The Farm Management Handbook

Farm Advisory Service

Labour and Machinery

The UK reference for farm business management

SAC CONSULTING

Part of Scotland's Rural College (SRUC)

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Introduction

The largest component of fixed costs on farm is labour and machinery. This is also the most variable between farms. For this reason, it is essential to fully understand and manage both labour and machinery costs as they can have a large bearing on the financial viability of the farm business. This section details the key elements including standard labour requirements by enterprise, machinery operating data such as rates of work per hour, methods to calculate the cost of owned machinery, detailed contractors' charges for a wide range of farm operations and regulations for on-road use. The final section details essential information on labour costs, regulation and health and safety requirements.

Standard Labour Requirements

Enterprise	**Hours/ annum**	**Enterprise**	**Hours/ annum**
CROPS (per hectare)		***LIVESTOCK (per animal)***	
Cereals	18	Dairy cows	
Oilseeds	16	50 cows	42
Hops	60	100 cows	35
Sugar beet	33	150+ cows	28
Field beans and peas	16	Beef cows	26
Potatoes		Other cattle	12
early	200	Sheep	
main crop	110	ewes and rams (lowland)	5.2
Fodder crops	6	ewes and rams (LFA)	3.7
Miscanthus	16	other sheep (lowland)	2.9
Outdoor vegetables/salad	280	other sheep (LFA)	3.1
Other peas and beans	500	Pigs and poultry	
Vining peas	12	sows	28
Top and soft fruit	425	finishing and rearing pigs	2.3
Hardy nursery stock	1,900	piglets (<20 kg)	0.2
Fruit/vegetables under cover	7,000	broilers	0.09
Flowers/plants under cover	13,000	laying hens	0.36
Mushrooms	7,220	growing pullets	0.24
Fallow	2.9	other poultry	0.10
Grassland	3.1	Goats	12
Silage (made by farm)		Deer	15
1st cut	12	Horses*	40
2nd cut	10		
Rough grazing	1.5		

Note: There are difficulties in standardising labour requirements and these figures represent 'typical' labour requirements under representative

conditions for enterprises of average size and performance. They are not necessarily reflective of economic viability. If calculating farm labour demand, note that crop coefficients should be reduced proportionately for operations carried out by contractors. Livestock coefficients should be reduced pro rata if an animal is not on farm for a full year.

These figures relate to those published in a report of the UK Farm Classification Document (October 2014) and which recommends that 1900 hours of labour are equivalent to one standard annual labour unit. To reflect smaller field sizes, the standard labour requirements for field enterprises should be increased by 50% for Northern Ireland.

Source: https://www.gov.scot/publications/agriculture-rural-and-fisheries-statistics-standard-output-coefficients/

* Detailed figures for horses can be found in the following publication: The Equine Business Guide, ABC, 8th Edition.

Machinery Operating Data

Rates of work

The following figures are typical rates of work for conditions in northern UK. Actual rates of work can vary widely from these figures depending on the organisation of the system. Methods of calculating rates of work are shown later.

For 'standalone' operations such as ploughing and cultivating, factors such as soil type and conditions, field size and shape, topography, operator experience and size of tractor will affect the overall work rate.

Rates of work for planting, drilling, spraying and fertilising operations will depend on application rates and external field factors such as ease and speed of refilling and location of materials (e.g. water, fertiliser, seed potatoes).

For other operations, which require a system approach, such as grain, silage and potato harvesting, additional factors such as crop yields, labour and transport availability can have a marked effect on work rate.

	Typical rate of work (ha/8 h day)
Ploughing (reversible plough):	
4 furrows	6.9
6 furrows	10.4
Cultivating:	
heavy disc, 3 m, 100 mm deep	13.4
light tine, 3.5 m, 100 mm deep	15.7
harrows, 4.5 m	20.2
combination cultivator (for seedbed preparation), 3 m	13.6

	Typical rate of work (ha/8 h day)	
power harrow, 3 m, 150 mm deep		10.0
roller, 2.4 m, heavy		12.3
roller, 7.3 m, light		46.7
potatoes, bedforming, 1.83 m bed		6.0
potatoes, stone windrowing basic, 2 row (Reekie)		4.5
Fertilising:		
twin disc, 1,000 kg capacity		24.0
lime spreader, 2 machines and 1 loader		32.0
slurry, 6,000 litre size, 0.8 km haul		29.6
Grain drilling: establishment (following ploughing)		
3 m grain only drill		16.2
3 m grain/fertiliser drill		13.0
3 m combination power harrow/grain only drill		12.6
4 m combination power harrow/grain/fertiliser drill		15.0
4 m trailed machine/grain/fertiliser drill		32.5
Grass: seed sowing - drill 3.7 m wide		10.4
Roots: precision sowing, 2 row		2.4
Potatoes: planting, 2 row, cupped design (narrow spacing)		6.0
Potatoes: planting, 6 row, belt design (wide spacing)		15.0
	Application rate	
	200 litres/ha	*100 litres/ha*
Spraying:		
tractor mounted, 850 litre tank, 12 m boom, no bowser	33.6	40.0
tractor mounted, 800 litre tank + 600 litre on front, 18 m boom	52.0	64.0
tractor mounted, 800 litre tank + 600 litre on front, 18 m boom, with bowser	60.8	72.0
sprung LGP vehicle, 800 litres, 12 m boom, with bowser	68.0	87.2
self-propelled, 2,500 litres, 24 m boom, with bowser	144.0	176.0
Grain:		
combine harvesting, drum width 1.05 m, typical cutter bar width 3-3.7 m		14.3
combine harvesting, drum width 1.30 m, typical cutter bar width 6.6 m		26.9
combine harvesting, drum width 1.6 m, typical cutter bar width 7.7 m		31.4
combine harvesting, drum width 1.7 m, typical cutter bar width 9.12-11.97 m		42.8

	Typical rate of work (ha/8 h day)
Potatoes:	
haulm pulverising: 1.8 m, 2 row	6.5
harvesting: two row trailed, elevator discharge	3.5
Turnip harvesting	1.6
Silage making:	
(i) 5 men, 75 kW + precision chop harvester, 3 trailers, buckrake	
800 m haul:	9.0
1,500 m haul:	7.4
(ii) 6 men, 90 kW + precision chop harvester, 3 trailers, buckrake	
800 m haul:	16.0
1,500 m haul:	10.0
(iii) 6 men, self propelled harvester, 4 trailers, buckrake (will usually involve a rake operator at some point to 'group' the smaller mower bouts into a single larger bout)	40.8
(iv) 2 men, forage wagon, buckrake (depending on distance to pit)	15.0-20.0
Grass:	
mowing, disc, 2.4 m width of cut	15.4
mowing, disc, 3.0 m width of cut	19.2
mowing, disc, 9.0 m width of cut	46.1
baling hay, conventional baler	6.4
baling straw, conventional baler	9.6
baling straw, round baler	16.0

Days available for field work

(e.g. ploughing, cultivating, drilling, root harvesting)
Calculated for Bush Estate, Midlothian, altitude 200 m.

Month	Field work days for three soil types and two month probability levels					
	Light soil		Medium soil		Heavy soil	
	50%	75%	50%	75%	50%	75%
January	25	24	22	18	20	12
February	25	23	21	17	19	12
March	25	24	21	18	20	15
April	27	25	22	19	24	17
May	28	26	25	22	26	20
June	28	26	27	24	27	24
July	29	27	28	26	28	26
August	28	26	27	25	27	24
September	27	25	25	23	24	20
October	26	23	23	19	22	17
November	26	22	23	18	23	17
December	26	23	22	18	23	14

Probability levels of 75% (18 years out of 24) and 50% (12 years out of 24) are shown in the table so that different risk levels can be compared. The 75% probability level is recommended for machinery and labour planning.

If machinery and labour are adequate for 18 years out of 24, other facilities such as contractors, overtime and casual labour can be used during the remaining years. Alternatively, the operation can be performed in wetter conditions.

Soils data used for the calculation of these figures are based on three drainage categories:

Light soils	Freely drained sandy loam	e.g. Darvel series
Medium soils	Moderately drained loamy clay	e.g. Macmerry series
Heavy soils	Imperfectly drained clay loam	e.g. Winton series

Workday figures in the table are based on the daily fluctuations of soil moisture content, predicted from daily values of rainfall, sunshine hours and mean air temperature. A day is assumed to be a work day if the soil moisture content at 9 am is below the lower plastic limit and the total rainfall during the same day does not exceed 10 mm.

Meteorological data spanning 24 years has been used.

The following example uses the figures in the previous table to help calculate the work rate of a tractor.

Example: A tractor has to be purchased to plough 120 ha of heavy soil between mid-August and mid-September. What work rate will be required?

From the preceding table, at 75% probability, the number of days available on a heavy soil during the months of August and September are 24 and 20 respectively.

- Therefore, days available second half of August = 24/2 = 12
- Therefore, days available first half of September = 20/2 = 10

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Assuming an eight-hour working day, the total time available is 176 hr. In order to complete the work within the desired period the tractor should be capable of ploughing at least 0.68 ha/hr (calculated by dividing 120 ha by 176 hr).

Alternatively, if the lower probability of 50% is chosen for the same soil and area the tractor work rate would be calculated as:

- Days available second half of August = 27/2 = 13.5
- Days available first half of September = 24/2 = 12.0

25.5

Assuming an eight-hour working day, the total time available is 204 hr. In order to complete the work within the desired period the tractor should be capable of ploughing at least 0.58 ha/hr (calculated by dividing 120 ha by 204 hr).

Typical field efficiencies

Field efficiency is a measure, as a percentage, of a machine's field capacity after taking into account for failures to utilise the full operating capacity. These failures result from items such as overlapping, turning and other routine time delays associated with the operation. Typical figures, shown in the following table, are expressed as a percentage.

Ploughing	90%	Grain only drilling	75%
Power harrow + grain only drill	60%	Combining	85%

Calculating workrate

$$\text{Workrate (ha/hr)} = \frac{\text{working width (m)} \times \text{forward speed (km/hr)} \times \text{field efficiency (\%)}}{10}$$

For example, a 9.1m combine travelling an average of 6km/hr has a work rate of 4.64 ha/hr as per the calculation below:

$$\text{Workrate (ha/hr)} = \frac{9.1 \text{ (m)} \times 6 \text{ (km/hr)} \times 85 \text{ (\%)}}{10} = 4.64 \text{ ha/hr}$$

Estimating Machinery Costs

Machinery costs on many farms can be a major contributor to high levels of fixed costs. Part of the reason for this is that often farmers do not have a clear idea of what their machinery is costing them. Consequently, to improve machinery management the first step is to establish current machinery costs.

To compare the cost of doing the job in-house against the rates charged by a local contractor, the actual machinery costs must be costed. This is a straightforward task for an operation like combining where one machine is involved. But for more complex operations, such as sowing or silage harvesting, the task is more difficult as only part of the tractor's duties are attributable to the operation. In such cases a wider assessment of the farm's annual machinery usage must also be undertaken.

Example calculation - cost estimate for purchasing and operating a combine harvester

To illustrate the principle behind estimating machinery costs this example has been shown on page 10, showing the purchase of a combine harvester for £325,000 versus using contractors.

This method is based on estimating the annual fixed and operating costs of the machine given expected annual use and machine life. These

estimates can then be used in a partial budget for comparison with alternative policies such as the use of a contractor.

The following three tables provide the supporting information for the steps in the machinery calculation.

Table 1: Depreciation - average annual fall in value

Frequency of renewal (years)	Complex (high depreciation rate) [1]	Established (many moving parts) [2]	Simple (few moving parts) [3]
1	34.0%	26.0%	19.0%
2	24.5%	19.5%	14.5%
3	20.0%	16.5%	12.5%
4	17.5%	14.5%	11.5%
5	15.0%	13.0%	10.5%
6	13.5%	12.0%	9.5%
7	12.0%	11.0%	9.0%
8	11.0%	10.0%	8.5%
9	10.0%	9.5%	8.0%
10	9.5%	8.5%	7.5%

Typical frequency of renewal with heavy use
Typical frequency of renewal average use
Typical frequency of renewal with light use

1 e.g. Potato Harvesters, Pea Viner

2 e.g. Tractors, Combines, Balers, Forage Harvesters

3 e.g. Ploughs, Trailers

Table 2: Fuel consumption

Fuel is a significant cost for farming and rural businesses. Actual fuel consumption will vary depending on variables such as the power and size of machine used, depth of operation, correct calibration, appropriate maintenance of machinery, speed and care of operation. The table below gives an indication of the fuel cost of some farming operations based on red diesel costs of £0.69/l (Jul 2024).

	Fuel consumption *(l/hour)*	Time taken for operation *(hours/ha)*	Diesel usage *(l/ha)*	Diesel cost *(£/ha)*
Subsoiling	18.9	1.11	21.00	14.57
Ploughing (6 furrow)	26.8	1.11	29.75	20.65
Heavy Cultivation	26.8	0.71	19.13	13.27
Light Cultivation	8.6	0.47	4.02	2.79
Power harrow	26.8	1.00	26.78	18.58
Fertiliser spreading	8.6	0.18	1.57	1.09
Grain drilling 3m	18.9	0.53	9.95	6.90

	Fuel consumption *(l/hour)*	Time taken for operation *(hours/ha)*	Diesel usage *(l/ha)*	Diesel cost *(£/ha)*
Rolling 7.3m light	8.6	0.33	2.88	2.00
Potato Planting 2 row	10.8	1.33	14.40	9.99
Mowing 3m	18.4	0.49	9.01	6.25
Baling straw, round bales	26.8	0.50	13.39	9.29
Forage harvesting	61.2	0.40	24.48	16.99
Spraying 24m	10.8	0.18	1.96	1.36
Towing (trailer)	16.2	0.40	6.48	4.50
Combine harvesting 7.7m	37.8	0.31	11.63	8.07
Potato harvesting 2 row	21.6	2.29	49.37	34.26

Table 3: Estimated annual cost of spares and repairs (as a percentage of purchase price at various levels of use)

	Approximate Annual Use (Hours)				
	500	***750***	***1000***	***1500***	***+ each additional 100***
Tractors	5.0%	6.7%	8.0%	10.5%	5.0%

	Approximate Annual Use (Hours)				
	50	***100***	***150***	***200***	***+ each additional 100***
Harvesting machinery					
Combine harvesters, balers, potato harvesters	1.5%	2.5%	3.5%	4.5%	2.0%
Other implements					
Ploughs, cultivators, toothed harrows, hoes	4.5%	8.0%	11.0%	14.0%	6.0%
Rotary cultivators, mowers, pea cutter windrowers	4.0%	7.0%	9.5%	12.0%	5.0%
Disc harrows, fertiliser spreaders, FYM spreaders, combine drills, potato planters (with fertiliser), sprayers, hedge cutters	3.0%	5.5%	7.5%	9.5%	4.0%
Swath turners, tedders, side delivery rakes, unit drills, forage harvesters, semi-automatic potato planters	2.5%	4.5%	6.5%	8.5%	4.0%

	Approximate Annual Use (Hours)				
	50	***100***	***150***	***200***	***+ each additional 100***
Corn drills, milking machines, hydraulic loaders	2.0%	4.0%	5.5%	7.0%	3.0%
Grain driers, grain cleaners, rolls, hammer mills	1.5%	2.0%	2.5%	3.0%	0.5%

Example calculation - Purchase of combine harvester versus using contractors

Cost element	**Value**	**ref**	**Factor**	**Calculation**
Area harvested (ha)	600	*A*	-	-
Work rate (ha/hr)	2.75	*B*	-	-
Annual hours worked (hr)	218	*C*	-	A / B
Machine life (yr)	9	*D*	-	-
Purchase price (£)	325,000	*E*	-	-
F'cast 5yr selling price (£)	39,000	*F*	12%	E*depreciation% *(table 1)*
Average value (£)	182,000	*G*	-	(E+F) / 2
Depreciation (£)	31,778	*H*	-	(E-F) / D
Interest (£)	9,100	*I*	5%	G*interest rate (%)
Insurance (£)	2,730	*J*	£15	G*£ per £1k
Annual fixed costs (£)	43,608	*K*	-	H+I+J
Fuel use (l/ha)	12	*L*	-	*(table 2)*
Fuel cost (£)	4,997	*M*	£0.69	A*L*fuel price (£/l)
Spares and repairs (£)	14,625	*N*	4.5%	E*% *(table 3)*
Labour (£)	2,727	*O*	£12.50	labour (£/hr)*(A/B)
Annual operation costs (£)	22,349	*P*	-	M+N+O
Annual cost (£)	**65,957**	*Q*	-	K+P
Annual cost (£/ha)	**110**	*R*	-	Q / A
Contractor charge (£/ha)	116			(*incl. fuel*)

Based on these assumptions, owning a combine is cheaper (£110ha) than average contractor's charges (£116/ha) but other factors must be considered:

- If the farmer increases the area harvested the overall cost of the combine increases to reflect higher fuel, repairs and depreciation costs. But this increase is spread over a much larger area and consequently reduces cost per ha.

- Work rate has a major effect on machinery cost. Many factors influence work rate efficiency, some of which are beyond the control of the farmer, while others can be improved upon.
- Contractor's charges are also highly variable depending on the above and other factors such as the level of local competition amongst contractors which can greatly affect charges.

For more information on payment terms involved in purchasing machinery see credit options within the Credit section.

Machinery Contractors' Charges

Prices are indicative market rates taken from various contractors and machinery rings throughout Scotland with the costs of the driver (generally) included. Fuel is not normally included in contract charges. However, as prices and contractors arrangements (e.g. farm fuel used) vary considerably within areas, the prices listed below only serve as a guide and local information should be sourced for specific operations.

Costs of carrying out specific operations, i.e. arable stubble to stubble and preserved forage are illustrated in the Arable, Grassland, and Forage Crops sections.

	Average price	Price range
Arable cultivation		
Ploughing	£73.22 /ha	£61.78-£81.54
with press	£8.75 /ha	£7.41-£9.88
Discing	£47.79 /ha	£42.01-£61.43
Power harrow	£65.24 /ha	£56.83-£74.13
Min till cultivations	£67.21 /ha	£54.36-£78.08
Cambridge roller	£15.94 /ha	£12.36-£23.01
with paddles	£8.03 /ha	£6.18-£9.88
Subsoiling	£74.81 /ha	£66.72-£80.31
Topping - fallow	£31.26 /ha	£22.24-£38.18
Rotovating	£85.32 /ha	£74.13-£94.71
Grassland maintenance		
Heavy flat roller	£27.96 /ha	£24.71-£34.45
Topping - grass	£37.31 /ha	£29.65-£47.94
Chain harrowing	£34.82 /ha	£33.80-£35.83
Spring tine harrowing	£37.72 /ha	£29.65-£45.79
Aeration	£32.12 /ha	-
Sward lifting	£65.57 /ha	£50.83-£80.31
Sowing		
Grass seed - broadcast	£35.55 /ha	£34.03-£37.07
Grass seed - with harrows	£37.44 /ha	£22.86-£51.89
Grass seed - direct drilling	£64.68 /ha	£54.36-£86.49
Grain (no fert.)	£41.75 /ha	£32.12-£51.37

	Average price	Price range
Oilseed rape (no fert.)	£69.50 /ha	£54.36-£86.49
Turnips	£90.19 /ha	£76.60-£103.78
Beet	£77.53 /ha	£66.10-£88.96
One pass cultivation/drill (cereals, no fert.)	£74.54 /ha	£61.78-£84.01
One pass cultivation/drill (OSR, no fert.)	£74.65 /ha	£64.86-£81.54
with fertiliser	£7.41 /ha	£7.41
Maize (without plastic)	£80.64 /ha	£57.50-£103.78
Maize (with plastic)	£163.09 /ha	-
Fertiliser spreading		
Spinner	£12.33 /ha	£9.88-£15.96
with variable rate	£3.34 /ha	£1.85-£4.45
Liquid fertiliser (surface)	£18.40 /ha	£15.79-£21.00
Irrigating (/25mm)	£234.75 /ha	-
Manure and lime		
Rotary - medium	£38.93 /hr	£30.00-£49.50
Rear discharge - medium	£45.33 /hr	£36.00-£51.00
Rear discharge - large	£53.73 /hr	£42.00-£67.05
Slurry - medium	£50.61 /hr	£42.00-£70.42
Slurry - large	£55.98 /hr	£42.00-£74.92
Lime	£7.25 /t	£6.00-£8.00
with gps	£0.50 /t	-
Umbilical - Dribble Bar	£119.00 /hr	£101.00-£137.00
with additional pumps	£72.50 /hr	-
Spraying		
Spraying	£15.32 /ha	£12.36-£18.53
with gps	£3.71 /ha	-
Slug pellet application	£8.44 /ha	£8.65-£11.19
Weed wiping	£55.00/hr	-
Combinable harvesting		
Cereals	£108.54 /ha	£91.43-£116.93
with yield mapping	£4.94 /ha	-
with chopper	£10.32 /ha	£7.41-£12.26
Oilseed rape - direct	£100.90 /ha	£84.01-£120.46
Oilseed rape swathing	£54.32 /ha	£50.66-£57.99
Peas and beans	£109.09 /ha	-
Crimping/bruising grain/pulses	£12.39 /t	£8.60-£14.50
Straw chopping	£53.13 /ha	£51.89-£54.36
Forage		
Mower	£32.65 /ha	£29.65-£36.18
Mower and conditioner	£38.34 /ha	£36.45-£43.24

	Average price	Price range
Tedding/raking	£19.18 /ha	£14.21-£23.47
Precision chop - self-propelled	£76.64 /ha	£66.72-£83.25
Cutting, raking, chopping and carting	£194.43/ha	£191.18-£197.68
Forage box	£131.60 /hr	£131.20-£132.00
Forage harvester (whole crop)	£126.50 /ha	£103.78-£140.85
with processor	£14.83 /ha	-
Maize (including forager, 3 trailers and buckrake)	£206.00 /ha	-
Baling and wrapping		
Silage/hay - 4x4	£3.50 /bale	£2.95-£4.06
with chopper	£0.53 /bale	£0.40-£0.60
Silage – 5x4x2.3	£5.20 /bale	£4.40-£6.00
Hay - small square	£0.74 /bale	£0.60-£1.25
Straw - 4x4	£3.12 /bale	£2.60-£4.06
Straw - 4x5	£3.64 /bale	£3.00-£4.69
Straw - 8x4x2.3	£5.34 /bale	£5.00-£5.84
Straw - 8x4x4	£8.22 /bale	£7.90-£8.50
Straw - small square	£0.83 /bale	£0.65-£0.95
Wrapping - round	£2.25 /bale	£1.85-£3.14
incl. wrap (4 layers)	£5.23 /bale	£4.00-£6.17
incl. wrap (6 layers)	£6.62 /bale	£6.25-£7.12
Wrapping - square	£3.49 /bale	-
incl. wrap (4 layers)	£5.76 /bale	£4.90-£6.62
Wrapping - tube-line, silage	£3.38 /bale	£3.15-£3.50
Wrapping - tube-line, straw	£3.37 /bale	£3.15-£3.50
Stacking	£0.45 /bale	£0.30-£0.60
Ag bagging	£7.50 /t	-
Baling and wrapping incl. wrap (4 layers)	£8.34/bale	£8.00-£8.50
Root and potato work		
Deep plough	£89.64 /ha	£76.60-£111.20
Deep ridge	£68.26/ha	£49.42-£85.25
Bed tilling	£132.82 /ha	£129.73-£135.91
Destoning	£284.60 /ha	£259.46-£315.05
Bed forming	£127.87 /ha	-
Potato planting - without fertiliser	£142.45 /ha	£86.49-£242.36
Potato planting - with fertiliser	£151.10 /ha	£93.90-£248.56
Potato pulverising	£58.07 /ha	£43.24-£69.19
Potato harvesting - excl. pickers	£550.29 /ha	£444.78-£700.01
Turnip harvesting	£48.50 /hr	-
Tractor hire - including driver		
4 WD up to 100 hp	£35.00 /hr	£30.00-£40.00
4 WD 101 - 150 hp	£38.67 /hr	£33.00-£50.33
4 WD 151 - 220 hp	£43.89 /hr	£37.00-£57.80

	Average price	Price range
4 WD 220 - 300 hp	£55.92 /hr	£39.00-£69.79
4 WD over 300 hp	£75.28 /hr	£42.00-£92.25
Tracked	£65.88 /hr	£65.75-£66.00
with loader	£4.00 /hr	-
with trailer	£7.28 /hr	-
4 WD telehandler	£41.25 /hr	£33.00-£54.89
JCB type excavator	£36.17 /hr	£34.00-£37.50
Tracked excavator 15-25t	£44.79 /hr	£42.00-£50.00
with rock pecker	£16.50 /hr	£13.00-£20.00
Skidsteer	£77.00 /day	-
Tractor with post chapper (+ man)	£43.75 /hr	£32.50-£55.00
Labour		
Casual	£15.93 /hr	£15.30-£16.50
Experienced/skilled [1] (weekdays)	£18.05 /hr	£17.25-£19.94
Cereal/potato roguing	£18.75 /hr	£17.50-£20.00
Secretarial	£23.00 /hr	-
Miscellaneous		
Strimming	£24.00 /hr	-
Hedge cutter	£50.70 /hr	£40.00-£71.80
Log splitter	£40.00 /hr	-
Snow plough	£55.75 /hr	£35.00-£67.26
Road brush	£35.50 /hr	£30.00-£41.00
Haulage - forage (hay and straw) [2]	£32.00 /t	-
Haulage - concentrates [2]	£32.00 /t	-

[1] includes skilled relief milkers, stockmen, shepherds, sprayer operators and forklift/digger/HGV drivers.

[2] for small flocks/herds a minimum fee of £100-150.

[3] haulage charges are highly dependent on distance travelled, weight of load and options for a back load.

Grain Drying

All costs for drying include a price for handling and loading.

Grain

Reduction to 15% moisture content from:

16%	17%	18%	19%	20%	21%	22%	23%
£7.90/t	£9.80/t	£11.70/t	£16.00/t	£18.50/t	£21.00/t	£23.50/t	£26.00/t

Contractor's weight loss (including drying and cleaning):

From	16%	17%	18%	19%	20%	21%	22%	23%
Weight loss	4%	6.3%	7.2%	8.2%	9.2%	10.2%	11%	13%

See Arable section for equivalent grain weights at varying moisture contents.

Oilseed rape
Reduction to 8% moisture content from:

10%	11%	12%	13%	14%	15%	16%	17%
£9.80/t	£11.70/t	£13.60/t	£16.10t	£18.60t	£21.00t	£24.90/t	£28.70/t

Contractor's weight loss (including drying and cleaning):

From	10.5%	11.5%	12.5%	14.5%	16.5%	18.5%	20.5%	22.5%
Weight loss	3%	4.5%	6%	9%	12%	15%	18%	21%

Drainage

Drainage costs and work rates will vary considerably depending on specific site circumstances (current drainage system and terrain) and requirements. All drainage work should be fully discussed, inspected, designed and quoted (materials and labour split) prior to work commencing to prevent discrepancies at a later date.

Draining

Operation	***Price***
3t mini-digger + man + diesel	£25.00-£30.00/hr
7 ½ ton JCB + man + diesel	£32.00-£37.00/hr
15 ton tracked digger + man + diesel	£35.00-£50.00/hr
Typical work rate (32" depth)	20 - 40m/hr
Trencher (+ man + diesel + handling gravel + pipe)	£2.75-£10.50/m
Typical work rate	150 - 200m/hr
Trenchless (+ man + diesel + handling gravel + pipe)	£2.50-£9.75/m
Typical work rate	150 - 200m/hr
Tractor + gravel cart (incl. man + diesel)	£30.00-45.00/hr or £1.75-£2.75/ton handling charge

Approximate draining costs on an area basis are shown below:

Lateral spacing	***Method***	***Materials***	***Price £/ha***
7m	Digger	no gravel	6,406
15m	Digger	purchased gravel	6,466
15m	Digger	own gravel	4,036
15m	Digger	twinwall plastic pipe & own gravel	6,063
15m	Trenchless	purchased gravel	4,227
20m	Digger	purchased gravel	4,849
20m	Trenchless	purchased gravel	3,208

Materials

Material		*Price*
Gravel		£20.00-£26.00/ton
Corrugated plastic pipe	60mm (150m coil)	£116.00(or £0.77/m)
	80mm (100m coil)	£110.00(or £1.10/m)
	100mm (100m coil)	£150.00(or £1.48/m)
	160mm (35m coil)	£156.00(or £3.12/m)
Twinwall plastic pipe	100mm	£14.82 (or £1.60/m)
(6m lengths incl. coupling)	150mm	£26.86 (or £3.26/m)
	225mm	£61.60 (or £6.93/m)

Pipe requirements

Lateral spacing	*m/ha*	*m/acre*
7m	1,430	575
15m	670	270
20m	500	200

Gravel requirements (tonnes per 1 metre run)

Width of trench	*Depth of gravel (mm)*				
	250	*300*	*450*	*600*	*900*
100mm	0.05	0.06	0.09	0.12	0.18
125mm	0.06	0.08	0.11	0.15	0.23
150mm	0.08	0.09	0.14	0.18	0.27
225mm	0.11	0.14	0.20	0.27	0.41
300mm	0.15	0.18	0.27	0.36	0.54
450mm	0.23	0.27	0.41	0.54	0.81
600mm	0.30	0.36	0.54	0.72	1.08
750mm	0.38	0.45	0.68	0.90	1.35

Secondary drainage treatments

Operation	*£/hr*	*£/acre*
Subsoiling	65.00-115.00	54.00-80.00
Moling	65.00-115.00	50.00-100.00
Flat lifter	75.00-120.00	50.00-70.00
Aerator	23.00-84.00	25.00-35.00

Drain jetting

	Price
Drain jetter with tractor	£40.00-£60.00/hr
Drain jetter with tractor (incl. digger + tractor + bowser)	£700-£800/day

Ditch cleaning

	Price
Ditch cleaning (20-125m/hr)	£1.75 - £2.25/m or £38.00-£48.00/hr

Fencing

The costs in the following table will vary considerably depending on fence purpose, fence length, site difficulty (such as access, ground conditions, presence of rock, and number of turns) and, type and quality of materials.

Net fences	**£/m**
Mild steel netting, 2 mild steel plain wires, 1 mild steel barb wire assuming stobs every 2m, a strainer at either end, a turning post every 50m and 8 gripples every 200m	5.02
High tensile netting, 3 high tensile plain wires, 1 barb wire assuming stobs every 3m, a strainer at either end, a turning post every 50m and 8 gripples every 200m	4.55
High tensile steel netting, 2 high tensile plain wires, 1 high tensile barb wire assuming steepleless steel posts every 4.5m, a steepleless steel strainer with stay kit at either end, a steepleless steel turning post every 50m and 8 gripples every 200m	6.16

Plain wire fence	**£/m**
8 high tensile plain wire, 1 barb wire assuming stobs every 2m, a strainer at either end and a turning post every 50m	4.47

Scare fence	**£/m**
2 barb wire assuming stobs every 5m, a strainer at either end and a turning post every 50m	2.39

Electric fences (energisers not included)	**£/m**
High tensile netting, 4 high tensile plain wires assuming stobs every 3m, a strainer at either end, a turning post every 50m and 8 gripples every 200m	4.78
Electric fences (energisers not included)	**£/m**
8 high tensile plain wires assuming stobs every 2m, a strainer at either end and a turning post every 50m	4.84
2 high tensile plain wires, assuming stobs every 5m, a strainer at either end and a turning post every 50m	2.53

Deer fence	**£/m**
Deer netting, rabbit netting, 3 mild steel plain wires assuming stobs every 3m, a strainer at either end and a turning post every 50m	8.50

Post and rail fence	£/m
5 rails assuming stobs every 2m, a strainer at either end	12.37

Hedges	£/m
Hedge laying	15.00

There are regional and contractor variances on fence types. It is important to ensure the materials are chosen with purpose in mind, e.g. net fencing for sheep can differ from that suitable for cattle so as to help prevent loss of sheep ear tags. All fencing work should be fully discussed, inspected and quoted (materials and labour split) prior to work commencing to prevent discrepancies at a later date.

Labour costs for fencing will vary between £10.00-16.50/hr. Chapping costs are £25.00-38.00/hr and for strainers, £15/post. Dismantling existing fencing, site preparation and fence disposal are added charges.

Dry Stone Walling

Excluding provision of material	£25-50 /m^2
Stone	£60-100 /t

Regional and contractual variations will apply in terms of the price of dry stone walling, in part depending on ease of access to site, availability of stone and nature and size of the wall. In general terms the price quoted for labour will be based on a metre square rate and will include the building of both sides of the wall, where a free-standing structure is required. Prices will vary for retaining walls. It is good practice to discuss and inspect the work with the dry stone waller beforehand, which will help identify whether additional stone is required. As a rough guideline, 1t of stone will be required for every linear metre of a free-standing wall approximately 1.3m high. Specialist stones, such as throughbands, quoins or copes may need to be sourced separately.

The Dry Stone Walling Association (www.dswa.org.uk) has a list of current professional members available on its website.

Agricultural Vehicles on the Road

Below are some key points that should be adhered to when agricultural vehicles are to be used on the public road. Vehicles must be used for 'agricultural purposes' before it can be licenced as an agricultural vehicle.

Drivers licence – Usually a full car licence will include the 'F' category which is the tractor section. For some vehicles (combines etc) category 'B' will also be required. Vehicles fitted with tracks depending on the steering arrangement may require the 'H' category on the drivers licence.

Farm ATV's can be registered as light agricultural vehicles and driven on the road provided they have the full road legal kit.

Drivers ages – After passing the 'tractor' test a 16 year old can drive an agricultural vehicle on the road provided it is mounted on wheels, is no wider than 2.45m and is not pulling a trailer exceeding a single or double axle close coupled design which is also below 2.45m wide. Once over 17 years old they can then operate most agricultural machines apart from tracked machines which is over 21 years of age. You must sit a separate test, category H, for tracked vehicles. Drivers aged 17-20 will be restricted to a Maximum Authorised Mass (MAM) of no more than 3,500kg. Anyone wishing to tow a trailer behind a car, van or 4x4 and has passed their driving test after the 1st January 1997 is only required to sit a separate B + E trailer test where the MAM exceeds 3,500kg.

Speed limits – The majority of agricultural tractors may travel at 25mph. Some tractors are built to higher specifications and are permitted to travel at up to 40mph. The higher speed limit applies to tractors that have (among other requirements) all-wheel suspension, braking efficiency of 50%, pneumatic tyres, a speedometer and a horn. The exact requirements are contained in the Construction and Use Regulations 1986 (as amended). Wider tractors (falling into the special type agricultural vehicle category) have lower speed limits as follows:

- Vehicles 2.55m - 3.5m wide are limited to 20 mph.
- Vehicles 3.5m - 4.3m wide are limited to 12 mph.

For more information, see:
https://www.gov.uk/government/publications/tractors-regulations-on-use/tractors-and-regulatory-requirements-a-brief-guide-september-2017

Trailer brakes – If a vehicle is travelling up to 25mph then hydraulic brakes are sufficient. Over 25mph then progressive brakes should be fitted along with ABS and a failsafe system.

Vehicle weights – Depending on axle spread the maximum authorised mass (MAM) should not exceed 31,000kg (tractor and implements attached). The trailer on its own again depending on axle load limits should not exceed 18,290kg. The additional axle load on the rear axle of the tractor imposed from the trailer should not exceed 3,000kg.

Vehicle widths – Up to 3m wide no notification is required. 3.0m - 3.5m, the police have to be notified, max speed 20mph. 3.5m - 4.3m, notification to police, attendant vehicle and lights fitted in reduced visibility, max speed 12mph. Over 4.3m, notification to secretary of state, attendant vehicle and lights fitted in reduced visibility. In all cases any projections must be marked and lights fitted when required.

Pick up hook rings – Ensure the gap between the top of the hook and the upper part of the hitch does not exceed 10mm gap when locked. The minimum thickness of the trailer ring should be no less than 30mm.

Tyre condition – Up to 20mph the tyres have to be in a safe condition and roadworthy. Over 20mph and there can be no cuts exceeding 25mm in length, have a minimum of 1mm tread depth and no obvious damage or wear and tear.

Lights – All lights when fitted must be visible, working and correctly positioned. Amber beacons are only required on unrestricted dual carriageways unless used as a warning for wide vehicle etc. No rear facing white lights are allowed.

Registration plates – Plates fitted to towing vehicles must match the vehicle and the registered keeper of the vehicle.

Fuel – Red diesel is permitted only if the vehicle is registered as an agricultural vehicle and being used for an agricultural related purpose. The rules changed as at 1st April 2022 and can be found at https://www.gov.uk/guidance/using-rebated-fuels-in-vehicles-and-machines-excise-notice-75-from-1-april-2022.

MOT testing – Most agricultural vehicles will be MOT test exempt but must still meet the construction and use regulations when on the public road.

Labour Legislation and Policy

National hourly wage rates – excluding agricultural workers

The mandatory National Living Wage (NLW) applies to workers aged 21 and above, whilst the National Minimum Wage (NMW) applies to apprentices and those under 21. The following table shows the NLW and the NMW hourly rates for age categories.

	NMW and NLW hourly rates (£/hr)		
Age	**2024**	**2023**	**2022**
21 +	11.44	10.42	9.50
18-20	8.60	7.49	6.83
16-17	6.40	5.28	4.81
Apprentice *	6.40	5.28	4.81

* Applies if they are under 19 or if older then only when they are in the first year of apprenticeship, thereafter minimum wage or National Living Wage for their age applies.

Some employers are part of a voluntary scheme to pay an enhanced 'Real Living Wage', currently £12.00 per hour, payable from 18 years old.

Minimum hourly wage rates for agriculture

Scotland

The following table summarises the rate of pay figures as set in the Agricultural Wages (Scotland) Order (No.71) with effect from 1 April 2024.

Agricultural minimum hourly wage (£/hr) - Scotland	
Minimum hourly rate of pay for all ages of workers [1]	11.44
Minimum hourly rate of pay for workers who undertake an SCQF Level 4 or 5 or equivalent [2]	7.17
Additional sum for workers with qualifications [3]	1.71
Overtime [4]	From: 17.16
Dogs (£/dog/week - up to a max. of 4 dogs)	9.36

1 Hourly rate applies to workers whether full time, part time, students etc. and no matter what type of work is done.

2 Minimum hourly rate of pay for SCQF or equivalent, is payable to apprentices under 19 for 18 months or to those over 19 in the first year of apprenticeship after which the minimum hourly rate of pay as set for the year will apply.

3 For workers with a relevant qualification at SCQF6 or above (includes SVQ/NVQ Level 3, NC. HNC. HND), or those with a Certificate of Acquired Experience obtained before 31 December 1997.

4 Based on the minimum hourly rate of pay to which the worker is entitled multiplied by 1.5 - e.g. £11.44 x 1.5 = £17.16.

England

Agricultural workers in England must be paid at least the NMW (see page 20). Where an employment contract dated before 1 October 2013 exists and mentions the Agricultural Wages (England and Wales) Order 2012 the employee still has the right to be paid the agricultural minimum wage for the graded pay rate that is stated in their contract. The agricultural minimum hourly wage rate for those above compulsory school age is £6.21 (Grade 1) after which the rates rise to £9.40 (Grade 6) in accordance with a graded scale relating to specific job definitions and qualifications.

Wales

Agricultural workers in Wales are paid according to the Agricultural Wages (Wales) Order 2024, with a variable rate depending on specific job definitions and qualifications. This order came into force on 1 April 2024. The full scale of hourly rates can be accessed by following the link at the bottom of the section.

Northern Ireland

In Northern Ireland from 1st April 2024 the minimum agricultural hourly pay rate, applicable for the first 40 weeks cumulative employment, is £7.99 (Grade 1) to £13.23 (Grade 6) in accordance with a graded scale relating to specific job definitions and qualifications. Where at any time the National Minimum Wage (NMW) or National Living Wage (NLW) becomes higher than the agricultural hourly rate set out above, then the minimum rate shall be equal to the NMW or the NLW.

Estimated annual labour costs

The following example calculates the estimated annual labour costs to an employer based in Scotland. The earnings of the worker, based on the same assumptions, are also shown.

Assumptions:

- Employee in employment for over 26 weeks
- 39 hr/wk, 5 days/wk, 52 wk/yr less 30 days holidays
- No qualifications top up so minimum hourly rate - £11.44
- 10 hr/wk overtime
- Employers National Insurance Contributions (NIC) @ 13.80%
- Employers liability insurance @ 1%
- Overtime rate - £17.16
- £12,570 personal allowance
- Annual minimum wage amount and annual overtime amount below includes pay for 6 weeks holiday as if overtime is as regular as weekly then employees should be paid overtime as part of their holiday pay.

Labour cost to employer	**Annual**	**Weekly**	**Hourly**
Minimum wage for employee	£23,200.32	£446.16	£11.44
Employers NIC	£3,201.64	£61.57	£1.58
Employers liability insurance	£232.00	£4.46	£0.11
	£26,633.97	£512.19	£13.13
Overtime	£8,923.20		£17.16
Employers NIC	£1,231.40		£2.37
Employers liability insurance	£89.23		£0.17
	£10,243.83	£197.00	£19.70
Total labour cost incl. overtime	**£36,877.80**	**£709.19**	**£14.47**

Employees earnings	**Annual**	**Weekly**	**Hourly**
Workers earnings (gross)	£32,123.52	£617.76	£12.61
Less tax	£3,908.65	£75.17	£1.53
Workers earnings (after tax)	**£28,214.87**	**£542.59**	**£11.07**

For more information on National Insurance Contributions and Income Tax, see Taxation section.

Pensions

Employers have a legal obligation to automatically enrol eligible employees into a workplace pension scheme and pay employers contributions. Depending on the circumstances of businesses, your auto-enrolment duties will begin on either the staging date given to you by the Pensions Regulator or the date that you first hire an employee. Those aged between 22 and state pension age and earn at least £10,000/year must be automatically enrolled. Employers are also required to pay contributions for these employees which is a minimum of 3% of their earnings. If employees are aged between 16-21 or state pension age -74

and earn over £10,000/year or are aged between 16-74 and earn between £6,240 up to £10,000/year, they can request to be added to the workplace pension. If they do, employers must pay contributions. However, if workers are aged between 16 and 74 and earn less than £6,240/year then they do need to be enrolled if they ask but employers don't need to make any contributions.

Redundancy

An employee having worked for an employer for 2 years or more will normally be entitled to Statutory Redundancy Pay. The following table lays out the basis of calculating a redundancy pay amount:

Employee Age	No. weeks pay for each full year worked
under 22 years old	0.5
22-41 years old	1.0
over 41 years old	1.5

An upper limit on weekly pay is set at £700 per week for redundancy pays on or after 6 April 2024. The maximum statutory redundancy pay that can be received is £21,000. Different rates apply prior to 6 April 2024.

Length of service is capped at 20 years with only the last 20 years of employment taken into account. Only complete years are counted.

There is no upper age limit for an employee receiving redundancy pay.

For example, a 50-year-old having worked for their employer for 25 years earning £650/week is made redundant on 7 April 2024. The employee would be entitled to 24.5 weeks pay (11 years @ 1.0 plus 9 years @ 1.5). This equates to a redundancy pay of £15,925.

Higher levels of redundancy pay can be agreed between employees and employers. Redundancy pay less than £30,000 is tax free.

You are not entitled to redundancy pay if your employer offers you suitable alternative work either within the organisation or in an associated company that you refuse without good reason.

Different upper limits on weekly pay apply in Northern Ireland.

Maternity/paternity

Maternity leave arrangements will differ according to specific job arrangements. Statutory maternity pay applies to those who have been working continuously for 26 weeks with the same employer before their 'qualifying week' and if average earnings are at least £123 for the 8 weeks prior to the 'qualifying week'. The qualifying week is 15 weeks before the week that the baby is due to be born. Statutory leave, applies from the day you start a job and, is 52 weeks with the first 26 weeks as ordinary leave and the last 26 weeks as additional leave. You do not have to take 52 weeks but must take 2 weeks following the birth of the

baby. The earliest time to start leave is 11 weeks before the expected birth of the baby.

Maternity pay is paid up to 39 weeks with 90% of average weekly earnings (before tax) for the first 6 weeks and £184.03 or 90% of average weekly earnings (whichever is lower) for the next 33 weeks.

For paternity leave, the entitlement is either one or two weeks and employers must be notified of this leave request no less than 15 weeks before the baby is due to be born. This leave must be taken in one go, not odd days. You do not need to give an exact date for when your leave will start but can instead say the day after the birth or one week from the day of birth. Paternity pay is £184.03 or 90% of average weekly earnings (whichever is lower).

It is now possible to have Shared Parental Leave (SPL) and Statutory Shared Parental Pay (ShPP). You can share up to 50 weeks of leave and up to 37 weeks of pay between you.

Labour arrangements

When employing staff the following should be considered at the outset of employment:

- Holidays and holiday pay.
- Sick pay.
- Maternity and paternity arrangements and pay.
- Pension provision.
- Provision of appropriate PPE (personal protective equipment).
- Dog allowance (where necessary).
- Other benefits, e.g., accommodation, vehicles, bonuses, subsistence.
- Dismissal.
- Redundancy.

The options for labour on farm include casual/irregular workers, self-employed contractors, or hiring permanent staff/employees.

Self-employed contractors are generally hired to carry out a specific task, i.e. harvest work, shearing, fencing, rather than being available at all times to carry out general farm work. Contracting rates are summarised on pages 11-14. HMRC are looking carefully at self-employed contractors and considering where they should more properly be considered an **employee**. There can be serious financial consequences for the employer if a contractor is later deemed to be an employee, particularly if the correct tax has not been paid. Factors taken into consideration include the number of different businesses the contractor works for, whether they provide their own equipment, whether they can send someone else in their place, and the extent to which they can refuse work.

More formal arrangements with contractors exist that would see all or most of the physical farm labour being carried out by the contractor. In

this case the contractor would also, in most circumstances, provide machinery and additional labour requirement. The farmer/landowner would provide the land, capital and fixed infrastructure. These arrangements include contract farming and share farming. The agreements can be devised to suit each circumstance specifically, but the main theme is that the farmer/landowner retains an active interest in the business both from a management point of view and financially. For more details, see Next Generation section.

Other labour opportunities would involve hiring employees on a full-time or part-time basis and the following aspects should be considered as part of the decision-making process:

- Job requirements.
- Qualifications required/training provision.
- Provision of a house and vehicle.
- Payment terms (see minimum hourly wage rates – Labour and Machinery section).
- Employment contracts.
- Performance related employment incentives.
- Legality of a person being hired.
- Employment insurance.
- Health and safety.
- Registration with HM Revenue and Customs (HMRC).

Sources of information

Full and specific details of agricultural wage arrangements and conditions across the UK can be found at the following websites:

- UK Non- Agricultural: https://www.gov.uk/national-minimum-wage-rates
- Scottish Government (Agricultural):
- Agricultural wages - a guide for workers and employers: twenty seventh edition - gov.scot (www.gov.scot)
- England (Agricultural): https://www.gov.uk/agricultural-workers-rights/pay-and-overtime
- Wales (Agricultural): https://gov.wales/agricultural-wages-minimum-rates-pay
- Northern Ireland (Agriculture): https://www.daera-ni.gov.uk/articles/awb-agricultural-rates-pay-orders-and-reports

Further information on labour suppliers, training, pensions, redundancy, and other statutory obligations can be found at the following websites:

- Different types of worker classifications for pension auto enrolment – https://www.thepensionsregulator.gov.uk/en/document-library/automatic-enrolment-detailed-guidance/1-employer-duties-and-defining-the-workforce#409e28577ec34705a664d2556ed412f3
- Gangmasters Licensing Authority (GLA): http://www.gla.gov.uk/
- LANTRA: http://www.lantra.co.uk/

- Department for Work and Pensions (DWP): www.dwp.gov.uk
- HM Revenue and Customs: https://www.gov.uk/government/organisations/hm-revenue-customs
- Advisory, Conciliation and Arbitration Service (ACAS) : https://www.acas.org.uk/advice

Health and Safety

Health and safety should be regarded as an essential part of farm business management. Along with the construction industry, agriculture has the worst safety record of any sector. The Health and Safety Executive (HSE) is responsible for ensuring compliance with legislation and also provides a source of advice and guidance for businesses (see www.hse.gov.uk).

The Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations (MHSW) 2003 place duties on businesses and individuals to ensure that adequate provision is made for health and safety at work. Employers must ensure, so far as is reasonably practicable, the health, safety and welfare of employees and any others who may be affected by what they do.

Every business should have a health and safety policy. The policy should identify the aims for the employees' health and safety and outline the various responsibilities, systems and communication to ensure that health and safety objectives are fully met. This should be in writing if five or more people are employed. Guidance on this is available from the HSE (https://www.hse.gov.uk/simple-health-safety/policy/index.htm).

The MHSW Regulations place duties on employers and the self-employed to make a suitable and sufficient assessment of the risk to their own health and safety and that of others from the work they do. This includes employees, any casual workers, part-timers, trainees, customers or contractors. It will also include those who may be affected by work activities, e.g. neighbours, sales people and members of the public. The assessment can be conducted by the business itself, or can be contracted out to a specialist. The people carrying out the risk assessments must be competent, it is not essential to hold a qualification in health and safety. The HSE provide useful guidance on conducting a 5-step risk assessment, titled: '*Managing risks and risk assessment at work'* (www.hse.gov.uk/simple-health-safety/risk/index.htm). The 5 steps are:

1. Identify the hazards.
2. Decide who might be harmed and how.
3. Evaluate the risks and decide on precautions.
4. Record your findings and implement them.
5. Review the risk assessment and update if necessary.

There must be a clear chain of command on who is responsible for each area of work and equipment to maintain health and safety within the business. The final responsibility generally lies with the business owner.

It is good practice to produce a written risk assessment and it is a statutory requirement if five or more people are employed by the business. The risk assessments must be communicated to staff and all relevant people.

A further assessment should be made for Control of Substances Hazardous to Health (COSHH). This is similar to a risk assessment but considers the risks from substances such as dust, gases, fumes, pesticides and zoonoses.

If an accident or near miss occurs it should be reported to the HSE in accordance with the Reporting of Injuries Diseases & Dangerous Occurrences Regulations (RIDDOR).

When carrying out risk assessments for an agricultural related business be aware that one of the biggest causes of death in agriculture is falls from height. Given that most workers spend probably less than 1% of their time working at height this represents the most dangerous part of the job. Every business should examine what tasks are being carried out at height and try to eliminate these or find safer methods.

Many deaths and injuries are caused by transport and machinery. One of the most important pieces of relevant legislation is the Provision and Use of Work Equipment Regulations 1998 (PUWER) which states that:

- All equipment must be fit for purpose.
- All equipment must be properly maintained.
- All equipment must be properly commissioned.
- Equipment must be inspected after difficult conditions.
- Operators and maintenance mechanic must be sufficiently trained.
- Guards over all dangerous parts.
- Safety features all working.
- Lighting sufficient to operate machinery.

All staff have a legal obligation to co-operate with their employers and follow safe procedures.

Particular care should be taken to ensure the safety of children on farms, and the minimum ages for operating or travelling in certain vehicles and machines must be observed.

There are many other pieces of relevant legislation relating to health and safety at work that agricultural businesses should comply with. In some instances training and certification is required.

A useful source of information for farmers is the HSE publication "Farmwise" (http://www.hse.gov.uk/pubns/books/hsg270.htm) which provides practical advice and guidance on health and safety.