LIMOUSIN

The British Limousin Cattle Society Ltd

Summary of the Breed Improvement Plan
2014 – 2024

27th February 2014

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1. Introduction

The BLCS Breed Improvement Plan lays out the strategic direction for the genetic improvement of Limousin cattle in the UK from 2014 to 2024. It consists of ten key strategic goals and their related objectives that can be applied from individual herd level to guiding BLCS Ltd towards achievement of its objectives.

The planned investment is anticipated to be around £1.3 million over this time period, in projects worth significantly more. By the end of the project term, access to quality genetics in new key performance areas has the potential to realise an estimated additional £58 million per annum for commercial Limousin producers.

The benefits of having a plan

All breeds have to genetically develop to help retain their market position, to increase the value of breed, to improve the profitability of their keepers and thereby ensure their long term survival. Breeding is a long term outcome of successive short term objectives. However, the objective and outcome are often 5-10 years apart and in most cases span the changing membership of BLCS Council. Thus a plan avoids short term changes to breeding goals that more often reflect market fluctuations rather than long term changes to markets. It also helps incoming Council members understand the deliberations of their predecessors in arriving at the current goal they have inherited. Finally, a plan offers the opportunity to all to measure progress.

2. Building the Plan

Over a two year period, BLCS undertook some key areas of work & consultation to help identify future breeding priorities. These included a roadmapping exercise conducted by Biosciences KTN, analysis of breeder and buyer survey results, consultation with geneticists and opinion from processors, retailers and the BLCS Council of Management.

The final draft of the Plan was reviewed by the BLCS Council of Management in November 2013 and adoption of the full Plan agreed at its meeting in February 2014.

3. Situation Statement

The roadmapping exercise identified a number of strengths, weaknesses, opportunities and threats for BLCS members in relation to development of a breeding strategy. Focusing on the market, genetic resource and the environment they form the backdrop against which the breeding goals are set.

4. Method

In formulating a breed improvement strategy either at individual herd level or across a whole breed, several steps are involved and the same approach has been used to create this Plan:

Step 1: Identify the herd/breed's current performance
Step 2: Identify the traits of economic importance
Step 3: Identify the herd/breed's Breeding Goals
Step 4: Measures required to achieve the Breeding Goals
Step 5: Action
Step 6: Review Progress & Adapt the Strategy

Consideration of the outcomes of Step 1 and 2 identified the main Breeding Goals in Step 3. Step 4 gave wider consideration to the techniques and technologies that would allow the goals to be realised. The Plan is concluded in Step 5 which identifies the action required against time and budget to put the necessary measures in place. Step 6 will maintain Plan flexibility and ensure that achievable work is delivered to industry as soon as it reasonably can be.

5. Summary of the Plan

The conclusion of Step 5 above is a series of ten Breeding Goals, which are listed below in relative order of priority. The anticipated technologies that will help deliver them are identified as are some of the main approaches that are likely to be used. It should be noted, however, that delivery and implementation of each goal will also be subject to changes in market drivers and available funding streams; a main reason for regular review and maintenance of the Plan's flexibility.

Goal	Comment
Breeding Goal 1 To grow the performance recorded population to 75% of registrations by the end of this Strategy period	Breeding Goals 2 to 10 embrace aspects of herd improvement common to all Limousin producers. Development in these areas along with strong knowledge transfer support and 'demand-pull' from the commercial sector will grow the recording base.
Breeding Goal 2 To improve Calving Ease to a point at the end of this Strategy period (2024) where its annual rate of genetic change is zero.	The Carcase Traits project will establish the first UK Limousin SNP key. As this project draws towards its conclusion in 2015 opportunities to introduce genomic breeding values relevant to Calving Ease will be explored.

Supporting this will be ongoing development of calving data collected on-farm, to improve the value it adds to the genetic evaluation and widen the proportion of the Limousin population that is measured. An early example of this is the programme of myostatin genotyping to commence in 2015 which will help identify easy calving breeding lines.

The Carcase Traits project has established a link with the BCMS database & has allowed incorporation of animal data through the use of a new 'super-pedigree' model. Opportunities to widen this technique and draw in additional animal data relevant to calving ease will also be considered. |
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| **Breeding Goal 3** To establish and | Work will be conducted to consider measures adopted by other species to enhance recording of disease on and off-farm. The availability of UK |

implement breeding solutions to address disease issues as they become available	health scheme data will be investigated within the context of possible genomic solutions to disease management and control.
Breeding Goal 4 To establish and implement breeding solutions to identify and improve feed efficiency	Appropriate models will be investigated that will secure the long term capture of performance data and provide an appropriate means of genetic evaluation. Practices and models adopted by groups and individuals overseas will be relevant to this. Securing large scale industry partners for research phases and beyond is likely to be beneficial.
Breeding Goal 5 To improve the rate of gain in growth and carcase traits, without compromise to correlated traits	This breeding goal will largely be met by the current work in progress under the Carcase Traits Project, due to conclude in 2015. Its aim is to identify the contribution that genetics make to carcase attributes using VIA and DNA technologies. Using VIA data its main outcome will be genomic breeding values for up to nine main muscle groups. This will be the first introduction of genomics to the beef sector in the UK.
Breeding Goal 6 To establish the role genetics has to play in control of meat quality, identify suitable means of evaluation & set appropriate breeding targets.	The influence genetics have on meat quality will be investigated through appropriate means. Based on the outcome of this, relevant methods of data capture and evaluation will be established, setting appropriate and achievable breeding targets. Creation of market demand for an improved product will be crucial.
Breeding Goal 7 To maintain current levels of genetic progress in Docility	The scoring of docility amongst the recorded population will continue to be encouraged and grown. New methods of measurement and data capture to enhance the accuracy of the predictions will be considered.
Breeding Goal 8 To improve current levels of progress being made for Age at 1st Calving and Calving Interval and Gestation length. To investigate wider measures of cow production efficiency.	The use of cow weight information on Basco in relation to providing an indicator of production efficiency will be investigated. Enhanced data collection methods will also support this. Knowledge transfer in appropriate use of breeding values would be essential and industry partners in this respect are important.
Breeding Goal 9 To maintain current levels of genetic progress in Longevity.	The current methods of data analysis are to be evaluated and how these could be enhanced through higher levels of data capture. For example, use of BCMS data etc.
Breeding Goal 10 To generate positive genetic change and	The current methods of data analysis and how these could be enhanced through higher levels and/or alternative means of data capture are to be evaluated.

improve 200 Day Milk Weight within the breed.	5

Use of Technology

The technologies that will assist these goals include further development of genomic breeding values (beyond those developed through the current Carcase Traits Project), use of wider abattoir data and pre-slaughter measurements, higher levels of on-farm recording (including the use of new technologies (eg remote sensing etc) and wider linkage to national databases, such as BCMS, again beyond the pathway already established by the Carcase Traits Project.

Partnerships Across Breeds and Sectors

The role of allied industry partners and, in particular, other pedigree breeds is not under estimated and all appropriate opportunities for collaboration will be sought. Much work is common to all breeds in the UK, funding opportunities are wider when across-party and across-sector applications are made and there are significant benefits to be had from a whole-industry approach when presenting new information and technologies to the commercial sector.

Reviewing and Adapting the Plan

For each Breeding Goal, key performance indicators have been identified. Regular – and at least annual – evaluation of these will be carried out and the plan adapted accordingly. Flexibility in the plan is required so it can adapt to the changing needs of BLCS members and their customers, as well as changes in market environments and available funding streams.

In order to achieve the strategy, all parts of the beef industry will need to continue to invest adequately, and Government will need to continue to play its part. That investment will only be made by the various parties if there is a firm expectation of a healthier and more sustainable sector. This reinforces the need for the strategy to gain widespread support in order to secure adequate funding for its implementation.