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Animal genetics: genotyping cattle — a potential cash cow?

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To improve Ireland's herds, DNA-testing companies are analysing genes related to milk yield and meat quality

A million cattle in Ireland will have their genes analysed over the next two years. Two animal DNA-testing companies, Weatherbys and Eurofins, are joining forces for what they say is the world's biggest cattle genotyping project so far.

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Their client, the Irish Cattle Breeding Federation, wants to help improve the country's herds. Sequencing the whole genome of so many animals would be prohibitively expensive. Instead the scientists have chosen 55,000 positions in cattle DNA — single nucleotide polymorphisms or SNPs — where variations in the genetic code are related to traits valued by breeders, such as fertility, growth, milk yield and meat quality.

The project uses micro-array technology from Illumina, the US scientific instrument maker, adapted by Weatherbys and Irish partners for cattle. "Better identifying and tracing of individual animals and establishing their pedigree record will be a spin-off from the project but primarily we're looking at genes that influence performance," says Ronan Murphy, chief executive of Weatherbys Ireland.

Weatherbys, a family-owned company, is best known for its centuries-old role as a record-keeper and clearing house to the UK horseracing industry but its Irish subsidiary has expanded beyond horses into DNA testing of livestock and pets.

Beef is one of Ireland's most important agricultural products, and the government is keen to improve the genetic quality of cattle. Its new Beef Data and Genomics Programme will run for six years, providing €52m a year to suckler beef farmers taking part in the project. About 27,000 farmers have signed up with generous payments available of up to €142.50 a hectare.

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