

**Peter Cook
P & L Cook and Partners**



Arable Monitor Farm (Angus)

James & Hugh Black
Backboath Farm
Carmyllie
By Arbroath
DD8 2SS
Tel 01241 860213

Report on 4th Meeting held 7th March 2008
FARM BUSINESS ANALYSIS

Facilitators: Peter Cook Tel 01467-642802 cooknewton@btopenworld.com
Jim Booth Tel 01651-843607 jim.booth@saos.co.uk



TOP TIPS FROM MEETING

1. There is tremendous value in converting farm accounts into a 'gross output' format and calculating key costs as a % of the total gross output. The rules of thumb for gross output analysis helps identify potential weaknesses for further investigation.
2. With the high current cereal & potato prices many arable farms will generate good profits so effective tax planning is essential. One possible solution is to look at the business structure and form a Limited Company in partnership.
3. Many business' machinery replacement policy could be described as ad hoc and opportunistic. There is a need to carry out more analysis & costing of options to support decision-making.

1. INTRODUCTION

A good turnout of around 35 farmers, members of the trade, and others from the agricultural sector attended the meeting held at Carmyllie Hall.

Programme;

- Update from Monitor Farm
- Analysing Farm Accounts
- Lunch
- Market outlook for cereals
- Update on recent taxation changes
- Equipment replacement options

2. Update from Monitor Farm (James Black)

James gave a brief update of activities that occurred since our last meeting (Jan 08).

- Sold 550t wheat @ £185/t, and 200t @ £200/t. Now all 1,080t wheat sold, average price £173/t
- Sold 250t feed barley @ £156/t
- Grading potatoes non-stop. Have approx 1,200t still to dress (total 4,543t). Looks like will be short of M. Piper seed so may be charged to make up contract.
- Ringlink crucial in providing labour for dressing squad.
- All ware goes through Bartlett's. Completed 440t osprey (ware) @ £160 - £180/t, Saxone ware similar price. M. Piper ware £180/t
- Applied fertiliser on OSR and W. Barley
- 60ac late sown wheat following potatoes looking poor. Will make decision later on whether re-drill or leave.

3. Farm Business Analysis (Jim Booth)

This was a quick revision session prior to the group tackling the Monitor Farm's Accounts. See Jim Booth's handout in Appendix 1.

Summary of key points:

- Businesses need to think about their long-term goals and objectives. These should be written down and regularly reviewed.
- In general, businesses not making enough use of their accounts to improve the management and performance of their business
- Tax accounts are different from management accounts so need to amended
- Look at valuations are they realistic?
- Convert into the standard format of gross output and carry out gross output analysis of key costs. Have developed good thumbs of rules for main costs
- Don't just look at one year, need to consider trends over 3 – 5 years.

Some key performance indicators for a farm business

- Total output per acre (ha)
- Level of profit
- Rental equivalent per acre (ha)
- Interest cover
- Change in net worth
- % Owned
- Full gross output analysis of main costs
- Return on tenants capital

How to calculate a target profit?

It has to cover the following

- Personal drawings (including life ins and personal pension)
- Tax
- Loan repayment
- Re-investment
- Extra for reward / risk

Group exercise on Backboath's latest Accounts

The Group were provided with a draft copy of the P&L Account for year ending 31st Oct 2007. These were confidential containing sensitive information.

Key conclusions from Group

- Exceptional profit in 2007 – shows influence of strong cereal and potato prices.
- Output per acre very high - £1,105
- Excellent gross margin and very high gross profit
- Looking at 3 years, profit very variable. High cost business, so need good prices and yields.
- Potatoes are the main enterprise
- The Group estimated with current land values, a very strong balance sheet with high net worth
- Rent equivalent £144/ac with pots (£91/ac without pots)

- High power costs but reflects quality of equipment and investment required to make system work.
- Well managed, intensive business.
- Good tax planning essential this year.

General impression most arable businesses will make good profits this year.

Gross Output analysis were as follows:

	2005	2006	2007	"Target"
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
OUTPUT	100	100	100	100
VARIABLE COSTS	26	23	19	30
GROSS MARGIN	74	77	81	70
LABOUR	12	12	6	}
POWER	37	32	17	}30-35
OVERHEADS	8	7	3	8
GROSS PROFIT	16	26	55	30
FIXED CHARGES	23	22	13	15 Max
NET PROFIT	-6	4	42	15

3. Market Outlook (Charlie Birnie)

Charlie Birnie, Commercial Director, Grainco Scotland, provided the Group with a verbal market overview. Key points:

- Markets experiencing tremendous volatility, therefore, risk management more important than ever.
- World wheat stocks at lowest level for over 30 years – key driver
- Now seeing awareness of threat of future food shortages in press
- Area planted of cereals world wide increased so potential to produce surplus, however, depends on weather, disease, etc. e.g. Brazil planting extra 2M ha Maize
- Demand from China and India unclear but is increasing
- Plantings up in UK, except of OSR due to relative profitability at sowing time. Since then OSR prices strengthened.
- UK Wheat crop estimated 16MT – could provide 3MT exportable surplus
- There are concerns about viability of pig sector – would impact on demand for feed grains
- Input costs have risen. Fertiliser supplies tight world wide. Suspicion profiteering from fertiliser companies, however, fertiliser still economic response
- Malting barley contracts this year c. £185/t compared to £120/t last year. Some resistance from growers. Many are contracting a lower tonnage leaving balance for spot market. Now not enough malting capacity in Scotland, distillers will have to import

- Cost of options currently c. £15/t (normally 10% of cost).
- Fund managers are active in the futures markets – some may bail out. Wheat at £200/t probably an over reaction. Wheat price dropped £20/t in 1-day simply due to withdrawal of a fund manager.
- Remember, there is a futures market for OSR. Currently can sell OSR forward Aug 2009 at £320/t – may be good punt.

Market Prices

Table 1 Cereal Prices

	Current Ex-farm	Nov 2008
Wheat	£190	£160
Malting barley	£	£185*
Feed barley	£150	£125
OSR	£350	£330

Source: Charlie Birnie 7th Mar 08

Key: * = low N 1.55% - Harvest Movement

4. Update on Tax Issues (Mark Wilken)

Mark Wilken CA, Manger of EQ'S Forfar office provided an update on recent tax changes. Mark is the Monitor Farms' accountant.

See Appendix 3 for copy of mark's presentation.

5. Equipment Replacement Options (Peter Cook)

Peter Cook led the Group to consider the options for equipment replacement

Machinery Replacement Decisions

The Group generated the following list of current practices and rules of thumb:

- The old ones 'Knackered'
- When repair costs = depreciation costs (preferably before)
- When see efficiency gains, capacity, new technology, etc
- When reliability decreases
- To keep staff happy
- Fuel efficiency. Fuel now 40% of cost of operating a tractor
- Regular cycle (e.g. replace main tractor every 3- 5 years)
- When needs change e.g. less staff so invest capacity
- Looking over the dyke
- Change of system – width of tramlines, beds, GPS,
- Opportunistic – offered good deal
- God year, made profit – surplus
- Improves quality of outputs

Conclusion. Many folk have general replacement policies but often not a rational decision - many cases opportunistic.

Some considerations

(1) What level of equipment expenditure can I carry?

Example:

For a farm business with an output of £700,000

Power costs should be c. 20% of output (= £140,000)

Normally, depreciation would account for 50% of the total power costs

So in this case, have capital expenditure of £70,000 per year.

(2) Compare costs to alternatives

Example: Farm growing 400ac cereals. Should they replace combine or sell and use contractor? Assume new combine £100k less £15k trade-in, = Net capital costs £85,000

Breakdown	Annual Cost £
Annual cost £85k (repayment + interest) 15 yrs, @ 8% interest. From Amortisation tables	£9,930
Estimate annual repairs and maintenance	£1,000
Insurance	£500
Fuel + oil	£2,000
Total Cost	£13,430

Over the 400 ac equates to £33/ac without labour.

Contractor would charge approx. £30/ ac with a man.

Other considerations?

(3) Use partial budgets to estimate impact on business

Example: use of contractor rather than own combine

ANNUAL GAINS	ANNUAL LOSSES
Extra revenue: Value of driver used else where ??	Revenue foregone: Not on time → higher losses and drying costs. Value ???
Costs Saved: Combine £13,430	Extra Costs: Contractor 300 ac @ £30 = £12,000
£13,430	£12,000

(4) Cost of replace vrs Cost of not replacing

Example; don't replace machine

ANNUAL GAINS		ANNUAL LOSSES	
Gains:		Extra Costs:	
		Fuel old combine	£2,200
		Insurance	500
Cost of new combine		Repairs	2,000
		Drop in value	1,000
		Risk of breakdown (cost £8k probability 0.4)	3,200
Total cost	£13,430	Total Losses	£8,900

Need to account for tax implications too.

APPENDIX 1

FARM BUSINESS ANALYSIS

1. The need for analysis

If a farm business is to be managed efficiently - achieve its potential - the farmer/manager must be provided with information on the use that is currently being made of its resources; ie land, labour and capital.

To assess the farm's performance you must try and pinpoint the good and bad aspects of the business, before taking steps to bring about any alteration in the business which will help achieve your objectives.

The following stages provide an approach to analysing a farm business. The main value is to develop a better understanding of the business and how it can be improved.

It is rarely a process that provides clear sharp answers but one which can establish a framework to allow you to start to make an overall assessment and provide a 'lead in' to handling problems. In addition to making an assessment of the most recent year, you should look at the trend over a number of years, partly to ascertain whether there are consistent trends and partly to determine whether or not the current year is exceptional.

So need to look at the trend over 3 to 5 years.

There are 4 basic methods for analysing farm accounts:

1. Review the P & L and Balance Sheet
2. Gross Output Analysis
3. Gross Margin Analysis
4. Comparative Whole Farm Accounts

- *Generally, farmers do not make enough use of their accounts to improve business performance*
- *Remember, need to amend tax accounts into standard format (management accounts) for ease of analysis.*

ANALYSING FARM ACCOUNTS

KEY QUESTIONS

Is the profit adequate?

- Living expenses, Debt repayment
 - New Investment Margin for risk
 - Adequate reward for risk and management
1. How does the farm's total output look; the output per acre (ha)
 2. Is there a profit – if not, potential output/input problem.
 3. Is profit greater or less than personal drawings – if greater, then there is growth arising from the production process.
 4. If there is Net Worth growth – is it being used to reduce liabilities to others or to increase assets? If the latter then what assets are increasing (eg long term in say land or more short term productive livestock).
 5. If there is no Net Worth growth but business size is increasing then the funds are coming from increased borrowings with its implications for future interest charges.
 6. Do personal drawings use up all or more than the profit, if so why. Eg are funds being withdrawn for some other business opportunity or for consumption. What are the likely implications?
 7. Is extra personal capital being introduced to maintain the level of Net Worth?
 8. What is the 'percent owned' as an indicator of security, credit worthiness, and vulnerability of the business to interest charges.
 9. What is happening to individual items in the Balance Sheet eg is investment in equipment being run down or increased, are debtors buildings up?
 10. What is the 'rental equivalent' for rent + interest per acre (ha)? Is that serviceable?
 11. How do trends in Net Worth and assets compare with inflation rates over a time period?
 12. What returns on capital are being obtained and how do these compare with potential returns in other business opportunities and in secure investments eg building societies?
 13. How vulnerable might the business be to changes in interest rates, family circumstances, etc.

Analysis of the Balance Sheet

<u>Assets</u>	<u>Liabilities</u>
<p style="text-align: center; margin: 0;">Current Assets</p> <p>Cash</p> <p>Debtors</p> <p>Livestock</p> <p style="text-align: center;">Stores</p> <p><u>Fixed Assets</u></p> <p>Machinery</p> <p>Buildings</p> <p>Land</p>	<p>Overdraft</p> <p>Creditors</p> <p>Loans</p> <p>Mortgages</p> <p style="text-align: center;">NET WORTH</p>

NET WORTH = Assets minus Liabilities = WEALTH

Are all valued correctly?

- Land and property?
- Equipment?
- Herd Basis?
- Off Balance Sheet items?

Net Worth Trend

Percentage Owned - measure of financial risk

$$\frac{\text{Net Worth}}{\text{Total Assets}} \times \frac{100}{1} \quad \%$$

Safe Levels?

- Depends on interest rates
- Depends on general farming profitability
- Owner occupier 60 to 70%?

GROSS OUTPUT ANALYSIS

Gross Output Analysis, is a simple technique where a farm business's 'Profit and Loss' account can be analysed and compared to the norms expected for a mixed arable/livestock farm. All the costs are calculated as a % of the total Gross Output (G.O.). This is a simple quick guide to examine the cost structures in a business.

The information is based on experience of the normal cost/output relationships in many farm businesses, it is really a form of simplified comparative analysis.

	<u>% of G.O. (norms)</u>
Total Output	100
Variable Costs	30-40
Gross Margin	60-70
Labour	15-18
Power	15-18
Overheads	4-6
Fixed Charges (Rent & Interest)	15
Net Profit	15

Adjustments would have to be made to the 'norms' if the farm includes an intensive livestock enterprise.

The Gross Margin as a percentage of Gross Output provides an indication of the technical efficiency of the farming activities. If it is under 60% of the Gross Output for the arable, beef and sheep farm, some thinking on efficiency aspects should take place. The all-arable farm may be up to 70% while the specialist intensive livestock unit or dairy farm may be down to 55%.

Labour and Mechanisation costs (covering machinery depreciation, repairs, fuel and electricity, and contract work) should be within the 30-35% range. If they are beyond this then the organisational aspects of the business should be examined in detail (eg machinery and labour costs).

Gross Profit (ie profit before Fixed Charges), should be at least 30% of the Gross Output to meet Fixed Charges and other calls on profit (eg Private Drawings).

Fixed Charges (rent, rates and interest) should normally be under 15% and definitely not over 20% of Gross Output even for the most efficient operators. If they exceed these levels the farm is probably **over-borrowed**.

Net Profit should hopefully be 10 -15% of Gross Output.

NOTE: **Gross Output** = (Sales of Crops and Livestock **plus** Closing Valuation of crops (harvested and growing), home-grown fodder and livestock **minus** (Opening Valuations of crops, fodder and livestock **plus** Livestock Purchases).

GROSS MARGIN ANALYSIS

Enterprise Gross Margin Analysis

The Gross Margin is based on the simple idea that a farm system can be broken down into its component enterprises. These enterprises can be individually and independently costed, the gross margin is the result. The use of GM in business analysis and farm planning can save time and simplify the calculations required.

The ideal aim in costing an enterprise would be to determine the contribution that it makes to the overall farm profit. This involves identifying and estimating all the inputs (costs) and outputs (income). It is important to distinguish costs that are 'variable' (attributed solely to that enterprise) and costs which are 'fixed' (shared by all enterprises).

Gross Margin = Enterprise Output (Income) – Variable Costs.

VARIABLE COSTS

Variable costs can include:

Crop variable costs

Seed
Fertiliser
Sprays (agrochemical)
Casual Labour
Contractor
Other crop expenses

Livestock variable costs

Feed
Forage costs
Bedding
A.I.
Vet & medicines
Mart commission, levies
Haulage
Other livestock expenses

Fixed costs are **not** included in the calculation of Gross Margin.

FIXED COSTS

Fixed Costs can include:

- Labour
- Machinery costs; repairs, fuel, depreciation, etc
- Building costs; repairs, depreciation, etc
- Rent & rates
- Insurance
- Office costs
- Other overheads

COMPARATIVE WHOLE-FARM ANALYSIS

There is a statutory requirement for member countries within the EU to provide for the European Commission's data for FADN. This data is normally gathered by individual countries through a Farm Account Scheme (FAS). Here a representative sample of farm businesses is monitored to produce standard physical and financial data. In Scotland, there are approx. 600 farms contributing to the FAS across 9 different farm types. The principal aim of the FAS is to provide information on farm performance so as Government & EU can assess the impact of agricultural policy decisions. However, the information gathered can also be used by the industry, through a variety of ways, to improve business performance at the micro level.

The farm accounts, with supplementary physical information (if available) are compared with:

- i) Previous results of the **same farm**.
- ii) results from **other farms** in the same area and of a similar type.

For comparative purposes all a farms are treated as though they were tenanted, pay for all manual labour, including family labour and have no charges for interest (ie they are all self-financing).

The analysis involves assessing and comparing levels of **farm output, variable costs, gross margin, fixed costs and "profit" etc** with similar farms. "Profit" in this type of analysis is adjusted to Management and Investment Income (MII).

Sources of Benchmarking data for comparisons

1. Government

On DEFRA web site on-line.
(www.farmbusinesssurvey.co.uk/benchmarking/Default.aspx/)

Country: Scotland
Farm Type: choose drop down menu (General Cropping)
Farm Size: Choose small, med, large

Scottish Government Economic Report on Scottish Agric 2007.
available either to purchase or on-line

2 SAC Farm Management Handbook

3. Some Banks and Accountants may do for their clients