the animal. 1-9

The farmers were also aware that not only is there a shortage of new recruits to the agriculture industry, there are also a great deal of people leaving the industry, which they suggested may be due to considerable stress levels. The high suicide rate amongst farmers was also raised as a concern.

However, in general this group of farmers did not perceive stress as an issue that may significantly affect safe or unsafe farming practices.

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#### Overview and comparison

The inspectors' observations that stress is a significant problem in the agriculture industry and particularly so for self-employed farmers was directly reflected in the findings from both farmer workshops. The inspectors felt that stress was predominantly due to the economic situation, which was largely reflected in the views of the self-employed farmers. These farmers particularly talked about the pressure to expand and therefore borrow money. In addition, both groups of farmers referred to the mounting raft of paperwork necessary to do business. This was not specifically pointed out by the inspectors but is an avenue where HSE could possibly intervene.

Both groups of farmers were aware of the high prevalence of suicide in their industry.

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D16 Safety Equipment - The extent to which SAFETY equipment / PPE is available, conforms to best practice, meets the usability needs of the farm worker and is inspected and maintained. This includes features such as protective clothing, machinery guards, safety signs, warning devices and visibility aids.

W/S	Comments	Rating
HSE	<p>This factor was added for the farmers' workshops and was therefore not specifically focused on by the inspectors. However, during the inspectors' discussion on equipment inspection and maintenance they highlighted that in terms of PPE equipment, inspection and maintenance is almost non-existent.</p> <p>There is some PPE which is specifically designed for agriculture, but it is more expensive and there is a complexity of choice, so the cheapest is generally chosen which may not be suited to the working conditions. Agricultural work is physically hard and generates high levels of body heat and some PPE may cause some level of discomfort in order to be safe. A lot of PPE also becomes ineffective after a while but is not replaced, and thus disposable PPE may actually be better in some instances e.g. when using chemicals to avoid recontamination.</p> <p>Not explicitly discussed</p>	(see left)
SE	<p>The self-employed group did not highlight this factor as being of concern with regard to farm safety.</p>	4
E	<p>Safety equipment was largely felt to be under the remit of the machinery manufacturers, who design, make and provide the safety equipment to go with the machinery they sell. Manufacturers also provide training on how to use the machinery safely.</p> <p>Age was also suggested as a factor that may determine whether farm workers actually use and/or wear safety equipment. Older workers are less likely to use safety equipment, whereas younger workers are more likely to as they don't want to go home dusty and muddy. It was felt this also linked to the earlier suggestion that young workers are generally more motivated by their work.</p> <p>One farmer raised a concern about safety equipment with second hand machinery, for example broken or missing PTO guards. It was felt people are less likely to maintain second hand equipment and thus safety features become even less prominent.</p>	6-10

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## Overview and comparison

The limited data collected from the inspectors and self-employed farmers makes it hard to draw any strong comparative conclusions. However, this factor was rated relatively poorly (a rating of 4) by one self-employed farmer, which reflects the generally poor perception the inspectors had about safety equipment rarely being inspected or maintained. Interestingly the employer/employee group suggested the influence of manufacturers and also approached the factor from the perspective of whether workers actually use PPE (compliance with guidance to use it), as opposed to the state of the equipment itself.

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## Overview and comparison

The inspectors' comments about the recruiting process had not picked up on the lack of potential candidates and low profitability restricting recruitment highlighted in the farmers' discussion of this factor (although the inspectors did raise this in D10 Suitable Human Resources). The inspectors did comment on the small size of the industry and how this resulted in much of the selection process being conducted on an informal basis and based on local knowledge of the job market. The inspectors also explained that references were important when recruiting new staff. Both of these points were also raised in the farm employer/employee workshop.

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O2 Training - The system that ensures the skills of the workforce are matched to their job demands.

W/S	Comments	Rating
HSE	<p>There is little formal training sought and most is provided on-the-job. Skills are very much passed on by peers and training is provided on the job, which may not necessarily focus on the safest way of doing things, rather the most productive and thus bad habits can be passed on.</p> <p>Certain work areas, such as those dealing with chemicals, require personnel to possess a certificate of competence. However, if born before 1 December 1964, then personnel have grandfather rights and thus do not require certification.</p> <p>Formal training is linked to safety but it is regarded as expensive. Yet new recruits tend to be better trained and more competent (in terms of safety) than their peers would be and this trend has been improving over the past five years. It was also noted that Agricultural colleges have been more attuned to building Health &amp; Safety into their curricula and there is general evidence of more training taking place. However, take up is more likely to be by bigger farms, whereas smaller ones won't fund this as it is not perceived to be important to the business risk.</p>	(see left)
<p>Larger farms, including first aid etc 7; Smaller farms, self-employed and casual labour 3</p>		
SE	<p>The group strongly felt that training was an imperative part of their work in terms of productivity and safety, however they also thought that a great deal of the formal training currently available was not in context or being delivered in the right way. The group also agreed that a lot of the 'informal' training in agriculture is very hands-on and typically delivered on-the-job.</p> <p>Many of the organised training groups have been forced to close because the Government has introduced apprentice schemes, however it was felt that these are not always effective in teaching new skills. Practical training is the most desirable form of training, which would perhaps consist of one or two days hands-on guidance as opposed to receiving a standard training package just to enable farmers to receive an ID card or certificate that clears them to drive their machinery. Farmers may already be able to use the machinery but in order to fulfil particular insurance policies they must have the appropriate certificate, this was felt to make nonsense out of some training provided.</p>	4
<p>There needs to be a system that acknowledges the experience some workers have had of working farm machinery, e.g. the new farmers that have been</p>		

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driving tractors since they were young teenagers compared with the novice worker who has just completed a three day course. Typically people with more practical experience are more adept at handling the machinery. It was felt that experience is far superior to any certificate of competence and current health and safety systems (like the HSE) should try to appreciate this more. It was suggested that an overarching training group sits across all the agricultural organisations, from the equipment manufacturers to the farms themselves to ensure farmers are receiving suitable training.

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- E The participants all felt training was an important aspect of safe farming behaviour, although stressed the importance of the training being affordable (in terms of time and money); in context (is it useful on the job?) and positive (i.e. not just to protect you from being sued). One farm sent employees to a local agricultural college for training, another relied on the training provided by equipment manufacturers and a third belonged to a local training group. The training group presented members with a list of courses that they were organising and asked them to indicate which courses they would like their employees to participate in. It was felt that this system allowed farmers to pick and choose easily which courses were affordable and relevant for their farms. 4-10

In terms of being affordable, the length and need for some refresher courses was raised as an issue. It was commented on that some refresher courses, required to validate an operator license or insurance certificates, could last up to five working days. This becomes increasingly costly for farmers although they have little choice in the matter. It was felt that if workers must spend five days training, at least the topics should be varied so workers receive a range of new knowledge and skills in exchange for so much time away from the workplace.

Training must also be in context. One farmer described an example of when training providers were more interested in delivering a generic training course to the farm, which contained a lot of unnecessary skills. Due to the size of the farm he worked on and the investment they had made, it was in his power to ask the training providers for a more bespoke training package, which suited their needs more closely. However, a smaller farm would not have had this power.

Overall it was felt that many of the existing training courses were being run to satisfy insurance companies rather than to teach applicable skills that would help improve safety and reduce accidents. Training certificates provide a tangible means of measuring safety awareness, however undergoing training does not always mean that people take the knowledge and skills learnt during training and apply them in the workplace. Essentially learning/competence doesn't necessarily equal safe behaviour.

Contractors sometimes had to take part in half day farm inductions just to be

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able to complete one piece of work for a company, despite being trained to use the machinery.

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#### Overview and comparison

Overall both farmers groups agreed that training needs to be affordable, practical and in context. Training people just to satisfy the requirements of insurance companies or to gain operator licenses was perceived to be missing the whole point of training, which is to teach useful skills that can be used on the farm and safe methods of working. Both farmer groups singled out chain saw refresher courses for criticism.

The self-employed farmers highlighted that much of the training that was delivered was on-the-job, which was also reflected in the inspectors' observations.

Both groups of farmers suggested that a farmer training group might be a good solution. This group could oversee what training is needed, find suitable training providers and directly liase with the farmers to enrol them on training sessions. In addition, farmers could take advice from this group with regards to what training they are required to have etc. This would help to streamline the training process. The self-employed group also felt that real experience should be acknowledged more, which is perhaps something that a training group could more easily take into account.

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O3 Procedures - The system that ensures that the method of conducting tasks and/or operations is explicit and practical.

W/S	Comments	Rating
HSE	<p>There is scope for procedures, but even on large farms they are unlikely to be written. Pesticides should have documented procedures but generally they are not used. Non-routine jobs on large farms might involve some discussion about how to do the job safely, however no written procedures would be used. Routine jobs would not involve any discussion. However, even if procedures existed, they would be unlikely to be utilised effectively, falling outside the industry's modus operandi, and would not be seen by those people who really need them.</p> <p>The participants felt that front line safety training would be a more effective means of communicating how to do tasks safely.</p>	0
SE	<p>The farmers explained that documented procedures are not really a major part of the way they work, primarily because things change so continuously. Instead farmers need to adapt and change procedures to suit the uniqueness of every different situation which makes careful planning more important for working safely. Farmers know the best way to go about doing every job, although they may have to adapt activities to suit the weather, animals, time of day etc. Careful planning prior to each job essentially constitutes an informal risk assessment (although not one that is written down). Farmers ask themselves questions such as: What is practical to do?; What is safe to do in the given situation? etc..</p> <p>The farmers didn't feel that procedures and documented risk assessments would make them any safer, instead they felt the main reason for their existence was to satisfy HSE requirements, so the HSE could view them as 'safe'. In addition, it was perceived that if they adapted procedures to suit the unique requirements of a particular situation the HSE might also view this negatively despite them using their initiative/experience to make that particular task safer in the given circumstances.</p> <p>Essentially, having strict procedures and rigid risk assessments does not suit the continuously changing environment within which the farmer has to operate sensibly and safely. Instead the farmers have to use their experience and initiative under the given circumstances; however, this sadly does not always fulfil what they are required to do by the HSE and other regulatory bodies and they may therefore be deemed 'unsafe'.</p>	4-7

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E The existence and utilisation of procedures varied between the farms 0-7 represented within the group. The largest farm had just finished overhauling its current procedures, which was completed throughout the quietest part of the season. However, the existence of explicit and practical rules and procedures was particularly important at this farm due to the high number of non-English speaking employees. The smaller farms in the group felt there was not the time or resource to write up rafts of procedures for staff, instead identifying the practical procedures necessary to maintain safe behaviour on their farm was more important. Farmers also felt it was hard to know when new legislation has come out governing particular farm activities and there was no time to sift through reams of existing legislation.

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#### Overview and comparison

All three groups recognised that procedures were not largely embraced in the agriculture industry. Both groups of farmers explained the impractical nature of procedures (heavy bureaucracy and not focused on practical safety measures) especially for small farms with perhaps one or two workers. Procedures were also perceived as impractical due to the constantly changing work environment and thus certain procedures could often be made redundant if circumstances changed, which they often did. It was felt that regulatory bodies need to do more to appreciate farmers' application of knowledge and experience and that simply checking whether farms had particular procedures available was not a valid measurement of how safe a farm was.

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O4 Planning - The system that designs and structures the work activities of farm personnel.

W/S	Comments	Rating
HSE	<p>Planning is linked to productivity not risk. There is a lot of planning with regard to the next day's activities and the tasks that are required to be performed, due to the need to prioritise. Planning is influenced by the weather conditions and this can be very detailed in order to ensure the greatest productivity. However, the same level of concern does not extend to safety matters, such that the link between productivity and safety is not realised. Some farmers won't even plan for safety with regard to pesticide spraying, where there is a risk to the public.</p> <p>This factor, as with recruitment, training and procedures has experienced a small improvement with regard to safety, however much of this has been driven by changes in industry structure and market pressures, resulting in a greater requirement to buy in labour rather than rely solely on existing personnel. To contract work out requires planning, as there is a need to think ahead with regard to future requirements.</p> <p>As part of business activity 9; In relation to safety / hazards 3</p>	(see left)
SE	<p>Planning was seen as necessary at the outset of most tasks in order to take into account the weather, time, livestock and any resource concerns. Farmers explained how their working environment is constantly changing and thus planning becomes a key aspect of remaining productive and safe. One farmer commented that in order to be demonstrating "best safety practice" during peak season times, they need to plan for these periods with "military precision" in order to reduce the likelihood of accidents. Interestingly, despite this positive feedback, this factor was assigned a rating of 3 by one participant.</p>	3-7
E	<p>This was felt to be an important factor in farm safety although not something all of the farmers had time to spend doing as much as they would like. One of the farm employers explained that planning for safety was essential on their farm when it came to spraying the crop. Workers could not be picking produce when other workers were spraying pesticides, so a detailed schedule of work was drawn up in advance and strictly adhered to.</p>	3-10

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#### Overview and comparison

Farmers generally placed more emphasis on planning in relation to safety, as opposed to just productivity, than was initially supposed by the inspector workshop. It was also an area where the farmers would like to spend more time.

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O5 Incident Management & Feedback - The system of incident management that ensures high quality information about incidents and near misses is collected, analysed and acted on appropriately.

W/S	Comments	Rating
HSE	<p>Farmers will not keep a record of near misses or accidents. Fatalities will get heard about by other neighbouring farms, but understanding of the underlying causes will not be shared. Typically the operator will be blamed and it will be put down as a one off incident.</p> <p>Under reporting of non-fatal accidents is believed to be driven by the level of paperwork involved and lack of shared knowledge regarding the requirement to report. Farmers do not want HSE inspectors to come to the premises and thus information is not shared. Employees are loyal to employers and thus claims would not be made, however this is changing as the industry moves from tied cottages to casual labour, where the same loyalty does not exist. A claims culture that is more prevalent in other industries is entering agriculture.</p>	0
SE	<p>The main source of information about farm accidents is through the local paper. "Safety Matters" is a quarterly magazine with a list of prosecutions and accidents and was highlighted as a useful publication to read in order to understand the types of accidents occurring in the agriculture industry. It was suggested that as an awareness raising initiative, this is a positive and useful publication. Accidents where children are involved are particularly hard hitting in this publication.</p> <p>Despite a poor current industry rating with regard to sharing information about accidents and incidents, it was generally felt that raising awareness about accidents could never be overdone.</p>	0



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- E In general farmers are not sharing and feeding back information on accidents and incidents. As discussed in D8 Information & Advice, farmers felt that highlighting the gritty consequences of farming accidents more clearly would help improve workers' risk perception and would perhaps go some way to changing negative patterns of behaviour. The participants also felt that channelling more graphic incident/accident information through mediums such as Farmers' Weekly magazine, the SADs and the NFU may widen and increase the impact. 0-6

One farm discussed Near Miss incidents at meetings and as a result of one particular incident, is currently in the process of changing their packaging system. This suggests that if incident information is shared it can make a positive difference.

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#### Overview and comparison

All three workshops generally agreed that information about accidents and incidents is not uniformly reported or shared. Although the farmers did not expand on why accidents go under-reported, they were keen to hear more about accidents and felt that sharing information may help improve workers perception of risk.

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O6 Management / Supervision - The system that ensures work is adequately managed / supervised.

W/S	Comments	Rating
HSE	<p>This industry does not have a structured form of management and supervision in the same way that other industries do. Individuals are delegated tasks and then just required to get on with them. There is some one-to-one training but not direct supervision as this is not feasible for employers as it is too expensive to invest in and there are too few personnel to supervise. In addition, it is difficult to increase the level of supervision anyway, as it is dictated by the nature of the work, with lots of lone working tasks etc. In larger farms there will be a foreman that will organise the work of the team and delegate tasks. Gangs of casual workers are supervised all the time whereas experienced workers are unlikely to be supervised to the same extent.</p> <p>General farming 3; Casual labour and horticulture 5 – 6</p>	(see left)
SE	<p>It was felt that management/supervision does not apply to small farms in the same way that it does in other work environments. Rather than being a system through which work is delegated and overseen, 'management' or 'supervision' is really a structured communication channel between farm owner and labour. It was felt that if workers are competent, the last thing they want is someone watching over them although it is important that workers do not feel like they are isolated and on their own. Maintaining open and regular communications between the farm manager and any employed labour is the critical aspect of this factor.</p>	7
E	<p>Overall it was felt that for many of the other organisational factors to be functioning effectively, this factor had to be rated highly. Due to the solitary nature of much of the farming work, traditional methods of directly managing and supervising staff were not so applicable. Mobile phones present a critical means of communication for managers to keep in touch with workers out in the field and workers to contact managers in the face of uncertainty or danger.</p>	5-10

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### Overview and comparison

Participants from each workshop were aware that management/supervision in the agriculture industry cannot be likened to traditional management/supervision practices in other industries. It was agreed that there is a huge amount of solitary work carried out on farms and therefore it is more important that lines of communication between management and dispersed workers are open and regular. New technologies, such as mobile phones are helping to make this easier.

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07 Communications - The system that ensures that appropriate information is communicated clearly to its intended recipients.

W/S	Comments	Rating
HSE	Communication is better than it used to be due to the introduction of mobile communications, however, communication is not formalised, in that employees/managers only call when there is a problem or issue and they may only meet up in the morning and in the evening. Large farms are better in that there are some formal meetings, but this is a small percentage across the industry as a whole. However, safety is not communicated as part of this process. If the industry could be persuaded to adopt formalised communications to talk about safety, this could be an effective means of creating a change. Importantly, there is a mechanism and openness in communication between levels.	7
SE	The self-employed farmers stressed the need for mobile communications such as mobile phones and CB radios for keeping in contact with each other and neighbouring farms. These often provide the quickest way to communicate safety or business concerns with dispersed colleagues. One farmer explained that due to isolated working a farm accident might not be discovered until a farmer has not returned home at the end of the night and his/her partner raises the alarm. This may turn a serious accident into a fatal one due to the time delay in getting help. This makes the adoption of mobile technology all the more important for maintaining good communications in an isolated working environment.	8
E	The farmers stressed the need for effective horizontal and vertical communications between workers in order to compensative for such a dispersed organisational structure. Although the larger farms were more likely to have people working in close proximity, the majority of the work was still undertaken alone and therefore made the times that there is some interaction between management and staff even more important.	6-10

#### Overview and comparison

There was strong alignment between the views of all three groups with regard to the lack of formalised communications and therefore the importance of mobile technology to facilitate regular communications between a dispersed workforce. The farm employer/employee group did not talk about safety meetings held, which the inspectors suggested may happen on the larger farms, however they did stress the importance of vertical and horizontal communication.

O8 Safety Culture - Product of individual and group values, attitudes, competencies and patterns of behaviour in relation to safety.

W/S	Comments	Rating
HSE	<p>Information about safety is not actively hidden or avoided, but it is not welcomed either. People come up with lots of ideas, they are adaptable, innovative and multi-skilled and their ideas are not crushed.</p> <p>Inspectors feel that they may be influenced by the accidents they see and there are employees that attempt to apply common sense and work safely. Most of the time it is external pressures that force personnel to take short cuts and thus accidents occur. However, external information regarding safety is ignored.</p>	5
SE	<p>Farmers think about the best and safest way of undertaking tasks rather than the quickest way as with such a small workforce they cannot afford to be absent from work whilst recovering from an accident-related injury. Therefore, avoiding accidents is less about safety and more about staying in business. However, despite this slightly less than positive motivation for avoiding accidents, it was still felt that the safety culture on small farms is generally good.</p>	5-8
E	<p>Most members of the group agreed that more people are aware of farm safety now than ever before and this has manifested itself in a positive safety culture on the larger farms. Farm managers try to nurture an open and blame-free culture by encouraging staff to feedback information, ideas and concerns about safety in the workplace. However, many of the farm employers felt frustrated with employees that continue to behave unsafely despite regular training and guidance. They felt frustrated that employees would continue to put themselves and others at risk despite being educated about the potential dangers and wanted to find a way to make employees change this poor safety behaviour. This wasn't found to be specific to one particular group of employees either, young and old employees alike were found to exhibit unsafe behaviour despite various risk reduction measures such as training, procedures, guidance and active management being in place. Farm labour from abroad were raised as being particularly bad at not listening to safety advice. It was felt that the key to changing behaviours and increasing active compliance was having a positive safety culture.</p>	4-10

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### Overview and comparison

This factor was rated similarly across all three workshops, ranging from moderate to excellent. In general it would seem that as farms are becoming more safety aware the culture is generally improving, however there is still a long way to go and putting productivity before safety is still evident in some parts of the industry.

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