

Identifying superior carcasses through Visual Image Analysis (VIA) and genomics

The Challenge

Beef producers are paid based on the carcass weight and EUROP classification grading system (conformation and fat class). Within a group of animals of the same weight and grade, however, the beef retail value may vary by up to £100 per head, due to some having a higher retail meat yield.

Identification of those genetics that generate higher end market return would create a more market focused breeding strategy.



This information can also be combined with DNA data to develop genomic estimated breeding values (GEBVs) for six primal cuts.

The Research

Visual Image Analysis (VIA) more accurately shows the value of meat and so can help ensure a fair price per carcass.

The research team have used the technology to collect more than 100,000 VIA records from four abattoir sites, along with DNA samples from around 2,000 Limousin bred cattle.

SRUC analyse information from the abattoir (weight, conformation etc) together with the animal's DNA, to form what is known as a 'SNP key'. This can then be used to predict meat yield for animals based only on a DNA sample.



Visual Image Analysis of the carcass can measure the size and value of individual meat cuts.

The Results

Visual Image Analysis (VIA) can accurately predict those animals that have higher meat yields from their carcasses in the abattoir.

The Impact

These new GEBVs for carcass traits - the first GEBV in the UK for beef cattle - provide tools for breeders to select cattle with more profitable carcasses.

This means a DNA sample taken at birth will indicate the suitability for breeding where the objective is to select for cattle with improved meat yield.

The project ends in October and GEBVs will be produced routinely alongside the official Limousin genetic

Project Detail

Project start date: October 2011, finish date: October 2015

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Further Information

For more information on farm business management, beef systems and breeding contact SAC Consulting beef and sheep specialist at beefandsheep@sac.co.uk