Department of
Agriculture and
Rural Development
ww i .
AN ROINN
Talmhaíochta agus
Forbartha Tuaithe
MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

POLICY AND ECONOMICS DIVISION

Farm Business Data
2015

Paul Keatley

Foreword

The 2015 year will see the agricultural industry and individual farm businesses continue to face challenges created by relatively high input costs and volatile farm-gate prices. As always, the availability of a sound, robust framework for farm planning decisions is of paramount importance. This is the role that 'Farm Business Data' fulfils, providing a comprehensive and authoritative source of physical and financial information tailored to farm planning needs in Northern Ireland.

The handbook is divided into sections and presents budgets for all the enterprises commonly found in Northern Ireland. Within the section on Farm Support Schemes details on the operation of selected schemes such as the Basic Payment Scheme can be found. A range of useful information is also presented in the Miscellaneous section including a summary of nitrates and phosphorous regulations. The latter also includes details on taxation, fixed costs, machinery costs, hire charges, contractors' charges and conacre rents.

It is important to stress that the handbook is designed to facilitate farm planning exercises. As such, the data presented in the enterprise budgets are in 'normalised' gross margin format and are unsuitable for benchmarking or comparison purposes. Farm performance data are published in 'Northern Ireland Farm Performance Indicators 2013/14', available from Policy and Economics Division in DARD. Alternatively, it may be accessed on the DARD website at http://www.dardni.gov.uk/statistics-ni-farm-performance-indicators.htm.

Uncertainties surrounding future prices mean that users of the data are again advised to make appropriate adjustments to enterprise data when those presented in the handbook become out of date or are felt to be inappropriate for long-term planning.

'Farm Business Data' has been prepared by Paul Keatley with assistance from many individuals inside and outside DARD. The author would like to thank all those who provided information for inclusion in this edition and all who made constructive suggestions for change. Further comments or enquiries about the publication should be addressed to:

Paul Keatley
Room 811A
Dundonald House
Upper Newtownards Rd
Ballymiscaw
BELFAST BT4 3SB
Tel. (028) 90 524063
E-mail Paul.Keatley@dardni.gov.uk

Norman Fulton
Director of Policy and Economics
March 2015

USER NOTES

Arable crops
It should be noted that total variable costs **exclude** contract costs. In situations where a contractor will be used it should be remembered that this additional variable cost will have to be included. Contract rates are given on pages 99 to 101.

Grassland based enterprises
Grassland costs are split in each of the budgets into a grazing cost and a silage cost per head. In the dairy and dairy follower budgets the grazing costs have been calculated at a standard stocking rate of 2 cow equivalents per hectare. For most other grazing livestock budgets a stocking rate of 1.8 cow equivalents is used. If these stocking rates are considered inappropriate for individual farm situations they can be adjusted by referring to page 18. The silage cost per tonne charged in all budgets includes a contractor cost for harvesting and buckraking 2.5 cuts into the silo. In situations where the farmer uses his own machinery or makes 2 or 3 cuts the silage cost can be adjusted by referring to page 19.

Taxation
The taxation section on pages 111 to 114 gives general information only. Users are reminded that tax is a complex subject and that professional advice should be obtained before any action is taken which might affect liability to taxation.

DEFINITION OF TERMS

1. **Enterprise output of a crop enterprise** is the total returns for the crop produced; it is the total value for crop sales plus the market value of any part of the crop used or in store on the farm.

2. **Enterprise output of a livestock enterprise** is the value of livestock sold plus the market value of livestock and livestock products transferred to another enterprise (transfers out), plus the market value of any production from the enterprise consumed on the farm less expenditure on livestock and less the market value of livestock transferred in from another enterprise (transfers in).

3. **Variable costs** are defined as those costs which can both be readily allocated to a specific enterprise and vary in proportion with the level of output. Examples of variable costs are fertilisers, sprays, seeds, concentrate feedstuffs, silage and grassland variable costs. Casual labour and contract charges which can be allocated to a specific enterprise are usually regarded as variable costs.

4. **Gross margin** of an enterprise is its **enterprise output** less its **variable costs**.

5. **Enterprise marginal capital** is the estimated amount of capital required to establish the enterprise to the point of first sale of output.

	Page
INTRODUCTION	1
CROPS -	
Spring barley	4
Spring oats	5
Winter barley	6
Winter oats	7
Winter wheat	8
Spring oilseed rape	9
Winter oilseed rape	10
Seed potatoes	11
First early potatoes	12
Maincrop ware potatoes	13
Cereal sprays	14
Grain drying and storage	15
Oilseed rape sprays	16
Potato sprays	17
GRASS -	
Grazing variable costs	18
Grassland reseeding costs	18
Silage variable costs	19
Silage additives	20
Hay variable costs	20
Grassland sprays	21
Seasonality of production	21
Stocking rates	22
Cow equivalent factors	22
Typical nutrient content of animal manures	23
Conversion factors	23
DAIRY -	
Dairy cows - Jan/Feb calving	24
- March/April calving	25
- Oct/Nov calving	26
- Average calving pattern	27
Dairy heifer replacements - Autumn born	28
- Spring born	30
BEEF -	
Calf Rearing	32
Liveweight to deadweight - price conversion table	33
18 month heifer beef	34
22 month steer beef	36
24 month steer beef	38
28 month steer beef	40
Cereal bull beef	42

	Page
Grass silage bull beef	43
Calf to store system	45
Lowland suckler cows - May/June calving	46
- Feb/Mar calving	47
- Sept/Oct calving	48
Hill suckler cows - Spring calving	49
Beef heifer replacements - Spring born 24 month calving	50
Finishing suckled steer calves	52
Winter cattle finishing, 400 kg store	54
Winter cattle finishing, 500 kg store	55
Summer cattle finishing, 420 kg store	56
'Traditional' store to beef system	57
Summer grazing of store cattle	58
SHEEP -	
Lowland breeding ewes - mid March lambing	59
Early lambing lowland breeding ewes - (Dec/Jan)	60
Upland breeding ewes - crossbred type in SDA	62
Hill breeding ewes - mountain type in SDA	63
Store lamb finishing - 16 kg+ (on grass)	64
- 14 kg (grass and concentrates)	65
- forage crops	66
- indoors	67
PIGS -	
Pig rearing	68
Pig finishing	69
Pig rearing and finishing	70
POULTRY -	
Caged laying hens	72
Free range laying hens	73
Broilers	74
FARM SUPPORT SCHEMES	
Basic Payment Scheme	75
Greening Payment	78
Young Farmers Payment	79
Areas of Natural Constraint Scheme	80
Agri-Environmental Schemes	81
Forestry	83

	Page
MISCELLANEOUS	
Nitrates and Phosphorus Regulations	84
Fertiliser prices	89
Feedstuff prices	90
Relative feed values	91
Enterprise marginal capital requirements (EMCR)	93
Fixed costs by type of farm business 2013/14	95
Annual tractor costs – 2015 estimates	97
New machinery prices	98
Agricultural contractors' charges	99
Typical hire charges	102
Amortization table and loans outstanding	103
Interest rates	104
Agricultural wages	106
Alternative enterprises	108
Organic farming	108
The welfare of livestock	108
Conacre rents	109
Sales of agricultural land	110
Taxation	111
Milk and Barley prices 2012-2014	115
Cattle prices 2012-2014	116
Beef prices 2012-2014	117
Lamb and pigmeat prices 2012-2014	119
DARD Contact details	120
AFBI Contact details	122
Northern Ireland Environment Agency Contact details	123

INTRODUCTION

This handbook contains both physical and financial information for farm enterprises in Northern Ireland. For each enterprise, details of output, variable costs and gross margin are presented. The information relates to the production year beginning January 2015 (unless otherwise stated) and is based on price information available at the time of preparation (February 2015). For this reason, adjustments may be necessary to budgeted data where prices have deviated significantly from forecast levels.

The sources of information used in the booklet include the Farm Business Survey, the Agri-food and Biosciences Institute and the College of Agriculture Food and Rural Enterprise (CAFRE). In most of the budgets, more than one level of performance is given. The "typical" level of performance represents that most likely to be achieved. The "low" and "high" levels of performance, where given, encompass the range of performances found in approximately 80% of farms in Northern Ireland. On some farms, the level of performance will be outside the range given for a given enterprise.

If it is considered that the data are not appropriate for a particular farm, a different performance level should be substituted. This may be necessary when a series of farm plans with different levels of performance are used to indicate the range of possible outcomes for a particular farming situation. However, the levels of performance imputed should be realistic as the use of over optimistic or pessimistic levels of performance in a budget can result in the wrong decision being taken. Thus, each farming situation should be assessed adequately so that achievable levels of performance are used in budgets. For situations where a farm enterprise is being expanded, a level of performance similar to that presently achieved should not always be assumed. The quality of the land and livestock may differ, as may the seasonality of production.

Area Based Payments

In January 2015, the Single Farm Payment Scheme (SFP) was replaced by the Basic Payment Scheme, a Greening Payment and a Young Farmers' Payment. As these Area Based Payments are also decoupled from production, they do not form part of the Gross margin of any enterprise. As a consequence, **in this handbook, gross margin budgets for all enterprises have been presented without the Area Based Payments.** Further details relating to the operation of the schemes associated with these payments are available on pages 75-79.

Fixed Costs

In assessing the impact of a change in the farm plan on farm profit, it is necessary to deduct the expected total farm fixed costs from the total farm gross margin. The projected farm profit can then be compared with the likely profit from continuing with the existing activities. To show the likely return on additional capital, the budgeted additional net profit should be related to the additional capital required to implement the new plan. When borrowed funds

are used to finance the change, the interest charge should be deducted from the additional net profit.

Changes in fixed costs which occur when there is a change in the mix or size of enterprises on a farm will differ considerably between farms as these costs are very dependent on the scale of change and the resources already present on the farm. Such costs by their nature do not change gradually unlike variable costs which vary roughly in proportion to changes in the size of an enterprise. When preparing budgets the fixed costs should be changed if alterations are planned in the area of land farmed, the employment of regular labour, investment in machinery and buildings or, if there are appreciable changes in the usage of other fixed cost items such as fuel.

Farm planning exercises may range from a small modification of the present farming system to a completely new business plan for the farm. The first of these alternatives will, in most circumstances, require considerably less new information on fixed costs than is needed when a new farm plan has to be prepared. In either situation it is more sensible and accurate to prepare a list of the fixed cost items and calculate their cost to the business rather than using fixed cost 'standards' as guidelines. The list should include hired regular labour, depreciation of fixed capital and machinery, machinery repairs, fuel and oil, interest and general overhead costs.

Capital Requirements

Another essential element in farm planning is the cash flow budget. Such a budget will indicate how changes in the farm plan will affect the timing and flow of funds through the business. This can be critical information particularly when outside funding is required or capital resources are limited.

When new plans or budgets incorporating changes are prepared, it is important to determine how much extra capital will be needed. The return on the extra capital may be of particular significance in deciding how best to employ additional resources. Return on existing capital is of less importance, especially as machinery and buildings may have been written-off or have a low salvage value. For this reason, only marginal operating capital requirements per hectare of crop or per head of livestock are given on pages 93 and 94. In a livestock enterprise, this includes the cost of the extra animal(s) and the variable costs required to finance the production cycle until sufficient incoming funds have been obtained to finance the next period. This figure indicates the minimum necessary operating capital required per extra head of livestock. For a large increase in herd size, the additional operating capital should include the proposed capital outlay on the additional buildings, machinery and funds to pay extra labour until the production cycle is self-financing. Each particular situation should be investigated to determine whether extra labour or other fixed costs should be taken into account.

As many cattle enterprises require a large amount of operating capital (often financed from outside sources) per head and per hectare, an interest charge per head is given below the calculated gross margin in each of the cattle budgets. This, in many instances, is a substantial cost and should not be overlooked when comparing enterprises. Interest charge is calculated by

applying the interest rate to the outlay on the animal plus the average variable costs for the production period.

Grassland, forage and calf rearing variable costs are common to many of the cattle enterprises and these topics are covered in pages 18 to 23 and 32 as a basis for inclusion in subsequent cattle budgets.

Occasional reference is made to trade names and proprietary products. No endorsement of such products is intended nor is any criticism implied of similar products not mentioned.

SPRING BARLEY PER HECTARE

	LOW	TYPICAL	HIGH
Grain yield (tonnes)	4.0	5.0	6.5
Price per tonne (£)		125	
Grain output (£)	**500**	**625**	**813**
Straw yield (tonnes)	3.0	3.5	4.5
Price per tonne (£)		65	
Straw output (£)	**195**	**228**	**293**
OUTPUT (£)	**695**	**853**	**1,105**
		£	
Seed 187 kg		86	
Fertiliser 120: 55:55		180	
Sprays herbicide		30	
fungicide		40	
growth regulator		14	
Sundries twine etc.		25	
Total Variable Costs		**375**	
GROSS MARGIN	**320**	**478**	**730**

(a) Grain price - estimated on the basis of 15% moisture content with grain sold at harvest for animal feed. For information on seasonal price movements see page 15.

(b) Seed - 80% certified second generation, 20% farm saved.

(c) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(d) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(e) Sprays - post emergent herbicide.
- fungicide spray for mildew and rhynchosporium.
- insecticide spray for leather jackets may be used after a grass ley.

SPRING OATS PER HECTARE

	LOW	TYPICAL	HIGH
Grain yield (tonnes)	3.8	5.0	6.0
Price per tonne (£)		135	
Grain output (£)	**513**	**675**	**810**
Straw yield (tonnes)	3.3	3.6	4.2
Price per tonne (£)		60	
Straw output (£)	**198**	**216**	**252**
OUTPUT (£)	**711**	**891**	**1,062**
		£	
Seed 187 kg		97	
Fertiliser 80: 55: 55		140	
Sprays herbicide		30	
fungicide		25	
growth regulator		14	
Sundries twine etc.		25	
Total Variable Costs		**331**	
GROSS MARGIN	**380**	**560**	**731**

(a) Grain price - estimated on the basis of 15% moisture content with grain sold at harvest for animal feed.

(b) Seed - 100% certified second generation.

(c) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(d) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations.
See pages 84 to 88 for further details.

(e) Sprays - post emergent herbicide.
- fungicide, mildew spray.
- growth regulator.
- insecticide may be used following grass at £20 per hectare.

WINTER BARLEY PER HECTARE

		LOW	TYPICAL	HIGH
Grain yield (tonnes)		6.0	7.0	8.0
Price per tonne (£)			130	
Grain output (£)		**780**	**910**	**1,040**
Straw yield (tonnes)		3.5	5.0	5.5
Price per tonne (£)			65	
Straw output (£)		**228**	**325**	**358**
OUTPUT (£)		**1,008**	**1,235**	**1,398**
			£	
Seed	187 kg		86	
Fertiliser	150: 70: 70		225	
Sprays	herbicide		40	
	fungicide (x2)		80	
	insecticide		8	
	growth regulator		14	
Sundries	twine etc.		25	
Total Variable Costs			**478**	
GROSS MARGIN		**530**	**757**	**920**

(a) Grain price - estimated on the basis of 15% moisture content with grain sold at harvest for animal feed. For information on seasonal price movements see page 15.

(b) Seed 100% certified second generation.

(c) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(d) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(e) Sprays - pre or post emergence herbicide.
- April/May, 2 spray fungicide program.
- insecticide for barley yellow dwarf virus.
- growth regulator.

WINTER OATS PER HECTARE

	LOW	TYPICAL	HIGH
Grain yield (tonnes)	5.0	6.5	8.0
Price per tonne (£)		135	
Grain output (£)	**675**	**878**	**1,080**
Straw yield (tonnes)	4.0	4.6	5.3
Price per tonne (£)		60	
Straw output (£)	**240**	**276**	**318**
OUTPUT (£)	**915**	**1,154**	**1,398**
		£	
Seed 187 kg		101	
Fertiliser 100: 55: 55		160	
Sprays herbicide		40	
fungicide (x 2)		80	
growth regulator		14	
Sundries twine etc.		25	
Total Variable Costs		**420**	
GROSS MARGIN	**495**	**734**	**978**

(a) Grain price - estimated on the basis of 15% moisture content with grain sold at harvest for animal feed.

(b) Seed - 100% certified second generation.

(c) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(d) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(e) Sprays - pre emergent herbicide.
- 2 spray fungicide program.
- growth regulator.
- insecticide (Barley Yellow Dwarf Virus) may be required.

WINTER WHEAT PER HECTARE

		LOW	TYPICAL	HIGH
Grain yield (tonnes)		7.0	8.0	9.5
Price per tonne (£)			135	
Grain output (£)		**945**	**1,080**	**1,283**
Straw yield (tonnes)		4.5	5.0	5.5
Price per tonne (£)			60	
Straw output (£)		**270**	**300**	**330**
OUTPUT (£)		**1,215**	**1,380**	**1,613**
			£	
Seed	187 kg		92	
Fertiliser	180: 70: 70		250	
Sprays	herbicide		40	
	fungicide (x3)		130	
	growth regulator		14	
Sundries	twine etc.		25	
Total Variable Costs			**551**	
GROSS MARGIN		**664**	**829**	**1,062**

(a) Grain price - estimated on the basis of 15% moisture content with grain sold at harvest for animal feed.

(b) Seed - 100% certified second generation.

(c) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(d) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(e) Sprays - pre or post emergence herbicide.
- fungicides for control of septoria,ear diseases and mildew/yellow rust if required.
- growth regulator.

SPRING OILSEED RAPE PER HECTARE

		LOW	TYPICAL	HIGH
Yield (tonnes)		1.8	2.4	2.9
Price per tonne (£)			260	
Seed output (£)		**468**	**624**	**754**
OUTPUT (£)		**468**	**624**	**754**
			£	
Seed	8 kg		68	
Fertiliser	80: 30: 0		80	
Sprays	insecticide		15	
	fungicide		40	
	desiccant		35	
Slug pellets			15	
Total Variable Costs			**253**	
GROSS MARGIN		**215**	**371**	**501**

(a) Price estimated on the basis of 'double low' varieties sold at harvest.

(b) Yield based on 9% moisture content, desiccant applied 7 to 14 days before harvesting.

(c) Sowing date between late March and mid April. Oilseed rape should not be grown more than 1 year in 5 on the same land.

(d) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(e) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(f) Sprays - insecticide for pollen beetle/seed weevil.
- herbicide is normally not necessary.
- fungicide for light leaf spot and/or sclerotinia.

WINTER OILSEED RAPE PER HECTARE

		LOW	TYPICAL	HIGH
Yield (tonnes)		2.6	3.3	4.0
Price per tonne (£)			260	
Seed output (£)		**676**	**858**	**1,040**
OUTPUT (£)		**676**	**858**	**1,040**
			£	
Seed	8 kg		72	
Fertiliser	190: 50: 20		210	
Sprays	herbicide		55	
	fungicide		40	
	desiccant		35	
Slug pellets			15	
Total Variable Costs			**427**	
GROSS MARGIN		**249**	**431**	**613**

(a) Price estimated on the basis of 'double low' varieties sold at harvest.

(b) Yield based on 9% moisture content, desiccant applied 7 to 14 days before harvesting.

(c) Sowing date, mid August to early September. Oilseed rape should not be grown more than 1 year in 5 on the same land.

(d) Fertiliser - Fertiliser application rate based on a medium type soil with a Soil Nitrogen Supply Index of 2, a Soil Phosphate Index of 2 and a Soil Potash Index of 2+

(e) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations.
See pages 84 to 88 for further details.

(f) Sprays - pre or post emergence herbicide.
- fungicide for light leaf spot and/or sclerotinia.

SEED POTATOES PER HECTARE

				LOW		TYPICAL		HIGH
		£/t		£		£		£
Seed ( ) tonnes	@	230	(14)	3,220	(21)	4,830	(25)	5,750
Ware ( ) tonnes	@	150	(5)	750	(8)	1,200	(10)	1,500
Chats ( ) tonnes	@	10	(1)	10	(2)	20	(3)	30
OUTPUT				**3,980**		**6,050**		**7,280**
		£/t						
Seed 4.0t	@	300				1,200		
Fertiliser 95 : 195 : 185						380		
Sprays herbicide						45		
fungicide (blight x 7)						155		
desiccant (burning down)						40		
aphidicide						25		
Potato inspection fees				113		147		166
Total Variable Costs				**1,958**		**1,992**		**2,011**
GROSS MARGIN				**2,022**		**4,058**		**5,269**

(a) Potato inspection fees quoted are those proposed for 2015. They comprise a growing crop inspection fee of £46 per hectare and tuber inspection fees and labels of £4.80 per tonne.

(b) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations. See pages 84 to 88 for further details.

(c) Seed cost depends on variety used and class of seed planted.

(d) Potato sacks are supplied by the merchant.

(e) Price per tonne - Prices for potatoes can vary significantly from year to year and even during the season.

(f) Output of seed per hectare (£)

Price per tonne	Seed Yield (tonnes per hectare)				
£	14	17	20	22	25
140	1,960	2,380	2,800	3,080	3,500
160	2,240	2,720	3,200	3,520	4,000
180	2,520	3,060	3,600	3,960	4,500
200	2,800	3,400	4,000	4,400	5,000
220	3,080	3,740	4,400	4,840	5,500
240	3,360	4,080	4,800	5,280	6,000
260	3,640	4,420	5,200	5,720	6,500

FIRST EARLY POTATOES PER HECTARE

				LOW		TYPICAL		HIGH
		£/t		£		£		£
Ware ( ) tonnes	@	250	(14)	3,500	(19)	4,750	(22)	5,500
Chats (1) tonne	@	10		10		10		10
OUTPUT				**3,510**		**4,760**		**5,510**
		£/t						
Seed 3.5t	@	350				1,225		
Fertiliser 120 : 130 : 200						350		
Sprays herbicide						35		
fungicide (blight x 3)						90		
Potato sacks	@	8.30		116		158		183
Total Variable Costs				**1,816**		**1,858**		**1,883**
GROSS MARGIN				**1,694**		**2,902**		**3,627**

(a) Budget assumes haulm chopping rather than burning down.

(b) Seed **-** cost depends on variety used and class of seed planted.

(c) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations.
See pages 84 to 88 for further details.

(d) Potato sacks **-** 25kg paper bags typically 20p per bag.

(e) Price per tonne - Prices for potatoes can vary significantly from year to year and even during the season.

(f) Output of ware per hectare (£)

Price per tonne	Early Ware Yield (tonnes per hectare)			
£	10	15	20	25
150	1,500	2,250	3,000	3,750
200	2,000	3,000	4,000	5,000
250	2,500	3,750	5,000	6,250
300	3,000	4,500	6,000	7,500
350	3,500	5,250	7,000	8,750

MAINCROP WARE POTATOES PER HECTARE

		£/t		LOW £		TYPICAL £		HIGH £
Ware ( ) tonnes	@	125	(33)	4,125	(40)	5,000	(45)	5,625
Chats (2) tonnes	@	10		20		20		20
OUTPUT				**4,145**		**5,020**		**5,645**
		£/t						
Seed 3.0t	@	300				900		
Fertiliser 100 :180 : 200						380		
Sprays herbicide						35		
fungicide (blight x 11)						245		
desiccant (burning down)						40		
Slug pellets						15		
Potato boxes	@	10.50		347		420		473
Total Variable Costs				**1,962**		**2,035**		**2,088**
GROSS MARGIN				**2,183**		**2,985**		**3,557**

(a) Seed **-** cost depends on variety used and class of seed planted.

(b) Fertiliser - For individual farms, fertiliser application rates must be in accordance with the Nitrate and Phosphorous Regulations.
See pages 84 to 88 for further details.

(c) Potato boxes **-** £70.00 per 1 tonne with a 15% depreciation charge (i.e. £10.50 per tonne per year).

(d) Price per tonne - Prices for potatoes can vary significantly from year to year and even during the season.

(e) Output of ware per hectare (£)

Price per tonne	Ware Yield (tonnes per hectare)				
£	20	25	30	35	40
90	1,800	2,250	2,700	3,150	3,600
110	2,200	2,750	3,300	3,850	4,400
130	2,600	3,250	3,900	4,550	5,200
150	3,000	3,750	4,500	5,250	6,000
170	3,400	4,250	5,100	5,950	6,800
190	3,800	4,750	5,700	6,650	7,600

CEREAL SPRAYS

	Main use	Examples of proprietary products	Approximate cost per hectare (£)
Herbicides	Spring cereals (Broad spectrum)	Ally SX, Jubilee SX, Starane XL, Harmony M, Compitox Plus	15 to 31
	Winter cereals (Broad spectrum)	**Pre-emergence –** Crystal, Ice, Orient Firebird.	25 to 48
	Winter cereals (Broad spectrum)	**Post-emergence -** Ally SX, Jubilee SX, Othello	15 to 41
Fungicides	Barley (Broad spectrum)	Amistar Pro, Fandango, Siltra, Bontima	36 to 49
	Wheat (Broad spectrum)	Folicur, Silvacur, Opera, Opus, Proline, Aviator, Treoris, Brutus	25 to 53
	(Mildew)	Corbel	23 to 26
Insecticides	Spring cereals (leatherjackets)	Dursban, Cyren	14 to 19
	Winter barley (aphids - vector BYDV)	Decis, Hallmark, Sumi-Alpha,	5 to 10

This list is not exhaustive and no criticism is implied of products which have been omitted. The products listed above are for example purposes only. **No pesticide should be used without careful reference to the manufacturer's label especially regarding crop suitability.**

GRAIN DRYING AND STORAGE

(i) Moist grain storage

@ 16% moisture content requires 5.5 litres per tonne propionic acid.
@ 20% moisture content requires 7.5 litres per tonne propionic acid.
@ 24% moisture content requires 9.5 litres per tonne propionic acid.
@ 28% moisture content requires 11.5 litres per tonne propionic acid.

Propionic acid costs approximately £1.30 - £1.75 per litre. Contractors charge for treatment (excluding chemical) approximately £1.30 per tonne.

(ii) Grain drying

Contract charges - handling charge approximately £2-2.50 per tonne plus £3-4.50 per 1% moisture removed.

(iii) Bulk storage requirements (whole grain)

Barley 1.45 cubic metres per tonne.
Wheat 1.35 cubic metres per tonne.
Oats 1.95 cubic metres per tonne.

(iv) Weight and weight loss on drying to 15% Moisture Content

Original MC	**Equiv. Weight of 100t dried To 15% MC (t)**	**% Weight loss**
15	100.0	0
17	97.7	2.3
19	95.3	4.7
21	92.9	7.1
23	90.6	9.4
25	88.2	11.8
27	85.9	14.1

(v) Anticipated growers prices for barley (ex-farm) 2014/2015

Feed Barley (£/tonne)

November 2014	140
January 2015	140
March	135
May	130

OILSEED RAPE SPRAYS

	Examples of proprietary products	Approximate cost per hectare (£)
Herbicides	**Post-emergence -** Kerb, Butisan, Galera	30 to 49
Fungicides	Folicur, Proline	25 to 56

This list is not exhaustive and no criticism is implied of products which have been omitted. The products listed above are for example purposes only. **No pesticide should be used without careful reference to the manufacturer's label especially regarding crop suitability.**

POTATO SPRAYS

		Examples of proprietary products	Approximate cost per hectare (£)
Herbicides	Broad Spectrum	Sencorex, Linuron, Titus, Retro	27 to 75
	Couchgrass	Glyphosate, Laser	35 to 70
Fungicides		Bravo 500, Dithane 945, Invader, Fubol Gold, Shirlan, Curzate, Infinito, Prompto	7 to 30
Desiccants		Reglone, Harvest, Sulphuric acid[1],Spolight	35 to 46

(Haulm chopping can be an alternative to spraying.)

[1] Sulphuric acid normally applied by a contractor

This list is not exhaustive and no criticism is implied of products which have been omitted. The products listed above are for example purposes only. **No pesticide should be used without careful reference to the manufacturer's label especially regarding crop suitability.**

GRASSLAND VARIABLE COSTS

(i) Grazing Variable Costs

Stocking rate (ce/ha)	Fertiliser N kg/ha	Fertiliser £/ha	Other variable costs (£)	Total variable cost per hectare (£)
1.4	60	56	54	110
1.5	75	69	54	123
1.6	90	83	54	137
1.7	105	97	54	151
1.8	**120**	**111**	**54**	**165**
1.9	135	125	54	179
2.0	**150**	**139**	**54**	**193**
2.1	170	157	54	211
2.2	190	176	54	230
2.3	210	194	54	248
2.4	230	213	54	267
2.5	250	231	54	285

In the dairy cow and dairy follower budgets in this handbook, a stocking rate of 2 cow equivalents per hectare is used, i.e. the grazing variable costs are £193 per hectare. For most other grazing livestock budgets a stocking rate of 1.8 cow equivalents per hectare is used i.e. the grazing variable costs are £165 per hectare. If these stocking rates are considered to be inappropriate for a specific farming situation, a more appropriate stocking rate and variable costs per hectare can be selected. Readers should be aware that the implementation of the Nitrates Action Plan may impact on permitted stocking rates on farms (see pages 84 to 88 for further details).

(ii) Grazing - other variable costs

a) Grassland reseeding costs

		£ per hectare
Ground limestone	5 tonnes @ 18 £/t	90
Grass seed	35 kg @ 4.64 £/kg	163
Fertiliser 60 : 50 : 50		120
Spray - sward kill		30
- herbicide		40
Total Cost		443

(1) The quantity of lime and fertiliser applied will depend on soil analysis.
(2) For autumn reseeds the old sward may be burnt down with a Glyphosate or Roundup spray prior to ploughing.
(3) With a sward life of 10 years the annual reseeding allowance would be £44.30 per hectare.

b) Grassland spraying costs

The annual cost of herbicide is estimated at £10.00 per hectare – assumes spray 1 year in 4 against grassland weeds at cost of £40.00 per hectare.

(iii) Silage Variable Costs

	£ per hectare	£ per tonne
Fertiliser 190 : 50 : 100	250	6.25
Other variable costs	54	1.35
Contractors charge	425	10.63
Additives	65	1.63
Polythene	5	0.13
Total Cost	799	19.99

(1) The yield of silage is assumed to be 40 tonnes per hectare.
(2) The sward life is assumed to be 10 years.
(3) Contractor cost includes mowing, harvesting and buckraking 2.5 cuts into the silo.
(4) The total variable cost per tonne of silage (assuming an unchanged yield) with the contractor taking 2 cuts is £17.87. This increases to £22.12 with 3 cuts.
(5) When the farmer uses his own machinery, the total variable cost per tonne of silage is £9.36.
(6) Costs per tonne for additive would be lower for systems involving fewer cuts. Additive costs range from £0.50 to £4.00 per tonne depending on the additive used and the conditions - typically £1.70 per tonne.
(7) Silage as a cash crop. To achieve a gross margin of £200 per hectare, a farmer would require a price of £24.98 per tonne.

(iv) Silage Additives

Category	Examples of products	Approximate cost per tonne Ensiled (£)
Acid based	Add-F, Add-safeR, Co-Sil.	0.50 - 4.00
Sugar based	Molasses, molassed sugar beet pulp Sweet n' Dry.	1.00 - 3.00
Enzymes	Exellex, Clampzyme.	1.50 - 3.00
Inoculants	Bioferm Gold, Ecosyl	0.90 - 2.00
Salts	Ultrasile	2.00 - 2.50
Enzymes plus inoculements	Axphast gold, Supersile gold	1.10 - 1.75

This list is not exhaustive and there is no implied criticism of products omitted.

(v) Hay Variable Costs

	£ per hectare	£ per tonne	Pence per 20 kg bale
Fertiliser 130 : 40 : 40	175	22	44
Reseeding allowance	54	7	14
Contract - mowing	35	4	9
- turning (x2)	32	4	8
- bailing (inc. twine)	200	25	50
Total Cost	496	62	124

(1) A yield of 8 tonnes per hectare is assumed.
(2) The variable cost per 20 kg bale of hay for a farmer using his own machinery would be 57p.
(3) A hay crop cut in mid July and sold for £2.00, £2.50 or £3.00 per 20 kg bale would generate gross margins of £304, £504 and £704 per hectare respectively. These figures rise to £571, £771 and £971 per hectare if contractor costs are disregarded. As approximately 60% of total grass production occurs by mid July these gross margins are effectively from 0.6 hectares.

(vi) Grassland sprays

Main Use	Examples of proprietary products	Approximate Cost per hectare (£)
Chickweed (non clover swards)	Transfer, Mircam Plus.	15 to 22
Chickweed (will protect clover swards)	Triad	29
Ragwort	2-4D Ester, (e.g Depitox)	9 to 13
Thistle	2-4-D, MCPA	9 to 10
Nettle	Nushot, Grazon, Flail.	60 to 120
Docks (non clover swards)	Doxstar, Starane, Forefront Dockmaster Grassland.	45 to 49
Docks (will protect clover swards)	Squire.	41
Sward Kill	Roundup Biactive, Clinic, Glyphosate.	13 to 30

This list is not exhaustive and there is no criticism implied of products omitted.

(vii) Seasonality of production

	% of Harvestable Dry Matter
April	11
May	19
June	20
July	17
August	14
September	12
October	3
November to March	4
Total	100.0

(viii) Stocking rates on farms in Northern Ireland

Average stocking rates and the corresponding range on Northern Ireland farms are shown for the main enterprises. The differences illustrate the variation in stocking rates found in practice.

Stocking rate (ce/ha)

	Average	**Range**
Dairy cows	2.05	1.53 to 2.64
Dairy followers	2.23	2.02 to 2.60
Sucklers cows (new LFA)	1.46	1.25 to 1.68
Dairy calf to beef systems	1.95	1.85 to 2.11
Beef calf to beef systems	1.42	1.17 to 1.75
Breeding ewes (lowland)	1.56	1.40 to 1.83

Source: Northern Ireland Farm Business Survey, 2013/14.

(ix) Coefficients for converting into cow equivalents (ce)

Type of Livestock	ce
Dairy cow	1.0
Beef cow (excluding calf)	0.8
Breeding bull	1.0
Other cattle	
under 1 year old	0.4
between 1 and 2 years old	0.6
over 2 years old	0.8
Breeding ewe and lamb(s)	0.2
Breeding ram	0.2
Lamb 6 months to 1 year old	0.1
Other sheep over 1 year old	0.2

(1) One cow equivalent is usually defined in terms of annual metabolizable energy requirements to maintain a 625 kg Friesian cow, produce 4,500 litres of milk and a 45 kg calf.

(2) To calculate the total cow equivalents on a farm, the annual average livestock numbers should be multiplied by the appropriate cow equivalent coefficient.

(3) To calculate the stocking rate on a farm (cow equivalents per hectare) the total cow equivalents are divided by the area of grassland plus the adjusted areas of rough grazing and forage crops.

(4) To calculate stocking rate of grazing livestock, allowances should strictly be made for variation in output, e.g. yield per cow or liveweight gain per head and also for quantities of non-forage feed consumed by each category of livestock.

(x) Typical nutrient content of animal manures at spreading

Manure		Total Nutrient			Available Nutrient [1]		
Form	% DM	N	P_2O_5	K_2O	N	P_2O_5	K_2O
Fresh FYM [2]	---------- (kg/t) ----------						
Cattle	25	6.0	3.5	8.0	0.3- 1.2	2.1	4.8
Pig	25	7.0	7.0	5.0	0.3- 1.4	4.2	3.0
Poultry Manure	---------- (kg/t) ----------						
Layer Manure	30	15	13	9	0.1- 5.2	7.9	6.8
Broiler Litter	60	29	25	18	0.3-10.1	15.0	14.0
Slurries	---------- (kg/m^3) ----------						
Dairy [3]	6	3.0	1.2	3.5	0.1- 0.9	0.6	3.2
Beef [3]	6	2.3	1.2	2.7	0.1- 0.7	0.6	2.4
Pig [3]	6	5.0	3.0	3.0	0.2- 1.8	1.5	2.7

[1] Nutrients available for utilisation by the next crop. In the case of nitrogen, availability is dependent on soil type and time of application. Figures given assume surface application and higher figures relate to spring application.

[2] N and K_2O values will be lower if farm yard manure (FYM) is stored under open conditions for long periods.

[3] Undiluted slurry typically contains 10% dry matter (DM), but with rain dilution the DM content may be lowered to 6% and under.

(xi) Approximate conversion factors

1 hectare = 2.471 acres
1 metre = 3.279 feet
1 m^3 = 220 gallons
1 litre = 0.22 gallon
1 kilogram = 2.205 pounds
100 kg/ha = 80 units/acre

DAIRY COWS - JAN/FEB CALVING (60% SUMMER MILK)

		LOW	TYPICAL	HIGH
Milk yield (litres)		5,100	5,800	6,300
	ppl	£	£	£
Milk sales	@ 22.7	**1,158**	**1,317**	**1,430**
Calves			**120**	
Less herd replacement cost			**212**	
OUTPUT		**1,066**	**1,225**	**1,338**
	£			
Concentrates	@ 260	424	483	524
Grazing	0.275 @ 193		53	
Silage	9.0 @ 19.99		180	
Sundries (AI, vet, misc)			120	
Total Variable costs		**777**	**836**	**877**
GROSS MARGIN PER COW		**288**	**389**	**461**
GROSS MARGIN PER HECTARE @ (2 ce/ha)		**577**	**778**	**922**
GROSS MARGIN PER 1,000 LITRES		**57**	**67**	**73**

(1) Milk price forecast on the basis of compositional quality and the seasonality of production. Net of all deductions.

(2) 93 calves sold or transferred per 100 dairy cows.

(3) Herd replacement cost:
- 24% replacement rate and 4% mortality are typical.
- replacement cost £1300; cull cow value £500.

(4) Concentrate usage of 0.32kg/litre assumed

(5) For details of grazing and silage variable costs, see pages 18 and 19.

(6) Sensitivity analysis

Change in typical gross margin (£)

	per cow	per hectare
± 1 ppl in milk	58.00	116.00
± £5/t in concentrates price	9.28	18.56
± 100 litres milk	8.29	16.59

DAIRY COWS - MARCH/APRIL CALVING (70% SUMMER MILK)

			LOW	TYPICAL	HIGH
Milk yield (litres)			4,800	5,300	5,800
		ppl	£	£	£
Milk sales		@ 22.5	**1,080**	**1,193**	**1,305**
Calves				**120**	
Less herd replacement cost				**212**	
OUTPUT			**988**	**1,101**	**1,213**
		£			
Concentrates		@ 260	337	372	407
Grazing	0.325	@ 193		63	
Silage	7.0	@ 19.99		140	
Sundries (AI, vet, misc)				120	
Total Variable costs			**660**	**695**	**730**
GROSS MARGIN PER COW			**328**	**406**	**483**
GROSS MARGIN PER HECTARE @ (2 ce/ha)			**657**	**812**	**966**
GROSS MARGIN PER 1,000 LITRES			**68**	**77**	**83**

(1) Milk price forecast on the basis of compositional quality and the seasonality of production. Net of all deductions.

(2) 93 calves sold or transferred per 100 dairy cows.

(3) Herd replacement cost:
- 24% replacement rate and 4% mortality are typical.
- replacement cost £1300; cull cow value £500.

(4) Concentrate usage of 0.27kg/litre assumed

(5) For details of grazing and silage variable costs, see pages 18 and 19.

(6) Sensitivity analysis

Change in typical gross margin (£)

	per cow	per hectare
± 1 ppl in milk	53.00	106.00
± £5/t in concentrates price	7.16	14.31
± 100 litres milk	9.39	18.78

DAIRY COWS - OCT/NOV CALVING (55% SUMMER MILK)

			LOW	TYPICAL	HIGH
Milk yield (litres)			5,500	6,500	7,300
		ppl	£	£	£
Milk sales		23.0	**1,265**	**1,495**	**1,679**
Calves				**120**	
Less herd replacement cost				**220**	
OUTPUT			**1,165**	**1,395**	**1,579**
		£			
Concentrates		@ 260	458	541	607
Grazing	0.250	@ 193		48	
Silage	10.0	@ 19.99		200	
Sundries (AI, vet, misc)				140	
Total Variable costs			**846**	**929**	**996**
GROSS MARGIN PER COW			**319**	**466**	**583**
GROSS MARGIN PER HECTARE @ (2 ce/ha)			**639**	**932**	**1,167**
GROSS MARGIN PER 1,000 LITRES			**58**	**72**	**80**

(1) Milk price forecast on the basis of compositional quality and the seasonality of production. Net of all deductions.

(2) 93 calves sold or transferred per 100 dairy cows.

(3) Herd replacement cost:
- 25% replacement rate and 4% mortality are typical.
- replacement cost £1300; cull cow value £500.

(4) Concentrate usage of 0.32kg/litre assumed

(5) For details of grazing and silage variable costs, see pages 18 and 19.

(6) Sensitivity analysis

Change in typical gross margin (£)

	per cow	per hectare
± 1 ppl in milk	65.00	130.00
± £5/t in concentrates price	10.40	20.80
± 100 litres milk	8.71	17.42

DAIRY COWS - AVERAGE CALVING PATTERN (53% SUMMER MILK)

			LOW	TYPICAL	HIGH
Milk yield (litres)			5,800	6,700	7,500
		ppl	£	£	£
Milk sales		23.0	**1,334**	**1,541**	**1,725**
Calves				**120**	
Less herd replacement cost				**220**	
OUTPUT			**1,234**	**1,441**	**1,625**
		£			
Concentrates		@ 260	498	575	644
Grazing	0.262	@ 193		51	
Silage	9.5	@ 19.99		190	
Sundries (AI, vet, misc)				130	
Total Variable costs			**868**	**945**	**1014**
GROSS MARGIN PER COW			**366**	**496**	**611**
GROSS MARGIN PER HECTARE @ (2 ce/ha)			**732**	**991**	**1,222**
GROSS MARGIN PER 1,000 LITRES			**63**	**74**	**81**

(1) Average calving pattern in Northern Ireland (based on calf registrations):-

January/February	19.3%
March/April	19.0%
May/June	13.8%
July/August	11.2%
September/October	18.4%
November/December	18.4%

(2) Milk price forecast on the basis of compositional quality and the seasonality of production. Net of all deductions.

(3) 93 calves sold or transferred per 100 dairy cows.

(3) Herd replacement cost:
- 25% replacement rate and 4% mortality are typical.
- replacement cost £1300; cull cow value £500.

(5) Concentrate usage of 0.33kg/litre assumed

(6) For details of grazing and silage variable costs, see pages 18 and 19.

(7) Sensitivity analysis

Change in gross margin(£)

	per cow	per hectare
± 1 ppl in milk	67.00	134.00
± £5/t in concentrates price	11.06	22.11
± 100 litres milk	8.89	17.78

DAIRY HEIFER REPLACEMENTS - AUTUMN BORN (2014)

	30 MONTH CALVING			24 MONTH CALVING	
	Physical		Financial	Physical	Financial
			£		£
Value of heifer (allowing for barreners and rejects)			1300		1300
Less value of calf (plus 2% mortality allowance)			225		225
OUTPUT PER HEIFER			**1075**		**1075**
Calf rearing costs to 3 months			89		89
		£			
4-6 months (indoors)					
Concentrates (17% protein)	125 kg	@260	33	250 kg	65
Silage	0.7 tonnes	@19.99	14	0.7 tonnes	14
Bedding straw	0.15 tonnes		12	0.15 tonnes	12
Veterinary and miscellaneous			8		10
7-12 months (at grass)					
Concentrates (15% protein)	25 kg	@240	6	180 kg	43
Grazing	0.15 ha	@193	29	0.17 ha	33
Veterinary and miscellaneous			14		14
13-18 months (indoors)					
Barley and minerals	160 kg	@180	29	360 kg	65
Silage	5 tonnes	@19.99	100	4.5 tonnes	90
AI, Veterinary and miscellaneous			13		33
19-24 months (at grass)					
Grazing	0.21 ha	@193	41	0.23 ha	44
AI, Veterinary and miscellaneous			38		13
25-30 months (indoors)					
Barley and minerals	180 kg	@180	32		
Silage	6 tonnes	@19.99	120		
Veterinary and miscellaneous			5		
Total Variable Costs			**582**		**525**
GROSS MARGIN PER HEIFER			**493**		**550**
GROSS MARGIN PER HECTARE @ (2 ce/ha)			**705**		**1100**

DAIRY HEIFER REPLACEMENTS - AUTUMN BORN (CONTINUED)

(1) See page 32 for details of calf rearing costs.

(2) For details of grazing & silage variable costs, see pages 18 and 19.

(3) Sensitivity analysis

Change in gross margin (£)

	30 month calving	
	per head	per hectare
± £50 in heifer value	50	71
± £10 in calf price	10	15

Change in gross margin (£)

	24 month calving	
	per head	per hectare
± £50 in heifer value	50	100
± £10 in calf price	10	20

(4) Targets weights (kilograms)

Age (months)	Autumn born	
	24 month calving	30 month calving
3	85	85
6	155	145
12	290	260
18	415	355
24	560	460
30	-	580

Target daily liveweight gain (kgs/day)

Age (months)	Autumn born	
	24 month calving	30 month calving
3-6	0.78	0.67
6-12	0.75	0.64
12-18	0.69	0.53
18-24	0.81	0.58
24-30	-	0.67

DAIRY HEIFER REPLACEMENTS - SPRING BORN (2015)

	27 MONTH CALVING			24 MONTH CALVING		
	Physical		Financial	Physical		Financial
			£			£
Value of heifer (allowing for barreners and rejects)			1300			1300
Less value of calf (plus 2% mortality allowance)			225			225
OUTPUT PER HEIFER			**1075**			**1075**
Calf rearing costs to 3 months			89			89
4-9 months (at grass)		£				
Concentrates (17% protein)	100 kg	@260	26	180 kg		47
Grazing	0.14 ha	@193	27	0.15 ha		29
Veterinary and miscellaneous			14			14
10-15 months (indoors)						
Barley and minerals	360 kg	@180	65	405 kg		73
Silage	3.5 tonnes	@19.99	70	3.75 tonnes		75
Veterinary and miscellaneous			8			10
16-21 months (at grass)						
Barley and minerals	0 kg	@180	0	50 kg		9
Grazing	0.21 ha	@193	41	0.22 ha		42
AI, Veterinary and miscellaneous			38			34
22-24 months (indoors)						
Barley and minerals	25 kg	@180	5	135 kg		24
Silage	2.75 tonnes	@19.99	55	2.50 tonnes		50
Veterinary and miscellaneous			7			5
25-27 months (indoors)						
Barley and minerals	65 kg	@180	12			
Silage	2.75 tonnes	@19.99	55			
Veterinary and miscellaneous			7			
Total Variable Costs			**517**			**501**
GROSS MARGIN PER HEIFER			**558**			**574**
GROSS MARGIN PER HECTARE @ (2 ce/ha)			**931**			**1147**

DAIRY HEIFER REPLACEMENTS - SPRING BORN (CONTINUED)

(1) See page 32 for details of calf rearing costs.

(2) For details of grazing & silage variable costs, see pages 18 and 19.
It is assumed that silage is harvested by contractor.

(3) Sensitivity analysis

Change in gross margin (£)

	27 month calving	
	per head	per hectare
± £50 in heifer value	50	84
± £10 in calf price	10	17

Change in gross margin (£)

	24 month calving	
	per head	per hectare
± £50 in heifer value	50	100
± £10 in calf price	10	20

(4) Target weights (kgs)

Age (months)	Spring born	
	24 month calving	27 month calving
3	85	85
9	215	195
15	345	300
21	485	435
24	560	500
27	-	580

Target daily liveweight gain (kgs/day)

Age (months)	Spring born	
	24 month calving	27 month calving
3-9	0.72	0.61
9-15	0.72	0.58
15-21	0.78	0.75
21-24	0.83	0.72
24-27	-	0.89

BULL CALF REARING (TO 3 MONTHS)

		kg	£/tonne	TYPICAL £/head
Milk substitute		20	@ 1985	40
Concentrates	(18% Protein)	85	@ 275	23
	(17% Protein)	25	@ 260	7
Hay		20	@ 125	3
Bedding Straw		70	@ 65	5
Veterinary & sundries				18
Total variable costs				**95**

(1) Intake per calf of milk substitute depends on the system of feeding. A calf would consume 35 kg of milk substitute in 6 weeks on ad libitum feeding system whereas on a bucket rearing system the intake per calf would be between 16 and 24 kg.

(2) When whole milk is fed to calves, 135 litres would provide the same energy and protein as 20 kg of milk substitute.

(3) A heifer calf will consume less concentrates over the first three months (80 to 90 kg). The rearing cost for a dairy heifer calf would be approximately £89.

(4) Vaccination will cost approximately £9 per calf.

(5) The daily liveweight gain during the first 3 months will average 0.7 kg.

(6) Typical liveweights at 3 months of age are 120 kg for bull calves and 110 kg for heifer calves.

LIVEWEIGHT TO DEADWEIGHT PRICE CONVERSION TABLE

Liveweight Price (pence per kg)	**Deadweight Price** (pence per kg)							
	Kill out							
	48%	50%	52%	54%	56%	58%	60%	62%
140	291.7	280.0	269.2	259.3	250.0	241.4	233.3	225.8
142	295.8	284.0	273.1	263.0	253.6	244.8	236.7	229.0
144	300.0	288.0	276.9	266.7	257.1	248.3	240.0	232.3
146	304.2	292.0	280.8	270.4	260.7	251.7	243.3	235.5
148	308.3	296.0	284.6	274.1	264.3	255.2	246.7	238.7
150	312.5	300.0	288.5	277.8	267.9	258.6	250.0	241.9
152	316.7	304.0	292.3	281.5	271.4	262.1	253.3	245.2
154	320.8	308.0	296.2	285.2	275.0	265.5	256.7	248.4
156	325.0	312.0	300.0	288.9	278.6	269.0	260.0	251.6
158	329.2	316.0	303.8	292.6	282.1	272.4	263.3	254.8
160	333.3	320.0	307.7	296.3	285.7	275.9	266.7	258.1
162	337.5	324.0	311.5	300.0	289.3	279.3	270.0	261.3
164	341.7	328.0	315.4	303.7	292.9	282.8	273.3	264.5
166	345.8	332.0	319.2	307.4	296.4	286.2	276.7	267.7
168	350.0	336.0	323.1	311.1	300.0	289.7	280.0	271.0
170	354.2	340.0	326.9	314.8	303.6	293.1	283.3	274.2
172	358.3	344.0	330.8	318.5	307.1	296.6	286.7	277.4
174	362.5	348.0	334.6	322.2	310.7	300.0	290.0	280.6
176	366.7	352.0	338.5	325.9	314.3	303.4	293.3	283.9
178	370.8	356.0	342.3	329.6	317.9	306.9	296.7	287.1
180	375.0	360.0	346.2	333.3	321.4	310.3	300.0	290.3
182	379.2	364.0	350.0	337.0	325.0	313.8	303.3	293.5
184	383.3	368.0	353.8	340.7	328.6	317.2	306.7	296.8
186	387.5	372.0	357.7	344.4	332.1	320.7	310.0	300.0
188	391.7	376.0	361.5	348.1	335.7	324.1	313.3	303.2
190	395.8	380.0	365.4	351.9	339.3	327.6	316.7	306.5
192	400.0	384.0	369.2	355.6	342.9	331.0	320.0	309.7
194	404.2	388.0	373.1	359.3	346.4	334.5	323.3	312.9
196	408.3	392.0	376.9	363.0	350.0	337.9	326.7	316.1
198	412.5	396.0	380.8	366.7	353.6	341.4	330.0	319.4
200	416.7	400.0	384.6	370.4	357.1	344.8	333.3	322.6
210	437.5	420.0	403.8	388.9	375.0	362.1	350.0	338.7
220	458.3	440.0	423.1	407.4	392.9	379.3	366.7	354.8
230	479.2	460.0	442.3	425.9	410.7	396.6	383.3	371.0
240	500.0	480.0	461.5	444.4	428.6	413.8	400.0	387.1

18 MONTH HEIFER BEEF

(October/November 2015 born continental type calves)

				TYPICAL	HIGH
	kg(dwt)		p/kg	£/head	£/head
Finished Heifer	275	@	330	908	908
Less Value of calf plus 2% mortality allowance				250	250
OUTPUT				**658**	**658**
Calf rearing costs to 3 months				89	89
4-6 months (indoors)			£/t		
Concentrates (17% protein)	2.0 to 1.0 kg/day	@	260	47	23
Silage	1.5 tonnes	@	19.99	30	30
Veterinary and miscellaneous				6	6
7-12 months (at grass)			£/t		
Concentrates (15% protein)	100 kg to 30 kg	@	240	24	7
			£/ha		
Grazing	0.15 ha	@	165	25	25
Veterinary and miscellaneous				8	8
13-18 months (indoors)			£/t		
Barley and minerals	4.3 to 2.0 kg/day	@	180	139	65
Silage	4.5 to 5 tonnes	@	19.99	90	100
Veterinary and miscellaneous				6	6
Total variable costs				**463**	**359**
GROSS MARGIN PER HEAD				**194**	**299**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**518**	**800**
Number of cattle finished per hectare				3.3	3.2
Interest charge per head (@ 4%)				29	26

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Two levels of concentrate requirements are given. The lower quantity is required with 'GOOD' quality silage (6 to 7 weeks regrowth, 70 D) and the higher level with 'MEDIUM' quality silage (10 weeks regrowth, 60 D).

18 MONTH HEIFER BEEF (CONTINUED)

(3) Number of housed and grazing days and daily liveweight gain (DLWG)

	1st Winter Housed	Grass	2nd Winter Housed
Days	90	180	180
DLWG (kg)	0.75	0.9	0.9

(4) For details of grazing & silage variable costs, see pages 18 and 19.

(5) Sensitivity analysis

Change in gross margin (£)

	Quality of silage			
	MEDIUM		**GOOD**	
	per head	per hectare	per head	per hectare
+ £10 in calf value	10	27	10	27
+ 5p/kg in sale value	14	37	14	37

22 MONTH STEER BEEF

(October/November 2015 born continental type calves)

				TYPICAL	HIGH
	kg(dw t)		p/kg	£/head	£/head
Finished steer	320	@	330	1056	1056
Less Value of calf plus 2% mortality allowance				300	300
OUTPUT				**756**	**756**
Calf rearing costs to 3 months				95	95
4-6 months (indoors)			£/t		
Concentrates (17% protein)	2.5 to 1.0 kg/day	@	260	59	23
Silage	1.2 tonnes	@	19.99	24	24
Veterinary and miscellaneous				6	6
7-12 months (at grass)			£/t		
Concentrates (15% protein)	110 kg to 40 kg	@	240	26	10
			£/ha		
Grazing	0.15 ha	@	165	25	25
Veterinary and miscellaneous				8	8
13-18 months (indoors)			£/t		
Concentrates (15% protein)	2.0 to 0.5 kg/day	@	240	86	22
Silage	4.5 to 5 tonnes	@	19.99	90	100
Veterinary and miscellaneous				6	6
19-22 months (at grass)			£/t		
Barley and minerals	130 kg to 60 kg	@	180	23	11
			£/ha		
Grazing	0.17 ha	@	165	28	28
Veterinary and miscellaneous				7	7
Total variable costs				**483**	**364**
GROSS MARGIN PER HEAD				**273**	**392**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**567**	**818**
Number of cattle finished per hectare				2.2	2.1
Interest charge per head (@ 4%)				40	35

22 MONTH STEER BEEF (CONTINUED)

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Two levels of concentrate requirements are given. The lower quantity is requiredwith 'GOOD' quality silage (6 to 7 weeks regrowth, 70 D) and the higher level with 'MEDIUM' quality silage (10 weeks regrowth, 60 D).

(3) Weight at 3 Months: 120 kg lwt.

Daily liveweight gain (kg)	
0.75 (3 months to turnout)	0.6 Housed (1st winter)
0.90 At grass (1st summer)	1.0 At grass (2nd summer)

(4) Grazing and silage costs - see pages 18 and 19.

(5) Sensitivity analysis

Change in gross margin (£)

	Quality of silage			
	MEDIUM		GOOD	
	per head	per hectare	per head	per hectare
± £10 in calf value	10	21	10	21
± 5p/kg in sale value	16	33	16	33

24 MONTH STEER BEEF

(January/February 2015 born continental type calves)

				TYPICAL	HIGH
	kg(dw t)		p/kg	£/head	£/head
Finished steer	335	@	340	1139	1139
Less Value of calf plus 2% mortality allowance				300	300
OUTPUT				**839**	**839**
Calf rearing costs to 3 months				95	95
4-9 months (at grass)			£/t		
Concentrates (15% protein)	100 to 50 kg	@	240	24	12
			£/ha		
Grazing	0.11 ha	@	165	18	18
Veterinary and miscellaneous				8	8
10-15 months (indoors)			£/t		
Concentrates (15% protein)	1.8 to 0.5 kg/day	@	240	78	22
Silage	4 to 4.5 tonnes	@	19.99	80	90
Veterinary and miscellaneous				5	5
16-21 months (at grass)			£/ha		
Grazing	0.20 ha	@	165	33	33
Veterinary and miscellaneous				8	8
22-24 months (indoors)			£/t		
Barley and minerals	6.7 to 3.0 kg/day	@	180	109	49
Silage	2.75 to 3.0 tonnes	@	19.99	55	60
Veterinary and miscellaneous				4	4
Total variable costs				**516**	**403**
GROSS MARGIN PER HEAD				**323**	**436**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**581**	**785**
Number of cattle finished per hectare				2.09	2.0
Interest charge per head (@ 4%)				45	40

24 MONTH STEER BEEF (CONTINUED)

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Two levels of concentrate requirements are given.
The lower quantity is required with 'GOOD' quality silage (6 to 7 weeks regrowth, 68 D) and the higher levels with 'MEDIUM' quality silage (10 weeks regrowth, 60 D).

(3) Weight at 3 Months: 120 kg lwt.

Daily liveweight gain (kg)	
0.75 At grass (1st summer)	0.90 At grass (2nd summer)
0.60 Housed (1st winter)	1.0 Housed (2nd winter)

(4) Grazing and silage costs - see pages 18 and 19.

(5) Sensitivity analysis

Change in gross margin (£)

	Quality of silage			
	MEDIUM		GOOD	
	per head	per hectare	per head	per hectare
± £10 in calf value	10	18	10	18
± 5p/kg in sale value	17	30	17	30

28 MONTH STEER BEEF

(April/May 2015 born continental type calves)

			TYPICAL	HIGH
	kg(dw t)	p/kg	£/head	£/head
Finished steer	365 @	340	1,241	1,241
Less Value of calf plus 2% mortality allowance			300	300
OUTPUT			**941**	**941**
Calf rearing costs to 3 months			95	95
4-5 months (at grass)		£/t		
Concentrates (17% Protein)	60 to 30 kg @	260	16	8
		£/ha		
Grazing	.04 ha @	165	7	7
Veterinary and miscellaneous			8	8
6-11 months (indoors)		£/t		
Concentrates (15% Protein)	2 to 1 kg/day @	240	86	43
Silage	3 to 4 tonnes @	19.99	60	80
Veterinary and miscellaneous			5	5
12-17 months (at grass)		£/ha		
Grazing	0.16 ha @	165	26	26
Veterinary and miscellaneous			8	8
18-23 months (indoors)		£/t		
Concentrates (15% Protein)	2 to 1 kg/day @	240	86	43
Silage	5 to 5.5 tonnes @	19.99	100	110
Veterinary and miscellaneous			5	5
24-28 months (outdoors)		£/ha		
Grazing	0.25 ha @	165	41	41
Veterinary and miscellaneous			8	8
Total variable costs			**551**	**487**
GROSS MARGIN PER HEAD			**390**	**454**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha			**557**	**650**
Number of cattle finished per hectare			1.5	1.5
Interest charge per head (@ 4%)			54	51

28 MONTH STEER BEEF (CONTINUED)

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Steers over 30 months of age may be subject to price deductions.

(3) Two levels of concentrate requirements are given. The lower quantity is required with 'GOOD' quality silage (6 to 7 weeks regrowth, 68 D) and the higher level with 'MEDIUM' quality silage (10 weeks regrowth, 60 D).

(4) Weight at 3 Months: 120 kg lwt.

Daily Liveweight Gain (kg)	
0.75 At grass	0.50 Housed (2nd Winter)
0.60 Housed (1st Winter)	1.00 At grass
0.90 At grass	

(5) Grazing and silage costs - see pages 18 and 19.

(6) Sensitivity Analysis

Change in Gross Margin (£)

	Quality of silage			
	MEDIUM		GOOD	
	per head	per hectare	per head	per hectare
+ £10 in calf value	10	14	10	14
+ 5p/kg in sale value	18	26	18	26

CEREAL BULL BEEF

(Friesian type calves)

				TYPICAL £ /head
	kg(dwt)		p/kg	
Finished Bull	260	@	310	806
Less Value of calf plus 2% mortality allowance				100
OUTPUT				**706**
Calf rearing costs to 3 months				95
4-13 months			£/t	
Concentrates (13-15% Protein)	2 tonnes	@	240	480
Straw				18
Veterinary and miscellaneous				30
Total variable costs				**623**
GROSS MARGIN PER HEAD				**83**
Interest charge per head (@ 4%)				18

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Bulls are potentially dangerous. Guidance on the handling of bulls can be obtained from DARD.

(3) Market outlets for bull beef should be identified before production is commenced.

(4) Friesian type bull calves finished at 13 months of age. DLWG of 1.3 kg between 4 and 13 months of age

(5) Sensitivity analysis

Change in gross margin (£)

	per head
± £10 in calf value	10
± 5p/kg in sale value	13.0
± £10/t in concentrate price	20

GRASS SILAGE BULL BEEF

(Born spring 2015 continental type calves)

				TYPICAL	HIGH
	kg(dwt)		p/kg	£/head	£/head
Finished Bull	325	@	330	1,073	1,073
Less Value of calf plus 2% mortality allowance				300	300
OUTPUT				**773**	**773**
Calf rearing costs to 3 months				95	95
4-6 months			£/t		
Concentrates (17% Protein)	0.5 to 0.3 tonnes	@	260	130	78
Silage	0.5 to 1.0 tonnes	@	19.99	10	20
Veterinary and miscellaneous				12	12
7-14 months					
Concentrates (15% Protein)	1.4 to 0.9 tonnes	@	240	336	216
Silage	5.0 to 6.0 tonnes	@	19.99	100	120
Veterinary and miscellaneous				17	17
Total variable costs				**700**	**558**
GROSS MARGIN PER HEAD				**73**	**215**
GROSS MARGIN PER HECTARE @ 2 ce/ha				**243**	**537**
Number of cattle finished per hectare				6.7	5.0
Interest charge per head (@ 4%)				30	27

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(2) Bulls are potentially dangerous. Guidance on the handling of bulls can be obtained from DARD.

(3) Market outlets for bull beef should be identified before production is commenced.

(4) Two levels of concentrate requirements are given. The lower quantity is required with 'GOOD' quality silage (6 to 7 weeks regrowth, 68 D) and the higher level with 'MEDIUM' quality silage (10 weeks regrowth, 60 D). Care should be exercised with silage intake levels to avoid under finished animals at 15 months.

GRASS SILAGE BULL BEEF (CONTINUED)

(5) Continental type bull calves born during the spring and finished at 14 months of age. DLWG of 1.40 kg between 4 and 14 months of age.

(6) Silage costs - see page 19.

(7) Sensitivity Analysis

Change in Gross Margin (£)

	Quality of silage			
	MEDIUM		GOOD	
	per head	per hectare	per head	per hectare
+ £10 in calf value	10	33	10	25
+ 5p/kg in sale value	16	54	16	41
+ £10/t in concentrate price	19	63	12	30

CALF TO STORE SYSTEM

(January 2015 born continental type calves)

				TYPICAL
	kg(lwt)		£/100kg	£/head
Sale	390	@	190	741
Less value of calf plus 2% mortality allowance				300
OUTPUT				**441**
Calf rearing cost to 3 months				95
4 - 10 months (at grass)			£/t	
Concentrates (17% protein)	100 kg	@	260	26
Grazing	0.15 ha	@	165	25
Veterinary and miscellaneous				10
11 - 16 months (indoors)				
Concentrates (15% protein)	1.5 kg/day	@	240	65
Silage	4.5 tonnes	@	19.99	90
Veterinary and miscellaneous				12
Total Variable Costs				**322**
GROSS MARGIN PER CALF				**119**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**282**
Interest per head (@ 4%)				25

(1) January born continental type bull calves sold during the following spring ; 3.8 cattle per hectare.

(2) Weight at 3 Months: 120 kg lwt.

Daily liveweight gain (kg): - At grass 0.8
- Housed 0.6

LOWLAND SUCKLER COWS - MAY/JUNE CALVING (2015)

						TYPICAL
	sold per cow		kg(lwt)		£/100kg	£/head
Calves	0.94	@	320	@	200	602
Less herd replacement cost						64
calf purchases	0.06					18
OUTPUT						**520**
					£/t	
Concentrates - cow & calf			150 kg	@	180	27
					£/ha	
Grazing			0.31 ha	@	165	51
					£/t	
Silage - cow			8 tonnes	@	19.99	160
- calf			2.5 tonnes	@	19.99	50
Veterinary and miscellaneous						50
Total Variable Costs						**338**
GROSS MARGIN PER COW						**182**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha						**288**

(1) Calves weaned during March/April (10 months old) at a liveweight between 300 and 340 kg. 0.92 calves born per cow and 4 per cent mortality birth to weaning.

(2) Herd replacement cost

Cow purchase price	£1,200
Cull cow price	£900
Replacement/Mortality	15% replacement rate and 1% mortality per annum
Bull depreciation	£10 per cow/year

(3) Daily liveweight gain

	At grass	Housed
Bulls	1kg	0.9kg
Heifers	1kg	0.9kg

(4) For details of grazing & silage variable costs, see pages 18 and 19.

(5) Sensitivity analysis

Change in Gross Margin (£)

	per cow	per hectare
± £10/t in concentrate price	2	2
± £5/100 kg in sale price	15	24
± 0.1 calves sold per cow	64	102

LOWLAND SUCKLER COWS - FEBRUARY/MARCH CALVING (2015)

	sold per cow		kg(lwt)		£/100kg	TYPICAL £/head
Calves	0.94	@	270	@	200	508
Less herd replacement cost						64
calf purchases	0.06					18
OUTPUT						**426**
					£/t	
Concentrates - calf			50 kg	@	260	13
- cow			50 kg	@	180	9
					£/ha	
Grazing			0.30 ha	@	165	50
					£/t	
Silage - cow			7 tonnes	@	19.99	140
Veterinary and miscellaneous						55
Total Variable Costs						**266**
GROSS MARGIN PER COW						**159**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha						**270**

(1) Calves weaned during October. DLWG of 0.95 kg. 0.92 calves born per cow and 4 per cent mortality birth to weaning.

(2) Herd replacement cost

Cow purchase price	£1,200
Cull cow price	£900
Replacement/Mortality	15% replacement rate and 1% mortality per annum
Bull depreciation	£10 per cow/year

(3) For details of grazing & silage variable costs, see pages 18 and 19.

(4) Sensitivity analysis

Change in gross margin (£)

	per cow	per hectare
+ £10/t in concentrate price	1	2
+ £5/100 kg in sale price	13	22
± 0.1 calves sold per cow	54	92

LOWLAND SUCKLER COWS - SEPTEMBER/OCTOBER CALVING (2015)

TYPICAL

	sold per cow	kg(lwt)		£/100kg	£/head
Calves	0.94	@ 280	@	200	526
Less herd replacement cost					64
calf purchases	0.06				18
OUTPUT					**444**
				£/t	
Concentrates - calf		150 kg	@	260	39
- cow		200 kg	@	180	36
				£/t	
Silage - cow		8 tonnes	@	19.99	160
- calf		1 tonnes	@	19.99	20
				£/ha	
Grazing		0.28 ha	@	165	46
Veterinary and miscellaneous					60
Total Variable Costs					**361**
GROSS MARGIN PER COW					**83**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha					**137**

(1) Calves weaned during June. DLWG of 0.95 kg. 0.92 calves born per cow and 4 per cent mortality birth to weaning.

(2) Herd replacement cost

Cow purchase price	£1,200
Cull cow price	£900
Replacement/Mortality	15% replacement rate per annum
	1% mortality per annum
Bull depreciation	£10 per cow/year

(3) For details of grazing & silage variable costs, see pages 18 and 19.

(4) Sensitivity analysis

Change in gross margin (£)

	per cow	per hectare
± £10/t in concentrate price	4	6
± £5/100 kg in sale price	13	22
± 0.1 calves sold per cow	56	92

HILL SUCKLER COWS - SPRING CALVING (2015)

						TYPICAL
	sold per cow		kg(lwt)		£/100kg	£/head
Calves	0.94	@	230	@	200	432
Less herd replacement cost						63
calf purchases	0.06					18
OUTPUT						**352**
			kg		£/t	
Barley and minerals			110	@	180	20
Grazing						33
			tonnes		£/t	
Silage			6	@	19.99	120
Veterinary and miscellaneous						50
Total Variable Costs						**223**
GROSS MARGIN PER COW						**129**

(1) Calves weaned during October. 0.92 calves born per cow and 4 per cent mortality birth to weaning.

(2) Herd replacement cost

Cow purchase price	£1,050
Cull cow price	£750
Replacement/Mortality	15% replacement rate per annum
	1% mortality per annum
Bull depreciation	£10 per cow/year

(3) For details of grazing & silage variable costs, see pages 18 and 19.

Change in gross margin (£)

	per head
± £10/t in concentrate price	1
± £5/100 kg in sale price	11
± 0.1 calves sold per cow	46

BEEF HEIFER REPLACEMENTS - SPRING BORN 2015
24 MONTH CALVING

				TYPICAL
				£/head
Value of heifer (allowing for barreners & rejects)				1100
Less Value of calf plus 2% mortality allowance				280
OUTPUT				**820**
Calf rearing costs to 3 months				89
4-9 months (at grass)			£/t	
Concentrates (17% protein)	20 kg	@	260	5
			£/ha	
Grazing	0.11 ha	@	165	18
Veterinary and miscellaneous				11
10-15 months (indoors)			£/t	
Barley and minerals	400 kg	@	180	72
Silage	4.5 tonnes	@	19.99	90
Veterinary and miscellaneous				8
16-21 months (at grass)				
Grazing	0.19 ha	@	165	31
AI Bull charges, veterinary and miscellaneous				30
22-24 months (indoors)			£/t	
Barley and minerals	40 kg	@	180	7
Silage	3 tonnes	@	19.99	60
Veterinary and miscellaneous				3
Total variable costs				**425**
GROSS MARGIN PER HEAD				**395**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**698**

(1) Production of a continental cross Friesian heifer. Target weights:-

360-380 kg at 15 months
560-580 kg at 24 months

(2) 2.1 heifer replacements per hectare.

BEEF HEIFER REPLACEMENTS - SPRING BORN - 24 MONTH CALVING (CONTINUED)

(3) For details of grazing & silage variable costs, see pages 18 and 19.

(4) Sensitivity analysis

Change in gross margin (£)

	per head	per hectare
± £10 in heifer values	10	18
± £10 in calf prices	10	18

FINISHING SUCKLED STEER CALVES

(Purchased Autumn 2015)

				TYPICAL
	kg (dwt)		p/kg	£/head
Sale of finished steer	360	@	345	1,242
	kg (lwt)		£/100 kg	
Less Value of calf plus 2% mortality allowance	265	@	210	557
OUTPUT				**686**
			£/t	
9-14 months (indoors)				
Concentrates (17% Protein)	2.0 kg/day	@	260	94
Silage	3.5 tonnes	@	19.99	70
Veterinary and miscellaneous				9
			£/t	
15-20 months (at grass)				
Barley and minerals	40 kg	@	180	7
			£/ha	
Grazing	0.19 ha	@	165	31
Veterinary and miscellaneous				10
21-24 months (indoors)				
Barley and minerals	6 kg/day	@	180	130
Silage	3 tonnes	@	19.99	60
Veterinary and miscellaneous				9
Total variable costs				**420**
GROSS MARGIN PER HEAD				**266**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**649**
Interest charge per head (@ 4%)				38

(1) Continental calves born during the spring 2015, purchased at the autumn suckler sales and sold at 2 years of age. 2.8 steers finished per hectare.

	1st Winter Housed	Grass	2nd Winter Housed
Days	180	180	120
DLWG (kg)	0.6	0.9	1.0
Concentrates (kg)	360	40	720

(2) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies.

(3) Sensitivity analysis

Change in gross margin (£)

	per head	per hectare
+ £5/100 kg in purchase price	13	32
+ 5p/kg in sale prices	17	42

WINTER (2015/2016) STEER FINISHING
400 KG STORE

				TYPICAL
	kg (dwt)		p/kg	£/head
Sale of finished steer	340	@	340	1,156
	kg(lwt)		p/kg	
Less Purchase	400	@	205	820
OUTPUT				**336**
			£/t	
Barley and minerals	4 kg/day	@	180	166
Silage	7 tonnes	@	19.99	140
Veterinary and miscellaneous				9
Total Variable Costs				**315**
GROSS MARGIN PER HEAD				**21**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**102**
Interest charge per head (@ 4%)				25

(1) Continental cross steers purchased during the autumn of 2015 and finished in 230 days in house with a DLWG of 0.95kg. 5.7 steers finished per hectare. Deadweight price is net of marketing expenses.

(2) Cattle are sold at 22 months.

(3) Gross margin under various purchase and sale price scenarios.

Gross margin (£ per head)

		Purchase Price p/kg (lwt)				
		180	**190**	**200**	**210**	**220**
Sale price (pence per per kg (dwt))	**300**	-15	-55	-95	-135	-175
	320	53	13	-27	-67	-107
	340	121	81	41	1	-39
	360	189	149	109	69	29
	380	257	217	177	137	97

WINTER (2015/2016) STEER FINISHING
500 KG STORE

				TYPICAL
	kg(dwt)		p/kg	£/head
Sale of finished steer	360	@	340	1,224
	kg(lwt)		p/kg	
Less Purchase	500	@	200	1,000
OUTPUT				**224**
			£/t	
Barley and minerals	4 kg/day	@	180	108
Silage	5 tonnes	@	19.99	100
Veterinary and miscellaneous				9
Total Variable Costs				**217**
GROSS MARGIN PER HEAD				**7**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**52**
Interest charge per head (@ 4%)				18

(1) Continental cross steers. Purchased during the autumn 2015 and housed for 150 days with a daily liveweight gain of 1.0 kg. An average of 8.0 steers finished per hectare. Deadweight price is net of marketing expenses.

(3) Silage costs - see page 19.

(3) Gross margin under various purchase and sale price scenarios.

Gross margin per head

		Purchase Price p/kg (lwt)				
		170	**180**	**190**	**200**	**210**
Sale price (pence per per kg (dwt))	**300**	13	-37	-87	-137	-187
	320	85	35	-15	-65	-115
	340	157	107	57	7	-43
	360	229	179	129	79	29
	380	301	251	201	151	101

SUMMER STEER FINISHING 2015
420 KG STORE

				TYPICAL
	kg(dwt)		p/kg	£/head
Sale of finished steer	320	@	335	1,072
	kg(lwt)		£/100kg	
Less Purchase	420	@	210	882
OUTPUT				**190**
			£/t	
Barley and Minerals	20 kg	@	180	4
			£/ha	
Grazing	0.25 ha	@	165	41
Veterinary and miscellaneous				10
Total Variable Costs				**55**
GROSS MARGIN PER HEAD				**135**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**811**
Interest charge per head (@ 4%)				18

(1) Sale price is after deduction of marketing expenses which include fees for meat inspection, grading, insurance, offal disposal, clipping, R&D and LMC levies

(2) Continental cross steers. Purchased during the spring 2015 and grazed for 180 days with a daily liveweight gain of 0.9 kg. An average of 4.0 steers grazed per hectare.

(3) Grazing variable costs - see page 18.

(4) Average Northern Ireland stocking rates for summer cattle finishing would typically be lower with approximately 2.6 cattle finished per hectare.

(5) Gross margin under various purchase and sale price scenarios.

Gross margin per head

		Purchase price p/kg (lwt)				
		190	**200**	**210**	**220**	**230**
Sale price (pence per per kg (dwt))	**300**	107	65	23	-19	-61
	320	171	129	87	45	3
	340	235	193	151	109	67
	360	299	257	215	173	131
	380	363	321	279	237	195

'TRADITIONAL' STORE TO BEEF SYSTEM

(Purchased October 2015)

				TYPICAL
	kg(dwt)		p/kg	£/head
Sale of finished steer	350	@	335	1,173
	kg(lwt)		£/100kg	
Less Purchase	360	@	205	738
OUTPUT				**435**
			£/t	
Barley and minerals	300 kg	@	180	54
Silage	5.5 tonnes	@	19.99	110
			£/ha	
Grazing	0.22 ha	@	165	36
Veterinary and miscellaneous				20
Total Variable Costs				**220**
GROSS MARGIN PER HEAD				**214**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha				**642**
Interest charge per head (@ 4%)				33

(1) Continental cross steers. Purchased during October 2015 and finished one year later. 2.8 cattle finished per hectare. Deadweight price is net of marketing expenses.

	Housed	Grass 2nd year
Days	180	180
DLWG (kg)	0.55	1.0
Concentrates (kg)	300	NIL

(2) Grazing and silage costs - see pages 18 and 19.

(3) Average Northern Ireland stocking rates for summer cattle finishing would typically be lower with approximately 1.6 cattle finished per hectare.

(4) Sensitivity analysis

	Change in gross margin (£)	
	per head	per hectare
± £5/100kg in purchase price	18	50
± 1p/kg in sale price	4	11

SUMMER GRAZING OF STORE CATTLE 2015

			TYPICAL
	kg(lwt)	£/100kg	£/head
Sale of store steer	450 @	205	923
Less Purchase	300 @	215	645
OUTPUT			**278**
		£/t	
Barley and minerals	40 kg @	180	7
		£/ha	
Grazing	0.18 ha @	165	30
Veterinary and miscellaneous			12
Total Variable Costs			**49**
GROSS MARGIN PER HEAD			**229**
GROSS MARGIN PER HECTARE @ 1.8 ce/ha			**1,369**
Interest charge per head (@ 4%)			13

(1) Continental cross steer purchased during the Spring 2015 and grazed for 180 days with a daily liveweight gain of 0.85 kg. An average of 5.6 steers grazed per hectare.

(2) Grazing variable costs - see page 18.

(3) At the average Northern Ireland stocking rate of 1.67 cow equivalents per hectare, 4.5 steers would be stocked per hectare.

(4) Gross margin under various purchase and sale price scenarios.

Gross margin per head

		Purchase Price p/kg (lwt)				
		190	**200**	**210**	**220**	**230**
	180	191	161	131	101	71
Sale price	**190**	236	206	176	146	116
(pence per	**200**	281	251	221	191	161
per kg (lwt)	**210**	326	296	266	236	206
	220	371	341	311	281	251

LOWLAND BREEDING EWES - MID MARCH LAMBING

	kg		p/kg		LOW £		TYPICAL £		HIGH £
Lambs (no.) sold finished	21	@	380	(1.20)	96	(1.40)	112	(1.60)	128
Wool							4		
Less Flock replacement cost							15		
OUTPUT					**85**		**101**		**117**
	kg		£/t						
Concentrates	60	@	255				15		
Grassland (including hay/silage)							24		
Veterinary and miscellaneous							15		
Total Variable Costs							**54**		
GROSS MARGIN PER EWE					**30**		**46**		**62**
GROSS MARGIN PER HECTARE @ 1.6 ce/ha					**243**		**371**		**499**

(1) Lamb sales pattern (%)

	June	July	Aug	Sept	Oct to Dec
Mid March lambing	17	19	14	13	37
Mid April lambing	4	14	21	25	36

(2) Sale price of lambs is net of marketing expenses.

(3) A stocking rate of 8 ewes per hectare is assumed in this budget.

(4) Flock replacement cost. Ewe replacement rate of 25% (inclusive of 5% ewe mortality). Ewes purchased at £100 and culls sold at £60. Rams purchased at £320 and sold after 3 years at £75.

(5) If replacements are retained rather than purchased, the flock replacement cost will fall, but so too will lamb output.

(6) Flocks in the new LFA will have a similar physical performance.

(7) Grazing, silage and hay costs - see pages 18 - 20.

(8) Sensitivity analysis

Change in gross margin(£)

	TYPICAL	
	per ewe	per hectare
± 0.1 in lambs reared per ewe	8.0	64
± 10p/kg in sale value	2.9	24
± £20/t in concentrate price	1.2	10

LOWLAND BREEDING EWES
EARLY (DECEMBER/JANUARY) LAMBING

	kg	p/kg		LOW £	TYPICAL £	HIGH £
Lambs (no.) sold finished	21 @	420	(1.05)	93	(1.30) 115	(1.45) 128
Wool					4	
Less Flock replacement cost					15	
OUTPUT				**82**	**104**	**117**
	kg		£/t			
Concentrates - ewe	80	@	255		20	
lambs	35	@	245		9	
Grazing and hay/silage					28	
Veterinary and miscellaneous					18	
Total Variable Costs					**75**	
GROSS MARGIN PER EWE				**7**	**29**	**42**
GROSS MARGIN PER HECTARE @ 2.2 ce/ha				**73**	**315**	**461**

(1) Lamb sales pattern (%)

April	May	June	July	Aug to Nov
15	20	20	15	30

Some producers may be able to sell up to 90% of their lambs before the end of June.

(2) Sale price of lambs is net of marketing expenses.

(3) A stocking rate of 11 ewes per hectare is assumed in this budget. Stocking rate is higher than that achieved by 'Mid March' lambing due to the earlier lamb sales.

(4) Flock replacement cost . Ewe replacement rate of 25% (inclusive of 5% ewe mortality). Ewes purchased at £100 and culls sold at £60. Rams purchased at £320 and sold after 3 years at £75.

(5) With this production system, housing is normally required at lambing. Approximately 0.10 to 0.15 fewer lambs will be reared per ewe than for 'Mid March' lambing.

LOWLAND BREEDING EWES - EARLY (DECEMBER/JANUARY) LAMBING (CONTINUED)

(6) Flocks in the new LFA will have a similar physical performance.

(7) Grazing, silage and hay costs - see pages 18 - 20.

(8) Sensitivity analysis

Change in gross margin (£)

	TYPICAL	
	per ewe	per hectare
± 0.1 in lambs reared per ewe	8.8	97
± 10p/kg in sale value	2.7	30
± £20/t in concentrate price	2.3	25

UPLAND BREEDING EWES - CROSSBRED TYPE IN SDA

			LOW		TYPICAL		HIGH
			£		£		£
	kg @ p/kg						
Lambs sales (no.)	21 @ 370	(0.74)	57	(0.98)	76	(1.12)	87
	16 @ 375	(0.31)	19	(0.42)	25	(0.48)	29
Wool					4		
Less Flock replacement cost					15		
OUTPUT			**65**		**90**		**105**
	kg	£/t					
Concentrates	65 @	255			17		
Grazing and hay					24		
Veterinary and miscellaneous					15		
Total Variable Costs					**56**		
GROSS MARGIN PER EWE			**9**		**35**		**49**

(1) For the typical flock, 70% of lambs are sold fat at 21kg halfweight, 30% as stores at 16kg halfweight.

(2) Sale price of lambs is net of marketing expenses.

(3) Flock replacement. Ewe replacement rate of 25% (inclusive of 5% mortality). Ewe replacements purchased at £100 each and culls sold at £60 each. Rams purchased at £320 each and sold after 3 years for £75.

(4) Sensitivity analysis

Change in gross margin(£)

	TYPICAL
	per ewe
± 0.1 in lambs reared per ewe	7.2
± 10p/kg in sale value	2.7
± £20/t in concentrate price	1.3

HILL BREEDING EWES - MOUNTAIN TYPE IN SDA

			LOW		TYPICAL		HIGH	
				£		£		£
	kg	p/kg						
Lamb sales (no.)	19 @	360	(0.21)	14	(0.27)	18	(0.33)	23
	14 @	365	(0.49)	25	(0.63)	32	(0.77)	39
		£/head						
Cull ewes	0.18 @	50				9		
Wool						3		
Less Flock replacement cost						3		
OUTPUT				**49**		**60**		**71**
	kg	£/t						
Concentrates	55 @	255				14		
Grazing						18		
Veterinary and miscellaneous						15		
Total Variable Costs						**47**		
GROSS MARGIN PER EWE				**2**		**13**		**24**

(1) 25 lambs per 100 ewes retained as replacements.

(2) Lambs sales, 30% sold fat at 20kg halfweight and 70% sold as stores at 14kg halfweight.

(3) Sale price of lambs is net of marketing expenses.

(4) Flock replacement. Rams purchased at £320 each and sold after 3 years for £65

(5) Ewe mortality of 7% per annum.

(6) Sensitivity analysis

Change in gross margin(£)

	TYPICAL
	per ewe
± 0.1 in lambs reared per ewe	5.6
± 10p/kg in lamb sale value	2.0
± £20/t in concentrate price	1.1

STORE LAMB (16 kg +) FINISHED ON GRASS

	kg (halfweight)	p/kg	TYPICAL £
Lamb sale	21	@ 370	78
Less lamb purchase	16	@ 370	59
OUTPUT (feeder's margin)			**19**
Grazing			3
Veterinary and miscellaneous			2
Total Variable Costs			**5**
GROSS MARGIN PER LAMB			**14**

(1) Store lambs are purchased at an average half weight of 16 kg during the summer/autumn and typically grazed for approximately 100 days. Approximately 70% of the finished lambs are sold in the period October to December. Price for finished lambs is net of marketing deductions.

(2) Average weekly liveweight gain of 0.7 kg. However, some producers could achieve a liveweight gain of 1.0 kg per week.

(3) A mortality rate of less than 1% is typical.

(4) Own grazing is charged at £1 per month for each lamb. Rented grass keep would cost approximately £0.55 per lamb per week.

(5) Sensitivity analysis

	Change in gross margin (£)
	per lamb
± 10p per kg halfweight in purchase price	1.60
± 10p per kg halfweight in sale price	2.10

STORE LAMB (14 kg +) FINISHED ON GRASS AND CONCENTRATES

	kg (halfweight)	p/kg	TYPICAL £
Lamb sale	21	@ 370	78
Less lamb purchase	14	@ 370	52
OUTPUT (feeder's margin)			**26**
	kg	£/tonne	
Concentrates	45	@ 245	11
Grazing			5
Veterinary and miscellaneous			2
Total Variable Costs			**18**
GROSS MARGIN PER LAMB			**8**

(1) Store lambs are purchased during the summer/autumn at an average half weight of 14kg and typically grazed for 150 days. Approximately 66% of the finished lambs are sold in the period December to February. Price for finished lambs is net of marketing expenses.

(2) Average weekly liveweight gain of 0.66 kg.

(3) A mortality rate of 1% is typical.

(4) Typically 15kg of concentrates per month are fed for 3 months. However, up to 25kg of concentrates may be fed per month.

(5) Own grazing is charged at £1 per month for each lamb. Rented grass keep would cost approximately £0.55 per lamb per week.

(6) Sensitivity analysis

	Change in gross margin(£)
	per lamb
± 10p/kg in purchase price	1.40
± 10p/kg in sale value	2.10
± £10/t in concentrate price	0.45
± 10 kg in concentrate use	2.45

STORE LAMB (14 kg) FINISHED ON FORAGE CROPS

	kg (halfweight)			TYPICAL
	kg		p/kg	£
Lamb sale	21	@	375	79
Less lamb purchase	14	@	370	52
OUTPUT (feeder's margin)				**27**
	kg/day		£/tonne days	
Concentrates	0.2	@	245 125	6
			p/day @	
Grazing			7.8 @ 100	8
Veterinary and miscellaneous				2
Total Variable Costs				**16**
GROSS MARGIN PER LAMB				**11**

(1) Store lambs are purchased at an average halfweight of 14kg during the autumn and typically fed during a 125 day finishing period on forage crops. The finished lambs are assumed to be sold in February.

(2) Price for finished lambs is net of marketing expenses.

(3) Average weekly liveweight gain of 0.8kg.

(4) A mortality rate of 1% is typical.

(5) Forage costs include seed, fertiliser and spray expenses only. No allowance for crop cultivations has been included.

(6) Swedes sown in May and fed from November provide 4,500 lamb grazing days per hectare at a typical variable cost of £350 per hectare or 7.8 pence per lamb grazing day. Stubble turnips sown in July and grazed from November provide 2,500 grazing days per hectare at a typical variable cost of £320 per hectare or 12.8 pence per lamb grazing day.

(7) Sensitivity analysis

Change in gross margin (£)

	per lamb
+10p/kg in purchase price	1.40
+10p/kg in sale value	2.10

STORE LAMBS FINISHED INDOORS

	kg (halfweight) kg @ p/kg	TYPICAL £
Lamb sale	22 @ 385	85
Less lamb purchase	15 @ 365	55
OUTPUT (feeder's margin)		**30**
	kg £/tonne	
Concentrates	100 @ 245	25
Veterinary and miscellaneous (including fodder)		3
Total Variable Costs		**28**
GROSS MARGIN PER LAMB		**2**

(1) Store lambs are housed in November at an average half weight of 15kg. They are typically finished after 100 (up to 140) days concentrate only feeding period. The finished lambs are sold in the early spring.

(2) Price for finished lambs is net of marketing deductions.

(3) Concentrate intake and liveweight gain

	Store lamb	
	30 kg (lwt)	40 kg (lwt)
Concentrate intake per month (kg)	25	35
Typical weekly liveweight gain (kg)	0.8	1.1

(4) A mortality rate of 2.5% is typical.

(5) Sensitivity analysis

Change in gross margin (£)

	per lamb
+ 10p/kg in purchase price	1.50
+ 10p/kg in sale value	2.20
+ £10/t in concentrate price	1.00
+ 10 kg in concentrate use	2.45

PIG REARING

				LOW		TYPICAL		HIGH
		£/head		£		£		£
Sales (no.) of 39 kg weaners	@	42	(19.0)	798	(22.0)	924	(24.0)	1,008
number		£/head						
Plus cull sows	0.40 @	100				40		
Less boar charge						3		
OUTPUT				**835**		**961**		**1,045**
		£/t						
Sow meal - Dry sow		220		196		204		202
- Lactating Sow		250		120		125		124
Creep and link feeds		500		143		165		180
Grower feed		265		227		262		286
A.I. Costs				26		26		26
Veterinary and miscellaneous				75		75		75
Total Variable Costs				**785**		**858**		**894**
GROSS MARGIN PER SOW				**50**		**103**		**151**
GROSS MARGIN PER WEANED PIG				**2.6**		**4.7**		**6.3**

(1) Herd replacement. It is assumed that sows and boars have an average breeding life of 2.5 years; 1 boar per 75 sows; sow mortality 4.0% and 100% of replacements . retained

(2) As the number of weaners sold per sow increases, the sow meal allocation per weaner falls.

	LOW	TYPICAL	HIGH
Number of weaners sold per sow per year	19	22	24

Meal consumption per weaner (kg)	LOW	TYPICAL	HIGH
Sow meal (Dry sow)	47	42	38
Sow meal (Lactating sow)	25	23	21
Creep & link feeds	15	15	15
Grower feed	45	45	45
Total feed	**132**	**125**	**119**

(3) A.I. Costs - semen cost £5 per bottle. Each sow inseminated on average 2.6 times per year and uses two bottles of semen per insemination.

(4) 'Veterinary and miscellaneous' costs do not include 'fixed costs' such as electricity, water and transport which are directly associated with the pig enterprise - **See page 95 for a breakdown of fixed costs**

(5) Sensitivity analysis

	Change in gross margin (£ per sow)		
	LOW	TYPICAL	HIGH
+ £1 in sale price	19	22	24
+ £5 in average feed price	13	14	14

PIG FINISHING

				TYPICAL
	kg (dwt)		p/kg	£
Sale	86	@	125	108
	kg (lwt)			
Less purchase	39			42
OUTPUT				**66**
	kg		£/t	
Finisher feed	185	@	230	43
Veterinary and miscellaneous				4
Total variable cost				**47**
GROSS MARGIN PER PIG				**19**

(1) Conversion table for converting liveweight to deadweight

kg lwt.	Killing out (KO)%
96 - 102	76
103 - 108	77

(2) Prices for finished animals are net of marketing deductions.

(3) The mortality rate is typically 1%. On average 1 pig in 350 sold is condemned and no payment is received.

(3) Typical feed conversion ratio (FCR) of 2.7 : 1. There is a large variation in FCR between units depending on management practices adopted, genetics, slaughter weight and health status.

(4) 'Veterinary and miscellaneous' costs do not include 'fixed costs' such as electricity, water and transport which are associated with the pig enterprise - **See page 95 for a breakdown of fixed costs**

(5) Sensitivity analysis

	Change in gross margin
	£ per pig
± 1p/kg in sale price	0.86
± £5/tonne in average feed price (FCR 2.7:1)	0.93

PIG REARING AND FINISHING

		LOW		TYPICAL		HIGH	
			£		£		£
	kg (dwt) p/kg						
Sales of pigs (no.) @	86 @ 125	(20)	2,150	(23)	2,473	(26)	2,795
	Number £/head						
Plus cull sows	0.40 @ 100				40		
Less boar charge					3		
OUTPUT			**2,187**		**2,510**		**2,832**
	£/t						
Sow meal - Dry sow	220		197		204		212
- Lactating Sow	250		121		125		130
Creep & link feeds	500		150		173		195
Grower feed	265		360		402		441
Finisher feed	230		828		899		987
A.I. Costs			26		26		26
Veterinary and miscellaneous			150		150		150
Total Variable Costs			**1,832**		**1,979**		**2,140**
GROSS MARGIN PER SOW			**355**		**531**		**692**
GROSS MARGIN PER FINISHED PIG			**17.73**		**23.08**		**26.61**

(1) Sale price for finished animals are net of marketing expenses.

(2) Herd replacement. It is assumed that sows and boars have an average breeding life of 2.5 years; 1 boar per 75 sows; sow mortality 4.0% and 100% of replacements retained.

(3) Mortality 4% weaning to sale. In addition, 1 pig in 350 sold is condemned for which no payment is received.

(4) It is assumed high performing herds have better FCR than low performing herds.

(5) A.I. Costs - semen cost £5 per bottle. Each sow inseminated on average 2.6 times per year and uses two bottles of semen per insemination

(6) As the number of pigs sold per sow increases, the sow feed allocation per finisher falls.

	LOW	TYPICAL	HIGH
Number of finishers sold per sow per year	20.0	23.0	26.0

Meal consumption per finished pig (kg)	LOW	TYPICAL	HIGH
Sow meal (Dry sow)	45	40	37
Sow meal (Lactating sow)	24	22	20
Creep & link feed	15	15	15
Grower feed	68	66	64
Finisher feed	180	170	165
Total feed	**332**	**313**	**301**

(5) 'Veterinary and miscellaneous' costs do not include 'fixed costs' such as electricity, water and transport which are directly associated with the pig enterprise
- **See page 95 for a breakdown of fixed costs**

(6) Sensitivity analysis

Change in gross margin

Change	£ per sow		
	LOW	**TYPICAL**	**HIGH**
± 1p/kg in sale price	17.2	19.8	22.4
± £5/tonne in average feed price	33	36	39

ENRICHED CAGED LAYING HENS

PER HEN HOUSED	TYPICAL pence/dozen	GOOD pence/dozen
Sales	67.00	67.00
Less pullet	13.50	13.30
OUTPUT	**53.50**	**53.70**
Concentrates @217/t	37.20	34.93
Miscellaneous	3.00	2.91
Total Variable Costs	**40.20**	**37.84**
GROSS MARGIN PER DOZEN (pence)	**13.30**	**15.86**
GROSS MARGIN PER BIRD (£)	**3.59**	**4.44**

(1) Average data per hen housed over the typical 58 week laying cycle

Type of production	Yield (dozen eggs)	Feed used (g. per day)	Mortality (%)
Typical production	27	114	5
Good production	28	111	3

(2) The egg price is a weighted average (by class of egg and market destination) and excludes packaging and marketing costs. Fluctuations in egg prices make it imperative that up to date information is obtained in the preparation of any budget.

(3) Miscellaneous costs are comprised of electricity, water, insurance, repairs, maintenance and sundries. Labour, rent and depreciation are not included in miscellaneous costs.

(4) Sensitivity analysis

	Change in gross margin(£) per hen housed	
	TYPICAL	**GOOD**
± 1p in sale price/dozen	0.27	0.28
± £5/t in feed price	0.23	0.23

(5) Further information and advice may be obtained from DARD's Poultry Technology Service.

FREE RANGE LAYING HENS

PER HEN HOUSED	**TYPICAL** pence/dozen	**GOOD** pence/dozen
Sales	93.50	93.50
Less pullet	14.00	13.50
OUTPUT	**79.50**	**80.00**
Concentrates @£225/t	43.85	40.76
Miscellaneous	5.50	5.00
Total Variable Costs	**49.35**	**45.76**
GROSS MARGIN PER DOZEN (pence)	**30.15**	**34.24**
GROSS MARGIN PER BIRD (£)	**7.54**	**8.90**

(1) Average data per hen over the typical 58 week laying cycle

Type of production	Yield (dozen eggs)	Feed Used (g. per day)	Mortality (%)
Typical production	25	120	8
Good production	26	116	5

(2) The egg price is a weighted average and excludes packaging and marketing costs.

(3) Miscellaneous costs are comprised of electricity, water, insurance, repairs, maintenance, litter and sundries. Labour, rent and depreciation are not included in miscellaneous costs.

(5) Sensitivity analysis

	Change in gross margin(£) per hen housed	
	TYPICAL	**GOOD**
± 1p in sale price/dozen	0.25	0.26
± £5/t in feed price	0.34	0.24

(6) Further information and advice can be obtained from DARD's Poultry Technology Service.

BROILERS

				TYPICAL
	kg		p/kg	pence/bird
Sales	2.15	@	74.50	160.18
	No.		£/100	
Less Day Old Chicks	1.03	@	26.79	27.59
OUTPUT				**132.58**
	kg		£/t	
Concentrates	3.44	@	300	103.20
Miscellaneous				15.64
Total Variable Costs				**118.84**
MARGIN PER BIRD (pence)				**13.74**
MARGIN PER 1,000 BIRDS (£)				**137.41**

(1) Most broilers in Northern Ireland are produced under contract to poultrymeat processors. Where growers have invested in new or modernised housing, additional payments may be made.

(2) 40 day production period of mixed sex birds.

(3) 3% mortality is typical

(4) Feed Conversion Ratio of 1.1.68:1

(5) Miscellaneous costs include litter, medication, electricity, gas, and cleaning and washing, insurance, maintenance, repairs . and sundries. Labour, rent and depreciation are not included.

(6) Sensitivity analysis

	Change in gross margin	
	per bird (p)	per 1,000 birds (£)
+ 1p/kg in sale price	2.15	21.50
+ £5/t in concentrate price	1.72	17.20
+ 0.01 in FCR	0.61	6.14

(7) Further information and advice may be obtained from DARD's Poultry Technology Service.

Basic Payment Scheme

In January 2015, due to the reform of the Common Agricultural Policy, the Single Farm Payment Scheme (SFP) has been replaced by the Basic Payment Scheme, a Greening Payment and a Young Farmers' Payment.

If a farm business already held SFP entitlements these were cancelled at the end of December 2014. If they wish to establish entitlements under the Basic Payment Scheme, they must apply on the 2015 Single Application Form. They will be allocated Basic Payment Scheme entitlements if they:

- meet the criteria of an 'active farmer';
- have at least 3 hectares of eligible land at their disposal on 15th May 2015 (the land must eligible throughout the calendar year);
- were in receipt of SFP in the 2013 scheme year (prior to the application of any penalties) enabling them to activate at least €100 of entitlements.

The number of new entitlements allocated will be equal to the number of eligible hectares declared in 2015. All the eligible land on a holding must be declared in 2015.

If a farm business was not in receipt of SFP in the 2013 scheme year (prior to the application of any penalties) enabling it to activate at least €100 of payment entitlements, there are other ways in which you can establish entitlements. These include:

Agricultural Production Activity on 15th May 2013:

- If a farmer never previously held SFP entitlements but can provide verifiable evidence that they produced, reared or grew agricultural products on 15th May 2013.

Regional Reserve:

- New entrants, young farmers and those who were prevented from being allocated entitlements as a result of force majeure or exceptional circumstances can receive an allocation of entitlements if they apply to the Regional Reserve.

To be eligible for an award from the Regional Reserve <u>new entrants</u> must:

- have at least a Level II qualification in agriculture (or a related subject containing a farm business management module),
- have commenced their agricultural activity in the 2013 calendar year, or any later year;
- have submitted an application for the Basic Payment Scheme and the Regional Reserve not later than two years after the calendar year in which they commenced their agricultural activity;

- have had no previous agricultural activity in their own name and at their own risk or did not have the control of a business exercising an agricultural activity in the five years preceding the start of their agricultural activity.

To be eligible for an award from the Regional Reserve young farmers must:

- have at least a Level II qualification in agriculture (or a related subject containing a farm business management module),
- be no more than 40 years of age in the year in which they first apply to the Basic Payment Scheme, and
- be setting up, for the first time, an agricultural holding as head of the holding, or have already done so during the five years preceding the first application to the Basic Payment Scheme.

Private Contract Clause:

- There is also the option to use a Private Contract Clause if they bought, leased or took in conacre, land from someone who claimed SFP in 2013 and they will have this land at their disposal on 15th May 2015. Further details on this can be found on the DARD website: **www.dardni.gov.uk**

- The deadline for applications under the Private Contract Clause is 15 May 2015.

Value of Entitlements

The value of the new entitlements allocated in 2015 will be derived from the value of SFP entitlements held on 15th May 2014, including any entitlements purchased prior to 2 May 2014. Various reductions will be applied and the resulting total value of entitlements will be divided by the eligible area declared in 2015 in order to calculate the initial value of each individual entitlement.

Entitlements with a value below the regional average will increase by 71.4% of the difference between their initial unit value in 2015 and the regional average by 2019 in equal annual steps.

Entitlements with a value above the regional average will be subject to a linear decrease to the difference between the initial 2015 unit value and the regional average in order to generate the required funds for the increase in entitlements which are below the regional average.

The magnitude of the linear decrease will not be known until 2015 applications are processed but it likely to be around 71.4% by 2019. It will be applied in equal annual steps.

This is consistent with reaching a flat rate by 2021 which represents a 7 year transition period commencing in 2015. Arrangements after 2019 will depend on future EU CAP Reform.

The value of entitlements allocated from the Regional Reserve under the new entrant and young farmers' categories will be set at the regional average value per hectare. Applicants to these Regional Reserve categories who hold entitlements below the regional average value per hectare will have them increased to the regional average value per hectare.

Further details on entitlements can be found in the "Q&A for farmers/landowners on changes to SFP from 2015" on the DARD website: **www.dardni.gov.uk**

Active Farmer

EU legislation states that payment entitlements should be allocated to the person "enjoying the decision making power, benefits and financial risks in relation to the agricultural activity on the land for which such allocation is requested". This means that in 2015 unless there are exceptional circumstances, landowners renting out land in conacre will not be able to establish entitlements on that land. The principle being that in general where land is let, the farmer actively farming the land will be the one claiming direct payments on that land. All applications will be assessed on a case by case basis according to the available evidence.

Greening Payment

Thirty per cent of the money allocated to Northern Ireland for direct payments will be allocated to the Greening Payment. It is mandatory for applicants to the Basic Payment Scheme to comply with the greening requirements. In return, they will receive a Greening Payment calculated as a percentage of the total value of entitlements activated by them each year.

Therefore, over time, the value of the Greening Payment per hectare will move towards a flat rate payment at the same pace as the movement of the Basic Payment.

Non-compliance with greening requirements will result in reductions to the Greening Payment. It is therefore important that farmers understand their greening requirements and comply with them.

There are three elements to greening, these are: Permanent Grassland, Crop Diversification and Ecological Focus Areas (EFAs).

There are a number of exemptions which will mean that certain applicants, depending upon their land use, will not have to undertake greening requirements. Further details on the exemptions and each of the three greening elements can be found on the DARD website: **www.dardni.gov.uk**

Young Farmers' Payment

The Young Farmers' Payment is an annual top-up payment to the Basic Payment (for a maximum of five years) for those who meet the eligibility criteria listed below:

- have at least a Level II qualification in agriculture (or a related subject containing a farm business management module),

- are no more than 40 years of age in the year in which you first apply to the Basic Payment Scheme, and

- are setting up, for the first time, an agricultural holding as head of the holding, or have already done so during the five years preceding the first application to the Basic Payment Scheme.

- have established and activated payment entitlements under the Basic Payment Scheme;

The number of years that payment can be received will be reduced for each year the young farmer has been head of holding prior to making their first application to the Basic Payment Scheme. Those who have been head of holding for more than five years prior to their first application will be ineligible.

Areas of Natural Constraint Scheme 2016

The Less Favoured Area Compensatory Allowances Scheme will be replaced by Areas of Natural Constraint Scheme (ANC) (subject to EU Commission approval).

The eligibility conditions for the ANC Scheme will be similar to the LFACA scheme requirements. It is open to active farmers with eligible forage land in the Severely Disadvantaged Area (SDA) including their share of Common Land situated in SDAs. Eligible stock, subject to EU Commission approval, will be:

- Beef breed suckler cows and heifers over 24 months;
- Beef breed heifers over 8 months and up to an including 24 months
- Breeding ewes
- Breeding female goats
- Breeding female farmed deer 27 months and over
- Breeding female farmed deer over 6 months but less than 27 months.

The stocking density requirements will remain at 0.2 LU/Hectare of eligible animals. The 40% heifer rule will continue to apply for the purposes of meeting stocking density. Stocking density requirements may be modified where an agri- environment stocking density agreement exists. In terms of eligible forage land, it must be identified as SDA land, have been available for a seven month period from 1 April to 31 October and be eligible forage area as per the Basic Payment Scheme. Revised cross compliance arrangements will also apply.

Those farm businesses eligible to apply will have submitted a 2015 Single Application Form and;

- Indicated in that form that they wished to apply for ANC, and
- Completed ANC information in that return

AGRI-ENVIRONMENT SCHEMES

Agri-environment schemes reward farmers for using sustainable land management practices that enhance the environment. They are considered crucial in delivering Government's commitment to:

- Enhance biodiversity;
- Improve water quality.
- Enhance the landscape and heritage features;
- Reduce the impact of climate change

There are currently approx 9,400 participants in the DARD's agri-environment schemes, with 35% of the farmland area of Northern Ireland under agreement.

A new agri-environment scheme called the Environmental Farming Scheme is currently being developed under the new NI Rural Development Programme 2014-2020. The proposed scheme will have three levels:

- A targeted level, primarily for designated sites.
- A wider level to deliver benefits across the countryside, outside of environmentally designated areas.
- A group level to support co-operative action by farmers in specific areas such as river catchment or commonages.

Agri-environment schemes that began during the previous NI Rural Development Programme (NIRDP) 2007-2013 are the Northern Ireland Countryside Management Scheme (NICMS) and the Organic Farming Scheme (OFS). These schemes are claimed annually on the Single Application Form each May.

The agri–environment schemes that commenced during the NI Rural Development Programme 2000-2006 are known as legacy schemes and include the Environmentally Sensitive Areas (ESA) Scheme, the Countryside Management Scheme (CMS) and the previous Organic Farming Scheme (OFS). These schemes use an annual claim form that is sent to the farmer around their scheme anniversary date.

(A) Northern Ireland Countryside Management Scheme (NICMS)

NICMS was launched in June 2008 and currently has 1,498 participants from two application periods. Applications to the scheme were prioritised based on environmental criteria so that farms with land in designated sites such as Natura 2000 sites and Areas of Special Scientific Interest were top priority. Almost 50% of NICMS agreements have land in a designated site. NICMS is a whole farm scheme with agreements lasting for 7 years.

(B) Organic Farming Scheme (OFS)

The Organic Farming Scheme (OFS) assists farmers converting from conventional production methods to organic production. The scheme was originally launched in 1999 and was revised for the NIRDP 2007-2013. The 2009 application period saw 31 participants join OFS and a further 6

participants joined in the 2012 application period. OFS agreements have a 5 year term.

The land entered into OFS agreements must be registered with an approved Organic Sector Body and this Body ensures that farms approved as organic adhere to all the required standards.

(C) Legacy Agri-environment schemes

Around 7,895 legacy schemes continue to make a positive contribution to the environment in Northern Ireland. There are 2,275 Environmental Sensitive Area (ESA) Scheme agreements and 5,620 Countryside Management Scheme (CMS) agreements. Legacy schemes have a whole farm agreement which lasts for 10 years from the anniversary date on which it was signed. Therefore the number of participants in these schemes continues to decline as agreements reach the end of their ten-year term.

Further information on agri-environment schemes may be obtained from any DARD office.

Forestry Grant Scheme

During the 2007 – 2013 Rural Development Programme Forest Service spent almost £11 million on forestry projects and supported over 2,100 hectares of new woodland planting.

It was necessary to close the Forestry Grant Scheme at the end of the 2007 – 2013 Rural Development Project to new applicants and we are developing new schemes to support woodland planting and sustainable management of existing woodland in the 2014 - 2020 Rural Development Programme.

Existing agreement holders are not affected and payments scheduled under these agreements will continue as planned.

Nitrates and Phosphorus Regulations

The Nitrates Action Programme Regulations (NAP) and the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) bring into operation measures to improve the use of nutrients on farms and reduce their input to Northern Ireland's water environment from agricultural sources.

The Nitrates Action Programme has to be reviewed and, where necessary, revised, at least every four years. There have been two Nitrates Action Programmes implemented in NI since 2006. A third Nitrates Action Programme for 2015-2018 came into effect on 1 January 2015.

The following is a summary of the current Nitrates Action Programme and the Phosphorus Regulations:

1. Closed Spreading Periods

- Chemical nitrogen and phosphorus fertiliser must not be applied to grassland from midnight 15 September to midnight 31 January.
- All types of chemical fertiliser must not be applied to arable land from midnight 15 September to midnight 31 January unless there is a demonstrable crop requirement.
- Organic manures, including slurry, poultry litter, digestate, sewage sludge and abattoir waste, must not be applied from midnight 15 October to midnight 31 January.
- Farmyard manure (FYM) must not be applied from midnight 31 October to midnight 31 January.
- There is no closed spreading period for dirty water.

2. Land Application Restrictions

Land application restrictions listed below apply to spreading of all fertilisers, including dirty water.

- All fertilisers, chemical and organic, must not be applied:
  - on waterlogged soils, flooded land or land liable to flood;
  - on frozen ground or snow covered ground;
  - if heavy rain is falling or forecast in the next 48 hours;
  - on steep slopes (that is an average incline of 20% or more on grassland or an average incline of 15% or more on all other land) where other significant risks of water pollution exist. Risk factors to be considered include the proximity to waterways, the length of time to incorporation, the type and amount of fertiliser being applied and / or the soil and weather conditions.
  - on less steep slopes (with an average incline of 15% or more on grassland or 12% or more on all other land), organic manures must not be applied within 30m of lakes and 15m of other waterways; chemical fertilisers must not be applied within 10m of lakes and 5m of other waterways.

- Prevent entry of fertilisers to waters and ensure application is accurate, uniform and not in a location or manner likely to cause entry to waters.
- All types of chemical fertilisers must not be applied within 2m of any waterway.
- Organic manures including dirty water must not be applied within:
  - 20m of lakes;
  - 50m of a borehole, spring or well;
  - 250m of a borehole used for a public water supply;
  - 15m of exposed cavernous or karstified limestone features;
  - 10m of a waterway other than lakes; this distance may be reduced to 3m where slope is less than 10% towards the waterway and where organic manures are spread by bandspreaders, trailing shoe, trailing hose or soil injection or where adjoining area is less than 1 ha in size or not more than 50m in width.
- Application rates:
  - No more than $50m^3$/ha (4500 gal/ac) or 50 tonnes/ha (20t/ac) of organic manures to be applied at one time, with a minimum of three weeks between applications;
  - No more than $50m^3$/ha (4500 gal/ac) of dirty water to be applied at one time, with a minimum of two weeks between applications.
- Slurry can only be spread by inverted splashplate, bandspreaders, trailing shoe, trailing hose or soil injection.
- Dirty water to be spread by same methods as slurry and by irrigation.
- Sludgigators and upward facing splash plates must not be used.

3. Nitrogen (N) Fertiliser Application Limits

Maximum kg N/ha/year on grassland (apart from nitrogen in livestock manure):-
Dairy farms* 272 (8 1/4 bags/ac)**
Other farms 222 (6 3/4 bags/ac)**

*More than 50% of N in livestock manure comes from dairy cattle.
** Approximate number of 50kg bags of a 27% N type fertiliser

(When applying chemical nitrogen fertiliser, nitrogen from organic manures other than livestock manure and anaerobic digestate containing digested livestock manure must be subtracted)

- For non-grassland crops, maximum nitrogen applied (from all types of fertiliser, including livestock manure) must not exceed crop requirement, and for certain arable crops an N-Max limit applies to the total crop area.

4. High Phosphorus Manures

- From 1 January 2017, organic manure with more than 0.25kg of total phosphorus per 1kg of total nitrogen (e.g. some anaerobic digestates) can only be applied where soil analysis shows there is a crop requirement for phosphorus.

5. Chemical Phosphorus Fertiliser

- Can only apply chemical fertiliser containing phosphorus if soil analysis shows a crop requirement. Records must be kept to demonstrate this.
- New values for phosphorus recommendations for grassland and phosphorus availabilities for organic manures.

6. Livestock Manure Nitrogen Limits

- 170kgN/ha/year farm limit.
- Farms with at least 80% grassland may apply annually by 1 March to NIEA for a derogation to permit application of up to 250kgN/ha/year from grazing livestock manure. Additional conditions and Cross-Compliance verifiable standards will apply. Further guidance is available from NIEA.

7. Livestock Manure and Silage Effluent Storage Requirements

- A minimum of 26 weeks livestock manure storage capacity for pig and poultry enterprises. A minimum of 22 weeks for other enterprises.
- Provided certain criteria are met there are allowances for out-wintering, animals on bedded accommodation, separated cattle slurry, renting additional tanks, poultry litter stored in a midden or field heap and exporting manure to approved outlets.
- Livestock manure and silage effluent storage must be maintained and managed to prevent seepage or run-off.
- Silage and slurry stores constructed or substantially modified after 1 December 2003 must comply with certain construction standards (set out in the NAP Regulations) and be notified to NIEA at least 28 days before they are brought into use.
- Silage bales must be stored at least 10m from any waterway and stored and managed in such a way as to prevent seepage into the waterway.
- FYM and poultry litter storage:
    - both may be stored in middens with adequate effluent collection facilities.
    - both may be stored in a field heap where they are to be applied but for a maximum of 120 days.
    - field storage of poultry litter is subject to authorisation by NIEA.
- FYM and poultry litter field heaps must not be stored:
    - in the same location of the field year after year;
    - within 50m of a borehole, spring or well;
    - within 250m of a borehole used for a public water supply;
    - within 50m of exposed cavernous or karstified limestone features;
    - on land that is water logged, flooded or likely to flood;
    - FYM field heaps must not be stored within 20m of any waterway and 50m of lakes;
    - Poultry litter field heaps must not be stored within 100m of lakes and 40m of a waterway;
    - Poultry litter field heaps must be covered with an impermeable membrane as soon as possible and within 24 hours of placement in the field.

- Provide storage for dirty water during periods when conditions for land application are unsuitable.

8. Land Management

- From harvest of certain crops until 15 January of the following year, the controller must manage the land to ensure minimum soil cover and to minimise soil erosion and nutrient run off.
- Residues of crops harvested late must be left undisturbed until just before sowing the following spring.

9. Record Keeping

- Agricultural area, field size and location
- Cropping regimes and areas, Soil Nitrogen Supply (SNS) index for crops other than grassland.
- Livestock numbers, type, species and time kept.
- Organic and chemical fertiliser details including imports and exports.
- From 1 January 2017, evidence of crop phosphorus requirement from soil analysis if organic manure with over 0.25kg total phosphorus per 1kg total nitrogen is applied.
- Storage capacity and, where applicable, details of rental agreements, authorisation to store poultry litter in field heaps and associated evidence to support allowances to reduce capacity.
- Evidence of control over the agricultural area (including controller agreements) and the right to graze common land. From 2015 you will not need to keep controller agreements, but you will still need to produce them for the calendar years 2010-2014 if selected for an inspection.

Many of these records already exist on farms, for example, SAF / IACS form, farm maps, herd and flock records and fertiliser receipts. Nitrogen and phosphorus requirements for grassland are set out in the NAP and Phosphorus Regulations. Nitrogen and phosphorus requirements for other crops should be determined using the DEFRA Fertiliser Manual (RB209). Records must also be kept for the Phosphorus Regulations (see para 5 above).

- Records to be ready by 30 June each year for period 1 January to 31 December of previous year.
- Records to be available for inspection from previous five calendar years.
- Records relating to export of organic manure to be submitted annually to NIEA by 31 January of the following year.
- If you are operating under an approved derogation, you must keep your fertilisation plan on farm and have it ready for inspection by 1 March for that calendar year. Your fertilisation account for the previous calendar year must be received by NIEA by 1 March.

Full details of all Measures in the Nitrates Action Programme and Phosphorus Regulations 2015 - 2018 can be found online at www.dardni.gov.uk/nitrates-action-programme.htm and www.ni-environment.gov.uk

Further information and advice on these Nitrates and Phosphorous Regulations can be obtained from the local DARD offices or Northern Ireland Environment Agency. Contacts details are provided on pages 120&123.

AVERAGE FERTILISER PRICES 2014

		£ per tonne
C.A.N (27% N)		259
Urea (46% N)		318
Cereal fertiliser	18.14.14	332
	16.16.16	350
	15.15.17	338
Grassland fertiliser	20.10.10	329
	27.6.6	345
	27.4.4	321
	25.5.5	314
	25.0.5	286
	26.0.6	310
Silage fertiliser	24.6.12	341
	22.3.14	334
	25.0.13	334
Ground limestone	(Collected)	12
	(Delivered and spread)	18

(1) All prices refer to the average net retail price charged to Northern Ireland farmers in the period January-December 2014.

(2) Figures used in the budgets in this publication are based on anticipated prices for 2015.

FEEDINGSTUFF PRICES AT OCTOBER 2014

	% protein	£ per tonne
Dairy nuts	18	265
	20	280
Calf milk replacer (bags)	22	1985
Calf starter/weaner meal	18	280
Calf rearing nuts	17	265
Cattle fattening nuts	16	245
Sheep feed (bulk)	18	260
(bags)	18	290
Lamb feed	16	250
Pig creep pellets (bulk)	20	695
(bags)	20	715
Pig link/early grower	21	365
Pig grower/rearer meal	20	325
Pig fattening meal	19	310
Sow meal	18	310
Barley meal		180
Maize meal		210
Soya bean meal		355
Whole wheat		200
Whole Barley		170

(1) The prices quoted above are for bulk purchase except where stated.

(2) Figures used for the budgets in this publication are based on anticipated prices for 2015.

RELATIVE FEED VALUES

These relative feed values are calculated using unit costs for metabolisable energy and crude protein derived from the reference feedstuffs of barley and soya. The value of the rumen degradable protein (if applied) is allowed for by calculating a unit cost based on the price of urea. If a particular feedstuff price is lower than the relative value then it is a 'good buy' and vice versa. Two feedstuffs may be compared with each other in terms of the differences between the price of each foodstuff and its relative value.

CAUTIONS

These relative values are only a guide:-

(1) They are based on average analysis; actual samples may differ from the averages used.

(2) The unit values for metabolisable energy and crude protein depend on the balance of nutrients in the reference feedstuff. Barley and soya have been chosen as the most appropriate; other reference feedstuffs would give different answers.

(3) The real unit values of metabolisable energy and crude protein depend on the feeding situation and not entirely on the feedstuffs. For example, undegradable protein has a low value for mature growing cattle but a high value for fast growing young stock.

(4) Energy density is also an important consideration, i.e. straw may be a 'good buy' compared with flaked maize, but would be entirely unsuitable for high yielding dairy cows.

Relative feed values therefore only give a crude guide to feedstuff values.

Feed	Relative Value
Barley	100.00
Wheat	103.80
Hipro soya	170.00
Maize	105.60
Oats	92.10
Urea	185.00
Grass	25.00
Hay (Good)	63.75
Hay (Average)	56.25
Silage (Good)	24.10
Silage (Average)	22.47
Barley straw	35.00
Maize gluten meal	184.30
Maize gluten feed	113.00
Herring fish meal	213.50

Feed	Relative Value
Linseed meal	129.00
Rapeseed meal	125.90
Soya bean meal 44	141.80
Potatoes	23.10
Molasses	73.90
Dried molassed sugar beet pulp	101.00
Brewers' grains	27.90

ENTERPRISE MARGINAL CAPITAL REQUIREMENTS (EMCR)

(a) Arable Enterprises

	EMCR £ per hectare
Spring barley (6 months)	375
Spring oats (6 months)	331
Winter barley (10 months)	478
Winter oats (10 months)	420
Winter wheat (10 months)	551
Spring oilseed rape (6 months)	253
Winter oilseed rape (10 months)	427
Seed potatoes (6 months)	1,992
First early potatoes (6 months)	1,858
Maincrop ware potatoes (6 months)	2,035

(b) Livestock Enterprises

	Initial Capital (1) (£)	Variable Costs per livestock place (2) (£)	Total EMCR per livestock place (3) (£)
Dairy cows (1 month)	1300	58 – 79	1358 – 1379
Dairy heifer replacements	225	501 – 582	726 – 807
18 month heifer beef	230	463	693
22 month steer beef	280	483	763
24 month steer beef	280	516	796
28 month steer beef	280	551	831
Cereal bull beef	80	623	703
Grass silage bull beef	280	700	980
Calf to store system	280	322	602
Lowland suckler cows - May calving	1200	338	1538
- Feb calving	1200	266	1466
- Oct calving	1200	361	1561
Hill suckler cows	1050	223	1273
Beef heifer replacements	260	425	685
Finishing suckled calves	557	420	977
Winter cattle finishing 400kg (230 days)	820	315	1135
Winter cattle finishing 500kg (150 days)	1000	217	1217
Summer cattle finishing 420kg (180 days)	882	55	937
Traditional store to beef system (12 mths)	738	220	958
Summer grazing of store cattle (6 mths)	645	49	694
Lowland breeding ewes - March lambing	100	54	154
Lowland breeding ewes - Dec lambing	100	75	175
Upland breeding ewes	100	56	156
Hill breeding ewes	100	47	147
Store lamb finishing (3-5 mths)	52 – 59	5 – 28	64 – 83

	Initial Capital	Variable Costs Livestock per place	Total EMCR Livestock per place
	(1)	(2)	(3)
	(£)	(£)	(£)
Pig rearing (per sow) (5mths)	120	358	478
Pig finishing (per pig) (3 mths)	42	47	89
Pig rearing/finishing (per sow) (6 mths)	120	990	1110

(1) For livestock enterprises the initial capital is the purchase price of the animal.

(2) The variable costs quoted for a livestock enterprise are the total variable costs invested in the enterprise until the point of first sale. In the case of a dairy cow this represents one month's variable costs. Details of total variable costs for each enterprise can be found under the appropriate enterprise gross margin budget.

Fixed costs (excluding labour)
By type of farm business 2013/2014[1]

Dairy Farms	Very Small	Small	Medium	Large
Area farmed (hectares)[2]	30	45	71	124
		£'s per Ha		
Conacre rent	20	48	68	122
Depreciation of buildings/work	96	168	184	226
Depreciation of machinery	89	175	176	181
Machinery running costs	205	220	222	213
Electricity and heating fuels	58	51	50	58
Building repairs	79	69	75	56
Misc. (inc. farm rates)	89	81	71	70
Total	**636**	**812**	**846**	**926**
Cattle and Sheep Farms	SDA	DA	LFA	Non-LFA
Area farmed (hectares)[2]	106	68	91	64
		£'s per Ha		
Conacre rent	26	50	33	75
Depreciation of buildings/work	39	90	54	74
Depreciation of machinery	64	109	77	145
Machinery running costs	94	128	104	147
Electricity and heating fuels	6	10	7	14
Building repairs	28	28	28	49
Misc. (inc. farm rates)	28	51	35	54
Total	**285**	**466**	**338**	**558**

Other Farm Types	Cereals	General Cropping	Mixed	Pigs
Area farmed (hectares)[(2)]	103	93	86	30
		£'s per Ha		£'s per £100 output
Conacre rent	92	237	59	1
Depreciation of buildings/work	96	12	88	4
Depreciation of machinery	382	215	219	2
Machinery running costs	255	303	210	3
Electricity and heating fuels	20	21	24	2
Building repairs	35	22	44	1
Misc. (inc. farm rates)	52	53	61	1
Total	**932**	**863**	**705**	**14**

(1) Farm types

Dairying	Farms on which dairy cows account for more than two-thirds of the total Standard Output (SO).
Cattle and Sheep	Farms which do not qualify as Dairy farms but have more than two-thirds of total SO from cattle and sheep.
Cereals	Farms on which cereals and combinable crops account for more than two-thirds of the total SO.
General cropping	Farms which do not qualify as Cereal farms but have more than two-thirds of the total SO in arable crops (including field scale vegetables) or in a mixture of arable and horticultural crops where arable crops account for more than one-third of total SO and no other grouping accounts for more than one-third
Pigs	Farms with more than two-thirds of total SO from pigs.
Mixed	Farms that have no dominant enterprise and do not fit into the above categories.

(2) Area farmed has been adjusted for conacre taken or let. Planning for 2015 should take account of any anticipated changes in fixed costs. As the levels of fixed costs per hectare differ considerably between farms, the data quoted above should be treated with caution. Since the composition of the labour force between family and hired workers is so variable between farms, no attempt has been made to produce data for comparison.

ANNUAL TRACTOR COSTS - Estimates for 2015

	4-Wheel drive						2-Wheel drive			
Horse power	150		120		100		90		80	
Initial Cost (£)	65,000		50,000		40,000		35,000		30,000	
	Per year	Per hour	Per year	Per hour	Per year	Per hour	Per year	Per hour	Per year	Per hour
Repairs	2,600	5.2	2,000	4	1,600	3.2	1,400	2.8	1,200	2.4
Depreciation (average charge)	5,550	11.10	4,270	8.54	3,420	6.84	2,990	5.98	2,560	5.12
Insurance	1,050	2.1	875	1.75	780	1.56	710	1.42	670	1.34
Fuel & Oil	5,100	10.20	4,335	8.67	3,825	7.65	3,570	7.14	2,805	5.61
TOTAL	14,300	28.60	11,480	22.96	9,625	19.25	8,670	17.34	7,235	14.47

(1) Initial cost based on purchase price.

(2) Based on annual use of 500 hours. Higher annual use will result in higher annual, but lower hourly costs. Heavy operations, e.g. slurry mixing, will result in a greater cost than light work.

(3) Annual repair costs have been estimated using 4% of the initial cost.

(4) Depreciation has been calculated by reducing balance method, using 15% depreciation and a life of 9 years.

(5) Insurance costs are for comprehensive cover with up to 5% contracting. Costs will also depend on excesses, claims history and the need for cover on implements

(6) Fuel has been costed at 51 pence per litre.

(7) No interest or leasing charges have been included.

NEW MACHINERY PRICES

Tractors (See Page 97)

	£		£
Pick-up	20,000 - 38,000	Plough	16,000 - 30,000
Quad (4WD Bike)	4,500 - 7,500	Harrow	2,000 - 3,000
Telescopic Loader	65,000 - 85,000	Power harrow	10,000 - 30,000
Skid-steer loader	20,000 - 30,000	Land roller	1,000 - 3,500
Slurry tanker	9,500 - 50,000	Land leveller	750 - 3,000
Slurry pump	2,700 - 6,000	Fertiliser sower	1,000 - 15,000
Manure rotaspreader	5,500 - 30,000	Crop sprayer	1,000 - 45,000
Yard scraper	350 - 1,350	Potato harvester	35,000 - 300,000
Mower conditioner	10,000 - 30,000	Box tipper	2,500 - 8,000
Precision chop harvester	30,000 - 50,000	Cattle trailer	3,000 - 7,300
Silage trailer	7,500 - 25,000	Link box	500 - 2,000
Buckrake	2,700 - 7,000	Welder	250 - 2,000
Bale spike	250 - 800	Compressor	200 - 1,500
Grass topper	800 - 10,000	Generator	800 - 3,250
Sheargrab	2,000 - 5,000	Power washer	350 - 2,800
Tractor loader	7,500 - 12,000	Hedge cutter	10,000 - 35,000
Silage feeding trailer	1,200 - 2,700	Chain saw	300 - 1,500
Diet feeder wagon	12,000 - 40,000	Bulk meal bin	1,800 - 5,000

AGRICULTURAL CONTRACTORS' CHARGES

	Cost (£)	
1. Cultivations		
Ploughing - Lea	60 to 90	per hectare
- Stubble and other	60 to 80	"
Discing	25 to 32	per hour
Chain harrowing	20 to 25	"
Power harrowing	30 to 45	per hectare **or**
	30 to 32	per hour
Ground driven rotary harrowing	20	"
Springtine harrowing	20 to 30	"
Rotavating - Large types 100"	40 to 60	per hectare **or**
	30 to 40	per hour
Land Levelling	25	per hour
Rolling - Light	12 to 22	per hectare
- Heavy	18 to 25	"
Reseeding (Complete operation not including seed/fertiliser)	290 to 370	"
Shakerator	20 to 40	per hour
2. Seeding and Planting		
- combined drilling	25 to 35	per hectare
- precision seeding	45 to 60	"
- potato planting (automatic)	20 to 35	per hour
- direct drilling	50 to 55	per hectare
- one pass cultivation and drilling	50 to 65	"
- destoning	250 to 350	"
3. Spraying and Spreading		
Crop spraying (excluding chemicals)	15 to 40	per hectare
Fertiliser	15 to 30	per tonne
	10 to 15	per hectare
	20 to 30	per hour
Lime spreading	10 to 20	per tonne
Farmyard Manure		
- Entire operation	40 to 55	per hour
Slurry spreading (1,100-1,500) gallon tanker	20 to 30	"
Slurry spreading (2,000 gallon tanker)	25 to 40	"
Slurry spreading (self-propelled tanker)	40 to 55	"
Slurry Spreading (umbilical system)	60 to 85	"
Slurry Spreading (umbilical system)	5 to 10	per 1000 gallons
Pumping and agitating (tanks)	25 to 35	per hour

	Cost (£)	
4. Harvesting		
Forage, including harvester, tractor and trailer		
- precision (complete operation)	150 to 190	per hectare
- precision (without buckraking)	120 to 160	"
- double chop (complete operation)	110 to 150	"
Forage wagon (without mowing / buckraking)	54 to 62	per hectare **or**
and diesel supplied by farmer	75 to 80	per hour
Silage wagon (complete operation)	110 to 165	per hectare
Buckraking into silo	20 to 30	"
Additional tractor and trailer for haulage	25 to 40	per hectare **or**
	25 to 35	per hour
Mowing hay or grass (conventional)	25 to 45	per hectare
Mowing hay or grass (Conditioner/auto swather)	25 to 45	"
Topping grass	20 to 35	"
Tedding, turning or raking	14 to 20	"
Pick-up baling - including twine	0.35 to 0.60	per small bale
- excluding twine	0.22 to 0.30	"
Big bale silage - round, chop, net and wrap	7 to 8.50	per bale
Big bale straw (round)	3.25 to 3.75	"
Big bale straw (large rectangular 8 x 4 x 3)	4.50 to 5.00	"
Combine harvesting	90 to 110	per hectare
Potato harvesting (ground destoned)	280 to 320	"
Forage Maize harvesting (complete operation)	180 to 220	"
5. Grain Drying and rolling		
Drying - Handling charge	2.00 to 2.50	per tonne
per 1% moisture removed,	3.00 to 4.50	"
Rolling	19 to 22	"

	Cost (£)	
6. Ditching and Field Drainage		
Wheeled digger - bucket type	20 to 30	per hour
Tracked digger	25 to 40	"
Bulldozing	60 to 90	"
Opening field drains only	0.7-0.8	per metre
Laying drains (excluding stones)	0.80 to 1.00	"
Mole draining	100 to 120	per hectare
Laying water piping	18 to 25	per hour
Subsoiling	25 to 30	"
Stoner	18 to 25	"
7. Miscellaneous		
Hedge cutting - flail	25 to 35	per hour
- saw	30 to 40	"
Flail Heather/Rushes	30 to 50	"
Sawing logs - chainsaw	12 to 14	"
Haulage - tractor and trailer (higher prices for larger tractors and 4WD)	25 to 40	per hour
Relief milking - typical (largely dependent on size of herd and milking system)		
Monday-Saturday	40 to 70	per milking
Sunday	65 to 110	"
Hoof paring		
Call out fee (includes first 3 cows)	40-60	per call
Additional cows	5-10	per cow
Sheep shearing	1.30 to 1.60	per ewe
Sheep scanning	0.50 to 0.80	"
Fencing: assume strainers max 30m apart, and double strainers on corners		
5 rows of barbed wire		
- total cost	4.25 to 6.00	per metre
- labour only	1.20 to 2.00	"
Sheep fence plus 3 lines of barbed wire		
- total cost	4.50 to 6.00	per metre
- labour only	1.50 to 2.20	"

These contract charges are considered to be reasonable for operations carried out in normal circumstances. The rates include fuel, oil lubricant and operator's wages. Prices will differ from one district to another and will be affected by the contracted area. If a farmer supplies fuel, the price may be lower. The charges may be subject to VAT.

TYPICAL HIRE CHARGES

	Capacity	Per Day (£)	Per Week (£)
Quad		40	175
Plough		75	375
Plough (reversible)		100	500
Chain harrow		40	200
Power harrow (3m plus blades)		100	450
Rotavator (plus blades)		150	600
Land roller		40	170
Fertiliser sower		20 to 35	100 to 125
Crop sprayer		40	200
Lagoon mixer		25	70
Slurry pump		45	200
Rotary spreader	7.3 cu yard	50 to 100	200 to 500
Rear discharge manure spreader	9t to 10t	110	400
"	11t to 12t	140	500
Slurry tanker	2250 gall	75	300 to 375
"	1600 gall	55 to 70	200 to 300
"	1100 to 1300 gall	50 to 70	200 to 300
Bale lifter		12	30
Telescopic handler	13m	110	440
Rough terrain forklifts	3t	50	175
Single axle dump trailer	8t	30	120
Twin axle dump trailer	10t to 15t	35 to 55	140 to 180
Tractor	80hp		300
Tractor (4wd)	100hp	80	350 to 450
Mini digger	3t	95 to 105	360 to 440
Strimmer	40cc	15 to 28	35 to 75
Chain saw		30 to 50	90 to 150
Welder (diesel)	350 amp	50	200
Generator diesel	5kw	25	60
"	10kw	35	150
Power washer	3000 si	40 to 50	100 to 135
"	1500 psi	20 to 30	60
Steam washers		30	80
Compressor/Jack hammers	100 ctm	25 to 38	75 to 95
Round bale trailer		25 to 30	90
Yard sweeper		50 to 65	-
Silage trailer	6t	25 to 40	100 to 120
	12t	65	-
	14t	85	-
Post driver		40 to 60	160 to 200
Low loader		40 to 45	200
Grasseed sower		30 to 40	85 to 175
Weed wiper		40	175
Grass topper		50 to 55	150 to 250
Rush topper		75 to 90	375
Flail topper		100	500
Spiker		45	120 to 200

1.) Prices do not include VAT.
2.) Prices listed above are intended for guidance only, considerable variation may be expected.

AMORTIZATION TABLE

Annual charge to write off £1,000, repayment includes capital and interest assuming payment by one annual instalment

Write off period (years)	Rate of interest %															
Year	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
5	231	237	244	250	257	264	271	278	284	291	299	305	313	320	327	334
6	197	203	210	216	223	230	237	243	250	257	265	271	279	286	293	301
7	173	179	186	192	199	205	212	219	226	233	240	248	255	262	270	278
8	155	161	167	174	181	187	194	202	208	216	223	230	238	245	253	261
10	130	136	142	149	156	163	170	177	184	192	200	207	215	223	231	239
12	113	119	126	133	140	147	154	162	169	177	185	192	201	209	217	226
15	96	103	110	117	124	132	139	147	155	163	171	179	188	196	205	214
20	80	87	94	102	110	118	126	134	142	151	160	168	178	187	196	205
25	71	78	86	94	102	110	119	128	136	146	155	164	173	183	193	202
30	65	73	81	89	97	106	113	124	133	143	153	161	172	181	191	202
40	58	66	75	84	93	102	111	121	131	141	150	160	170	180	190	200

Example : £10,000 is borrowed. (The equivalent annual cost factor at 8% over 8 years is £174 per £1,000) Therefore, the annual service charge to service interest and capital repayment on the £10,000, repayable over 8 years is 10 x £174 = £1,740

LOAN OUTSTANDING

Amount outstanding on a 10 year loan of £1000 at the end of each year

	Rate of interest %															
Year	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
1	920	924	928	931	934	937	940	943	946	948	951	954	957	960	963	966
2	836	843	850	856	862	868	874	879	884	889	894	900	905	910	916	922
3	747	758	768	776	784	792	800	808	815	822	829	836	844	852	860	867
4	655	667	680	689	699	709	718	728	737	746	754	763	772	782	792	801
5	558	571	585	595	606	617	628	638	648	658	668	678	688	698	708	718
6	456	469	484	494	505	516	527	538	548	559	569	580	591	601	611	622
7	348	362	376	384	395	405	415	425	435	445	455	465	476	486	496	506
8	236	247	261	266	274	283	291	299	307	316	324	333	341	350	358	367
9	117	126	137	138	143	148	153	158	163	168	173	178	183	188	193	198

The annual charge to write-off the loan must first be calculated.
The equivalent annual cost factor at 8% over 10 years = £149. At the end of the first year the amount to repay, at 8% interest, will equal £1,080. When the annual charge of £149 is deducted, the amount outstanding on the loan is £1,080 - £149 = £931.

INTEREST RATES - ANNUAL PERCENTAGE RATE (APR)

It is important to distinguish between nominal rates which are often quoted by lending institutions and true rates of interest. The Annual Percentage Rate (APR) allows for the fact that interest is usually charged at less than annual intervals, and hence an element of compounding will occur, i.e. interest will be charged on the accumulated interest. The higher the annual nominal interest rate and the more frequently the interest charges are applied to the loan, the more pronounced will this compounding be and the higher the APR.

Loans from all sources should be converted to APR, which shows the effective rate of interest calculated on an annual basis. This allows a true comparison to be made between different sources of borrowed finance.

The approximate annual percentage rate is given by:

$$\left[\left(1+\frac{n}{p}\right)^{p}-1\right]\times 100$$

where n = nominal interest rate expressed as a decimal
p = number of instalments per year

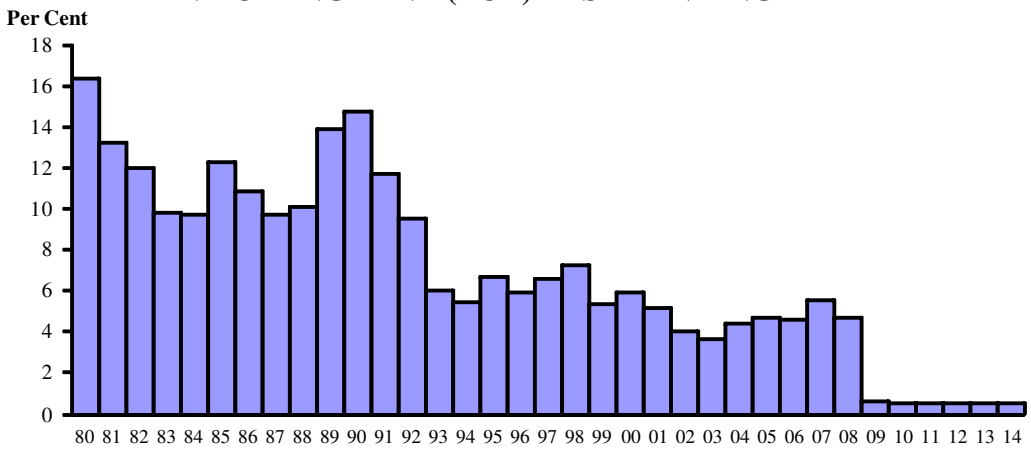
example : A nominal interest rate of 14% with monthly charging gives an approximate annual percentage rate of 14.9%

REAL INTEREST RATES

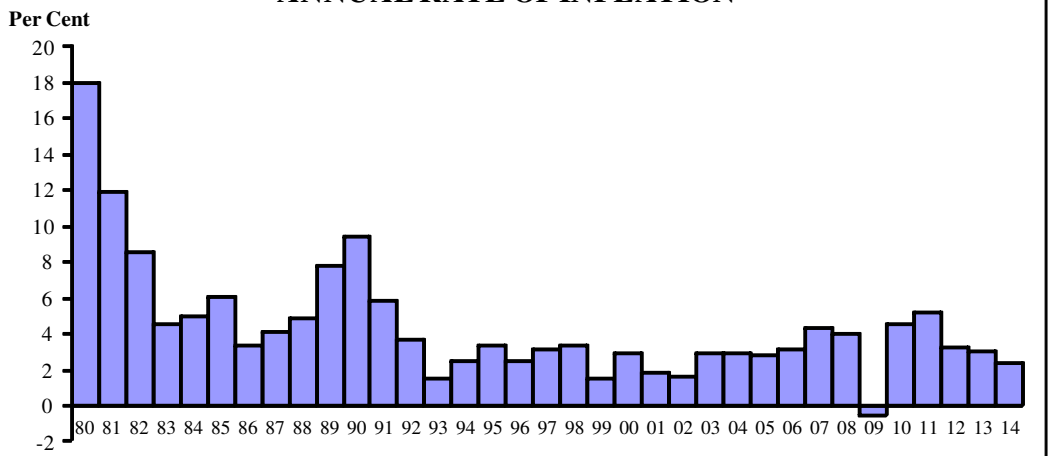
When preparing budgets to estimate the viability of an investment, it is common to include costs and returns at present day values, even though these may be expected to rise due to inflation over the life of the investment. Where this real terms approach is adopted, a more realistic estimate of the effect on profitability can be gained by basing capital charges on the real rate of interest rather than the APR. On the other hand it is important to remember that all costs and returns may not increase or, indeed decrease at the same rate. Also some allowance should be made in decision making for possible changes in inflation rates. Often in times of rising or falling inflation, nominal interest rates will rise or fall. This will clearly have consequences for cash flow.

The real rate of interest is the APR adjusted for the annual rate at which costs and prices relating to the investment are expected to increase. A crude estimate of the real rate of interest may be made by subtracting the expected inflation rate from the APR (see figure overleaf).

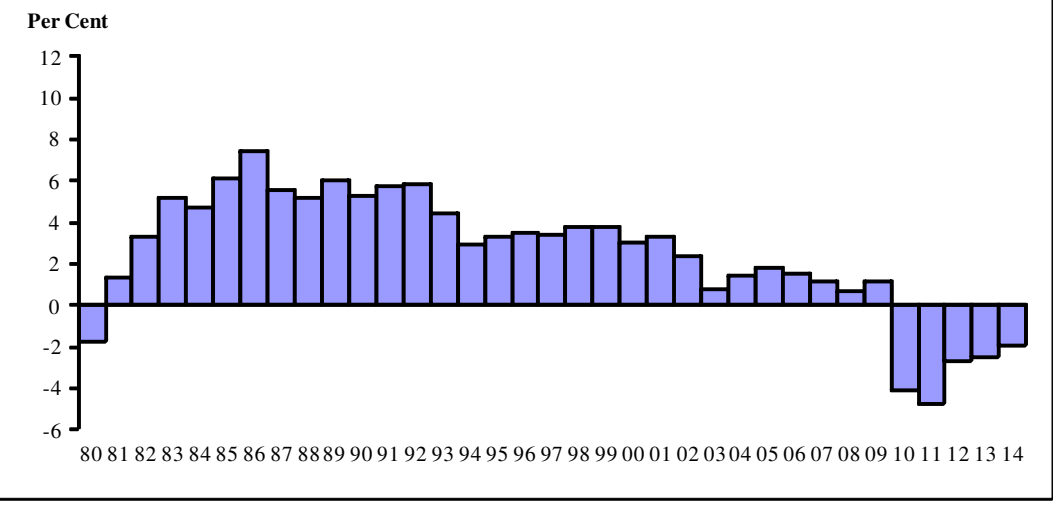
BANK OF ENGLAND (BOE) BASE LENDING RATE[1]



ANNUAL RATE OF INFLATION



REAL INTEREST RATES[1,2]



1. Actual commercial lending rates applied depend on various factors such as loan term and risk.

2. Calculated as the difference between Bank of England base rate and annual rate of inflation.

AGRICULTURAL WAGES (REGULATION) (NORTHERN IRELAND) ORDER 2015

The Agricultural Wages Board for Northern Ireland by Order No. 95, which comes into operation on 6th April 2015, provides revised rates for minimum agricultural wages. This Order replaces Order No. 94, which was operative from 6th April 2014. Under this minimum wage system, advancement is conditional on a worker's experience and qualifications.

Minimum wage rate

The proposed minimum wage rates (£ per hour), effective from 6th April 2015 for grades 1 – 6 workers, are as follows:

Grade	Rate per Hour £
Grade 1-Minimum Rate (Applicable for first 40 weeks cumulative employment)	6.63
Grade 2-Standard Worker	6.91
Grade 3-Lead Worker	7.59
Grade 4-Craft Grade	8.15
Grade 5-Supervisory Grade	8.63
Grade 6-Farm Management Grade	9.34

These rates represent a 2% increase to 2014 minimum rates for agricultural workers across all grades and were proposed by the Agricultural Wages Board (AWB) following a meeting on 9 January 2015. The AWB will meet again on 20 March 2015 to make an Order to introduce the above rates which will come into operation on 6 April 2015.

Where at any time the National Minimum Wage (NMW) becomes higher than the hourly rates set out above, then the minimum rates shall be equal to the National Minimum Wage. The NMW rates are usually updated each October.

The definitions for the grades and the qualifications required for each grade are available at: http://www.dardni.gov.uk/new-grading-system.pdf

Overtime

The minimum overtime rates (£ per hour), effective from 6th April 2015, are as follows:

Grade	Rate per Hour £
Grade 1-Minimum Rate (Applicable for first 40 weeks cumulative employment)	9.95
Grade 2-Standard Worker	10.37
Grade 3-Lead Worker	11.39
Grade 4-Craft Grade	12.23
Grade 5-Supervisory Grade	12.95
Grade 6-Farm Management Grade	14.01

For the purpose of this Order, the following employment is defined as the employment which is to be treated as overtime employment:

(a) employment in excess of 39 hours in any week for a whole-time worker.

(b) employment on a day on which a worker is entitled to be allowed a holiday in accordance with the holiday provisions of the Order.

Holiday Entitlements

Full time Agricultural workers in the first year of continuous employment with the same employer are entitled to 28 days holidays. Holiday entitlement is proportionate to the number of days worked as detailed below:

- works 1 day per week = 6 days holiday;
- works 2 days per week = 11.5 days holiday;
- works 3 days per week = 17 days holiday;
- works 4 days per week = 22.5 days holiday; and
- works 5 days per week = 28 days holiday.

An agricultural worker in continuous employment with the same employer for **more than** 52 weeks is entitled to 29 days holiday. This holiday entitlement is proportionate to the number of days worked.

The rate of holiday remuneration must not be less than the minimum wage rate set out above.

Accommodation Offset
For all workers employed in agriculture prior to 6th April 2009 (excluding Temporary and Harvest workers), a house or other accommodation provided by the employer may (with the consent of the worker) be reckoned as payment of wages in lieu of payment in cash to the maximum of £1.50 per week.

For all workers commencing work in agriculture for the first time from 6th April 2009, a house or other accommodation provided by the employer may (with the consent of the worker) be reckoned as payment of wages in lieu of payment in cash to the maximum of £31.22 per week.

Further information on Agricultural Wages Board Orders or matters relating to Agricultural Wages is available from: The Secretary, Agricultural Wages Board, Room 910, Dundonald House, Upper Newtownards Road, Belfast, BT4 3SB or telephone: 028 9052 4873 .

ALTERNATIVE ENTERPRISES

A wide range of alternative enterprises is found on individual farms in Northern Ireland. Some of these developments are relatively new, while others are simply being more widely publicised. Such enterprises may be seen to be attractive; however, they should not be undertaken without a considerable amount of research. Substantial capital may be required and new skills in production and marketing may have to be acquired. With alternative enterprises there is often a high level of risk and the potential market outlets should be thoroughly investigated before production is started.

The main groups of alternative enterprises are agricultural contracting; tourism and recreation (bed and breakfast, open farms, horse breeding); value-adding enterprises (on-farm processing, farm shops and stalls); unconventional agricultural enterprises (Christmas trees, amenity turf, game birds, ostriches, rabbits, snails, goats' and sheeps' milk); ancillary resources (letting buildings for non-agricultural use, forestry); and the production of environmental goods in return for government grants.

Information and advice on alternative enterprises can be obtained from Rural Enterprise Advisors who can be contacted through your local DARD office.

ORGANIC FARMING

Organic farming aims to produce high quality food using sustainable methods of production and avoids the use of artificial fertilisers and chemicals which minimises damage to the environment and wildlife. Organic produce must comply with organic food standards and, in general, there is a minimum two year conversion period from non-organic methods.

It is difficult to be specific about the margins from organic farming. There is a specific market (that should be identified before production is commenced) and it is possible to obtain a premium for organically produced food. However, any premium can, at least in part, be offset by lower yields.

Details of financial assistance for Organic Farming are provided on page 91. Advice on Organic farming is also available from your local DARD advisors who can be contacted through your local DARD office.

ON FARM WELFARE

Owners and keepers of farmed animals are required to comply fully with The Welfare of Farmed Animals (Northern Ireland) Regulations 2012 (as amended). These Regulations sets down minimum standards for the keeping of farmed animals. They contains specific requirements such as inspections, record keeping, freedom of movement, buildings and equipment and the feeding and watering of animals.

The Northern Ireland Codes of Practice for the Welfare of Livestock provide advice and guidance for the upkeep of farm animals and details of relevant

legislation. Any person responsible for a farmed animal is required by law to ensure that they have access to and are acquainted with the relevant codes.

A person commits an offence if that person does not take such steps as are reasonable in all the circumstances to ensure that the needs of an animal for which that person is responsible are met to the extent required by good practice. An animal's needs shall be taken to include-
(a) its need for a suitable environment,
(b) its need for a suitable diet,
(c) its need to be able to exhibit normal behaviour patterns,
(d) any need it has to be housed with, or apart from, other animals, and
(e) its need to be protected from pain, suffering, injury and disease.

For further information about Farm Animal Welfare please visit the DARD website at http://www.dardni.gov.uk/farmed-animal-welfare.htm

---

AVERAGE CONACRE RENTS BY TYPE OF USE 2008 - 2013

£ per hectare

Use	2008	2009	2010	2011	2012	2013
Grass	193	188	189	195	216	226
Potatoes	686	623	654	703	501	734
Cereals	222	211	240	246	241	263
Rough grazing	41	34	37	41	37	33
All uses	**171**	**168**	**172**	**179**	**179**	**182**

Source:- Farm Business Survey

SALES OF AGRICULTURAL LAND 1981 - 2006 [2] [3] [4] [5] [6]

Year	Number of sales	Area sold (ha)	Price [1] (£/ha)
1981	696	7,081	2,897
1982	921	8,950	2,683
1983	863	7,870	2,866
1984	815	8,105	2,958
1985	709	7,785	3,130
1986	725	7,682	3,128
1987	660	7,179	3,204
1988	660	7,791	2,855
1989	639	7,695	3,359
1990	489	5,249	3,313
1991	462	5,243	3,362
1992	467	4,552	3,383
1993	467	4,721	4,330
1994	420	4,605	5,056
1995	355	4,050	5,950
1996	223	3,425	5,419
1997	257	2,912	7,858
1998	223	2,151	8,746
1999	163	1,672	8,267
2000	174	1,614	9,634
2001	67	597	9,961
2002	55	550	12,456
2003	44	520	14,950
2004	40	562	16,286
2005	63	1,095	19,837
2006	85	2,303	24,870

(1) Calculated by dividing the total value of sales by the total area sold.

(2) Source:- DARD, compiled from Valuations and Lands Agency data.

(3) Excludes individual sales under 2 hectares (5 acres) up to 2001 and sales outside agriculture.

(4) There is a delay (estimated to be 3 months) between the date on which a sale is agreed and when it appears in this series.

(5) Figures for 2002 are estimates due to lack of data.

(6) Land sales of less than 5 hectares are not included for 2003, 2004 and 2005.

TAXATION 2014-2015

These notes on taxation are a summary only. A series of booklets giving details of tax related matters are available from any tax office on request. All booklets and other information are also available on the internet at www.hmrc.gov.uk Alternatively, a professional adviser may be approached.

1. Income Tax

1.1 Income Tax Allowances

	£
Personal allowance for people born after 5 April 1948[1]	10,000
Personal allowance for people born between 6 April 1938 and 5 April 1948[1,2]	10,500
Personal allowance for people born before 6 April 1938[1,2]	10,660
Maximum amount of Married Couple's Allowance for people Born 6th April 1935[2, 3]	8,165
Minimum amount of Married Couple's Allowance for people Born 6th April 1935[3]	3,140
Blind person's allowance	2,230
Income limit for Personal Allowance	100,000
Income limit for the allowances for those born before 6 April 1948	27,000

[1] The personal allowance reduces where the income is above £100,000. When this is the case, it is reduced by £1 for every £2 of income above the £100,000 limit. This reduction applies irrespective of age or date of birth.

[2] These allowances reduce where the income is above the income limit by £1 for every £2 of income above the limit. This applies until the personal allowance for those born after 5 April 1948 is reached. For married couples allowance this applies until it reaches the minimum amount.

[3] Tax relief for the Married Couple's allowance is given at the rate of 10 per cent.

1.2 Income Tax rates (%)

	Income Tax Rate	Taxable Band
Starting rate for savings*:	10%	£0 to £2,880
Basic rate:	20%	£0 to £31,865
Higher rate:	40%	£31,866-£150,000
Additional rate:	45%	Over £150,000

*There is a 10 per cent starting rate for savings income only. If, after deducting your Personal Allowance from your total income liable to Income Tax, your non-savings income is above this limit then the 10 per cent starting rate for savings will not apply.

The income tax rates available for dividends are 10% (basic), 32.5% (higher) and 37.5% (additional).

2. Corporation Tax

Profits are chargeable at the following rates:

	Profits band	Tax rate & allowances
Small Profits Rate	Up to £300,000	20%
Marginal Relief Rate	£300,001 to £1,500,000	21% less relief*
Main rate of Corporation Tax	Above £1,500,000	21%

*The relief is £1,500,000 minus the amount of profits multiplied by 1/400

3. Capital Gains Tax (CGT)

Applies to capital gains made by an individual. Capital gains accruing to companies are chargeable to Corporation Tax.

(a) Annual exemption of £11,000 for individuals with independent taxation.

(b) The tax rate for individuals is 10%, 18% or 28%. The rate of tax applied depends on total level of taxable income and whether the gains qualify for Entrepreneurs relief.

4. Inheritance Tax

Inheritance Tax (IHT) may be payable on an estate when someone dies, or when assets are transferred into a discretionary trust or to a company.

There is no Inheritance Tax to pay on estates up to £325,000 (effective from 6th April 2009). An excess above this value is liable to inheritance tax at a rate of 40% (most farms in Northern Ireland get 100% property relief).

5. Value Added Tax (VAT)

VAT is a tax that's charged on most business transactions in the UK. Businesses add VAT to the price they charge when they provide goods and services to customers.

The annual turnover threshold for VAT registration is £81,000.

Three rates of VAT (Effective from 4th January 2011):

Standard rate – 20% - Most goods and services
Reduced Rate - 5% - Various items e.g. domestic fuel and power
Zero Rate – 0% - Certain goods and services e.g. food.

All VAT businesses are now required to submit online VAT returns and pay any VAT due electronically.

In order to submit your VAT returns online you must register for online services on the HMRC website (www.hmrc.gov.uk)

6. Stamp Duty

Purchasers of **residential** property are subject to the following rates of stamp duty for property purchased from 4th December 2014.

- 0% on the first £125,000 of the property price
- 2% on the next £125,000
- 5% on the next £675,000
- 10% on the next £575,000
- 12% on the rest (above £1.5 million)

Purchasers of **non-residential or mixed used** property are subject to the following rates of stamp duty for property purchased from 20th March 2014.

- 0% on purchases up to £150,000 (annual rent under £1,000)
- 1% on purchases up to £150,000 (annual rent over £1,000)
- 1% on purchases between £150,001 and £250,000 (rent £1,000 or more)
- 3% on purchases between £250,001 and £500,000(rent £1,000 or more)
- 4% on purchases over £500,000(rent £1,000 or more)

(Contact HM Revenue and Customs for further details).

7. Forestry - wholly removed from income and corporation tax from 14 March 1988.

8. National Insurance

If you're self-employed you normally have to pay Class 2 National Insurance contributions. If your annual profits are over a certain amount you also pay Class 4 contributions. The relevant rates and thresholds for 2014/15 are:

Class 2	Self employed (up to state pension age)	
	Flat rate £2.75 per week (small earnings exemption £5,885 per year)	
Class 4	Self employed (up to state pension age)	
	9.0% of profits/gains between £7,956 and £41,865	
	2.0% of profits/gains over £41,865	

SELF ASSESSMENT AND CURRENT YEAR ASSESSMENT OF TAX

1. Self assessment

Self Assessment involves completing an online or paper return to inform HM Revenue & Customs (HMRC) about income, capital gains etc. This information is used by HMRC to work out your tax bill. Tax returns relating to 2014/15 tax year must be sent back by the following deadlines:

- Paper returns - **31 October 2015**.
- Online returns - **31 January 2016**.

In order to submit your form online you must register for online services on the HMRC website (www.hmrc.gov.uk)

The deadline for payment of tax is **31 January**. There is an additional payment deadline of **31 July** if you make advance payments towards your bill.

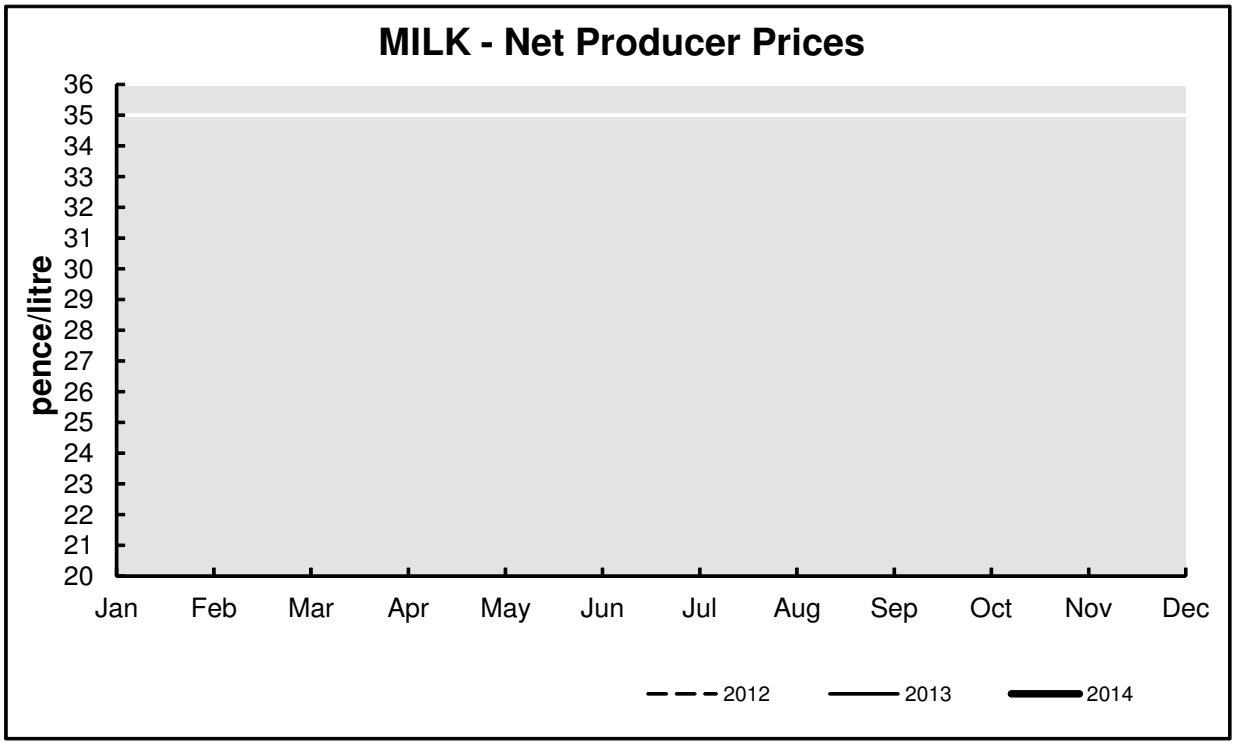
There are penalties for both late tax returns and for the late payment of tax bills. For example, if your tax return is up to 3 months late there is a fixed penalty of £100. Additional penalties are applied when returns become 3, 6, 9 & 12 months late. Whereas, when payment of your tax bill is 30 days late there is a penalty equivalent to 5% of the tax due. Similarly, additional penalties are applied when your payment becomes 6 & 12 months late. Interest is also charged on both unpaid tax and unpaid penalties.

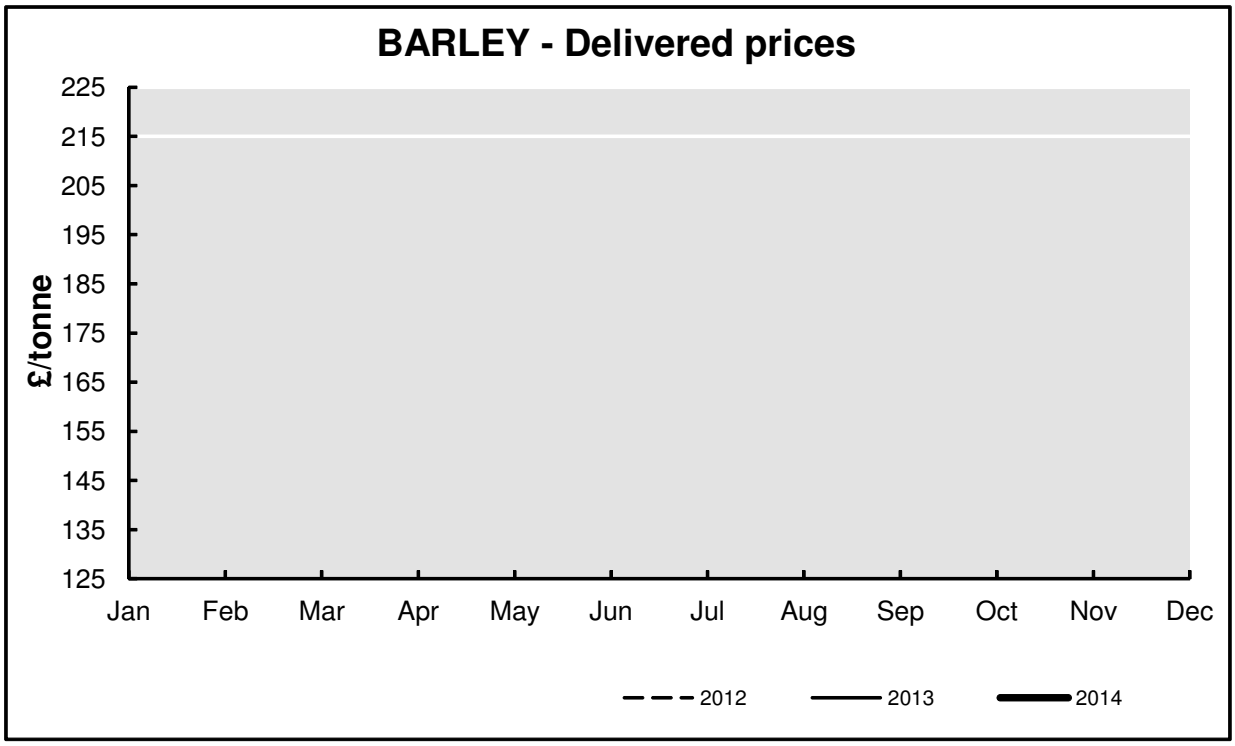
There is a statutory requirement to keep records including relevant receipts, invoices etc. to support the figures entered on the tax return.

2. Current (same) year assessment.

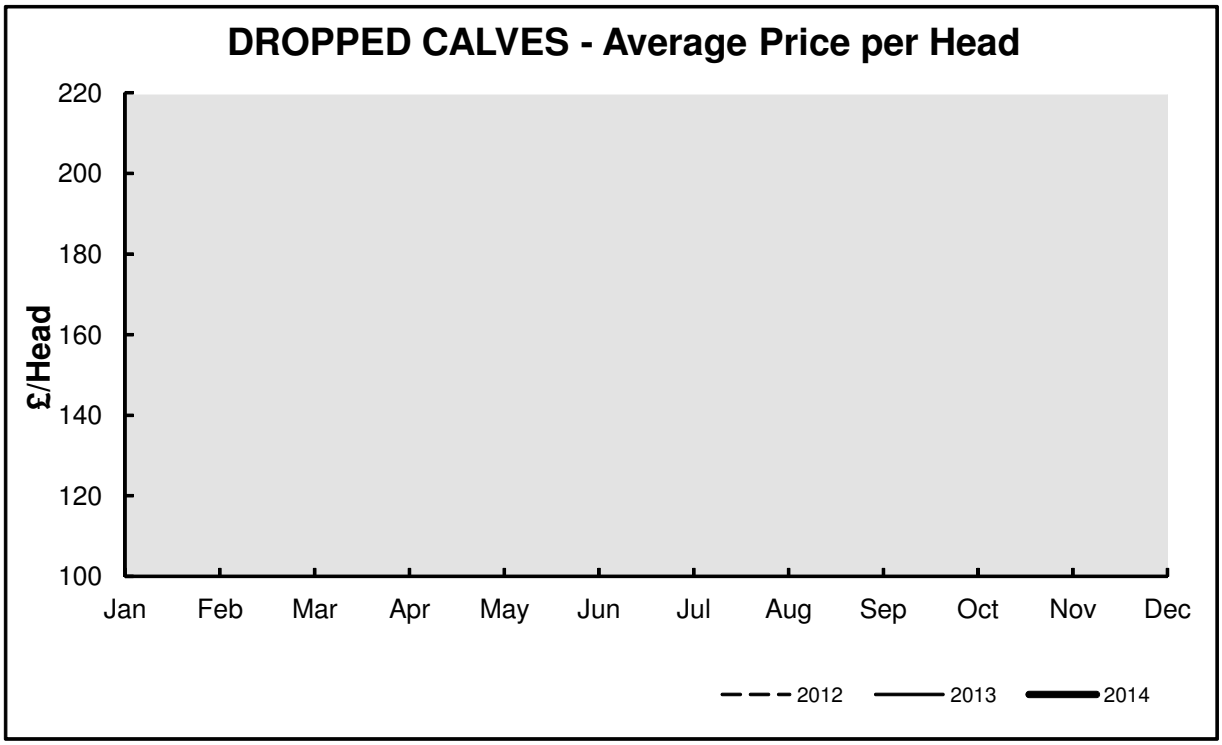
The tax liability will be based on the profit arising in the same year. Therefore, taxable business profits for any year will be those shown on a set of yearly accounts ending in that tax year.

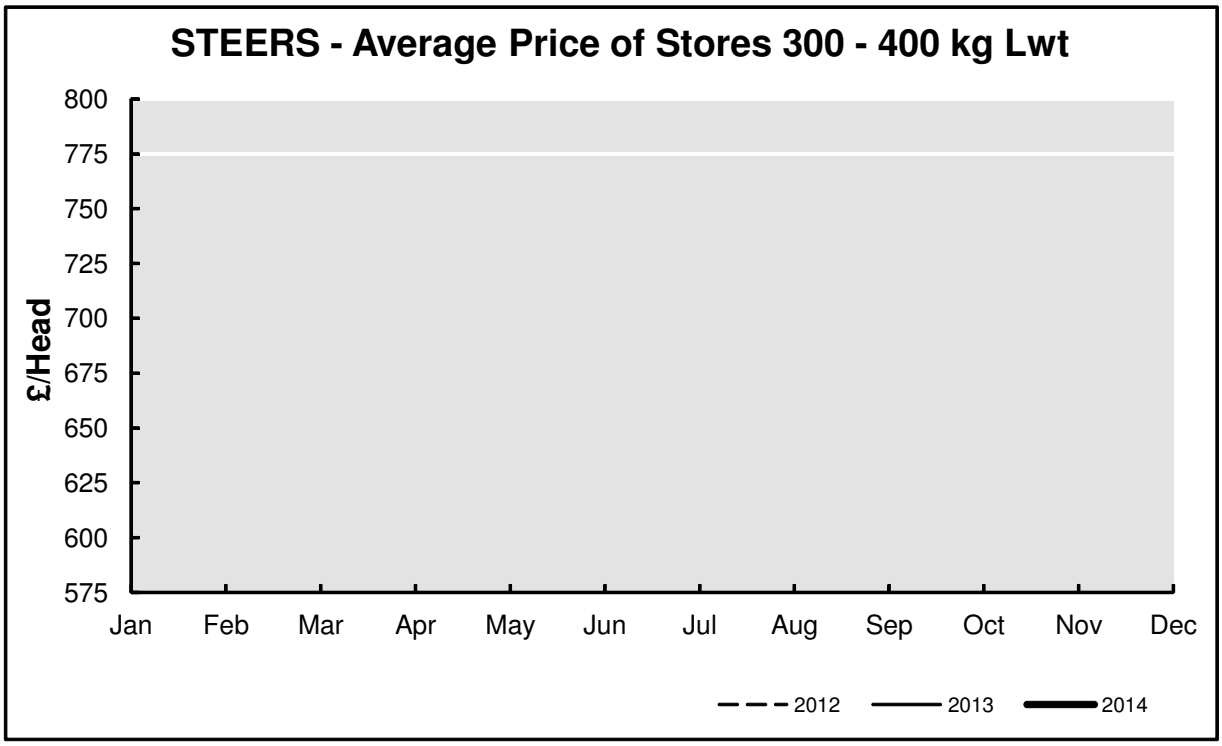
MILK AND BARLEY PRICES, 2012 - 2014



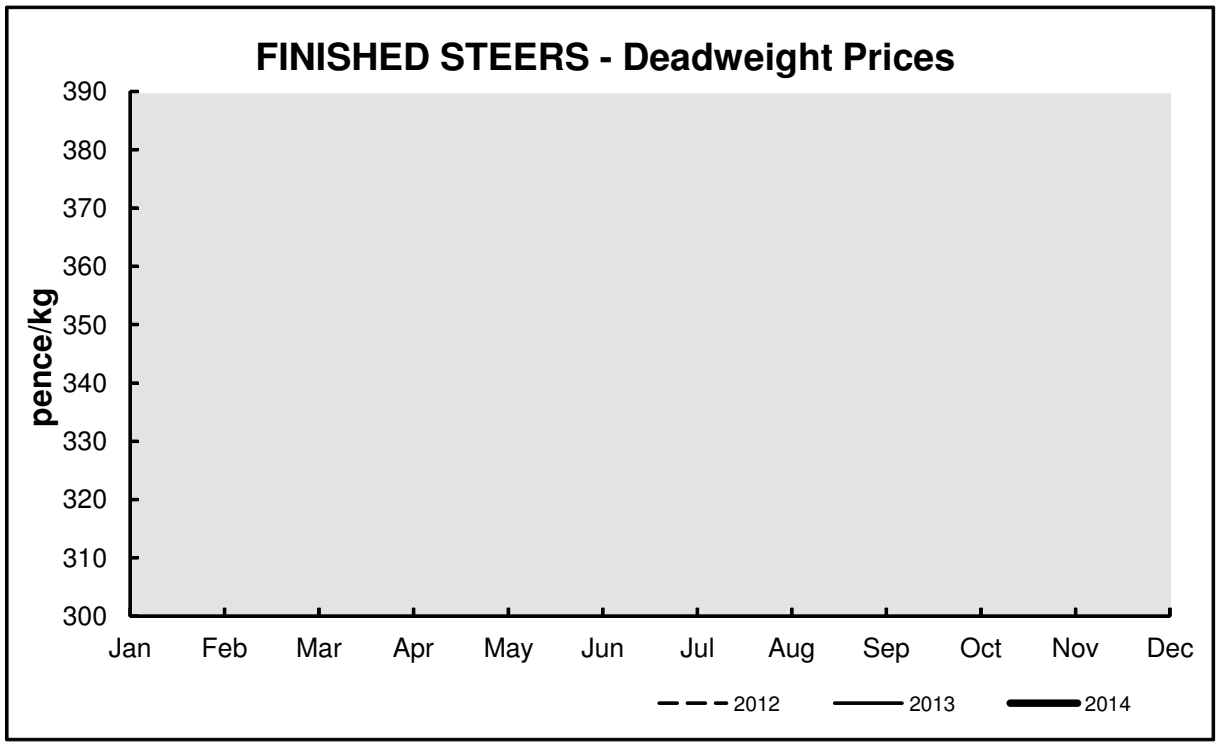


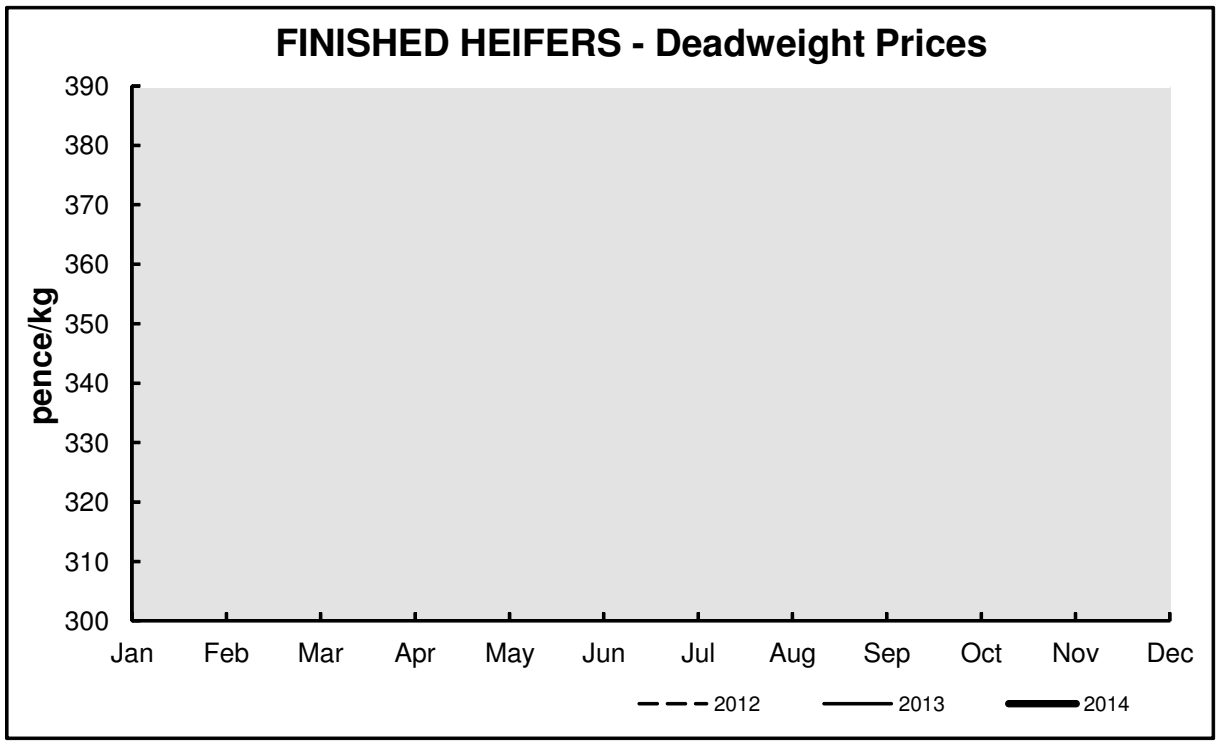
CATTLE PRICES, 2012 - 2014



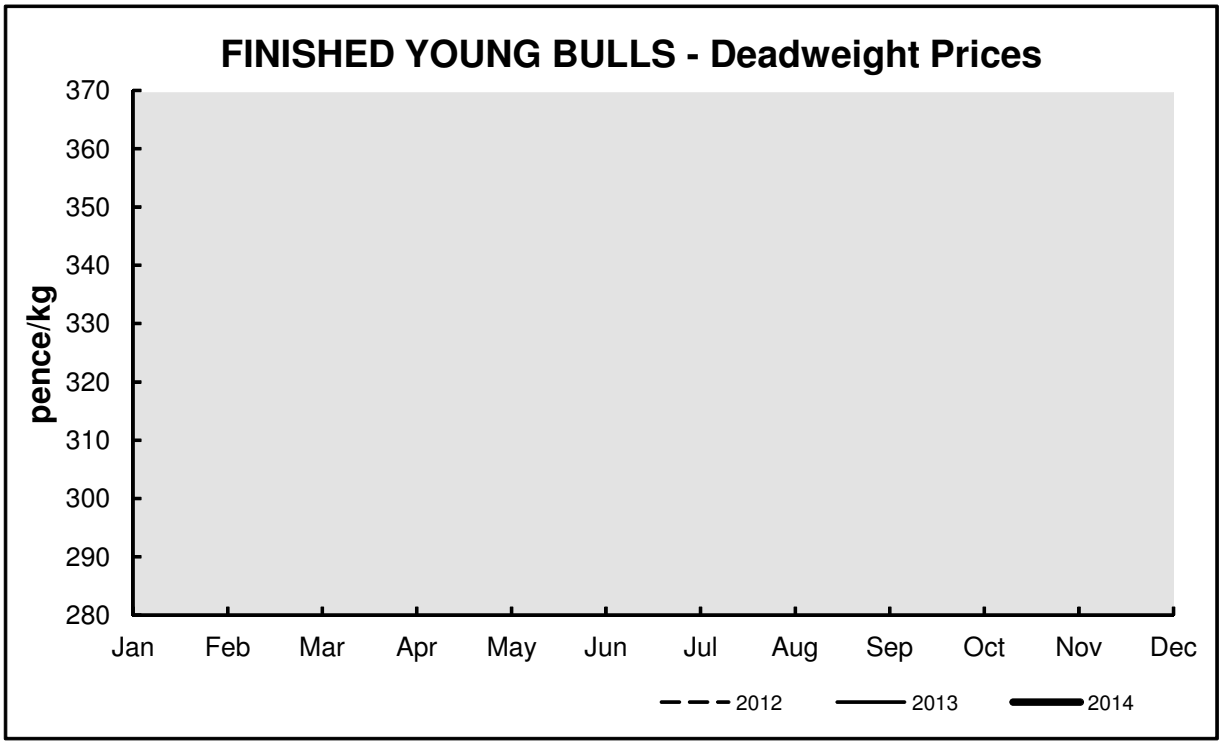


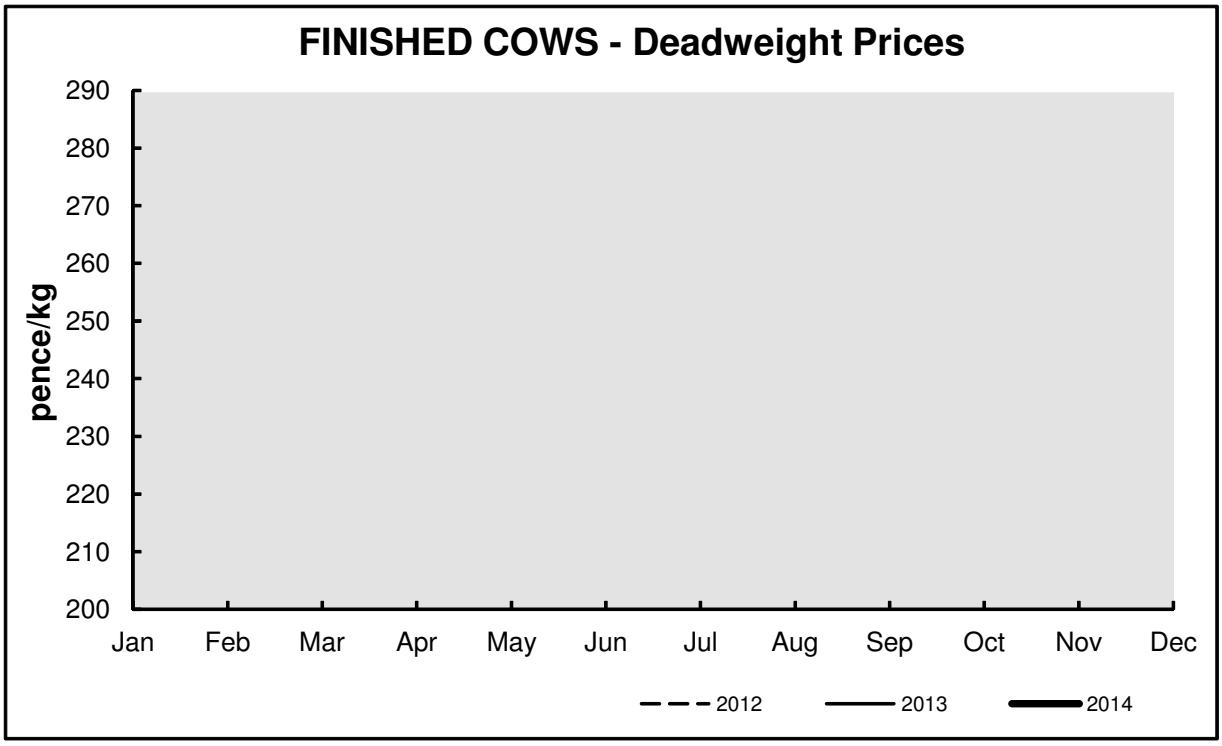
BEEF PRICES, 2012 - 2014



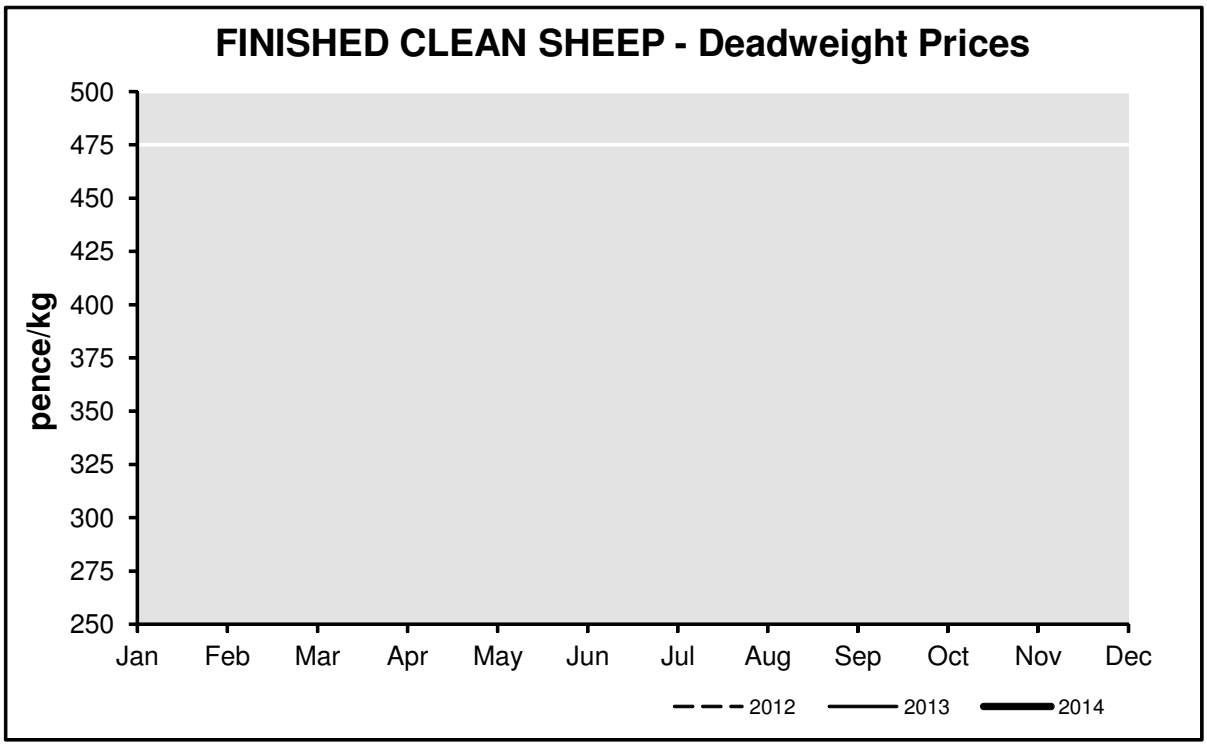


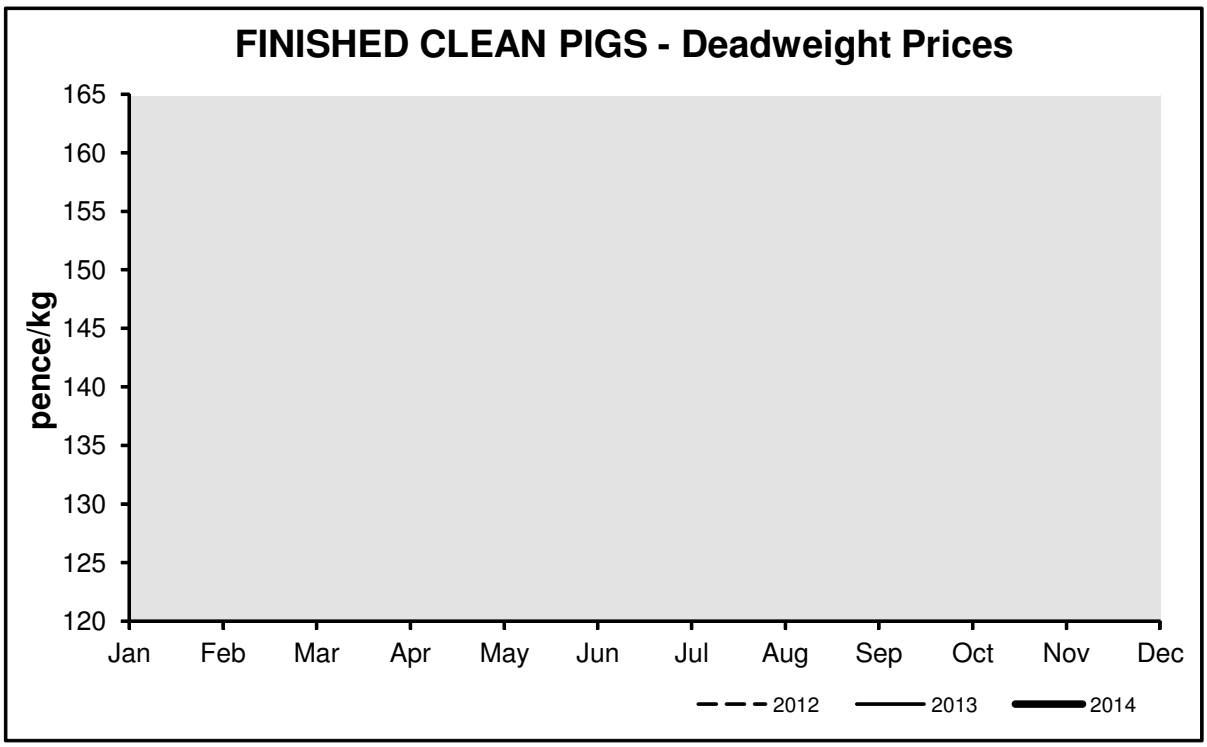
BEEF PRICES, 2012 - 2014





LAMB AND PIGMEAT PRICES, 2012 - 2014





DARD CONTACT LIST

You can contact the Department of Agriculture and Rural Development (DARD) by telephone, in writing, by email or by forwarding your request through the website www.dardni.gov.uk.

By Telephone

If you know the name of the person you wish to speak to, please telephone **0300 200 7850**. For all other enquiries please select the appropriate number from page 123.

The DARD Helpline number is **0300 200 7852**

In Writing

If you wish to write to the Department you can use the following postal address:

Department of Agriculture and Rural Development
Dundonald House
Upper Newtownards Road
Ballymiscaw
Belfast BT4 3SB
Northern Ireland, UK

By Email

The DARD Helpline email is dardhelpline@dardni.gov.uk

By Website

Customer feedback / queries can be made at:

http://www.dardni.gov.uk/feedback.htm

New DARD Telephone Numbers

Animal Health & Welfare and Veterinary Public Health Information and services relating to livestock movements, trade, animal welfare, veterinary public health, and the prevention and control of animal diseases.	**0300 200 7840**
Cattle Registration Line Registration of cattle births and deaths by telephone.	**0300 200 7855**
Education and Training Education and training courses provided by CAFRE.	**0300 200 7841**
Environment Agri-environment schemes. Countryside Management advice including Cross-Compliance, Nitrates Directive, Codes of Good Agriculture Practice, Farm Waste Management, Uncultivated Land Regulations and Field Boundary Removals.	**0300 200 7842**
Farming Livestock. Crops. Horticulture. Plant health. Equine. Organic farming. Farm business management. Information technology.	**0300 200 7843**
Fisheries Aquaculture. Sea fisheries. Fish health. Foyle, Carlingford & Irish Lights Commission.	**0300 200 7844**
Flood Defence and Drainage Sea and river defences. Flood protection. Flood risk management. Drainage. Maintenance of designated watercourses. *For flooding emergencies call the Flooding Incident Line 0300-2000-100.*	**0300 200 7845**
Food Knowledge and technology transfer. Marketing support to food businesses. Food industry training. Food Business Incubation Centre. Food Safety. Product certification. Marketing and quality standards.	**0300 200 7846**
Forests Timber production and marketing. Plant health controls for wood and bark, Woodland grants (including Short Rotation Coppice). Recreation. Educational visits. *For caravanning and camping bookings you will need to book directly with the Forest Park.*	**0300 200 7847**
Grants and Funding Single Farm Payment, LFACA, agri-environment, farm, fisheries, forestry and rural development payments and grants, pre-2005 schemes.	**0300 200 7848**
Rural Development Northern Ireland Rural Development Programme, Rural and community development, Farm diversification, Rural Champion, Rural Proofing, Rural White Paper.	**0300 200 7849**
DARD Corporate Services DARD Headquarters, Press Office, information services and systems, human resources and facilities management.	**0300 200 7850**
Text Relay If you have hearing difficulties you can contact the department via text relay.	**18001 + number (from a textphone)** **18002 + number (from a telephone)**
Calls from non-UK numbers or networks/International Calls	**+44(0) 28 9049 5780**

Agri-Food and Biosciences Institute (AFBI)

AFBI Headquarters
(Agri-Environment, Economics, Fisheries, Food Science, Plant Science, Statistics)
18A Newforge Lane
BELFAST BT9 5PX
Tel: 028 9025 5636
Fax: 028 9025 5035
Website: www.afbini.gov.uk
e-mail: info@afbini.gov.uk

AFBI Hillsborough
(Agricultural Research Institute)
Large Park
HILLSBOROUGH BT26 6DR
Tel: 028 9268 2484
Fax: 028 9268 9594

AFBI Crossnacreevy
(Seed Certification Plant Testing Station)
50 Houston Road
Crossnacreevy
Castlereagh
BELFAST BT6 9SH
Tel: 028 9054 8000
Fax: 028 9054 0001

AFBI Omagh
(Veterinary Sciences Division)
43 Beltany Road
Coneywarren
OMAGH BT78 5NF
Tel: 028 8224 3337
Fax: 028 8224 4228

AFBI Stormont
(Veterinary Sciences Division)
Stoney Road
BELFAST BT4 3SD
Tel: 028 9052 5791
Tel: 028 9052 0011
Fax: 028 9052 5773

AFBI Loughgall
(Horticulture and Plant Breeding Station)
Manor House
Loughgall
ARMAGH BT61 8JA
Tel: 028 3889 2344
Fax: 028 3889 2333

AFBI Bushmills
River Bush Salmon Station
Church Street
BUSHMILLS
BT57 8QJ
Tel: 028 2073 2544
Fax: 028 2073 2130

Agri-Food and Biosciences Institute (AFBI) was created on 1st April 2006 as the amalgamation of DARD Science Service and the Agricultural Research Institute of Northern Ireland.

****

Department of the Environment (DOE)
Northern Ireland Environment Agency (NIEA)

Water Management Unit, 17 Antrim Rd, Lisburn, BT28 3AL

Internet - http://www.doeni.gov.uk/niea/
General Enquiries Tel: 028 9262 3100
Fax Number: 028 9267 6054

Agriculture Regulation team Tel: 028 9262 3188
(Nitrates Action Programme, Nitrates Derogations & Field Storage of Poultry Litter)

SSAFO Issues Tel: 028 9262 3102
(Contact the NIEA before planning to substantially alter any existing storage facility or commission new diesel tank(s), silos or slurry tanks.

SSAFO is the control of pollution from Silage, Slurry & Agricultural Fuel Oil)

Ground Water Authorisations Tel: 028 9262 3279
(Authorisation for disposal of spent sheep dip)

Applying Sewage Sludge to Land Tel: 028 9263 3445
Registration of Waste Carriers Tel: 028 9056 9360
Simple Waste Management Exemptions Tel: 028 9056 9360
Other Waste Management Exemptions Tel: 028 9056 9358
Hazardous Waste Queries Tel: 028 9056 9710
Water Pollution Hotline Tel: 0800 80 70 60
(A 24-hour confidential hotline for reporting pollution incidents)

Policy and Economics Division
Department of Agriculture and Rural Development
Dundonald House
Upper Newtownards Road
Ballymiscaw
BELFAST
BT4 3SB

Copies of this booklet can be made available on request in alternative formats.
Please telephone 028 9052 4063

ww i .

AN ROINN
Talmhaíochta agus
Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

ISBN 978-1-84807-529-0
£7.50

DMS 14.15.253