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ON-FARM BENCHMARKING: HOW TO DO IT AND HOW TO DO IT BETTER

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ABSTRACT

Benchmarking is the practice of establishing the relative performance of a business or enterprise against an appropriate standard, generally industry standards derived from a survey of farms. The Policy Commission into the Future of Farming and Food (2002) highlighted a need to spread and improve benchmarking on farms. The requirements of effective benchmarking are illustrated in a ten step framework. The ten steps illustrate the range of expertise and resources a manager requires before being able to justify allocating resources to benchmarking. A comparison of alternative farm surveys and methodologies used to collect, analyse and report industry standards illustrates the difficulties farmers can have in identifying appropriate, robust and accurate industry standards. It is concluded that there needs to be a thorough rationalisation of farm surveys and agreement on methodologies to make benchmarking more effective and more efficient.

(Key words: benchmarking, comparative analysis, processes, industry standards, methodology, techniques).

INTRODUCTION: THE NEED FOR BENCHMARKING

The Policy Commission for Food and Farming (2002) recognises that making a profit is a pre-requisite to the development of linkages and connection between farming and its markets, consumers and the countryside (p. 19). In its vision, the Commission emphasises the need for farmers to rediscover their businessman's mind, marketing skills and eye for new opportunities. Whilst recognising that paths to survival will vary (with some farms expanding to better exploit economies of scale, for others restructuring will imply diversifying or adding value to farm produce), the Commission asked all farmers to appraise (or reappraise) technique and management practices which may increase economic efficiency (p. 26).

The Commission based these comments in part on evidence supplied by DEFRA of the distribution of economic efficiency on farms, where efficiency was measured as the ratio of the value of output per £100 spent on inputs. The Commission

concludes that this evidences shows, "different farmers are getting very different results from the same quantity of inputs" (p. 26), and that "this very wide spread of performance cannot entirely be explained by differences in climate or land quality. There remains significant scope to increase the productivity of the farming industry, in particular by improving the efficiency of the worst producers" (p. 26). The wide spread in efficiency has been shown across a wide range of farm enterprises (Franks et al., (2001); Barr et al., (2001), Wilson and Robertson (2001); Sheppard, (2001) and Renwick (2001)).

The Commission states that the first task for any business is to obtain good market and costs information. It quotes the well know phrase "you can't manage what you can't measure" (p 26), and observes that "many businesses up and down the food chain are not measuring the costs of their operations and their inputs and do not understand how their national and international competitors go about managing their costs: "all businesses need to assess how they are operating compared to the leading businesses in their sector" (p 26). The Commission identifies benchmarking as a tool that can be used to help identify excessive costs and inefficiencies, and thereby help solidify and stabilise the financial structure of farms, and increase business competitiveness. The Commission recommend farmers benchmark "with the best at home and abroad to gain a deeper understanding of costs and efficiencies" (p. 26-27).

WHAT IS BENCHMARKING

Benchmarking is not particularly radical or for that matter does it require a farmer to do things that the good farm manager might not have been doing for a long time. Benchmarking is the comparison of performance with the performance of others engaged in a similar activity and learning from the lessons that these comparisons throw up (Ashworth, 2002; Spendolini, 1992). It involves the action of continuously measuring and assessing products and services and practices against those of world-class businesses or top competitors (Slavin, 1994). It is about borrowing good ideas from others about how to improve (Brown, 1995).

The comparisons are generally made on specific measures which provide a numerical summary of performance (Gray, 2001). The comparisons need to be drawn with a representative sample of businesses (or best-in-class businesses) from home and overseas (Anderson et al., 1999; Policy Commission, 2002). The aim of benchmarking is to compare pre-selected targets – in production, economic or environmental terms - with the performance of the sampled farms to identify performance, devise improved processes, identify priorities and implement improvement programmes based on the results (Waterfield, 2002; Reed, 1998; Camp, 1989). An inventory of definitions of benchmarking is presented in Figure 1.

Figure 1: Some Definitions of Benchmarking

- 'Learning from others' [Spendolini 1992]
- 'Borrowing the good ideas of others is what benchmarking is all about.' [Brown 1995
- 'A benchmark is defined as a specific type of measure of comparison that provides a numerical measure of performance.' [Richard Gray 2001]
- 'Benchmarking is the process of continuously measuring and comparing one's business processes against comparable processes in leading organisations to obtain information that will help the organisation identify and implement improvements.' [Andersen and Pettersen, 1996]
- 'Benchmarking is the procedure of comparing the performance of an individual to the average. Normally this is of a financial nature but it can be more wide ranging.' [Powell et al 2002]
- 'Benchmarking is a method of measuring your processes against those of recognised leaders. It helps you to establish priorities and targets leading to process improvement.' [Robert Camp 1989]
- 'Benchmarking is the process of identifying, understanding, and adapting outstanding practices from organisations anywhere in the world to help your organisation improve its performance.'

It is an activity that looks outward to find best practices and high performance and then measures actual business operations against those goals.' [The Benchmarking Exchange]

- 'Benchmarking is essentially about converting process data to meaningful process information on which process knowledge and wisdom can be developed.'

'Benchmarking, in its proper process-based form, is about what things are done on farm, how they are done and what are the consequent productivity and financial outcomes.'

[Ronan & Cleary 2000]

- 'Benchmarking is about improving competitive position by comparing performance against companies with best practice and implementing improvement programmes based on the results.'

'Benchmarking helps minimise business complacency by challenging the acceptability of current performance and asking the question "where can we do better?"' [Reed 1998]

- 'The benchmarking approach in SCM can include assessing the current status of the industrial partners, identifying performance measures, use of a generic benchmarking questionnaire, performing the benchmarking visits in teams and analysing the processes for best practices and performance improvement.' [Gunasekaran]
- Benchmarking is about process - look at the learning process and review it as you go along.' [soil-water.org]
- What constitutes Benchmarking?

1. The ***Metrics***

- Quantitative assessment
- Comparison to peers and over time

2. The ***Process***

- Changing the way things are done
- Comparing to best in class'

[Gonzalez & Kingdom 2002]

- 'The major steps in a generic benchmarking process include:

1. measuring own and best-in-class performing companies;
2. compare the performance at various levels such as strategic, tactical and operational; &
3. developing strategies and methods for improving the performance of own organisation' [Andersen et al 1999]

- Comparing the way similar farms work - in production, economic or environmental terms - is a commonly used tool in farm business improvement. such comparisons, referred to as 'benchmarking', can highlight the opportunities for farms to become more efficient and more robust.' [www.forwardfarming.co.uk]

Therefore, benchmarking requires the measurement of aspects of the production process. These are used to generate quantitative measures of selected key performance indicators (KPI) which describe the competitive performance and the production process achieved and used by the average and best farms. To compare own KPI to the basket of KPI presented in the benchmark comparisons, it is important that an identical methodology is adopted by the farmers as that used to report the benchmark data.

The general intention of benchmarking is to allow profit to be maximised by optimising inputs and outputs, which is not necessarily the same as maximising output, but generally involves ruthlessness identifying and cutting out unnecessary costs. To be able to benchmark successfully each of the following elements have to be in place:

- Ability to collect and record accurate data for the farmers own performance.
- Availability of accurate, similar and comparable data.
- Comparative data needs to be drawn from a robust sampling framework to be indicative of industry standards (i.e. large, randomly selected, stratified sample within a defined region).
- The same methodology used in the survey must be applied to data recorded on the farmer's farm.
- Appropriate key performance indicators need to be available in the benchmarking data.
- Sufficient KPI need to be available to allow the competitive status and the processes used to achieve that performance to be identified.
- Comparative data need to display survey findings in a way that help farmers to estimate the likely financial benefits of changing their production system to incorporate techniques shown used on by managers on the highest performance farms.

Dimensions of benchmarking

In the past, where benchmarking has been used, it has generally been used to compare farm business performance against industry standards, i.e. for competitive benchmarking. However, it is very important to realise that when benchmarking against a similar business, just copying their process will not work effectively because no two firms are identical. Adaptation to specific needs is the key to effective benchmarking (Grayson, 1994). For this reason, benchmarking has to involve a degree of process benchmarking. That is, the production process (i.e. system) that is used on the high performance farms but also on farms with similar constraints to those faced by the farmer, needs to be presented.

This examination of processes used on farms subject to the same limiting constraints is a key to raising the utility of benchmarking activities, and thereby expanding the use of this technique.

More recently, benchmarking has been applied to (1) environmental outputs of the farm production process, (2) energy efficiency, and (3) the whole food chain. Comparisons of environmental output need agreement on which quantitative measures should be used in the comparisons, and work is currently being undertaken in the UK to identify appropriate comparisons, for example the "Application of the National Sustainable Agriculture Indicators to Farm Level" project being undertaken by the Agriculture and the Environment Research Unit (AERU) at the University of Hertfordshire (AERU, 2003; Franks, 2003). It is easier to identify measures to use for comparing energy efficiency, perhaps the biggest problem comparing energy efficiency is the lack of comparative data to use to establish norms and best practice, lack of detailed on-farm information and lack of clear details of the benefits that might be expected if changes to reduce energy use were introduced. Benchmarking the food chain involves identifying costs at every stage in a food chain. Stages which add more costs than value can be identified and, where alternative structures can be put in place, these stages can be eliminated. Initiatives in benchmarking the whole food chain are being organised by *inter alia* the Food Chain Centre. Benchmarking environmental outputs, energy efficiency and whole food chains are beyond the scope of this paper. However, the requirements for successful benchmarking in these areas have much in common with the requirements for successful benchmarking farm businesses and enterprises.

CURRENT BENCHMARKING INITIATIVES (AND PILOT FARMS)

In the UK, benchmarking initiatives abound. To access some benchmarking data, farmers have to pay a membership fee, others are free to farmers, being financed with producers' levy money. Other free services, such as the Farm Business Advisory Service (FBAS), is financed by Government. The FBAS initiative grew from the Action Plan agreed at the Crisis Summit in March 2000 between MAFF (now DEFRA) and the National Farmers Union. This service adapted for use on farm businesses three tools which had been used in other business sectors. These are Benchmarking Index,

CONNECT CD Rom and Inside UK Enterprises visits (Renwick et al., 2002). Figure 2 presents a summary of organised benchmarking activities and initiatives of which we are aware.

Figure 2(a). Summary of Benchmarking activities and initiatives.

Survey Title	Sample details	Organisation	Timing	Comments
ESTABLISHED BENCHMARKING ACTIVITIES				
Kingshay Dairy Manager	Dairy	Kingshay	Running - paper and Web	Instant benchmarking using over 150 records. Rolling averages.
Milk Manager	Dairy	SAC	Running -Web and Paper	SAC's Milk Manager provides monthly benchmarking for recorded herds The system records milk produced, mi changes in cow numbers, feed used c dairy expenses monthly. This instantly monthly results for the herd
RICS	Whole Farm data	RICS	Annual	Standards data relate to farms in East Central and Southwest England. Seco annual manual concentrating on ; cer general cropping, dairy, Cattle and sh [lowland], SDA Cattle and sheep and farms.
FPDSavills	Estate Benchmarking	FPDSavills	Running	Areas include - General Source incom rents, residential income, and comme incomes.
British Sugar	Sugar Beet	Self Funded	Complete - Web based programme to follow	Crop Profitability Initiative - Growers S 300
Farming in Eastern Counties Report	Arable, vegetable and livestock	University of Cambridge -Rural Business Unit	Running	Business Performance by type, district Gross margin analyses of 14 ar vegetable crops and major enterprises Analysis of labour, machinery and

				expenditure 34 Benchmark tables for comparison type district and size
MLC Yearbook	Beef / Sheep / Pigs	MLC	Running - Annual	Financial & Physical data - no fixed co FC's for Beef 2003
Greenmount College	Beef & Sheep	Part of Rural Northern Ireland internet resources	Running - Complete	Allow Irish farmers to enter data and report of farms of similar enterprise m
MLC - Beefplan 2002 - Economic Forecasting Unit.	Beef	MLC	Running - Annual	MLC/Signet results of analysed data.

Figure 2(b). Summary of Benchmarking activities and initiatives.

SURVEY TITLE	SAMPLE DETAILS	ORGANISATION	TIMING	COMMENTS
MLC - Flockplan - Signets Farm Business Consultancy Service Compiled Data	Sheep	MLC	Running - Annual	Summary of 54 lowland flocks, 28 early 67 upland and 35 store lamb finishing sy
Easton Lodge - Farmers Weekly	Pigs	Farmers Weekly	Running	Figs produced monthly for financial and performance.
Milk Manager	Dairy	Self Funded Promar International	Running - Annual	Report produced showing farm results ov years with performance comparisons with industry. Performance throughout the yea factors affecting top middle and bottom producers.
NEW INITIATIVES				
Business Link / FBS	Whole Farm data	MAFF / Small Business Service [DTI]	Running	Allows farmer to assess its competitive po On-line questionnaire based covering fro financial and management performance measure, through to commonly accepted of measuring business excellence. E.g. leadership, resource management, etc.
NIAB & Rural Business Unit,	Cereals - www.cereal	DEFRA, the industry and NIAB	Running - Complete	Results shown for farm and comparative from corresponding farm of similar varie

Cambridge University	cheque.co.uk			Web based programme.
Potatocrop.com	Potatoes	Self Funded	Complete	Web Based programme allowing, summ crop costs in comparison to industry stan
MLC	Pigs	DEFRA	Running	CD - Defining the Cost of Pig Production based excel programme and set metho
Spotlight	Dairy	ADAS/HSBC	Complete - Web based	Provision of free benchmarking on line - results to be compared to top and averag results.
NMR Data	Dairy		Running - annual	The report, free, is a source of informatic provides producers with the means of ass where they are in terms of herd and indiv animal performance
Farming Connect (Gelli Aur)	Dairy	Welsh Assembly SAC and MDC	Paper / Internet service April.	Up-to-date data in both physical and fin terms, identifying all variable costs on a basis.

For some enterprises, several alternative benchmarking data sets are available, but they use different methodologies, adopt different approaches to specifying a sampling framework from which their "representative" sample is selected, and report different KPI. See Figures 3a and 3b for a comparison of the approaches used to gather and present benchmarking data for UK milk producers. Moreover, many of these comparative data sets do not produce sufficient KPI to allow a full description of the production process. However, even for the more comprehensively reported farm surveys, the KPIs alone may not illustrate the techniques and practices, and combination of inputs, which are used on the more successful farms, nor do they present data by the identified main constraint faced by the farm's manager. It is for these reasons that the initiatives relating to the expansion of the network of pilot farms are closely connected to benchmarking. Figures 4a and 4b present a summary of pilot farm initiatives of which we are aware.

Table 3(a). A Comparison of Dairy Enterprise data collections and their reporting arrangements.

Organisation	Name of Study	Sample size	Sampling framework				Farmer feedback*		C
		(farms)	Av size	Region	Selection	Data	Data	Top &	Rob

			(cows)		criteria	collection	presentation	bottom	fi
DEFRA	Special studies	380	Raised data	England and Wales	Larger than 10 dairy cows. Full time farmers.	Full-time investigational officers. Free to farm.	Written report. Every 4 or 5 years.	25%	Ecor ana milk proc Rais Con ve re
HSBC/ ADAS	Spotlight	91	Unraised		Dairy GM>90 %of farm GM HSBC corporate customer	Bank manager (from accounts). Free to farmer.	Written report. Annual.	25%	Bias larg spec dair ente and with over Emp cost proc
Kingshay Farming Trust	Kingshay Premium Dairy Manager**	>700 (up to 1,500)	Unraised	UK	Dairy Enterprise.	Self submitted. Clear instructions to participants. Farmer financed (membership)	Quarterly updates. Monthly and rolling averages Region. 14 special interest groups (i.e.	With Best herds	Mer fee sam Mar purc fee cost quo prec

							similar systems). With own budget. Web based.		
Promar International (Dairy-manager.com)	Milkminder and Herd Profit Monitor***	1,700	Unraised	UK	Dairy Enterprise.	Self submitted. Farmer financed (membership)	Web based.	10%	Rep mar feed Full and fee

* All report group averages. **Kingshay Dairy provided some information to non-members, and offers three service memberships: Starter Package, Regular Dairy Manager and Premium Dairy Manager (which has full costs of milk production). ***Promar International offers several service memberships, Milk Minder goes to margin over feed, the Herd Profit Monitor includes allocation of fixed costs.

Table 3(b). A Comparison of data collection methodology.

Organisation	**Name of Study**	**Methodology**									
		Blank	Drill down	Rent	Interest	Own labour	Forage costs	Herd replacement costs	Leasing quota	Gross margin	r /
DEFRA	Special studies	Π	O	Imputed rent.	Assumed none	Imputed wage	LUs	As paid	Adjusted for leasing	For dairy Ent's	

					paid	rates (lab' only)			in and out		
HSBC/ADAS	Spotlight	O	Π	As paid.	As paid.	Private drawings.	Costs not allocated between Ent's.	As paid	As paid	Whole farm	
Kingshay Farming Trust	Kingshay Dairy Manager *	O	Π	As paid.	As paid.	Imputed (lab' & man')	Farmers views Own experience LUs	As paid	As paid	Π	
Promar International	Milkminder	O	Π	Allocated "fairly"	Allocated "fairly"	Private drawings.	Allocated "fairly"	As paid	As paid	Π	

* Depends on the service contract taken out by the farmer. This level of service refers to the Premium Dairy Manager.

Figure 4(a). Summary of Pilot Farm activities and initiatives.

Organisation	Details	Funding details	Comment
ESTABLISHED PILOT FARM ACTIVITES			
Kingshay Trust	Diary	Self funded - 1400 farmers	Farming Trust Recording Centre, wed b results, updated weekly / monthly basis
LEAF	Environmental complement to crop and livestock assurance schemes.	Memberships, Corporate Memberships, Corporate Sponsorship LEAF Marque producers & Government Grants	LEAF promotes the use of efficiency, transparency and standards throughou food and farming industry and is comm bringing the commercial benefits of tra and certification to the members. The L

		Grants	Marque brand is the guarantee that pro have been inspected and are operating required standards and provides recogn producing quality food alongside enviro protection and enhancement.
Soil Association	System specific	membership	To demonstrate organic production tech
NEW INITIATIVES			
DEFRA	Entry level agri-environment scheme	DEFRA - final details available in the Spring	As a result from recommendation of the Commission on The Future of Farming Food Report 2002
ELITE - RMIF	Pilot 1 - Arable, Dairy, Beef and Sheep. Pilot 2 - How farms can benefit from closer link to rural economy and community. Pilot 3 - 'Virtual' pig farm.	DEFRA / IGD / MLC / NFU / DTI - run initially for 20 months	Will aim to highlight and let farmers ad practice - technically, economically, and environmentally. Use of project partners - Pilot 1 - RSPB MDC, HGCA & MLC. Pilot 2 - RSPB & FACE. Pilot 3 - MLC, Countrywise Communica
Pilot Fell Farming Futures Experiment	Upland Farming	Total Cost - £150,000 - From; Lake District Sustainable Development Fund, EU, DEFRA, Voluntary Action Cumbria, the Rural Futures Project and from Farmers benefiting.	Aim to halt the decline in hill farming. F practical support to farmers, provide tra countryside skills and add value to loca products.
SAC	Organic Demonstration Farms	SEERAD Funded Program	5 Strong organic farm network establish 2002. Farms Include: Sheep Hill Farm, Upland Beef and Shee Lowland Cropping & Mixed cereals.

Figure 4(b). Summary of Pilot Farm activities and initiatives.

Organisation	Details	Funding details	Comment
Game Conservancy Trust	Pathfinders Scheme	DEFRA and Crop Protection Association	3 year scheme open to all farmers in W Midlands with a cropped area <1121 l to access wildlife friendly farming grant
Farming Connect Development Programme	Beef & Sheep & Dairy	MLC Cymru, Welsh Assembly	Development farms are College farms the process of research and developme technology transfer take place. They off advisory services and a number of scier livestock professionals are involved with development farm. By demonstrating new methods in farm through constant monitoring of progres farms will help to transfer new technolo information to farmers.
DEFRA - IUKE Farms	All enterprises	DEFRA - complete	Nation wide, covers Added value, diversification, environment, energy an industry, least cost, niche and use of sy Free real life workshops if receiving FB = £95/person.

EVIDENCE FOR BENCHMARK ON FARMS

A survey of 1,200 farmers across England and Wales showed that only 9% of farmers were using benchmarking techniques, however, 86% of farmers wanted more information or help to get started (Farmers Guardian, 2003). The survey found that only 3% of farmers questioned were members of local benchmarking groups (Farmers Weekly, 2003). This survey reported that, for farmers currently using benchmarking, when asked to describe the main benefits of benchmarking 42% said it was "helping better to understand costs", while 15% said it had helped them achieve lower costs.

This raises the question, why is benchmarking so little used by farm managers? McGonagle (1993) believes that many businessmen and farmers believe that benchmarking is the domain of only the largest firms. This incorrect notion may have arisen because of the myths that surround benchmarking, summarised by Boykin (1996) as:

- Benchmarking has to be expensive.
- Benchmarking should only be performed by experts.
- Benchmarking has to be complicated.
- Only industry leaders make acceptable benchmarking partners.

Once the cause of inefficiency has been identified, benchmarking needs to be able to identify how to correct the inefficiency (see above). This is the second aspect of benchmarking, and it is here that benchmarking achieves its best results when financial performance can be linked to farming processes and practices. Some farmers are members of discussion groups and clubs which facilitate discussion and on-farm visits. Where this is not possible, there is a clear role for demonstration or pilot farms to assist spreading best practice by technological transfer and even research.

HOW TO BENCHMARK

The discussion on benchmarking and the requirements for successful benchmarking highlights the role of management. Management has to ensure appropriate data is accurately collected, recorded and submitted to a central collection organisation using the agreed methodology and submissions are on time. However, management time and expertise is often a key constraint in farming. It is not possible to justify spending managerial resources on benchmarking if the systems required to facilitate accurate comparisons and to be able to identify beneficial production processes that are likely to increase profitability are not in place.

The systems that need to be in place can be examined by breaking benchmarking down into a series of discrete and sequential steps (Figure 5). This approach allows farm managers and industry advisors and administrators to identify the resource required at the farm and the industry level and so put in place the pre-requisites necessary before managers can justify allocating resources to benchmarking.

Figure 5. The proposed ten steps to successful benchmarking.

STEP 1

IDENTIFY **KEY PERFORMANCE INDICATORS** FOR WHOLE FARM ENTERPRISE & THE INDIVIDUAL ENTERPRISES

STEP 2

IDENTIFY AND SELECT DATABASES AGAINST WHICH COMPARASONS CAN BE MADE. CONSIDER:

- SIMILAR TYPES OF FARMS/ENTERPRISES

STEP 3 ADOPT THE METHODOLOGY FOR DRAWING UP FINANCIAL AND PHYSICAL PERFORMANCE MEASURES THAT IS USED IN THE COMPARATIVE DATA SET

STEP 4 COLLECT AND ENTER DATA

STEP 5 CONDUCT THE COMPARATIVE ANALYSIS, IDENTIFY HIGH AND LOW PERFORMANCE AREAS, AGAINST AVERAGE, TOP AND BOTTOM PERFORMERS

STEP 6 INVESTIGATE REASONS FOR HIGH/AVERAGE/LOW **STANDARD KEY PERFORMANCE INDICATORS** TO IDENTIFY THE PROCESS BEHIND THE HIGHER PERFORMANCE, AND THEREFORE ENABLE AN IN DEPTH DEVELOPMENT OF "IMPROVEMENT ACTION PLAN"

STEP 7 AS FOR STEP 6 BUT ON AN INDIVIDUAL 'FARM-BY-FARM' BASIS. IN THIS STEP THE **SPECIFIC KEY PERFORMANCE INDICATORS** ARE CHOSEN BECAUSE THEY REPRESENT KEY CONSTRAINTS FOR THAT PARTICULAR FARM BUSINESS, WHETHER IT

STEP 8 COMPARISON OF ADMINISTRATIVE EFFICIENCY IN IDENTIFYING AND MAXIMISE

STEP 9 IDENTIFY AN "IMPROVEMENT ACTION PLAN"

STEP 10

IMPLEMENT THE "IMPROVEMENT ACTION PLAN" ON A SYSTEMATIC BASIS

KEY PERFORMANCE INDICATORS - KPI'S - These are measures (or yardstick) of the level of achievement produced from a specific resource. KPI will have some 'unit of measure' descriptor, either physical [e.g. per litre] or financial [e.g. £/unit]. KPI's are determined using specialist information within the specified field, based upon the economic influence they carry. The main KPI's for the whole farm analysis will be based around **individual business's** strengths and weaknesses, and will usually be measured against the resource in shortest supply (e.g. land, building, finance, labour).

To complete step 1, it is necessary for farm managers and industry advisors to identify the key performance indicators for a business or farm enterprise. If, for example, a farm manager's key performance indicator is related to leisure maximisation, then it may be reasonable not to allocate resources to benchmarking. However, it is more common in businesses to find work patterns that satisfy leisure requirements, and which identify efficiency as of key importance in the use of time spent at the work place.

Step 2 requires a good knowledge of available comparative databases. Two classes of benchmarks may be of interest to farmers. The first are those benchmarks generated by best performance farms, as these are the farms against which the farm is ultimately competing. The second are those benchmarks produced by largely similar farming businesses, where these benchmarks represent the average performance of similar types of farms (produce a similar combination of farm products), of similar size, in similar locations, using overarchingly similar production processes (e.g. conventional or organic).

Many farmers will have some knowledge of steps 1 and 2. Step 3 is, arguably, the first of the ten steps which requires dedicated managerial resources. It has been highlighted above that many of the statistical collections of farm-related data is collected using different methodologies. Farmers need to identify which data set to take as being representative of industry performance. This will depend on a range of factors, but particularly on the sampling framework used and the timeliness of the reporting of the data, in addition to the reporting of the key performance indicators identified by the farmer as being important to the business or enterprise. It is then necessary for farmers to adopt the same methodology for collecting and calculating their own key performance indicators. It may be a problem to be able to identify the precise methodology used by the chosen comparative survey. However, after the methodology has been identified, Step 4 involves recording the appropriate data in line with the definitions and procedures used in the comparative dataset.

Steps 3 and 4 are key stages in the benchmarking task. As they require considerable resources and involve costs, they can only be justified if it is considered they will generate benefits. If this is not the case, benchmarking itself will only add to business costs and therefore becomes an activity that the Commission among others would identify as being wasteful. A key managerial task is the collection and recording of data from which annual accounts are draw up for taxation purposes. As this data is already available, many farmers tend to use it as a starting point for making comparisons. As the data collection and reporting methodology is consistent with Inland Revenue rules, and given that these have not change significantly, comparing own taxation accounts with those of previous years is a sensible benchmarking strategy. However, taxation accounts are often presented at too high a level of aggregation to be of much use for managerial purposes. Moreover, the Revenue allows methodologies that may distort the real performance of the business. For example, livestock farmers may have opted for the herd basis of valuation, and other rules also apply to the valuation of live- and dead-stock, fixed assets are allowed to be entered into accounts at cost rather than market value, and the farmers salary is not included as a business cost in profit and loss accounts (unless the farm is a Public Limited Company).

It is for these reasons that many benchmarking initiatives prefer farmers to draw up comparative data starting from a blank piece of paper rather than from the profit and loss account (e.g. DEFRA's Special Studies, the potato benchmarking initiative). Those data collection systems used to compile profit and loss accounts for tax purposes can usually be adapted at relative low cost to collect data for building-up enterprise costing and margins (thus adopting the blank sheet of paper approach). With the ongoing development of computer power and software programmes, it becomes easier and cheaper to record data at a finer level of disaggregation. And as more farmers are involved in contracting and off-farm businesses (which themselves may be run as separate businesses) it become more important to be able to calculate and collect enterprise specific costs and revenues.

Steps 5 to 8 are the steps at which comparisons are made against industry standards. Step 5 is of critical importance. Best practice requires the comparative analysis to present data for the average of the sample, and by sub-samples, to illustrate, for example, performance by type of farm. But it is also critically important to be able to present the data for the best and poorest (say the top and bottom 25% or 10% of farms ranked by an agreed and identifiable performance measure). This allows some estimation to any likely financial benefits of investments to improve performance based on processes used by more profitable farms to be made.

Steps 6 and 7 are also important. If the analysis of the survey data does not generate data on the key performance indicators identified by the farmer in Step 1 as being particularly relevant to his business, then benchmarking will be of less benefit. This will prevent improvements across the farming sector. Also, the data presented needs to be sufficiently broad to be able to illustrate the key production processes involved in differentiating between high and low performers.

Whilst farmers producing similar outputs will use similar inputs, economic theory suggests that different farmers may be faced with different limiting constraints. Step 7 acknowledges this, and requires performance data to be presented to illustrate the technical productivity of input use for each of those constraints that are likely to be limiting.

Step 8 is included to highlight the importance of administrative efficiency relating to identifying and claiming the economically optimal level of direct payments. This is critical for the profitability of crops eligible to receive Arable Area Payments, and for suckler beef producers, sheep producers and stock rearing enterprises. Indeed, there are very few enterprises for which this step does not apply (even those less well supported sectors, such as pig producers, may be eligible for Rural Development Programme funding or investment and/or restructuring grants).

Step 9 and 10 refer to the need to draw up an improved plan and to enact that plan within a strategically agreed whole farm business plan.

Reflection

For many farmers, the steps outlined above represent a series of hurdles which offer the guarantee of more work, but offer no guarantee of financial benefit. Many farmers will conduct some benchmarking activities that fall out with the systematic steps outlined in Figure 5. There may be benefits to conducting a "partial" benchmarking. For example, Ashworth (2002) discusses the benchmarking of gross margins. He believed that it is useful to benchmark at the gross margin level as, although this will not include fixed costs (that are a large element of business costs), it does force the manager to ask questions about the way he manages his business. And this must be correct. Moreover, comparing at the gross margin level removes any need to research into the methodology used to allocate fixed costs which decreases the danger of erroneous comparisons - although, as there are alternative methods of allocating some variable costs between enterprises, even this level of comparison needs a degree of research and care. However, by not comparing key costs and production processes, partial benchmarking may lead to inaccurate conclusions as to the best way to develop the farm enterprise or the whole farm business.

DISCUSSION

Given the costs involved with benchmarking, farm managers should only consider using this technique when comparative data sets are available against which comparisons are likely to make a positive contribution to the business management cycle and to profitability. But only a relatively low proportion of farmers benchmark. This may be because farmers do not know how to benchmark, or it may be because they can seen no benefit in benchmarking.

If the former, then farmers need help answering the following questions:

(1) How do I benchmark?
(2) Who will I seek help from to be able to make the comparisons?
(3) What information do I need to acquire to solve my specific problem?

before allocating resources to benchmarking. By separating benchmarking into ten discrete steps, the paper has illustrated how to benchmark, and has referred to the skills and resources required at each step.

However, if the latter, if farmers can see no benefit of allocating time and resources to benchmarking, the it is important to ask whether the proliferation of benchmarking initiatives will lead to a greater use of this technique. Will these initiatives make benchmarking simpler and more worthwhile a management activity. Simplification would result in the adoption of two common methodologies. One based on allocation of costs from a set of taxation accounts, the other building up enterprise specific costs and revenues from a blank piece of paper. Each would adopt a different methodology in allocation of fixed costs, but both would produce identical comparative data on competitive performance and summary statistics to describe the production process. The streamlining of initiatives and reduction of comparative data sets would raise the effectively of benchmarking by:

- Lowering collection costs, as data collections were rationalised.
- Allow more resource to be directed into presenting additional KPI in the survey findings – including descriptions of the processes used on the average, top and bottom performers.
- Make interpretation of survey findings easier.
- Improve the quality of data entered into the farm surveys.
- Improve the timeliness of reporting the survey findings, and
- Allow data to be presented by categories that reflect the major constraint faced by the farmer.

Achieving these changes would need a different strategic approach to benchmarking. Rather than focusing on financing many benchmarking initiatives, finance would need to be directed towards a single organisation – perhaps a new organisation would need to be established. This would have a budget to pay farmers to participate (on a voluntary basis) after being identified from a random stratified sample. These farmers would submit data but would be able to call on assistance from full-time advisors if required. Besides assisting with enquiries, the advisors would receive data and prepare survey findings and publications. Advisors would also audit the data submitted by visiting a percentage of farms to conduct quality controls on the data submitted - and thereby help ensure the accuracy of the data used to calculate industry standards.

This strategy would increase the efficiency of benchmarking by:

- Reducing producers' levy where these have been used to finance additional benchmarking initiatives.
- Increasing the accuracy of the data entered in the survey.
- Widening the type of data collected in the survey.
- Removing the confusion introduced by the different methodologies used to compile comparative analysis.
- Increasing the amount of process type, whole farm systems data produced by the survey.
- Allowing different types of econometric analysis to be conducted on the data set, to identify for example, the marginal benefits of changing farming practices, and to isolate comparative farms that are similar to individual farms but which have recorded better performance.

CONCLUSION

Until benchmarking is made easier and the benefits are more clearly demonstrated (e.g. by innovations such as presenting data by categories which represent the major constraint faced by each farmers) it is unlikely many more farmers will use the technique. In particular, methodologies need to be standardised, farm samples need to be more robust and representative, fewer but better surveys should be supported, and more process based information needs to be presented in the final report. The survey findings need to be produced quickly after the data is submitted.

But it is not sufficient to only benchmarking the farm business in the food chain, the entire food chain needs to be benchmarked. Indeed, the Policy Commission (2002) refers to the "Efficient Consumer Response" approach, which requires sharing of benchmarking costs and margin information so that "all parties [along the food chain] can thoroughly understand the economics of their industry". However, in some sectors of the food chain this information is completely absent, and in others this information is withheld because of its commercial sensitivity. There is an important strategic decision needed here by the farming population. Farmers need to ask if it is in their own best interests to publicise costs of production and margin data when other businesses along the food chain are not willing to do so. Because, as long as industry standards are accessible by farmers they are also accessible to other businesses involved the food chain. This may put farmers at a negotiating disadvantage in establishing a farmgate price that represents a fair share of the retail price.

Until these failures are corrected, it is likely that benchmarking will work best among groups of producers who come together to share details about their farming techniques and practices. These groups or clubs will only come together if they share a common interest and if each member is willing to share information. In this way, membership of the club brings clear advantages. And these advantages will be withheld from non-members and from industries along the food chain.

BIBLIOGRAPHICAL NOTES

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