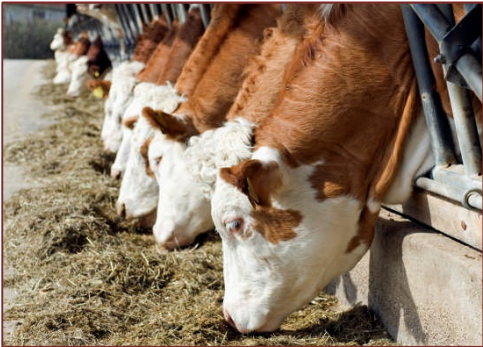




Farm Level Performance: Identifying Common Factors Determining Levels of Performance



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Executive Summary

Introduction, Literature, Methodology and overall Conclusions

- Policy making aimed at enhancing the performance of agriculture must be predicated upon research which provides evidenced-based recommendations drawn from holistic analysis of contemporary top business performance in different agricultural sectors
- Previous research into agricultural performance has typically been undertaken within research “silos” with aspects of efficiency, financial performance, environmental drivers, managerial actions and characteristics largely confined to distinct studies
- The aim of this report is to identify the drivers that make agricultural businesses consistently high performers or have led to sustained improved performance
- A mixed-method research framework has been adopted combining in-depth interviews with 24 high or improved farmers or farm business managers, complemented by physical, financial and managerial biographical analysis drawing upon three years of contemporary Farm Business Survey (FBS) data
- The farm types investigated were Cereals, General Cropping, Dairy, Lowland Grazing Livestock and Less Favoured Area (LFA) Grazing Livestock
- The results have indicated that high, improving and top farm businesses are typically characterised by a series of physical factors, (e.g. larger farm size), financial factors (e.g. high net worth and low borrowings) and managerial attitudes and drivers (e.g. attention to detail, focusing upon margins and cost control).

High Performer and Improvers Case Studies

- “High” performing farmers were, in general, older than “Improvers” and the majority of the farmers interviewed had undertaken some form of formal training at City and Guilds, College or University level
- Decision making was generally undertaken by the farmer and spouse, farmer alone, or farmer with family members; outside advice was sought to inform decisions, particularly on arable farms, however, ownership of decisions remained firmly with the farmer in all cases
- The high and improved performance farmers interviewed contained a larger proportion of tenanted farm businesses than was observed within the FBS sample overall; a larger proportion of improvers operated farm businesses over 200ha in size in comparison to the high performance group
- Inherent advantages of farms were identified in terms of soil type, rainfall, geographical factors and the physical nature of the farm, for example, being in a ring-fence
- In comparison to the overall FBS sample, the farmers interviewed did not have a greater or smaller reliance upon Single Payment Scheme funds, revenue from environment schemes or diversified income
- A larger proportion of improvers noted that they have made changes to enterprises in comparison to the high performing group

- High performing farmers held very low borrowings, whilst improver farms had a higher occurrence of borrowing funds than high performing farms; however on all farms interviewed, borrowing was deemed to be within manageable limits with clear plans to pay back borrowed funds
- Profit was identified as a key objective, but placed within the context of minimising risk, family objectives and lifestyle aspects
- Yield was not identified as a key driver *per se*, with margins being noted as a key performance measure; complementing this, cost control was noted as a central and key objective
- Attention to detail in many areas of activity was a common theme associated with the high and improvers group alongside business planning and price monitoring
- Plans for business development was more frequently associated with the improvers group, whilst the high performance group were largely categorised as in a steady, but financially successful, business development phase
- The farmers interviewed valued obtaining information from the farming press, electronic media, specialist advisers and training open days to gain information in respect to new developments in the industry
- A range of marketing channels were identified as important to business success, in some cases citing the need to use a range of marketing channels to spread risk but also use of cooperative marketing to additionally provide access to low interest capital
- The high and improvers group were typically optimistic about the future for agriculture and, with the exception of particular concerns about farm-specific factors beyond the farmer's control, were additionally optimistic about prospects for their own business
- Succession planning was identified on one-quarter of the farms, however, in a number of cases succession planning was premature given the age structure of the farmers interviewed and / or their family situation
- Key aspects of advice to other farmers were noted as controlling costs, paying attention to detail and being open to new opportunities
- Farmer self-segmentation analysis drawing upon previous research (Wilson *et al.*, 2011) identified the high and improver farmers as Custodians, Pragmatists or Modern Family Businesses; none of the farmers interviewed associated themselves with Lifestyle or Challenged Enterprises segmentation groups
- Research Officer impressions noted the farmers interviewed to pay close attention to detail, plan their business activities, have a passion for farming and take pride in their work

Quantitative Analysis

Characteristics of high performing farms (differences from overall sample):

- Quantitative analysis indicated that the top performing farms operated significantly greater Utilised Agricultural Area (UAA)
- The top performance group across all farm types achieved significantly greater farm output, Farm Business Income (FBI), FBI per hectare (FBI/ha), Net Farm Income (NFI) and Management and Investment Income (MII) returns than the remainder performance group; moreover, they held significantly greater total assets and net worth
- The top performance group in all farm types, and across all years, achieved substantial, and in a number of cases, statistically significant, greater gross margin returns than the remainder performance group, concurring with evidence from the qualitative interviews

Characteristics of high performing farms (similarities to overall sample):

- There was no significant difference between age and experience in the top and remainder performance groups, with the exception of the Lowland Grazing Livestock farm type, where farmers in the top performing group were significantly younger
- The proportion of tenanted land associated with the top performing businesses was found to be not significantly different from the remainder performance groups, with the exception of Cereals farms where the top performance group was represented by a significantly greater proportion of owner-occupied land
- Total external liabilities were not significantly different across the performance groups; gearing ratios were noted to be significantly lower on Cereals and Dairy farm types only

Common characteristics of high performing farms are: i) controlling costs; ii) paying attention to detail; iii) being open and flexible to new opportunities; iv) focusing on margins and product quality to maximise profit; v) researching and using an appropriate range of marketing channels and understanding the business attributes these provide; vi) improving business performance through enterprise change. Further commentary on each aspect is provided below:

- A strong common theme that emerged from the qualitative analysis was that of attention to detail in all areas of activity; this linked to both achieving higher yields and margins and controlling costs by focusing upon only purchasing inputs that were appropriate and necessary to run the business successfully
- General attention to detail is important in day to day activities (e.g. monitoring animal health, ensuring machinery and plant are operating efficiently), production detail (e.g. application of appropriate crop protection, detailed understanding of animal nutritional needs) and business planning (e.g. ensuring low input prices through price comparison activity)

- The majority of co-operators in the qualitative analysis valued benchmarking activities as part of their business operations, with the value of enterprise-specific benchmarking being particularly noted by a number of respondents
- Making profit was a key objective and a common theme and in particular margins were noted as a key driver, over and above that of achieving high yields, with dairy and arable farmers focused on margins in particular, to be achieved through a combination of better product quality (and hence price) and also cost control, with this latter aspect noted as a common theme
- Results from the qualitative analysis indicated that a range of marketing channels were often used by co-operators to achieve good prices and also to manage risk. Additionally, the use of co-operatives in grain marketing was noted as both a risk management tool and a route to securing low interest rate capital. Improvers were more likely to continue to make changes to their business, whilst the high performers were more likely to continue their business unchanged or were approaching retirement
- Half of the improvers were looking to make significant changes to income streams in the coming years, in contrast to the high performers. Additionally, improvers more frequently identified enterprise change as a factor that had led to their improved performance, and that these changes to enterprises in the business had been the result of a conscious business decision to improve performance or obtain a greater life/work balance

Industry recommendations:

- **Managerial capability** can be built through specific, further and higher education and training
- **Use advice and technical information** to enhance attention to detail in production including accessing input price data, and technical and business information via the farming press, electronic media and technical open days
- **Business benchmarking** at whole-farm, enterprise and margin level helps focus on farm and business performance allowing managers to identify areas of success and where improvements and changes are needed
- Farmers should analyse **farm situational factors** to understand business opportunities appropriate to their farm and farm business attributes
- **Risk management strategies** for input supply and output marketing need to be understood and implemented, including developing robust plans for the repayment of business development funds in the face of variable input and output prices

Further implications for policy, delivery and industry bodies:

- **Policy development and delivery** should take account of an understanding of life-stage to effect efficient outcomes
- **Advice providers** should be supported in delivery of technical information to the agricultural sectors, in particular with reference to enabling farmers to enhance their attention to detail in production activities (including input price data)

- **Farmers** should be encouraged to make more use of technical and business information delivery. This includes business benchmarking at whole-farm, enterprise and margin level and specific information via the farming press, electronic media and technical open days, embedding and encouraging farmer engagement and interaction to facilitate knowledge exchange, understanding and uptake
- **The policy framework** should enable the expansion of individual farm businesses and avoid restrictions on appropriate structural change in the agricultural sectors in order to ensure future competitiveness and resilience of UK agriculture. Specific elements include ensuring the legislation on land tenure does not hinder the development of efficient businesses achieving business growth via land rental agreements, regulatory burdens do not hinder business development, growth and re-structuring and planning regulations enable farm businesses to develop appropriate on-farm business opportunities both within and beyond agricultural enterprises.

1. Background and Literature Review

1.1 Introduction

Policy needs with respect to securing a competitive, resilient and sustainable agricultural industry include the ability to identify the management characteristics associated with “high” performance. This can be used to inform policy decisions to encourage farmers to adopt “high performing” management practices, and facilitate effective advice and guidance to farmers, and the agricultural industry more generally, about these characteristics and management activities and the associated performance outcomes. Such policy outcomes will result in potential “win-wins” (e.g. increased performance and reduced negative environmental impact) and strengthen the competitiveness and resilience of UK agriculture. The following provides an overview of the literature in the broad area of agricultural efficiency, non-production orientated activities of farmers, managerial attitudes and actions, and farm business performance. The purpose of the review is to provide context to the research project by mapping the methodological approaches and summary finding from a range of literature sources.

1.2 Technical Efficiency, Productivity and Management

Performance in agriculture is frequently measured in terms of profitability. This in turn is a function of the prevailing levels of input and output prices and the efficiency with which inputs are utilised to produce outputs. Input-output utilisation efficiency is generally referred to as *Technical Efficiency* (TE) and a number of studies have sought to examine the level and range of TE in UK agriculture. In the 1980s early TE studies in the UK were undertaken on input variables largely expressed in value terms (e.g. Dawson, 1985). Whilst such studies were informative with respect to performance, the use of input data expressed in value terms assumes that all producers faced the same set of input prices, thus potentially confusing allocative efficiency with technical efficiency. Later studies sought to address this criticism, for example, Wilson *et al.* (1998) measured TE in potato production through the estimation of a stochastic frontier production, largely expressing input-output relationships in physical terms. Wilson *et al.*'s results indicated that the level of TE in this sector was relatively high, with the majority of growers operating close to maximum technical feasible production levels, noting that producers with fewer years of experience were associated with higher levels of efficiency. Whilst the inclusion of biographical factors within TE studies attempts to quantify the impact of “management” characteristics and input, biographical factors are arguably only one potential component of managerial input. Addressing these deficits in TE studies, Wilson *et al.* (2001) explored the link between personal characteristics and aspects of decision making with TE in wheat production in Eastern England. Objectives such as profit maximising and maintaining the environment were found to be positively correlated with TE. Farmers who seek information, have fewer years’ managerial experience and have a large farm were also associated with higher levels of TE. Hadley’s (2006) comprehensive TE study of English and Welsh FBS data for the period 1982 to 2002 used a Data Envelopment Approach (DEA). Hadley’s analysis examined TE by farm type noting that most farms were operating close to the TE frontier. Technical change was noted to have contributed to an increase in efficiency especially in the more specialised arable farms, but to a lesser extent in predominantly livestock farms. However, other farmer and farm

business characteristics were observed alongside a widening gap between the average and most efficient farmer. More efficient farms were generally found to have lower debt ratios, were more diversified, operated by slightly younger farmers and have a higher proportion of owner-occupied land. It is important to note that off-farm income was not accounted for in Hadley's study. Building upon Hadley (*op cit.*), Barnes' (2008) analysis of Scottish data for the period 1989-2004 compared results with the English and Welsh findings from Hadley (*op cit.*), estimating efficiency scores of 0.71 for cereals and 0.82 for sheep which were in line with Hadley's findings, albeit that for other sectors differences emerged between the two studies. Barnes concluded that over time, dairy and sheep farms were demonstrating a decrease in TE whilst beef farms were increasing in TE. In the following year, Barnes *et al.* (2009) examined English Dairy and Cereals farms using 2002/03 FBS data. In contrast to Wilson *et al.* (2001), they concluded that TE could be improved with both farming types able to reduce inputs of nitrogen and phosphorus by approximately 30% without affecting output levels. Technical Efficiency and change in the input-output utilisation over time has also been an area of investigation. Thirtle *et al.*'s (2004) long run study of Total Factor Productivity (TFP) in the UK examined the period 1953-2000, finding that TFP grew by 1.68% per annum prior to 1984 but by only 0.26% post 1984. Moreover, TFP had fallen behind EU competitors. Thirtle *et al.* noted that the reduction in research and development funding, smaller growth in farm size and also, more generally, that the growth rates of the 1960s and 1970s in the UK might have been unsustainable as explanations for the change in TFP over time.

A number of further contemporary studies have been produced in this area. Notably Barnes *et al.*'s (2011) comparisons across farm types and geographies sought to identify the characteristics of farms on the TE frontier. Generally, most farm types in England and Wales showed relatively high levels of mean technical efficiency which varied from 0.71 (general cropping farms) to 0.81 (dairy farms). Barnes *et al.* also reported that all farm types exhibited small returns to scale, and that there were no clear patterns of TE change across the farm types. However, Barnes *et al.* concluded that higher levels of specialisation, lower amounts of debt (gearing), lower levels of subsidy to gross margin and lower levels of paid (to unpaid) labour were associated with higher levels of TE. Barnes *et al.* additionally analysed relative performance of farms over time; across all farm types they found that 60% of farms remain in the same performance band each year and 40% are equally split between farms that have significantly improved or decreased their performance, as judged by presence in performance bands. On the basis of the results presented, Barnes *et al.* argued that '*...Whilst the inefficiency effects model offers some understanding of the drivers behind efficiency, the true drivers are more 'soft' in nature, such as an individual's attitude towards profit and resource maximisation, their activity in terms of seeking new knowledge and the collaborative networks in which they participate.*' (page 9). These softer aspects were also noted by May *et al.* (2011) in their study of adaption by ex sugar beet farmers in the West Midlands, finding that networking *per se* did not help farmers develop innovative capacity but suggested it was the intensity with which they engaged and interacted which was the key factor. Moreover, May *et al.* identified capital constraints as a key factor in determining innovative capacity.

Two reports from Defra's Observatory (2011a; 2012) examined specific farm types investigating the link between economic performance and environmental performance.

Defra (2011a) examined English Cereals farms for the period 2004/2008 using a sample of 322 farms. The results confirmed the importance of debt as being a key factor in explaining efficiency. The level of debt was also closely associated with economic size of farm businesses, with lower levels of debt on many of the economically smaller businesses enabling them to achieve high levels of efficiency. Although there was some evidence of returns to scale, the large variation in results meant that the best small farms are more efficient than many large farms reinforcing findings of overall returns to scale in previous TE studies (e.g. Hadley, 2006). Exploring the link with environmental performance, and using participation in a scheme as a proxy for increased environmental activity, the report concludes that the more demanding schemes adversely affected agricultural efficiency but had a positive impact on the whole farm business. Defra's (2012) report explored Grazing Livestock Farms for the period 2003-2009 (sample of 545 farms). Debt was again identified as a key factor with low efficiencies associated with high debt levels. There was some evidence that the performance of owner-occupier farms decreases with farmer age. For a given level of inputs, farms with bigger areas tend to have higher farm business outputs, but, in contrast to cereal farms, the impact on agricultural outputs was less marked. The type of agri-environment scheme the farm was engaged in was found to affect the level of economic performance with the more demanding Higher Level Scheme reducing agricultural output but increasing business performance. This would be expected, *a priori*, given the scheme incentives which provide compensation payments for output forgone.

1.3 Environmental Outputs, Policy and Management

Farmers and land managers have traditionally and contemporaneously engaged in multifunctional activity, with land stewardship and environmental management often central to these activities. Whilst there is an often held perception that farmers are 'profit maximisers' above all else, in reality, profit and efficiency drivers sit alongside other objectives within a farm business. Potential win-wins can arguably exist, where strong technical and business performance many occur alongside environmental outputs, albeit that trade-offs between environmental outcomes and profit are arguably more common in agricultural contexts and have been the subject of considerable research (Glithero *et al.*, 2012).

Evidence suggests that different policy or market signals need to be provided to farmers to engage in non-production activities (e.g. environmental schemes) (Hodge, 2001; Morris and Winter, 1999) and that whilst farmers have responded to economic signals associated with such schemes, this does not change their long-term attitudes and actions in respect to production versus environmental actions (Burton *et al.*, 2008), in part due to the trade-offs that often exists between production and environmental outcomes. Burton *et al.* concluded that the common approach of prescribed management practices and designated specific areas for agri-environment actually prevented farmers from developing skills required in this respect, thereby impeding the formation of what they termed 'cultural capital'. Therefore, future policy could arguably seek to create a 'culturally sustainable agricultural policy' by generating a sense of value for the farmer rather than simply adding a subsidy to an essentially 'production-based culture'.

Other researchers have noted the impact of farmer's self-identity on their decision making practices (Seabrook and Higgins, 1988) and thus agricultural and business performance. Understanding farmer's motivations has been argued to be of policy significance (Schoon and Grotehuis, 2000; Irwin and Goeghegan, 2001; Moon and Cocklin, 2011) particularly in order to achieve targeted outcomes (Morris *et al.*, 2000). Schoon and Grotehuis' study was particularly effective in demonstrating that whilst, for some farmers, difference in practice can be traced back to difference in motivations, for others the motivation for a specific practice is more pragmatic or superficial. This led them to split farmers into idealistically motivated and pragmatically motivated types and suggested that communication by government is more successful if these types/convictions (attitudes and values) are taken into account. This arguably provides an explanatory theory behind Burton's observations that financial incentives to adopt certain environmental schemes will not necessarily impact on long term managerial attitudes.

1.4 Agricultural Performance and Managerial Actions

The measurement of agricultural performance is an established agricultural economics research area. The annual Farm Business Survey (FBS) provides evidence to Defra, farmer-co-operators and other stakeholders on the variation in performance across the agricultural sector, including within farm types and across regions. The FBS data has consistently highlighted the variation that exists in financial performance. Many researchers have drawn on the FBS data base to examine specific aspects of performance. For instance, Hill and Gasson (1985) examined wholly owned, wholly tenanted and mixed tenure farms for the period 1968 to 1979. They analysed Total Factor Productivity (defined as Gross output per £100 input), Net Farm Income; output per farm and output per unit area (acre). They concluded that mixed tenure performance appeared to be better than either pure owner-occupied or pure tenanted farms. However, it is important to identify that they also noted that tenure might be a *result* of performance rather than a determinant. For instance, a small but profit motivated owner occupier farmer might take on more land by renting some additional land; a successful rented farm might generate enough profit to buy some additional land. Since this study, the changes in land tenure legislation have almost certainly reinforced this conclusion given the variety of arrangements that now exist for renting additional land, most notably, via Farm Business Tenancies. A recent study undertaken by Defra (2011b) examined balance sheet analysis and farming performance, analysing the three years 2007/08 to 2009/10 using a sample of 1240 farms. It found that many farms show a loss under full economic analysis and suggested that given the low level of debt (i.e. low relative to asset wealth) some farms have been under investing and all sectors have scope to improve performance. Defra's (2011b) report recommended that the data on financial performance should be examined in conjunction with data which categorises farmers by managerial objective types. In other words, the FBS data, with its largely farm-level and financial framework, does not directly permit the complete set of reasons for variation in performance to be fully identified. In part this flows from the financial focus of the data which typically lacks specific technical information (e.g. in dairy production the FBS does not collect details of calving patterns, herd fertility or milk quality parameters that can influence dairy performance).

Agricultural performance has also been linked to a number of managerial characteristics (e.g. use of consultants, technical advice and regularly undertaking benchmarking; Wilson *et al.*, 2001; Wilson, 2011) that are not annually captured within the FBS research programme. Specific studies have sought to address issues of lack of data on managerial inputs through the collection of additional data; the studies on TE noted in section 1.2 included, in some cases, the extent to which these managerial and related factors affected performance. However, these approaches have been criticized for their inability to capture data on a range of other issues, e.g. land quality or reasons that lie behind managerial decisions, distinct from the observation of managerial decisions *per se* (Wilson *et al.*, 2011). Addressing the issue of understanding the drivers behind managerial actions, farmer segmentation analysis has sought to identify the rationale and reasons behind managerial choices. This work has a long history, building upon the seminal work of Gasson (1973) who explained motivation in terms of goals and values. Willock *et al.* (1999) undertook a large study of Scottish farmers that sought to integrate socio-economic, psychological and farming variables into a comprehensive framework. They adopted four farming types in their analysis namely business, environmentally orientated, emergent and stressed (emergent were generally younger farmers who were involved in developing the farm business in some way). Whilst correlations between farming type and actions and attitudes were found to exist by Willock *et al.* they were relatively modest. They also highlighted that behaviours affect objectives and these affect attitudes – hence there is not uni-directional cause and effect. They used the term ‘personological typologies’ as the appropriate way of examining farmer types.

In 2005, Garforth and Rehman (2006) produced a comprehensive report for Defra analysing previous research in this field. Garforth and Rehman highlighted five key studies in the decade 1994-2004 which sought to ‘gather information on farmers’ motivations and attitudinal influences relevant to their farm management decisions’. Based on the understanding they gained from these studies they examined the potential for an association between farmer segmentation types and attitudes towards a specific policy objective. Another key project, by Dwyer *et al.* (2007), represented a comprehensive review of over 280 references and focussed on looking at the best delivery for Defra advice. Dwyer *et al.* focussed on the role of advice, knowledge transfer and communication in contrast to the Garforth and Rehman study that was focussing on predictive behaviour. Dwyer *et al.* identified six more or less separate ‘farming styles’ namely older, traditional farmers, older innovative farmers, new innovators, large agro-business managers, reclusive, isolated farmers and part-time-hobby farmers. Another key message from their study was that although individuals may not be the classic ‘profit maximisers’, of economic theory, the need for financial dividend is still key, as noted by previous commentators (e.g. Robinson, 1991). This is a critical counter balance to the myriad of studies that may, in their rush to develop a more nuanced understanding of business decision making, have perhaps obscured the pre-requisite for economic return. For indeed, without businesses securing at least some level of return in the market place they will not in the long run survive – whatever their other motivations and attitudes might be.

Building on the Garforth and Rehman’s (*op cit.*) research, Defra commissioned further work which sought to categorise farmer groups and discussed this in terms of farmer segments (Defra 2008, 2011c). This work identified five segments defined as follows: custodian, lifestyle choice, pragmatist, modern family business and challenged

enterprise. In this further work, using a quantitative clustering approach, the percentage of farmers identified as belonging to each category was 23%, 6%, 22%, 41% and 7% respectively. In 2011, Wilson *et al.* undertook a comprehensive analysis of FBS data examining the links between farmer performance and farm type. This was based on qualitative, self-assessment segmentation categorization of a sample of FBS co-operators and the different methods and some ambiguities in labelling meant that whilst showing some similarities with the original report, was significantly different in terms of the split between 'pragmatists' and 'modern family businesses'. In Wilson *et al.*'s study, the results were 53% and 21% respectively whilst the Defra (2008) study identified 22% and 41% respectively. Wilson *et al.*'s (2011) study analysed the link between business performance and segments, however it did not explore in-depth the managerial behaviours of individuals within the research, but restricted analysis to identification of segmentation group combined with key comments raised by the farmer in discussion. It is worthy of note that the concept of segmentation in general should be linked to life stages / life styles (Plummer, 1974) and indeed Gasson had highlighted life stages as being of crucial importance in her seminal work. Wilson *et al.* (2013) reinforce this observation in the context on contemporaneous policy making, arguing that whilst targeting policies at particular segmentation groups can offer potential policy delivery advantages, farmers' self-perception of which group they most closely associate with can vary over time, and in addition, that self-selection to a particular group is not a neatly defined process.

1.5 Summary

The above overview of research in the areas of technical efficiency, non-production orientated activities, agricultural economic performance, and understanding managerial attitudes through segmentation analysis thus highlights both the breadth of depth of research which exists, but equally identifies that these research approaches have been undertaken largely, but not exclusively, in research "silos", given the data constraints which have hitherto hindered more holistic approaches. Policy needs with respect to securing a competitive and sustainable agricultural industry include the ability to identify those actions and characteristics associated with high performing agricultural businesses, which this research seeks to address.

1.6 Aims and Objectives

The aim of the project is to identify the drivers that make agricultural businesses consistently high performers or have led to sustained improved performance. This will provide an evidenced-based approach to policy making and delivery, specifically with respect to Government facilitating the industry improve efficiency, competitiveness and resilience. Specific objectives of the research project are defined as follows:

- 1) Undertake a review of the literature of agricultural performance, efficiency analysis and the influence of management practices and characteristics in agriculture and agricultural systems
- 2) Using a definition of farm business performance, Farm Business Income (FBI), identify, on a per hectare (Ha) basis, a number of businesses which are consistently

high-performers or have effected a change in their performance that has led to them being “positively performance changed” businesses, achieving consistently improved results on a FBI/Ha basis.

3) Undertake 24 individual semi-structured in-depth case study interviews with FBS co-operators identified as being high performers or improved performers in detailing key characteristics associated with the high / improved agricultural performers.

4) Define a metric based test of “sustained agricultural performance” in order to identify, for each farm type, a “high performing” business group, and the “remainder” group.

5) Undertake quantitative analysis on a range of physical, financial, performance, biographical, regional and gross margin data to test for statistical differences in these key performance metrics between the two performance groups identified from 4) above.

6) Using information provided from objectives 1 to 5, identify key farm and farmer characteristics that jointly determine farm businesses consistently being high / improved performers, specifically analysing motivations that encourage increased performance and barriers to adoption of different approaches or practices.

2. Methodology

2.1 Semi-Structured In-Depth Interviews

Using data from the Farm Business Survey (FBS) 2006/07 to 2010/11, FBI/ha was taken as an appropriate measure of agricultural performance with which to identify farm businesses that were consistently high or improved businesses for the purpose of case-study identification. Farm businesses must have co-operated in the FBS throughout this time period, with analysis restricted to those FBS farm businesses that were in the regions of England covered by the Rural Business Research Units of Askham Bryan College and the universities of Nottingham and Reading.

The sample for each farm type was divided into three performance bands with a third of each farm in each band. One half of the total sample (12 farms) were selected as 'high performing' farms. These were defined as those farms that were consistently in the top third of the performance bands by FBI/ha. In most cases they were in the top performance band every year. However, given difficulties in identifying farms that were consistently high performing across the five years, a small number of farm businesses were selected where their performance had been below the top third of performance in one of the five years.

The other half of the sample comprised 'Improvers'. These were farms that had shown an improvement in performance over the five year period. Eight farms were selected that had risen from the bottom performance band to the top performance band although one of these farms subsequently declined to co-operate. The final sample consisted of seven farms that had moved from the bottom to the top band, three farms that had moved from the middle to the top band and two farms that had moved from the bottom to the middle band. The distribution of the final sample is shown in Table 1.

Table 1: Number of Farmers interviewed by Main Farm Type (MFT) and Performance Group

MFT	High Performers	Improved Performers
Cereals	2	3
General Cropping	2	2
Dairy	3	2
Lowland Grazing	3	2
LFA Grazing	2	3
Total	12	12

Each FBS co-operator invited to take part in the interviews was initially contacted by letter (see appendix 1) prior to follow up contact via telephone to establish willingness (or otherwise) to take part. Following agreement to take part in the research, a mutually convenient time between the co-operator and the Research Officers (ROs) was established for an on-farm visit.

Drawing upon previous expertise in undertaking the FBS for England, associated module research programme (Business Management Practices, Farmer Segmentation, Farmers Intentions) and findings from the literature, a questionnaire format for use in the semi-structured in-depth interviews was developed. The questionnaire format was refined during development stages including input from experienced FBS ROs and role-play piloting of the questionnaire format. A training day held on the 13th January 2012

established the interview format, data capture and data transfer and centralisation processing protocols.

In order to achieve consistency of interview approach the majority of the interviews were undertaken by three ROs. It was stipulated that ROs should not interview their 'own' farms in order to minimise 'prior knowledge' held by the interviewer with respect to the participating farmer. All interviews took place during a four week period starting 24th January. The semi-structured format of the interview facilitated open discussion between the RO and the farmer in order to fully understand the farm-level decision-making and planning factors which led to a certain level of performance. The on-farm interview discussion focused upon current and past performance placed in the context of key management decisions points (or more regular management decisions) that may explain performance and efficiency.

The format of the semi-structured approach included data capture on the following areas, drawn directly from the interviews, or drawn from data previously held within the FBS to which the ROs have access. These data include: farm location; farm size; land quality; degree of business specialisation; managerial inputs (e.g. level and sources of advice; training and experience); managerial actions (e.g. undertaking benchmarking); farmer self-perception (e.g. Modern Family Business *cf.* Challenged Enterprise); land tenure; diversification possibilities and activities; age of co-operator; education (and subject details) of co-operator; farming business structure (e.g. company, partnership, sole trader); farmer objectives and goals and outlook for business future (e.g. business focused or custodian of the land, optimism, planning ahead, investing, expansion / contraction of business); barriers and motivations for developing business (e.g. capital constraints, business shocks, changing enterprise mix); succession planning and inheritance; marketing. Specifically the interviews explored reasons, actions and outcomes with the co-operator as opposed to only analyzing the inputs and outputs associated with high or improved performers (see appendix 2 for details of the format of the semi-structured interview). At the close of the interview a token gift was given to the participating co-operator.

2.2 Quantitative Analysis

An identical sample of farms within the respective five farm type groups for England for 2010/11 FBS data which were also present in the FBS data sets for 2009/10 and 2008/09 was identified to produce three independent data sets for the farm types across the three years of interest. Whilst previous studies of agricultural performance have focused upon efficiency analysis, the aim of this report was to analyse those factors common to high farm business performance, rather than estimate and explain variation in efficiency *per se*. Given this, efficiency studies (e.g. Hadley, 2006) were not deemed to be the appropriate analytical approach. The approach chosen was based upon identifying those farm businesses deemed to be top performing businesses, identified via a series of "gatekeeper" tests as described below, followed by statistical analysis of the data for top performing businesses and the remainder group.

The FBS data was subjected to a series of tests to identify "top performing farm businesses". In order to be identified as a top performing farm business, the business must jointly be in:

- i) the top 50% of farm businesses as determined by the Farm Business Performance Ratio in each of the three years;
- ii) the top 50% of farm businesses as determined by Agricultural Output: Agricultural Input ratio in each of the three years.

Where,

Farm Business Performance Ratio = Farm Business Outputs / (Farm Business Costs + unpaid labour)

Agricultural Output: Agricultural Input Ratio = Output from agriculture / (agriculture input costs + agriculture unpaid labour)

This led to the construction of two data bases ("Top performing farm businesses" [top] and "other farm businesses" [remainder]) across five farm types and three FBS accounting years, generating 30 data bases in total. Within each farm type and each year the data for the top and remainder performance groups were subjected to a series of descriptive statistics and statistical tests (Mann-Whitney for continuous variables¹ and chi-squared tests for proportionate observations) to test the hypothesis of no difference between performance groups within a farm type, for each year.

¹ Mann Whitney test statistic was selected for continuous variables because the underlying data was frequently subject to large variation with outliers in a number of variables (e.g. liabilities, land areas, gearing) violating the assumptions of more common parametric statistical tests (e.g. T-test).

3. Results

3.1 High Performer and Improver Case Studies

3.1.1 Overview

The majority of participating farmers found the survey of interest to them and interviews typically lasted for one and one-half hours. The longest interview took two hours 25 minutes, the shortest took one hour. In most cases the farmer and his wife (all farmers interviewed were male) were present throughout the interview and it was usual for both to contribute to the discussion. In some cases other family members were also present although the degree to which they contributed to discussion varied. Most of the quotes are insight and recollections from the ROs and these are shown with italics indented from the text. A few 'verbatim' quotes from the farmer are shown in italics with double inverted commas. Data is provided in tabular form to accompany the results of the case study interviews. This data is provided to present background context to the sample of case study interviews and is not statistically validated given the small sample sizes within particular farm type groupings; hence readers should not make direct inferences from the data presented in the tables within section 3.1, but view these as facilitating the presentation of the qualitative material.

3.1.2 Age of farmer, qualifications and history of the farm

Nearly all of the respondents were second or third generation farmers. There were only two farmers, one high performer and one improved performer, who were first generation farmers. In the majority of cases the current holding was also the farm that had been in the family for several generations. There were two respondents who, whilst being from a farming family background, had moved to a 'new' farm (tenanted in both cases).

The oldest respondent was 74 years of age and the youngest was 35 years old. The distribution of ages is shown in Table 2. A higher proportion of the older farmers are in the high performing group.

Table 2: Age group against High and Improved Performance Classification

Age group	High Performers	Improved Performance
71+	1	-
61-70	4	2
51-60	3	6
41-50	3	2
<40	1	2
Total	12	12

Not surprisingly the length of time the respondent had been managing the farm (Table 3) matches closely the age structure. Again, it is the improved performers sample that shows a higher proportion of farms where they had not been managing the farm for as long.

Table 3: Managerial Experience against High and Improved Performance Classification

Length of time (years) managing farm	High Performers	Improved Performance
>30	3	4
20-29	8	2
10-19	1	4
<10	-	2
Total	12	12

One quarter of all respondents had obtained no qualifications since leaving school but typically the farmers in this survey had attended agricultural college and obtained either City and Guilds or diplomas (Table 4). Only three were qualified at degree level. These figures are reflective of the ages of the farmer being interviewed.

Table 4: Qualifications against High and Improved Performance Classification

Qualifications	High Performers	Improved Performance
Nil	4	2
City and guilds	1	4
NCA, HND	5	5
Degree	2	1
Total	12	12

3.1.3 Decision making

When asked about the decision making process on their farm business nine respondents described themselves as 'sole decision-takers' distributed fairly evenly between the high and improved performers. However, when questioned further about decision making it was clear that even for this category of farmers there was often consultation and discussion especially with other family members. For instance one farmer, whilst seeing himself as the major or sole decision maker reported that his -

...wife was involved in all major and strategic decisions...is responsible for running the farm when the respondent is away... in addition there is a full time employee who will make day to day decisions if the farmer is away...

A careful examination of the responses indicates that there were possibly just three of the 24 respondents who could accurately be described as 'sole-decision makers' characterised as where there was little or no discussion with other family members over important decisions. Most typical was the situation where the farmer and his wife run a partnership and run the business together with decisions being made jointly with regards to all aspects of the business.

The way in which decisions were made was generally that of informal discussions with other family members during the course of a normal working day. Only one respondent reported that the partners held formal board meetings in order to make strategic or investment decisions. Quite a number of the respondents emphasised how much they used advice/recommendations from crop consultants, accountants and or bank managers. In some cases this was formalised, for instance on one farm -

farmer and wife make all decisions together. They meet six times a year with an agricultural consultant to discuss all aspects of the farm from grassland management to finance. Their feed representative also provides advice on a monthly basis in terms of animal nutrition.

However, there were an equal number of respondents who emphasised that they did not use outside consultants citing factors such as -

they prefer to use own experience rather than paying for advice

farmer uses his years of experience...goes with gut instinct usually as no two farms are the same and so someone's advice might not be relevant

farmer makes decisions mostly himself...before big decisions he researches comprehensively, for example, when investing in a new parlour he visited other dairy farms and used the internet to make sure he made the correct decision...

One key feature from nearly all of the respondents was the emphasis on the fact that, regardless whether they took advice or not, the decision was very much their decision (i.e. husband and wife if partnership) and their responsibility. In other words, there was no attempt to pass on any aspects of decision making responsibility as there might be in some other business structures.

3.1.4 Farm tenure, size and staff structure

There was an almost equal distribution across the tenure types in the farms included in the qualitative survey (Table 5). Mixed tenure was defined as those farms with at least 10% of both types of tenure. Thus, a large owner occupier farm which rented one field would still class as an owner occupier. It is interesting to note that the distribution of tenure types in this survey is not representative of farms in the FBS as a whole; in the 2010/11 FBS sample the proportion of owner occupiers was 36%, tenanted was 16% and mixed tenure 48%. The comparative figures for farms in this study were 29%, 33% and 37% respectively.

Table 5: Farm Tenure against High and Improved Performance Classification

Farm type	High Performers	Improved Performance
Owner occupier	4	3
Tenant	3	5
Mixed tenure	5	4
Total	12	12

The farms in the improved performance sample tended to be larger in size than those in the high performing band (Table 6). Thus the average size for the former was 239 ha compared to 135 ha for the latter. This is partly explained by the LFA farms which were small in area for the high performers and much larger for the improvers. However, this did not fully explain the difference between farm sizes for the two groups.

Table 6: Farm Size against High and Improved Performance Classification

Farm size (ha)	High Performers	Improved Performance
<100	5	1
101-200	5	4
201-400	2	5
>401	-	2
Total	12	12

Most of the farms in this survey utilised family labour only with only seven farms using paid labour. This reflects farm type with dairy farms typically employing labour and lowland grazing or hill farms typically not employing labour. One-half of the farms employed contractors or casual labour.

3.1.5 Inherent advantages and disadvantages of the farm and farm location

Respondents were asked to consider whether they thought their current farm holding had any inherent advantages or disadvantages. Clearly, if there were some of the former this might have been a contributory factor to their improved or consistently good performance. Nearly all of the respondents answered this question in terms of soil types and rainfall. The following are typical responses.

The loamy sandy soil is a versatile soil and can grow a range of crops. It is climatically mild, though there is not as much rainfall as is typical further west; this can be compounded by the limited soil depth and free draining soil. This also means the ground isn't especially high yielding. Water is able to be abstracted which is advantageous when letting land out for field scale vegetable production.

The soil type is sandy loam/with some heavier clay area. The farm is flat which allows easier working of the land. The farm is ring fenced which is advantageous however the housing is to one end of the farm which is less than ideal when putting the cows out to grass...

The farm is on very productive arable land, however as the landlord wants a livestock farm this is not taken full advantage of, but grassland is certainly very productive. The management of the farm is good – good access to fields and small paddocks make farming easier. Landlord has returned hedges to their former glory so it is well maintained.

The last comment is informative in that this is a tenanted farm where the landlord stipulates that grazing livestock must be kept. Because the land and soil type is suitable for arable production this farm clearly has an inherent advantage over other livestock farms where the land is potentially unlikely to be as productive. Examining the comments for this subject, it is clear that advantages and dis-advantages cited in general represent different aspects of a single subject. Thus heavy clay soils are good in drought conditions but require more input in terms of preparation of the land for planting. A number of respondent's comments related to the infrastructure of the farm. For instance, the previous quotes above cite references to the 'ring-fencing' and to the 'good access to fields and paddocks'.

With regards to the location of the farm it was either the access to markets (e.g. close to vining pea factory, close to ethanol plants) or suppliers / markets that were mentioned. The following are typical examples -

The farm is very well placed in terms of road access, near to several cattle markets, feed companies, and close to many maintenance and machinery dealers. Overall they are well positioned with regard to suppliers.

The close proximity to Bristol was the only benefit identified. As this helped fill the cottages let on the farm.

The farmer lives very near a market though he doesn't use it. The farmer likes the location as all services are on the doorstep.

3.1.6 Output from four costs centres and changes over time

Within the FBS, total farm output is divided into four cost centres: agriculture, agri-environment and other payments, diversification out of agriculture and Single Payment Scheme. One area for investigation was to analyse if the high performing or improved performance farms had achieved this high level of performance by increasing their output from some of the non-agricultural streams. The data was analysed for the 24 farms examining the proportion of output from each stream for the years 2010/11 and 2006/07, and no substantial differences from the overall FBS sample were observed. During the interview the respondents were questioned as to whether any changes in the proportion of output from different income streams was intentional or was actually an unplanned consequence of things outside of their control, and also about their future plans.

When questioned about future plans there was a difference in response between the high performers and the improved performers. Only two of the former group had any definite plans to alter the level of output from different income streams – one was planning to increase a diversified income activity and one was looking to scale back the main agricultural activity. In contrast, half of the improved performers group thought that they would be making significant changes. This may imply that this group are much more proactive about seeking out further income given that their income levels have not been consistently high in the past. Four were looking to increase income from diversification with activities such as tourist accommodation or renewable energy. Two farms were investigating increasing agricultural income either by increasing the land area or intensifying production by moving to three times a day milking.

3.1.7 Historic changes in enterprises

One-third of the high performers reported that they had changed their enterprises. However, in most cases the scale of change was relatively modest reflecting the general stability of operations of these farms². Thus one farm went out of sugar beet

² It should be noted that the design of the survey was such that farms that had made major changes to enterprise structure in the last five years were, by definition, excluded from participation. This is because the farms surveyed had to have been in the same farm type for at least five years in order to monitor their position. There would undoubtedly be farms in the FBS population as a whole that had demonstrated

production, albeit that this was from a small area of sugar beet production. Another example was a farm which reduced the sheep flock by 25%.

There were more occurrences of enterprise change in the improvers group with one-half of this group reporting change. Also, the scale of change seemed more significant. One farm went out of a suckler cow herd of 80 cows plus followers, another ceased milk production, one ceased both sugar beet and potatoes following a restructuring of the business prompted by an employee retirement. The reason for the changes were either to increase profitability or as a lifestyle choice to make life easier.

3.1.8 Attitude towards borrowings

The group of high performing farms was characterised by very low levels of borrowings. Only two farms had significant long term borrowings and these both related to land purchase. The most common form of borrowing was the use of higher purchase (HP) facilities for machinery purchase (four farms). The incidence of borrowings was higher in the improvers group. Typically, there were long term loans for land purchase and other major investment (such as wind turbines), HP for machinery and bank overdraft for general running costs. All the farmers appeared to have their borrowings well under control and were comfortable with the arrangements in hand for paying the borrowings off.

One of the high performing farmers reported that they had been fortunate 'but had always lived without it (borrowings)' and whilst they had been frugal throughout their life they were now able to spend a bit more of their money as it was not needed for investment in the farm business.

3.1.9 Goals and objectives

A key part of the survey was to discover the goals and objectives of this cohort of farmers. Respondents were asked an open ended question concerning their main objectives and goals followed by a more specific question about the importance of yields as appropriate to their farming system (e.g. tonnes per hectare of wheat, litres of milk per cow). There was no discernible difference between the high performers and the improvers with respect to their responses to this open ended question.

3.1.9.1 Importance of profit as an objective

The objective of making profit was mentioned as a common theme. However whilst one response cited the goal was to '*make a profit – everything geared towards maximising profit and minimising risk*' the majority of respondents qualified their answers with comments concerning family objectives or lifestyle. Thus a number of respondents emphasised *quality* and *margins* rather than profit *per se* as a key objective. In one case it was stated that the key objective was to make the farm easier to run and so enjoy farming more rather than striving to make 'big' profits each year. These particular farmers recognised that the improvement in livestock prices in recent years had enabled them to achieve this better life/work balance. Dairy farms typically emphasised

considerable improvement in performance but in the course of doing so had made major changes to the mix of farm enterprises and therefore had changed farm type.

objectives that were specific to their cows – e.g. improve efficiency, achieve better milk quality, improve the healthiness of the herd. It was noted from this question that the arable farmers were aiming for high margins as distinct from high yields. Thus they might be seeking high yields but not at any cost – ultimately margins were the important factor and monitoring input costs was critical to achieving this.

Quite a number indicated that farming was a 'way of life' or they 'could not think of another career' but that they also had to be profitable in order to sustain it. One respondent indicated that his main objective was to pass on a viable business to his son.

3.1.9.2 Key aspects to performance

Respondents were asked to identify the key aspects to their performance. The responses to this question tended to fall either into a general category such as 'improvement in prices' or 'attention to detail' or a specific instance such as 'farmer identified a discussion with solicitor friend who knew a lot about HLS and organic payments as the key to his improved performance as without it he probably would not have entered into the agreements'.

With regards to general responses the reference to improvement in prices is misleading since this improvement would have been available to all farmers whilst this study is analysing data for those farmers who have shown a higher level of performance or an improved level of performance compared to the sample as whole. The aspect of 'attention to detail' was mentioned by no less than six of the total sample of 24 farmers indicating that this is a significant factor on many of these farms. A typical response might be that of the dairy farmer who said -

"there's so many little aspects to it you can't help improving if you put some effort in. The challenge is to maintain the attention to detail when you increase numbers."

Control of costs was also a common theme as these responses show -

They always ring round to find the best price for anything, but if they find a good supplier will remain loyal provided they are being looked after. They are very meticulous with planning and do detailed costing for any purchases before a purchase is made. Their philosophy has always been to not buy something unless it is going to make you money and any machinery purchases are second hand – have never bought anything new.

..on to say that he does not spend much on machinery and he is aware of and constantly thinking about his costs. He also considers cash flow to be important and pays careful consideration to his cash flow when marketing and selling his produce

Attention to detail combined with adapting to increasing costs. As fertiliser costs have increased the farmer has reduced the amount bought in and made better use of slurry.

The farmer pays careful consideration to costs. He explained that in recent years he has become more aware of costs and has adjusted inputs in response to input costs and income.

3.1.9.3 Importance of high yields as a key objective

Initially farmers were asked an open ended question concerning their objectives but this was followed up with a specific question concerning whether high yields were seen as a key objective. Yields were described in term of tonnes per hectare, litres per cow, lambs reared per ewe or calves produced per cow. However in asking this question there was no attempt to cross reference with actual farm and industry average yields. Some of the answers were difficult to categorise and hence there has been an element of interpretation in classifying the answers as presented in Table 7.

Table 7: Importance of Yields against High and Improved Performance Classification and Farm Type

Farm type	High Performers		Improved Performance	
	Yes	No	Yes	No
Are high yields a key objective?				
Cereals	1	1	3	
Dairy	2	1	1	1
General cropping	1	1	1	1
LFA	2		3	
Lowland	1	2	2	
Total	7	5	10	2

Overall 70% of the sample indicated that high yields were a key objective. This aspect of goals and objectives was deemed to be a stronger feature of the livestock farmers than the arable farmers. For instance, all the LFA farmers reported that high yields were a key focus. This result is arguably surprising given the importance of environmental payments on some of these farms, however one respondent made a logical connection between the impact of the environmental schemes and need for high yields. Typical comments were –

Yes very much so. Everything aimed at producing a high number of lambs to sell. Sell everything fat, concentrated on producing a higher number of quality sheep.

Calving index is important. Cows that are not in calf are promptly sold. More leniency is given to ewes which will be given an extra year, if they fail to get in lamb. Ewes that are to be culled are not just sold out of the flock. They will be taken out of the main flock and then fattened up to maximise weight and returns.

Yes, the lambing percentage is very important. Due to environmental schemes, ewe numbers are restricted and so a high number of lambs are vital. The farmer explains that by aiming for a good lambing percentage he can justify his concentrate usage.

It was noticeable that the emphasis on yields was less strong in the high performers group compared to the improved performers group. In this group some of those not endorsing aiming for maximum yields made the following comments –

Not necessarily – spend least amount of chemical to get highest yields with minimal fert/spray costs. Consciously chosen an easy management approach. Look for spread of crops...

The farmer was quite against the idea of high yields being a key objective. He advocated keeping good stock (e.g. buying good bull) and managing them well was the most important. "Simple things usually work the best."

High yields are not especially important, more important is producing a calf that is easy calving, good temperament, then conformation.

3.1.10 Surprise at being selected for the study

Respondents were asked if they were surprised at being approached to take part in this study based on their farm performance. Two-thirds of the sample expressed surprise and one-third did not. This ratio was identical for both groups. One respondent commented that-

his agronomist described him as 'clever' whereas he thought he was 'lucky' – perhaps he will have to start listening to his agronomist more!

Those that were not surprised to be selected referred to facts such as they were aware they were in the premium group with regards to the FBS results. Indeed, even some of the farmers who indicated they were surprised to be selected also stated that they were aware they were in the high FBS group so logically should not have been surprised. Also, some of the improved performance farms expressed surprise because they thought they had 'always been able to identify with the high 25%' or that they had 'not improved that much - thought they were fairly consistent'.

3.1.11 Plans to change the scale of farm business in the next five years

Respondents were asked about their plans concerning the scale of their business especially with regards to next five years (Table 8). Some of the responses were difficult to categorise because some farmers mentioned that they would get extra land 'if it came up next door, but see no chance of that happening'. There was a clear difference between the two groups of farmers in terms of their responses to this question. Five farmers in the 'improvers' group indicated they were looking to expand the scale of their farm businesses whereas none of the high performing farms indicated this plan.

This discussion on attitudes towards scale of the farm business has highlighted a key feature of the two sub-groups of farms under scrutiny. One of the features of the high performers group are that they are in a steady state position – they are typically not investing heavily in new resources. This means that some of the critical costs such as depreciation and finance charges are relatively low. However, all businesses need to reinvest to replace machinery, buildings, invest in latest crop varieties and develop breeding stock in order to remain competitive in the medium to longer term.

Table 8: Plans to Change Business Scale against High and Improved Performance Classification and Farm Type

Farm type	High Performers			Improved Performance		
	Increase	same	decrease	increase	same	decrease
Cereals		2		2	1	
Dairy		3		1	1	
General cropping		2		1	1	
LFA		2		1	2	
Lowland		2	1		2	
Total		10	1	5	7	

3.1.12 Training and advice

Respondents were asked a series of questions to ascertain their approach to seeking advice and how they keep up-to-date with technical developments. Almost without exception respondents reported the importance of reading the farming press and quite a number also mentioned use of electronic media. Most of the arable farmers also mentioned the key role of the agronomist in providing up-to-date advice. The livestock farmers were much less likely to have a similar person visiting on a regular basis.

Prompted by a specific question concerning involvement in farmer discussion groups nine of the 24 farmers indicated they were involved in farmer discussion groups and, significantly, of the 15 farmers who were not involved some six farmers used to belong. The reason for no longer attending was either because the group had disbanded or because they did not find it of value. Moreover, it is interesting to note that attitudes towards group involvement were quite polarised with those involved saying how vital and useful they are and those not involved saying they do not have time, the groups are too 'long-winded', they prefer to make their own decisions and belonging to a group 'would not be of benefit to him or his business'. It is worth noting that many respondents also stated that they would attend one-off meetings of a technical nature such as seminars or open days.

Attendance at open days was also seen as a key way of keeping up-to-date with training especially with regards to health and safety (where they have become a regular feature of the industry) and cross-compliance. It was also noticeable that many farmers reported they were very supportive of training events and always ensured they sent their son or staff to them but did not necessarily attend themselves.

Farmers in both sub-groups were generally positive about the importance of seeking advice with arable farmers particularly emphasising the role and importance of the agronomist. Indeed, in one instance, it was on the advice of the agronomist that the

farmer had decided to give up a large area of tenanted land. The livestock farmers (both LFA and lowland) generally saw less need to seek advice apart from some help with form filling and for specific projects such as entering an environmental scheme. However, one of the farmers in the LFA improvers group proved the exception to this rule and mentioned extensive use of his accountant for planning, use of RDPE funded programmes for animal management issues and regular use of the vet for consultation purposes.

Farmers were asked if they participated in crop or livestock competitions. Five of the high performers reported that they did whereas only two of the improvers did so. The most common reason for not participating was lack of time although some also questioned their value and others thought their crops or livestock were not of a high enough standard to enter. Again, like involvement in discussion groups, those who do participate are very strongly motivated to do so as the following comments illustrate –

They enter a local Farms Competition and compete in the Whole Farm Management event and also all individual crop categories. The farmer and his father enjoy competing and believe this plays a role in motivating them to move the business forward and continue to perform well. The farm has won the Whole Farm Management and various crop categories in recent years.

Got involved because of pedigree stock, as it is a good way of putting their name forward within the breed. They have taken part in on farm competitions but are not interested in showing. If they can promote their business through livestock competitions then that is sufficient.

Farmers were asked if they used benchmarking as an aid to business planning. Seven farms said no albeit they receive benchmarking feedback via the FBS. Thus it is not clear whether they made no use of the FBS feedback or whether they assumed the question referred to benchmarking services specifically in addition to the FBS. The 17 farmers who reported that they used benchmarking nearly all specifically referred to the FBS. There were six farmers who emphasised the value of benchmarking services in addition to the FBS. These systems were generally enterprise specific such as those for vining peas or sugar beet or livestock data such as those provided by EBLEX.

3.1.13 Marketing

Both sub-groups used a range of marketing channels. For instance, in both groups there were livestock farmers that were either fully committed to selling deadweight or to the auction or used a mixture of both. Perhaps not surprisingly those farmers that were fully committed to the auction or the abattoir all felt that they received the best prices. Arable farmers generally sold through merchants with some preferring contracts and others relying on the open market. A number of the arable growers mentioned the importance of selling to more than one merchant in order to take advantage of better prices and also to spread risk. Some crops, of course can only be sold through a certain marketing chain such as vining peas and sugar beet. However, there were also some farmers who sold some of their crops through a marketing group (such as potatoes) and the rest through merchants. There was one arable farmer that sold all his grain through a large grain marketing co-operative and was very pleased with the advantages of this approach and the opportunity it gave to borrow money at a low interest rate. The dairy

farmers were all selling to wholesalers although one was hoping to sell to a local buyer who needed milk for a cheese contract.

Those farmers with a diversified activity used specific marketing channels to promote this enterprise such as internet and doorstep magazine advertising for specific diversified activities.

3.1.14 Future plans and prospects

Respondents were asked whether they planned any major changes in the next five years. This question was similar to that concerning whether they planned to change the scale of operation and so the answers matched those to a large extent. In summary, the high performers were not anticipating making any major changes whilst five of the improvers group were doing so. However, this question also highlighted the fact that three of the high performing farmers hoped to retire completely, reduce their farming activity or sell their dairy cows within the next five years.

A question on what barriers farmers faced when considering these changes was of little relevance to those not planning changes. For those wishing to expand the availability of land was seen as the major limiting factor. One tenant was concerned he might lose his farm altogether due to a potential major development by his landlord. A number of respondents were concerned about red tape and planning regulations stifling planned developments and potential tourist activities (with specific reference to planning restrictions in a national park), whilst one of these farmers also said he was optimistic he could work round any issues that came up.

This survey was undertaken at a time when farming incomes have shown signs of improvement. Consequently when respondents were asked about the prospects for their own farm and for agriculture in general they were upbeat and optimistic. There was no difference in attitude between the high performers and the improved performance group. With regards to their own business the following are typical comments -

A lot better, brighter future than last 10 years. Optimistic about the future, will see dropping of SPS, but certain something else will replace it. He sees happier folk at auctions!

Farm Business – the prospect are good, however controlling costs will be vital in order to continue to perform well.

Farm business – farmer feels reasonably positive that prices should remain fairly strong. However, he is concerned about controlling costs.

Optimistic for own farm business and opportunities available. Farmer feels that arable farming is on the 'up' and can't imagine that grain prices will fall below £100/t.

With regards to the farmers own farm, he feels reasonably optimistic particularly as there are several opportunities available to move the farm business forward.

Farm business – farmer is concerned about the NVZ and slurry regulations. He is 'fine' at the moment but is worried that the rules and regulations may change and the consequent impact may cause problems and enforce changes on his business.

With regards to the industry as a whole whilst there was a similar pattern of optimism there was considerable qualification of this as reflected in the following comments-

Dairy industry – the farmer believes that the red tape and regulations particularly with regards to NVZs and slurry management, will force many dairy producers out of business. However, he is sure that there will always be a need for liquid milk.

Agriculture in general – the future is reasonable, however, red tape, bureaucracy and paper work are a threat to some farm businesses.

Agriculture – If SPS goes farms like this will not make a profit.

The farmer stated that the prospect was reasonable for agriculture in general. He identified that there would still be volatility but there are too many people in the world and people in general are becoming more affluent. Provided farmers were allowed to farm sensibly and there was less government intervention, then the outlook is positive. He went on to mention that there isn't enough livestock and milk being produced in the country so obviously the price will remain strong. Welfare standards and carbon emissions were a bugbear.

Emerging diseases is a worry e.g. Schmallenberg disease.

Farming in general – farmer is positive although is concerned about the Eurozone and how developments in Europe will impact on UK agriculture.

The farmer feels positive for agriculture in general but concerned that supermarkets have too much control and power.

3.1.15 Succession plans

Respondents were asked about succession plans for the business. The common feature for both groups was that only 25% of the farmers had a clear succession plan. On four of the farms (16%) there was no succession plan either because there was no family or it was known that the family members did not want to pursue a career in farming. Thus on 14 of the 24 farms there was no clear succession plan. However, these comments can be partly explained by the fact that in some cases the family members were too young to consider putting a succession plan in place. However, the issue of succession was of real concern on some of these farms. It is worth recalling that all of these farmers were currently good performers and were characterised by a lack of major financial worries concerning the farm business. The following comments pick up this theme of concern with regards to succession planning –

The farmer has left it open for his son to come in and take over, though he is philosophical about him taking over. "...each generation sees things differently and opportunities are always changing".

Not really – and farmer feels disappointed that this situation has not been resolved to date. However, he hopes that his son, daughters or son in law may take the farm business over and develop the proposed diversification.

No real plans. There is a hope the son will take over though at the moment he is happy doing other agricultural work. The spouse mentioned their son was giving his dad space to do it his way. Stated they "can't really plan" (together).

No, there is not a plan and the farmer is concerned as he is getting older and his children are not interested in the agricultural side of the business. However, his children have shown an interest in the potential for farm tourism based business opportunities.

3.1.16 Advice

The final question in the interview asked what single piece of advice they would pass on to prospective or existing farmers. What was striking about the responses was the emphasis on two key pieces of advice – controlling costs and paying attention to details. Although the farmers were not given a list of suggestions to choose from it was possible to classify the responses as presented in Table 9. Some farmers gave more than one response.

Table 9: Key Advice against High and Improved Performance Classification

What key advice would you give?	High Performers	Improved Performance
Control costs	√√√√√	√√√√√
Pay attention to detail/focus on key things	√√√√	√√√
Be flexible/ open to change/ look for new opportunities/ react to change fast	√√	√√
Look after cows and they will give you profit	√	√√
Get the right people around you	√	√
Do not buy in livestock as it leaves you open to disease		√
Develop a range of income streams		√

Some of the responses were interpreted as follows –

"Don't buy something if you can't afford it and don't take money out of the business if you can't afford it." They think people need a lot of common sense to prevail in farming and a 'can-do' attitude gets you a long way so learn how to do things that will save you money like welding or machinery maintenance or fencing.

Always work things out before going into ventures, and do the costings correctly before making decisions to purchase something (either stock or machinery).

Attention to detail is vital in all aspects of the business including agronomy, marketing, general farm work, field operations, machinery maintenance and book keeping. Do each job well. Do not lose sight of the basics and do not cut corners!

Attention to detail and it is the little things that make a difference e.g. Sort lame sheep as they rise, rather than waiting until it is convenient. Deal with issues as they arise – definitely prevention rather than cure. "Can be bothered rather than cannot be bothered" attitude. It is good to look at how other people do things, to see how you can improve at home, and interactions with other farmers are key to this.

Cost out every idea to see if it is profitable on paper. Cut out any areas or enterprises that are not making money, even if it is a difficult decision. Always look for new opportunities.

It is important to be flexible, minimise costs and stay on your toes. You have to be aware of what's going on, and develop a range of income streams.

...key is attention to detail – improved own situation - be flexible in thinking. Do sums before action – honestly.

Do not buy in livestock as it leaves you open to disease. Do your job and do it well.

Keep your options open and don't be adverse to change if needed to move the business forward

3.1.17 Segmentation classification

The farmers interviewed for this survey were also asked to complete the segmentation analysis (See Wilson *et al.* 2011) with results presented in Table 10. Two-thirds of those interviewed regarded themselves as 'pragmatists'; one-quarter as 'custodians' and two farmers thought they fitted the category of 'modern family business'.

Table 10: Segmentation Self Classification against High and Improved Performance Groups

Performance type	High	Improved	All
Group A Custodians	4	2	6
Group B Lifestyle	-	-	-
Group C Pragmatists	7	9	16
Group D Modern family business	1	1	2
Group E Challenged Enterprises	-	-	-
Total	12	12	24

The opportunity was taken to compare the segmentation classification for this study with that recorded in the previous FBS study (Wilson *et al.* 2011). Because the previous study had not been undertaken on a full sample of farms only ten of the farms had been surveyed previously. Of these ten, all but two of the farms classified in exactly the same way. One farm classified as a 'pragmatist' whilst previously it had been a 'Lifestyle' choice and one farm classified as a 'custodian' and previously it had been a 'pragmatist'. Overall a consistency rate of 80% may be indicative to support the fact that the process of categorisation and choice of categories is reasonably robust as a research method.

3.1.18 Research Officer overall impressions

The ROs were asked to record their impressions on the farmers they interviewed to see if this brought out any additional features of interest. On the whole, these impressions confirmed the responses to the main questions. For instance the emphasis on attention to detail was picked up in a number of interviewer comments -

Meticulous planner likes farm to look tidy, but not necessarily happy to spend lots on it...

Farmer pays close attention to detail and relies on just himself and father with regards to manual and management – very limited outside input.

Another frequent comment by the interviewers was that the farmers exhibited pride in their farms and in their work –

This is a farmer who has a passion for farming and was interested from an early age.

It is clear they have pride in their farming...

Very welcoming family – take pride in their farming...

In some cases the interviewer would comment on the value system of the interviewees such as the following –

During the discussion it was clear that religion plays a big part in their lives and they think it is important for both stability in your home life and your working life. They also have strong values on honesty and integrity and they value their relationships they have with suppliers etc. so by paying bills on time for example they have been able to build up trusted relationships with individuals and firms which have helped them in being good farmers.

It is clear they have pride in their farming, and they have equal pride in their stock and the machinery and land that they farm. They see farming as very much a vocation and enjoy it despite having to give up certain things in order to get to where they are today such as holidays. They are not materialistic and seem to only purchase things if absolutely necessary. There was an overriding sense that as they are on a tenanted farm that they feel pushed to achieve for themselves rather than anyone else and they feel pride in that they have achieved everything through hard work rather than being given a farm for example.

In other cases it was clear that there had been particular circumstances that had a major influence on what and how things were done. In some cases this involved a death of a family member –

The farmer has changed his outlook on farming as he got older. In the past he was very driven to succeed and do well. However the death of his brother put things in perspective. This led him to change his emphasis to a more even work life balance. They live within their means/ have a contingency there is off farm income from the spouse. Being an owner occupier has provided a great amount of security.

He is a very good young farmer, who was thrown in at the deep end when he had to take control of the farm after his father's death. At that stage the farm was heavily indebted due to big losses on potatoes... This experience has shaped him into the farmer he is, making him think and cost his ideas out before committing any capital. He has lots of spread-sheets which cost out all crops grown and contracting operations. He knows exactly how much a contracting operation costs and how much he then needs to charge the customer. He has a love and passion for what he does and is excited about new opportunities and building the business for his sons. It is good to see someone with so much enthusiasm for the industry.

3.2 Quantitative Analysis

3.2.1 Overview

The quantitative analysis was undertaken for each farm type and for each of the years 2008/09, 2009/10 and 2010/11 in order to provide a three-year analysis and thus avoid any anomalies which may be attributable to single year analysis. Whilst previous studies have focused upon the estimation and explanation of efficiency in agriculture, the approach adopted here was to subject the data to a series of "gatekeeper" tests in order to identify top performing farm businesses in order to test for statistical differences between the top performing group and the remainder groups. The following sections present the quantitative results by farm type grouping.

3.2.2 Cereals

The results in Table 11 show that the top performance group farms achieved greater returns than costs from both their overall farm business (Farm Business Performance Ratio [FBPR]) and their agricultural activities (Agricultural Output: Input Ratio [AgR]). The remainder group failed to meet their agricultural costs in each year considered. The results demonstrate that the top performing Cereal farm businesses are characterised by achieving significantly greater farm output, Farm Business Income (FBI) per business and per hectare, Net Farm Income (NFI) and Management and Investment Income (MII). The top performing businesses have a significantly greater net worth, a larger Utilised Agricultural Area (UAA) and additionally own a greater proportion of their UAA; return on tenant's capital (RoTCE) is also significantly greater for the top businesses. No significant differences are observed with respect to total external liabilities, albeit in absolute terms, the top farm businesses have lower average liabilities than the remainder group by approximately £40k to £65k. The top farm businesses have significantly lower gearing ratios (liabilities expressed as a percentage of net worth). No significant differences were observed between the top and remainder performance groups with respect to age and education, albeit that the top performing group typically had a higher proportion of co-operators that were college or university educated. Significant differences were observed with respect to EU region with a greater proportion of the top cereal farm businesses located in the EU East region, and lower proportions of the top performing businesses located in the EU North and EU West regions. Gross Margin analysis for winter wheat is substantially greater for the top performing businesses by £100 - £190 /ha and significantly different in both 2009 and 2010.

3.2.3 General Cropping

The analysis of General Cropping farm businesses (Table 12) demonstrates broad similarity to those for Cereal farms; top performance farms achieved returns that were 25-51% greater than costs from both their overall farm business activities (FBPR) contrasting with 3-17% for the remainder performance group. The top performance group also achieved AgR greater than one in each year. Top performing farms achieved significantly greater farm output, FBI, FBI/ha, NFI and MII. Total assets and net worth were significantly greater on the top performing farm businesses; no significant or substantial differences were found with respect to total external liabilities. Return on tenant's capital employed was significantly greater on the top performing farm businesses, and whilst the gearing ratio was lower for the top farm businesses, this metric was not statistically significantly different between the two performance groups.

Utilised Agricultural Area was identified as significantly greater on the top performing farm businesses. In line with the pattern for Cereal farms, no differences were observed with respect to age of co-operator, and whilst the proportion of co-operators with college or university education was higher for the top performing farms, there was no significant difference observed. In contrast to the results for Cereal farms, no significant regional differences were observed between the groups, albeit that proportionately more top performing businesses were located in the EU East and West regions. As an indicator of enterprise performance, the gross margin for sugar beet on a sub-set of each performance group was analysed; the top performing farms recorded a greater average gross margin in each year, but no significant differences was observed from the small to modest sample sizes with respect to gross margin analysis.

Table 11: Summary Statistics for Cereal Farm Businesses: FBS Results

	2010			2009			2008		
	Remainder	Top	S	Remainder	Top	S	Remainder	Top	S
Farm Business Performance ratio	1.29	1.62	*	1.09	1.36	*	1.22	1.52	*
Agricultural Output : Input ratio	0.99	1.32	*	0.77	1.02	*	0.93	1.21	*
Farm Output (£/business)	355,471	580,119	*	296,478	492,728	*	313,074	500,094	*
FBI (£/business)	98,272	251,400	*	45,149	163,516	*	78,922	201,576	*
FBI/ha (£/UAA ha)	423	665	*	203	420	*	335	545	*
NFI (£/business)	83,242	194,949	*	30,351	112,285	*	63,973	150,441	*
MII (£/business)	67,945	181,812	*	15,496	99,583	*	49,796	139,124	*
Total Assets (£/business)	2,031,229	4,205,455	*	1,840,353	3,858,065	*	1,695,616	3,610,924	*
Total External Liabilities (£/business)	222,944	158,604		202,212	158,249		197,268	159,421	
Net Worth (£/business)	1,808,285	4,046,851	*	1,638,141	3,699,816	*	1,498,349	3,451,503	*
Utilised Agricultural Area [UAA] (hectares)	250	382	*	251	379	*	252	374	*
Percentage of Owned UAA	58.55	78.15	*	58.68	79.05	*	58.65	79.52	*
RoTCE (percentage)	12.58	21.73	*	1.48	11.63	*	9.84	19.31	*
Gearing Ratio (percentage)	20.05	4.48	*	19.41	4.73	*	40.69	6.17	*
Age (years)	57.1	57.0		56.5	56.6		55.9	55.7	
Proportion College/University Qualifications	0.55	0.64		0.55	0.64		0.54	0.64	
Proportion in EU North Region	0.20	0.06	*	0.20	0.06	*	0.20	0.06	*
Proportion in EU East Region	0.64	0.82	*	0.64	0.82	*	0.64	0.82	*
Proportion in EU West Region	0.16	0.12	*	0.16	0.12	*	0.16	0.12	*
<i>No. Observations</i>	172	50		172	50		172	50	
Gross Margin for Wheat (£/hectare)	863	981	*	431	535	*	609	789	
<i>Gross Margin Observations within group</i>	152	44		155	46		151	46	

Key: FBI= Farm Business Income; NFI= Net Farm Income; MII = Management and Investment Income; RoTCE = Return on Tenant's Capital Employed = [Management and Investment Income / Tenant's Type Capital Employed at Closing Valuation]*100; Gearing Ratio = [Liabilities / Net Worth]*100; S = Statistical Significance (*= significant at 95% or above)

Table 12: Summary Statistics for General Cropping Farm Businesses: FBS Results

	2010			2009			2008		
	Remainder	Top	S	Remainder	Top	S	Remainder	Top	S
Farm Business Performance ratio	1.17	1.51	*	1.03	1.25	*	1.16	1.45	*
Agricultural Output : Input ratio	0.99	1.36	*	0.84	1.09	*	0.98	1.31	*
Farm Output (£/business)	525,683	1,178,409	*	482,975	893,189	*	477,553	928,434	*
FBI (£/business)	110,224	407,728	*	69,236	186,875	*	106,022	286,362	*
FBI/ha (£/UAA ha)	492	1,064	*	277	613	*	457	878	*
NFI (£/business)	89,054	374,871	*	48,641	156,384	*	89,751	260,356	*
MII (£/business)	69,910	356,768	*	31,073	138,637	*	72,339	241,976	*
Total Assets (£/business)	2,145,654	3,443,361	*	2,043,030	3,065,431	*	1,917,883	2,745,385	*
Total External Liabilities (£/business)	297,480	284,787		310,138	293,659		276,122	271,015	
Net Worth (£/business)	1,848,174	3,158,574	*	1,732,892	2,771,772	*	1,641,761	2,474,370	*
Utilised Agricultural Area [UAA] (hectares)	245	437	*	251	384	*	239	385	*
Percentage of Owned UAA	58.98	62.18		57.62	63.34		58.44	62.45	
RoTCE (percentage)	7.93	32.26	*	-1.62	16.68	*	8.04	32.73	*
Gearing Ratio (percentage)	21.26	10.55		22.61	14.85		20.25	14.92	
Age (years)	55.9	54.3		54.9	53.3		53.8	52.3	
Proportion College/University Qualifications	0.59	0.67		0.59	0.71		0.59	0.67	
Proportion in EU North Region	0.22	0.08		0.22	0.08		0.22	0.08	
Proportion in EU East Region	0.62	0.67		0.62	0.67		0.62	0.67	
Proportion in EU West Region	0.16	0.25		0.16	0.25		0.16	0.25	
<i>No. Observations</i>	73	24		73	24		73	24	
Gross Margin for Sugar Beet (£/hectare)	923	1,017		1,186	1,313		1,100	1,207	
<i>Gross Margin Observations within group</i>	29	13		30	13		29	12	

Key: FBI= Farm Business Income; NFI= Net Farm Income; MII = Management and Investment Income; RoTCE = Return on Tenant's Capital Employed = [Management and Investment Income / Tenant's Type Capital Employed at Closing Valuation]*100; Gearing Ratio = [Liabilities / Net Worth]*100; S = Statistical Significance (*= significant at 95% or above)

3.2.4 Dairy

Table 13 provides the results of analysis for Dairy farm businesses. In line with the previous analysis, the top performing farms achieved greater FBPR, AgR, farm output, FBI, FBI/Ha, NFI, and MII; additionally they held greater total assets, net worth, achieved a greater RoTCE and operated with significantly lower gearing ratios. No significant differences were observed for total external liabilities between the two groups, however, liabilities for the top performing group were £40k to £70k lower than for the remainder group. The top performing Dairy farm businesses had significantly greater average UAAs and whilst the proportion of UAA that was owned was greater on the top performing farm businesses (by 5 to 8%) this was not significantly different from the remainder group. No substantial or significant differences were observed with respect to age or education between the two groups across the three years of analysis. No significant regional differences were found between the two groups, however, the proportion of top performing Dairy farm businesses was greater in the EU West region and lower in the East. Gross margin (£/cow) returns at enterprise level demonstrates that the top performing farm businesses achieved significantly greater gross margin returns, in the order of £300 to £400/cow greater than for the remainder performance group.

3.2.5 Lowland Grazing Livestock

Results of analysis for Lowland Grazing Livestock businesses are given in Table 14. Whilst the top performance group achieved FBPR greater than one in each year, it is instructive to note that for this farm type, the top performance group did not, on average, return sufficient agricultural returns to cover agricultural costs, whilst the remainder performance group achieved returns from agricultural activities that covered only approximately 60% of agricultural costs. The previous pattern identified for a number of variables is once again noted with the top performing farm businesses achieving greater farm output, FBI, FBI/Ha, NFI, and MII. Greater total assets, net worth, and RoTCE were also observed for the top performing Lowland Grazing Livestock farm businesses. Contrasting with previous results, external liabilities were substantially greater on the top performing Lowland Grazing Livestock farms, albeit that there was no significant difference observed in this metric for any of the three years. Additionally in contrast to Cereals, General Cropping and Dairy farm businesses there were no significant or substantial differences observed with respect to the gearing ratios of the top performing and remainder groups. The top performing farm businesses had significantly greater UAAs and within this, the top performing group had a non-significantly lower proportion (5 to 6%) of UAA that was owned. In contrast to the farm business types presented above, co-operators in the top performing farms were noted to be significantly younger than those in the remainder performance group. No significant differences were observed with respect to education. Statistically significant regional difference were not observed, albeit that the EU East region had a greater absolute proportion of top performing Lowland Grazing Livestock farm businesses, and the West a lower proportion. Gross margin results for suckler cows (£/cow) and ewes (£/ewe) demonstrate that the top performing group achieve consistently greater gross margins (ranging from £30 to £126/cow and £12 to £23/ewe) with gross margins for ewes being significantly greater for the top performing group in each year.

Table 13: Summary Statistics for Dairy Farm Businesses: FBS Results

	2010			2009			2008		
	Remainder	Top	S	Remainder	Top	S	Remainder	Top	S
Farm Business Performance ratio	0.97	1.21	*	0.97	1.23	*	1.03	1.29	*
Agricultural Output : Input ratio	0.86	1.11	*	0.86	1.12	*	0.94	1.20	*
Farm Output (£/business)	304,683	474,491	*	292,607	448,306	*	306,606	464,044	*
FBI (£/business)	31,021	119,544	*	32,367	120,068	*	46,200	141,157	*
FBI/ha (£/UAA ha)	314	919	*	346	910	*	484	1,116	*
NFI (£/business)	21,342	93,472	*	21,853	95,589	*	41,708	121,236	*
MII (£/business)	-6,945	67,966	*	-5,746	70,801	*	14,345	97,441	*
Total Assets (£/business)	1,206,535	1,697,537	*	1,130,032	1,537,497	*	1,068,285	1,411,320	*
Total External Liabilities (£/business)	266,900	226,537		243,108	176,743		224,516	155,721	
Net Worth (£/business)	939,635	1,471,000	*	886,924	1,360,754	*	843,769	1,255,599	*
Utilised Agricultural Area [UAA] (hectares)	114	142	*	114	141	*	112	139	*
Percentage of Owned UAA	56.01	63.47		55.79	62.20		55.50	60.93	
RoTCE (percentage)	-4.13	11.52	*	-3.72	12.53	*	2.37	18.95	*
Gearing Ratio (percentage)	39.51	18.75	*	39.56	15.83	*	44.41	17.09	*
Age (years)	52.3	52.4		51.6	52.1		50.6	51.1	
Proportion College/University Qualifications	0.52	0.56		0.52	0.54		0.52	0.54	
Proportion in EU North Region	0.33	0.31		0.33	0.31		0.33	0.31	
Proportion in EU East Region	0.22	0.16		0.22	0.16		0.22	0.16	
Proportion in EU West Region	0.45	0.53		0.45	0.53		0.45	0.53	
<i>No. Observations</i>	<i>178</i>	<i>70</i>		<i>178</i>	<i>70</i>		<i>178</i>	<i>70</i>	
Gross Margin for Dairy Cows (£/Cow)	822	1,110	*	750	1,045	*	872	1,192	*
<i>Gross Margin Observations within group</i>	<i>170</i>	<i>66</i>		<i>173</i>	<i>69</i>		<i>169</i>	<i>69</i>	

Key: FBI= Farm Business Income; NFI= Net Farm Income; MII = Management and Investment Income; RoTCE = Return on Tenant's Capital Employed = [Management and Investment Income / Tenant's Type Capital Employed at Closing Valuation]*100; Gearing Ratio = [Liabilities / Net Worth]*100; S = Statistical Significance (*= significant at 95% or above)

Table 14: Summary Statistics for Lowland Grazing Livestock Farm Businesses: FBS Results

	2010			2009			2008		
	Remainder	Top	S	Remainder	Top	S	Remainder	Top	S
Farm Business Performance ratio	0.90	1.22	*	0.97	1.31	*	0.92	1.27	*
Agricultural Output : Input ratio	0.57	0.89	*	0.60	0.96	*	0.59	0.94	*
Farm Output (£/business)	87,435	231,337	*	89,330	236,261	*	83,713	215,886	*
FBI (£/business)	12,494	61,506	*	18,066	75,222	*	13,940	66,495	*
FBI/ha (£/UAA ha)	121	389	*	194	505	*	148	544	*
NFI (£/business)	4,418	48,096	*	10,003	61,606	*	8,021	55,624	*
MII (£/business)	-14,452	22,919	*	-8,620	38,445	*	-10,384	33,433	*
Total Assets (£/business)	877,513	1,302,045	*	826,364	1,224,057	*	778,991	1,109,978	*
Total External Liabilities (£/business)	68,935	126,554		66,976	133,860		61,787	111,391	
Net Worth (£/business)	808,578	1,175,491	*	759,388	1,090,197	*	717,204	998,587	*
Utilised Agricultural Area [UAA] (hectares)	94	221	*	95	213	*	94	200	*
Percentage of Owned UAA	63.28	57.63		62.42	57.77		62.68	58.07	
RoTCE (percentage)	-11.67	4.81	*	-8.41	9.13	*	-12.01	8.47	*
Gearing Ratio (percentage)	26.49	21.53		22.18	27.17		24.31	30.74	
Age (years)	56.5	52.0	*	55.5	51.0	*	54.5	49.9	*
Proportion College/University Qualifications	0.46	0.44		0.46	0.44		0.46	0.44	
Proportion in EU North Region	0.19	0.19		0.19	0.19		0.19	0.19	
Proportion in EU East Region	0.38	0.50		0.38	0.50		0.38	0.50	
Proportion in EU West Region	0.43	0.31		0.43	0.31		0.43	0.31	
<i>No. Observations</i>	<i>141</i>	<i>36</i>		<i>141</i>	<i>36</i>		<i>141</i>	<i>36</i>	
Gross Margin for Sucklers (£/Cow)	126	169		193	223		47	173	
<i>GM Observations</i>	<i>94</i>	<i>21</i>		<i>96</i>	<i>22</i>		<i>96</i>	<i>20</i>	
Gross Margin for Ewes (£/Ewe)	57	69	*	48	71	*	25	54	*
<i>GM Observations</i>	<i>78</i>	<i>22</i>		<i>81</i>	<i>24</i>		<i>85</i>	<i>24</i>	

Key: FBI= Farm Business Income; NFI= Net Farm Income; MII = Management and Investment Income; RoTCE = Return on Tenant's Capital Employed = [Management and Investment Income / Tenant's Type Capital Employed at Closing Valuation]*100; Gearing Ratio = [Liabilities / Net Worth]*100; S = Statistical Significance (*= significant at 95% or above)

3.2.6 Less Favoured Area Grazing Livestock

Table 15 presents the results for the Less Favoured Area (LFA) Grazing Livestock Farms. The top performing farms achieved farm business returns that generated 18 to 29% over farm business costs, whilst their agricultural returns provided approximately 80% of the agricultural costs. The top performing farm businesses achieved greater farm output, FBI, FBI/Ha, NFI, and MII, held greater total assets, net worth, and achieved a larger RoTCE. No significant differences were observed for total external liabilities, albeit that the top performing group had lower average absolute levels of liabilities, in the region of £30k lower; gearing ratios were lower on the top performing farm businesses, albeit only significantly so in 2008. Whilst the top performing group farmed a significantly greater UAA, no difference was observed between the two groups for the percentage of owned UAA. Contrasting with Lowland Grazing Livestock, there was no significant difference in co-operator age between the two groups. The proportion of co-operators that held college or university qualifications was greater for the top performing group, but not significantly so. Whilst no significant regional differences were observed, the EU North region accounted for 80% of the top performing LFA Grazing Livestock businesses, in contrast to 63% of the remainder group. LFA suckler cow gross margins are shown to be greater for the top performing farm businesses, in the order of £60 to £80/cow, but were not identified as significantly different.

3.3 Conclusion

This chapter has provided the results of both qualitative and quantitative analyses, the former drawing upon data from 24 in-depth case study interviews, providing overview outcomes and example responses to specific aspects raised during the course of these interviews. The quantitative analysis has drawn upon FBS data from 2008/09 to 2010/11 in order to provide descriptive statistics and statistical testing of the data to identify key differences between the top performing farm businesses and the remainder performance group. The following chapter seeks to place the above results in context of the literature presented in Chapter 1.

Table 15: Summary Statistics for LFA Grazing Livestock Farm Businesses: FBS Results

	2010			2009			2008		
	Remainder	Top	S	Remainder	Top	S	Remainder	Top	S
Farm Business Performance ratio	0.94	1.18	*	1.04	1.29	*	0.97	1.22	*
Agricultural Output : Input ratio	0.57	0.80	*	0.61	0.85	*	0.55	0.80	*
Farm Output (£/business)	105,978	175,051	*	108,750	174,249	*	97,092	153,099	*
FBI (£/business)	20,553	50,550	*	29,283	62,679	*	20,140	48,158	*
FBI/ha (£/UAA ha)	109	243	*	163	299	*	119	248	*
NFI (£/business)	12,457	37,513	*	21,787	49,536	*	14,805	36,433	*
MII (£/business)	-7,216	16,960	*	2,784	29,212	*	-3,467	16,834	*
Total Assets (£/business)	737,895	951,625	*	692,457	898,671	*	648,471	828,319	*
Total External Liabilities (£/business)	74,538	43,858		69,147	42,721		69,059	37,030	
Net Worth (£/business)	663,357	907,767	*	623,310	855,950	*	579,412	791,289	*
Utilised Agricultural Area [UAA] (hectares)	229	276	*	227	262	*	226	262	*
RoTCE (percentage)	-7.36	5.32	*	-2.42	9.98	*	-5.31	7.39	*
Percentage of Owned UAA	55.19	52.86		55.06	53.50		54.72	53.47	
Gearing Ratio (percentage)	35.26	5.54		21.57	5.49		44.76	5.82	*
Age (years)	56.3	54.4		55.2	54.1		54.2	53.1	
Proportion College/University Qualifications	0.33	0.43		0.32	0.43		0.32	0.43	
Proportion in EU North Region	0.63	0.80		0.63	0.80		0.63	0.80	
Proportion in EU East Region	0.13	0.05		0.13	0.05		0.13	0.05	
Proportion in EU West Region	0.25	0.15		0.25	0.15		0.25	0.15	
<i>No. Observations</i>	<i>150</i>	<i>40</i>		<i>150</i>	<i>40</i>		<i>150</i>	<i>40</i>	
Gross Margin for Suckler Cows (£/Cow)	72	153		115	157		54	122	
<i>Gross Margin Observations within group</i>	<i>115</i>	<i>30</i>		<i>118</i>	<i>32</i>		<i>121</i>	<i>32</i>	

Key: FBI= Farm Business Income; NFI= Net Farm Income; MII = Management and Investment Income; RoTCE = Return on Tenant's Capital Employed = [Management and Investment Income / Tenant's Type Capital Employed at Closing Valuation]*100; Gearing Ratio = [Liabilities / Net Worth]*100; S = Statistical Significance (*= significant at 95% or above)

4. Discussion

4.1 Managerial Characteristics

Most farmers interviewed for the qualitative analysis had received some formal training, with college qualifications being the most frequently cited level of education. Whilst the quantitative analysis did not detect significant differences with respect to education, the top performing groups for Cereals, General Cropping and LFA Grazing Livestock farms contained a greater proportion of co-operators with college or university level qualifications. Previous empirical analyses have not identified education as a significant determining variable with respect to efficiency or profitability analysis. However, education and age are strongly negatively correlated with younger farmers more likely to have undertaken further or higher education and hence empirical analysis may arguably lead to age being partly indicative of educational level.

From the qualitative analysis, a higher proportion of older farmers were observed in the high performance group relative to the 'improvers' performance group, with years of managerial experience following this pattern. The influence of age and experience on agricultural performance from the quantitative analysis indicated no significant or substantial difference between the top and remainder performance groups, with the exception of results for the Lowland Grazing Livestock farm type, where the top performing group were observed to be significantly younger than the remainder performance group. This latter result concurs with Wilson *et al.* (1998; 2001) and Hadley's (2006) analyses of technical efficiency in UK production. Previous analysis of the influence of age on managerial actions and performance has noted the importance of farmer age in partly self-defining a particular segment to which a farmer may belong (Dwyer *et al.*, 2007) whilst the importance of life-stage in determining managerial groups has also been cited as of importance (Plummer, 1974) and that understanding farmer motivations has direct policy relevance (e.g. Moon and Cocklin, 2011). It is argued here that the observational outcome from the high performance group containing a greater proportion of older farmers than the improvers group directly reflects life-stage of the co-operators. The improvers group have been broadly identified as implementing enterprise and business change to effect improved performance, whilst the high performance group arguably contain a greater proportion of co-operators who have established their farming businesses over a longer period of time and in some cases are now looking towards retirement.

4.2 Decision Making, Attention to Detail and Management Information

From the qualitative analysis, decision making was identified as largely undertaken by the farmer in conjunction with other family members, typically this was represented by the farmer and wife farming in partnership. Whilst many farmers drew upon outside advice, the responsibility for the decision making was clearly identified as belonging to the farmer. In their analysis of technical efficiency in wheat production, Wilson *et al.* (2001) identified "information seekers" to be more technically efficient reinforcing the importance of information and knowledge in order to make informed decisions. Whilst decision making would in general be considered to capture strategic or "bigger picture"

aspects of the business, a strong common theme that emerged from the qualitative analysis was that of attention to detail in all areas of activity. This linked to both achieving higher yields and margins and controlling costs by focusing upon only purchasing inputs that were appropriate and necessary to run the business successfully. General attention to detail is important in day to day activities (e.g. monitoring animal health, ensuring machinery and plant are operating efficiently), production detail (e.g. application of appropriate crop protection, detailed understanding of animal nutritional needs) and business planning (e.g. ensuring low input prices through price comparison activity). Reinforcing these aspects, Barnes *et al.* (2009) identified the potential for improved technical efficiency from the reduction in nitrogen and phosphorus inputs. Directly linked to these aspects, the importance of information delivery in successfully operating their business was noted from the qualitative analysis with specific advice from agronomists noted to be of importance to arable farmers. Gaining knowledge via the farming press and electronic media were also noted as information sources, whilst attendance at open days were perceived to be a way of remaining updated with latest developments, either via self-attendance or that of family members or members of staff. These findings concur with May *et al.* (2011) who noted the importance of the intensity of engagement and interaction in networking as a key feature to successful business adaptation. Barnes *et al.* (2011) also reinforce the importance of information seeking and collaborative networks in determining performance.

Business benchmarking was noted to be a particularly important activity from the qualitative analysis. Whilst all co-operators receive benchmarking information via their involvement with the FBS, not all actively viewed this as undertaking benchmarking activities, or alternatively viewed 'benchmarking' as a specific activity separate to the FBS. However, the majority of co-operators in the qualitative analysis valued benchmarking activities as part of their business operations, with the value of enterprise-specific benchmarking being particularly noted by a number of respondents. Business benchmarking has been previously identified as a significant characteristic of business activity associated with high performing dairy enterprises (Wilson, 2011), hence reinforcing the findings from the qualitative analysis.

Making profit was a key objective and a common theme, and concurs with Wilson *et al.* (2001) who identified profit maximisation as positively correlated with technical efficiency. Risk minimisation and achieving profit within family objectives and lifestyle were also noted as important drivers, with the drive to combine these factors a common theme in segmentation analyses (e.g. Defra 2008, 2011, Wilson *et al.*, 2011), but also reinforcing the need for profit in order to sustain both the farm business and lifestyle (Robinson, 1991). Margins were noted as a key objective, over and above that of achieving high yields, with dairy and arable farmers focused on margins in particular, to be achieved through a combination of better product quality (and hence price) and also cost control, with this latter aspect noted as a common theme.

Results from the qualitative analysis indicated that a range of marketing channels were often used by co-operators to achieve good prices and also to manage risk. Additionally, the use of co-operatives in grain marketing was noted as both a risk management tool and a route to securing low interest rate capital. Improvers were more likely to continue to make changes to their business, whilst the high performers were more likely to continue their business unchanged or were approaching retirement.

4.3. Farm Situational Factors

In comparison to an overview of the overall FBS sample, the case-study interviews were over represented by tenant farmers; this is despite the measure of performance for selection for these interviews taken as FBI/ha which could be argued to favour owner-occupiers as FBI excludes rental costs, but includes interest payments on loans. The improvers performance group tended to be larger farms than high performers, however a common theme across the qualitative analysis was the high utilisation of family labour with one-half also drawing upon inputs from contractors and casual labour.

Criticism of previous efficiency and performance analyses is the frequent lack of data available on the land and situational factors of the farm business (e.g. Wilson *et al.*, 1998). To address this criticism, inherent advantages of the farm were discussed with co-operators and typically these responses were noted in terms of soil type, rainfall and geographical location which provided particular attributes perceived to benefit the farm business. Other advantages noted included farm-physical factors which aided production, for example farms being contained within a ring-fence.

The quantitative analysis indicated that across all farm types the top performing farms operated significantly and substantial greater UAA, indicating the importance of farm size in determining agricultural performance. Whilst this accords with previous technical efficiency studies observing a positive correlation between efficiency and farm size (Wilson *et al.*, 2001; Defra 2012), other studies have identified that the best small farms achieve greater efficiency than a number of large farms (Defra 2011a). With respect to the proportion of tenanted land associated with the top performing businesses, this was found to be not significantly different between the top and remainder performance groups, with the exception of Cereals farms where the top performance group were represented by a significantly greater proportion of owner-occupied land, this latter aspect reinforcing Hadley's (2006) finding that more efficient farms tend to have a greater proportion of owner-occupied land.

4.4. Farm Business Financial Factors, Developments and Constraints

From the qualitative analysis, reliance on SPS, environmental support schemes or diversified activities was not determined to be out of line with the main FBS sample. High performing businesses were identified with very low borrowings, with any borrowings on all farms (high and improvers) under control and with plans for repayment in place.

The quantitative analysis demonstrated that the top performance group across all farm types achieved significantly greater farm output, FBI, FBI/ha, NFI and MII returns than the remainder performance group; moreover, they held significantly greater total assets and net worth. Total external liabilities were not significantly different across the performance groups. The lack of significant difference with respect to average total external liabilities across the farm type groups reflects the large variation in the underlying data, whereby many of the farms held very low external liabilities (typically from current liabilities – e.g. overdraft, creditors), whilst others held substantial external liabilities (e.g. from land purchase). However, gearing ratios were significantly lower for Cereal and Dairy farm types in all years and for LFA Grazing Livestock farm types in one

year out of three. Previous research has identified the link between debt and farm economic size (smaller farms holding lower debt) (e.g. Defra, 2011a) and low debt correlated with technical efficiency (Hadley, 2006; Barnes *et al.*, 2011), whilst debt was associated with lower levels of efficiency on Grazing Livestock farms (Defra, 2012). Hence, the evidence from this current study provides some evidence of lower debt (e.g. gearing ratio analysis) associated with high performers, but this is restricted to Cereals and Dairy farm types.

The top performance group in all farm types, and across all years, achieved substantial, and in a number of cases, statistically significantly, greater gross margin returns than the remainder performance group concurring with evidence from the qualitative interviews.

From the qualitative analysis, half of the improvers were looking to make significant changes to income streams in the coming years, in contrast to the high performers. Additionally, improvers more frequently identified enterprise change as a factor that had led to their improved performance, and that these changes to enterprises in the business had been the result of a conscious business decision to improve performance or obtain a greater life/work balance. Lack of available land was identified as the key constraint, with red tape and planning regulations also cited as constraints for the future alongside animal disease issues.

4.5 Researcher Observations and Farmer Advice to others

Within the qualitative analysis, ROs recorded their own impression of the farmers who co-operated in this project. Comments typically related to farmers' attention to detail, levels of planning undertaken, and pride in the farming activities as key themes that emerged. In some cases the ROs observed that the underlying attitudes and actions were underpinned by the farmer's value system.

When asked about providing advice to other farmers, co-operators in the qualitative survey focused upon three main areas: i) controlling costs; ii) paying attention to detail; iii) being open and flexible to new opportunities. These aspects of advice accord with the characteristics associated with high performance as identified above.

5. Industry and Policy Recommendations and Conclusions

5.1 Industry and Policy Recommendations

This project aimed to identify the drivers that make agricultural businesses consistently high performers or have led to sustained improved performance. On the basis of the qualitative and quantitative analyses undertaken, set within the context of previous studies on agricultural performance, technical efficiency and aspects of managerial actions, characteristics and decision making, the following characteristics of high performing farm businesses were identified providing recommendations for the industry and policy makers.

Common characteristics of high performing farms are: i) controlling costs; ii) paying attention to detail; iii) being open and flexible to new opportunities; iv) focus on margins and product quality to maximise profit, v) researching and using an appropriate range of marketing channels understanding the business attributes these provide; vi) improving business performance through enterprise change

Recommendations for communicating to the industry:

Managerial capability can be built through specific, further and higher education and training

Use advice and technical information to enhance attention to detail in production including accessing input price data, and technical and business information via the farming press, electronic media and technical open days

Business benchmarking at whole-farm, enterprise and margin level helps focus on farm and business performance allowing managers to identify areas of success and where improvements and changes are needed

Farmers should analyse **farm situational factors** to understand business opportunities appropriate to their farm and farm business attributes

Risk management strategies for input supply and output marketing need to be understood and implemented, including developing robust plans for the repayment of business development funds in the face of variable input and output prices

Further implications for policy, delivery and industry bodies:

Policy development and delivery should take account of an understanding of life-stage to effect efficient outcomes

Advice providers should be supported in delivery of technical information to the agricultural sectors, in particular with reference to enabling farmers to enhance their attention to detail in production activities (including input price data)

Farmers should be encouraged to make more use of technical and business information delivery. This includes business benchmarking at whole-farm, enterprise and margin

level and specific information via the farming press, electronic media and technical open days, embedding and encouraging farmer engagement and interaction to facilitate knowledge exchange, understanding and uptake

The policy framework should enable the expansion of individual farm businesses and avoid restrictions on appropriate structural change in the agricultural sectors in order to ensure future competitiveness and resilience of UK agriculture. Specific elements include ensuring the legislation on land tenure does not hinder the development of efficient businesses achieving business growth via land rental agreements, regulatory burdens do not hinder business development, growth and re-structuring and planning regulations enable farm businesses to develop appropriate on-farm business opportunities both within and beyond agricultural enterprises.

5.2 Conclusions

This report sought to provide recommendations to the agricultural industry to improve competitiveness and resilience. This has been achieved using a mixed-methods evidenced based research approach in which both qualitative in-depth interviews with 24 “high” or “improving” farmers has been complemented by quantitative analysis of matched panels of farms from the FBS database over a three-year period. The farm types of Cereals, General Cropping, Dairy, Lowland Grazing Livestock and LFA Grazing Livestock have been investigated in this study. A review of literature in relation to agricultural business performance, both technical and financial, and managerial actions and characteristic, has been undertaken to both guide methodology and place the results in the context of previous research.

The results have indicated that high, improving and top farm businesses are typically characterised by a series of physical factors, (e.g. larger farm size), financial factors (e.g. high net worth and low borrowings) and managerial attitudes and drivers (e.g. attention to detail, focusing upon margins and cost control). When set in context of the literature, these results provide the basis to both categorise these higher performing businesses and also provide a series of recommendations to facilitate the industry to further enhance its level of agricultural and business performance.

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Appendix 1: Letter of Invitation

Rural Business Research Unit
Tel: 01904 772219 Fax 01904 772209

Ref:

Date

Name
Address

Dear

Study on Farm Performance

We are currently engaged in a research project looking at the performance of farms in the Farm Business Survey. We are particularly interested in why some farms perform better than others especially in terms of profit generated. From the Farm Business Survey, we have identified a small group of farms that are either consistently good performers over the years or have shown some level of improvement in recent years.

Your farm has been identified as one that we would like to look at in greater detail and I am now writing to ask if you would be willing to help in this study. We would like you to take part in a short interview which would probably take about an hour to complete. The focus of the questions is based on your goals and values and objectives in the running of your farm business. No farms or farmers will be identified in any published results.

For consistency, all the interviews will be undertaken by the same person. My colleague, Joe Bonner will contact you shortly, to ask if you are willing to help and to arrange a convenient date and time to come and visit you.

We do appreciate your co-operation in the Farm Business Survey and hope you will also be willing to help in this study. If you have any questions please contact me on 01904 772218.

Yours sincerely

M R Lewis
Head of Rural Business Research Unit

Appendix 2: Semi-Structured Interview Format

Centre	<input type="text"/>	Code number	<input type="text"/>
Farm type	<input type="text"/>	Date	<input type="text"/>
Consistently good performer	<input type="checkbox"/>		
Improved performer	<input type="checkbox"/>		

Background/Management structure

How long farming at current location?

History prior to moving here, including other employment.

Year of Birth

M/F

Are you sole decision maker? Y / N

If not sole decision maker, who else is involved?

Highest educational qualification: (give qualification and subject details)

How long managing the business?

Describe decision making process – who else is involved and how are decisions made (Include paid labour)

Staff structure of business and why it is organised this way. (Family /non-family, Full / part time, Contract / casual, Paid / unpaid)

Farm size: Owned FBT FAT Total Ha

What soil type is majority of farm: (1-5) Farmer: Magic:

Are there any inherent natural advantages or disadvantages to farm?

Are there any inherent benefits to location of farm?

Split of output from 4 streams –

	2006/07	2010/11
Agriculture	<input type="text"/> %	<input type="text"/> %
Environment	<input type="text"/> %	<input type="text"/> %
Diversification	<input type="text"/> %	<input type="text"/> %
SPS	<input type="text"/> %	<input type="text"/> %

Data obtained from FBS 2006/07 and 2010/11.

Have these changes and or splits been intentional? (Give reasons behind changes)

Are there any plans for 2010/11 splits of output to change in the next 5 years? (Give reasons behind changes)

Types of borrowings: (Tick box and main purpose of borrowings)

For FBS 2010/11:

Long term:	<input type="checkbox"/>	<input type="text"/>
Overdraft:	<input type="checkbox"/>	<input type="text"/>
HP's / Lease:	<input type="checkbox"/>	<input type="text"/>
Family Loans:	<input type="checkbox"/>	<input type="text"/>
Own Capital:	<input type="checkbox"/>	<input type="text"/>

What are plans towards paying these borrowings off?

Farm Enterprises

Has the mix of farm enterprises changed between 2006/07 and 2010/11? In what way?

What were the reasons for change?

Goals and Objectives

What are your key objectives, goals or aims in running the farm business?

Are you surprised that your farm has been selected?

What do you think has been the key to your improved performance / sustained good business performance?

Are high yields a key objective to you? (Lambing %, Calving index, Crop yields, etc.) Or are other factors key to your decision making? – Give details

Do you intend to change the scale of the **whole farm business** in the next 5 years?

Training / Advice

What do you do to keep up to date with policy and technical developments? (**Decision maker only**)

What is your approach to training and qualifications for both yourself and your staff?

Membership of farmer discussion groups or similar?

Use of professional advisors – eg accountants for more than tax return, Crop walkers, vets for preventative visits and health care; other advisors

Do you participate in livestock or crop competitions – and why?

Do you use any benchmarking process? If so what and why?

How do you market your various enterprises and why?

Future

Do you plan any major changes in the next 5 years?

Do you see any barriers to this change?

What do you think prospects are for your farm business and agriculture in general?

Is there a clear succession plan for managing the business?

Repeat Farmer Segmentation Survey (A – E)

Group:

What single piece of advice would you give to other farmers seeking high performance?

OFFICE USE:

Notes:

Other Comments:

Farm Appearance

Font: Calibri

Font size: 11

Document Name: FP followed by farm number e.g. 'FPxxxxx'