

# Genetic Improvement



## Beulah Speckle Face SRS

### Llanarth Beulah Group Breeding Scheme

The Beulah Speckle Face Sire Reference Scheme was established in 1979 by a group of 10 forward thinking Welsh farmers who supplied 100 top quality 2- and 3-year old foundation ewes to act as the central nucleus flock for the Beulah Speckle Face Group Breeding Scheme. Performance recording and genetic improvement was concentrated in the closed central nucleus flock, with the purpose of supplying high genetic merit rams back to the contributor flocks. Flock size has now settled at 120 breeding ewes with 35 ewe lamb replacements.

Recent developments in genetic evaluations using Best Linear Unbiased Predictions of genetic merit, (BLUP), and particularly the advent of sire referencing to allow across-flock genetic evaluations, provided an alternative means for achieving faster rates of genetic improvement in contributor flocks. Accordingly, a Sire Reference Scheme for the Beulah breed was set up in 1996, with the Llanarth flock being both a founder member and supplying the first two high index reference sires for the whole scheme. The Welsh hill index is used as the basis for selection, an index that balances maternal characteristics with the improvement of growth and carcass traits. At the same time, great care is taken to maintain breed type. Since its establishment, members of the Beulah Sire Reference Scheme have made more progress improving the genetic merit of their sheep than any other breed within Wales. This has been achieved by their adherence to the important principles of selecting replacement rams primarily on index, while ensuring that they still retain good breed type.

For a number of years, all reference rams were scrapie genotyped to ensure that they were scrapie resistant, and this was extended to breeding ewes in 2001 as part of the Welsh Ewe Genotyping Scheme (WEGS 1). Only the more resistant genotypes (Groups 1 and 2) were retained for breeding, and the flock is now also a member of WEGS 2 and NSP.

The flock still assumes an important role in the Sire Reference Scheme in that it is used to progeny test 6 high index ram lambs selected from member flocks as potential reference sires for the following year. The two shearing reference rams that are eventually selected from this pool therefore have progeny data available to increase the accuracy of their genetic evaluation, thus accelerating the rates of genetic gain in member flocks. Only high index reference rams of the Group 1 scrapie resistance genotype (ARR/ARR) are used. As a consequence of this policy the Llanarth flock is now one of the highest index and the most scrapie resistant flocks within the whole Beulah Speckle Face Sire Reference Scheme.

In 2002, a homebred shearing Ram (LH:X41) from the Llanarth flock was chosen as one of the two reference rams for the Sire Reference Scheme. Also in that year a pair of ewe lambs sired by LH:X41 was exhibited in the carcass competition at the Welsh Winter Fair and placed 2nd in their class.

HCC supports genetic improvement through the Farming Connect Sheep and Beef Development Programme. For further details on this group, please contact HCC Industry Development team:

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