THE CHARACTERISTICS OF

HIGH PERFORMING BEEF AND SHEEP

FARMS IN GREAT BRITAIN

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The report has funded as part of the £2 million fund of AHDB red meat levies ring-fenced for collaborative projects and managed by the three GB meat levy bodies – AHDB, HCC and Quality Meat Scotland (QMS). The ring-fenced fund is an interim arrangement while a long-term solution is sought on the issue of levies being collected at point of slaughter in England, for animals which have been reared in Scotland or Wales.

EXECUTIVE SUMMARY

What are the top performing farmers doing differently to the others? Why can two neighbouring, equally sized livestock farms on similar soils with the same fundamental farm systems make radically different amounts of money? This review sets out to find answers. A novel analysis interrogates the outputs of the Farm Business Survey (FBS) matching pairs of similar farms from different performance quartiles (measured as farm income divided by costs associated with it; a return on turnover). Several case studies are presented within the report that demonstrate outstanding farms operating at a very high level.

A minority of factors affecting farm performance are out of the farmers' control, these include climate, soil type or location, according to research. This suggests almost all the determinants of success are down to the individual; the decisions made on the farm and how they are implemented. Not all farms are prepared or realise the need to change if they want to improve, so settle instead with the status quo. A labour force introduces a difficult management task (especially if it's family) and better farmers manage to extract far more from workers than average farmers. Farm performance improvement comes down to good sound business management activities such as budgeting, planning, benchmarking and information gathering. Attention to detail is difficult to define, but is clearly important, as is a positive attitude towards work and change.

Analysing the FBS identified some useful patterns. Top quartile grazing livestock farmers, on average, make approximately £40,000 to £60,000 per year more than the bottom 50% of farms. Those that have a smaller percentage of their costs as overheads are all more profitable. FBS identifies that, as with many micro and small businesses that work in a commodity-based industry, volumes produced need to be maximised, whilst costs of production must be kept at a minimum.

The case studies animate the FBS findings. Each of the successful farms closely monitors their system through sensible management and comparison systems. They budget and plan, they test their figures against others in benchmarking schemes and they use key performance indicators to measure ongoing success or flag up problems. Each farming system fits with the environmental constraints they face and they manage staff well, investing in them to increase skills and knowledge.

The case studies identify a series of a characteristic of top performers. Placing them into a hierarchy of importance will vary for each farm according to the farm system, environment, existing skills and resources and performance on the farm. However, for the industry overall, our assessment of factors in priority is as follows:

1. Minimise overhead costs
2. Have a clear business strategy

3. Set goals and budgets
4. Compare yourself and gather information
5. Know what the market is and deliver for it
6. Focus on detail
7. Have a mindset for change and innovation
8. Remain disciplined and stick to your strategy

Farming is an industry that provides far more than simply financial rewards and therefore offers a way of life that most would not change. It is easy to become too busy to discuss the farm with family or business members, but clear communication is key to ensure everybody is achieving their personal and shared objectives. Most farmers are hard-working, a necessity for success, but to raise performance requires change which often involves bravery and self-belief. The eagerness to improve, focus to be the best and determination to be an outstanding farmer is down to the individual. Higher performing farms are more resilient to change. Shrewd farmers are wise to prepare for the unexpected by raising their performance and concentrating on things within their control.

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1 INTRODUCTION

1.1 BACKGROUND AND PURPOSE OF THIS REPORT

Two farmers with similar resources might expect to achieve similar financial results but they often do not. The ability of competent, business-minded, farmers to turn their resources into financial returns is a skill not shared by all in the industry. (The same can, of course, be said for all industries.) So, what do the top performing farmers do differently to those struggling with the financial conundrum of ensuring a viable farm business?

This study set out to provide evidence of how top performing beef and sheep farmers in Great Britain operate differently to their less successful peers. Actions have been examined to see how top quartile farmers make different decisions, do different things and perform activities in differing ways to others. This report therefore, intended to provide a guide to farmers looking to raise their *own* performance, regardless of which quartile they are classified in or consider themselves to be. Comparisons are made with financially poorer performing farmers to highlight differences. Averages have the potential to be misleading, so ranges of performance are addressed where possible and case studies and direct comparisons are used too. This study is not written to tell farmers how to farm, but to suggest some ways of providing a strategic framework for changing for the better.

The backdrop to this report is Brexit, particularly regarding the opportunities and threats to productivity and profitability it may present, however the messages are relevant to any point in time when policies and market conditions are volatile. European Union membership currently has substantial influence over agricultural policy, trade rules, labour availability and regulations that have considerable impact on farming. Changes to the farming environment are thus likely to be greater in the next decade than they have been for fifty years. We don't know what the changes will be, but useful scenario analysis work already undertaken by the AHDB[1], and others, suggests that because of these changes, it could become more challenging to farm profitably in some sectors in coming years. Whilst there are situations where farming could become more profitable after Brexit, we cannot depend on these outcomes on individual farms and farmers must therefore work to become more competitive to retain a viable long term and sustainable business in preparation for all scenarios. The conclusions of the AHDB's scenario study report open with; *"high performing farms are in a far stronger position to cope with the changes associated with all scenarios". AHDB Brexit Scenarios: An Impact Assessment. 2017*[1]

1.2 THE APPROACH

This report provides an assessment and ranking of the main factors that differentiate the highest performing farms in the beef and sheep sector across Great Britain. A comment on the replicability of the actions is made for each one and how they can be implemented.

This study combines 2 analyses: First is an interrogation of the Farm Business Survey (FBS) data (the most comprehensive and reliable dataset of farm financial information in all EU countries) by using a novel analytical approach. Second are some carefully selected practical farm examples, this work empirically and statistically evidences the linkages between certain practices and high performance.

Quantitative and qualitative data has been collected and used to identify answers about what engenders top performance and what top performing farmers do differently to others.

1.3 DEFINITIONS

First, we should identify what we mean by 'performance'. This is a superficially simple question but depends on what the individual is trying to achieve and therefore how it is measured. Part of the definition of 'farming' is undertaking activities for commercial gain, and this is what is measured here. Most farmers value other benefits of farming such as accommodation and working outdoors. However, financial performance can still be measured in various ways; highest profit, greatest balance sheet increase or highest return on capital. In this study, performance is measured as; income generated by the farm divided by the costs associated with it; a return on turnover:

$$\frac{\textbf{income generated by the farm}}{\textbf{costs associated with it}}$$

Using this method, farms of varying sizes can be compared; it simply examines how a farmer manages to convert inputs into outputs. It is the ratio that a farmer has managed to generate as a proportion of their output. This suggests that a farmer with a large estate making millions of pounds of sales and making £200,000 is not as successful as a small new-entrant with minimal turnover and making £100,000. Figure 1 demonstrates that out of the 3 examples, whilst the last one is making most profit, its profit as a percentage of turnover is the lowest (6.7%), and the small farm (Farm 1) is generating more profit as a percentage of its income (28.5%). Some might consider the return on capital as a more critical determinant of business performance. This can be debated at length. Businesses can remove nearly all their own capital by borrowing money and therefore improve the return on their own capital. But this involves

lowering profits (finance costs rise), raising business risk (high gearing) and potentially jeopardising business viability (dependant on continued support by the lender). Other business managers might leave excessive capital in their businesses, generating an inefficient return on investment.

Figure 1 ~ Demonstrating Typical Returns on Turnover

	Farm 1	**Farm 2**	**Farm 3**
Income	70,000	450,000	900,000
Costs	50,000	400,000	840,000
Profit	20,000	50,000	60,000
Income Generation Ratio	**1.4**	**1.125**	**1.03**
Profit as % of Turnover	**28.5%**	**11.1%**	**6.7%**

Many published technical articles discuss *efficiency*. It facilitates high performance but is not the same as profit. A business that achieves a 15% return on its tenant's capital is arguably efficient; but if that farmer reinvests the profit into another opportunity and earns a 13% return on capital, the profit rises over the newly-enlarged business, but the efficiency falls. The farmer is likely to feel better off. Furthermore, a farm might make very highly efficient use of land (high yields per hectare), but in doing so has to spend large amounts on other resources, such as labour, then they will make efficient use of land but inefficient use of labour: There is usually a compromise. Langton (2011)[2] identifies that efficiency is not the primary goal of farmers, with profitability ranking higher. Farms, as for any other business, forego efficiency for greater profit under most conditions.

The difference between 'productivity' and 'production' is also critical. 'Productivity' is the ability of an organisation to generate an output both now and in the future. Production is the process of making the output. These two words are closely related but to clarify, using a pseudo-agricultural example offered by the late Steven Covey[3], the goose that lays the golden egg is also made of gold. You could raise production this year by selling the goose, but productivity would fall to zero. Thus, only businesses that consider productivity as well as production are sustainable.

In any commodity-based industry such as agriculture, the best performers simply spend less money producing each unit of output when measured on a financial basis. This does not necessarily mean generating more output per hectare or per head of stock. Indeed, higher

output accounts for a mere 10% to 35% of higher profits in top quartile operators in farming, lower costs contributing to 65% to 90%[4]. However, in a world where margins are (over time) ever tightening, in order to retain a steady profitability in real terms, it is necessary to generate a better margin by reducing input costs. Other options for increasing profitability may be to enhance the market value of the output by adding or seeking a premium but this has to be done whilst understanding and controlling costs.

Three pivotal publications on farm performance were published by Defra and written by Steve Langton in 2011 to 2013[5]. They identify relationships between farm accounts and farm efficiency. In these studies, 'economic efficiency' is used to refer to the optimal ratio of output value to input costs. This is similar to the terminology used by Coelli *et al* [6]. These reports also consider both the whole farm business efficiency (including diversification, agri-environmental schemes, and direct subsidy) and that from farming alone. The matching approach employed in this study uses the agricultural cost-centre only whilst the case studies explore the entire farm more widely.

1.4 CAUSATION

Identifying links between top performers and their activities is relatively easy, but the causation link is not; rich people eat more beef fillet than poor people but that is not why they are rich. Langton (2012)[7] cites a strong relationship between farmers with optimism for the future and farm efficiency, possibly suggesting optimism facilitates better farming (perhaps because of the clarity of a vision for the farm business encourages long-term investment). Yet it might also be that long-term confidence is engendered because the farm is performing well. Another example in the same paper is whether debt causes inefficiency, or inefficiency leads to debt. There is evidence, for example, that dairy farms that are more profitable use milk recording techniques[8]. This might be because better cow knowledge facilitates herd growth, or that people minded to grow a herd are also minded to milk record (large herds often have greater return on income than smaller ones). Whilst the causation might be difficult to prove with certainty, for many of the relationships, for the farmers looking to develop a business, mimicking a top performer is likely to be worthwhile regardless which way round it works.

2 FARM BUSINESS SURVEY ANALYSIS

2.1 BACKGROUND TO FARM BUSINESS SURVEY

The Farm Business Survey (FBS) is an annual survey providing information on the financial position and physical and economic performance of farm businesses that have at least €25,000 (about £22,000) of standard output as recorded in the annual June Survey of Agriculture and Horticulture in each country in the EU.

Within this report, FBS data is used for all years from 2011-12 to 2015-16. Data is then averaged across years to smooth out the effects of annual volatility for individual farms. Performance is measured as the ratio of total value of agricultural outputs to total cost of agricultural inputs (See section 1.3). A farm will record a higher level of performance if it produces more outputs for a given level of inputs, or is more efficient in its use of inputs, or a combination of the two.

For Scotland, the performance ratio has had to be based on overall farm business output and costs (but without most diversified activities) rather than just the agricultural cost centre due to practical limitation of the data.

2.2 MATCHING METHODOLOGY

The standard approach to comparing performance levels across farms is to compare the top and bottom quartiles. That is, the average for the upper performing quartile (or top 25% of farms) is compared with the average for the lower quartile. However, there will be factors that are outside of the farmers' control (such as farm location) which will impact on the level of performance and partly explain a farm's position in the sector's performance 'league table'. The approach used in this study is to match higher performing farms with lower performing counterparts with similar characteristics and to then assess the differences between these pairs of matched farms (in boxing parlance, middleweights are matched with middleweights, and heavyweights with heavyweights rather than them being pitched against each other).

The matching approach used geographic location, farm size (in terms of area and activity) and, where the sample size was sufficient, organic status. English, Welsh and Scottish farms were kept separate. It then sought to match individual farms in the top quartile with individual farms in the bottom half of the performance distribution that had the closest match with these characteristics. The bottom half rather than lowest quartile was chosen to increase the chance of finding a suitable match. In general, suitable matches were found, although there is a

trade-off between characteristics when making individual matches. The matching of high performing farms with comparable counterparts in the bottom half of the performance distribution generates what might be seen as a bridgeable gap. That is, it is within the potential of the lower performing farms to close this gap by emulating their higher performing counterparts. The analysis then identified the Farm Business Survey variables (e.g. fixed costs *(referred to as overheads in this report)*, variable costs, agricultural output) where there are statistically significant differences between the top performing farms and their lower performing counterparts.

2.3 SUMMARY OF RESULTS

This section summarises the results of the matching methodology to compare higher performing farms with their lower performing counterparts for each sector. It identifies those variables where there are statistically significant differences and over which individual farmers will have control.

The full details of the results can be found in the separate sector analyses in Appendix 3. The full set of results considers the straight comparison between the top and bottom quartiles as well as the comparison between the matched top performing farms and their counterparts in the lower half of the performance distribution. As mentioned earlier the matching approach is better able to remove the impact of factors such as geographic location which are outside individual farmer's control and so this summary therefore focusses on the matching sets of results (as given in Table 2 for each sector set of results in the appendix, available here).

There is a difference in interest payments (and associated gearing ratios) between the top performers and their lower performing counterparts, although for Scottish LFA grazing livestock these differences were not statistically significant. Reducing the need for borrowing by improving performance raises profitability, (albeit not necessarily return on capital) but this might be a consequence rather than a driver of that performance improvement. Conversely, borrowing to fund a capital investment (that has a sound business case based on realistic and not overly optimistic assumptions) to improve performance may build a business faster than without using debt. The Farm Business Survey is not able to differentiate between borrowing for investment or to cover the shortfall from under-performance, and so interest and gearing ratios, whilst in the detailed results, are therefore not included in these summary tables.

For each country, the first table compares the variation of Farm Business Income for top and bottom performers. The data are averaged over 2011-12 to 2015-16. *Farm Business Income* is

like 'Profit'. It represents the return to all unpaid labour and to all their own capital in the farm business including land and farm buildings. The second table selects those variables from the detailed analysis where there is a statistically significant difference between the top performers and their matched counterparts in the lower half of the performance distribution, farmers have a level of control and they have a material impact on overall performance. The figure for total agricultural costs is shown together with the percentage of these costs accounted for by selected items.

2.3.1 LFA Grazing Livestock - Wales

The following table compares the average income for the top performers with their matched counterparts in the lower half of the performance distribution. The difference between the two categories is almost £39,700 per year for comparable-sized farms.

Table 1 ~ LFA Grazing Livestock Farm Business Income £/year in Wales

Mean of top performers	Mean of matched bottom performers	Difference
£47,400	£7,700	£39,700

Table 2 selects those variables from the detailed analysis where there is a statistically significant difference between the top performers and their matched counterparts in the lower half of the performance distribution, farmers have a level of control and they have a material impact on overall performance. The figure for total agricultural costs is shown together with the percent of these costs accounted for by selected items.

Table 2 ~ Significant variables between top and bottom performing counterparts In Wales

Selected variables	Mean of top performers	Mean of matched bottom performers
Agricultural output (£)	£135,800	£65,900
Area	137 ha	118 ha
Annual % change in area	0.9%	-0.4%
Farm Business Tenancy land	29.1%	16.4%
Full Agricultural Tenancy land	16.6%	31.9%
Percentage of fat cattle	30%	20%
Total agricultural costs (£)	£125,200	£94,600
Of which %;		
agriculture overheads	45.0%	50.1%
agriculture variable costs	55.0%	49.9%
fertiliser costs	9.8%	7.2%
seed costs	0.8%	0.6%
general farming costs (1)	11.5%	13.1%
Sharing labour or machinery (inc. occasional)	23%	13%

(1) Only significant at the 10% level

The matching process for Welsh LFA grazing livestock has removed many of the differences that are seen between the straight (unmatched) comparison between the top and bottom quartiles suggesting that they were related to either geographic or size differences. This illustrates the strength of the matching process for this type of comparative analysis.

The top performing farms have a slightly greater (but statistically significant) agricultural area to their matched counterparts in the bottom half of the performance distribution. They are (on average) continuing to expand in contrast to the lower performers whose average area is shrinking slightly. They produce just over twice the value of output. Finished fat cattle account for a greater proportion of output for the higher performing farms, although for sheep there was no statistically significant difference.

The level of costs for the top performers is around one third higher than the lower performers, but as noted earlier this produces more than twice the level of output, reflecting a much greater level of productivity. The top performers have lower fixed costs as a percent of total costs reflecting a more efficient use of capital. Conversely, they have higher variable costs as a

percent of total costs. The top performers have a greater proportion of their inputs concentrated on fertiliser and seed, reflecting their more intensive level of production (producing more than twice the output from just 16% more land). General farming costs (which include energy, fuel, insurance and bank charges) are slightly lower as a per cent of total costs for the top performers, although this difference is only statistically significant at the 10% level. The top performers are more likely to share labour or machinery, but even for this high performing group only 23% of farms share labour or machinery on a regular or occasional basis.

2.3.2 LFA Grazing Livestock - England

Table 3 compares the average income for the top performers with their matched counterparts in the lower half of the performance distribution. Top performers are making a good living, while the poorer farmers are losing money. The difference between the two categories is almost £50,000 per year for comparable-sized farms.

Table 3 ~ LFA Grazing Livestock Farm Business Income £/year

Mean of top performers	Mean of matched bottom performers	Difference
£45,200	-£1,600	£46,800

Table 4 ~ Significant variables between top- and bottom-performing counterparts ~ LFA Grazing Livestock

Selected variables	Mean of top performers	Mean of matched bottom performers
Agricultural output (£'000)	133.9	83.4
Proportion of finished cattle (£)	30%	20%
Proportion of finished sheep (£)	70%	50%
Farm Business Tenancy land	29.1%	16.4%
Full Agricultural Tenancy land	16.6%	31.9%
Total agricultural costs (£'000)	128.7	126.8

Of which %;		
Agriculture overheads	45.9%	52.1%
Agriculture variable costs	54.1%	47.9%
Fertiliser costs	6.9%	4.5%
General farming costs	9.5%	16.0%

The defining point here is that while the total spending on these farms is very close, the output is dramatically different, with high performers managing to turn the same value of resources into significantly more output. It could be either more volume of output or greater value per unit, or both.

The matching process for LFA grazing livestock has removed many of the differences that are seen between the straight (unmatched) comparison between the top and bottom quartiles, suggesting that they were related to either geographic or size differences. This illustrates the strength of the matching process for this type of comparative analysis.

Finished cattle and sheep account for a greater proportion of output for the higher-performing farms.

The level of costs for the top and bottom performers is similar, but the top performers generate considerably more output for these inputs. Top performers have lower overheads, reflecting a more efficient use of capital, but have higher variable costs, demonstrating their eagerness to invest in crops and livestock. General farming costs, which include energy, fuel, insurance and bank charges, are lower for the top performers, reflecting how the bottom performers are spending too much on overheads.

2.3.3 Lowland Grazing Livestock - England

The following table compares the average income for the top performers with their matched counterparts in the lower half of the performance distribution. The higher performers are making about £55,000 per year more than the poorest performers.

Table 5 ~ Lowland Grazing Livestock Farm Business Income £/year

Mean of top performers	Mean of matched bottom performers	Difference
£56,600	£1,500	£55,100

The top performers are generating £100,000 more output than their poorer equivalents.

Table 6 ~ Significant variables between top- and bottom-performing counterparts ~ Lowland Grazing Livestock

Selected variables	Mean of top performers	Mean of matched bottom performers
Agricultural output (£'000)	183.2	84.8
AES payments £ per ha	42.6	63.7
Beef as a % of total SLR	51.5%	42.1%
Proportion of finished cattle	50%	40%
Total agricultural costs (£'000)	166.0	124.4
Of which %;		
Agriculture overheads	49.2%	55.0%
Agriculture variable costs	50.8%	45.0%
Bought feed costs inc. forage	16.3%	11.8%
Crop protection costs	1.3%	0.8%

Average agri-environment scheme payment rates are higher for the lower performers. This may reflect a tendency for farms on poorer soils to join such schemes. While the matching methodology seeks to reduce the impact of such differences, land quality can vary at a very local level and, for confidentiality reasons, the exact location of FBS farms is not available.

The top performers have significantly more of their Standard Labour Requirement (SLR) derived from beef cattle. The proportion of revenue from finished cattle is also higher for the top performers. This may indicate that finishing stock is a beneficial strategy but may also suggest that the matching process is not removing all differences in land quality (with lower performers more likely to be on poor land, which is less suitable for fattening animals).

Costs for the top performers are a third higher than their lower-performing matched counterparts, but, as noted earlier, produce more than double the output. There is a difference in the breakdown of costs, with top performers having higher variable costs (including bought feed) but lower overheads, reflecting a more efficient use of capital.

2.3.4 LFA Grazing Livestock - Scotland

Table 7 compares the average income for the top performers with their matched counterparts in the lower half of the performance distribution. The difference between the two categories is almost £58,900 per year for comparable-sized farms.

Table 7 ~ LFA Grazing Livestock Farm Business Income £/year in Scotland

Mean of top performers	Mean of matched bottom performers	Difference
£68,900	£10,000	£58,900

Table 8 ~ Significant variables between top and bottom performing counterparts In Scotland

Selected variables	Mean of top performers	Mean of matched bottom performers
Agricultural output (£)	£163,400	£99,300
Area (1)	754.9 ha	547.3 ha
College, degree or post-graduate agricultural qualifications	32%	16%
Farmer age	55.0	60.5
IT costs (*used as a proxy for level of IT use*)	6%	3%
Family labour as % all labour	74.7	89.8
Total farm business costs	£230,400	£206,300
Of which %;		
fixed costs	60.6%	65.4%
variable costs	39.4%	34.6%
fertiliser costs	7.3%	6.0%
miscellaneous costs	7.1%	6.0%

(1) Only significant at 10% level

The matching process for Scottish LFA grazing livestock has removed many of the differences that are seen between the straight (unmatched) comparison between the top and bottom

quartiles, in particular the strong regional differences seen before matching disappear after the matching process.

Economic size differs hugely between the top and bottom performers before matching, and whilst it is much reduced by matching it remains large and statistically significant. The top performing farms produce two thirds more value of agricultural output than their lower performing counterparts from one third more physical area. Note that the physical area of farms varies greatly within this dataset, with the smallest farms being less than 50ha whilst the largest were greater than 5,000ha, and after matching, the differences in physical area between the top and bottom performers is only significant at the 10% level.

There are significant differences related to the age and education level of the farmer. Poor performers are over-represented in those with only school-level education, whereas top performers predominate in the groups with college or degree level agricultural qualifications.

Whilst the simple marker of whether IT is used is not statistically significant, the average expenditure on IT (hardware and software) is significantly higher for the top performers in the matched sample, indicating a greater level of IT usage.

There are significant differences in the breakdown between family and hired labour. Around 90% of labour on the poor performing farms is provided by family members, whereas the top performers have around 25% of hired labour on average.

The costs for the top performers are around one tenth higher than their lower performing counterparts, but this produces two thirds more agricultural output. As with the England and Wales analysis, the top performers have higher variable costs on average, but lower fixed costs, in particular, fertiliser costs are higher for top performers. The miscellaneous costs category is narrower than the general farming costs variable used for the Welsh and earlier English analysis (as it excludes energy costs) but is a higher proportion of total costs for the top performers. This contrasts with the Welsh LFA grazing livestock and the earlier English analysis where general farming costs were lower.

2.3.5 Overall Summary of FBS Results

The broader picture for the top performers compared to their matched counterparts in the bottom half of the performance distribution is that;

- The difference in Farm Business Income for most sectors seems to be about £40,000 per year in Wales and £60,000 in Scotland. The equivalent in England is about £50,000

- Whilst the total costs of the top performing grazing livestock farms are higher than the bottom performers, they produce a considerably greater value of output and therefore seem much more effective in their choice and utilisation of inputs.
- The overheads for top performers accounted for a lower proportion of their overall costs reflecting a more efficient use of capital. Top performers focus on variable costs, not overheads.
- Although top performing farmers are larger in area and produce more output, the proportionate increase in output is greater than the proportionate increase in farm size so tend to be more intensive users of their land resource.

3 PRACTICAL FARM COMPARABLES

This chapter examines five real farming businesses. Each of these is performing in their top quartile, and probably at the top of that. Their business and personal objectives are aligned; their time management is such that whilst working hard, they make time for other parts of their lives that are important to them.

Each of the case studies is a real farming situation. The examples given were intentionally selected without the knowledge of the results of the previous chapter so as not to be led by others' results. The idea of this chapter is to identify best practice, and to spot patterns and easy ways to raise any farm's performance, not the individual behind each one.

3.1 MAINLY BEEF, SOME SHEEP

Jim and Helen are beef farmers and have 140 Hereford x Angus cows and calves plus 40 Hereford x Angus bulled heifers on 200 hectares of which 130 is moorland. They keep their calves through to finishing. They also have 300 Easy-care ewes. Jim and Helen's joint aim is to maximise their use of farm resources with low labour input; they spent a lot of time working out what they want to achieve from the farm business. They have had the same stockman working on the farm for 45 years, providing a depth of experience with a clear focus on sustainable stock management. They recognise this as a strength to their business and regularly provide ongoing training.

Some of their moorland areas have been placed into land management schemes over the years, which restrict summer grazing. These areas are, therefore, used as winter housing as all animals are out-wintered. This avoids housing costs and simultaneously earns environmental support. Historically, Jim and Helen kept continental-cross replacements bought from a neighbouring dairy farm, but as Holsteins were introduced to the dairy herd to increase milk yields, beef-cow performance dropped. To overcome this, they tested different breed combinations and found crossing Charolais bulls with Hereford- Angus cows resulted in cattle that fattened 40 days quicker than those from dairy cross beef cows. This saved 60kg of feed per finished animal and the associated working capital, freed up the land, time and other costs of keeping cattle – a huge saving.

Jim has always had a yearning for continuous learning (including about his farming system). For example, after one study tour, he decided the focus on genetic improvement should be less about producing the biggest steers but on improving cow fertility levels. This led him to

test a system with traditional breeds and no dairy or continental genetics. The system puts Angus females to a Hereford Bull and Hereford females to an Angus bull.

Jim has a tight budget for bulls but relies on hybrid vigour to give extra fertility and extra growth rate. High calving percentages and a tight calving pattern are important for Jim to retain a disciplined system in the herd. He believes discipline for these sorts of variables is a critical management characteristic to retain good profitability from beef farming. This has resulted in a system that is designed and tailored to suit the farm resources.

Cows and heifers calve at grass over a 12-week period with 90% of the herd calving in the first six weeks. Those heifers and cows not in calf in their first 12-week bulling period are sold so the calving index does not slip. Keeping the processes in place is paramount for this farm. Easy-care cows are expected to calve themselves, spend all summer on just grass and winter on grass with a little silage. Jim and Helen believe in minimal intervention; unstressed animals are known for superior eating quality, natural unassisted births and a calmer temperament as well as making the families lives easier.

The farm used to grow 15 hectares of barley to use as feed and bedding but realised the effort and costs to arrange this far outweighed having more land for grass plus the costs of buying 100 tonnes of barley and 60 tonnes of straw each year (for which they budget approximately £18,000). They worked out the costs, including variable costs, contractor's costs, their time, rental equivalent of the land plus estimated the risk of low yields or wet straw and realised they were working for nothing. With a focus on making their lives manageable, buying their requirements instead was one simple change to make. Jim and Helen are always vigilant for such improvements and use a farm advisor to support them in this way.

Jim believes in monitoring and control of herd health status; blood tests are undertaken regularly. This confirms cows are not losing condition ahead of calving, rumen degradable protein intake is adequate, major minerals are balanced and that trace element intakes are sufficient. If not, action is taken. Soils are regularly tested and treated accordingly, and grass is measured with a grass-meter, still quite a rare management practice in the beef and sheep sector. High levels of clover are maintained in swards meaning minimal nitrogen fertiliser is necessary.

Jim uses hauliers, so he can transport large numbers of cattle at once. He knows who his buyers are and produces what they require. On rare occasions surplus steers are sold at

market. He is proud that they are looked after properly, all the way from conception to consumption.

Summary

- Strive for new information to help improve your business and farm system
- Focus on technical details that you consider most important
- Retain a robust discipline to keep the farm system in place
- Keep things simple
- Supply what the customer wants and keep a good relationship with them.
- Retain a strong commitment to animal health and welfare on the farm

3.2 MOSTLY SHEEP FARMING, SOME CATTLE

Murray and Grace are sheep farmers and operate an organic, low input, grass-fed farming system. Of their 250 hectares, 80 are permanent pasture, 120 are grass leys and forage crops, 40 are rough grazing and heather hill. They have 1,100 ewes and hoggs, which are easy-care, and pure bred and a small herd of Welsh Black and Angus cattle. Their system involves outdoor lambing with wool shedding sheep. All breeding ewe-lambs and some ewes are bred with a Texel ram and all stock is managed in a rotational paddock grazing system. Murray and Grace have one part-time farm worker, which has allowed them to establish a resilient system with minimal labour and very little bought in feed.

The farm strategy is to run both enterprises on low cost, low time input systems, with an emphasis on simplicity to reduce labour, machinery, feed and veterinary inputs. Overheads are reduced at any opportunity, yet performance is not compromised. In fact, the family's commitment to recording, monitoring and analysing performance figures ensures their business continues to improve. Their ingenuity has helped them develop some useful tools over the years including a flexible gate, a novel silage feeder and grass 'lanes' to reduce management time and costs. This has resulted in a flock of low input, productive sheep, which leaves a healthy margin and a good quality of life for the couple and their two children.

Murray has adopted management lessons learnt from studying comparable farming systems. He found that the key to simplification of management and reduction of inputs whilst maintaining output lies in using correct genetics under relevant management practices. By co-ordinating improvements in genetics and management, costs of production can be significantly reduced. For Murray, this included incorporating the wool-shedding genetics from New Zealand and Canada and developing systems to cut production costs without significantly

reducing productivity to then breed to his own easy-care rams. While the farm may be considered a top performer, Murray and Grace still see opportunity to further improve its margins by increasing output without increasing operational costs.

With no housing for wintering or lambing, minimal labour requirements and no dedicated machinery, fixed costs are very low while variable costs are minimised through controlled concentrate use, no wool related tasks and no fertiliser use. Most ewes and lambs do not require handling, keeping stress levels down and saving time. This is one of the reasons why vet and medicine costs are only £1.80 per ewe. Ryegrass and white clover mixtures are used in six-year leys followed by a break-crop of turnips and forage rape. Reseeding is vital for clean grazing and weed management.

The late lambing system (starting in late April) benefits from good spring grass growth in the last stages of pregnancy and after lambing. The first of the lambs are sold at weaning in August with nearly all sold by the end of November. With a high level of health and welfare and a focus on the market for the end-product, most lambs achieve target specification (R3L), averaging 17-19kg deadweight.

The family focus on what they consider 'ecologically sustainable' methods of farming and their management of pastoral livestock farming is improving productivity and the environment simultaneously, benefiting plants, animals and soil structure alike. 'Performance can be measured in different ways' according to Murray and the main benefit of the low input system is the time that it has freed up for both Murray and Grace to spend time with their children. Labour accounts for almost one third of the cost of sheep and beef production and any reduction is valuable to profitability.

Ewes are checked twice a day throughout lambing. Over 90% of ewes lamb, suckle and mother without assistance. There is a disciplined grassland management system involving rotating twins and singles in different paddocks to aid grassland management. Ewes are subject to strict culling for anything requiring individual attention such as lambing assistance, poor mothering ability, foot problems or nutritional problems. They are also drafted out of the flock if they lamb a single twice in their life. Ewe lamb replacements are selected from lambs born and reared as twins by ewes with proven twinning ability who have never required individual attention. From these selections, preference is given to lambs based on lambing percentage, growth rate and fattening quality. They have carefully worked out their optimal strategy and stick to it to continue improving their flock. It is all carefully written down and discussed at

length. Murray takes charge of the grassland maintenance, whilst Grace is responsible for the lamb selection process. Each have their own carefully worked out roles in the farming business.

Farm summary

- Focus on Key Performance Indicators to guide performance
- Retain learning throughout career, not just at college
- Work with and trust business partners to achieve mutually agreed goals
- Enjoy time away from the farm
- When a system needs to become complex, so be it but keep the key drivers in mind.

3.3 MAINLY SHEEP, SOME BEEF

Dafydd farms a flock of 750 ewes and 70 Limousin-cross beef cows on 180 hectares. The farm is organic. All lambs and calves are finished on grass and clover. Integrating hybrid cattle and sheep and monitoring soil health ensures Daffyd can cost-effectively finish all lambs each year with only a little casual labour at key times of the year. The methods Dafydd uses allows for an efficient system that has propelled a once struggling upland grass farm in the 1990s, into a successful profitable business.

The farm is running a medium output system, over a number of years the ewe flock has scanned at an average of 155% lambs and finished 135% resulting in over 1,000 lambs finished per year. The farm retains 200 ewe lambs for replacements each year. No concentrates have been used for the sheep system in three years, which is largely because grazing management is good and high-quality red and white clover silages are produced. This has helped the one-man operation keep the total cost of production to 292p/kg deadweight (well below the industry benchmark of 420 p/kg deadweight before unpaid family labour is costed.[9]) The moderately sized 65kg ewes (bred from improved Welsh Mountain x Texels) are out-wintered, which further controls costs. Composite sires have been used since 2009 and performance-recorded rams since 2013. Dafydd is very focussed on checking his performance against other farms; he attends a benchmarking group and follows other people's records carefully. He takes part in the FBS survey and any other scheme that gives him access to other farms anonymised data. Farm income is boosted by approximately 10% from the organic premium and maximising prices for lambs by knowing and hitting the target market specification (E, U, R at 2-3L), a target which has over a number of years has been achieved by more than 95% of the prime lambs sold. Being a low input system, the restrictions on organic farming have little impact on his costs.

Biosecurity has also been improved through careful planting of the woodland corridors. "Carefully planning a grant application for the benefit of the entire business presents a much larger opportunity than just to take the money" says Dafydd.

Lambing begins on 1st March each year and weaning follows at 16 weeks of age, with lambs sold from June to early October, half are sold by the end of July. A strong focus on improving soil health and fertility is maintained, as all the nutrients for his flock comes from it; optimising grazing management is a technical necessity.

When Dafydd bought the farm in 1994, he had been farming for about six years with his uncle. He knew he always wanted to farm in his own right. In order to achieve this ambition, he focussed on two things: Firstly, he was very careful with any money he managed to accrue, working in various places, farming where possible, to build some reserves to start his business. He also studied hard at the local agricultural college to understand the business aspects of farming. He recognised that whilst it is quite easy to find events and articles in the farming press to improve the technicalities of farming, the attention to the business is often more difficult to grasp. He considers many people have a complacent attitude to business management and is determined not to adopt the same. As a result of his hard work, Dafydd was able to pay his mortgage back early, giving him the opportunity to grow his own balance sheet since then without having to pay high finance charges.

Farm Summary

- Minimise overheads such as livestock housing and machinery.
- Keep expensive food inputs to a minimum or cut them out if you can.
- Maximise farm output until it starts impacting on elevated input costs. Once costs start rising faster than output, you're going wrong.
- Have a clear ambition for the business and focus on it.
- Know why to go organic if you are minded doing so and ensure it fits the business plan.

3.4 MAINLY BEEF

Edward and his partner Katy started out raising about 300 contract-reared calves on a small tenanted farm for a nearby farm business. They focussed on each cost they incurred, spent time on the animals keeping them healthy and settled. They appreciated that they had more time than money so spent more time on their farm to reduce costs. As a result, they were able

to rear calves £5 per head cheaper than the target they were set by their customer. This impressed their farmer customer and so were offered an expanded contract to rear 2,600 calves per year taking in 300 calves for rearing every 6 weeks. This meant their economics had to change, as there was a significant increase in farm size. They did not have capacity to fulfil this number but, having been offered a 5-year rearing contract, decided it was enough to consider either renting a larger farm and investing in more calf accommodation or possibly even buying a farm of their own.

After looking for tenancies, it became apparent that finding a suitable farm would not be easy. A neighbouring farmer was retiring and wanted to release some capital from his holding, but he wanted to retain the majority of his land. However, he had excellent buildings, which he had previously been used for rearing beef cattle and contract rearing finishing pigs. Edward and Katy approached him and agreed to purchase the farmstead and house – mainly all buildings with a small amount of land. This was a significant move for the young couple – borrowing more than £1 million. However, due to the track record and contract in place, their existing bank was supportive and agreed to lend the capital over 30 years. This was partly because Edward and Katy were able to 'borrow' collateral from both of their family businesses to use as collateral to expand the business.

Edward and Katy also have 260 sheep and provide contracting services such as hedge cutting, fencing and groundworks to farmer and non-farm customers locally. They prefer the non-farm contracting work as it is generally more lucrative. This enterprise mix has a relatively flat labour profile all year round, meaning additional labour is not required. Edward and Katy are young and have minimal assets. Whilst some consider this a problem to growth, they consider it means they have a greater chance of making a healthy return on capital.

Their budgets demonstrated an ability to repay the borrowing with circa £25,000 annual cash surplus after drawings, tax, loan repayment and a re-investment allowance. Through their range of enterprises, it has helped them to spread their risk *when* the commodity cycle puts their business under pressure. They wanted to remove their reliance on BPS payments. They are currently focusing on the most efficient way to run their business in order to develop it for their future. This is with an all-in, all-out system, as it allows them to keep all youngstock at the same stage of development, meaning similar management practices and also minimising biosecurity risks.

Edward and Katy are now 3 years into the new farm system. They are ahead of their 5-year business plan, which they closely monitor every six months with their farm management

advisor, and have been careful with any surpluses they have managed to build up. These have been primarily through securing cheaper finance than they budgeted as base rates have been so low, and secondly by continuing to make further savings on the costs of production of the calf enterprise, through management. Long hours of hard work and planning are starting to pay off already.

Summary of Farm

- Have a clear vision of what to achieve from the business.
- Invest on appreciating assets such as land and buildings before depreciating items.
- Keep minimal working capital tied up in livestock – they don't own any of the calves
- Always look to minimise overheads, including machinery and labour, only buying what is necessary for the job.
- Recognise buying land is not always the best way to raise profits or assets.
- Look to wean off support payments as quickly as possible.

3.5 BEEF FINISHING

Joan buys about 500 store cattle per year for finishing in a shed, mostly in two blocks: spring and autumn. They come onto the farm between 300 and 350kg liveweight and are fed an intensive purchased ration, supported by silage. They are kept until they reach approximately 560kg, which takes 170 days, meaning they gain up to 1.5kg live-weight per day. Joan has approximately 250 head of cattle at any one time.

Joan buys high-cost feed, made up of cereals, waste bread, minerals and other feedstuffs, already mixed and ready to feed. It is placed against a barrier by tractor bucket, with straw available in ring feeders. There is no mechanical feeding; it's considered an unnecessary cost. Joan recognises there is no margin to afford machinery in the beef or sheep sector. She is also aware that her beef enterprise is about as small as it can be to remain truly profitable. It uses a high cost-feed system, but because the overheads are so low, the whole system works well. Her overriding objective to keep the operations very simple, as this keeps out costs. Her budgeting and annual management accounts, that she calculates herself, identify when costs start to creep into the system. Her accounts serve as a regular tool to identify her performance.

Joan has other work she has to attend to from most mid-mornings. Therefore, keeping to a strict timeline allows her to focus her mindset to the import things for her system.

Joan's feed price per kilogram of live-weight gain is higher than many, but finishing the cattle quickly and having minimal overheads, including no machinery, makes the total enterprise profitable. The simple system also means minimal time is used on the enterprise; taking only two hours per day to feed and check. Only when stores arrive, or finished stock are sold, does it take a little longer but there is no trip to market – she has a series of trusted suppliers who she orders her cattle from, mostly continental-bred sucklers. She occasionally sources a few from local markets, using dealers to buy them for her. Selling the finished beasts involves a telephone conversation with her buyer to confirm delivery dates and numbers and overseeing them loaded into lorries when they leave the farm. Joan recognises that, for her, selling her stock direct and hiring lorries to transport them to the buyer saves her time and money, in terms of time spent transporting animals when she could be at her other job. She avoids running an expensive four-wheel drive vehicle and trailer that she wouldn't otherwise need, so hires large lorries to deliver stock in bulk (mostly delivered in batches in spring and autumn). She makes money from livestock after all costs, including her time and working capital, are paid.

The animals are kept in old finishing sheds. The sheds require minimal maintenance. They might have an opportunity cost as they could be rented to another person to keep beef but would be small as it has little alternative use.

Joan has been farming beef for many years but gave it far greater focus about a decade ago when another part-time opportunity also arose for her. The working capital built up is clearly significant but, having grown gradually over the years, has been self-financed from previous stock sales. There is a small overdraft and no core finance.

By using the information available through national benchmarking data, Joan understands what others spend finishing beef cattle and that the profitability is marginal so attention to detail is an absolute necessity. If it was not profitable, she would not be doing it, preferring to spend time with her family. Yet the enterprise achieves an annual gross margin of approximately £65,000, which is a margin of £130 per finished head. Overheads total £25,000, including small amounts of building depreciation and maintenance but no opportunity cost or finance and excluding her own labour. That leaves £40,000 of profit before finance charges and her time cost. Few beef systems can boast such a set of figures. And this, a two-hour-a-day (plus occasional days of moving cattle in or out) enterprise, fits into other off-farm work that Joan carries out the rest of the day.

Summary of Beef Farm

- Ruthless removal of overheads has made a beef enterprise truly viable
- Keeping a system very simple exposes costs quickly
- A focus on technical performance to finish beef within a set time frame keeps profitability per animal high and her buyer pleased with timing and carcase quality
- Having off farm work means that there is a requirement for setting a time deadline for daily chores.
- Non-cash costs such as own time are important
- Keeping track of costs, time and performance is critical

3.6 CONCLUSION TO CHAPTER

The five farms discussed in this chapter highlight several points that are consistently addressed to achieve outstanding performance. Clarity of a vision is critical to know which business route to take. Once that vision is set, the pathway to getting there can be laid out and therefore identify what staffing requirements will be needed. Each of the top performing farms not only write their budgets each year (some with help from their advisors), but also undertake partial budgets to test new ideas or identify whether an activity is contributing to the farm accounts or not. Each farm then uses these figures and compares their own performance with others', either by discussing them or benchmarking.

Top farms recognise the importance of good staff. They pay above the odds and reward good practice, rather than just turning up to work. Appropriate training, motivation and clear leadership are all paramount if you are to have a happy and skilled workforce to help the business meet its objectives.

These farms have demonstrated thought and implemented novel ideas, both to fit with the environment, meet financial needs and to keep commodity-focussed. When taking on high risk situations (borrowing lots of land and money for example), financial clarity becomes increasingly important.

There are several examples of collaboration, saving costs and sharing resources. Each one makes the business more viable and enjoyable a workplace. Table 9, demonstrates the key common themes that define success in the farms above.

Table 9 ~ Summary of common traits on Example farms

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Clear business objectives	✔	✔	✔	✔	✔
Collaboration with other farms		✔	✔	✔	✔
Budgeting	✔	✔	✔	✔	✔
Benchmarking	✔	✔	✔		
Innovative Ideas		✔	✔		
Care for soils and environment	✔			✔	✔
Working with buyers	✔	✔	✔	✔	✔
Outstanding staff management		✔		✔	
Remarkable attention to detail	✔	✔	✔	✔	✔
Enjoy working on the farm business	✔	✔	✔	✔	✔
Ruthless cost removal where possible	✔	✔	✔	✔	✔

4 CONCLUSIONS

4.1 TOP TRAITS OF HIGH PERFORMING FARMERS

This report has studied outstanding farming businesses and what sets them apart from the rest. According to the evidence, top performing farmers are making approximately £40,000 and £60,000 per year more profit respectively than their 'below average' counterparts. This is after matching farm size and geographic locations.

Common themes become evident as identified below. Ranking them is difficult as their impacts vary from farm to farm according to farming systems, the farmer's personality and attitude, current levels of farm management, staffing and cost control. However, for a general perspective of importance overall, the following order is identified. More profitable farms of comparable size, farm type and location do the following:

1. Minimise overhead costs
2. Have a clear business strategy
3. Set goals and budgets
4. Compare themselves and gather information
5. Know what the market is and deliver for it
6. Focus on detail
7. Have a mindset for change and innovation
8. Remain disciplined and stick to your strategy

4.2 HOW TO ACHIEVE THEM ~ IMPLEMENTING SUCCESS

The list of 8 points summarises the entire document, but turning them into improvements is the difficult part. Here are some ideas.

1. **Minimise overhead costs.** This is the strongest message of this report. The higher performing farms in the FBS study had lower overheads than the rest. No farmer can operate in the top performing quartile without a keen focus on cost control. The farming examples focus on 'low-cost' production. Always remember the sector farming is in while there may be opportunities to add value or a premium, ensuring costs are minimised without hampering performance is an essential requirement in a highly competitive market. Collaborate with nearby farms or businesses, keep machinery longer and maintain it well, spend time developing and training staff and other key

resources, keep necessary staff and machines and no more. Ideas on how to cut costs are almost endless.

2. **Create a Business Strategy.** If you don't have a destination and a map to get there, how do you know when you've got there? In business, there are numerous choices to make every day and farms are no exception. Unless you have a strategic idea of where you want to go, decisions will become very hard to make. If your strategy is clear, write it down, discuss and share it. If not, then write down what you think you want to do, discuss it and then create a direction. Once a business strategy is set it will become easier to prioritise what jobs are the most important to achieve the desired outcomes

3. **Set goals and budgets.** Communicate openly with business partners and family members. Discuss what each wants to achieve (financial and non-financial). Where possible try to ensure your aspirations are aligned. Once these goals are set, discuss them regularly and plan what needs to be done to achieve these outcomes. Share your goals with your business advisor if you use one. Without a goal or ambition, you will not know if you have achieved what you are working towards. Work out a plan how to achieve your mutual goals. Compile annual budgets to show where the year is planned to go and check them regularly. By doing so you can identify what is going well and what not so well helping you to adjust things if necessary. Ideas can be tested using this tool. Think through contingencies by developing a risk plan. Quantify risk. Entrepreneurs don't necessarily take higher risks than others, they just understand them better so know what they can do safely. Others guess and are sometimes wrong so make less progress or don't act in case they are wrong, guaranteeing no progress. Use these schedules regularly and frequently. This is closely linked to point 2 above.

4. **Compare yourself and gather information**. Farms with more information make better choices and generally make more money. It could be through benchmarking, discussion groups, informal discussions, regular reading (not just farming press), farm walks or a combination of all these. Critically, taking that information to the farm to identify what you can do to farm more profitably is what matters. Knowledge is only useful if you change something as a response. Look to invest knowledge into smarter farming.

5. **Understand the market** and supply what the market requires and is therefore willing to pay for. Ensure good communication with your buyers/outlet. This should be a comparatively easy goal to achieve. Take your main buyer for a coffee, visit them at

their site, invite them to your farm. Ask them what would add value to what you produce, what they don't value and importantly, the service that comes with it; delivery dates, speed of loading, and so on. And then do what they tell you.

6. **Focus on detail.** This is a difficult attribute to identify using a tick-box survey, but can be spotted, probably more easily by others. Ask somebody you trust whether they consider you have it. How can you improve everything you do? Make this a continual program of improvement. Identify 100 things that could done a little better (that's everything), and as you work through them, one by one, consider the cumulative impact of marginal gains.
7. **Have a mindset for change and innovation.** Mindset is also tricky to score. Ask yourself; do you complete a budget begrudgingly and under instruction or willingly as you know it helps? Do you attend a benchmarking group because a friend goes and it's a free lunch but then make no business changes? A farmer's attitude (the same for any successful business person) must be correctly focussed on benefitting from opportunities and these can occur daily. Innovate your ways of working. It doesn't mean buy other people's innovations they are trying to sell you but think about ways to overcome barriers on your farm to reach your desired goals rather than turn them into excuses or burdens. Actions have to follow; think about it like a gym membership, it only makes a difference if you go and take part!
8. **Remain disciplined and stick to your strategy.** Yes, be flexible to capture opportunities, but remain true to what you are doing and don't allow yourself to drift off course by lax rules of engagement. If you have a business partner(s), work together on this one, cross examine each other. If not, an external paid consultant will do it with you.

Ultimately, to move into a higher performance bracket takes more than a rise of market prices or luck, it means change, sometimes considerable shifts in ways of operating and therefore thinking. To achieve this is arguably more difficult than any technical or management point considered in this entire study as it involves bravery and self-belief. Nobody should continually do the same and expect different results. Yet more people regret inactivity or indecisiveness than those who regret doing something.

Brexit may cause challenges, but those that are already in, or heading towards the top performers list and are working to improve their businesses will be here for the long haul. Ultimately, success is about achieving what the individual aspires to achieve.

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