Genomics for crossbreds
Holstein and Jersey cross animals

Key points

- Genomic ABVs are available for crossbred animals sired by a Holstein or Jersey.
- Crossbred bulls can be compared with each other, as they are included in the Good Bulls Guide.
- To get the most from a crossbreeding strategy, choose sires from the Good Bulls Guide which meet individual breeding objectives.
- Track crossbred genetics with the Genetic Progress Report and Genetic Futures Report.

Crossbred Australian Breeding Values

DataGene has calculated Australian Breeding Values (ABVs) for herd recorded crossbred animals, with known sires and dams, for decades. This information enables a herd's genetic progress to be tracked via the Genetic Progress Report and Genetic Futures Report. These reports group the crossbred animals according to their sire (see box).

Crossbred bull ABVs

Increased demand for an independent gauge of crossbred bulls in Australia prompted DataGene to include an ABV ranking of these sires in The Good Bulls Guide.

What's a cross?

ABVs can only be compared within a breed. So, when talking about crossbred animals, breed order does matter.

A Holstein-Jersey cross refers to an animal whose sire is a Holstein. Genetically, these animals are compared to others with a Holstein sire.

In contrast, a Jersey-Holstein cross refers to an animal whose sire is a Jersey. For genetic purposes these animals are compared to other crossbreds with Jersey sires.

Selecting sires for crossbreeding

The first step is to pick the breed, Holstein, Jersey, Red, crossbred or other breeds. Then use The Good Bulls Guide to select the sires that meet your breeding priorities. Filters on DataVat make it easy to find lists of crossbred bulls. Filters also make it easy to narrow the choices to meet your breeding objectives.

Genomics for crossbreds

Until recently ABVs for young crossbred animals (without their own individual herd test or performance records) were based on parent average.

Now any dairy animal sired by a Jersey or Holstein can receive a genomic Australian Breeding Value. This new tool provides dairy farmers with a better indication of an animal's genetic potential than previous guides, such as its parent average breeding value.

Crossbred ABV(g)s are about 10% less reliable than the same data for a pure-bred animal. This is because crossbred animals are not as closely related to either the Holstein or the Jersey genomic reference population as pure-bred animals. This relationship to the reference population is the key to genomic reliability.

But, at 63-71% reliability for production traits in Holstein-type cross cows, genomic ABVs provide a clearer picture of genetic potential than previous approaches.

For Jersey-cross production traits, the reliability is 52-56%. The same process of ABV comparison would apply within the Jersey breed.

Finding the sires of cows

The most successful way to use genomic ABVs in a crossbred herd is to group animals by their sire. That way the animals can be compared accurately.

If you have surplus heifers, consider having them genotyped to identify those with the highest genetic merit to use as replacements.

Genomics can also determine the parentage of "unknown" animals. There's 78,000 of these in DataGene's data base, more than four-times the number of crossbred animals.

Genomics for Red Breeds

Red breed genomic ABVs are in progress. Crossbreeding programs which include Red breeds can gauge the genetic merit of a female using parent average ABVs for young animals and traditional ABVs for herd-recorded cows. This is expected to improve in the near future.

Disclaimer

DataGene doesn't provide advice for breed choice or crossbreeding.

More information

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