

A2 Milk & Brown Swiss

There has been quite a bit written in the farming press recently about A2 milk, particularly given the announcement by Wiseman's, that they want to begin sourcing some to supply a growing niche market. So what is A2 milk and can Brown Swiss play a part in it's development?

Milk contains six different types of protein—four casein proteins and two whey proteins. The casein proteins make up about 80% of milk and one of these is beta casein, of which the two most common forms are A1 and A2.

Originally ALL milk was A2, but due to a genetic mutation at some point, the A1 form appeared and, gradually, became the prevalent form of beta casein. However, recent studies have begun to show a possible link between A1 milk and some illnesses, namely diabetes, heart disease, schizophrenia and autism, although any link is far from proven. It has also been suggested that it may be the reason some people have a perceived intolerance of standard milk and this could be the main area for growing demand. In contrast, A2 milk is being mooted as the 'healthy' option and is gaining favour in several countries, with Australia leading the way in both its promotion and consumption, with some 30% of milk sold in Australia being A2 milk.

Humans, goats and, in fact most mammals, produce solely A2 milk and despite the increase in A1 milk in cattle, there are still breeds that produce the original A2 milk. These are usually more 'traditional' breeds, such as water buffalo, zebu and yak, but don't worry, it doesn't mean that we have all got to start milking yak!

The modern dairy breeds still produce some A2 milk, although the percentage varies between breeds. The Guernsey has the highest proportion of the A2 beta casein gene at over 90%. The lowest proportion is found in the Holstein breed, with only 35% carrying the gene, whilst Brown Swiss have the second highest proportion at around 65%. All the other main dairy breeds have about 50%. It should be stressed that there is variation between individual animals though, and a particular animals status can be determined by a simple DNA test.

As a result of all this interest, more and more AI companies are beginning to test their bulls to establish whether they carry the 'desirable' A2 gene. The Brown Swiss world is no different and the first A2 bulls are now being identified, with one of the initial sires to be identified as positive, being Sun Made Vigor.



Obviously, there is still a lot of work to be done in this area and as time goes by, more A2 bulls will be identified. However, with 65% of the Brown Swiss population purported to be carrying the A2 gene, it can be expected that there will be many more bulls available, that carry this desirable trait.

It should be stressed that A2 milk does not contain only A2 beta casein, but is 'rich' in it—ie has a higher proportion. Therefore, milk from cows which carry both genes can still be sold as A2 milk. Hence milk from a wholly Brown Swiss herd could probably be sold as A2, given the percentage of the breed that carries the A2 gene, especially if the breeding of that herd involved 'carrier' bulls.