

Figures for a Farming Future

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Getting Started in Farm Management Accounting **Part II: Mapping out a farming future**



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Published by the Department for Environment, Food and Rural Affairs. Printed in the UK, February 2004.
Printed on recycled paper containing at least 80% post consumer waste.

Product code PB9062 Part 2

Figures for a Farming Future

Getting Started in Farm
Management Accounting

Part II: Mapping out a farming future



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Foreword

UK farming will continue to face radical change in the coming years, not least through unprecedented reform of the CAP less than 12 months from now. CAP reform and decoupled support are however only two of many issues shaping the economic climate farmers face. Meeting customer requirements on price and quality is the common thread running through economically sustainable food production and diversification. This starts with ensuring the farm business is profitable and viable.

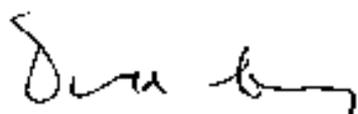
These booklets form a key part of the Sustainable Farming and Food Strategy in England. The Report of the Policy Commission on the future of Farming and Food in England noted the *'striking range in performance in farming'* and the need for a *'stronger and more comprehensive benchmarking drive to help poorer performers identify reasons why they are falling behind'*. In similar vein *A Forward Strategy for Scottish Agriculture* emphasised that farm businesses should review their cost structures and use benchmarking and peer review to test their own businesses against the best elsewhere in Scotland and abroad.

Against this background the Policy Commission recommended that *'relevant data is collected to underpin benchmarking work.'* The government's published response took this forward: *'A booklet on management accounting for farmers is being produced to provide an industry standard for definitions.'*

These booklets take this further by covering definitions and by providing a means by which farmers will be able to make better use of their annual accounts and get an introduction to basic farm business management techniques. They are aimed at all farmers, including those who, perhaps through some lack of confidence or interest, have not been involved with business management, planning and budgeting. The booklets will help farmers keep track of how well their business is performing and plan what action, if any, they need to take.

Two booklets have been prepared under the joint title 'Figures for a Farming Future'. The first, 'Using the Farm Accounts to Point the Way' explains how to make use of the farm's profit and loss account and the balance sheet to see where the business sits and how viable it is. The second booklet, 'Mapping Out a Farming Future' explains how possible changes to the farm business are assessed so that plans are made on as sound a basis as possible.

The booklets cannot provide all the answers, but they do provide a starting point, and a platform from which outside help can be more usefully applied, be it from the Farm Business Advice Service in England, the forthcoming Farm Business Advice and Skills Service in Scotland, consultants, accountants or benchmarking with other farmers. The Food Chain Centre has gathered evidence from farmers who practice benchmarking and has shown it can bring beneficial results. The Food Chain Centre, Defra and the Scottish Executive will be promoting benchmarking to farmers and encouraging them to participate in the increasing number of schemes available. Similarly the Red Meat Industry Forum is working with livestock producers to promote and embed the use of benchmarking as one of the means to achieve continuous business improvement.



Sir Donald Curry

Preface

The authors, Defra and SEERAD (Scottish Executive, Environment and Rural Affairs Department) would like to thank the farmers that took part in the pilot testing of these booklets as well as the many stakeholders who provided comments and suggestions, including the Institute of Chartered Accountants in England and Wales and the British Institute of Agricultural Consultants.

Farmers can work on their own through these booklets and they will particularly help those who have little or no experience in management accounting. To take things further and thereby get even more out of these booklets, many farmers would benefit from joining a benchmarking service and/or a local farmers group covering business management awareness and skills. Others can seek individual advice from a qualified consultant or their accountant. Help is also available from the Farm Business Advice Service in England, Farming Connect in Wales and the forthcoming Farm Business Advice and Skills Service in Scotland, Contact details for these and other organisations that can help are:

Farm Business Advice Service
0845 600 9006

Forward Farming
ELITE Consortium Ltd
Stoneleigh Park
Kenilworth
Warwicks CV8 2NE
Tel: 01995 642255

Highlands and Islands Local Enterprise Company and
Scottish Enterprise Business Gateway
Helpline number 0845 609 6611.

Farming Connect Service Centre
Welsh Development Agency
08456 000813

Food Chain Centre at IGD
Grange Lane
Letchmore Heath
Watford
Herts WD25 8GD
Tel: 01923 857141
www.foodchaincentre.com

Milk Development Council
Milk Bench – National Dairy Benchmarking System
www.milkbench.org.uk

Red Meat Industry Forum
PO Box 44
Winterhill House
Snowdon Drive
Milton Keynes MK6 1AX
Tel: 01908 844710
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British Institute of Agricultural Consultants
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Secretary, Farming and Rural Business Group
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Chartered Accountants Hall
PO Box 433
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London EC2P 2BJ

These booklets are part of a package of management accounting aids to farmers that the Government will release in 2004. In addition to these booklets there will be 3 key items:

1. A Guide to Converting the Farm's Financial Accounts into Management Accounts

This will show how farm financial accounts and management accounts can be reconciled. The document will provide farmers and others with a better understanding of how financial accounts can be converted into management accounts.

2. A Interactive Database based on Farm Business Survey Data

This will enable the individual farmer to compare the financial results from their farm business with group averages based on data from the Farm Business Survey.

3. Publication covering terms and Definitions and their Application in Farm Business Management

A more exhaustive publication to cover terms and definitions and their application in the context of farm business management,

Announcements will be made by Defra and SEERAD as and when these items become available.

Introduction

This booklet follows the earlier publication *'Using the Farm Accounts to Point the Way'*. After you have assessed your business using the publication shown above, you may need to consider changing your business activities. This booklet offers a method to enable you to use financial information on planning your business.

Not only will you and your business benefit from careful planning, but potential lenders will respond more positively if you can present them with a realistic business plan.

Does the assessment you carried out in *'Using the Farm Accounts to Point the Way'* show that you need a major change to your farming system? If this is the case, the process of 'whole farm planning' is described from page 9 of this booklet. We have simplified the process as far as possible, so you can try to develop your business yourself. If you need any help, you can get advice from a qualified farm business adviser.

If you need to carry out 'whole farm planning', follow the procedure described from page 9 onwards.

Or, did your assessment show you need only minor changes or need only to fine-tune your current system? If this is the case, 'partial planning' can show you the effect of swapping one enterprise for another, or increasing the size of one enterprise at the expense of another. A small change in your farm system may improve the viability and stability of your business.

If you want to make a partial change to your existing system, the simplified procedure is described below. The later section (from page 9 onwards) deals with making more major changes to the business.

Action:

- Work your way through the booklet, preferably with another person or a specialist adviser.
- Consider joining farm management/benchmarking clubs or groups.
- Look at the management training options provided by your local agricultural college.
- Consider engaging a farm business consultant.

Partial planning – planning a partial change to your current system

1 Set your goals

Example

The current farm system is not making enough profit to be viable (financially sustainable).

Goal: to increase profits by at least £8,000.

Example

A son or daughter is returning home from higher education to help run the farm, but the farm profit can only cover half their personal needs of £12,000 a year.

Goal: to increase profits by at least £6,000.

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Activity – Identify your goals here:

2 What are the options for changing your business?

Examples:

Increase the size of the outdoor pig-breeding herd	Introduce a higher-value cash crop, for example, bulb onions	Introduce another farm stock enterprise, for example, free-range laying hens	Create a new enterprise, for example, enlarge an existing pond, stock it and create a fishing enterprise	Let out land, employ a contractor or sell machinery	Improve the productivity of existing enterprises by improving technical management
----------------------------------------------------	--------------------------------------------------------------	------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	-----------------------------------------------------	------------------------------------------------------------------------------------

Activity – Identify your likely possible options here:

3 Assess your options and choose an outline plan

Example: free-range hens

Strengths	Weaknesses	Opportunities	Threats
Don't need much land Don't need much capital investment if you use the existing building Direct marketing	Need new skills Can be a lot of investment	Sell eggs direct Customer demand Premium price Mix rations using own cereals and reduce costs	Competition Disease Unstable market

Activity

Assess your likely options, using one table as below to assess each option.

Option...

Strengths	Weaknesses	Opportunities	Threats

Activity

Choose your best option (or mix of options) from your assessment, and outline the expected level of production. This will form the basis of your plan.

Partial planning – planning a partial change to your current system

Example:

Option: Increase pig-breeding enterprise	Outline detail: 50 more breeding sows
Option: Introduce bulb-onion enterprise	Outline detail: 10 hectares from barley area
Option: Introduce free-range egg enterprise	Outline detail: 3000 layers (4 hectares from barley area)

Your likely options	Outline detail

Activity

4 Assess the resources you need to carry out the preferred changes

Land		
Amount needed (hectares).		
Where from (which enterprise, or enterprises, will release land, if any)?		
Labour		
Current spare capacity (for example, half a person's time, none and so on).		
Skills needed:		
If you need extra labour, where will it come from (for example, contract or casual)?		
Capital		(£)
Assess the capital you need (for example, for 3000 free-range hens: capital for shelters, stock, equipment, fencing and so on).	(A)	
How much capital (if any) will be released as a result of the changes (for example, by selling machinery or equipment)?	(B)	
Net amount needed:	(A) – (B)	
Is this amount available?		Yes <input type="checkbox"/> No <input type="checkbox"/>
If not, where will extra capital come from (for example, overdraft or loan)?		

Activity

Summarise your review of the resources you need by ticking the appropriate boxes.

Is the land available?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the labour available?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Is the capital available?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Will I be able to market the produce at the necessary prices?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

If you have answered 'Yes' to all four questions, go on to stage 5. If not, can you find ways to cover resource needs, or is it 'back to the drawing board'?

5 How will your planned change affect farm profits?

What will you **gain** in terms of extra revenue and reduced costs? What will be **lost** in terms of revenue and extra costs?

When estimating costs of the new enterprise, consider carefully the implications of introducing it. There may be little or no extra cost if the new enterprise will make use of resources currently on the farm.

Activity

Assess the possible profits of your plan by filling in the following table. Make sure you document the physical and financial assumptions made.

		Amount (£)	Notes
Extra income			For example, sales of free-range eggs of 300 eggs per bird at 63p a dozen (from the new enterprise)
Total income gained	(A)		
Cost savings			For example, some fertiliser, seed and spray expenditure (from the barley enterprise)
Total costs saved	(B)		
Total possible gains	(C)		The sum of (A) + (B)
Lost income		Amount (£)	Notes
			For example, possible sales of barley (from the barley enterprise)
Total income lost	(D)		
Extra trading costs			For example, feed, vet and medical fees, wages (for the new free-range enterprise) Do not include capital costs of buildings or machinery, but you must include interest charges on any additional borrowing that results from the project (see note 1 below) and any extra depreciation.
Total extra costs	(E)		
Total to off-set against possible gains	(F)		The sum of (D) + (E)
Change in profits	(G)		The sum of (C) - (F)

The total **(C)** minus the total **(F)** represents the change in profits compared to your current farming system, when the revised system is fully up and running.

1. E.g. If you borrow £10,000 to buy a machine over 5 years @ 7% interest, you will pay on average £440 interest/year. Your bank manager will be able to advise you on the annual interest charged on any extra borrowing. The tables on pages 21 and 35 provide more information about interest charges according to amount borrowed, interest rate and length of loan.

Partial planning – planning a partial change to your current system

Activity

What is the overall change in profits and does it achieve the goal you identified? Answer this question by filling in the following table.

		Amount (£)		
Change in profits	(G)			
Profit goal (from page 2)	(H)			For example, increase profit by £8,000
Is the total (G) more than (H)?		Yes <input type="checkbox"/>	No <input type="checkbox"/>	
If 'Yes', by how much?	(G – H)			
If 'No', by how much?	(G – H)			

If your planned change does not meet your profit goal, can **realistic** adjustments be made within your chosen options to achieve the goal? Or, is it 'back to the drawing board'?

Activity

Make a note of any adjustments you can make to your physical or financial plans.

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6 How will your chosen plan change the pattern of cash flow in and out of your business?

Activity

Assess likely **changes** in your cash-flow patterns over the first year by filling in the table. The **timing** of changes in revenues and costs is particularly important.

Description		Total for the year	First quarter	Second quarter	Third quarter	Fourth quarter
Quarterly (three-monthly) increases in revenues (identify the expected income from the new enterprise, for example selling free-range eggs)	(A)					
Quarterly decreases in revenues (identify the expected loss of revenues from any enterprises you have replaced or reduced in size, for example, loss of income from wheat and barley sales)	(B)					
Capital released by planned change (if any, for example selling machinery or equipment)	(C)					
Net effect on revenues (A) – (B) + (C)	(D)					
Quarterly increases in costs (identify the trading costs associated with the new enterprise, for example, feed, vet and medical fees, wages and so on for free-range hens) and any increase in interest charges.*	(E)					
Quarterly decreases in costs (identify the trading costs saved from any enterprises you have replaced or reduced in size, for example, some fertiliser, seed and spray expenditure from the wheat and barley enterprise)	(F)					
Capital expenditure to carry out the planned change (from page 3)**	(G)					
Net effect on costs (E) – (F) + (G)	(H)					
Overall net effect of the changes	(D-H)					

Use these figures to identify the net changes in your funds through the year. For example, if the **overall net effect (D-H)** for the first quarter is -£3500 and you would expect your current system to result in an overdraft of £20,000, you could now expect the overdraft to be £20,000 + £3500 = £23,500 after the change.

* an increase in interest charges will occur if you need to borrow capital to fund the change, e.g. to purchase a new building for free range hens.

** include here repayments of borrowed capital/loan repayments but do not include interest charges as they are already included in costs further up the table.

Partial planning – planning a partial change to your current system

Activity

Check that the overall net effect in each quarter does not cause your closing balance to be higher than your overdraft limit.

The balances represented by (D-H) may show that you need to invest more capital, for example by using a loan or overdraft facility.

You will also probably need to project the pattern of cash flow forward by another year or more to show the full effects of the changes. Ideally, in the 'total for the year' column, the overall net effect of the changes will be positive.

7 Assessing your proposed changes for risk

Risk is an important part of planning that you need to consider. You need to assess how vulnerable your future business is to risk, and consider measures you could take to off-set risk.

- How specialised is your proposed system, after introducing the changes? How dependent are you on one enterprise, or the price of one product (for example, the price of eggs)?

Activity

Assess your risk and circle the appropriate option.

Not vulnerable

Vulnerable

Very vulnerable

- Is there any surplus profit in your proposed system to absorb a 'hit' from, for example, a fall in the price of eggs or an increase in the cost of feed?

Activity

Assess your profit reserve risk and circle the appropriate option.

Surplus profit

Small surplus profit

No surplus profit

- How vulnerable is your proposed business to competitive risk? (for example, a business selling organic vegetables to just one buyer would produce high competitive risk)

Activity

Assess your competitive risk and circle the appropriate option.

Not too vulnerable

Vulnerable

Very vulnerable

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- Can you take any steps to reduce risk?
For example:
 - use contracts to minimize price fluctuations.
 - branch out into different farm activities?
 - sell direct to customers at competitive prices?
 - give better or personal service?
 - give your produce a healthy, locally-grown image?

Financial summary of your proposed changes

Activity

Summarise the expected financial implications of your plan.

Capital	If you need extra capital (page 3)			Notes
	How much?			
	Where from?			
	Is the capital available?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Profit	Estimated change in profit (from the profit budget on page 4)			
	Is the extra profit enough to meet your goal (identified on page 2)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Cash flow	Is the pattern of cash-flow within overdraft limits (page 6)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Risk	Have you planned any anti-risk measures (page 8)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Did you answer 'Yes' to all the questions?		You have met all the requirements for full viability , so you can put the plan into practice.		
Did you answer 'No' to one or two questions?		Your plans may be potentially viable . Do you need to make some realistic adjustments to your plans to achieve viability?		
Did you answer 'No' to three or four questions?		Your plans are probably not viable . The planned system does not meet the necessary levels of financial performance. You need to choose and test another plan.		

If you have assessed your plan as fully viable, you will need to monitor your cash flow carefully and compare the actual figures with your forecasts each month. Monitoring progress allows you to have control over the progress of your plans. This is good management and will make your goals more achievable.

Whole farm planning – making major changes to your current system

This section covers the steps involved in planning a major review and change to your system. Whole farm planning takes a detailed look at the business, and aims to **choose** and **budget** for a workable and **viable** system. The **quality** of the information used in a business plan is very important. Using figures that are **realistic** for your circumstances will help produce effective plans.

You can follow these steps when producing a business plan to help in the decision-making process.

- 1 **Identify** relevant aims and goals.
- 2 **Identify** your resources and any limitations.
- 3 **Review** suitable enterprises and other business options and **choose** a promising farm plan in outline detail.
- 4 **Test** that the plan is feasible (are the necessary resources available?).
- 5 **Test** that the plan is viable (does estimated profit meet the needs of the business?).
- 6 **Test** that the plan's cash-flow is viable (does it create enough cash to fund the plan?).
- 7 **Test** the plan for risk.

1 Setting aims and goals

What do you need or want to achieve for your business? Examples of aims and goals **may** include the following.

Personal	Financial	Physical	Social
Leisure and pleasure Personal development Family considerations, health, succession. Care of the environment Prestige Other	Profitability Viability Stability Adequate cash flow	Quality of produce Good long-term husbandry Care of the farm Landlord-tenant agreements	Responsibility to: family employees the local community society

You need to prioritise these goals and weigh up any conflicts between them.

Activity: If you have not already thought about your specific goals, identify them for your business now.

These 'strategic' goals should help you develop a 'practical farming plan' that takes account of current resources and available opportunities.

Making enough profit will be an important **financial** goal, in order to meet the demands of the business for private drawings, tax, repaying loans and reinvestment to maintain the business (for example, in buildings, machinery and equipment).

To identify what level of profit is 'enough' you need to ask:

- How much **profit** does my system need to produce to allow for drawings, tax, loan repayments and reinvestment?

You need to estimate the demands on your profit, i.e. details of personal drawings, tax, loan repayments and reinvestment for both your current system and your proposed system, when you have chosen it. The remaining steps in this booklet will help you choose your proposed system.

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Activity

Identify your **profit** 'target' by listing the annual needs in the table below. You will only be able to complete all the boxes in the right hand column after you have worked your way through the remainder of the booklet.

	Your Farm (Current system) Amount (£)	Your Farm (Proposed system) Amount (£)
Private drawings		
Tax		
Repayments of loans		
Reinvestment in buildings, machinery and equipment*		
Total Profit target you need to make (before depreciation**) to achieve viability	£	£

* to estimate this you need to consider the amount of capital the business would normally invest in buildings, equipment and machinery in one year, less disposals (asset sales). To do this for the current system you could consider the average annual investment (net of trade-ins) over the last 5 to 10 years as that will give you an indication of the 'normal' annual level of investment. For the proposed system, however, you will need to consider if a higher (or lower) level of annual re-investment would occur. For example, the proposed system might require you to raise the level of annual investment in machinery because different types of machinery will be required under your proposed system. You may need to seek specialist advice on this.

** depreciation (spreading the cost of an asset over its useful life) is included in the calculation of net profit but is not a cost to the business in terms of cash. The demands on profit however have to be met with available cash. Therefore the profit target in the table is before depreciation.

2 Resources and limitations

Before you consider options for change and choose your preferred mix of activities, you need to have in mind an overview of your existing business and resources, and consider whether it is practical to make the changes.

Activity

Using the table on the next page as a guide, identify the quantity and quality of the resources you can use, including their limitations.

Whole farm planning – making major changes to your current system

Resource		Your notes
Land	Farm size	For example, high, medium or low
	Soil types	
	Farmable area	
	Productivity	
Labour	Number of staff	
	Available skills	
Capital	Own development capital available	Amount (£)
	Possibility of borrowing more money	Amount (£)
	Grants	Amount (£)
Buildings	Total capacities	For example, head of stock or tonnes of grain
	Flexibility of use	For example, consider how easy it is to use them for other purposes
Machinery and equipment	Availability	For example, a list or schedule of items on the farm
	Flexibility of use/ change of use	For example, suitability for use in other enterprises
Physical limitations	Rainfall	
	Slopes and so on	
Management	Skills and abilities	
External environment	Markets	
	Safety	
	Pollution	
	Regulation	
	Policy changes	

Whilst the above table and process is very helpful in identifying strengths and limitations of the farm's resources, it assumes that the resources on the farm are relatively 'fixed'. When working your way through the table, you may need to think beyond the farms current resources by considering options which involve for example

- taking on more land
- investing in additional machinery and buildings
- letting out the land to a third party or arranging for it to be contract farmed.

3 Options and choosing a plan

By taking account of available resources, you now need to identify and consider relevant options.

Which activity or mix of activities looks like the most promising route to **achieving your goals?** To answer this question, you need to do the following:

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Activity

Make a list of ideas that might allow you to achieve your aims, without making any judgements about them. It would be wise to include a wide range of possibilities at this stage.

Examples of options to consider

Traditional	Non-traditional	Reorganising assets
Livestock Crops	New enterprises Off-farm income.	Selling land or buildings Leasing or letting out (for example, machinery or a quota) Machinery sharing Contract farming Share farming

Activity

Reduce these ideas to a **short list** by considering each in the light of your prioritised goals and your own interests. Provide an **outline** of the plan.

Example:

Option: for example a dairy farm aiming to achieve good levels of output and to use investment wisely	Outline detail: number and types of livestock, forage areas and area of arable or root crops (hectares), for example 120 dairy cows needing 55 forage hectares
--------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------

Your likely options	Outline detail

Activity

For each enterprise or activity included in your short list, consider any associated **strengths** and **opportunities**, along with any **weaknesses** or **threats** (and consider how you could tackle these). For example, **maincrop carrots**:

Strengths	Weaknesses	Opportunities	Threats
Cash crop	Variable produce prices	Contracts	Supermarkets tied to large-scale producers
Potential high value	Vulnerable to the climate	Retail packaging	Changing consumption
Good cash flow	Vulnerable to disease	Co-operation	
Suited to the ground	Very capital intensive if it entails investment in machinery, storage and packing facilities		

Whole farm planning – making major changes to your current system

Strengths	Weaknesses	Opportunities	Threats

Now from your short list you need to choose the system you think is most likely to achieve your goals.

Activity

Summarise your chosen system and the **business reasons** for the proposed plan at the bottom of the page. What are its advantages from a business viewpoint, for example, good cash-flow pattern and/or anti-risk measures?

Now that you have chosen your preferred plan in outline, it is essential to test the planned system to make sure that:

- there is enough **land, labour, machinery and buildings** to carry out the plan;
- there is enough **financial capital** available to carry out the intended plan if you need new investment;
- the expected **profit** from the proposed system, **when up and running**, is enough to meet the needs of the business; and
- **cash balances** (cash flow) **during** and **after** you introduce the new system are adequate.
- it meets personal goals set out on page 9.

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4 Test that the plan is feasible (are the necessary resources available?)

You must test the **feasibility** of the proposed plan by measuring the **demands** on capital and other resources (land and labour) that will happen in the first 12 months. If these demands are within the total amount of **available land, labour and capital**, the plan is **feasible**. On the other hand, if the plan appears to need more capital than is available, is there any room for reducing the capital investment **realistically**, or is it back to the drawing board for a new plan?

Activity

Assess the resources you need to introduce the preferred changes.

Land	
Amount needed (hectares)	
Where from (which enterprises, if any, will release land?)	
Labour	
Current spare capacity (for example, half a person's time, none and so on)	
Skills needed:	
If you need extra labour, where will it come from (for example, contract or casual)?	

Capital		(£)	
Assess what new investment capital you will need for buildings, machinery, plant and equipment (for example, 450 outdoor sows: capital for shelters, stock, equipment, fencing and so on).	(A)		
How much capital (if any) will be released as a result of the changes (for example, sale of machinery or equipment)?	(B)		
Net amount needed:	(A) – (B)		
Is this amount available?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If 'No', where will extra capital come from (for example, an overdraft or a loan)?			
If the net amount you need is available (with or without extra borrowing), the plan is feasible. Has your system passed the capital test?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If no, can you realistically reduce the capital required for the system?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
If no, you need to select and assess an alternative plan			

5 Test that the plan is viable (does the plan generate enough profit?)

When you have shown that the plan is **feasible**, you can then assess whether it is **viable**.

Does the profit expectation meet the needs of the business? You will remember that the amount of profit (profit before charging depreciation – see page 10) made needs to cover:

- private drawings;
- tax;
- repayments on loans and mortgages; and
- reinvestment to maintain the business (for example, in buildings, machinery and equipment).

You have already assessed the demands on your profit (on page 10). You now need to assess whether the expected profit from your proposed system will cover these demands in order for your system to be **viable**.

You need to ask: 'How much **profit** (before charging for depreciation) will my proposed system create for me to spend on drawings, tax, loan repayments and reinvestment?'

You can answer this question by producing a **profit budget** for a 'normal' year when the proposed system is fully up and running.

Profit budget

You need to plan each enterprise making up the proposed farm system individually and monitor its progress if the whole business is to achieve its potential. As a result, for management purposes you need to work out the profit budget using **enterprise gross margins** and **fixed** costs.

The idea of gross margins was developed to allow farmers to focus on individual enterprises and assess their contribution to overall profitability, while avoiding the difficulty of allocating **fixed** costs (like power and machinery) to each enterprise. Because fixed costs are not considered, a gross margin is not a profit figure. You can only get the profit figure when you have deducted the farm's fixed costs from the whole farm gross margin.

A gross margin is only concerned with the **output** of an enterprise and its associated **variable** costs.

Enterprise gross margin = enterprise output less variable costs

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For planning purposes, a gross margin for winter wheat could look like this.

Winter wheat (milling)

	£	Performance details	
Enterprise output:		Yield (tonnes for each hectare)	<u>7.25</u>
Grain	543.75	Value (£ for each tonne)	<u>£75</u>
Straw	30.00		
Arable area payment (2004 only)*	225.00		
Enterprise output	<u>798.75</u>		
Variable costs			
Seeds	40.00		
Fertilisers	80.00		
Sprays	105.00		
Sundry crop costs	10.00		
Total variable costs	<u>235.00</u>		
Enterprise gross margin	<u>563.75</u>		

*From 2005 harvest onwards, arable area payments will be zero. In 2005 a decoupled single payment will be introduced. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and **profit**.

This wheat enterprise has a gross margin of £564 for each hectare (one hectare = 2.47 acres).

This amount is then available to cover the **fixed** costs (which are equally shared over the whole farmed area) and to contribute to the whole farm **net margin** or profit made by the business.

You must make **realistic** assumptions about yields, prices and costs when working out the enterprise gross margins.

What is enterprise output?

The gross output of an enterprise is the total value of production of the enterprise together with any enterprise specific subsidies. From 2005 onwards, however, enterprise specific subsidies will be zero.

In the case of livestock, it is essential that you cost **trading** livestock (that you will sell later on) as a reduction in output. For example, animals bought in at 12 months and sold fat at 18 months only contribute to enterprise output for six months, and this must be reflected in the enterprise output figure. Including the whole 18-month value as output would be misleading.

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In the case of **breeding** livestock, you must take account of replacing them by including a figure for herd or flock **depreciation**. In the example, gross margin for a dairy enterprise shown in **appendix 1** (on page 29) the replacement **cost** (herd depreciation) is shown as the difference between the cost of a down-calving heifer and the value of a cull cow, spread over the useful life of the breeding animal:

Cost of down-calving heifer (£) (A)	700
Value of cull cow (£) (B)	320
Useful life in dairy herd (years) (C)	4
Yearly cow depreciation (£) (A – B) ÷ (C)	95

Depreciation also reduces the enterprise output.

Output examples would be sales of milk, calves, beef, grain, potatoes.

What are variable costs?

Enterprise variable costs are costs that:

- change in direct proportion with changes in the scale of the enterprise;
- can be allocated to a specific enterprise; and
- you will no longer incur if a particular enterprise ends.

Examples of variable costs

Livestock	Crops
Concentrate feed (including home-grown)	Seed
Forage costs (any fodder, seed, fertilisers and sprays you have bought, and sundry forage costs)	Sprays and chemicals
Vet and medical charges	Fertiliser
Sundry variable costs	Sundry variable costs

Activity – Working out your gross margins

Now that you have selected your mix of enterprises to test for profit viability, use the blank gross margin templates in **Appendix 2** (page 32) to construct the gross margin budget for your business. Examples of gross margins for crop and livestock enterprises are shown in **Appendix 1** (page 29).

Templates are provided in **Appendix 2** for both crop and livestock enterprises:

- 1 First enter your decisions regarding land area, physical and financial performance in the **Performance Details** section.
- 2 Multiply yield (per hectare or per head) x price to estimate the primary product value (£ per hectare or head) of enterprise output.

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- 3 Next complete the remaining output items per head or per hectare (if any) and enter the variable cost data to arrive at the gross margin per head or per hectare.
- 4 Finally, multiply these figures by the number of head or hectares allocated to arrive at the enterprise gross margin.

Activity

An example of a gross margin budget for the proposed system for **Budget Farm** (a 120-hectare mixed farm, where the proposal is to carry 140 dairy cows, 240 breeding ewes and 30 hectares of milling wheat) is shown below. The detailed gross margins of the three enterprises used in planning the budget are shown in **appendix 1** on page 29.

Use your own completed gross margins to fill in the Table below and estimate your Farm Gross Margin for your proposed system.

Example of a gross margin budget for Budget Farm (proposed system)	£	Gross margin budget for your farm (proposed system)	£
Dairy	106,400	[enterprise 1]	
Winter wheat (milling)	16,913	[enterprise 2]	
Lowland sheep	6,600	[enterprise 3]	
		[enterprise 4]	
		[enterprise 5]	
		[enterprise 6]	
Total enterprise gross margin	129,913	Total enterprise gross margin	
Sundry revenue (for example, single payment, (2005 onwards) wayleaves and miscellaneous)		Sundry revenue (for example, single payment (2005 onwards) wayleaves and miscellaneous)	
	2650		
Total farm gross margin	132,563	Total farm gross margin	

The estimated profit from your chosen system can only be determined once the fixed costs have been deducted from the total shown above.

When you have allocated an area of land for each enterprise and worked out the enterprise gross margin for each, the profit budget is set out as follows.

Profit budget format

	Enterprise gross margin 1 enterprise gross margin 2 enterprise gross margin 3 equals farm gross margin sundry revenue less fixed costs equals farm net margin (profit)
plus	
plus	
plus	

Whole farm planning – making major changes to your current system

Identifying Fixed costs

Any cost that does not meet all the conditions for being a variable cost is called a **fixed** cost (or **overhead** cost). You may still have to pay a fixed cost (for example, rent) even if a particular enterprise ended. You need to deduct fixed costs from the farm gross margin to get at the farm net margin or profit figure.

The fixed costs shown in the profit budget for Budget Farm (on page 22) represent the totals for each category of cost. These categories are expanded in the following table to show the individual fixed costs they contain.

Labour	Regular labour and any casual labour.
Power and machinery (running costs)	Equipment repairs, fuels, electricity, contract and hire, vehicle licences, insurance and depreciation (of machinery and equipment), and machinery and equipment leasing costs
Miscellaneous fixed costs	Property repairs and maintenance, Council Tax, water rates, property insurances and depreciation (of buildings and property improvements). Office and phone expenses, professional fees, subscriptions and sundry overhead costs.
Rent and finance costs	Rents and grass-keep charges, interest on all borrowings (loans, mortgages, overdrafts, hire purchase), quota leasing,

How do I estimate the fixed costs for my profit budget?

- **Labour**

You have already considered whether you will need extra labour for your proposed system (see page 14). If necessary, adjust your current labour costs to make a fair assessment of the cost of labour for your budget.

It may well be worthwhile seeking specialist advice on this, particularly if the proposed change entails introducing an enterprise which is quite different to the current farming system. For example, introduction of a poultry enterprise on a cereal farm.

There are published sources of whole farm management data that can also help. Data from the Farm Business Survey and publications of the type listed at the end of this booklet indicate typical levels of labour costs for different farm types, such as dairy farms, cereal farms, cattle and sheep farms etc, and also for different farm sizes. However, make sure you seek advice if you are at all unsure how to interpret the data.

- **Power and machinery costs**

As with labour costs, it will probably be worth seeking specialist advice on how power and machinery costs will be affected by the type of change you are considering, particularly if the proposed change entails introducing an enterprise which is quite different to the current farming system. Again, data from the Farm Business Survey and other publications can also help as a guide by showing typical levels of power and machinery costs for different farm types.

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If, however, the proposed change involves only a change in the size of the current farming system, for example an expansion of the dairy herd on a dairy farm, or an increase in the cropped area on a cereal farm, it is also possible to broadly estimate the effect of the change on power and machinery costs by considering these costs as a proportion of output. In the first booklet **'Using the farm accounts to point the way'**, you would have used the technique of expressing costs as a proportion of total output to compare your costs with typical levels from farms in the Farm Business Survey. As a result, you will have a measure of the power and machinery costs as a percentage of output for your existing system. (See the section on fixed costs within part 1 of this series, **'Using the Farm Accounts to Point the Way'**).

Activity

However, if you do not have this measure to hand, work out your existing power and machinery costs as a percentage of your existing output as follows.

	Budget Farm (present system)	Your Farm (present system)
Existing power and machinery costs (A)	31,139	
Current gross output (B)	155,694	
Power and machinery as a percentage of current output $\frac{(A) \times 100}{(B)}$	20%	

You can add together the enterprise output shown in your gross margins for each enterprise (see appendix 2 on page 32) and also, from 2005 onwards, include the decoupled single farm payment. Adding all these together will give the gross output of your new system. To then estimate the power and machinery costs for your new system, use the same percentage as for your existing system, but it will be a percentage of the expected output of your new system*.

* *This method is less suitable where quite different type of enterprises might be introduced. For example, if a cereal farm were considering a potato enterprise the power and machinery costs associated with growing potatoes are likely to be larger than those from growing cereals. In this situation it would be best to seek specialist advice regarding the fixed cost implications.*

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Activity

Estimate the gross output of your new system and work out the power and machinery costs for your new system by filling in the following table.

Gross output	Budget Farm (proposed system)	Your Farm (proposed system)
Enterprise 1 (for example, dairy)	£165,900	
Enterprise 2 (for example, wheat)	£23,963	
Enterprise 3 (for example, sheep)	£12,840	
Enterprise 4		
Enterprise 5		
Enterprise 6		
Expected farm gross output (B)	£202,703	
Power and machinery cost as a percentage of output in your existing system (A)	20%	
Power and machinery costs for your profit budget $\frac{(A) \times (B)}{100}$	£40,541	

Miscellaneous fixed costs

There may be no reason to believe that your miscellaneous fixed costs will be different under the new system. If you think they will be different, adjust them. Otherwise, you can leave them as they are.

Rent and finance costs

If you have not already assessed your existing rent and finance costs while filling in part 1 of this series, you can get them from your latest profit and loss account. If extra land is required for the proposed plan, do not forget to allow for the extra rent costs that would result. An accurate assessment of the extra borrowing requirement might only be possible after you have prepared a cash flow (see page 25).

On page 14 of this booklet you considered the need for extra borrowing for your new system. You must include any extra interest on this borrowing in rent and finance costs.

The average amount of interest you may pay in each year of a five-year loan (for every £1000 you borrow) is shown in the following table at row (A). The average annual repayments and total annual payments are also shown.

Five-year loan	Interest rate						
For every £1000 you borrow	4%	5%	6%	7%	8%	9%	10%
Average interest payment each year (A)	£25	£31	£37	£44	£50	£57	£64
Average annual repayment of capital	£200	£200	£200	£200	£200	£200	£200
Total annual payment	£225	£231	£237	£244	£250	£257	£264

- Add any extra interest from row (A) above to your existing rent and finance costs to estimate the total to include in your budget.

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Note: at Appendix 3 on page 35 there is a more comprehensive table which sets out annual payments for a wide range of interest rates and lengths of loan.

Activity

Now you can complete the profit budget by entering figures for gross margins and fixed costs to estimate the expected profit level of your chosen system:

Example of a profit budget for Budget Farm (proposed system)		Profit budget for your farm (proposed system)	
	£	Enterprise gross margins	£
Dairy	106,400	[enterprise 1]	
Winter wheat (milling)	16,913	[enterprise 2]	
Lowland sheep	6,600	[enterprise 3]	
		[enterprise 4]	
		[enterprise 5]	
		[enterprise 6]	
Total enterprise gross margin	129,913	Total enterprise gross margin	
Sundry revenue (for example, single payment (2005 onwards), wayleaves and miscellaneous)	2,650	Sundry revenue (for example, single payment (2005 onwards), wayleaves and miscellaneous)	
Total Farm gross margin	132,563	Total Farm gross margin	
less fixed costs:		less fixed costs:	
Labour	19,360	Labour	
Power and machinery	40,451	Power and machinery	
Rent and finance costs	23,232	Rent and finance costs	
Miscellaneous fixed costs	15,488	Miscellaneous fixed costs	
Total fixed costs	98,531	Total fixed costs	
Net margin (profit)	34,032	Net margin (profit)	

So, is your business plan 'viable'?

The profit figure you have just estimated in your profit budget must cover the demands on profit (see page 10) if your business plan is to be **viable**. Before you can check that it does, you will need to adjust the profit by adding back depreciation costs. You need to do this because depreciation is a non cash item. Therefore, adding depreciation back to the profit will give you a true reflection of the amount of profit that is actually available for meeting all the non trading expenses of the business (i.e. the demands on profit).

Activity

Estimating depreciation costs

As with other fixed costs, it will probably be best to seek specialist advice on how depreciation costs will be affected by the proposed change, particularly if the proposed change entails introducing an enterprise which is quite different to the current farming system. Again, data from the Farm Business Survey and other publications may also help by showing typical levels of depreciation costs for different farm types.

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If, however, the proposed change involves only a change in the size of the current farming system, for example an expansion of the dairy herd on a dairy farm, or an increase in the cropped area on a cereal farm, then it should be possible to make an estimate by calculating the depreciation costs as a proportion of output as shown below. This means following the same method as was shown for power and machinery costs on page 20. In these cases you can estimate your depreciation costs as a percentage of your existing output as follows.

	Budget Farm (current system)	Your Farm (current system)
Existing machinery depreciation costs (A)	8,178	
Existing buildings depreciation costs (B)	4,278	
Total Depreciation (A + B)	12,456	
Existing Gross output (C)	155,694	
Depreciation as a percentage of output $\frac{(A + B) \times 100}{(C)}$	8%	

To estimate the depreciation costs for your new system, use the same percentage as for your existing system, but it will be a percentage of the expected output of your new system.

Activity: Estimate the gross output of your new system and work out the depreciation costs for your new system by filling in the following table.

Gross output	Budget Farm (proposed system)	Your Farm (proposed system)
Expected farm gross output (B)	£202,703	
Depreciation cost as a percentage of output in your existing system (A)	8%	
Depreciation cost for your profit budget $\frac{(A + B) \times 100}{100}$	£16,216	

Note: This method of estimating depreciation costs will not be suitable if your new enterprise demands much higher levels of investment in machinery and/or buildings than your current system. In such cases the much higher levels of capital investment will result in significantly higher levels of depreciation cost than your current system. Examples are the introduction of a dairy enterprise requiring investment in cow and milking accommodation and forage conservation machinery. Another example is the introduction of an intensive indoor pig or poultry enterprise. In this type of situation it would be better to seek specialist advice.

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Activity

Having estimated the depreciation costs, adjust the profit figure from your budget to better reflect the amount of profit that would be made available through your trading activities.

Profit adjustment	Budget Farm (proposed system)	Your Farm (proposed system)
Profit (from budget)	34,032	
Plus depreciation	16,216	
equals profit before depreciation	£ 50,248	£

If the profit before depreciation is at least equal to the demands of drawings, tax, capital repayments and reinvestment, the business plan should be viable

Activity

Fill in the table below to assess how profitable your proposed business plan is.

	Budget Farm (proposed system)	Your Farm (proposed system)
Profit before depreciation (B) (from above table)	50,248	
Profit target (A) (from page 10)	47,355	
(B) – (A)	£ 2,893	£

In the far right hand column of the table on page 10 you have identified your profit 'target' for the proposed system. Enter this figure at row (A) in the table above.

If **(B) – (A)** is a positive figure, the business plan is viable. A surplus of profit over and above the demands on profit is important because it is a kind of 'profit reserve'. This reserve could help your business to stay viable even after a sudden fall in product prices.

If **(B) – (A)** is a negative figure, the business plan is not viable. The deficit has to be made up from other sources of funds, such as an increase in the overdraft, or you or someone else investing private funds.

At this point you should also check that the profit before depreciation under your proposed system is greater than under the present system. To estimate the profit before depreciation under the current system refer to the section on the Trading and Profit and Loss Account within the first booklet "Using the Farm Accounts to Point the Way". If the profit before depreciation under the proposed system is not higher than that under the current system then there is little point in adopting the plan.

The example of **Budget Farm** shows that the proposed plan is viable, because the demands on profit are higher than the cash created through trading. It may be possible to make **realistic** adjustments to the profit budget to be **viable**. If not, you will need a new plan.

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If your planned system is not viable, can you adjust your planning assumptions **realistically**, or is it back to the drawing board for a new plan? Remember that for each new plan, the demands on the business in terms of funds needed for reinvestment (as estimated on page 10) and loan repayments should be considered.

Does your profit budget show it is viable?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If 'No', can you make realistic changes to achieve viability?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If 'No', you need to consider another plan		

6 Test that the plan's cash flow is viable (does it create enough cash to fund the plan?)

What is cash flow?

Cash flow is concerned with all the money entering or leaving your business during the financial year, whether it relates to trading, capital or private items of income and expenditure (spending). For example, loan payments shown in the cash flow will include interest (a trading item) and repayments (a capital item).

A transaction will only appear in the cash flow if it involves a transfer of **cash**. So, any internal transfers of materials or produce between enterprises (for example, home-grown barley fed to beef cattle) will not appear in the cash flow because no money changes hands. Similarly, **depreciation** is not shown because it is a non-cash item of expense.

Planning cash flow

It is essential to consider the **cash** implications of your proposed plan, to make sure that monthly **cash balances** (cash flow) **during** and **after** putting the new system into practice are adequate. It will also show you the peak borrowing requirement of your business plan.

You need to prepare a cash-flow **budget** to cover the development period until the new system is fully up and running. For some systems it may take three years (or more) to do this, while for others it may only take two years or even less.

The cash-flow budget is an important tool for monitoring and controlling the progress of your plans, because **budget** figures in the cash flow are compared each month with the **actual** flow of cash through the business shown on your bank statements. No transaction will appear on the cash-flow statement until the money has actually entered or left the business.

It is important to pay careful attention to the **timing** of receipts and payments when developing the cash-flow budget. For example, wheat sold off the farm in August will create cash-flow income at the end of September or the beginning of October.

Preparing a cash flow

When preparing a cash flow for the first time it can seem quite complex and it is easy to make mistakes. It is best to seek specialist help when preparing your first cash flow. There are cash flow templates towards the end of the booklet which can be used as a basis for your own cash flows.

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Activity

Cash-flow **viability** is shown if:

- you can put the plan into practice without going over the overdraft limit agreed by the bank; and
- once the system is fully working (for example, in year 2 or 3) the cash flow should show a yearly surplus of cash income over expenditure so that the total level of borrowing reduces over time.

Once you have put the business plan into practice, you should compare the monthly cash-flow **budget** figures with the **actual** flow of cash shown on bank statements. This will allow you to monitor the progress of your plans and give you the chance to take action (if necessary) to keep the plans on course to meet your goals.

Activity

Assess whether your plan's cash flow is viable.

Does your cash-flow budget show it is viable?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If 'No', can you make realistic changes to achieve viability?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If 'No', you need to consider another plan		

8 Assessing your proposed changes for risk

It is important that you consider risk. You need to assess how vulnerable your future business is to risk, and consider measures you could take to off-set risk. At this point, you may find it helpful to refer back to the section on risk on pages 7 and 8 earlier in this booklet.

Sensitivity analysis

Sensitivity analysis is a way of assessing how well your business can cope with the effects of negative economic conditions (for example, lower prices or poor harvest yield). Would your business still be viable under these circumstances?

You should consider the main items of income and expenditure for your particular business and how vulnerable the business would be to unexpected changes in them. For example, fertilizer and agrochemical costs are a major cost item for an arable farm business. If you have considerable bank loans, mortgages or an overdraft, how would a sudden rise in interest rates affect your profits? Or, what would be the effect of, for example, a fall in the price of milk or an increase in the cost of feed?

Whenever undertaking sensitivity analysis, only one assumption should be changed at a time to see what effect it will have on the forecast results. If more than one assumption is changed, it can be confusing as to which of the assumptions has made the biggest change to the forecast results.

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Activity

Assess your risk and circle the appropriate description.

Not too vulnerable

Vulnerable

Very vulnerable

- **Can you take any steps to reduce risk? For example:**
 - convert shorter-term borrowings to lower-cost longer-term borrowings?
 - branch out into different farm activities?
 - give better or personal service?
 - enter into fixed price agreements for output or input items?

Activity

Identify below any anti-risk measures you could consider.

1. _____

2. _____

3. _____

4. _____

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Financial summary of your proposed changes

Now it is decision time.

Activity

Summarise the expected financial effects of your plan.

Capital	If you need extra capital (see page 11)			Notes	
	How much?	£			
	Where from?				
	Is the capital available?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Profit	Estimated profit (before depreciation) see page 24)	£			
	Is the estimated profit (before depreciation) greater than under the current system and is it adequate to meet the profit target identified on page 10?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Cash flow	Is the cash-flow budget within overdraft limits (page 26)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Risk	Have you planned any anti-risk measures (page 27)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Did you answer 'Yes' to all the questions?		You have met all the requirements for full viability , so you can put the plan into practice.			
Did you answer 'No' to one or two questions?		Your plans may be potentially viable . Do you need to make some realistic adjustments to your plans to achieve viability?			
Did you answer 'No' to three or four questions?		Your plans are probably not viable . The planned system does not meet the necessary levels of financial performance. You need to choose and test another plan.			

If you have assessed your plan as fully viable, you will need to monitor your cash flow carefully and compare the actual figures with your forecasts each month. Monitoring progress can allow you to have control over the progress of your plans. This is good management and will make your goals easier to achieve.

If your efforts to 'tweak' your plans have been unsuccessful, you will need to change your mix of chosen activities and start the process again.

Appendix 1 Examples of gross margins

Examples of gross margins (used for planning the profit at Budget Farm on pages 18 and 22)

Dairy

	£	£	Performance details	
	For each cow	Total		
Enterprise output:			Number of cows	140
Milk	1,170	163,800	Yield (litres a cow)	6,500
Calf	45	6,300	Average milk price (pence a litre)	18
Dairy Premium (2004 only)*	65	9,100		
Cull cows (for example, £320 a cow at 25% replacement rate)	80	11,200	Stocking rate (cows for each hectare of forage)	2
less				
Replacement cost (for example, heifer at £700 and 25% replacement rate)	175	24,500		
Gross output	<u>1,185</u>	<u>165,900</u>		
Variable costs:				
Concentrates (for example, 1.75 tonnes at £120 a tonne)	210	29,400	Concentrate fed a litre (kg)	0.27
Miscellaneous variable costs (bedding, vet and medical fees, AI and recording fees, and dairy consumables)	135	18,900		
Total variable costs	<u>345</u>	<u>48,300</u>		
Gross margin (before forage)	<u>840</u>	<u>117,600</u>		
less				
Forage costs (fodder, seed, fertilizer and sprays)	80	11,200		
Gross margin for each cow	<u>760</u>	<u>106,400</u>		
Gross margin for each hectare of forage	<u>1,520</u>	<u>106,400</u>		

* From 2005 onwards, Dairy Premium will be part of the decoupled single payment. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and hence **profit**, as indicated in the example of a profit budget on page 22.

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Winter wheat (milling)

	£ For each hectare	£ Total	Performance details	
Enterprise output:			Hectares	<u>30</u>
Grain	543.75	16,313	Yield (tonnes a hectare)	<u>7.25</u>
Straw	30.00	900	Yield (tonnes – total)	<u>217.50</u>
Arable area payments (2004 only)*	225.00	6,750	Value (£ a tonne)	<u>£75</u>
Gross output	<u>798.75</u>	<u>23,963</u>		
Variable costs:				
Seeds	40.00	1,200		
Fertilisers	80.00	2,400		
Sprays	105.00	3,150		
Sundry crop costs	10.00	300		
Total variable costs	<u>235.00</u>	<u>7050</u>		
Enterprise gross margin	<u>563.75</u>	<u>16,913</u>		

*From 2005 harvest onwards, arable area payments will be zero. In 2005 a decoupled single payment will be introduced. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and hence **profit**, as indicated in the example of a profit budget on page 22.

Pork production

	£ Per head	£ Total	Performance details	
Enterprise output:			Number of head to be sold	<u>500</u>
Finished pig sales	54.00	27,000	Average price/pig (£ a head)	<u>54</u>
less				
Cost of livestock purchases or transfers from breeding enterprise (or both)	32.00	16,000		
Gross output	<u>22.00</u>	<u>11,000</u>		
Variable costs:				
Concentrates	14.00	7,000		
Miscellaneous variable costs (bedding, vet and medical fees, AI and recording fees, consumables)	4.00	2,000		
Total variable costs	<u>18.00</u>	<u>9,000</u>		
Gross margin for each pig sold	<u>4.00</u>	<u>2,000</u>		

Lowland sheep

	£	£	Performance details	
	For each ewe	Total		
Enterprise output:			Number of ewes	<u>240</u>
Lamb sales	49.50	11,880	Lambs sold or ewes put	
Ewe premium (2004 only)*	13.00	3,120	to tup	<u>1.50</u>
Wool	2.00	480	Average price a lamb (£)	<u>33.00</u>
Cull ewes and rams	4.00	960	Stocking rate (ewes for each hectare)	<u>12</u>
less				
Ewe and ram replacements (see note 2 below)	15.00	3,600		
Gross output	<u>53.50</u>	<u>12,840</u>		
Variable costs:				
Concentrates	8.00	1,920		
Vet and medical fees	5.00	1,200		
Miscellaneous	6.00	1,440		
Forage costs	7.00	1,680		
Total variable costs	<u>26.00</u>	<u>6,240</u>		
Gross margin for each ewe	<u>27.50</u>	<u>6,600</u>		
Gross margin for each hectare	<u>330.00</u>	<u>6,600</u>		

*From 2005 onwards, beef and sheep premiums will be zero. In 2005 a decoupled single payment will be introduced. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and hence **profit**, as indicated in the example of a profit budget on page 22.

Note 1: The figures used here assume that ewe replacements are bought. If ewe lamb replacements are home-reared, the replacement cost will only be for replacement tups, and the value of lamb sales for each ewe will be lower.

Note 2: Flock depreciation is shown as the price of replacements less the value of culls. In this example, depreciation is £11 for each ewe, but this figure will depend on:

- the average life of a ewe;
- the value of cull ewes;
- death rates;
- the costs of replacing ewes;
- ram:ewe ratio;
- the life of the ram; and
- the cost of ram replacements.

Appendix 2 Gross margin templates

Gross margin templates (for developing your budget on page 22)

Crop 1 – gross margin

	£	£	Performance details	
	For each hectare	Total		
Enterprise output:			Hectares	_____
Product 1 (A) x (B)	_____	_____	Yield (tonnes a hectare) (A)	_____
Product 2	_____	_____	Yield (total tonnes)	_____
Arable area payments (2004 only)*	_____	_____	Value (£ a tonne) (B)	_____
Gross output (C)	_____	_____		
Variable costs:				
Seeds	_____	_____		
Fertilisers	_____	_____		
Sprays	_____	_____		
Sundry crop costs	_____	_____		
Total variable costs (D)	_____	_____		
Enterprise gross margin (C) – (D)	_____	_____		

*From 2005 harvest onwards, arable area payments in will be zero. In 2005 a decoupled single payment will be introduced. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and hence **profit**, as indicated in the example of a profit budget on page 22.

Crop 2 – gross margin

	£	£	Performance details	
	For each hectare	Total		
Enterprise output:			Hectares	_____
Product 1 (A) x (B)	_____	_____	Yield (tonnes a hectare) (A)	_____
Product 2	_____	_____	Yield (total tonnes)	_____
Arable area payments (2004 only)*	_____	_____	Value (£ a tonne) (B)	_____
Gross output (C)	_____	_____		
Variable costs:				
Seeds	_____	_____		
Fertilisers	_____	_____		
Sprays	_____	_____		
Sundry crop costs	_____	_____		
Total variable costs (D)	_____	_____		
Enterprise gross margin (C) – (D)	_____	_____		

*From 2005 harvest onwards, arable area payments will be zero. In 2005 a decoupled single payment will be introduced. As, however, the single payment will not be attributable to any particular enterprise, the payment should **not** be included in enterprise output, **nor** the enterprise gross margin. It should, however, be included within **total farm output** and hence **profit**, as indicated in the example of a profit budget on page 22.

Gross margin for livestock (fattening)

Enterprise name: _____

	£	£	
Enterprise output:	Per head	Total	Performance details
	(B)	(A) x (B)	
Product 1	_____	_____	Number of head to be sold (A) _____ Average price for each unit of output (£ a head) (B) _____
Plus product 2 (if any)	_____	_____	Stocking rate (head of forage to each hectare) If applicable (S) _____
Plus subsidy (if this applies)	_____	_____	
less			
Cost of livestock purchases or transfers from breeding enterprise (or both)	_____	_____	
Gross output	_____	_____ (C)	
Variable costs:			
Concentrates or other feeds (for example, brewer's grains)	_____	_____	
Miscellaneous variable costs (bedding, vet and medical fees, AI and recording fees, consumables)	_____	_____	
Total variable costs	_____	_____ (D)	
Gross margin (before forage) (C) – (D)	_____	_____ (E)	
less			
Forage costs, if any (for example, purchased fodder, seed, fertilisers, sprays and additives)	_____	_____ (F)	
Gross margin (per head) (E) – (F)	_____	_____ (G)	
Gross margin for each hectare of forage (G) x (S)	_____		

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Gross margin for livestock (breeding)

Enterprise name: _____

	£	£	
	Per head	Total	Performance details
Enterprise output:			Number of breeding stock _____
Product 1 (A)x(B)	_____	_____	Yield (for example, kilograms, head or progeny sold per head) (A) _____
Plus product 2, if any (for example, dairy calf)	_____	_____	Average price for each unit of output (for example, pence a kg or £ a head) (B) _____
Plus subsidy (if this applies)	_____	_____	Stocking rate (head or forage for each hectare) (S) _____
Plus culls (for example, £320 a cull cow at 25% replacement = £80 a cow a year)	_____	_____	Use the same price for progeny sold or transferred to a fattening enterprise – see the note below. _____
less			
Replacement cost (for example, heifer at £700 and 25% replacement rate = £175 a cow a year)	_____	_____	
Gross output	_____	_____ (C)	
Variable costs:			
Concentrates or other feeds (for example, brewer's grains)	_____	_____	
Miscellaneous variable costs (bedding, vet and medical fees, AI and recording fees, consumables)	_____	_____	
Total variable costs	_____	_____ (D)	
Gross margin (before forage) (C) – (D)	_____	_____ (E)	
less			
Forage costs, if any (for example, fodder, seed, fertilisers, sprays and additives)	_____	_____ (F)	
Gross margin (per head) (E) – (F)	_____	_____ (G)	
Gross margin for each hectare of forage (G) x (S)	_____		

Note: If you are planning a pig breeding enterprise and weaners will be sold, you should enter the number of progeny sold and price per head in the performance details.

If, on the other hand, weaners are to be transferred to a fattening enterprise, they are still valued in the breeding enterprise at market value. The fattening enterprise is then charged for 'buying' the weaners at market value.

Appendix 3

Table showing average annual payments of interest and repayments of capital for each £1,000 borrowed

Table showing average annual payments of interest and repayments of capital for each £1,000 borrowed

Interest rate	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	16%	18%	20%	
Term of loan (years)														
5	Interest	18	25	31	37	44	50	57	64	77	91	105	120	134
	Repayment	200	200	200	200	200	200	200	200	200	200	200	200	200
	Total (£ p.a.)	218	225	231	237	244	250	257	264	277	291	305	320	334
6	Interest	18	24	30	36	43	49	56	63	76	90	104	119	134
	Repayment	167	167	167	167	167	167	167	167	167	167	167	167	167
	Total (£ p.a.)	185	191	197	203	210	216	223	230	243	257	271	286	301
7	Interest	18	24	30	36	43	49	56	62	76	90	105	119	134
	Repayment	143	143	143	143	143	143	143	143	143	143	143	143	143
	Total (£ p.a.)	161	167	173	179	186	192	199	205	219	233	248	262	277
8	Interest	17	24	30	36	42	49	56	62	76	91	105	120	136
	Repayment	125	125	125	125	125	125	125	125	125	125	125	125	125
	Total (£ p.a.)	142	149	155	161	167	174	181	187	201	216	230	245	261
9	Interest	17	23	30	36	42	49	56	63	77	91	106	121	137
	Repayment	111	111	111	111	111	111	111	111	111	111	111	111	111
	Total (£ p.a.)	128	134	141	147	153	160	167	174	188	202	217	232	248
10	Interest	17	23	30	36	42	49	56	63	77	92	107	123	139
	Repayment	100	100	100	100	100	100	100	100	100	100	100	100	100
	Total (£ p.a.)	117	123	130	136	142	149	156	163	177	192	207	223	239
12	Interest	17	24	30	36	42	50	57	64	78	94	109	126	142
	Repayment	83	83	83	83	83	83	83	83	83	83	83	83	83
	Total (£ p.a.)	100	107	113	119	125	133	140	147	161	177	192	209	225
14	Interest	18	24	30	37	43	50	57	65	80	96	112	129	146
	Repayment	71	71	71	71	71	71	71	71	71	71	71	71	71
	Total (£ p.a.)	89	95	101	108	114	121	128	136	151	167	183	200	217
16	Interest	18	24	30	37	44	51	58	66	81	98	114	132	149
	Repayment	63	63	63	63	63	63	63	63	63	63	63	63	63
	Total (£ p.a.)	80	86	92	99	106	113	120	128	143	160	176	194	211
18	Interest	17	23	30	36	43	51	58	66	82	99	116	134	152
	Repayment	56	56	56	56	56	56	56	56	56	56	56	56	56
	Total (£ p.a.)	73	79	86	92	99	107	114	122	138	155	172	190	208
20	Interest	17	24	30	37	44	52	60	67	84	101	119	137	155
	Repayment	50	50	50	50	50	50	50	50	50	50	50	50	50
	Total (£ p.a.)	67	74	80	87	94	102	110	117	134	151	169	187	205

For example, if £10,000 has been borrowed to be paid back over 16 years at an interest rate of 7%, the average total annual payment will be *approximately* £1,060 (= 10 X £106), of which the interest will be *approximately* £440 (= 10 X £44), and the repayment of capital will be *approximately* £630 (=10 X £63).

Cash-flow template contd. – expenditure items, cash surplus or deficit and closing bank balance

Expenditure	Yearly Total	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Trading expenses													
Variable costs													
Seed													
Fertilisers													
Sprays													
Feed (including forage)													
Sundry variable costs													
Fixed costs													
Labour													
Power and machinery running costs													
Rent and finance charges													
Miscellaneous fixed costs													
Other expenses													
Loan payments (including interest)													
Purchase of assets													
Drawings													
Tax													
Total expenditure (before interest) B													
Cash surplus or deficit (before interest) G (A-B)													
Opening bank balance F													
Closing bank balance (before interest) F+G													
Average balance													
Overdraft interest C													
Total expenditure D (B+C)													
Cash surplus or deficit E (A-D)													
Closing bank balance F+E													

Glossary

Budget	A financial document for forecasting gross margins, cash flow and profit.
Cash flow	The flow of cash into and out of the business over a period of time, resulting in a cash surplus (profit) or deficit (loss) for each period, for example month, three months, year and so on.
Capital	The funds needed to run the business. The funds needed to finance the production cycle are called working capital. Fixed capital is invested in land, buildings, machinery and breeding livestock.
Depreciation	Spreading the net cost (i.e. purchase cost less estimated trade in value) of a capital item over its expected useful life. Depreciation is a non-cash item of expense, so profit does not truly reflect the amount of cash created through trading.
Enterprise	A specific farm activity, for example, feed barley, malting barley, dairy herd or livery.
Enterprise output	The full value of the revenue of an enterprise, including subsidies (see 'Gross output').
Feasibility	A test to see if resources are available to put a business plan into practice.
Fixed costs	Any cost that is not attributable directly to an enterprise.
Goals	Personal, financial, physical and social considerations used to plan the direction of the business.
Gross margin	The difference between the gross output and the variable costs of an enterprise. It allows planning and monitoring of an enterprise while avoiding the difficulty of allocating fixed costs. As a result, it is not a profit figure.
Gross output	The full value of everything produced by an enterprise or a business, including subsidies.
Hectare	An area of 100 x 100 metres, equivalent to 2.47 acres.
Management	The decision-making process of planning, monitoring and controlling the progress of a business to achieve goals.
Net margin	Gross margin less fixed costs.
Partial planning	The process of planning and testing changes to part of the business activity in order to improve performance.
Profit	A measure of the trading performance of the business. The yearly surplus of trading income over expenditure.
Proportional analysis	An assessment of the cost structure of the business in relation to output.
Revenue	Trading income.
Risk	An assessment of how vulnerable the business is to internal and external factors.
Sensitivity analysis	A technique for assessing the ability of your business to cope with the effects of negative economic conditions (for example, lower prices).
Variable costs	Items of trading expenditure that can be allocated to a particular enterprise, and vary in scale depending on the size of the enterprise.
Viable	A viable business has enough profit and cash flow, and has considered anti-risk measures.
Whole farm gross margin	The total of the enterprise gross margins.
Whole farm planning	A detailed look at the business and its current goals, aiming to choose a workable and viable system and budget for it.

Reference sources for whole farm management data

Reference sources for whole farm management data:

(This list may not be exhaustive but has been compiled to the best of our knowledge at the time of publication)

Regional level data from the Farm Business Survey is published annually by the following 'FBS Centres':

Rural Business Research Unit
Askham Bryan College
Askham Bryan
York YO23 3 FR
Tel: 01904 772219

Rural Business Unit
Centre for Rural Economics Research
16-21 Silver Street
Cambridge CB3 9EP
Tel: 01223 337166

Centre for Rural Research
The University of Exeter
Lafrowda House
St German's Road
Exeter EX4 6TL
Tel: 01392 263836

Farm Survey Section
Imperial College London
Wye Campus
Wye
Ashford
Kent TN25 5AH
Tel: 0207 594 2925

Centre for Agricultural, Food and Resource Economics
School of Economic Studies
Dover Street Building
The University of Manchester
Oxford Road
Manchester M13 9PL
Tel: 0161 275 4822

School of Agriculture, Food and Rural Development
University of Newcastle
Newcastle upon Tyne NE1 7RU
Tel: 0191 222 6900

Rural Business Research Unit
University of Nottingham
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4 Earley Gate
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PO Box 237
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Tel: 01189 875123

Institute of Rural Sciences
University of Wales, Aberystwyth
Llanbadarn Campus
Aberystwyth
Ceredigion SY23 3AL
Tel: 01970 622253

Further sources:

Farm Accounts in England
Farm and Animal Health Economics Division
Department for Environment, Food and Rural Affairs
Ergon House
17 Smith Square
London SW1P 3JR
Tel: 0207 238 3266
www.defra.gov.uk/esg/default.htm

Farm Incomes in Scotland
Analytical Services Division
Scottish Executive Environment and Rural Affairs Department
Pentland House
47 Robb's Loan
Edinburgh EH 14 1TY
Tel: 0131 556 8400
www.scotland.gov.uk

The Agricultural Budgeting and Costing Book
Agro Business Consultants Ltd
Freepost LE5272
2 Nottingham Street
Melton Mowbray
Leicestershire LE13 0BR
Tel: 01664 567676

The Farm Management Handbook
Farm Management Handbook Sales
Scottish Agricultural College
West Mains Road
Edinburgh EH9 3JG
Tel: 0131 535 4305

Farm Management Pocketbook
Imperial College London
c/o 2 Nottingham Street
Melton Mowbray
Leicestershire LE13 1NW
Tel: 01664 564508

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www.defra.gov.uk

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